LX-Series Commands Reference Guide

Corporate Headquarters

MRV Communications, Inc. Corporate Center
20415 Nordhoff Street
Chatsworth, CA 91311
Tel: 818-773-0900
Fax: 818-773-0906
www.mrv.com (Internet)

MRV Americas Service and Support
295 Foster Street
Littleton, MA 01460
Tel: 800-435-7997
Tel: +001 978-952-4888 (Outside U.S.)
Email: service@mrv.com

MRV America Sales
295 Foster Street
Littleton, MA 01460
Tel: 800-338-5316 (U.S.)
Email: sales@mrv.com

MRV International Sales
Business Park Moerfelden
Waldeckerstrasse 13
64546 Moerfelden-Walldorf
Germany
Tel: (49) 6105/2070
Fax: (49) 6105/207-100
Email: sales@mrv.com

451-0310P

Service Information

Should you experience trouble with this equipment, please contact one of the following support locations:

- **If you purchased your equipment in the Americas,** contact MRV Americas Service and Support in the U.S. at 978-952-4888. (If you are calling from outside the U.S., call +011 978-952-4888.)
- **If you purchased your equipment outside the Americas (Europe, EU, Middle-East, Africa, Asia),** contact MRV International Service and Support at 972-4-993-6200.

Secure Shell Disclaimer

THE SECURE SHELL SOFTWARE IS PROVIDED BY ERIC YOUNG "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OR SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

EXPORT NOTICE

MRV models contain 128-bit encryption software. Export of this product is restricted under U.S. law. Information is available from the U.S. Department of Commerce, Bureau of Export Administration at www.bxa.doc.gov.

Table of Contents

Figures

Preface

This guide describes the purpose, syntax, and options of each of the LX commands.

This guide is organized as follows:

- **Chapter 1** – Describes the User commands.
- **Chapter 2** – Describes the Superuser commands.
- **Chapter 3** – Describes the Configuration commands.
- **Chapter 4** – Describes the Authentication, Accounting, and Authorization (AAA) commands.
- **Chapter 5** – Describes the Interface commands.
- **Chapter 6** – Describes the Asynchronous commands.
- **Chapter 7** – Describes the Ethernet commands.
- **Chapter 8** – Describes the Subscriber commands.
- **Chapter 9** – Describes the SNMP commands.
- **Chapter 10** – Describes the Modem commands.
- **Chapter 11** – Describes the PPP commands.
- **Chapter 12** – Describes the Menu commands.
- **Chapter 13** – Describes the Menu Editing commands.
- **Chapter 14** – Describes the Broadcast Group commands.
- **Chapter 15** – Describes the Notification commands.
- **Chapter 16** – Describes the Service Protocol commands.
- **Chapter 17** – Describes the Async Protocol commands.
- **Chapter 18** – Describes the Localsyslog Protocol commands.
- **Chapter 19** – Describes the Remotesyslog Protocol commands.
- **Chapter 20** – Describes the SMTP Protocol commands.

- **Chapter 21** – Describes the SNPP Protocol commands.
- **Chapter 22** – Describes the TAP Protocol commands.
- **Chapter 23** – Describes the WEB Protocol commands.
- **Chapter 24** – Describes the User Service commands.
- **Chapter 25** – Describes the User Information commands.
- **Chapter 26** – Describes the Trigger-Action commands.
- **Chapter 27** – Describes the Rule commands.
- **Chapter 28** – Describes the Action commands.
- **Chapter 29** – Describes the Trigger commands.
- **Chapter 30** – Describes the Cluster Configuration and Control commands.
- **Chapter 31** – Describes the High Density Alarm Manager (HDAM) commands.
- **Appendix A** – Describes Multi-Level Command Execution.

Conventions

The following conventions are used throughout this guide:

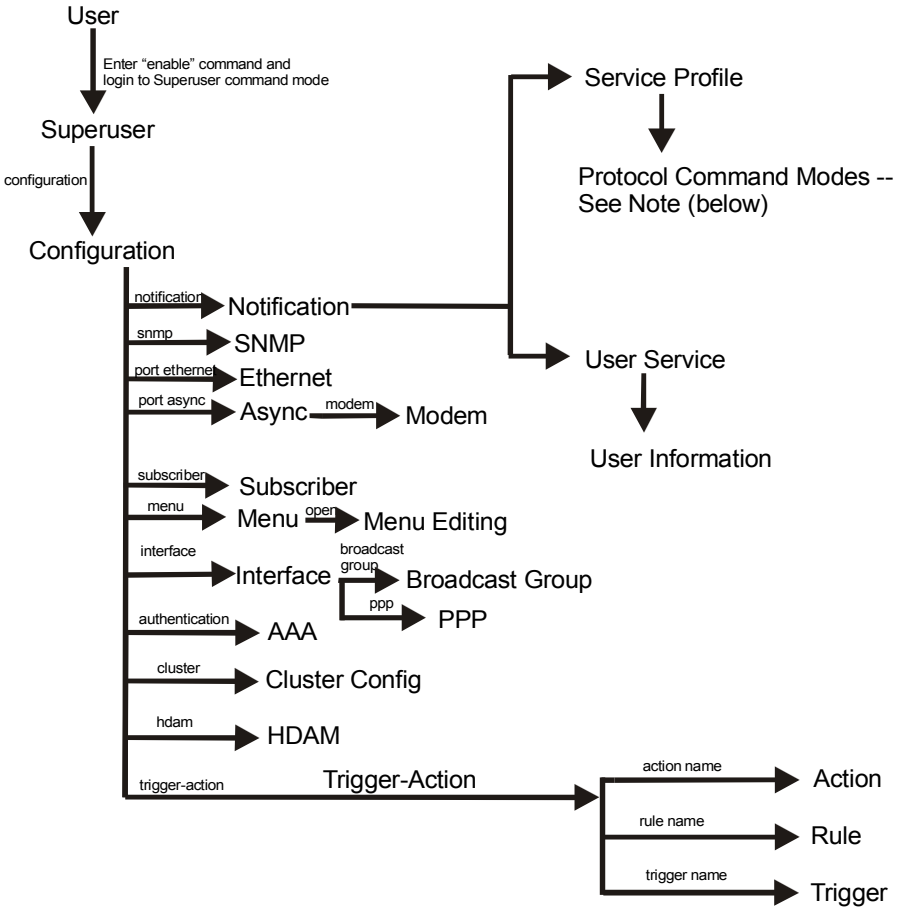
- **Command execution –** Unless otherwise specified, commands are executed when you press <RETURN>.
- **Command syntax –** Where command options or command syntax are shown, keywords and commands are shown in lowercase letters.
- **Keyboard characters (keys)** – Keyboard characters are represented using left and right angle brackets (< and >). For example, the notation <CTRL> refers to the CTRL key; <A> refers to the letter A; and <RETURN> refers to the RETURN key.
- **Typographical conventions –** The following typographical conventions are used:

  `Monospace Typeface` – indicates text that can be displayed or typed at a terminal (i.e., displays, user input, messages, prompts, etc.).

  italics – are used to indicate variables in command syntax descriptions.

Navigating the LX Command Line Interface (CLI)

The LX CLI is structured as a set of nested command modes. Each command mode is used to implement a group of related features or functions. Figure 1 (below) lists the command modes in the LX CLI.



Note: The Protocol Command Modes include Async, Localsyslog, Remotesyslog, SMTP, SNPP, TAP, and WEB.

Figure 1 - LX Command Modes

Each command mode has its own command prompt (e.g., `Config:0 >>`) and its own set of commands.

Type a question mark (**?**) (or press the Tab key) at any of the LX CLI command prompts to display the commands that can be executed in the current command mode. For example, type a question mark at the `Menu :0 >>` prompt to display the commands that can be executed in the Menu command mode.

Type `^K` to clear the current command line.

Except for the User command mode, each command mode is nested in a previous command mode. (The User command mode is the basic command mode of the LX CLI; you are in the User command mode when you log in to the LX unit.) For example, the Superuser command mode is nested in User command mode; the Configuration command mode is nested in the Superuser command mode, and so on.

To enter a nested command mode, you must enter the appropriate command from the previous command mode. For example, to enter the Configuration command mode you must enter the `configuration` command from the Superuser command mode.

You can use the `exit` command to return to the previous command mode. For example, you would enter the `exit` command in the Configuration command mode to return to the Superuser command mode.

You can execute the `monitor/show` commands in each of the LX command modes. The `monitor/show` commands are used to display global information for the LX unit.

The CLI supports execution of multiple level commands on the same line. For example:

InReach>> `config port async 1 1 prompt tim`

You can execute a command from any level, if you know the complete path.

The following section describes the LX command modes and the commands that are used to access each of them.

Command Mode Descriptions

- **User Command Mode –** Contains commands for performing user functions on the LX unit.
  - When you log on to the LX unit, you are in the **User Command Mode**.
  - **Command prompt:** `InReach:0 >`

    For more information, see “User Commands” on page 47.

- **Superuser Command Mode** – Contains commands for performing Superuser functions on the LX unit.
  - Accessed by executing the `enable` command in the **User Command Mode** (see “enable” on page 57), and then entering the Superuser password when prompted. (The default Superuser password is `system`.)
  - **Command prompt:** `InReach:0 >>`

    For more information, see ““Superuser Commands” on page 249.

- **Configuration Command Mode** – Contains commands for configuring the LX unit at the server level and accessing nested command modes.
  - Accessed by executing the `configuration` command in the **Superuser Command Mode** (see “configuration” on page 254).
  - **Command prompt:** `Config:0 >>`

    For more information, see “Configuration Commands” on page 307.

- **Authentication, Accounting, and Authorization (AAA) Command Mode** – Contains commands for configuring local and server-based authentication and authorization, and RADIUS and TACACS+ accounting, on the LX unit.

- Accessed by executing the `aaa` command in the **Configuration Command Mode** (see "aaa" on page 308).
- **Command prompt:** `AAA:0 >>`

  For more information, see "Authentication, Accounting, and Authorization Commands" on page 403.

- **Asynchronous Command Mode** – Contains commands for configuring asynchronous ports on the LX unit.
  - Accessed by executing the `port async <port_number>` command in the **Configuration Command Mode** (see "port async" on page 365).
  - **Command prompt:** `Async 4-4:0 >>`

    For more information, see "Asynchronous Commands" on page 537.

- **Ethernet Command Mode** – Contains commands for configuring the Ethernet port on the LX unit.
  - Accessed by executing the `port ethernet <port_number>` command in the **Configuration Command Mode** (see "port ethernet" on page 366).
  - **Command prompt:** `Ether 1-1:0 >>`

    For more information, see "Ethernet Commands" on page 623.

- **PPP Command Mode** – Contains commands for configuring PPP sessions on the LX unit.
  - Accessed by executing the `ppp` command in the **Interface Command Mode** (see "ppp" on page 523).
  - **Command prompt:** `PPP 4-4:0 >>`

    For more information, see "PPP Commands" on page 741.

- **Modem Command Mode** – Contains commands for configuring modems on LX asynchronous ports.
  - Accessed by executing the `modem` command in the **Asynchronous Command Mode** (see "modem" on page 577).
  - **Command prompt:** `Modem 4-4:0 >>`

    For more information, see "Modem Commands" on page 727.

- **Subscriber Command Mode** – Contains commands for configuring LX subscriber accounts.
  - Accessed by executing the `subscriber <subscriber_name>` command in the **Configuration Command Mode** (see "subscriber" on page 389).
  - **Command prompt:** `Subs_mark >>`

    For more information, see "Subscriber Commands" on page 633.

- **SNMP Command Mode** – Contains commands for configuring SNMP on the LX unit.
  - Accessed by executing the `snmp` command in the **Configuration Command Mode** (see "snmp" on page 384).
  - **Command prompt:** `Snmp:0 >>`

    For more information, see "SNMP Commands" on page 687.

- **Interface Command Mode** – Contains commands for configuring IP interfaces on the LX unit.
  - Accessed by executing the `interface <interface_number>` command in the **Configuration Command Mode** (see "interface" on page 330).
  - **Command prompt:** `Intf 1-1:0 >>`

    For more information, "Interface Commands" on page 483.

- **Menu Command Mode** – Contains commands for creating, displaying, and accessing subscriber menus.
  - Accessed by executing the `menu` command in the **Configuration Command Mode** (see "menu" on page 343).
  - **Command prompt:** `Menu :0 >>`

    For more information, see "Menu Commands" on page 781.

- **Menu Editing Command Mode** – Contains commands for creating and modifying entries in subscriber menus.
  - Accessed by executing the `open <menu_name>` command in the **Menu Command Mode** (see "open" on page 787).
  - **Command prompt:** `menu_name-1:0 >>`

    For more information, see "Menu Commands" on page 781.

- **Notification Command Mode** – Contains commands for configuring the LX Notification Feature.
  - Accessed by executing the `notification` command in the **Configuration Command Mode** (see "notification" on page 352).
  - **Command prompt:** `Notification:0 >>`

    For more information, see "Notification Commands" on page 831.

- **Broadcast Group Command Mode** – Contains commands for configuring Broadcast Groups on the LX unit.
  - Accessed by executing the `broadcast group <group_number>` command in the **Interface Command Mode** (see "broadcast group" on page 500).
  - **Command prompt:** `BrGroups 6:0 >>`

    For more information, see "Broadcast Group Commands" on page 811.

- **Service Profile Command Mode** – Contains commands for specifying the protocol for a Service Profile.
  - Accessed by executing the `profile service <profile_name>` command in the **Notification Command Mode** (see "profile service" on page 845).
  - **Command prompt:** `Noti_Serv_Protocol:0 >>`

    For more information, see "Service Profile Commands" on page 849.

- **Async Protocol Command Mode** – Contains the port command for specifying the asynchronous port parameter for a Service Profile of the Async type.
  - Accessed by executing the `async` command in the **Service Profile Command Mode** (see "async" on page 850).
  - **Command prompt:** `Noti_Serv_Async:0 >>`

    For more information, see "Async Protocol Commands" on page 863.

- **Localsyslog Protocol Command Mode** – Contains the `file` command for specifying the local file to which syslog messages will be sent under a Service Profile of the Localsyslog type.
  - Accessed by executing the `localsyslog` command in the **Service Profile Command Mode** (see "localsyslog" on page 852).
  - **Command prompt:** `Noti_Serv_LSyslog:0 >>`

    For more information, see "Localsyslog Protocol Commands" on page 871.

- **Remotesyslog Protocol Command Mode** – Contains the `host` command for configuring the remote host IP address for a Service Profile of the Remotesyslog type.
  - Accessed by executing the `remotesyslog` command in the **Service Profile Command Mode** (see "remotesyslog" on page 857).

- **Command prompt:** `Noti_Serv_RSyslog:0 >>`

  For more information, see "Remotesyslog Protocol Commands" on page 879.

- **SMTP Protocol Command Mode** – Contains the `server` command for configuring the server for a Service Profile of the SMTP type.
  - Accessed by executing the `smtp` command in the **Service Profile Command Mode** (see "smtp" on page 858).
  - **Command prompt:** `Noti_Serv_SMTP:0 >>`

    For more information, see "SMTP Protocol Commands" on page 887.

- **SNPP Protocol Command Mode** – Contains commands for configuring a Service Profile of the SNPP type.
  - Accessed by executing the `snpp` command in the **Service Profile Command Mode** (see "snpp" on page 860).
  - **Command prompt:** `Noti_Serv_SNPP:0 >>`

    For more information, see "SNPP Protocol Commands" on page 897.

- **TAP Protocol Command Mode** – Contains commands for configuring a Service Profile of the TAP type.
  - Accessed by executing the `tap` command in the **Service Profile Command Mode** (see "tap" on page 861).
  - **Command prompt:** `Noti_Serv_TAP:0 >>`

    For more information, see "TAP Protocol Commands" on page 905.

- **WEB Protocol Command Mode** – Contains the `driver` command for specifying the web driver for a Service Profile of the WEB type.
  - Accessed by executing the `web` command in the **Service Profile Command Mode** (see "web" on page 862).

- **Command prompt:** `Noti_Serv_Web:0 >>`

  For more information, see "WEB Protocol Commands" on page 919.

- **User Service Command Mode** – Contains the `service` command for specifying a Service Profile for a User Profile.
  - Accessed by executing the `profile user <username>` command in the **Notification Command Mode** (see "profile user" on page 846).
  - **Command prompt:** `Noti_User_Service:0 >>`

    For more information, see "User Service Commands" on page 927.

- **User Information Command Mode** – Contains commands for specifying the contact, facility, and priority parameters of a User Profile.
  - Accessed by executing the `service` command in the **User Service Command Mode** (see "service" on page 933).
  - **Command prompt:** `Noti_User_Info:0 >>`

    For more information, see "User Information Commands" on page 935.

- **Trigger-Action Command Mode** – Contains commands for creating, or accessing, Actions, Rules, and Triggers for the Trigger-Action Feature.
  - Accessed by executing the `trigger-action` command in the **Notification Command Mode** (see "trigger-action" on page 396).
  - **Command prompt:** `Trigger-Action:0 >>`

    For more information, see "Trigger-Action Commands" on page 945.

- **Rule Command Mode** – Contains commands for enabling, disabling, and specifying Actions and Triggers for Rules.
  - Accessed by executing the `rule name <rule_name>` command in the **Trigger-Action Command Mode** (see "rule name" on page 951).
  - **Command prompt:** `Rule_AC7TurnOnRule:0 >>`

    For more information, see "Rule Commands" on page 957.
- **Action Command Mode** – Contains the `command` command for specifying an LCX CLI command for an Action.
  - Accessed by executing the `action name` command in the **Trigger-Action Command Mode** (see "action name" on page 946).
  - **Command prompt:** `Action_TurnOnAC7:0 >>`

    For more information, see "Action Commands" on page 969.
- **Trigger Command Mode** – Contains commands for specifying the conditions for triggers.
  - Accessed by executing the `trigger name` command in the **Trigger-Action Command Mode** (see "trigger name" on page 956).
  - **Command prompt:** `Trigger_TempPortCT30:0 >>`

    For more information, see "Trigger Commands" on page 977.
- **Cluster Command Mode** – Contains commands for creating and monitoring clusters.
  - Accessed by executing the `cluster` command in the **Configuration Command Mode**.
  - **Command prompt:** `Cluster:0 >>`

    For more information, see "Cluster Configuration and Control Commands" on page 1003.

Online Help

The question mark character (?), and the Tab key, are used to display online help in the LX Command Line Interface (CLI). The following guidelines will help you to navigate the online help system:

- Type the ? character (or press the Tab key) at the command prompt in any command mode to display the first keyword of each command that can be executed in that command mode. For example, the following is displayed when you type the ? character at the User mode command prompt:

```
clear          Clear screen and reset terminal line
enable         Turn on privileged commands
exit           Exit up one level
menu           Menu utility
monitor        Monitor running system information
no             Negate a command
outlet         Manipulate outlets
ping           Send echo messages
shell          Run a shell as Superuser
show           Show running system information
ssh            Secure Shell (3DES/Blowfish)
telnet         Open a telnet connection
terminal       Set the terminal type
<cr>
```

- Type the ? character (or press the Tab key) after the displayed keyword to list the options for that keyword. For example, type `show?` to list the options of the `show` keyword. You could then type `show port?` to list the next item in the syntax of the `show port` command.

Using the Function Keys

The LX Command Line Interface (CLI) supports the following function keys:

- **Tab key** – Completes a partially typed command. For example, if you type the tab key after you type **show ve** at the Superuser command prompt, the `show version` command will be executed.
- **Up arrow** – Recalls the last command.
- **Ctrl-F** – Moves forward to the next session.
- **Ctrl-B** – Moves back to the previous session.
- **Ctrl-L** – Returns you to the Local Command Mode.

Related Documents

For detailed information on using the LX unit, refer to the *LX-Series Configuration Guide* (P/N 451-0311).

For more information on the LX-8000 hardware, refer to *Getting Started with the LX-8000 Series* (P/N 451-0331).

The *LX-8000 Quick Start Instructions* (P/N 451-0332) describes how to get the LX-8000 unit up and running.

For more information on the LX-4000 hardware, refer to *Getting Started with the LX-4000 Series* (P/N 451-0308).

The *LX-4000 Quick Start Instructions* (P/N 451-0312) describes how to get the LX-4000 unit up and running.

For more information on the LX-1000 hardware, refer to *Getting Started with the LX-1000 Series* (P/N 451-0320).

The *LX-1000 Quick Start Instructions* (P/N 451-0321) describes how to get the LX-4000 unit up and running.

Chapter 1

User Commands

The User commands are executed in the User command mode. The User command mode is in effect immediately upon logging in to the LX unit.

The User Command prompt indicates that the LX unit is in the User command mode. The format of the User command prompt is as follows:

```
<username>:<session_number> >
```

where `<username>` is the username that was entered at the `Login:` prompt.

`<session_number>` is the session number of the current connection.

For example, in the `InReach:0 >` prompt, the username is `InReach` and the session number is 0.

The rest of this chapter describes the commands that you can enter in the User command mode.

clear

Clear the screen.

Syntax

```
clear
```

Example

```
clear
```

cluster command

Issues a CLI command to any remote cluster member without having to log in to that cluster member.

Syntax

`cluster command all | <ip_address> <cluster_command>`

Where	Means
all	Runs the command across all clusters.
ip-address	The IP address of the cluster member to which you want to send a command.
cluster_command	The cluster command you want to send to the cluster member.

Examples

```
InReach:0>>cluster command all enable system conf port async 1

InReach:0>>cluster command 120.130.222.33 enable system conf port 1
```

cluster search

Searches all nodes in a cluster for a specific port name or serial access mode. Each search displays a different results screen, depending on what field you searched for.

Syntax

`cluster search portname <port_name> | <access>`

Where	Means
port_name	The name of the port you want to search. The port name is case sensitive, and must be typed with initial capitalization and an underscore between the word “Port” and the port number.
access	The access method for the port. Options are ir4800 and ir5150.

Usage Guidelines

This command requires that a common cluster secret be configured, and that the member IP address be configured for the cluster, or an error message is displayed.

Examples

```
cluster search portname Port_1

cluster search access ir5150
```

connect escape

Configures an escape sequence used on a `connect port async` session. Use `connect escape` to escape the session. The default value is ^Z. To set the escape character back to the default value, enter `default connect escape`.

Syntax

`connect escape ^<`*`character`*`>`

Where	Means
character	The escape character (A - Z).

Examples

```
connect escape ^A

default connect escape
```

connect port async

Opens a port async connection to a serial port on the same physical LX unit.

Syntax

```
connect port async <port_number>
```

Where	Means
port-number	The port number to which the connection is being made.

Examples

```
connect port async 2

connect port async 6
```

dial back

Initiates a Dialback connection to a host.

NOTE: THIS COMMAND EXISTS IN THE CLI, BUT IT SHOULD NEVER BE EXECUTED BY A USER! This command is executed in the background when the user executes the `dial reverse` command. For more information on the `dial reverse` command, refer to "dial reverse" on page 56.

Syntax

`dial back number <number> token <token_num>`

Where	Means
number	The number that is dialed to initiate the connection.
token_num	A numeric value that is used to identify the modem on which the Dialback call is expected.

Example

```
dial back number 1234567890 token 4325
```

dial direct

Initiates a connection to a host by direct-dialing a number.

Syntax

```
dial direct number <number> [login <login_name>] [password <password_name>]
```

Where	Means
number	The number that is dialed to initiate the connection.
login	Log in to the dialed host using the name that you specify in the *login_name* field. Refer to "Usage Guidelines" (below) for more information.
login_name	The Login Name that you will use for logging in to the dialed host.
password	Log in to the dialed host using the password that you specify in the *password_name* field. Refer to "Usage Guidelines" (below) for more information.
password_name	The password that you will use for logging in to the remote host.

Usage Guidelines

This feature allows you to execute a command from the CLI to dial a remote site without having to find an available modem on the LX. The LX chooses the first available modem from the modem pool.

In order to use this feature, you must specify a modem pool for the LX unit. For more information, refer to the `pool enable` command on page 738.

The following status messages will be displayed if you execute this command with a Login name and a password:

```
Dial out on modem 10
Sending login
Sending password
```

When the `Sending password` prompt is displayed, you must press a key to get the CLI prompt of the remote LX unit.

Examples

```
dial direct number 1234567890

dial direct number 1234567890 login HenryS

dial direct number 1234567890 login JSmithers password JHoiu45fgij
```

dial ppp

Initiates a dialed connection to a host via a PPP Link.

NOTE: THIS COMMAND SHOULD NOT BE EXECUTED BY A USER FROM THE CLI! IT SHOULD ONLY BE USED AS THE SPECIFIED COMMAND FOR AN ACTION. (Refer to "command" on page 970 for more information on specifying a command for an Action.)

Syntax

```
dial ppp number <number> interface <interface_num>
```

Where	Means
number	The number that is dialed to initiate the connection.
interface_num	The interface number of an IP interface that has been configured for PPP. This IP interface must be bound to an asynchronous port for PPP Links. Refer to "bind port async protocol ppp" on page 495 for more information on binding an IP interface to an asynchronous port for PPP Links.

Usage Guidelines

When this command is executed, the LCP state and IPCP state for the specifed IP interface must be "Closed". If the LCP state and IPCP state are "Closed", the LX will dial out the port that has been bound to the port for PPP.

Example

```
dial ppp number 1234535437 interface 3
```

dial reverse

Initiates a connection to a remote LX unit by reverse dialing. For more information on reverse dialing, refer to "Usage Guidelines" (below).

Syntax

```
dial reverse number <number> login <login_name> password <password_name>
       [phone <phone_num>] [timeout <timeout_setting>]
```

Where	Means
number	The number of the remote LX unit.
login_name	The Login Name that you will use for logging in to the remote LX unit. (This must be the same as your Login Name on the local LX unit.)
password_name	The password that you will use for logging in to the remote host. (This must be the same as your password on the local LX unit.)
phone_num	The number of a modem on the local LX. The remote LX will call you back at this number. (The default value is the Dialback number that is configured for your subscriber account.)
timeout_setting	The length of time (in seconds) that is allowed to complete the connection. (The default value is the idletime in your subscriber account.)

Usage Guidelines

Under reverse dialing, the LX unit dials out to the remote LX using the first available modem from the Modem Pool. The modem for the remote LX validates the subscriber login and calls back the subscriber

In order to use this feature, you must specify a modem pool for the LX unit. For more information, refer to the `pool enable` command on page 738.

NOTE: Dialback should be disabled for your subscriber account when you execute this command. To disable Dialback for your subscriber account, execute the no dialback command in the Subscriber Command Mode.

Example

```
dial reverse number 1234567890 login HenryW password utdls2346ma
phone 1908765432 timeout 40
```

enable

Displays a password prompt for logging into the Superuser Command Mode. When you are logged into Superuser mode, you can execute the Superuser commands. Refer to "Superuser Commands" on page 249 for more information on the Superuser commands.

NOTE: In order to access (log in) to the Superuser Command Mode, your Security Level must be Superuser. For more information, refer to "Displaying Your Security Level" (below).

Syntax

`enable`

Usage Guidelines

When you execute the `enable` command, the `Password:` prompt is displayed:

To enter Superuser mode, you must enter a Superuser password at the `Password:` prompt. The default Superuser password is `system`.

The Superuser prompt is displayed when you are in Superuser mode. The Superuser prompt is in the following format:

`<username>:<session_number> >>`

where `<username>` is the username that was entered at the `Login:` prompt.

`<session_number>` is the session number of the current connection.

For example, in the `InReach:0 >>` prompt, the username is `InReach` and the session number is 0.

Example

```
enable
```

Displaying Your Security Level

Your Security Level is displayed in the `Security` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

exit

When the `exit` command is executed in User Mode, it exits the LX CLI and closes the connection to the LX unit.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX Command Modes. However, the effect of the `exit` command varies, depending on the mode from which it is issued.

As noted above, issuing the `exit` command in User Mode exits the LX CLI and closes the connection to the LX unit.

Issuing the `exit` command in any mode other than User returns the user to the previous command mode. For example, issuing the `exit` command in Superuser Mode returns the user to User Mode; issuing the `exit` command in Configuration Mode returns the user to Superuser Mode, and so on.

Example

```
exit
```

menu

Changes the active Subscriber Session Mode from `CLI` to `Menu`. When the active Subscriber Session Mode is changed to `Menu`, your Menu is displayed and active.

Syntax

```
menu
```

Usage Guidelines

You can select any option from your displayed and active Menu. You can exit the active Menu by typing the "Logout" control key.

In order to execute this command, you must have a Menu Name configured for your Subscriber account. (Refer to "menu name" on page 667 to configure a Menu Name for a Subscriber account.)

The `Login Mode` field of the Subscriber Characteristics Screen indicates whether the subscriber will be presented with the CLI, or a menu, when he or she logs in. The name of the Subscriber Menu (If any) is displayed in the `Menu Name` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

Example

```
menu
```

message user

Sends a message to the console of the user(s) who are currently logged in to the LX unit.

Syntax

```
message user [<user_name>]|all [<message_text>]
```

Where	Means
user_name	The LX username of the user to whom the message is to be sent.
all	Send the message to all LX users that are currently logged in.
message_text	The message that is to be sent to the logged-in user(s). This can be an ASCII string of any length.

Usage Guidelines

An interactive user (the user must be typing commands or type ENTER) will be notified whenever they receive a new message via the CLI. This message will tell them that they have a new message, and how many total messages are available for reading. When a message is read, an acknowledgement is automatically sent to the sender of the message to tell them that this message has been read. If a user logs out before reading all of his or her messages, these messages are deleted and negative acknowledgement is sent to the sender of each.

Examples

```
message user markw This is a test

message user all The system will go down at 15:30!!!
```

monitor/show audit log

Displays the audit log for a port or a subscriber.

The `show audit log` command displays a static version of the Audit Log Screen; the information in the Audit Log Screen is the information that was in effect when the `show audit log` command was executed.

The `monitor audit log` command displays an active version of the Audit Log Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor audit log [<port_number>]|[<subscriber_name>]`

`show audit log [<port_number>]|[<subscriber_name>]`

Where	Means
port_number	Specifies an asynchronous port number on the LX unit.
subscriber_name	Specifies an LX subscriber name.

Usage Guidelines

If you execute `show audit log` for a subscriber, the screen will only contain audit log data for the subscriber in question.

If you execute `show audit log` for a port, the screen will contain audit log data for all of the subscribers that are logged in at the port.

Examples

```
monitor audit log

show audit log

monitor audit log 5

show audit log 5

monitor audit log mark

show audit log mark
```

monitor/show audit log (continued)

Figure 2 shows an example of the Audit Log Screen.

```
Jun 18 16:08:32 yves ttyGN0 0 Subs_yves >>end
Jun 18 16:08:50 yves ttyGN0 1 Yves:0 >>
Jun 18 16:08:50 yves ttyGN0 2 Yves:1 >
Jun 18 16:08:50 yves ttyGN0 3 Yves:2 >
Jun 18 16:08:55 yves ttyGN0 3 Yves:3 >sho session 1
Jun 18 16:08:55 yves ttyGN0 3 Number    Device       Program       Pid       Time      Status
Jun 18 16:08:55 yves ttyGN0 3   1     /dev/pts/3    User           481        5          -
```

Figure 2 - Audit Log Screen

monitor/show clock

Displays the day, date, time, and timezone for the LX unit.

The `show clock` command displays a static version of the Clock Screen; the information in the Clock Screen is the information that was in effect when the `show clock` command was executed.

The `monitor clock` command displays an active version of the Clock Screen; the information in the Clock Screen is updated with each passing second.

Syntax

```
monitor clock

show clock
```

Examples

```
monitor clock

show clock
```

Figure 3 shows an example of the Clock Screen.

```
Mon, 23 Jun 2003 11:46:40 US/EASTERN
```

Figure 3 - Clock Screen

monitor/show command log

Displays the command log for a port or for a subscriber.

The `show command log` command displays a static version of the Command Log Screen; the information in the Command Log Screen is the information that was in effect when the `show command log` command was executed.

The `monitor command log` command displays an active version of the Command Log Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor command log [<port_number>]|[<subscriber_name>]`

`show command log [<port_number>]|[<subscriber_name>]`

Examples

```
monitor command log

show command log

monitor command log 4

show command log 4

monitor command log mark

show command log mark
```

Figure 4 shows an example of the Command Log Screen.

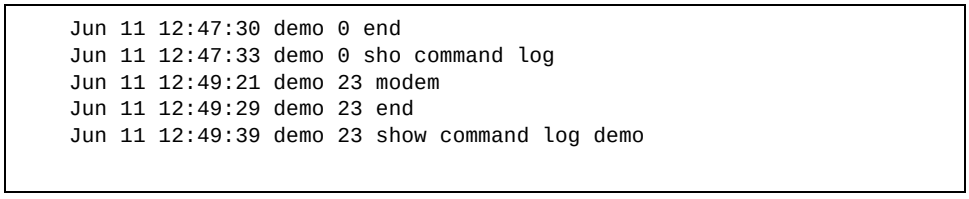


Figure 4 - Command Log Screen

monitor/show configuration

Displays the contents of the LX configuration tables or the configuration data from the Non-Volatile memory of the LX unit.

The `show configuration` command displays a static version of the Configuration Data Screen; the information in the Configuration Data Screen is the information that was in effect when the `show configuration` command was executed.

The `monitor configuration` command displays an active version of the Configuration Data Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor configuration [interface] [port async] [port ethernet]
[subscriber] [system]
```

```
show configuration [interface] [port async] [port ethernet]
[subscriber] [system]
```

Where	Means
interface	Display the contents of the Interface configuration table.
port async	Display the contents of the asynchronous port configuration table.
port ethernet	Display the contents of the ethernet port configuration table.
subscriber	Display the contents of the subscriber configuration table.
system	Display the contents of the system configuration table.

Usage Guidelines

If this command is executed without a modifier, all of the configuration tables are displayed.

Examples

```
monitor configuration

monitor configuration interface

monitor configuration port async

monitor configuration port ethernet

monitor configuration subscriber

monitor configuration system
```

monitor/show configuration (continued)

```
show configuration

show configuration interface

show configuration port async

show configuration port ethernet

show configuration subscriber

show configuration system
```

Figure 5 shows an example of the Configuration Data Screen.

```
Signature  is :a1326c7cf50dd779086e0a90843fdke94398kj9
In-Reach Configuration version 0.0.34, Linux kernel version 2.4.10

System.SystemName.0         TYPE STRING        VALUE "InReach LX-1"
System.SystemLocation.0     TYPE STRING        VALUE "Middle of NoWhere"
System.TimeZone.0           TYPE STRING        VALUE "UTC"
System.UseNtp.0             TYPE BOOL          VALUE "Disabled"
System.UseLpd.0             TYPE BOOL          VALUE "Disabled"
System.SnmpLocation.0       TYPE STRING        VALUE ""
System.SnmpPort.0           TYPE SHORT         VALUE "161"
System.SnmpLog.0            TYPE BOOL          VALUE "Disabled"
System.SnmpTransport.0      TYPE OCTET         VALUE "0"
System.SysLogAddr.0         TYPE IPADDR        VALUE "0.0.0.0"
System.UseSsh.0             TYPE BOOL          VALUE "Disabled"
System.UseRad.0             TYPE BOOL          VALUE "Disabled"
System.UseRadAcct.0         TYPE BOOL          VALUE "Disabled"
System.RadPort.0            TYPE SHORT         VALUE "1812"
System.RadAcctPort.0        TYPE SHORT         VALUE "1813"
System.RadPrimAuth.0        TYPE IPADDR        VALUE "1.1.1.1"
System.RadPrimSecret.0      TYPE STRING        VALUE ""
System.RadSecAuth.0         TYPE IPADDR        VALUE "1.1.1.2"
System.RadSecSecret.0       TYPE STRING        VALUE ""
System.RadPrimAcct.0        TYPE IPADDR        VALUE "1.1.1.1"
Type a key to continue, q to quit
```

Figure 5 - Configuration Data Screen

monitor/show configuration log

Displays the commands that have been executed in the Configuration Command Mode and in all of the command modes nested in the Configuration command mode.

The `show configuration log` command displays a static version of the Configuration Log Screen; the information in the Configuration Log Screen is the information that was in effect when the `show configuration log` command was executed.

The `monitor configuration log` command displays an active version of the Configuration Log Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor configuration log

show configuration log
```

Examples

```
monitor configuration log

show configuration log
```

Figure 6 shows an example of the Configuration Log Screen.

```
Jun 20 20:59:03 InReach /ttyGN0 0 save config to flash
Jun 20 20:59:12 InReach /ttyGN0 0 boot config file from flash
Jun 20 20:59:46 InReach /ttyGN0 0 subscriber 4 no password
Jun 20 21:00:17 InReach /ttyGN0 0 subscriber 4 access telnet enable
Jun 20 21:00:24 InReach /ttyGN0 0 subscriber 4 access ssh enable
Jun 20 21:00:29 InReach /ttyGN0 0 subscriber 4 access guiserver enable
Jun 20 21:00:34 InReach /ttyGN0 0 subscriber 4 access console enable
Jun 20 21:00:47 InReach /ttyGN0 0 subscriber 4 security level super
Jun 20 21:01:01 InReach /ttyGN0 0 save config to flash
```

Figure 6 - Configuration Log Screen

monitor/show current user

Displays the characteristics of the current user.

The `show current user` command displays a static version of the Current User Screen; the information in the Current User Screen is the information that was in effect when the `show current user` command was executed.

The `monitor current user` command displays an active version of the Current User Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor current user

show current user
```

Examples

```
monitor current user

show current user
```

Figure 7 shows an example of the Current User Screen.

```
Time:                                Mon, 17 Jan 2005 15:42:54 US/EASTERN
Name:                         InReach  Rlogin Ded. Service:
Preferred Service:                     Dedicated Service:
Security:     User Read Outlet Shell   Term Type:                        Ansi
Login Mode:                       Cli  Telnet Escape Key:                 ^]
Command Logging:              Disabled  Audit Logging:                Disabled
Radius Command Logging:       Disabled  Radius Audit Logging:         Disabled
Idle Timeout:                        0  User Prompt:                   InReach
Web Login Mode:                 Config  Screen Pause:                  Enabled
Forward Switch:                     ^F  Local Switch:                      ^L
Backward Switch:                    ^B  Rlogin Transparent:           Disabled
Dialback Feature:             Disabled  Debug:                        Disabled
Dialback Number:
Menu Name:                                                      /config/Menu2
Web Menu Name:                                                  /config/Menu2
Port Access list:                                                       0-33
Remote Access list:                          Telnet Ssh Web_Server Console
Outlet Access list:
Outlet Group Access list:
```

Figure 7 - Current User Screen

Field	Description
Time	The time at which you created the show screen.
Name	The name under which the subscriber is logged in.
Preferred Service	The service to which the subscriber will be connected when the subscriber makes a connect request without specifying a service.
Security	The level of security that the subscriber has. The possible values are None and Superuser.
Login Mode	Indicates whether the subscriber will be in the CLI, or his Menu, when he or she logs in to the LX unit.
Command Logging	Indicates whether the command logging feature is Enabled or Disabled for the subscriber.
Radius Command Logging	Indicates whether the radius command logging feature is Enabled or Disabled for the subscriber.
Idle Timeout	The length of time that the subscriber can go without entering keyboard data before she is logged out.
Web Login Mode	The login mode that a subscriber can access. The options are Configuration and Menu.
Forward Switch	The keyboard character that the subscriber types to switch to the next session.
Backward Switch	The keyboard character that the subscriber types to switch to the previous session.
Dialback Feature	Indicates whether or not the subscriber requires a dialback script in order to be logged in. (The dialback script contains commands that cause a modem to dial a designated telephone number.) The allowable values are Enabled and Disabled.
Dialback Number	The telephone number that the LX modem will dial when the subscriber makes a Dialback call to the LX unit.
Menu Name	The name of the Menu assigned to the subscriber account.
Web Menu Name	The name of the Web Menu assigned to the subscriber account. This name can be up to 22 characters long.
Port Access List	The LX ports that the user can access.
Remote Access List	The methods that the user can use to make remote connections.
Outlet Access List	The individual outlets that the subscriber is authorized to manage.

Outlet Group Access List	The outlet groups that the subscriber is authorized to manage.
Rlogin Ded. Service	The rlogin service to which the subscriber is permanently assigned.
Dedicated Service	The service to which the subscriber is permanently assigned.
Term Type	The type of terminal emulation. Options are VT100 and ANSI.
Telnet Escape Key	The telnet break sequence, which can be anything you designate. The default is Ctrl right bracket.
Audit Logging	Indicates whether the Audit Logging Feature is Enabled or Disabled.
Radius Audit Logging	Indicates whether the Radius Audit Logging Feature is Enabled or Disabled.
User Prompt	The subscriber-specific field of the subscriber User prompt. For example, for a subscriber prompt of `InReach:0 >`, the subscriber-specific field is `InReach`.
Screen Pause	Indicates whether or not the screen is enabled to pause after 26 lines of output are displayed.
Local Switch	The keyboard character that the subscriber types to return to the local command mode.
RLogin Transparent	Indicates whether rlogin is Enabled or Disabled.
Debug	Indicates whether Debug is Enabled or Disabled.

monitor/show databuffer log

Displays (by port number) the contents of the databuffer for the LX unit.

The `show databuffer log <port_number>` command displays a static version of the Databuffer Log Port Screen; the information in the Databuffer Log Port Screen is the information that was in effect when the `show databuffer log <port_number>` command was executed.

The `monitor databuffer log <port_number>` command displays an active version of the Databuffer Log Port Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor databuffer log <port_number>`

`show databuffer log <port_number>`

Where	Means
port_number	The number of the port on which you want to retrieve information from the common log.

Examples

```
monitor databuffer log <port_number>

show databuffer log <port_number>
```

monitor/show databuffer log (continued)

Figure 8 shows an example of the Databuffer Log Port Screen.

```
Jan 28 10:59:48 In-Reach [portasync34][7633]: #
 Jan 28 10:59:48 In-Reach [portasync34][7633]: #
 Jan 28 10:59:54 In-Reach [portasync34][7633]: # exit
 Jan 28 10:59:54 In-Reach [portasync34][7633]:
 Jan 28 10:59:55 In-Reach [portasync34][7633]: eagle console login:
 Jan 28 11:00:22 In-Reach [portasync34][7633]: eagle console login: admin112
 Jan 28 11:00:26 In-Reach [portasync34][7633]: Password:
 Jan 28 11:00:26 In-Reach [portasync34][7633]: Last login: Thu Jan 27 16:18:06 on console
 Jan 28 11:00:26 In-Reach [portasync34][7633]: Jan 28 10:54:02 eagle login: ADMIN112 LOGIN /
dev/console
 Jan 28 11:00:26 In-Reach [portasync34][7633]: Sun Microsystems Inc.   SunOS 5.8       Generic
Patch   February 2004
 Jan 28 11:00:28 In-Reach [portasync34][7633]: #
 Jan 28 11:00:28 In-Reach [portasync34][7633]: #
 Jan 28 11:00:36 In-Reach [portasync34][7633]: # Type  'go' to resume
 Jan 28 11:00:37 In-Reach [portasync34][7633]: ok
 Jan 28 11:00:38 In-Reach [portasync34][7633]: ok
 Jan 28 11:00:41 In-Reach [portasync34][7633]: ok go
 Jan 28 11:00:41 In-Reach [portasync34][7633]:
 Jan 28 11:00:42 In-Reach [portasync34][7633]: #
 Jan 28 11:00:46 In-Reach [portasync34][7633]: # exit
 Jan 28 11:00:46 In-Reach [portasync34][7633]:
```

Figure 8 - Databuffer Log Port Screen

monitor/show debug all

Displays the entire (unfiltered) contents of the `/var/log/debug` file.

NOTE: As an alternative to executing this command, you can display debug information by accessing the Linux shell and displaying the contents of the `/var/log/debug` file. Refer to "shell" on page 244 for information on accessing the Linux Shell.

The `show debug all` command displays a static version of the Debug File Screen; the information in the Debug File Screen is the information that was in effect when the `show debug all` command was executed.

The `monitor debug all` command displays an active version of the Debug File Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor debug all

show debug all
```

Examples

```
monitor debug all

show debug all
```

Figure 9 shows an example of the Debug File Screen.

```
Jan  7 23:15:40 In-Reach kernel: i2c-dev.o: Registered 'asp' as minor 0
Jan  7 23:15:40 In-Reach kernel: 0: offset=0x0,size=0x20000,blocks=64
Jan  7 23:15:50 In-Reach [434]: Entering CreateDynSubscriber InReach port /
dev/ttyGN8
Jan  7 23:16:11 In-Reach portvirtual: Creating Virtual Record with key :/
dev/pts/0:
Jan  7 23:16:11 In-Reach portvirtual: Sub= (nil), Dyn = (nil), Key: /dev/
pts/0
Jan  7 23:16:18 In-Reach portvirtual: Entering CreateDynSubscriber InReach
port /dev/pts/0
Jan  7 23:16:18 In-Reach portvirtual: Subscriber InReach port /dev/pts/0
Jan  7 23:31:38 In-Reach portvirtual: Creating Virtual Record with key :/
dev/pts/1:

Type a key to continue, q to quit
```

Figure 9 - Debug File Screen

monitor/show debug flash

When debug flash is enabled, various flash memory write messages generated by the LX will be written to the debug file. The `show debug flash` command displays the flash filtered contents of the `/var/log/debug` file.

NOTE: As an alternative to executing this command, you can display debug information by accessing the Linux shell and displaying the contents of the `/var/log/debug` file. Refer to "shell" on page 244 for information on accessing the Linux Shell.

The `show debug flash` command displays a static version of the Debug Flash Screen; the information in the Debug Flash Screen is the information that was in effect when the `show debug flash` command was executed.

The `monitor debug flash` command displays an active version of the Debug Flash Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor debug flash

show debug flash
```

Examples

```
monitor debug flash

show debug flash
```

Figure 10 shows an example of the Debug Flash Screen.

```
May  6 16:43:05 fd = 7, start = 0x760000, lock = 0, count = 1
May  6 16:43:05 region = 0: start = 0x760000, r->offset = 0x0, r->erasesize
= 0x
20000, r->numblocks = 64
May  6 16:43:05 start found in region 0
May  6 16:43:05 erase.length = 0x20000, cur = 0x780000, totalblocks = 1
May  6 16:43:05 Unlocking: erase.start = 0x760000, erase.length = 0x20000
May  6 16:43:06 fd = 7, start = 0x760000, lock = 1, count = 1
May  6 16:43:06 region = 0: start = 0x760000, r->offset = 0x0, r->erasesize
= 0x
20000, r->numblocks = 64
May  6 16:43:06 start found in region 0
May  6 16:43:06 erase.length = 0x20000, cur = 0x780000, totalblocks = 1
May  6 16:43:06 Locking: erase.start = 0x760000, erase.length = 0x20000
```

Figure 10 - Debug Flash Screen

monitor/show debug interface ppp

Displays the debug data for a PPP link on an IP interface.

NOTE: As an alternative to executing this command, you can display the debug information for a PPP link by accessing the Linux shell and displaying the contents of the `/var/log/debug` file. Refer to "shell" on page 244 for information on accessing the Linux Shell.

The `show debug interface ppp` command displays a static version of the Debug PPP Screen; the information in the Debug PPP Screen is the information that was in effect when the `show debug interface ppp` command was executed.

The `monitor debug interface ppp` command displays an active version of the Debug PPP Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor debug interface NUMBER ppp

show debug interface NUMBER ppp
```

Where	Means
NUMBER	The number of the IP interface for which PPP-link debug data is to be displayed.

Examples

```
monitor debug interface 3 ppp

show debug interface 3 ppp
```

Figure 11 shows an example of the Debug PPP Screen.

```
Mar 10 07:33:35 In-Reach pppd[1388]: using channel 3
Mar 10 07:33:37 In-Reach pppd[1388]: rcvd [LCP ConfReq id=0x1 <asyncmap
0x0> <magic 0x71385242> <pcomp> <accomp> <callback CBCP>]
Mar 10 07:33:37 In-Reach pppd[1388]: sent [LCP ConfReq id=0x1 <auth pap>
<magic0xc7e17951> <pcomp> <accomp>]
Mar 10 07:33:37 In-Reach pppd[1388]: sent [LCP ConfRej id=0x1 <callback
CBCP>]
Mar 10 07:33:37 In-Reach pppd[1388]: rcvd [LCP ConfAck id=0x1 <auth pap>
<magic0xc7e17951> <pcomp> <accomp>]
Mar 10 07:33:37 In-Reach pppd[1388]: rcvd [LCP ConfReq id=0x2 <asyncmap
0x0> <magic 0x71385242> <pcomp> <accomp>]
Mar 10 07:33:37 In-Reach pppd[1388]: sent [LCP ConfAck id=0x2 <asyncmap
0x0> <magic 0x71385242> <pcomp> <accomp>]
```

Figure 11 - Debug PPP Screen

monitor/show debug port async

Displays the debug data for an asynchronous port on the LX unit.

NOTE: As an alternative to executing this command, you can display the debug information for an asynchronous port by accessing the Linux shell and displaying the contents of the `/var/log/debug` file. Refer to "shell" on page 244 for information on accessing the Linux Shell.

The `show debug port async` command displays a static version of the Debug Port Async Screen; the information in the Debug Port Async Screen is the information that was in effect when the `show debug port async` command was executed.

The `monitor debug port async` command displays an active version of the Debug Port Async Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor debug port async NUMBER [Modem|Dial|Serial|Subscriber]

show debug port async NUMBER [Modem|Dial|Serial|Subscriber]
```

Where	Means
NUMBER	The number of the port for which debug data is to be displayed.
Modem	Display only the Modem debug information for the asynchronous port.
Dial	Display only the debug information that applies to dialed connections to the asynchronous port.
Serial	Display only the debug information that applies to the serial interface on the asynchronous port.
Subscriber	Display only the debug information that applies to subscriber connections via the asynchronous port.

Examples

```
monitor debug port async 3

show debug port async 3

monitor debug port async 3 Modem

show debug port async 3 Modem

monitor debug port async 3 Dial

show debug port async 3 Dial
```

```
monitor debug port async 3 Serial

show debug port async 3 Serial

monitor debug port async 3 Subscriber

show debug port async 3 Subscriber
```

Figure 12 shows an example of the Debug Port Async Screen.

```
Jan  7 03:34:47 In-Reach syslogd 1.4.1: restart.
Jan  7 03:34:47 In-Reach kernel: klogd 1.4.1, log source = /proc/kmsg
started.
Jan  7 03:34:47 In-Reach kernel: Cannot find map file.
Jan  7 03:34:47 In-Reach kernel: No module symbols loaded - kernel modules
not enabled.

Type a key to continue, q to quit
```

Figure 12 - Debug Port Async Screen

monitor/show debug port virtual

Displays the debug data for a virtual port on the LX unit.

NOTE: As an alternative to executing this command, you can display the debug information for a virtual port by accessing the Linux shell and displaying the contents of the `/var/log/debug` file. Refer to "shell" on page 244 for information on accessing the Linux Shell.

The `show debug port virtual` command displays a static version of the Debug Port Virtual Screen; the information in the Debug Port Virtual Screen is the information that was in effect when the `show debug port virtual` command was executed.

The `monitor debug port virtual` command displays an active version of the Debug Port Virtual Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor debug port virtual

show debug port virtual
```

Examples

```
monitor debug port virtual

show debug port virtual
```

Figure 13 shows an example of the Debug Port Virtual Screen.

```
Sep 24 07:57:48 portvirtual[614]: MainVirtualListener: Key: /dev/pts/0,localip:
8CB3A9CE, port: 23, remoteip: 8CB3A9D0, protocol: Telnet, username: (null),
password: (null), preauth: 0
Sep 24 07:57:48 portvirtual[614]: Creating Virtual Record with key :/dev/pts/0:
Sep 24 07:57:48 portvirtual[614]: MainVirtualListener: Virtual record created
Sep 24 07:57:48 portvirtual[614]: MainVirtualListener: Opening port protocol-
telnet
Sep 24 07:57:48 portvirtual[614]: MainVirtualListener: Getting the interface
Sep 24 07:57:48 portvirtual[614]: MainVirtualListener: 0x8CB3A9CE == 0x8CB3A9CE
(attempts = 0)
Sep 24 07:57:48 portvirtual[614]: VirtualListener: Starting
Sep 24 07:57:48 portvirtual[614]: VirtualListener: Get the subscriber record
for username '<>' password '<>'
Sep 24 07:57:48 portvirtual[614]: VirtualListener: Calling Authenticate for ''
Sep 24 07:57:48 portvirtual[614]: Authenticate: Subscriber <> password <> Auth-
type Local
Sep 24 07:57:50 portvirtual[614]: VirtualListener: Authenticate for 'don' suc-
ceeded
```

Figure 13 - Debug Port Virtual Screen

monitor/show debug snmp

Displays the debug data for SNMP on the LX unit.

NOTE: As an alternative to executing this command, you can display the debug information for SNMP by accessing the Linux shell and displaying the contents of the `/var/log/debug` file. Refer to "shell" on page 244 for information on accessing the Linux Shell.

The `show debug snmp` command displays a static version of the SNMP Debug Screen; the information in the SNMP Debug Screen is the information that was in effect when the `show debug snmp` command was executed.

The `monitor debug snmp` command displays an active version of the SNMP Debug Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor debug snmp

show debug snmp
```

Examples

```
monitor debug snmp

show debug snmp
```

Figure 14 shows an example of the SNMP Debug Screen.

```
Dec 31 21:13:22 In-Reach syslogd 1.4.1: restart.
Dec 31 21:13:23 In-Reach kernel: klogd 1.4.1, log source = /proc/kmsg started.
Dec 31 21:13:23 In-Reach kernel: Cannot find map file.
Dec 31 21:13:23 In-Reach kernel: No module symbols loaded - kernel modules not
enabled.
Dec 31 21:13:23 In-Reach kernel: Linux version 2.4.19 (build@GenBuild) (gcc
version 3.3) #1 Wed Aug 20 08:13:40 EDT 2003
Dec 31 21:13:23 In-Reach kernel: On node 0 totalpages: 16384
Dec 31 21:13:23 In-Reach kernel: zone(0): 16384 pages.
Dec 31 21:13:23 In-Reach kernel: zone(1): 0 pages.
Dec 31 21:13:23 In-Reach kernel: zone(2): 0 pages.
Dec 31 21:13:23 In-Reach kernel: Kernel command line: root=/dev/ram CONSOLE=/
dev/console
Dec 31 21:13:23 In-Reach kernel: Decrementer Frequency = 247500000/60
Dec 31 21:13:23 In-Reach kernel: Calibrating delay loop... 65.53 BogoMIPS

Type a key to continue, q to quit
```

Figure 14 - SNMP Debug Screen

monitor/show debug subscriber

Displays the debug data for subscribers on the LX unit.

NOTE: As an alternative to executing this command, you can display the debug information for subscribers by accessing the Linux shell and displaying the contents of the `/var/log/debug` file. Refer to "shell" on page 244 for information on accessing the Linux Shell.

The `show debug subscriber` command displays a static version of the Debug Subscriber Screen; the information in the Debug Subscriber Screen is the information that was in effect when the `show debug subscriber` command was executed.

The `monitor debug subscriber` command displays an active version of the Debug Subscriber Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor debug subscriber

show debug subscriber
```

Examples

```
monitor debug subscriber

show debug subscriber
```

Figure 15 shows an example of the Debug Subscriber Screen.

```
Oct  3 05:10:33 In-Reach cli: GetDynSubscriber Look Dynamic record for Default
key /dev/pts/0
Oct  3 05:10:33 In-Reach cli: GetDynSubscriber Checking Subscriber Default
Oct  3 05:10:33 In-Reach cli: GetDynSubscriber Checking Subscriber super
Oct  3 05:10:33 In-Reach cli: GetDynSubscriber Checking Subscriber InReach
Oct  3 05:10:33 In-Reach cli: GetDynSubscriber Found a Dynamic record for
InReach with key /dev/pts/0
Oct  3 05:10:39 In-Reach cli: GetDynSubscriber Look Dynamic record for Default
key /dev/pts/0
Oct  3 05:10:39 In-Reach cli: GetDynSubscriber Checking Subscriber Default
Oct  3 05:10:39 In-Reach cli: GetDynSubscriber Checking Subscriber super
Oct  3 05:10:39 In-Reach cli: GetDynSubscriber Checking Subscriber InReach
Oct  3 05:10:39 In-Reach cli: GetDynSubscriber Found a Dynamic record for
InReach with key /dev/pts/0
```

Figure 15 - Debug Subscriber Screen

monitor/show debug system

Displays the server-level debug data for the LX unit.

NOTE: As an alternative to executing this command, you can display the server-level debug information by accessing the Linux shell and displaying the contents of the `/var/log/debug` file. Refer to "shell" on page 244 for information on accessing the Linux Shell.

The `show debug system` command displays a static version of the System Debug Screen; the information in the System Debug Screen is the information that was in effect when the `show debug system` command was executed.

The `monitor debug system` command displays an active version of the System Debug Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor debug system

show debug system
```

Examples

```
monitor debug system

show debug system
```

Figure 16 shows an example of the System Debug Screen.

```
Dec 31 21:13:22 In-Reach syslogd 1.4.1: restart.
Dec 31 21:13:23 In-Reach kernel: klogd 1.4.1, log source = /proc/kmsg
started.
Dec 31 21:13:23 In-Reach kernel: Cannot find map file.
Dec 31 21:13:23 In-Reach kernel: No module symbols loaded - kernel modules
not enabled.
Dec 31 21:13:23 In-Reach kernel: Linux version 2.4.19 (build@GenBuild)
(gcc vers
ion 3.3) #1 Wed Aug 20 08:13:40 EDT 2003
Dec 31 21:13:23 In-Reach kernel: On node 0 totalpages: 16384
Dec 31 21:13:23 In-Reach kernel: zone(0): 16384 pages.
Dec 31 21:13:23 In-Reach kernel: zone(1): 0 pages.
Dec 31 21:13:23 In-Reach kernel: zone(2): 0 pages.
Dec 31 21:13:23 In-Reach kernel: Kernel command line: root=/dev/ram CON-
SOLE=/dev/console
Dec 31 21:13:23 In-Reach kernel: Decrementer Frequency = 247500000/60
Dec 31 21:13:23 In-Reach kernel: Calibrating delay loop... 65.53 BogoMIPS

Type a key to continue, q to quit
```

Figure 16 - System Debug Screen

monitor/show debug trigger action

Displays the debug data for trigger action on the LX unit.

NOTE: As an alternative to executing this command, you can display the debug information for trigger action by accessing the Linux shell and displaying the contents of the `/var/log/debug` file. Refer to "shell" on page 244 for information on accessing the Linux Shell.

The `show debug trigger action` command displays a static version of the Debug Trigger Action Screen; the information in the Debug Trigger Action Screen is the information that was in effect when the `show debug trigger action` command was executed.

The `monitor debug trigger action` command displays an active version of the Debug Trigger Action Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor debug trigger action

show debug trigger action
```

Examples

```
monitor debug trigger action

show debug trigger action
```

Figure 17 shows an example of the Debug Trigger Action Screen.

```
Sep 24 07:59:58 trigger-action[631]: ioctliwait_thread: THREAD_ID = '147466'
TRIG_INDEX = '0' TIWAIT_STATE = '1' PORT = '2' FD = '7'
Sep 24 07:59:58 trigger-action[631]: ioctliwait_thread: PORT = '2'SIGNAL = '0'
SIG_CAP_STATE = '1' MYSIGNAL = '32'
Sep 24 07:59:58 trigger-action[480]: master_thread: got message Master
Sep 24 07:59:58 trigger-action[480]: master_thread: Rule name pa2ctsup fired
for trigger 0 triggertype = 6
Sep 24 07:59:58 trigger-action[631]: ioctliwait_thread: THREAD_ID = '147466'
TRIG_INDEX = '1' TIWAIT_STATE = '1' PORT = '2' FD = '7'
Sep 24 07:59:58 trigger-action[631]: ioctliwait_thread: PORT = '2' SIGNAL = '0'
SIG_CAP_STATE = '0' MYSIGNAL = '32'
Sep 24 07:59:58 trigger-action[480]: master_thread: created detached action
thread
Sep 24 07:59:58 trigger-action[480]: master_thread: waiting for message Master
Sep 24 07:59:58 trigger-action[632]: ioctliwait_thread: THREAD_ID = '163851'
TRIG_INDEX = '2' TIWAIT_STATE = '1' PORT = '2' FD = '8'
```

Figure 17 - Debug Trigger Action Screen

monitor/show device status

Displays information on devices connected to asynchronous ports configured as POWER or SENSOR on the LX unit.

The `show device status` command displays a static version of the Device Status Screen; the information in the Device Status Screen is the information that was in effect when the `show device status` command was executed.

The `monitor device status` command displays an active version of the Device Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor device all|<port_number> status`

`show device all|<port_number> status`

Where	Means
all	Display information for all asynchronous ports configured as POWER or SENSOR.
port_number	The port number of an asynchronous port that is configured as POWER or SENSOR.

Examples

```
monitor device 5 status

show device 5 status
```

Figure 18 shows an example of the Device Screen for a SENSOR port.

```
Time:   Tue, 01 Jul 2003 21:14:29 UTC
Port Name:                  Port_25  Device Number:                    5
Device Type:                                                      Sensor
Humidity Level(%):                                                 65.00
Temperature (Celsius):                                             25.00
Temperature (Fahrenheit):                                          77.00
```

Figure 18 - Device Screen for A SENSOR Port

Figure 19 shows an example of the Device Screen for a POWER port.

```
Time: 29 Mar 2004 12:24:46 US/EASTERN  Device Number:                    39
Device Type:                                                          IR4800
Model Name:
Firmware:                                        Sentry Version 5.3a (Beta 8)
Total Outlet Strip Current Load:                                        1.50
Total Outlet Strip % Current Utilization(%):                             N/A
Outlet Minimum Off Time:           11  Power Boot Sequence:          Enabled
Power Cli:                   Disabled  Power SCP Authentication:    Disabled
SCP Admin name:        Not configured  SCP Admin password:    Not configured
Power Factory Reset Button:   Enabled

Enclosure 1:                           Status: Normal
Input     A:                           Control Status: On Load: N/A
Outlet      Name          State    Status  Boot   Wakeup      Load       Off
   1  IR4800OutletAA1        On        On     0   Off     0.0 Amps   Enabled
   Groups: 2,4,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,
   49,51,53,55,57,59,61,63,65,67,69,71,73,75,77,79,81,83,85,87,89,91,93,95,97,99
   2  IR4800OutletAB1        On        On     1   Off     0.5 Amps   Enabled
   Groups: 2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,
   50,52,54,56,58,60,62,64,66,68,70,72,74,76,78,80,82,84,86,88,90,92,94,96,98

Input     B:                           Control Status: On Load: N/A
Outlet      Name          State    Status  Boot   Wakeup      Load       Off
   3  IR4800OutletAA2        On        On     2   Off     0.5 Amps   Enabled
   Groups: 1,4
   4  IR4800OutletAB2        On        On     3   Off     0.5 Amps   Enabled
   Groups: 4
```

Figure 19 - Device Screen for A POWER Port

monitor/show device summary

Displays summary information on the sensors, and power management devices, that are attached to asynchronous ports of the LX unit.

The `show device summary` command displays a static version of the Device Summary Screen; the information in the Device Summary Screen is the information that was in effect when the `show device summary` command was executed.

The `monitor device summary` command displays an active version of the Device Summary Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor device summary

show device summary
```

Examples

```
monitor device summary

show device summary
```

Figure 20 shows an example of the Device Summary Screen.

```
 Device Number   Device Type       Model Name

         4         IR5150         IR-5150-1108H
         5         IR5150         IR-5152-3116VL
         6         Sensor              N/A
         7         IR4800         IR-4800-4870
```

Figure 20 - Device Summary Screen

monitor/show hdam alarm name characteristics

Displays the characteristics of the named alarm.

The `show hdam alarm <alarm_name> characteristics` command displays a static version of the HDAM Alarm Name Characteristics Screen; the information in the HDAM Alarm Name Characteristics Screen is the information that was in effect when the `show hdam alarm <alarm_name> characteristics` command was executed.

The `monitor hdam alarm <alarm_name> characteristics` command displays an active version of the HDAM Alarm Name Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor hdam alarm <alarm_name> characteristics

show hdam alarm <alarm_name> characteristics
```

Examples

```
monitor hdam alarm 5_4_20 characteristics

show hdam alarm 8_2_5 characteristics
```

Figure 21 shows an example of the HDAM Alarm Name Characteristics Screen.

```
                                                  Fault  Debounce   Trap     Trap
Port Slot Point       Name          Audible       State  Interval   Setting  Severity

 1    2    5          8_2_5         Disabled      Open   3          Enabled  Minor
   Description:
```

Figure 21 - HDAM Alarm Name Characteristics Screen

Field	Description
Port	The current port number.
Slot	The current slot number.
Point	The current point.
Name	The point name.
Audible	Indicates whether the Audible alarm is Enabled or Disabled.
Fault State	Indicates whether the Fault State is Open or Closed.
Debounce Interval	Indicates the Debounce Interval, in seconds.

Trap Setting	Indicates the SNMP Trap Setting (Enabled or Disabled).
Trap Severity	Indicates the SNMP Trap Severity level. The options are Critical, Information, Major, Minor, and Warning.
Description	The configured alarm description.

monitor/show hdam alarm name status

Displays the status of the named alarm.

The `show hdam alarm <alarm_name> status` command displays a static version of the HDAM Alarm Name Status Screen; the information in the HDAM Alarm Name Status Screen is the information that was in effect when the `show hdam alarm <alarm_name> status` command was executed.

The `monitor hdam alarm <alarm_name> status` command displays an active version of the HDAM Alarm Name Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor hdam alarm <alarm_name> status

show hdam alarm <alarm_name> status
```

Examples

```
monitor hdam alarm 5_4_20 status

show hdam alarm 8_2_5 status
```

Figure 22 shows an example of the HDAM Alarm Name Status Screen.

```
                                        Current    Fired    Last Time
Port Slot Point       Name              State      Count    Fired

1     2     5         8_2_5             Faulted    5        Wed,20 Oct 2004 11:47:24 UTC
```

Figure 22 - HDAM Alarm Name Status Screen

Field	Description
Port	The current port number.
Slot	The current slot number.
Point	The current point.
Name	The point name.
Current State	The Current State of the alarm (Faulted or Normal).
Fired Count	Indicates the number of times the alarm has tripped.
Last Time Fired	Indicates the last time the alarm was tripped.

monitor/show hdam analog name characteristics

Displays the characteristics of the named analog.

The `show hdam analog <analog_name> characteristics` command displays a static version of the HDAM Analog Name Characteristics Screen; the information in the HDAM Analog Name Characteristics Screen is the information that was in effect when the `show hdam analog <analog_name> characteristics` command was executed.

The `monitor hdam analog <analog_name> characteristics` command displays an active version of the HDAM Analog Name Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor hdam analog <analog_name> characteristics`

`monitor hdam analog port <port_number> slot [<slot_list>|all] point <point_number> characteristics`

`show hdam analog <analog_name> characteristics`

`show hdam analog port <port_number> slot [<slot_list>|all] point <point_number> characteristics`

Examples

```
monitor hdam analog 10_1_1 characteristics
```

```
show hdam analog OfficeTemp characteristics
```

Figure 21 shows an example of the HDAM Analog Name Characteristics Screen.

```
Time:                                        Tue, 14 Jun 2005 14:20:58 UTC
 Device Number:                    10  Firmware:                        V2.2
 Banner:
 Number of resets:                  1

 Slot  Type      Points      HW Rev
 1     Sensor      8           00
 2     Alarm       32          00
 3     Control     8           01
 4     Alarm       32          00

Port Slot Point   Name             State         Min         Max         Margin     Units

 10   1    1      OfficeTemp       Enabled       5.000000    140.000000  1.000      TempinF
Description:
```

Figure 23 - HDAM Analog Name Characteristics Screen

monitor/show hdam analog name characteristics (continued)

Field	Description
Device Number	The current device number.
Firmware	The current firmware version.
Banner	The banner identifying the current device.
Number of Resets	The number of times the device has been reset.
Slot	The current slot number.
Type	The type of port. Options are Sensor, Alarm, and Control.
Point	The current point.
Name	The point name.
State	Indicates whether the State is Enabled or Disabled.
Minimum	Indicates the minimum calibration level.
Maximum	Indicates the maximum calibration level.
Margin	Indicates the margin value.
Units	Identifies the native units of the sensor.

monitor/show hdam analog name status

Displays the status of the named analog point.

The `show hdam analog <analog_name> status` command displays a static version of the HDAM Analog Name Status Screen; the information in the HDAM Analog Name Status Screen is the information that was in effect when the `show hdam analog <analog_name> status` command was executed.

The `monitor hdam analog <analog_name> status` command displays an active version of the HDAM Analog Name Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor hdam analog <analog_name> status`

`monitor hdam analog port <port_number> slot <slot_number> point <point_number> status`

`show hdam analog <analog_name> status`

`show hdam analog port <port_number> slot <slot_number> point <point_number> status`

Examples

```
monitor hdam analog 5_4_8 status

show hdam analog BarometricPressureInMyOffice status
```

Figure 22 shows an example of the HDAM Analog Name Status Screen.

```
Time:                                        Tue, 14 Jun 2005 14:21:05 UTC
Device Number:                    10  Temperature (Celsius):          27.0

Port Slot Point    Name                           Native Units Value      MilliAmp Value

 10   1    6       BarometricPressureInMyOffice    29.712820 Hg            16.732601 mA
```

Figure 24 - HDAM Analog Name Status Screen

Field	Description
Device Number	The number of the current device.
Temperature	The temperature of the temperature sensor internal to the 7104 attached to this port.
Port	The current port number.
Slot	The current slot number.
Point	The current point.

Name	The point name.
Native Units Value	The current reading of the attached sensor in its native units.
MilliAmp Value	The current reading of the attached sensor in milliamps.

monitor/show hdam characteristics

Displays general characteristics information for the HDAM connected to the port.

The `show hdam <port_number> characteristics` command displays a static version of the HDAM Port Characteristics Screen; the information in the HDAM Port Characteristics Screen is the information that was in effect when the `show hdam <port_number> characteristics` command was executed.

The `monitor hdam <port_number> characteristics` command displays an active version of the HDAM Port Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor hdam <port_number> characteristics

show hdam <port_number> characteristics
```

Examples

```
monitor hdam 4 characteristics

show hdam 8 characteristics
```

Figure 25 shows an example of the HDAM Port Characteristics Screen.

```
Time:                                          Thu, 21 Oct 2004 09:10:18 UTC
Device Number:                      8  Firmware:                      V2.0.B6
Banner:                                         HDAM 7104 Series SW Ver. 2.0
Number of Resets:                   1
Slot  Type      Points
 1    Control     8
 2    Alarm       32
 3    Alarm       32
 4    None        0

Port Slot Point   Name                                Active State

 1    1     1     8_1_1                               Opened
Description:

 1    1     2     8_1_2                               Opened
Description:

 1    1     3     8_1_3                               Opened
Description:

 1    1     4     8_1_4                               Opened
Description:

                                          Fault   Debounce  Trap     Trap
Port Slot Point                  Audible  State   Interval  Setting  Severity

 1    2     1    labdoor          Disabled  Open      3       Enabled  Informational
Description:

 1    2     2    8_2_2            Disabled   Closed   3       Enabled  Informational
Description:

 1    2     3    8_2_3           Disabled   Open     3       Enabled  Minor
Description:      this point is on port 8 slot 2 point 3 for my cellar door
```

Figure 25 - HDAM Port Characteristics Screen

Field	Description
Time	The time the characteristics screen was opened.
Device Number	The number of the device for which you are displaying characteristics.
Firmware	Indicates the current version of firmware.
Banner	Displays the banner.
Number of Resets	The number of times the HDAM has been reset.
Port	The current port number.
Slot	The current slot number.
Type	The type of port (Alarm or Control, or None if no card is in the slot).
Points	Indicates the total number of points per card.
Name	Indicates the name of the point.

Description	The configured alarm description.
Audible	Indicates whether the audible alarm is Enabled or Disabled.
Fault State	Indicates whether the fault state is Open or Closed.
Debounce Interval	Indicates the Debounce Interval, in seconds.
Trap Setting	Indicated whether the SNMP trap setting is Enabled or Disabled.
Trap Severity	Indicates the SNMP Trap Severity level. The options are Critical, Information, Major, Minor, and Warning.

monitor/show hdam control name characteristics

Displays the characteristics of the named control output.

The `show hdam control <control_name> characteristics` command displays a static version of the HDAM Control Name Characteristics Screen; the information in the HDAM Control Name Characteristics Screen is the information that was in effect when the `show hdam control <control_name> characteristics` command was executed.

The `monitor hdam control <control_name> characteristics` command displays an active version of the HDAM Control Name Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor hdam control <control_name> characteristics

show hdam control <control_name> characteristics
```

Examples

```
monitor hdam control 5_4_8 characteristics

show hdam control 8_1_5 characteristics
```

Figure 26 shows an example of the HDAM Control Name Characteristics Screen.

```
Port Slot Point        Name                                  Active State

 1    1     5          8_1_5                                 Opened
Description:
```

Figure 26 - HDAM Control Name Characteristics Screen

Field	Description
Port	The current port number.
Slot	The current slot number.
Point	The current point.
Name	The point name.
Active State	Indicates the State (Opened or Closed) when this point would be considered on.
Description	The configured alarm description, up to 64 characters long.

monitor/show hdam control name status

Displays the status of the named control output.

The `show hdam control <control_name> status` command displays a static version of the HDAM Control Name Status Screen; the information in the HDAM Control Name Status Screen is the information that was in effect when the `show hdam control <control_name> status` command was executed.

The `monitor hdam control <control_name> status` command displays an active version of the HDAM Control Name Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor hdam control <control_name> status

show hdam control <control_name> status
```

Examples

```
monitor hdam control 5_4_8 status

show hdam control 8_1_5 status
```

Figure 27 shows an example of the HDAM Control Name Status Screen.

```
                                                    Current   Operational
Port Slot Point       Name                          State     State

 1    1     5         8_1_5                         Opened    On
```

Figure 27 - HDAM Control Name Status Screen

Field	Description
Port	The current port number.
Slot	The current slot number.
Point	The current point.
Name	The point name.
Current State	Indicates whether the contact is actually open or closed.
Operational State	Indicates the Operational State (On or Off), as determined by comparing the configured Active State of the point to the Current State of the point. If the Active State matches the Current State, the point is considered “On.”

monitor/show hdam mapping

Displays the mapping between point numbers and their names. If you specify `all`, all mappings are shown.

The `show hdam mapping <point_name> | all` command displays a static version of the HDAM Mapping Screen; the information in the HDAM Mapping Screen is the information that was in effect when the `show hdam mapping <point_name> | all` command was executed.

The `monitor hdam mapping <point_name> | all` command displays an active version of the HDAM Mapping Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor hdam mapping <point_name> | all

show hdam mapping <point_name> | all
```

Examples

```
monitor hdam mapping 5_4_20

monitor hdam mapping all

show hdam mapping 5_2_31

show hdam mapping all
```

Figure 28 shows an example of the HDAM Mapping Screen.

Name	Port	Slot	Point
8_1_1	8	1	1
8_1_2	8	1	2
8_1_3	8	1	3
8_1_4	8	1	4
8_1_5	8	1	5
8_1_6	8	1	6
8_1_7	8	1	7
8_1_8	8	1	8
8_2_1	8	2	1
8_2_2	8	2	2
8_2_3	8	2	3
8_2_4	8	2	4
8_2_5	8	2	5
8_2_6	8	2	6
8_2_7	8	2	7
8_2_8	8	2	8

Figure 28 - HDAM Mapping Screen

Name	The name of the port for which you are displaying mapping.
Port	The Port number for which you are displaying mapping.
Slot	The Slot number for which you are displaying mapping.
Point	The Point number for which you are displaying mapping.

monitor/show hdam port/slot/point characteristics

Displays the port/slot/point characteristics of the named alarm.

The `show hdam <port_number> slot <slot_list> point <point_list> characteristics` command displays a static version of the HDAM Port/Slot/Point Characteristics Screen; the information in the HDAM Port/Slot/Point Characteristics Screen is the information that was in effect when the `show hdam <port_number> slot <slot_list> point <point_list> characteristics` command was executed.

The `monitor hdam <port_number> slot <slot_list> point <point_list> characteristics` command displays an active version of the HDAM Port/Slot/Point Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor hdam <port_number> slot <slot_list>|all point <point_list>|all characteristics`

`show hdam <port_number> slot <slot_list>|all point <point_list>|all characteristics`

Examples

```
monitor hdam 6 slot 1 point 1-3 characteristics

show hdam 6 slot 6 point 12 characteristics

show hdam 8 slot all point 1-10, 12 characteristics
```

Figure 29 shows an example of the HDAM Port/Slot/Point Characteristics Screen if Slot 1 contains a Control card.

```
Port Slot Point       Name                                Active State

1     1     1         8_1_1                               Opened
Description:

1     1     2         8_1_2                               Opened
Description:

1     1     3         8_1_3                               Opened
Description:

1     1     4         8_1_4                               Opened
Description:

1     1     5         8_1_5                               Opened
Description:

1     1     6         8_1_6                               Opened
Description:
```

Figure 29 - HDAM Port/Slot/Point Characteristics Control Card Screen

Field	Description
Port	The current port number.
Slot	The current slot number.
Point	The current point.
Name	The point name.
Active State	Indicates the State (Opened or Closed) when this point would be considered on.
Description	The configured alarm control.

Figure 30 shows an example of the HDAM Port/Slot/Point Characteristics Screen if Slot 1 contains an Alarm card.

```
                                          Fault   Debounce  Trap     Trap
Port Slot   Point      Name       Audible   State   Interval  Setting  Severity

1     2     3          8_2_3      Disabled  Open    3         Enabled  Minor
Description:      this point is on port 8 slot 2 point 3 for my cellar door

1     2     4          8_2_4      Disabled  Open    3         Enabled  Minor
Description:

1     2     5          8_2_5      Disabled  Open    3         Enabled  Minor
Description:

1     2     6          8_2_6      Disabled  Open    3         Enabled  Minor
Description:

1     2     7          8_2_7      Disabled  Open    3         Enabled  Minor
Description:
```

Figure 30 - HDAM Port/Slot/Point Characteristics Alarm Card Screen

Field	Description
Port	The current port number.
Slot	The current slot number.
Point	The current point.
Name	The point name.
Fault State	Indicates the state when this point is considered in Fault.
Audible	Indicates whether the Audible alarm is Enabled or Disabled.
Debounce Interval	Indicates the Debounce Interval, in seconds.

Trap Setting	Indicates the SNMP Trap Setting (Enabled or Disabled).
Trap Severity	Indicates the SNMP Trap Severity level. The options are Critical, Information, Major, Minor, and Warning.
Description	The configured alarm description.

Figure 31 shows an example of the HDAM Port/Slot/Point Characteristics Screen if Slot 1 contains an Analog card.

```
Port Slot Point  Name           State       Min          Max          Margin    Units

10   1    1      OfficeTemp     Enabled     5.000000     140.000000   1.000     TempinF
Description:

10   1    2      NotConnected   Disabled    -14.000000   100.000000   0.500     PSI
Description:

10   1    3      NotConnected   Disabled    20.800000    0.0000       2.500     Undefined
Description:
```

Figure 31 - HDAM Port/Slot/Point Characteristics Analog Card Screen

Field	Description
Port	The current port number.
Slot	The current slot number.
Point	The current point.
Name	The point name.
State	Indicates whether the state is Enabled or Disabled.
Minimum	Indicates the minimum reading the sensor supports based on 4.0 Ma (refer to your server manual for the value).
Maximum	Indicates the maximum reading the sensor supports based on 2.0 Ma (refer to your server manual for the value).
Margin	Indicates the post-reading adjustment to be applied to the actual reading (i.e., margin of 2.0, with the sensor reporting 14 Ma yields a modified value of 16 Ma.
Units	Identifies the native units of the sensor.

monitor/show hdam port/slot/point status

Displays the port/slot/point status of the named alarm.

The `show hdam <port_number> slot <slot_list> point <point_list> status` command displays a static version of the HDAM Port/Slot/Point Status Screen; the information in the HDAM Port/Slot/Point Status Screen is the information that was in effect when the `show hdam <port_number> slot <slot_list> point <point_list> status` command was executed.

The `monitor hdam <port_number> slot <slot_list> point <point_list> status` command displays an active version of the HDAM Port/Slot/Point Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor hdam <port_number> slot <slot_list>|all point
<point_list>|all status

show hdam <port_number> slot <slot_list>|all point <point_list>|all
status
```

Examples

```
monitor hdam 6 slot 1 point 1-3 status

show hdam 6 slot 4 point 8 status

show hdam 6 slot 1 point all status
```

Figure 32 shows an example of the HDAM Port/Slot/Point Status Screen if Slot 1 contains a Control card.

```
                                                Current   Operational
Port Slot Point       Name                      State     State

1     1     1         8_1_1                     Opened    On
1     1     2         8_1_2                     Opened    On
1     1     3         8_1_3                     Opened    On
1     1     4         8_1_4                     Opened    On
1     1     5         8_1_5                     Opened    On
1     1     6         8_1_6                     Opened    On
1     1     7         8_1_7                     Opened    On
1     1     8         8_1_8                     Opened    On
```

Figure 32 - HDAM Port/Slot/Point Status Control Card Screen

Field	Description
Port	The current port number.
Slot	The current slot number.
Point	The current point.
Name	The point name.
Current State	Indicates whether the contact is actually open or closed.
Operational State	Indicates the Operational State (On or Off), as determined by comparing the configured Active State of the point to the Current State of the point. If the Active State matches the Current State, the point is considered "On."

Figure 33 shows an example of the HDAM Port/Slot/Point Status Screen if Slot 1 contains an Alarm card.

```
                                        Current   Fired   LastTime
Port Slot Point      Name               State     Count   Fired

 1    2     3         8_2_3               Faulted    5       Wed,20 Oct 2004 11:47:24 UTC
 1    2     4         8_2_4               Faulted    5       Wed,20 Oct 2004 11:47:24 UTC
 1    2     5         8_2_5               Faulted    5       Wed,20 Oct 2004 11:47:24 UTC
 1    2     6         8_2_6               Faulted    5       Wed,20 Oct 2004 11:47:24 UTC
 1    2     7         8_2_7               Faulted    5       Wed,20 Oct 2004 11:47:24 UTC
 1    2     8         8_2_8               Faulted    5       Wed,20 Oct 2004 11:47:24 UTC
 1    2     9         8_2_9               Faulted    5       Wed,20 Oct 2004 11:47:24 UTC
 1    2     10        8_2_10              Faulted    13      Wed,20 Oct 2004 12:17:21 UTC
 1    2     11        8_2_11              Faulted    5       Wed,20 Oct 2004 11:47:24 UTC
 1    2     12        8_2_12              Faulted    5       Wed,20 Oct 2004 11:47:24 UTC
 1    2     13        8_2_13              Faulted    5       Wed,20 Oct 2004 11:47:24 UTC
 1    2     14        8_2_14              Faulted    5       Wed,20 Oct 2004 11:47:24 UTC
 1    2     15        8_2_15              Faulted    5       Wed,20 Oct 2004 11:47:24 UTC
```

Figure 33 - HDAM Port/Slot/Point Status Alarm Card Screen

Field	Description
Port	The current port number.
Slot	The current slot number.
Point	The current point.
Name	The point name.
Current State	The Current State of the alarm (Faulted or Normal).
Fired Count	Indicates the number of times the alarm has tripped.
Last Time Fired	Indicates the last time the alarm was tripped.

monitor/show hdam port/slot/point status (continued)

Figure 34 shows an example of the HDAM Port/Slot/Point Status Screen if Slot 1 contains an Analog card.

```
Port Slot Point    Name                           Native Units Value      MilliAmp Value

 10   1    1       Officetemp                      N/A                     0.000000 mA
 10   1    2       NothingConnectedToPoint2        N/ A                    N/A
 10   1    3       NothingConnectedToPoint3        N/A                     N/A
 10   1    4       NothingConnectedToPoint4        N/A                     N/A
 10   1    5       NothingThere                    N/A                     0.019536 mA
 10   1    6       BarometricPressureInMyOffice    29.712820 Hg            16.732601 mA
 10   1    7       HumidityInMyOfficeWithEWSRH     43.131866 %R            10.778998 mA
 10   1    8       TemperatureInMyOfficeWithEWSRH  83.420326 TempinF       13.294261 mA
```

Figure 34 - HDAM Port/Slot/Point Status Analog Card Screen

Field	Description
Port	The current port number.
Slot	The current slot number.
Point	The current point.
Name	The point name.
Native Units Value	The current reading of the attached sensor in its native units.
MilliAmp Value	The current reading of the attached sensor in milliamps.

monitor/show hdam status

Displays general status information for the HDAM connected to the port.

The `show hdam <port_number> status` command displays a static version of the HDAM Port Status Screen; the information in the HDAM Port Status Screen is the information that was in effect when the `show hdam <port_number> status` command was executed.

The `monitor hdam <port_number> status` command displays an active version of the HDAM Port Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor hdam <port_number> status`

`show hdam <port_number> status`

Examples

```
monitor hdam 4 status

show hdam 8 status
```

Figure 35 shows an example of the HDAM Port Status Screen.

```
Time:                                    Thu, 21 Oct 2004 09:10:06 UTC
 Device Number:                    8  Temperature (Celsius):          23.0

                                                          Current   Operational
 Port Slot Point       Name                               State     State

 1    1     1          8_1_1                              Opened    On
 1    1     2          8_1_2                              Opened    On
 1    1     3          8_1_3                              Opened    On
 1    1     4          8_1_4                              Opened    On
 1    1     5          8_1_5                              Opened    On
 1    1     6          8_1_6                              Opened    On
 1    1     7          8_1_7                              Opened    On
 1    1     8          8_1_8                              Opened    On

                                          Current  Fired       LastTime
Port Slot Point                           State    Count       Fired

 1    2     1          n2345              Faulted    5         Wed,20 Oct 2004 11:47:24 UTC
 1    2     2          8_2_2              Normal     0
 1    2     3          8_2_3              Faulted    5         Wed,20 Oct 2004 11:47:24 UTC
 1    2     4          8_2_4              Faulted    5         Wed,20 Oct 2004 11:47:24 UTC
 1    2     5          8_2_5              Faulted    5         Wed,20 Oct 2004 11:47:24 UTC
 1    2     6          8_2_6              Faulted    5         Wed,20 Oct 2004 11:47:24 UTC
 1    2     7          8_2_7              Faulted    5         Wed,20 Oct 2004 11:47:24 UTC
 1    2     8          8_2_8              Faulted    5         Wed,20 Oct 2004 11:47:24 UTC
 1    2     9          8_2_9              Faulted    5         Wed,20 Oct 2004 11:47:24 UTC
```

Figure 35 - HDAM Port Status Screen

Device Number	The name of the device for which you are displaying status.
Temperature (Celsius)	The temperature (in Celsius) of the device.
Port	The current port number.
Slot	The current slot number.
Point	The current point.
Name	The point name.
Current State	The Current State of the alarm (Faulted or Normal).
Operational State	Indicates the Operational State (On or Off), as determined by comparing the configured Active State of the point to the Current State of the point. If the Active State matches the Current State, the point is considered “On.”
Fired Count	The number of times the alarm input has tripped.
Last Time Fired	Indicates the last time the alarm input was tripped.

monitor/show interface bonding characteristics

Displays bonding characteristics information on all of the interfaces that are configured on the LX unit.

The `show interface bonding characteristics` command displays a static version of the Bonding Characteristics Screen; the information in the Bonding Characteristics Screen is the information that was in effect when the `show interface bonding characteristics` command was executed.

The `monitor interface bonding characteristics` command displays an active version of the Bonding Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor interface all|<interface_num> bonding characteristics`

`show interface all|<interface_num> bonding characteristics`

Where	Means
all	Display summary information for bonding on *all* of the interfaces of the LX unit.
interface_num	The number of an interface.

Examples

```
monitor interface 1 bonding characteristics

show interface 1 bonding characteristics
```

Figure 39 shows an example of the Bonding Characteristics Screen.

```
Time:                                      Thu, 20 Jan 2005 14:28:10 UTC
Interface Name:          Interface_1  Bound to :                     bond0
Mode:                 Active Backup  Link Polling Interval:          1000
Arp Address:                    N/A  Arp Polling Interval:            N/A
```

Figure 36 - Bonding Characteristics Screen

Field	Description
Time	The date and time that the `show interface bonding characteristics` command was executed.
Interface Name	The name of the IP interface for which data is being displayed.

monitor/show interface bonding characteristics (continued)

Mode	Defined as “Active Backup” when a backup link is configured.
ARP Address	The ARP address of the link.
Bound To	The logical bond that was created (bond0).
Link Polling Interval	The Link Polling Interval, in milliseconds.
ARP Polling Interval	The ARP Polling Interval, in milliseconds.

monitor/show interface bonding status

Displays bonding status information for all of the interfaces that are configured on the LX unit.

The `show interface bonding status` command displays a static version of the Bonding Status Screen; the information in the Bonding Status Screen is the information that was in effect when the `show interface bonding status` command was executed.

The `monitor interface bonding status` command displays an active version of the Bonding Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor interface all|<interface_num> bonding status`

`show interface all|<interface_num> bonding status`

Where	Means
all	Display status information for bonding on *all* of the interfaces of the LX unit.
interface_num	The Interface Number of an Interface.

Examples

```
monitor interface 1 bonding status

show interface 1 bonding status
```

Figure 39 shows an example of the Bonding Status Screen.

```
Bonding Mode: fault-tolerance (active-backup)
ARP IP Target: 10.242.131.230 ARP Interval 1000

Interface eth1: STANDBY
MII Status: UP
Redundant Fail-over count: 0

Interface eth0: ACTIVE
MII Status: UP
Redundant Fail-over count: 0
```

Figure 37 - Bonding Status Screen

Field	Description
Bonding Mode	Defined as “Active Backup” when a backup link is configured.
ARP IP Target	The name of the current ARP IP Target.
Interface eth1	The status of the interface. Options are Standby Active or Down.
MII Status	The status of the physical link. Options are Up or Down.
Redundant Fail-over Count	The number of times the link went from Active to Standby or Down.

monitor/show interface broadcast group characteristics

Displays the characteristics of Broadcast Groups.

The `show interface broadcast group characteristics` command displays a static version of the Broadcast Group Characteristics Screen; the information in the Broadcast Group Characteristics Screen is the information that was in effect when the `show interface broadcast group characteristics` command was executed.

The `monitor interface broadcast group characteristics` command displays an active version of the Broadcast Group Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor interface all|<`*`interface_num`*`> broadcast group all|<`*`group_num`*`> characteristics`

`show interface all|<`*`interface_num`*`> broadcast group all|<`*`group_num`*`> characteristics`

Where	Means

all	Display information for *all* of the specified interfaces or *all* of the specified Broadcast Groups. For example, the following command would display information for all Broadcast Groups on all interfaces of the LX unit:
	`show interface all broadcast group all characteristics`
	The following command would display information for all Broadcast Groups on Interface 1:
	`show interface 1 broadcast group all characteristics`
	The following command would display information for Broadcast Group 1 on all interfaces:
	`show interface all broadcast group 1 characteristics`

interface_num	The Interface Number of an Interface.
group_num	The group number of a Broadcast Group.

Examples

```
monitor interface 1 broadcast group all characteristics

show interface 1 broadcast group all characteristics
```

Figure 38 shows an example of the Broadcast Group Characteristics Screen.

```
Time: 08 Nov 2002 16:29:26 US/EASTERN
Broadcast Group Number:            1  Mode:              Line Mode
State:                         Disabled
Async Master port(s) with Timestamp:

Async Master port(s) without Timestamp:
 1,4
TCP Master port(s) with Timestamp:

TCP Master port(s) without Timestamp:

Async Slave port(s) with Discard:

Async Slave port(s) without Discard:
 2-3,5-7
Async Slave port(s) with Local Echo:

Async Slave port(s) without Local Echo:
 2-3,5-7
TCP Slave port(s) with Discard:

TCP Slave port(s) without Discard:

TCP Slave port(s) with Local Echo:

TCP Slave port(s) without Local Echo:
```

Figure 38 - Broadcast Group Characteristics Screen

monitor/show interface broadcast group summary

Displays summary information on all of the Broadcast Groups that are configured on the LX unit.

The `show interface broadcast group summary` command displays a static version of the Broadcast Group Summary Screen; the information in the Broadcast Group Summary Screen is the information that was in effect when the `show interface broadcast group summary` command was executed.

The `monitor interface broadcast group summary` command displays an active version of the Broadcast Group Summary Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor interface all|<interface_num> broadcast group summary`

`show interface all|<interface_num> broadcast group summary`

Where	Means
all	Display summary information for the Broadcast Group on *all* of the interfaces of the LX unit.
interface_num	The Interface Number of an Interface.

Examples

```
monitor interface 1 broadcast group summary

show interface 1 broadcast group summary
```

Figure 39 shows an example of the Broadcast Group Summary Screen.

```
 Interface number 1
     Broadcast group number:                    State:

                            1                  Enabled
                            2                  Disabled
                            3                  Disabled
                            4                  Disabled
                            5                  Disabled
```

Figure 39 - Broadcast Group Summary Screen

monitor/show interface characteristics

Displays the characteristics of an IP interface.

The `show interface characteristics` command displays a static version of the Interface Characteristics Screen; the information in the Interface Characteristics Screen is the information that was in effect when the `show interface characteristics` command was executed.

The `monitor interface characteristics` command displays an active version of the Interface Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor interface NUMBER|all characteristics

show interface NUMBER|all characteristics
```

Where	Means
NUMBER	Specifies the IP interface for which information is to be displayed.
all	Display information for all the IP interfaces on the LX unit.

Examples

```
monitor interface 1 characteristics

show interface 1 characteristics
```

Figure 40 shows an example of the Interface Characteristics Screen.

```
Time:                                  Wed, 05 Jan 2005 11:40:11 US/EASTERN
Interface Name:           Interface_1  Bound to :                        eth0
IP MTU Size:                      N/A  Unnumbered Interface: First Available
IP Address   :                0.0.0.0  Learned IP Address  : 140.179.169.191
IP Mask      :                0.0.0.0  Learned IP Mask     :   255.255.255.0
IP Broadcast :                0.0.0.0  Learned IP Broadcast: 140.179.169.255
Interface Status:              In Use  Learned IP Gateway  :   140.179.169.1
Banner Display:                 Local  Learned IP DNS      :         0.0.0.0
Banner:        /config/banner.default  Radius Accounting:           Disabled
Authentication:                   None  Tacacs+ Accounting:          Disabled
Authentication FallBack:     Disabled  Auth. FallBack Attempts:            0
SSH port:                          22  Telnet port:                       23
```

Figure 40 - Interface Characteristics Screen

monitor/show interface characteristics (continued)

Field	Description
Time	The date and time that the `show interface characteristics` command was executed.
Interface Name	The name of the IP interface for which data is being displayed.
IP MTU Size	The Maximum Transmission Unit (MTU) size for an IP interface. The MTU size is the largest-size frame that can be transmitted on the IP interface.
IP Address	The IP Address of the IP interface.
IP Mask	The subnet mask of the IP interface.
IP Broadcast	The IP Broadcast Address of the IP interface.
Interface Status	The status of the IP interface. The possible values are In Use and N/A.
Banner Display	The Banner display option for the IP interface. The possible values are Local and None.
Banner	The name of the Banner File.
Authentication	The authentication method used for the IP interface. The possible values are LDAP, Local, RADIUS, SecurID, TACACS+, and None.
Authentication FallBack	Indicates whether Fallback Login is Enabled or Disabled for this IP interface.
Auth. Fallback Attempts	The number of attempts made to the primary and secondary server before going to local security. The default is 3.
SSH port	The UDP port for making SSH connections to the IP interface.
SSH Keepalive Interval	The length of time, in seconds, between attempts at making an SSH connection to the IP interface.
Bound to	The Ethernet port to which the interface is bound.
Unnumbered Interface	If this IP interface has been configured as an unnumbered interface, this field displays the Search Method that is used to obtain an IP address for temporary use by the interface, or the IP address that the interface uses.
Learned IP Address	The IP Address learned from ppciboot.
Learned IP Mask	The subnet mask learned from ppciboot.
Learned IP Broadcast	The IP Broadcast Address learned from ppciboot.
Learned IP Gateway	The IP Gateway learned from ppciboot.
Learned IP DNS	The domain Name Server (DNS) learned from ppciboot.
Radius Accounting	Indicates whether RADIUS accounting is Enabled or Disabled on the IP interface.
TACACS+ Accounting	Indicates whether TACACS+ accounting is Enabled or Disabled on the IP interface.

Telnet port	The UDP port for making Telnet connections to the IP interface.
SSH Keepalive Count	The number of times that an SSH client can attempt to make a connection to the IP interface.

monitor/show interface ipv6 characteristics

Displays the characteristics of an IPv6 interface.

The `show interface ipv6 characteristics` command displays a static version of the IPv6 Interface Characteristics Screen; the information in the IPv6 Interface Characteristics Screen is the information that was in effect when the `show ipv6 interface characteristics` command was executed.

The `monitor ipv6 interface characteristics` command displays an active version of the IPv6 Interface Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor interface NUMBER ipv6 characteristics

show interface NUMBER ipv6 characteristics
```

Where	Means
NUMBER	Specifies the IPv6 interface for which information is to be displayed.

Examples

```
monitor interface 1 ipv6 characteristics

show interface 1 ipv6 characteristics
```

Figure 41 shows an example of the Interface IPv6 Characteristics Screen.

```
Time:                                              Mon, 26 Aug 2002 09:56:22 UTC
Interface Name:               Interface_1   Bound to :                       eth0
Stateless Autoconfig:             Enabled   Maximum Addresses:                  4
Maximum DAD Probes:                     1
Global Address/Prefix:                       3ffe:303:14:4:2a0:9cff:fe00:8ad/64
Global Address/Prefix:                      3ffe:405:22:14:2a0:9cff:fe00:8ad/64
```

Figure 41 - Interface IPv6 Characteristics Screen

Field	Description
Time	The date and time that the `show interface ipv6 characteristics` command was executed.
Interface Name	The name of the IP interface for which data is being displayed.
Bound to	The Ethernet port to which the interface is bound.
Stateless Autoconfiguration	Indicates whether Stateless Autoconfiguration is Enabled or Disabled.
Maximum Addresses	Indicates the Maximum number of IPv6 addresses the interface can have. The range is from 1-4. The default is 4.

monitor/show interface ipv6 characteristics (continued)

Field	Description
Maximum DAD Probes	Indicates the Maximum number of Duplicate Address Detection probes. The range is from 1-5. The default is 1.
Global Address/ Prefix	Indicates the configured IPv6 address(es) for this interface.

monitor/show interface ipv6 status

Displays IPv6 status information for an IP interface.

The `show interface ipv6 status` command displays a static version of the Interface IPv6 Status Screen; the information in the Interface IPv6 Status Screen is the information that was in effect when the `show interface ipv6 status` command was executed.

The `monitor interface ipv6 status` command displays an active version of the Interface IPv6 Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor interface NUMBER ipv6 status

show interface NUMBER ipv6 status
```

Where	Means
NUMBER	Specifies the IP interface for which IPv6 information is to be displayed. The allowable IP interface numbers are 1 through 4.

Examples

```
monitor interface 1 ipv6 status

show interface 1 ipv6 status
```

Figure 42 shows an example of the Interface IPv6 Status Screen. Any IPv6 addresses that were learned in this interface include the word “dynamic” and are displayed at the bottom of the screen. If the word “dynamic” is not present, that IPv6 address was configured.

```
Time:                                      Mon, 26 Aug 2002 12:10:36 UTC
Interface Name:           Interface_1    Bound to :                  eth0

3: eth0: <BROADCAST,MULTICAST,UP> mtu 1500 qlen 1000
   inet6 fe80::2a0:9cff:fe00:8ad/64 scope link
     valid_lft forever preferred_lft forever
   inet6 3ffe:501:ffff:100:2a0:9cff:fe00:8ad/64 scope global dynamic
     valid_lft 258935sec preferred_lft 602345sec
```

Figure 42 - Interface IPv6 Status Screen

Field	Description
Time	The date and time that the `show interface status` command was executed.
Interface Name	The name of the IP interface.
Bound to	The Ethernet port to which the IP interface is bound.

monitor/show interface port mapping

Displays the Telnet port number, and the SSH port number, associated with each serial port on an IP interface.

The `show interface port mapping` command displays a static version of the Port Mapping Screen; the information in the Port Mapping Screen is the information that was in effect when the `show interface port mapping` command was executed.

The `monitor interface port mapping` command displays an active version of the Port Mapping Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor interface NUMBER|all port mapping

show interface NUMBER|all port mapping
```

Where	Means
NUMBER	Specifies the IP interface for which information is to be displayed.
all	Display information for all the IP interfaces on the LX unit.

Examples

```
monitor interface all port mapping

show interface all port mapping
```

Figure 43 on page 122 shows an example of the Port Mapping Screen.

Serial Port	Telnet Port	SSH Port
0	0	0
1	2100	2122
2	2200	2222
3	2300	2322
4	2400	2422
5	2500	2522
6	2600	2622
7	2700	2722
8	2800	2822
9	2900	2922
10	3000	3022
11	3100	3122
12	3200	3222
13	3300	3322
14	3400	3422
15	3500	3522
16	3600	3622
17	3700	3722
18	3800	3822
19	3900	3922
20	4000	4022
21	4100	4122
22	4200	4222
23	4300	4322
24	4400	4422
25	4500	4522
26	4600	4622
27	4700	4722
28	4800	4822
29	4900	4922
30	5000	5022
31	5100	5122
32	5200	5222
33	5300	5322

Figure 43 - Port Mapping Screen

monitor/show interface ppp characteristics

Displays the Point-to-Point Protocol (PPP) settings for IP interfaces.

The `show interface ppp characteristics` command displays a static version of the PPP Settings Screen; the information in the PPP Settings Screen is the information that was in effect when the `show interface ppp characteristics` command was executed.

The `monitor interface ppp characteristics` command displays an active version of the PPP Settings Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor interface all|<interface_number> ppp characteristics`

`show interface all|<interface_number> ppp characteristics`

Where	Means
all	Display information for all asynchronous ports.
interface_number	The Interface number of an IP interface.

Examples

```
monitor interface 2 ppp characteristics

show interface 2 ppp characteristics
```

Figure 44 shows an example of the PPP Settings screen.

```
Time:                                          Thu, 27 May 2004 12:29:53 UTC
Interface Name:          Interface_10  PPP Debug:                    Disabled
PPP Mode:                      Active  PPP Dialback Mode:
PPP Authent:                     None  PPP Authent. Retry:                 3
PPP CCP:                     Disabled  PPP Authent. Timeout:              60
PPP Backup Feature:               N/A  PPP Backup Ping Host:             N/A
PPP Backup Ping Interface:        N/A  PPP Backup Ping Interval:         N/A
PPP Remote IP Address:        0.0.0.0  PPP Inactivity Timeout:             0
PPP LCP Compress.:           Disabled  PPP IPCP Compress.(VJ):      Disabled
PPP LCP Failure Limit:             10  PPP IPCP Failure Limit:            10
PPP LCP Echo Failure Limit:         0  PPP IPCP Timeout:                   4
PPP LCP Echo Interval:              0  PPP IPCP Accept Remote:        Enable
PPP LCP Timeout:                    4  PPP IPCP Accept Local:         Enable
Outbound CHAP Secret:  Not configured  Outbound PAP Secret:   Not Configured
Outbound Username:         Configured
 In-Reach
```

Figure 44 - PPP Settings Screen

Field	Description
Time	The time that the `monitor/show interface ppp characteristics` command was executed.
Interface Name	The name of the IP interface on which the PPP Link is configured.
PPP Mode	Indicates the PPP Mode for the IP interface. The possible values are Active or Passive.
PPP Authent	The PPP Authentication method for the IP interface. The allowable values are PAP, CHAP, and None.
PPP CCP	Indicates whether the PPP Compression Control Protocol (CCP) is Enabled or Disabled for the IP interface.
PPP Backup Feature	Indicates whether the PPP Backup Feature is Enabled or Disabled for the IP Interface.
PPP Backup Ping Interface	Indicates which IP interface the ping will be sent out on.
PPP Remote IP Address	The IP address of the remote device that the IP interface will attempt to negotiate when the remote device does not specify an Internet address on its own.
PPP LCP Compress	Indicates whether the use of LCP compression is Enabled or Disabled over the PPP link.
PPP LCP Failure Limit	The number of attempts at LCP option negotiation that can be made by the IP interface.
PPP LCP Echo Failure Limit	The number of times that the IP interface can send an LCP echo request. The attempt at making a PPP link will be aborted if the port does not receive an LCP echo after the last echo request is sent.
PPP LCP Echo Interval	The interval between the sending of LCP echo requests.
PPP LCP Timeout	The length of time that the port has for LCP option negotiation.
Outbound Username	The outbound client username for PPP Links on the specified IP interface.
Outbound CHAP Secret	Indicates whether the Outbound CHAP Secret has been configured.
PPP Debug	Indicates whether PPP debugging is Enabled or Disabled on the IP interface.
PPP Dialback Mode	Displays the outbound dialback number, if you configured one. If you only enabled dialback, “server” is displayed. If you enable ppp dialback secure, “secure_server” is displayed.

PPP Authent. Retry	The number of times that the port can attempt to authenticate a PPP link.
PPP Authent. Timeout	The length of time that the port has to authenticate a PPP link.
PPP Backup Ping Host	The Host Address of the PPP Ping Backup.
PPP Backup Ping Interval	Indicates the number of seconds between ping requests.
PPP Inactivity Timeout	The length of time (in seconds) that the PPP link will wait for an LCP echo reply before closing the PPP Link on the IP interface.
PPP IPCP Compress. (VJ)	Indicates whether the use of Van Jacobson (VJ) compression is Enabled or Disabled over the PPP link.
PPP IPCP Failure Limit	The number of attempts at IPCP option negotiation that can be made by the IP interface.
PPP IPCP Timeout	The length of time that the IP interface has for IPCP option negotiation.
PPP IPCP Accept Remote	Indicates whether the IP interface is configured to accept or reject the negotiation of remote addresses. If the value is Enabled, the IP interface is configured to *accept* the negotiation of remote addresses. If the value is Disabled, the IP interface is configured to *reject* the negotiation of remote addresses.
PPP IPCP Accept Local	Indicates whether the IP interface is configured to accept or reject the negotiation of local addresses. If the value is Enabled, the IP interface is configured to *accept* the negotiation of local addresses. If the value is Disabled, the IP interface is configured to *reject* the negotiation of local addresses.
Outbound PAP Secret	Indicates whether the Outbound PAP Secret has been configured.

monitor/show interface ppp status

Displays the Point-to-Point Protocol (PPP) status of IP interfaces.

The `show interface ppp status` command displays a static version of the PPP Status Screen; the information in the PPP Status Screen is the information that was in effect when the `show interface ppp status` command was executed.

The `monitor interface ppp status` command displays an active version of the PPP Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor interface all|<interface_number> ppp status`

`show interface all|<interface_number> ppp status`

Where	Means
all	Display information for all IP interfaces.
interface_number	The port number of an IP interface.

Examples

```
monitor interface 2 ppp status

show interface 2 ppp status
```

Figure 45 shows an example of the PPP Status Screen.

```
Time:                                  Fri, 08 Oct 2004 11:22:15 US/EASTERN
Interface Name:           Interface_1  Backup Link Status:             Active
Learned Remote Addr.:         0.0.0.0
Lcp Link Status:               Closed  Ipcp Link Status:               Closed
PPP Transmit Bytes:                 0  PPP Receive Bytes:           985997312
PPP Transmit Frames:                0  PPP Receive Frames:             5617
PPP Transmit Errors:                0  PPP Receive Errors:                0
```

Figure 45 - PPP Status Screen

Field	Description
Time	The date and time that the `show interface characteristics` command was executed.
Interface Name	The name of the IP interface for which data is being displayed.
Learned Remote Addr.	The remote PPP address learned from ppciboot.

Lcp Link Status	Indicates the status of the LCP Link for the PPP session.
PPP Transmit Bytes	The number of bytes that have been transmitted in the current PPP session.
PPP Transmit Frames	The number of frames that have been transmitted in the current PPP session.
PPP Transmit Errors	The number of frames containing errors that have been transmitted in the current PPP session.
Backup Link Status	Indicates whether the PPP backup link is active. Options are Active or Inactive.
Ipcp Link Status	Indicates the status of the IPCP Link for the PPP session.
PPP Receive Bytes	The number of bytes that have been received in the current PPP session.
PPP Receive Frames	The number of frames that have been received in the current PPP session.
PPP Receive Errors	The number of frames containing errors that have been transmitted in the current PPP session.

monitor/show interface rotary

Displays the characteristics of a rotary.

The `show interface rotary` command displays a static version of the Rotary Characteristics Screen; the information in the Rotary Characteristics Screen is the information that was in effect when the `show interface rotary` command was executed.

The `monitor interface rotary` command displays an active version of the Rotary Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor interface NUMBER|all rotary

show interface NUMBER|all rotary
```

Where	Means
NUMBER	Specifies the rotary for which information is to be displayed. The allowable rotary numbers are 1 through 4.
all	Display information for all the rotaries on the LX unit.

Examples

```
monitor interface 3 rotary

show interface 3 rotary
```

Figure 46 shows an example of the Rotary Characteristics Screen.

```
Rotary IP Address    TCP    SSH       Rotary Type   Rotary State  Serial Ports
  147.132.145.16    1500   1522     First Available     Disabled
```

Figure 46 - Rotary Characteristics Screen

Field	Description
Rotary IP Address	The IP Address of the rotary. (This is also the IP Address of the interface.)
TCP	The TCP socket number assigned to the rotary.
SSH	The SSH socket number assigned to the rotary.
Rotary Type	The rotary type (First Available or Round Robin).
Rotary State	Indicates whether the rotary is Enabled or Disabled.
Serial Ports	The serial ports included in the rotary.

monitor/show interface status

Displays status information for an IP interface.

The `show interface status` command displays a static version of the Interface Status Screen; the information in the Interface Status Screen is the information that was in effect when the `show interface status` command was executed.

The `monitor interface status` command displays an active version of the Interface Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor interface NUMBER|all status

show interface NUMBER|all status
```

Where	Means
NUMBER	Specifies the IP interface for which information is to be displayed. The allowable IP interface numbers are 1 through 4.
all	Display information for all the IP interfaces on the LX unit.

Examples

```
monitor interface 1 status

show interface 1 status
```

Figure 47 shows an example of the Interface Status Screen.

```
Time:                                        Mon 24 Apr 2003 16:19:34
Interface Name:          Interface_1     Bound to :                eth0
IP Address:          102.19.169.191     IP Mask:          255.255.255.0
IP Broadcast Addr:     102.19.169.255
```

Figure 47 - Interface Status Screen

Field	Description
Time	The date and time that the `show interface status` command was executed.
Interface Name	The name of the IP interface.
IP Address	The IP Address of the IP interface.
IP Broadcast Addr	The IP Broadcast Address of the IP interface.

Bound to	The Ethernet port to which the IP interface is bound.
IP Mask	The Subnet Mask of the IP interface.

monitor/show interface summary

Displays summary information on all of the IP interfaces that are configured on the LX unit.

The `show interface summary` command displays a static version of the Interfaces Summary Screen; the information in the Interfaces Summary Screen is the information that was in effect when the `show interface summary` command was executed.

The `monitor interface summary` command displays an active version of the Interfaces Summary Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor interface summary

show interface summary
```

Examples

```
monitor interface summary

show interface summary
```

Figure 48 shows an example of the Interfaces Summary Screen.

```
         Name            Address         Broadcast        Addr. Mask   Bound to
  Interface_1  *157.145.162.155   157.145.162.255    *255.255.255.0       bond0
  Interface_2           0.0.0.0           0.0.0.0           0.0.0.0       eth0:1
  Interface_3           0.0.0.0           0.0.0.0           0.0.0.0       eth0:2
  Interface_4           0.0.0.0           0.0.0.0           0.0.0.0       eth0:3
'*' before the value denote it was learned from ppciboot
```

Figure 48 - Interfaces Summary Screen

Field	Description
Name	The name of the IP interface.
Address	The IP Address configured for the IP interface.
Broadcast	The Broadcast Address configured for the IP interface.
Addr. Mask	The subnet mask configured for the IP interface.
Bound to	The Ethernet port to which the IP interface is bound.

monitor/show ip6tables

Displays summary information for “ip6tables”.

The `show ip6tables` command displays a static version of the IP6Tables Screen; the information in the IP6Tables Screen is the information that was in effect when the `show ip6tables` command was executed.

The `monitor ip6tables` command displays an active version of the IP6Tables Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor ip6tables

show ip6tables
```

Examples

```
monitor ip6tables

show ip6tables
```

Figure 50 shows an example of the IP6Tables Screen.

```
# Generated by ip6tables-save v1.3.1 on Wed Jul  6 14:53:20 2005
*raw
:PREROUTING ACCEPT [12:1248]
:OUTPUT ACCEPT [13:828]
COMMIT
# Completed on Wed Jul  6 14:53:20 2005
# Generated by ip6tables-save v1.3.1 on Wed Jul  6 14:53:20 2005
*mangle
:PREROUTING ACCEPT [12:1248]
:INPUT ACCEPT [12:1248]
:FORWARD ACCEPT [0:0]
:OUTPUT ACCEPT [13:828]
:POSTROUTING ACCEPT [12:752]
COMMIT
# Completed on Wed Jul  6 14:53:20 2005
# Generated by ip6tables-save v1.3.1 on Wed Jul  6 14:53:20 2005
*filter
:INPUT ACCEPT [10:1040]
:FORWARD ACCEPT [0:0]
:OUTPUT ACCEPT [1:64]
COMMIT
# Completed on Wed Jul  6 14:53:20 2005
```

Figure 49 - IP6 Tables Screen

monitor/show iptables

Displays summary information for “iptables”.

The `show iptables` command displays a static version of the IP Tables Screen; the information in the IP Tables Screen is the information that was in effect when the `show iptables` command was executed.

The `monitor iptables` command displays an active version of the IP Tables Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor iptables

show iptables
```

Examples

```
monitor iptables

show iptables
```

Figure 50 shows an example of the IP Tables Screen.

```
# Generated by iptables-save v1.3.1 on Thu May 12 15:43:43 2005
*nat
:PREROUTING ACCEPT [384:60652]
:POSTROUTING ACCEPT [15:1180]
:OUTPUT ACCEPT [15:1180]
COMMIT
# Completed on Thu May 12 15:43:43 2005
# Generated by iptables-save v1.3.1 on Thu May 12 15:43:43 2005
*filter
:INPUT ACCEPT [1029:113507]
:FORWARD ACCEPT [0:0]
:OUTPUT ACCEPT [472:30157]
COMMIT
# Completed on Thu May 12 15:43:43 2005
```

Figure 50 - IP Tables Screen

monitor/show ipv6 neighbor device ethx

Displays a list of IPv6 neighbors for the LX unit.

The `show ipv6 neighbor device eth <device_number>` command displays the IPv6 Neighbor information. The IPv6 Neighbor Screen is the information that was in effect when the `show ipv6 neighbors device eth <device_number>` command was executed.

The `monitor ipv6 neighbor device eth <device_number>` command displays an active version of the IPv6 Neighbor Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor ipv6 neighbor device eth <device_number>`

`show ipv6 neighbor device eth <device_number>`

Examples

```
monitor ipv6 neighbor device eth 0

show ipv6 neighbor device eth 1
```

Figure 54 shows an example of the IPv6 Neighbor Screen.

```
fe80::220:edff:febe:3caf lladdr 00:20:ed:be:3c:af PERMANENT
fe80::220:edff:febe:3cae lladdr 00:20:ed:be:3c:ae router STALE
```

Figure 51 - IPv6 Neighbor Screen

monitor/show ipv6 routes device ethx

Displays a log of IPv6 routes for the LX unit.

The `show ipv6 routes device eth <device_number>` command displays a static version of the IPv6 Routes Screen; the information in the IPv6 Routes Screen is the information that was in effect when the `show ipv6 routes device eth <device_number>` command was executed.

The `monitor ipv6 routes device eth <device_number>` command displays an active version of the IPv6 Routes Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor ipv6 routes device eth <device_number>`

`show ipv6 routes device eth <device_number>`

Examples

```
monitor ipv6 routes device eth 0

show ipv6 routes device eth 1
```

Figure 54 shows an example of the IPv6 Routes Screen.

```
3ffe:303:11:2::/64  proto kernel  metric 256  mtu 1280 advmss 1220 metric 10 64
fe80::/64  metric 256  mtu 1280 advmss 1220 metric 10 64
ff00::/8  metric 256  mtu 1280 advmss 1220 metric 10 1
default via fe80::220:edff:febe:3caf  proto kernel  metric 1024  expires 29sec
mtu 1280 advmss 1220 metric 10 64
```

Figure 52 - IPv6 Routes Screen

monitor/show ipv6 tunnel

Displays the characteristics of all IPv6 tunnels, or a specific tunnel.

The `show ipv6 tunnel all|<tunnel_name>` command displays a static version of the IPv6 Tunnel Screen; the information in the IPv6 Tunnel Screen is the information that was in effect when the `show ipv6 tunnel all|<tunnel_name>` command was executed.

The `monitor ipv6 tunnel all|<tunnel_name>` command displays an active version of the IPv6 Tunnel Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor ipv6 tunnel all|<tunnel_name>

show ipv6 tunnel all|<tunnel_name>
```

Where	Means
tunnel_name	Specifies the IPv6 tunnel for which information is to be displayed.

Examples

```
show ipv6 tunnel all
show ipv6 tunnel rem-6to4
```

Figure 41 shows an example of the IPv6 Tunnel Screen.

```
Tunnel Name                    6to4local
Tunnel Address:                                    2002:8cb3:6432::1/16
Tunnel Local Address:                                    140.179.100.50
Tunnel Remote Address:                                              any
Tunnel TTL:                                                         244
```

Figure 53 - IPv6 Tunnel Information Screen

Field	Description
Tunnel Name	The name of the tunnel.
Tunnel Address	The IPv6 address of the device attached to the tunnel.
Tunnel Local Address	The local IPv4 address.
Tunnel Remote Address	The remote IPv6 address of the device attached to the tunnel.
Tunnel TTL	The number of seconds in the packet TTL. The range is 0-255. The default is 255.

monitor/show kernel log

Displays a log of Linux kernel activity for the LX unit.

The `show kernel log` command displays a static version of the Kernel Log Screen; the information in the Kernel Log Screen is the information that was in effect when the `show kernel log` command was executed.

The `monitor kernel log` command displays an active version of the Kernel Log Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor kernel log

show kernel log
```

Examples

```
monitor kernel log

show kernel log
```

Figure 54 shows an example of the Kernel Log Screen.

```
Jan  3 15:42:50 In-Reach kernel: klogd 1.4.1, log source = /proc/kmsg started.
Jan  3 15:42:50 In-Reach kernel: Cannot find map file.
Jan  3 15:42:50 In-Reach kernel: No module symbols loaded - kernel modules not
   enabled.
Jan  3 15:42:50 In-Reach kernel: Linux version 2.4.19 (build@GenBuild) (gcc version
   2.95.3 20010315 (release)) #1 Wed Feb 26 08:16:45 EST 2003
Jan  3 15:42:50 In-Reach kernel: On node 0 totalpages: 16384
Jan  3 15:42:50 In-Reach kernel: zone(0): 16384 pages.
Jan  3 15:42:50 In-Reach kernel: zone(1): 0 pages.
Jan  3 15:42:50 In-Reach kernel: zone(2): 0 pages.
Jan  3 15:42:50 In-Reach kernel: Kernel command line: root=/dev/ram CONSOLE=/dev
    /console
Jan  3 15:42:50 In-Reach kernel: Decrementer Frequency = 247500000/60
Jan  3 15:42:50 In-Reach kernel: Calibrating delay loop... 65.53 BogoMIPS
Jan  3 15:42:50 In-Reach kernel: Memory: 57500k available (1440k kernel code, 49
   2k data, 56k init, 0k highmem)
Jan  3 15:42:50 In-Reach kernel: Dentry cache hash table entries: 8192 (order: 4
   , 65536 bytes)
Jan  3 15:42:50 In-Reach kernel: Inode cache hash table entries: 4096 (order: 3,
   32768 bytes)

Type a key to continue, q to quit
```

Figure 54 - Kernel Log Screen

monitor/show ldap characteristics

Displays information about the LDAP configuration for the LX unit.

The `show ldap characteristics` command displays a static version of the LDAP Characteristics Screen; the information in the LDAP Characteristics Screen is the information that was in effect when the `show ldap characteristics` command was executed.

The `monitor ldap characteristics` command displays an active version of the LDAP Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor ldap characteristics

show ldap characteristics
```

Examples

```
monitor ldap characteristics

show ldap characteristics
```

Figure 55 shows an example of the LDAP Characteristics Screen.

```
Time:                                      Thu, 14 Aug 2003 02:56:43 UTC
Primary LDAP Authentication Server:
IP Address:                 0.0.0.0  LDAP Auth. TCP Port:             389
LDAP Base DN:                        Timeout:                          5
Retry:                             3
Secondary LDAP Authentication Server:
IP Address:                 0.0.0.0  LDAP Auth. TCP Port:             389
LDAP Base DN:                        Timeout:                          5
Retry:                             3
Local Subscriber:           Disabled
Inbound LDAP Enabled Serial Ports:
Outbound LDAP Enabled Serial Ports:
LDAP Enabled Interfaces:
```

Figure 55 - LDAP Characteristics Screen

Field	Description
IP Address	The IP Address for the Primary or Secondary LDAP Authentication Server.
LDAP Base DN	The Search Path of the Primary or Secondary LDAP Authentication Server.
Retry	The number of times the LX unit will attempt to connect to the LDAP server.

LDAP Auth. TCP Port	The TCP port that the LX unit and the applicable LDAP authentication server will use for communication.
Timeout	The time to wait for the Primary or Secondary LDAP Authentication server to respond before retransmitting packets to the server.
Local Subscriber	The state of the LDAP Local Subscriber Feature. The allowable values are Enabled, Disabled, and Only.
Inbound LDAP Enabled Serial Ports	The Inbound serial ports that are enabled for LDAP.
Outbound LDAP Enabled Serial Ports	The Outbound serial ports that are enabled for LDAP.
LDAP Enabled Interfaces	The LX interfaces that are enabled for LDAP.

monitor/show ldap status

Displays status information for the LDAP Primary and Secondary Authentication Servers.

The `show ldap status` command displays a static version of the LDAP Status Screen; the information in the LDAP Status Screen is the information that was in effect when the `show ldap status` command was executed.

The `monitor ldap status` command displays an active version of the LDAP Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor ldap status

show ldap status
```

Examples

```
monitor ldap status

show ldap status
```

Figure 56 shows an example of the LDAP Status Screen.

```
Time:                                    Mon, 12 Jan 2004 01:00:57 UTC
LDAP Authentication Counter Summary:             Primary     Secondary
   Successful Logins:                                  0             0
   Authentication Failures:                            0             0
LDAP Fallback Counter Summary
   Total Fallback Logins:                              5
```

Figure 56 - LDAP Status Screen

Field	Description	
LDAP Authentication Counter Summary	Successful Logins	The number of successful logins using LDAP.
	Authentication Failures	The number of unsuccessful logins using LDAP.
LDAP Fallback Counter Summary	Total Fallback Logins	The number of logins that have been done through the LDAP Fallback Login feature.

monitor/show ldap summary

Displays summary information for the LDAP Primary and Secondary Authentication Servers.

The `show ldap summary` command displays a static version of the LDAP Summary Screen; the information in the LDAP Summary Screen is the information that was in effect when the `show ldap summary` command was executed.

The `monitor ldap summary` command displays an active version of the LDAP Summary Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor ldap summary

show ldap summary
```

Examples

```
monitor ldap summary

show ldap summary
```

Figure 57 shows an example of the LDAP Summary Screen.

```
LDAP Server Summary                              Thu, 14 Aug 2003 03:20:00 UTC
 Primary Auth. Server:          0.0.0.0  Primary Auth. TCP Port:          389
 Secondary Auth. Server:        0.0.0.0  Secondary Auth. TCP Port:        389
```

Figure 57 - LDAP Summary Screen

Field	Description
Primary Auth. Server	The IP Address of the Primary LDAP Authentication server.
Secondary Auth. Server	The IP Address of the Secondary LDAP Authentication server.
Primary Auth. TCP Port	The TCP port for the Primary LDAP Authentication server.
Secondary Auth. TCP Port	The TCP port for the Secondary LDAP Authentication server.

monitor/show log

Displays the contents of syslogd for the LX unit.

The `show log` command displays a static version of the Log Screen; the information in the Log Screen is the information that was in effect when the `show log` command was executed.

The `monitor log` command displays an active version of the Log Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor log

show log
```

Examples

```
monitor log

show log
```

Figure 58 shows an example of the Log Screen.

```
Dec 31 21:10:20 In-Reach syslogd 1.4.1: restart.
Dec 31 21:10:20 In-Reach kernel: klogd 1.4.1, log source = /proc/kmsg started.
Dec 31 21:10:21 In-Reach kernel: Cannot find map file.
Dec 31 21:10:21 In-Reach kernel: No module symbols loaded - kernel modules not
enabled.
Dec 31 21:10:21 In-Reach kernel: Linux version 2.4.19 (build@GenBuild) (gcc vers
ion 2.95.3 20010315 (release)) #1 Mon Feb 3 07:52:36 EST 2003
Dec 31 21:10:21 In-Reach kernel: On node 0 totalpages: 16384
Dec 31 21:10:21 In-Reach kernel: zone(0): 16384 pages.
Dec 31 21:10:21 In-Reach kernel: zone(1): 0 pages.
Dec 31 21:10:21 In-Reach kernel: zone(2): 0 pages.
Dec 31 21:10:21 In-Reach kernel: Kernel command line: root=/dev/ram CONSOLE=/dev
/console
Dec 31 21:10:21 In-Reach kernel: Decrementer Frequency = 247500000/60
Dec 31 21:10:21 In-Reach kernel: Calibrating delay loop... 65.53 BogoMIPS
Dec 31 21:10:21 In-Reach kernel: Memory: 58432k available (1292k kernel code, 43
2k data, 52k init, 0k highmem)
Dec 31 21:10:21 In-Reach kernel: Dentry cache hash table entries: 8192 (order: 4
, 65536 bytes)
Dec 31 21:10:21 In-Reach kernel: Inode cache hash table entries: 4096 (order: 3,
 32768 bytes)
Dec 31 21:10:21 In-Reach kernel: Mount-cache hash table entries: 1024 (order: 1,
 8192 bytes)

Type a key to continue, q to quit
```

Figure 58 - Log Screen

monitor/show message

Displays the next message in your queue of interactive messages. (Interactive messages are sent to you with the `message user` command. For more information, refer to "message user" on page 60.)

The `show message` command displays a static version of the Message Screen; the only message that is displayed is the one that was next in queue when the `show message` command was executed.

The `monitor message` command displays an active version of the Message Screen; the contents of the screen is updated with each new message that comes into the queue.

Syntax

```
monitor message

show message
```

Examples

```
monitor message

show message
```

Figure 59 shows an example of the Message Screen.

```
            The system is coming down at 11:00 AM!!!
```

Figure 59 - Message Screen

monitor/show notification log

Displays the Notification Log for the LX unit. The Notification Log lists the events of the Notification Feature.

Syntax

```
monitor notification log

show notification log
```

Examples

```
monitor notification log

show notification log
```

Figure 60 shows an example of the Notification Log Screen.

```
Jun 19 13:53:10 In-Reach (notifyd-Child)[458]: Tap dialing: SMSC 918668230501...
Jun 19 13:53:10 In-Reach (notifyd-Child)[457]: connect() failed
Jun 19 13:53:10 In-Reach (notifyd-Child)[457]: Failed to Connect to Server
140.179.176.21:25...
Jun 19 13:53:10 In-Reach (notifyd-Child)[457]: Could not deliver message 0: Service:
bmiller_email to bmiller@itouchcom.com
Jun 19 13:53:10 In-Reach (notifyd-Child)[469]: Tap dialing: SMSC 918668230501...
Jun 19 13:53:10 In-Reach (notifyd-Child)[467]: Tap dialing: SMSC 918668230501...
Jun 19 13:53:11 In-Reach (notifyd-Child)[459]: connect() failed
Jun 19 13:53:11 In-Reach (notifyd-Child)[459]: Failed to Connect to Server
140.179.176.21:25...
Jun 19 13:53:11 In-Reach (notifyd-Child)[459]: Could not deliver message 0: Service:
bmiller_email to bmiller@itouchcom.com
Jun 19 13:53:11 In-Reach (notifyd-Child)[468]: connect() failed
Jun 19 13:53:11 In-Reach (notifyd-Child)[468]: Failed to Connect to Server
140.179.176.21:25...
Jun 19 13:53:11 In-Reach (notifyd-Child)[468]: Could not deliver message 0: Service:
bmiller_email to bmiller@itouchcom.com
Jun 19 13:53:11 In-Reach (notifyd-Child)[476]: connect() failed
Jun 19 13:53:11 In-Reach (notifyd-Child)[476]: Failed to Connect to Server
140.179.176.21:25...
Jun 19 13:53:11 In-Reach (notifyd-Child)[476]: Could not deliver message 0: Service:
bmiller_email to bmiller@itouchcom.com
Jun 19 13:53:11 In-Reach (notifyd-Child)[476]: Service: bmiller_email: Successful
Time Completion: 5 seconds
```

Figure 60 - Notification Log Screen

monitor/show notification message

Displays the ID number, string portion (message), facility, and priority of configurable syslogd messages.

The `show notification message` command displays a static version of the Message Screen; the information in the Message Screen is the information that was in effect when the `show notification message` command was executed.

The `monitor notification message` command displays an active version of the Message Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor notification message NUMBER|all

show notification message NUMBER|all
```

Where	Means
NUMBER	The ID number of a configurable syslogd message.
all	Display all of the configurable syslogd messages on the LX unit.

Examples

```
monitor notification message 4

show notification message 4
```

Figure 61 shows an example of the Message Screen.

```
Message record 4:
Message: The Shell has been exited by
Facility: user  Priority: notice
```

Figure 61 - Message Screen

monitor/show notification profile service

Displays information on Service Profiles configured for the Notification Feature.

The `show notification profile service` command displays a static version of the Service Profile Screen; the information in the Service Profile Screen is the information that was in effect when the `show notification profile service` command was executed.

The `monitor notification profile service` command displays an active version of the Service Profile Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor notification profile service <name>|all`

`show notification profile service <name>|all`

Where	Means
name	The Service Profile for which data is to be displayed.
all	Display the specified data for all Service Profiles on the LX unit.

Examples

```
monitor notification profile service all

show notification profile service all
```

Figure 62 shows an example of the Service Profile Screen.

```
ServiceProfile: Server16 Protocol: smtp
Server: 160.120.100.16    Email Name; JohnDoe
Email Subject: System Notification from LX2

ServiceProfile: Server17 Protocol: smtp
Server: 160.120.100.17    Email Name; JaneDoe
Email Subject: System Notification from LX2

ServiceProfile: jackasync Protocol: async
Async Port: 5

ServiceProfile: jack Protocol: tap
SMSC: 18668230501 Bits/Parity/StopBits:8N1
Modem Port(s): 33

ServiceProfile: webjack Protocol: web
Driver: verizon_web
```

Figure 62 - Service Profile Screen

monitor/show notification profile user

Displays information on User Profiles of the Notification Feature.

The `show notification profile user` command displays a static version of the User Profile Screen; the information in the User Profile Screen is the information that was in effect when the `show notification profile user` command was executed.

The `monitor notification profile user` command displays an active version of the User Profile Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor notification profile user <name>|all`

`show notification profile user <name>|all`

Where	Means
name	The User Profile for which data is to be displayed.
all	Display the specified data for all User Profiles on the LX unit.

Example

```
monitor notification profile user all

show notification profile user all
```

Figure 63 shows an example of the User Profile Screen.

```
UserProfile: debug ServiceProfile: debug
Contact:
Facility: all Priority: debug

UserProfile: grogers@mrv ServiceProfile: N/A
Contact:
Facility: kern Priority: emerg

UserProfile: mark ServiceProfile: N/A
Contact:
Facility: kern Priority: emerg

UserProfile: jacklocal ServiceProfile: jacklocal
Contact:
Facility: user Priority: warning
```

Figure 63 - User Profile Screen

monitor/show outlet

Displays the characteristics of outlets.

The `show outlet` command displays a static version of the Outlet Characteristics Screen; the information in the Outlet Characteristics Screen is the information that was in effect when the `show outlet` command was executed.

The `monitor outlet` command displays an active version of the Outlet Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor outlet <outlet_list>|all`

`show outlet <outlet_list>|all`

Where	Means
outlet_list	Specifies the outlets for which data is to be displayed. The Power Port number, combined with the outlet number, identifies each outlet. The Power Port number and the outlet number are separated by a colon (:). For example, 2:5 identifies outlet 5 on the device that is managed from port 2. If you specify more than one outlet in the *outlet_list*, the outlets must be separated by blank spaces; for example, `2:5 3:7 4:2 4:3 4:5`. Up to 99 outlets can be included in an outlet group. You can specify a range of port numbers, or a range of outlets, by placing a hyphen between the first and last port number, or the first and last outlet, in the range. For example, `2-4:1` specifies outlet `1` on ports `2` through `4`; `2:1-5` specifies outlets `1` through `5` on port `2`.
all	Display the characteristics of all outlets that are managed from the LX unit.

Usage Guidelines

If the Outlet Management Feature is enabled, this command will display only those outlets that you can manage from your subscriber account. If the Outlet Management Feature is disabled, this command will display all of the outlets on the LX unit. For more information on the Outlet Management Feature, refer to “outlet access enable” on page 358.

Examples

```
monitor outlet all

monitor outlet 4:5

monitor outlet 7-9:2 9:3-7 10:2 11:3
```

```
show outlet all

show outlet 4:5

show outlet 7-9:2 9:3-7 10:2 11:3
```

Figure 64 shows an example of the Outlet Characteristics Screen.

```
Device 5:
Outlet      Name       State   Boot   Status Wakeup   Load      Assigned Groups
   1                       On    N/A   Normal   On       N/A
   2                       On    N/A   Normal   On       N/A
   3                       On    N/A   Normal   On       N/A
   4                       On    N/A   Normal   On       N/A
   5                       On    N/A   Normal   On       N/A
   6                       On    N/A   Normal   On       N/A
   7                       On    N/A   Normal   On       N/A
   8                       On    N/A   Normal   On       N/A
   9                       On    N/A   Normal   On       N/A
  10                       On    N/A   Normal   On       N/A
  11                       On    N/A   Normal   On       N/A
  12                       On    N/A   Normal   On       N/A
  13                       On    N/A   Normal   On       N/A
  14                       On    N/A   Normal   On       N/A
  15                       On    N/A   Normal   On       N/A
  16                       On    N/A   Normal   On       N/A
```

Figure 64 - Outlet Characteristics Screen

monitor/show outlet group status

Displays status information for outlet groups.

The `show outlet group status` command displays a static version of the Outlet Group Status Screen; the information in the Outlet Group Status Screen is the information that was in effect when the `show outlet group status` command was executed.

The `monitor outlet group status` command displays an active version of the Outlet Group Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor outlet group <group_number>|<group_name>|all status`

`show outlet group <group_number>|<group_name>|all status`

Where	Means
group_number	An integer number that specifies an existing outlet group.
group_name	The descriptive name of an existing outlet group.
all	Display the specified data for all outlet groups on the LX unit.

Examples

```
monitor outlet group all status

show outlet group all status
```

Figure 65 shows an example of the Outlet Group Status Screen.

```
Time:      Mon, 16 Sep 2002 17:55:19   Group Number:                    2
Group Name:                    mypc  Group Off Time:                    4
Port  Outlet    State
  2      1       Not configured
  2      2       Not configured
```

Figure 65 - Outlet Group Status Screen

Field	Description
Time	The date and time that the `show outlet group status` command was executed.
Group Name	The descriptive name of the outlet group.
Port	The LX Port from which the outlet is managed.

Outlet	The outlet number.
State	The state of the individual outlet.
Group Number	The group number of the outlet group.
Group Off Time	The length of time that outlets in the group must remain off after they have been turned off.

monitor/show port apd

Displays the APD settings of the port at which you are logged on.

The `show port apd` command displays a static version of the Port APD Settings Screen; the information in the Port APD Settings Screen is the information that was in effect when the `show port apd` command was executed.

The `monitor port apd` command displays an active version of the Port APD Settings Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor port apd

show port apd
```

Examples

```
monitor port apd

show port apd
```

The Logged-in Port APD Settings Screen is identical to the Port APD Settings Screen. Figure 66 on page 153 contains an example of the Port APD Settings Screen.

monitor/show port async apd

Displays the APD settings of an asynchronous port.

The `show port async apd` command displays a static version of the Port APD Settings Screen; the information in the Port APD Settings Screen is the information that was in effect when the `show port async apd` command was executed.

The `monitor port async apd` command displays an active version of the Port APD Settings Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor port async all|<port_number> apd`

`show port async all|<port_number> apd`

Where	Means
all	Display information for all asynchronous ports.
port_number	The port number of an asynchronous port.

Examples

```
monitor port async 5 apd

show port async 5 apd
```

Figure 66 shows an example of the Port APD Settings screen.

```
Time:                                      Mon, 24 Mar 2003 02:46:14 UTC
Banner:                                           /config/banner.default
Device Name:            /dev/ttyGN5  Port Number:                      5
APD Signature:                          7eff0000000000000000000000000000
APD Retry:                       2  APD Timeout:                       1
Port Type:                 Physical  Port Name:                  Port_5
```

Figure 66 - Port APD Settings Screen

Field	Description
Time	The date and time that the command was executed.
Banner	The field identifies the release of Linux and the version of the LX software that is running on the LX unit.
Device Name	The port name.
Apd Signature	The signature of the expected protocol.

Apd Retry	The number of retries that remote hosts can have after they fail to make an APD connection on the first try.
Apd Timeout	The length of time, in seconds, that the port can spend in an attempt to determine which protocol is being used to make a connection.
Port Type	The port Type. The possible values are Serial, Ethernet, and Virtual.
Port Number	The port at which you are logged in.
Port Name	The name of the LX port.

monitor/show port async characteristics

Displays the characteristics of an asynchronous port.

The `show port async characteristics` command displays a static version of the Port Characteristics Screen; the information in the Port Characteristics Screen is the information that was in effect when the `show port async characteristics` command was executed.

The `monitor port async characteristics` command displays an active version of the Port Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor port async all|<port_number> characteristics`

`show port async all|<port_number> characteristics`

Where	Means
all	Display information for all asynchronous ports.
port_number	The port number of an asynchronous port.

Examples

```
monitor port async 5 characteristics

show port async 5 characteristics
```

Figure 67 shows an example of the Port Characteristics screen.

```
Time:                                  Fri, 24 Jun 2005 09:55:12 US/Eastern
Banner:        /config/banner.default  Banner Display:                  Both
Port Number:                        1  Transparent Mode:             Disabled
Access:                        Remote  Flow Control:                      Xon
Port Name:                     Port_1  Stop Bits:                           1
Port Type:                   Physical  Parity:                           None
Device Name:              /dev/ttyGN0  Bits per Character:                  8
Port Prompt String:             Login  Autobaud:                      Disabled
Break:                        Enabled  Autobaud Retry:                      5
Special Break String:
Inbound Authentication:         Local  Autohangup:                     Disabled
Outbound Authentication:        Local  Radius Accounting:             Disabled
Authentication FallBack:     Disabled  Tacacs+ Accounting:             Disabled
Auth. FallBack Attempts:            0  Data Buffer Display:              Prompt
Data Buffer Size:                1024  Data Buffer Time Stamp:         Disabled
Data Buffer Syslog:           Disabled
Signal Notif. CTS High:      Disabled  Signal Notif. DSR-DCD High:     Disabled
Signal Notif. CTS Low:       Disabled  Signal Notif. DSR-DCD Low:      Disabled
Port Debug Option:           Disabled  Idlebuffer:                      Enabled
Connect Command:
```

Figure 67 - Port Characteristics Screen

Field	Description
Time	The date and time that the show port characteristics command was executed.
Banner	The banner file for the port.
Port Number	The port at which you are logged in.
Access	The type of access the port can have to a service node, and/or the type of access other interactive users and service nodes can have to the port. The possible values are: Dynamic, Local, Remote, Databuffer, Power, Control, or Sensor.
Port Name	An ASCII string that is typically used to identify the port that is displayed in this screen.
Port Type	The port Type.
Device Name	The device name of the port.
Port Prompt String	The prompt that is displayed when a user logs in to this port. If this is a custom prompt, this field will contain the custom prompt. If this is the default login prompt, this field will contain "login".
Break	The action the port will take when the user presses the BREAK key. The possible values are Enabled or Disabled.
Special Break String	The unique break string for the port.
Inbound Authentication	Indicates whether inbound authentication is Enabled or Disabled on the port.
Outbound Authentication	Indicates whether outbound authentication is Enabled or Disabled on the port.
Authentication Fallback	Indicates whether users can log in by Fallback if the authentication server (RADIUS or TACACS+) is unreachable. The possible settings of this field are Enabled and Disabled.
Auth. Fallback Attempts	The number of attempts made to the primary and secondary server before going to local security. . The default is 3.
Telnet Break String	The Telnet Break String for the port.
Telnet Negotiations	Indicates whether Telnet Negotiations are Enabled or Disabled.
Telnet CR Filter	Indicates the filtering for carriage returns in Telnet sessions.
Telnet Accept Verification	Indicates the state (Enabled or Disabled) of the Telnet Accept Verification Feature.
Telnet Accept Message String	The message that is displayed to the user after a successful connection via Telnet.

Connect Command	The command, or commands, that are executed when a connection to the port is made.
Tcp Window Size	The size (in bytes) of the TCP window.
Tcp Transmit Mode	The size, in bytes, of the typeahead buffer (the number of bytes or characters that can be temporarily stored pending transmission). A value of "Immediate" indicates a typeahead buffer size of 0.
Banner Display	The Banner display option for the port. The possible values are Local, Remote, Both, and None.
Transparent Mode	Indicates whether Transparent Mode is Enabled or Disabled on the port.
Flow Control	The flow control ("handshaking") method used by the serial interface to control data transfer between the LX port and the device connected to the port. The possible values are XON, CTS, and NONE (disabled). The default value is XON.
Stop Bits	The number of stop bits used to maintain synchronization of data. The possible values are 1 or 2.
Parity	The method by which the LX unit and the device connected to the port check for single-bit errors in characters transmitted or received by the port. (This is called a parity check because the device provides an extra bit, called a parity bit, for error checking.) The possible values are EVEN, NONE, and ODD, and the default value is NONE.
Bits per Character	The number of bits per character for data characters that are transmitted or received over the serial connection between the LX port and the device connected to the port. The possible values are 7 or 8 bits. The default value is 8.
Autobaud	Indicates whether Autobaud is enabled or disabled on the port. If Autobaud is enabled, the port will attempt to determine the speed of incoming connections.
Autobaud Retry	The number of times that the LX port will attempt to determine the speed of an incoming connection.
Autohangup	Indicates whether the port will log out when the last session is terminated. The allowable values are Enabled and Disabled.
RADIUS Accounting	Shows the current status of RADIUS accounting. The valid values are Enabled or Disabled.
TACACS+ Accounting	Shows the current status of TACACS+ accounting. The valid values are Enabled or Disabled.
Data Buffer Size	The size, in bytes, of the port data buffer.

Data Buffer Display	Indicates the state of the Data Buffer Display Feature. The allowable values are Enabled, Disabled, and Prompt.
Data Buffer Syslog	Indicates whether the Data Buffer syslog feature is Enabled or Disabled.
Data Buffer Time Stamp	Indicates whether the Data Buffer Timestamp feature is Enabled or Disabled.
Signal Notif. CTS High	Indicates whether the Signal Notif. CTS High feature is Enabled or Disabled.
Signal Notif. CTS Low	Indicates whether the Signal Notif. CTS Low feature is Enabled or Disabled.
Signal Notif. DSR-DCD High	Indicates whether the Signal Notif. DSR-DCD High feature is Enabled or Disabled.
Signal Notif. DSR-DCD Low	Indicates whether the Signal Notif. DSR-DCD Low feature is Enabled or Disabled.
Port Debug Option	Indicates whether the Port Debug Feature is Enabled or Disabled.
IdleBuffer	Indicates whether the IdleBuffer is Enabled or Disabled

monitor/show port async modem

Displays the modem settings for an asynchronous port.

The `show port async modem` command displays a static version of the Port Modem Settings Screen; the information in the Port Modem Settings Screen is the information that was in effect when the `show port async modem` command was executed.

The `monitor port async modem` command displays an active version of the Port Modem Settings Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor port async all|<port_number> modem`

`show port async all|<port_number> modem`

Where	Means
all	Display information for all asynchronous ports.
port_number	The port number of an asynchronous port.

Examples

```
monitor  port async 7 modem

show port async 7 modem
```

Figure 68 shows an example of the Port Modem Settings screen.

```
Time:                              Mon 24 Mar 2003 12:50:42 UTC
Banner:                                 /config/banner.default
Device Name:             /dev/pts/0   Port Number:           7
Port Type:                  Virtual   Port Name:           N/A
Modem Control:             Disabled   Modem Timeout:        40
Modem Retry:                      6   Modem Pool:     Disabled
Modem Dialout Num.:     19785558371
Modem Init String:  AT S7=45 S0=1 L1 V1 X4 &C1 &1 Q0 &S1
Modem Type: GSM/GPRS
GSM/GPRS: Received Signal Strength: 9
GSM/GPRS: Channel Bit Error Rate: 0
```

Figure 68 - Port Modem Settings Screen

Field	Description
Time	The date and time that the command was executed.
Banner	The field identifies the release of Linux and the version of the LX software that is running on the LX unit.

Device Name	The port name.
Port Type	The port Type. The possible values are Serial, Ethernet, and Virtual.
Modem Control	Shows whether the Modem feature is Enabled or Disabled on this port.
Modem Retry	The number of times the LX unit attempts to connect to the remote modem.
Modem Dialout Num.	The telephone number that the modem will dial for a dialout connection.
Modem Init String	A configuration string that is sent to the remote modem.
Modem Type	Displays the modem type. Options are GSM/GPRS or V.90.
GSM/GPRS Received Signal Strength	The received signal strength of the attached modem. The range is from 0 to 31 (0 being the weakest signal, and 31 the strongest), or 99 (signal not known or not detectable).
GSM/GPRS Channel Bit Error Rate	The channel bit error rate of the attached modem. The range is from 0 to 7 (0 being the lowest error rate, and 7 the highest), or 99 (error rate not known or not detectable).
Port Number	The Port Number.
Port Name	A text string that typically identifies the modem port.
Modem Timeout	The length of time that the remote modem has to respond to the LX unit.
Modem Pool	Indicates whether the Modem Pool Feature is Enabled or Disabled for the specified port.

monitor/show port async status

Displays status information for asynchronous ports.

The `show port async status` command displays a static version of the Port Status Screen; the information in the Port Status Screen is the information that was in effect when the `show port async status` command was executed.

The `monitor port async status` command displays an active version of the Port Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor port async all|<port_number> status`

`show port async all|<port_number> status`

Where	Means
all	Display information for all asynchronous ports.
port_number	The port number of an asynchronous port.

Examples

```
monitor port async 8 status

show port async 8 status
```

Figure 69 shows an example of the port status screen for non-power ports.

```
Time:   Mon 24 Mar 2003 13:19:01 UTC
Port Device:              /dev/ttyGN8     Port Number:                8
Remote Partner Host IP Address:                                 0.0.0.0
Locally Connected by IP Address:                                0.0.0.0
Autobaud:                    Enabled     Speed:                   9600
Port Lock Status:             In Use     Port Name:              Port_8
Transmit Bytes:               137260     Receive Bytes:            8728
Frame Errors:                      0     Overrun Errors:              0
Parity Errors:                     0     Break Signals:               2
Buffer Overruns:                   0     IRQ Number:                  4
Last Transmit Char:              0x0     Last Receive Char:         0x0
Last Control DTR State:          Low     Last Control RTS State:    Low
Tcppipe Connection Status:  Suspended
Input Signals:                          Output Signals:
 CTS=                  Up               RTS=                    Up
 DSR=                  Up               DTR=                    Up
```

Figure 69 - Port Status Screen (non-power)

Field	Description
Port Device	The name of the port.
Remote Partner Host IP Address	If the port is connected to a remote host, the IP Address of the remote host appears in this field.
Locally Connected by IP Address	If the port is locally connected to a host, the IP Address of the LX unit, or the rotary address for the port, appears in this field.
Autobaud	Indicates whether Autobaud is enabled or disabled on the port. If Autobaud is enabled, the port will attempt to determine the speed of incoming connections.
Port Lock Status	Indicates whether or not the port is locked.
Transmit Bytes	The number of bytes transmitted on the port since the counters were last reset to zero.
Frame Errors	The number of bytes received at the port with illegally formatted frames, since the counter was reset to zero. Frequent framing errors (more than 20 per day for a terminal; 200 per day for a modem) may indicate a problem with the port or the device attached to the port, or mismatched settings between the port and the data received from the attached serial device.
Parity Errors	The number of bytes received at the port with parity errors, since the counters were reset to zero. Frequent parity errors (more than 20 per day for a terminal; 200 per day for a modem, due to line noise) may indicate a problem with the port or the device attached to the port, or mismatched settings between the port and the device connected to the port.
Buffer Overruns	The number of times characters were lost because the LX unit input buffers were full, since the counters were reset to zero. Buffer overruns indicate that there may be a flow control problem, such as mismatched flow control methods, between the port and the device connected to the port.
Last Transmit Char	The last character transmitted on the port.
Last Control DTR State	The last state (High or Low) to which the port DTR signal was set. (**Note:** This field only contains a value for CONTROL access ports.)

Tcppipe Connection Status	Displays the current tcppipe connection status. The options are: Idle - When autohangup is enabled on the source tcppipe port and DSR is down. Connecting - The tcppipe source async port is trying to connect to the peer. Connected - The tcppipe source async port has made a successful tcp connection to the peer. Suspended - The tcppipe source async port has exhausted all of the tcppipe retries to no avail. This field appears only when access on the port is set to tcppipe.
Input Signals	The status of the port CTS and DSR signals.
Port Number	The port number of the asynchronous port.
Time	The day, date, and time of the LX system clock.
Speed	The port speed.
Port Name	The name of the asynchronous port.
Receive Bytes	The number of bytes received on the port since the counters were last reset to zero.
Overrun Errors	The number of port overrun errors since the counters were last reset to zero.
Break Signals	The number of break signals entering this Local Access port from the connected device since the counters were last reset to zero.
IRQ Number	The IRQ Number for the port.
Last Receive Char	The last character received on the port.
Last Control RTS State	The last state (High or Low) to which the port RTS signal was set. (**Note:** This field only contains a value for CONTROL access ports.)
Output Signals	The status of the port RTS and DTR signals.

Figure 70 shows an example of the port status screen for power ports.

```
Time: 29 Mar 2005 12:24:46 US/EASTERN  Device Number:                    39
Device Type:                                                          IR4800
Model Name:
Firmware:                                        Sentry Version 5.3a (Beta 8)
Total Outlet Strip Current Load:                                        1.50
Total Outlet Strip % Current Utilization(%):                             N/A
Outlet Minimum Off Time:           11  Power Boot Sequence:          Enabled
Power Cli:                   Disabled  Power SCP Authentication:    Disabled
SCP Admin name:        Not configured  SCP Admin password:    Not configured
Power Factory Reset Button:   Enabled

Enclosure 1:                           Status: Normal
Input     A:                           Control Status: On Load: N/A
Outlet      Name          State    Status  Boot   Wakeup      Load       Off
   1  IR4800OutletAA1        On        On     0   Off     0.0 Amps   Enabled
   Groups: 2,4,5,7,9,11,13,15,17,19,21,23,25,27,29,31,33,35,37,39,41,43,45,47,
   49,51,53,55,57,59,61,63,65,67,69,71,73,75,77,79,81,83,85,87,89,91,93,95,97,99
   2  IR4800OutletAB1        On        On     1   Off     0.5 Amps   Enabled
   Groups: 2,4,6,8,10,12,14,16,18,20,22,24,26,28,30,32,34,36,38,40,42,44,46,48,
   50,52,54,56,58,60,62,64,66,68,70,72,74,76,78,80,82,84,86,88,90,92,94,96,98

Input     B:                           Control Status: On Load: N/A
Outlet      Name          State    Status  Boot   Wakeup      Load       Off
   3  IR4800OutletAA2        On        On     2   Off     0.5 Amps   Enabled
   Groups: 1,4
   4  IR4800OutletAB2        On        On     3   Off     0.5 Amps   Enabled
   Groups: 4
```

Figure 70 - Port Status Screen (Power)

Field	Description
Device Type	Identifies the type of Power Control unit.
Model Name	The Model Name of the Power Control unit.
Firmware	The firmware version running on the Power Control unit.
Total Outlet Strip Current Load	The total load for the Power Control unit.
Total Outlet Strip % Current Utilization	The percentage of the Power Outlet strip being used.
Outlet Minimum Off Time	The minimum time that outlets in this Power Control unit must remain off after they are turned off with the `outlet` or `outlet group` command.
Outlet	The Outlet Number of an outlet.
Name	The descriptive name of an outlet.
State	The ON or OFF state of the outlet.

Status	The status of the outlet (On or Off).
Boot	The boot state of the outlet.
Wakeup	The wakeup state (On or Off).
Load	The load on the outlet.
Off	The off state (Enabled or Disabled).
Assigned Groups	The outlet groups to which the outlet is assigned.

monitor/show port async summary

Displays summary information for all of the asynchronous ports on the LX unit.

The `show port async summary` command displays a static version of the Asynchronous Port Summary Screen; the information in the Asynchronous Port Summary Screen is the port configuration information that was in effect when the `show port async summary` command was executed.

The `monitor port async summary` command displays an active version of the Asynchronous Port Summary Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor port async summary

show port async summary
```

Examples

```
monitor port async summary

show port async summary
```

Figure 71 shows an example of the Asynchronous Port Summary Screen.

Port	Port Name	Access	Speed	TCP Port	SSH port	Device
1	Port_1	Control	9600	2100	2122	/dev/ttyGN0
2	Port_2	Remote	9600	2200	2222	/dev/ttyGN1
3	Port_3	Local	9600	2300	2322	/dev/ttyGN2
4	Port_4	Dynamic	9600	2400	2422	/dev/ttyGN3
5	Port_5	Sensor	9600	2500	2522	/dev/ttyGN4
6	Port_6	Databuffer	9600	2600	2622	/dev/ttyGN5
7	Port_7	IR4800	9600	2700	2722	/dev/ttyGN6
8	Port_8	IR5150	9600	2800	2822	/dev/ttyGN7

Figure 71 - Asynchronous Port Summary Screen

Field	Description
Port	The Port Number
Port Name	The Port Name
Access	The access method for the port
Speed	The port speed
TCP Port	The Telnet port number for the port
SSH Port	The SSH port number for the port
Device	The Linux Device Name for the port

monitor/show port async tcp characteristics

Displays TCP characteristics for a specific asynchronous port on the LX unit.

The `show port async tcp` command displays a static version of the Asynchronous Port TCP Characteristics Screen; the information in the Asynchronous Port TCP Characteristics Screen is the information that was in effect when the `show port async tcp` command was executed.

The `monitor port async tcp` command displays an active version of the Asynchronous Port TCP Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor port async tcp

show port async tcp
```

Examples

```
monitor port async tcp

show port async tcp
```

Figure 72 shows an example of the Asynchronous Port TCP Characteristics Screen.

```
Time:                                Tue, 18 Jan 2005 09:28:06 US/EASTERN
Port Number:                       2  Port Name:                      Port_2
Telnet Break String/Control:          Telnet Negotiations:          Enabled
Telnet Cr Lf Filter:         Disabled  Telnet Cr Null Filter:        Enabled
Tcp Window Size:                1400  Tcp Transmit Mode:           Buffered
Tcp Accept Verification:      Enabled
Tcp Accept Message String:                    Connection to Port Successful
Tcppipe Destination IP Address:
Tcppipe Destination Port:             Tcppipe Destination Retries:       10
```

Figure 72 - Asynchronous Port TCP Characteristics Screen

Field	Description
Time	The current time.
Port Number	The Port Number of an asynchronous port.
Port Name	The Port Name of an asynchronous port.
Telnet Break String/ Control	The Telnet Break String or Control for the port.
Telnet CR LF Filter	Indicates whether Telnet CR LF Filter is Enabled or Disabled.

Telnet CR Null Filter	Indicates whether Telnet CR Null Filter is Enabled or Disabled.
Telnet Negotiations	Indicates whether Telnet Negotiations are Enabled or Disabled.
Telnet Accept Verification	Indicates the state (Enabled or Disabled) of the Telnet Accept Verification Feature.
Telnet Cr Filter	Indicates the filtering for carriage returns in Telnet sessions.
Tcp Accept Message String	The message that is displayed to the user after a successful connection via Telnet or SSH.
Tcp Window Size	The size (in bytes) of the TCP window.
Tcp Transmit Mode	The size, in bytes, of the typeahead buffer (the number of bytes or characters that can be temporarily stored pending transmission). A value of “Immediate” indicates a typeahead buffer size of 0.
Tcp Destination IP Address	The TCP destination IP address that will connect to the port (when configured as TCP pipe).
Tcp Destination Port	The port that will connect to the tcp destination address TCP port (when configured as TCP pipe).
Tcppipe Destination Retries	The number of times the LX attempts to reach the TCP destination. The range is 0-60. The default is 10. Entering 0 causes the LX to try to connect indefinitely.

monitor/show port characteristics

Displays the Port Type and Banner Filename for the port at which you are logged on.

The `show port characteristics` command displays a static version of the Logged-in Port Characteristics Screen; the information in the Logged-in Port Characteristics Screen is the information that was in effect when the `show port characteristics` command was executed.

The `monitor port characteristics` command displays an active version of the Logged-in Port Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor port characteristics

show port characteristics
```

Examples

```
monitor port characteristics

show port characteristics
```

Figure 71 shows an example of the Logged-in Port Characteristics Screen.

```
Time:                                          Tue, 27 May 2003 23:04:44 UTC
Banner:                                               /config/banner.default
Port Type:                    Virtual
```

Figure 73 - Logged-in Port Characteristics Screen

Field	Description
Time	The date and time that the `monitor/show port characteristics` command was executed.
Banner	The file that contains the Login Banner for the port.
Port Type	The Port Type

monitor/show port ethernet characteristics

Displays the characteristics of an Ethernet port.

The `show port ethernet characteristics` command displays a static version of the Ethernet Port Characteristics Screen; the information in the Ethernet Port Characteristics Screen is the information that was in effect when the `show port ethernet characteristics` command was executed.

The `monitor port ethernet characteristics` command displays an active version of the Ethernet Port Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor port ethernet all|<port_number> characteristics`

`show port ethernet all|<port_number> characteristics`

Where	Means
all	Display information for all Ethernet ports.
port_number	The port number of an Ethernet port.

Examples

```
monitor port ethernet 1 characteristics

show port ethernet 1 characteristics
```

Figure 74 shows an example of the Ethernet Port Characteristics Screen.

```
Time:                                    Mon, 24 Mar 2003 22:30:19
Name:                  eth0    MAC Address:     00:a0:87:9c:00:50:e3
Link Speed:             Auto    Duplex Mode:                   Auto
Description:
```

Figure 74 - Ethernet Port Characteristics Screen

Field	Description
Name	The name of the port.
Description	The description of the Ethernet port.
MAC Address	The Ethernet MAC Address for the port.
Link Speed	The Ethernet port speed. The possible values are auto, 10mb and 100mb.
Duplex Mode	The duplex mode of the Ethernet port. The possible values are auto, full, and half.

monitor/show port ethernet status

Displays the statistical information, and status information, for an ethernet port.

The `show port ethernet status` command displays a static version of the Ethernet Port Status Screen; the information in the Ethernet Port Status Screen is the information that was in effect when the `show port ethernet status` command was executed.

The `monitor port ethernet status` command displays an active version of the Ethernet Port Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor port ethernet all|<port_number> status`

`show port ethernet all|<port_number> status`

Where	Means
all	Display information for all ethernet ports.
port_number	The port number of an ethernet port.

Examples

```
monitor port ethernet 1 status

show port ethernet 1 status
```

Figure 75 shows an example of the Ethernet Port Status Screen.

```
Name:                       eth0     MAC Address:  00:a0:87:9c:00:50:e3
Link State:                   Up      Duplex Mode:                 Half
Link Speed:                  100     Auto Negotiation:            Auto
Receive Bytes:            240061      Transmit Bytes:            40115
Receive Packets:            2890      Transmit Packets:            659
Receive Errors:                0      Transmit Errors:               0
Receive Drop Packet:           0      Transmit Drop Packet:          0
Receive Overruns:              0      Transmit Overruns:             0
Receive Compressed:            0      Transmit Compressed:           0
Receive Frame Error:           0      Transmit Collisions:           0
Receive Multicast:             0      Transmit Carrier:              0
```

Figure 75 - Ethernet Port Status Screen

Field	Description
Name	The Ethernet port name.
Link State	The state (Up or Down) of the Ethernet link.
Link Speed	The speed of the Ethernet link (in Megabytes per second).

Receive Bytes	The number of Bytes Received on the Ethernet port since the counters were last reset to zero.
Receive Packets	The number of Packets Received on the Ethernet port since the counters were last reset to zero.
Receive Errors	The number of Receive Errors on the Ethernet port since the counters were last reset to zero.
Receive Drop Packet	The number of Receive Packets that have been dropped by the Ethernet port since the counters were last reset to zero.
Receive Overruns	The number of Receive Overruns on the Ethernet port since the counters were last reset to zero.
Receive Compressed	The number of compressed packets received since the counters were last reset to zero.
Receive Frame Error	The number of Receive Frame Errors on the Ethernet port since the counters were last reset to zero.
Receive Multicast	The number of Multicasts received on the Ethernet port since the counters were last reset to zero.
MAC Address	The MAC Address of the LX unit.
Duplex Mode	The duplex mode (half or full) of the Ethernet link.
Auto Negotiation	Indicates whether or not auto negotiation is in effect on the Ethernet link.
Transmit Bytes	The number of bytes transmitted on the Ethernet port since the counters were last reset to zero.
Transmit Packets	The number of packets transmitted on the Ethernet port since the counters were last reset to zero.
Transmit Errors	The number of Transmit Errors on the Ethernet port since the counters were last reset to zero.
Transmit Drop Packet	The number of Transmit Packets dropped on the Ethernet port since the counters were last reset to zero.
Transmit Overruns	The number of Transmit Overruns on the Ethernet port since the counters were last reset to zero.
Transmit Compressed	The number of compressed packets transmitted since the counters were last reset to zero.
Transmit Collisions	The number of Transmit Collisions on the Ethernet port since the counters were last reset to zero.
Transmit Carrier	

monitor/show port ethernet summary

Displays summary information for the Ethernet ports on the LX unit.

The `show port ethernet summary` command displays a static version of the Ethernet Port Summary Screen; the information in the Ethernet Port Summary Screen is the information that was in effect when the `show port ethernet summary` command was executed.

The `monitor port ethernet summary` command displays an active version of the Ethernet Port Summary Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor port ethernet summary

show port ethernet summary
```

Examples

```
monitor port ethernet summary

show port ethernet summary
```

Figure 76 shows an example of the Ethernet Port Summary Screen.

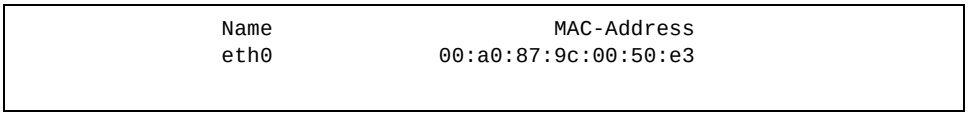


Figure 76 - Ethernet Port Summary Screen

Field	Description
Name	The name of the Ethernet port.
MAC Address	The MAC (physical) Address of the Ethernet port.

monitor/show port modem

Displays modem characteristics for the port at which you are currently logged in.

NOTE: In order for this command to display data, you must be logged in via a modem port.

The `show port modem` command displays a static version of the Logged-in Port Modem Screen; the information in the Logged-in Port Modem Screen is the information that was in effect when the `show port modem` command was executed.

The `monitor port modem` command displays an active version of the Logged-in Port Modem Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor port modem

show port modem
```

Examples

```
monitor port modem

show port modem
```

The Logged-in Port Modem Screen is identical to the Port Modem Settings Screen. Figure 68 on page 159 contains an example of the Port Modem Settings Screen.

monitor/show port status

Displays status information for the port at which you are currently logged in.

NOTE: You cannot execute this command while you are logged in at a virtual port.

The `show port status` command displays a static version of the Logged-in Port Status Screen; the information in the Logged-in Port Status Screen is the information that was in effect when the `show port status` command was executed.

The `monitor port status` command displays an active version of the Logged-in Port Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor port status

show port status
```

Examples

```
monitor port status

show port status
```

The Logged-in Port Status Screen is identical to the Port Status Screen. Figure 69 on page 161 contains an example of the Port Status Screen for non-power ports. Figure 70 on page 164 contains an example of the Port Status Screen for power ports.

monitor/show radius characteristics

Displays information about the RADIUS authentication and accounting servers for the LX unit.

The `show radius characteristics` command displays a static version of the RADIUS Characteristics Screen; the information in the RADIUS Characteristics Screen is the information that was in effect when the `show radius characteristics` command was executed.

The `monitor radius characteristics` command displays an active version of the RADIUS Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor radius characteristics

show radius characteristics
```

Example

```
monitor radius characteristics

show radius characteristics
```

Figure 77 shows an example of the RADIUS Characteristics Screen.

```
Time:                                Wed, 02 Feb 2005 09:37:10 US/EASTERN
Primary RADIUS Authentication Server:
IP Address:                  0.0.0.0  RADIUS Auth. UDP Port:           1812
Secret:               Not configured  Timeout:                           5
Retry:                             3
Secondary RADIUS Authentication Server:
IP Address:                  0.0.0.0  RADIUS Auth. UDP Port:           1812
Secret:               Not configured  Timeout:                           5
Retry:                             3
Primary RADIUS Accounting Server:
IP Address:                  0.0.0.0  RADIUS Acct. UDP Port:           1813
Secret:               Not configured  Timeout:                           5
Retry:                             3
Secondary RADIUS Accounting Server:
IP Address:                  0.0.0.0  RADIUS Acct. UDP Port:           1813
Secret:               Not configured  Timeout:                           5
Retry:                             3
Radius Accounting Server Period:    5  Local Subscriber:           Disabled
Inbound RADIUS Authentication Serial Ports:
Outbound RADIUS Authentication Serial Ports:
RADIUS Accounting Serial Ports:
RADIUS Authentication Interfaces:
RADIUS Accounting Interfaces:
```

Figure 77 - RADIUS Characteristics Screen

Field	Description
IP Address	The IP Address for the applicable Authentication or Accounting Server.
Secret	The Radius secret shared between the LX unit and the Radius server used for encrypting communications between them.
Retry	The number of times the LX unit will attempt to connect to the Radius server.
RADIUS Auth. UDP Port	The UDP port that the LX unit and the applicable RADIUS authentication server will use for communication.
RADIUS Acct. UDP Port	The UDP port that the LX unit and the applicable RADIUS accounting server will use for communication.
Timeout	The time to wait for a RADIUS server to respond before retransmitting packets to the server.
RADIUS Accounting Server Period	The length of time, in seconds, that the RADIUS server waits for a reply from the RADIUS Accounting server.
Local Subscriber	The state of the RADIUS Local Subscriber Feature. The allowable values are Enabled, Disabled, and Only.
Inbound RADIUS Authentication Serial Ports	The Inbound authentication serial ports that are enabled for RADIUS.
Outbound RADIUS Authentication Serial Ports	The Outbound authentication serial ports that are enabled for RADIUS.
RADIUS Accounting Serial Ports	The accounting serial ports that are enabled for RADIUS.
RADIUS Authentication Interfaces	The LX authentication interfaces that are enabled for RADIUS.
RADIUS Accounting Interfaces	The LX accounting interfaces that are enabled for RADIUS.

monitor/show radius status

Displays statistical information on RADIUS authentication attempts.

The `show radius status` command displays a static version of the RADIUS Status Screen; the information in the RADIUS Status Screen is the information that was in effect when the `show radius status` command was executed.

The `monitor radius status` command displays an active version of the RADIUS Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor radius status

show radius status
```

Examples

```
monitor radius status

show radius status
```

Figure 78 shows an example of the RADIUS Status Screen.

```
Time:                                  Wed, 08 May 2002 13:32:34 UTC
Total RADIUS Authentication Message Exchange:       Primary     Secondary
   Successful attempts:                                2           0
   Failed attempts:                                    0           0

Total RADIUS Accounting Message Exchange:           Primary     Secondary
   Successful attempts:                                0           0
   Failed attempts:                                    6           6

RADIUS Authentication Counter Summary:              Primary     Secondary
   Successful Logins:                                  2           0
   Authentication Failures:                            0           0
   Configuration Failures:                             0           0
   Policy Failures:                                    0           0

RADIUS Accounting Counter Summary:                  Primary     Secondary
   Successful Acct Entries:                            0           0
   Failed Acct Entries:                                0           0
   Requests Waiting:                                   0           0

RADIUS Fallback Counter Summary:
   Total Fallback Logins:                     0
```

Figure 78 - RADIUS Status Screen

Field	Description	
Total RADIUS Authentication Message Exchange	Successful Attempts	The number of times the primary and secondary RADIUS authentication servers successfully exchanged messages with the LX unit.
	Failed attempts	The number of times the primary and secondary RADIUS authentication servers failed to exchange messages with the LX unit.
Total RADIUS Accounting Message Exchange	Successful Attempts	The number of times the primary and secondary RADIUS accounting servers successfully exchanged messages with the LX unit.
	Failed attempts	The number of times the primary and secondary RADIUS accounting servers failed to exchange messages with the LX unit.
RADIUS Authentication Counter Summary	Successful Logins	The number of successful logins using RADIUS.
	Authentication Failures	The number of unsuccessful logins using RADIUS.
	Configuration Failures	The number of login failures that occurred due to configuration failures.
	Policy Failures	The number of login failures that occurred due to policy failures.
RADIUS Accounting Counter Summary	Successful Acct Entries	The number of successful RADIUS accounting entries.
	Failed Acct Entries	The number of failed RADIUS accounting entries.
	Requests Waiting	The number of RADIUS Accounting requests that have not been processed yet.
RADIUS Fallback Counter Summary	Total Fallback Logins	The number of logins that have been done through the RADIUS Fallback Login feature.

monitor/show radius summary

Displays summary data for the RADIUS authentication and accounting servers.

The `show radius summary` command displays a static version of the RADIUS Summary Screen; the information in the RADIUS Summary Screen is the information that was in effect when the `show radius summary` command was executed.

The `monitor radius summary` command displays an active version of the RADIUS Summary Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor radius summary

show radius summary
```

Example

```
monitor radius summary

show radius summary
```

Figure 79 shows an example of the RADIUS Summary Screen.

```
Radius Server Summary                                Thu, 12 Sep 2002 20:47:18
 Primary Auth. Server:          0.0.0.0  Primary Auth. UDP Port:          1812
 Secondary Auth. Server:        0.0.0.0  Secondary Auth. UDP Port:        1812
 Primary Acct. Server:          0.0.0.0  Primary Acct. UDP Port:          1813
 Secondary Acct. Server:        0.0.0.0  Secondary Acct. UDP Port:        1813
```

Figure 79 - RADIUS Summary Screen

Field	Description
Primary Auth. Server	The IP Address of the Primary RADIUS Authentication server.
Secondary Auth. Server	The IP Address of the Secondary RADIUS Authentication server.
Primary Acct. Server	The IP Address of the Primary RADIUS Accounting server.
Secondary Acct. Server	The IP Address of the Secondary RADIUS Accounting server.
Primary Auth. UDP Port	The UDP port for the Primary RADIUS Authentication server.

Secondary Auth. UDP Port	The UDP port for the Secondary RADIUS Authentication server.
Primary Acct. UDP Port	The UDP port for the Primary RADIUS Accounting server.
Secondary Acct. UDP Port	The UDP port for the Secondary RADIUS Accounting server.

monitor/show route

Displays the IP addresses of the each route, along with the subnet mask, gateway, and IP interface associated with the each active route.

The `show route` command displays information on the active routes that existed at the time the command was executed; the information in the Route Screen is the information that was in effect when the `show route` command was executed.

The `monitor route` command displays a continuously updating list of routes.

Syntax

```
monitor route [static]

show route [static]
```

Where	Means
static	Display information for static routes only. **Note:** When you use this option, the Route Screen does not show an IP interface for the route.

Examples

```
monitor route

show route

monitor route static

show route static
```

Figure 80 shows an example of the Route Screen.

```
          Route               Mask            Gateway               If
140.179.169.0      255.255.255.0          0.0.0.0               eth0
      0.0.0.0            0.0.0.0     140.179.169.1               eth0
```

Figure 80 - Route Screen

monitor/show securid characteristics

Displays information about the SecurID authentication server for the LX unit.

The `show securid characteristics` command displays a static version of the SecurID Characteristics Screen; the information in the SecurID Characteristics Screen is the information that was in effect when the `show securid characteristics` command was executed.

The `monitor securid characteristics` command displays an active version of the SecurID Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor securid characteristics

show securid characteristics
```

Examples

```
monitor securid characteristics

show securid characteristics
```

Figure 77 shows an example of the SecurID Characteristics Screen.

```
Time:                                          Mon, 17 Mar 2003 18:09:34 UTC
SecurID Configuration Settings
 Authentication Version:     Version_5  Authentication Encryption:       DES
 Authentication Timeout:             5  Authentication Retransmit:        3
 Authentication Port:             5500
 V5 Primary Server:            0.0.0.0  Primary Name:
 Legacy Master Server:         0.0.0.0  Master Name:
 Legacy Slave Server:          0.0.0.0  Slave Name:
 Local Subscriber:            Disabled
 Inbound SecurID Enabled Serial Ports:
 Outbound SecurID Enabled Serial Ports:
 SecurID Enabled Interfaces:
```

Figure 81 - SecurID Characteristics Screen

Field	Description
Time	The date and time that the `show securid characteristics` command was executed.
Authentication Version	The version of SecurID that is running on the SecurID authentication server. The possible values are Legacy and Version_5.
Authentication Timeout	The time to wait for the SecurID authentication server to respond before retransmitting packets to the server.

Authentication Port	The UDP port that the LX unit and the SecurID authentication server will use for communication.
V5 Primary Server	The IP Address of the authentication server used for Version 5 of SecurID.
Legacy Master Server	The IP address of the Master server for the Legacy version of SecurID.
Legacy Slave Server	The IP address of the Slave server for the Legacy version of SecurID.
Local Subscriber	The state of the SecurID Local Subscriber Feature. The allowable values are Enabled, Disabled, and Only.
Inbound SecurID Enabled Serial Ports	The Inbound serial ports that use SecurID authentication.
Outbound SecurID Enabled Serial Ports	The Outbound serial ports that use SecurID authentication.
SecurID Enabled Interfaces	The IP interfaces that use SecurID authentication.
Authentication Encryption	The encryption method used by SecurID. The possible values are DES and SDI.
Authentication Retransmit	The maximum number of times the LX unit will retransmit packets to the SecurID authentication server after the expiration of an Authentication Timeout.
Primary Name	The name of the Version 5 authentication server.
Master Name	The name of the Master server for the Legacy version of SecurID.
Slave Name	The name of the Slave server for the Legacy version of SecurID.

monitor/show securid status

Displays statistical information on SecurID authentication attempts.

The `show securid status` command displays a static version of the SecurID Status Screen; the information in the SecurID Status Screen is the information that was in effect when the `show securid status` command was executed.

The `monitor securid status` command displays an active version of the SecurID Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor securid status

show securid status
```

Examples

```
monitor securid status

show securid status
```

Figure 78 shows an example of the SecurID Status Screen.

```
Time:                                          Mon, 24 Feb 2003 16:55:59
SecurID Status & Counters:
Successful Logins:                 0
Failed Logins:                     0
Fallback Logins:                   0
Learned SecurID Node Secret:    False
Learned SecurID Servers:
```

Figure 82 - SecurID Status Screen

Field	Description
Time	The date and time that the `show securid status` command was executed.
Successful Logins	The number of successful logins using SecurID.
Failed Logins	The number of unsuccessful logins using SecurID.
Fallback Logins	The number of logins that have been accomplished using SecurID Fallback.

Learned SecurID Node Secret	Indicates whether or not the LX unit has received the SecurID Secret from the SecurID Server. The possible values are True and False. A value of True means that the LX unit has received the SecurID Secret from the SecurID Server. A value of True means that the LX unit has *not* received the SecurID Secret from the SecurID Server.
Learned SecurID Servers	The IP addresses, or host names, of the Primary and Replica SecurID servers that the LX unit can use for authentication.

monitor/show securid summary

Displays summary data for the SecurID authentication and accounting servers.

The `show securid summary` command displays a static version of the SecurID Summary Screen; the information in the SecurID Summary Screen is the information that was in effect when the `show securid summary` command was executed.

The `monitor securid summary` command displays an active version of the SecurID Summary Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor securid summary

show securid summary
```

Example

```
monitor securid summary

show securid summary
```

Figure 79 shows an example of the SecurID Summary Screen.

```
Time:                                          Mon, 17 Mar 2003 18:17:27 UTC
 V5 Primary Server:            0.0.0.0  Primary Name:
 Legacy Master Server:         0.0.0.0  Master Name:
 Authentication Version:     Version_5  Authentication Port:             5500
```

Figure 83 - SecurID Summary Screen

Field	Description
Time	The date and time that the `show securid summary` command was executed.
V5 Primary Server	The IP Address of the authentication server used for Version 5 of SecurID.
Legacy Master Server	The IP address of the Master server for the Legacy version of SecurID.
Authentication Version	The version of SecurID that is running on the SecurID authentication server. The possible values are Legacy and Version_5.
Primary Name	The name of the Version 5 Primary authentication server.
Master Name	The name of the Master server for the Legacy version of SecurID.
Authentication Port	The UDP port that the LX unit and the SecurID authentication server will use for communication.

monitor/show service

Displays the name and IP Address of every service that is configured for the LX unit.

The `show service` command displays a static version of the Service Screen; the information in the Service Screen is the information that was in effect when the `show service` command was executed.

The `monitor service` command displays an active version of the Service Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor service

show service
```

Examples

```
monitor service

show service
```

Figure 84 shows an example of the Service Screen.

```
Service Name                              IP Address
       dewey                             123.123.1.1
        huey                             123.123.1.2
Finance_Server          3ffe:303:14:42a0:9cff:fe00:8ac
```

Figure 84 - Service Screen

monitor/show session

Displays information about opened sessions on the LX unit.

The `show session` command displays the static version of the Session Screen; the information in the screen is the information that was in effect when the `show session` command was executed.

The `monitor session` command displays an active version of the Session Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor session [<session_number>]`

`show session [<session_number>]`

Where	Means
session_number	The session number of an opened connection.

Usage Guidelines

If this command is executed without the <*session_number*> argument (i.e., `show session`), it displays information for all opened sessions on the LX unit.

Examples

```
monitor session 3

show session 3
```

Figure 85 shows an example of the Session screen.

```
 Number    Device        Program       Pid          Time      Status
 0         /dev/pts/0     Superuser      509           13302     *
 1         /dev/pts/0     User           510           13302     -
 2         /dev/pts/0     User           511           13302     -
 3         /dev/pts/0     User           512           13302     -
```

Figure 85 - Session Screen

Field	Description
Number	The Session Number. The possible values are 1, 2, 3, or 4.
Device	The Linux port name.
Program	The program (or command mode) running on the LX unit.

Pid	The Process ID for the session.
Time	The time elapsed since the start of the session.
Status	Indicates whether the displayed session is the active session. An asterisk (*) means that the displayed session is the active session. An hyphen (-) means that the displayed session is *not* the active session.

monitor/show snmp characteristics

Displays the system-level SNMP characteristics for the LX unit.

The `show snmp characteristics` command displays a static version of the SNMP Characteristics Screen; the information in the SNMP Characteristics Screen is the information that was in effect when the `show snmp characteristics` command was executed.

The `monitor snmp characteristics` command displays an active version of the SNMP Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor snmp characteristics

show snmp characteristics
```

Examples

```
monitor snmp characteristics

show snmp characteristics
```

Figure 87 shows an example of SNMP Characteristics Screen.

```
Time:   Wed, 10 Apr 2002 10:45:08 UTC     Name:          InReach
Logging:      Disabled                   Port:              161
Contact:   Henry Smith                   Location:  Upstairs Lab
V3 Engine Boots:    14
V3 Engine ID:           6537303330336565616365323932336100000000
```

Figure 86 - SNMP Characteristics Screen

Field	Description
Time	The date and time that the `show snmp characteristics` command was executed.
Logging	Indicates whether the SNMP Logging feature is Enabled or Disabled on the LX unit.
Contact	The contact for the LX unit.
V3 Engine Boots	The number of times the V3 engine has been rebooted.
V3 Engine ID	The V3 Engine ID for the LX unit.
Name	The system name for the LX unit.
Port	The SNMP UDP port for the LX unit.
Location	The location of the LX unit.

monitor/show snmp client

Displays information on SNMP clients.

The `show snmp client` command displays a static version of the SNMP Client Screen; the information in the SNMP Client Screen is the information that was in effect when the `show snmp client` command was executed.

The `monitor snmp client` command displays an active version of the SNMP Client Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor snmp client all|<client_number>`

`show snmp client all|<client_number>`

Where	Means
all	Display information for all SNMP clients on this LX unit.
client_number	The client number for an SNMP client

Examples

```
monitor snmp client 1

show snmp client 1
```

Figure 87 shows an example of SNMP Client Screen.

```
Get Client:                      1  Address:            140.111.222.111
Version:                        v1  NetMask:            255.255.255.255
Community:                                                      public

Set Client:                      1  Address:            140.111.222.111
Version:                        v1  NetMask:            255.255.255.255
Community:                                                     private

Trap Client:                     1  Address:            140.111.222.111
Version:                        v1  UDP Port:                      162
Community:                                                      public
Retransmit Count:                0  Retransmit Interval:            0
V3 User Index:                   0
```

Figure 87 - SNMP Client Screen

Field	Description
Get Client	The SNMP client (e.g., a Network Operations Center, or NOC) which is permitted to perform an SNMP get on the LX unit.

Set Client	The SNMP client (e.g., a Network Operations Center, or NOC) which is permitted to perform an SNMP set on the LX unit.
Trap Client	The SNMP client (e.g., a Network Operations Center, or NOC) which is permitted to trap SNMP characteristics from the LX unit.
Community	The name of the applicable SNMP Community to which the LX unit belongs. When an SNMP Community Name has been specified for the unit, only SNMP clients which belong to the same community are permitted to perform the applicable SNMP operation (Get, Set, or Trap) on the unit. This field also supports printable characters (-, &, ., @).
NetMask	The NetMask to be anded with the IP address when authenticating incoming SNMP requests.
Address	The IP Address of the SNMP Get, Set, or Trap client.
Version	The SNMP Get, Set, or Trap Version for the client. The possible values are 1, 2, or 3.
UDP Port	The UDP port that traps are sent to.
Retransmit Count	The number of times the trap that was originally sent is to be retransmitted.
Retransmit Interval	The amount of time (in seconds) between retransmissions of the trap.
V3 User Index	The index points to the entry in the v3 user table on whose behalf this trap client is configured. The range is from 0 to 9.

monitor/show snmp v3 access

Displays V3 access information for SNMP clients.

The `show snmp v3 access` command displays a static version of the V3 Screen; the information in the V3 Screen is the information that was in effect when the `show snmp v3 access` command was executed.

The `monitor show snmp v3 access` command displays an active version of the V3 Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor snmp v3 access all|<entry_number>`

`show snmp v3 access all|<entry_number>`

Where	Means
all	Display all entries configured in the Access Table.
entry_number	The Access Entry number.

Examples

```
monitor snmp v3 access 3

monitor snmp v3 access all

show snmp v3 access 3

show snmp v3 access all
```

Figure 88 shows an example of the V3 Access Entry display.

```
accessEntry:                    1  status:                    active
groupName:                                                      tim
readView:
writeView:
secModel:                     usm  secLevel:              noAuthNoPriv
ctxPrefix:                         ctxMatch:                    exact
```

Figure 88 - V3 Access Screen

Field	Description
Access Entry	The number of the Access Entry
Group Name	The name assigned to this entry.

Read View	The name of the entry in the view table when processing Set requests.
Write View	The name of the entry in the view table when processing Set requests.
Security Model	The Security Model used by this entry.
CTX Prefix	The value of the Context Prefix.
Status	Status of the entry.
Security Level	The Security Level used by this entry.
CTX Match	The type of match to use against the Context Prefix.

monitor/show snmp v3 group

Displays V3 group information for SNMP clients.

The `show snmp v3 group` command displays a static version of the V3 Screen; the information in the V3 Screen is the information that was in effect when the `show snmp v3 group` command was executed.

The `monitor show snmp v3 group` command displays an active version of the V3 Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor snmp v3 group all|<entry_number>`

`show snmp v3 group all|<entry_number>`

Where	Means
all	Display all entries configured in the Access Table.
entry_number	The client number for an SNMP client.

Examples

```
monitor snmp v3 group 3
monitor snmp v3 group all
show snmp v3 group 3
show snmp v3 group all
```

Figure 89 shows an example of the V3 group display for an SNMP client.

```
Entry:                          1  status:                    active
userName:                                                       sec
groupName:                                                      tim
secModel:                     usm
```

Figure 89 - V3 Group Screen

Field	Description
Entry	The number of the Entry.
userName	The Name assigned to this entry.
groupName	The name of the Access Table entry to which this user belongs.
secModel	The security model used by this entry.
status	The entry status.

monitor/show snmp v3 misc

Displays miscellaneous V3 information for SNMP clients.

The `show snmp v3 misc` command displays a static version of the V3 Screen; the information in the V3 Screen is the information that was in effect when the `show snmp v3 misc` command was executed.

The `monitor show snmp v3 misc` command displays an active version of the V3 Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor snmp v3 misc all|<entry_number>`

`show snmp v3 misc all|<entry_number>`

Where	Means
all	Display miscellaneous information for all SNMP clients on this LX unit.
entry_number	The client number for an SNMP client

Examples

```
monitor snmp v3 misc 3

monitor snmp v3 misc all

show snmp v3 misc 3

show snmp v3 misc all
```

Figure 90 shows an example of the miscellaneous V3 display for an SNMP client.

```
EngineId:      800000210100000000
EngineBoots:   1
```

Figure 90 - V3 Miscellaneous Screen

Field	Description
Engine ID	The SNMP V3 authoritative Engine ID.
Engine Boots	The SNMP V3 Engine Boots value.

monitor/show snmp v3 user

Displays V3 user information for SNMP clients.

The `show snmp v3 user` command displays a static version of the V3 Screen; the information in the V3 Screen is the information that was in effect when the `show snmp v3 user` command was executed.

The `monitor show snmp v3 user` command displays an active version of the V3 Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor snmp v3 user all|<entry_number>`

`show snmp v3 user all|<entry_number>`

Where	Means
all	Display user information for all SNMP clients on this LX unit.
entry_number	The client number for an SNMP client

Examples

```
monitor snmp v3 user 3

monitor snmp v3 user all

show snmp v3 user 3

show snmp v3 user all
```

Figure 91 shows an example of the V3 user display for an SNMP client.

```
userEntry:                          1  status:                        active
userName:                                                              tim
authPassword:
privPassword:
authProtocol:                    none  privProtocol:                    none
privPassword (Key):                                                configured
```

Figure 91 - V3 User Screen

Field	Description
User Entry	The Index in the User table.
User Name	The name assigned to this user.

Authentication Password	The Authentication Password used by this user.
Privacy Password	The Privacy Password used by this user.
Authentication Protocol	The Authentication Protocol used by this user.
Status	The status of this user (Active or Inactive).
Privacy Protocol	The Privacy Protocol used by this user.
Privacy Password (Key)	Indicates whether the Privacy key is configured or not.

monitor/show snmp v3 view

Displays V3 view information for SNMP clients.

The `show snmp v3 view` command displays a static version of the V3 Screen; the information in the V3 Screen is the information that was in effect when the `show snmp v3 view` command was executed.

The `monitor show snmp v3 view` command displays an active version of the V3 Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor snmp v3 view all|<entry_number>`

`show snmp v3 view all|<entry_number>`

Where	Means
all	Display view information for all SNMP entries on this LX unit.
entry_number	The entry number for an SNMP client

Examples

```
monitor snmp v3 view 3

monitor snmp v3 view all

show snmp v3 view 3

show snmp v3 view all
```

Figure 92 shows an example of the V3 view display for an SNMP client.

```
viewEntry:                          1  status:                        active
viewName:                                                               tim
subTree:                                                          .1.3.6.1
mask:
type:                                                             included
```

Figure 92 - V3 View Screen

Field	Description
View Entry	The index assigned to this view entry in the View Table.
View Name	The name assigned to the view entry.
Sub Tree	The Object ID for this view entry.

View Mask	A hexadecimal bit mask value to be used when checking incoming requests against the view.
View Type	This indicates whether the matched OID is included or excluded from this view.
Status	The status of this entry (Active or Inactive).

monitor/show subscriber

Displays the status or characteristics for selected subscribers.

The `show subscriber` command displays a static version of the Subscriber Characteristics Screen, the Subscriber Status Screen, or the Subscriber TCP Screen; the information in the displayed screen is the information that was in effect when the `show subscriber` command was executed.

The `monitor subscriber` command displays an active version of the Subscriber Characteristics Screen, the Subscriber Status Screen, or the Subscriber TCP Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor subscriber <`*`subscriber_name`*`>|all characteristics|status|tcp`

`show subscriber <`*`subscriber_name`*`>|all characteristics|status|tcp`

Where	Means
subscriber_name	The subscriber for which data is to be displayed.
all	Display the specified data for all subscribers on the LX unit.
characteristics	Displays the characteristics for the specified subscribers. This option displays a screen that contains the same fields as the Subscriber Characteristics Screen that is displayed in the User Command Mode. For more information, refer to Figure 93 on page 203.
status	Displays the status information for the specified subscribers. This option displays a screen that contains the same fields as the Subscriber Status Screen that is displayed in the User Command Mode. For more information, refer to Figure 94 on page 205.
tcp	Displays the TCP information for the selected subscribers. This option displays a screen that contains the same fields as the Subscriber TCP Screen that is displayed in User Mode. For more information, refer to Figure 95 on page 206.

Examples

```
monitor subscriber tim characteristics

show subscriber tim characteristics

monitor subscriber tim status

show subscriber tim status
```

```
monitor subscriber all tcp

show subscriber all tcp
```

Subscriber Characteristics

Figure 93 shows an example of the Subscriber Characteristics screen.

```
Subscriber Name:              InReach  Rlogin Ded. Service
Preferred Service:                     Dedicated Service
Security:      User Read Outlet Shell  User Password:            Configured
Login Mode  :                    Cli  Change User Password:       Disabled
Maximum Connections:              50  Maximum Sessions:                 4
Command Logging:             Disabled  Audit Logging  :            Disabled
Idle Timeout:                      0  User Prompt:                  InReach
Web Login Mode:                Config  Screen Pause:                 Enabled
Forward Switch:                    ^F  Local Switch:                      ^L
Backward Switch:                   ^B  Rlogin Transparent:         Disabled
Connect Escape Char:               ^Z  Dialback Feature:           Disabled
Dialback Number:
Menu Name:                                                 /config/InReach
Web Menu Name:                                             /config/InReach
Port Access   list:                                                  0-33
Remote Access list:                          Telnet Ssh Web_Server Console
Outlet Access list:
Outlet Group Access list:
```

Figure 93 - Subscriber Characteristics Screen

Field	Description
Subscriber Name	The name under which the subscriber is logged in.
Preferred Service	The service to which the subscriber will be connected when the subscriber makes a connect request without specifying a service.
Security	The level of security that the subscriber has. The possible values are None and Superuser.
Login Mode	Indicates whether the subscriber will be in the CLI, or his Menu, when he or she logs in to the LX unit.
Maximum Connections	The maximum number of concurrent connections that the subscriber can have to the LX unit.
Command Logging	Indicates whether the Command Logging Feature is Enabled or Disabled for the subscriber.
Idle Timeout	The length of time that the subscriber can go without entering keyboard data before he is logged out.

Web Login Mode	The login mode that a subscriber can access. The options are Configuration and Menu.
Forward Switch	The keyboard character that the subscriber types to switch to the next session.
Backward Switch	The keyboard character that the subscriber types to switch to the previous session.
Dialback Feature	Indicates whether or not the subscriber requires a dialback script in order to be logged in. (The dialback script contains commands that cause a modem to dial a designated telephone number.) The allowable values are Enabled and Disabled.
Connect Escape Char	The configured escape character for the local subscriber database. The default is ^Z.
Dialback Number	The telephone number that the LX modem will dial when the subscriber makes a Dialback call to the LX unit.
Menu Name	The name of the Menu assigned to the subscriber account.
Web Menu Name	The name of the Web Menu assigned to the subscriber account. This name can be up to 22 characters long.
Port Access List	The LX ports that the user can access.
Remote Access List	The methods that the user can use to make remote connections.
Outlet Access List	The individual outlets that the subscriber is authorized to manage.
Outlet Group Access List	The outlet groups that the subscriber is authorized to manage.
Rlogin Ded. Service	The rlogin service to which the subscriber is permanently assigned.
Dedicated Service	The service to which the subscriber is permanently assigned.
User Password	Indicates whether or not the subscriber must enter a password when he logs in to the account. If the value of this field is Disabled, the subscriber configured `no password` or configured a password without configuring `password enable` first. If the value of this field is Configured, the subscriber configured a password after configuring `password enable`. If the value of this field is Not Configured, the subscriber configured `password enable` after configuring the password while it was disabled (or never configured a password), and the subscriber has to configure the password again.
Change User Password	Indicates whether the Change User Password feature is Enabled or Disabled.

Maximum Sessions	The maximum number of concurrent sessions allowed for the subscriber.
Audit Logging	Indicates whether the Audit Logging Feature is Enabled or Disabled.
User Prompt	The subscriber-specific field of the subscriber User prompt. For example, for a subscriber prompt of `InReach:0 >`, the subscriber-specific field is `InReach`.
Screen Pause	Indicates whether or not the screen is enabled to pause after 26 lines of output are displayed.
Local Switch	The keyboard character that the subscriber types to return to the local command mode.
RLogin Transparent	Indicates whether rlogin is Enabled or Disabled.

Subscriber Status

Figure 94 shows an example of the Subscriber Status screen.

```
Time:                              Mon, 23 May 2004  15:20:02 US/Eastern
Subs.name:             miller     Number of Connections:               2
Configured TermType:          Ansi
           Remote IP Address      Local Port    Protocol     Device
miller           0.0.0.0              41       Serial     /dev/ttyGN41
           Session 0   User
           Session 0   telnet 10.242.130.145
           Session 0   Superuser
           Session 0   telnet 10.242.130.150
miller          10.242.130.106         5040     Web Server    Tcp/23840
           Session 0   Superuser
```

Figure 94 - Subscriber Status Screen

Field	Description
Subs. Name	The name under which the subscriber is logged in.
Configured TermType	The terminal type that is configured for the subscriber.
Number of Connections	The number of connections that the subscriber currently has to the LX unit.
Remote IP Address	If the user is logged in from a remote IP Address, the address is displayed in this field.
Local Port	If the user is logged on to a local port of the LX unit, the port number is displayed in this field.

Protocol	The protocol under which the user is connected to the LX unit.
Device	The Linux Device Number under which the user is logged in.
Session	Contains the following information: • The current Command Mode for the session, if the session is in the CLI • The destination address, if a Telnet, or SSH, connection has been made from the session

Subscriber TCP Settings

Figure 95 shows an example of the Subscriber TCP screen.

```
Time:                                          Mon, 08 Apr 2002 14:39:16 UTC
Subscriber Name:              InReach
Telnet Escape:                     ^]  Telnet Line Mode:      Character Mode
SSH Key:               Not Configured
```

Figure 95 - Subscriber TCP Screen

Field	Description
Subscriber Name	The name under which the subscriber is logged in.
Telnet Escape	The Telnet Escape character for the subscriber.
SSH Key	Indicates whether a unique SSH Key has been configured for this subscriber.
Telnet Line Mode	Indicates the Telnet Line Mode. The possible values are Character and Block.

monitor/show subscriber characteristics

Displays the Subscriber Characteristics Screen for your subscriber account.

NOTE: This command only displays the Subscriber Characteristics Screen for your subscriber account. Refer to the `monitor/show subscribers` command on page 202 to display the Subscriber Characteristics Screen for other subscribers' accounts.

The `show subscriber characteristics` command displays a static version of your Subscriber Characteristics Screen; the information in the Subscriber Characteristics Screen is the information that was in effect when the `show subscriber characteristics` command was executed.

The `monitor subscriber characteristics` command displays an active version of the Subscriber Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor subscriber characteristics

show subscriber characteristics
```

Examples

```
monitor subscriber characteristics

show subscriber characteristics
```

Figure 93 on page 203 shows an example of the Subscriber Characteristics Screen.

monitor/show subscriber status

Displays the Subscriber Status Screen for your subscriber account.

NOTE: This command only displays the Subscriber Status Screen for your subscriber account. Refer to the `monitor/show subscribers` command on page 202 to display the Subscriber Status Screen for other subscribers' accounts.

The `show subscriber status` command displays a static version of your Subscriber Status Screen; the information in the Subscriber Status Screen is the information that was in effect when the `show subscriber status` command was executed.

The `monitor subscriber status` command displays an active version of the Subscriber Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor subscriber status

show subscriber status
```

Examples

```
monitor subscriber status

show subscriber status
```

Figure 94 on page 205 shows an example of the Subscriber Status Screen.

monitor/show subscriber summary

Displays summary information for all of the subscribers configured on the LX unit.

The `show subscriber summary` command displays a static version of the Subscriber Summary Screen; the information in the Subscriber Summary Screen is the information that was in effect when the `show subscriber summary` command was executed.

The `monitor subscriber summary` command displays an active version of the Subscriber Summary Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor subscriber summary

show subscriber summary
```

Examples

```
monitor subscriber summary

show subscriber summary
```

Figure 96 shows an example of the Subscriber Summary Screen.

```
   Name   Connections   Terminal Type
InReach        0             Ansi
   demo        1             Ansi
   jack        0             Ansi
```

Figure 96 - Subscriber Summary Screen

monitor/show subscriber tcp

Displays the TCP Screen for your subscriber account.

NOTE: This command only displays the TCP Screen for your subscriber account. Refer to the `monitor/show subscribers` command on page 202 to display the TCP Screen for other subscribers' accounts.

The `show subscriber tcp` command displays a static version of your Subscriber TCP Screen; the information in the Subscriber TCP Screen is the information that was in effect when the `show subscriber tcp` command was executed.

The `monitor subscriber tcp` command displays an active version of the Subscriber TCP Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor subscriber tcp

show subscriber tcp
```

Examples

```
monitor subscriber tcp

show subscriber tcp
```

Figure 95 on page 206 shows an example of the Subscriber TCP Screen.

monitor/show system characteristics

Displays the global system configuration for the LX unit.

The `show system characteristics` command displays a static version of the System Characteristics Screen; the information in the System Characteristics Screen is the information that was in effect when the `show system characteristics` command was executed.

The `monitor system characteristics` command displays an active version of the System Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor system characteristics`

`show system characteristics`

Examples

```
monitor system characteristics
show system characteristics
```

Figure 97 shows an example of the System Characteristics Screen for an LX unit.

```
Name:                          In-Reach  Time:   Sat, 01 Jan 2005 06:01:49 UTC
Serial Number:      00:a0:9c:00:02:b1  Authenticate Image:           Enabled
Location:
Domain Name suffix:
Maximum Number of Async Ports:     42  Internal Modem on Port:            41
Maximum Number of Subscribers:    100  LX Model Type:            LX-8040-101
Maximum Number of Interfaces:      86  Maximum Number of Ethernet Ports:   1
Primary Domain :              0.0.0.0  Secondary Domain :            0.0.0.0
Gateway :                     0.0.0.0  Default TFTP Server : 120.179.169.188
Timed Daemon:                Disabled  TFTP Retries:                       3
NTP   Daemon:                Disabled  TFTP Timeout:                       3
NTP   Server:                 0.0.0.0  NTP Server Alternate:         0.0.0.0
NTP IPv6 Server:                         3ffe:303:11:2222:220:edff:fe4b:fc67
NTP IPv6 Server Alternate:               3ffe:303:11:2222:220:edff:fe4b:fc68
Finger Daemon:               Disabled  Logging Size :                  64000
Telnet Server:               Disabled  Telnet Client:               Disabled
Web Server:                   Enabled  Web Server Port:                   80
Web Server Timeout:                20  Web JceModule:                JsafeJCE
Web Encrypt:                  Enabled  Web Banner:                   Enabled
Subscriber Debug Option:     Disabled  Trigger-Action Debug Option: Disabled
System Debug Option:         Disabled  Flash Debug Option:          Disabled
Minimum Password Length:            6  SSH Daemon:                        V2
Rlogin Client:               Disabled  Message Feature:             Disabled
SNMP Feature:                Disabled
Modem Pool Enabled Serial Ports:
```

Figure 97 - System Characteristics Screen

Field	Description
Name	The host name of the LX unit.

Serial Number	The Serial Number of the LX unit.
Authenticate Image	Indicates whether the Authenticate Image is Enabled or Disabled on the LX unit.
Location	A text string that specifies the physical location of the LX unit.
Domain Name Suffix	The suffix for the LX-unit Domain Name.
Maximum Number of Async Ports	The maximum allowable number of asynchronous ports on the LX unit.
Maximum Number of Subscribers	The maximum number of subscribers on the LX unit.
Maximum Number of Interfaces	The maximum allowable number of IP interfaces on the LX unit.
Primary Domain	The IP Address of the Primary Domain Name Server (DNS) for the LX unit.
Gateway	The IP Address for the gateway (default route) of the LX unit.
Timed Daemon	Indicates whether the Timed Daemon is Enabled or Disabled.
NTP Daemon	Indicates whether the Network Time Protocol (NTP) Daemon is Enabled or Disabled on the LX unit.
NTP Server	The IP Address of the NTP server for the LX unit.
NTP IPv6 Server	The NTP IPv6 Address of the NTP server for the LX unit.
NTP IPv6 Server Alternate	The alternate NTP IPv6 Address of the NTP server for the LX unit.
Finger Daemon	Indicates whether the Finger Daemon (fingerd) is Enabled or Disabled on the LX unit.
Telnet Server	Indicates whether the Telnet Server is Enabled or Disabled on the LX unit.
Web Server	Indicates whether the WebServer feature (Browser Management) is Enabled or Disabled on the LX unit.
Web Server Timeout	The length of time (in minutes) the GUI can remain onscreen before timing out. The range is from 1 to 240. The default is 20.
Web Encrypt	Indicates whether the Web Encrypt feature is Enabled or Disabled on the LX unit.
Outlet Access	Indicates whether Outlet Management is Enabled or Disabled on the LX unit.

Trigger-Action Debug Option	Indicates whether Trigger-Action Debug is Enabled or Disabled on the LX unit.
Subscriber Debug Option	Indicates whether Subscriber Debug is Enabled or Disabled on the LX unit.
LX Model Type	Indicates the LX Model type. Note that in the `-001` suffix, the first `0` indicates there is no internal modem for this unit. A `1` in this field indicates there is an external modem on this unit. The second `0` has no significance, and the third `1` is always a `1`
SNMP Feature	Indicates whether SNMP is Enabled or Disabled for the LX unit.
Modem Pool Enabled Serial Ports	The asynchronous ports that are included in the Modem Pool for the LX unit.
Time	The date and time that the `show system characteristics` command was executed.
Internal Modem on Port	Indicates whether or not the LX port has an internal modem.
Maximum Number of Virtual Ports	The maximum allowable number of virtual ports on the LX unit.
Maximum Number of Ethernet Ports	The maximum allowable number of Ethernet ports on the LX unit.
Secondary Domain	The IP Address of the Secondary Domain Name Server (DNS) for the LX unit.
Default TFTP Server	The default network server for updating the software image, the iBoot file, and parameter files.
TFTP Retries	The number of times the TFTP server will attempt to communicate with the LX unit.
TFTP Timeout	If the LX unit can not load from the TFTP Server before the expiration of this timeout, the TFTP Server is considered dead.
NTP Server Alternate	An alternate NTP server for the LX unit.
Logging Size	Indicates the size of logging files on the unit.
SSH Daemon	Indicates whether the SSH Daemon is Enabled or Disabled on the LX unit. If SSH is Enabled, the SSH Version (V1 or V2) is displayed in this field. Otherwise, the word `Disabled` is displayed in this field.
Telnet Client	Indicates whether the Telnet Client is Enabled or Disabled on the LX unit.
Web Server Port	The LX port configured as a web server port. The range is 1 - 65535.

Web JCE Module	Indicates the name of the web server JCE Module. The name is set by the module vendor. The default is a null string.
Web Banner	Indicates whether or not the Web Banner Feature is enabled.
Debug Option	Indicates whether the System Debug option is Enabled or Disabled for this LX unit.
Minimum Password Length	Indicates the Minimum Password Length allowable.
RLogin Client	Indicates whether the rlogin Client option is Enabled or Disabled for this LX unit.
Message Feature	Indicates whether the Message Feature is Enabled or Disabled for this LX unit.

monitor/show system ppciboot

Displays the ppciboot configured load settings for the LX unit.

The `show system ppciboot` command displays a static version of the ppciboot Configured Load Settings Screen; the information in the ppciboot Configured Load Settings Screen is the information that was in effect when the `show system ppciboot` command was executed.

The `monitor system ppciboot` command displays an active version of the ppciboot Configured Load Settings Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor system ppciboot

show system ppciboot
```

Examples

```
monitor system ppciboot

show system ppciboot
```

Figure 98 shows an example of the ppciboot Configured Load Settings Screen for an LX unit.

```
            Ppciboot Configured Load Settings

  Ppciboot Software Version      :                 0.9.3.26
  Ppciboot Ethernet Network Link :                     auto
  Software Load From Flash       :                       no
  Software Load From Network     :                      yes
  Software Filename              :             linuxito.img
  Configured IP Address          :          145.189.121.19
  Configured Network Mask        :            255.255.255.0
  Configured Gateway Address     :            145.177.123.1
  Configured TFTP Server Address :           145.177.169.208
  IP Assignment Method #1        :             User Defined
  IP Assignment Method #2        :                    BOOTP
  IP Assignment Method #3        :                     RARP
  IP Assignment Method #4        :                     DHCP
```

Figure 98 - ppciboot Configured Load Settings Screen

monitor/show system power

Displays system power information for the LX unit.

The `show system power` command displays a static version of the System Power Screen; the information in the System Power Screen is the information that was in effect when the `show system power` command was executed.

The `monitor system power` command displays an active version of the System Power Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor system power

show system power
```

Examples

```
monitor system power

show system power
```

Figure 100 shows an example of the System Power Screen for an LX unit.

```
LX Power Supply Status                Mon, 04 Oct 2004 09:03:02 US/EASTERN
 Power Supply Type:                 N/A
 Power Supply A:                 N/A  Power Supply B:                  N/A
 Power A Input:                  N/A  Power B Input:                   N/A
 Power A Output:                 N/A  Power B Output:                  N/A
PowerFail Log:
01: Tue Sep 28 15:50:57 2004 - AC failure
02: Thu Sep 30 08:20:49 2004 - AC failure
03: Fri Oct  1 10:20:15 2004 - AC failure
04: No entry
05: No entry
06: No entry
07: No entry
08: No entry
```

Figure 99 - System Power Screen

Field	Description
Power Supply Type	The type of power supply (AC or DC). Not applicable if not supported on your LX Model type.
Power Supply A	The status of Power Supply A. Not applicable if not supported on your LX Model type.

Power Supply A Input	The input of Power Supply A. Not applicable if not supported on your LX Model type.
Power Supply A Output	The output of Power Supply A. Not applicable if not supported on your LX Model type.
Power Supply B	The status of Power Supply B. Not applicable if not supported on your LX Model type.
Power Supply B Input	The input of Power Supply B. Not applicable if not supported on your LX Model type.
Power Supply B Output	The output of Power Supply B. Not applicable if not supported on your LX Model type.
PowerFail Log	The dates and times when power failures have occurred on the LX unit. Also includes an explanation of the failure. **Note:** This field also displays the date and time when the LX unit is unplugged.

monitor/show system status

Displays system status information for the LX unit.

The `show system status` command displays a static version of the System Status Screen; the information in the System Status Screen is the information that was in effect when the `show system status` command was executed.

The `monitor system status` command displays an active version of the System Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor system status

show system status
```

Examples

```
monitor system status

show system status
```

Figure 100 shows an example of the System Status Screen for an LX unit.

```
Time:   Mon, 23 Jun 2003 20:17:20 UTC  System Uptime:               0 8:7:50

Software Loaded From               :                      Local Flash Memory
Active System Gateway              :                           102.19.169.1
Configuration Loaded From          :                           102.19.169.3
Network Configuration File Name    :                           lx000d6c.prm
Configuration File to Boot From    :                     /config/Config.prm
Configuration Settings to Boot From :                                  Flash
Configuration Status               :                    Configuration Saved
Configuration Version              :                                      4
Configuration Conversion Status    :              Converted to Version  310

CPU usage (0.10 = 10%):               Memory usage (in KB):
1 min. Avg usage      :          0.00  Total Memory        :           62760
5 min. Avg usage      :          0.00  Cached Memory       :            6320
15 min. Avg usage     :          0.00  Free Memory         :           28488

Temperature Status (degrees Celsius):
Critical Temp.      :            60.0  Hysteresis Temp.    :             5.0
Low Temperature     :             0.0  Threshold Temp.     :            55.0
Current Temp.       :           38.5
```

Figure 100 - System Status Screen

Field	Description
Software Loaded From	The IP Address of the Load Server for the LX software image.
Active System Gateway	The IP Address of the gateway that is currently being used by the LX unit.
Configuration Loaded From	The parameter server for the LX unit.
Network Configuration File Name	The filename of the network file from which the LX configuration is loaded.
Configuration File to Boot From	The filename of the file from which the LX unit is booted.
Configuration Settings to Boot From	Indicates whether the configuration of the LX unit is booted from the local flash or from the network.
Configuration Status	Indicates whether the current configuration of the LX unit has been saved or has been compromised. If the configuration file is loaded from the network host, and that file has been edited on the network host, the configuration file is considered to be compromised. The status will remain compromised until a different configuration file is loaded.
Configuration Version	The version number of the LX configuration. This number is incremented by 1 each time a modified version of the LX configuration is saved.
Configuration Conversion Status	The LX version to which the existing configuration was converted.
CPU usage (0.10 = 10%)	
1 min. Avg usage	Average CPU usage over the last minute.
5 min. Avg usage	Average CPU usage over the last 5 minutes.
15 min. Avg usage	Average CPU usage over the last 15 minutes.
Memory usage (in KB)	
Total Memory	The total memory on the LX unit (in KB).
Cached Memory	The total cached memory in use (in KB).
Free Memory	The total free memory (in KB).

Temperature Status (degrees Celsius)	
Critical Temp.	The temperature level (in Celsius degrees) that is considered critical for the LX unit.
Low Temperature	The lowest supported operating temperature for the LX unit.
Current Temp.	The current temperature of the LX unit.
Hysteresis Temp.	The Hysteresis for temperature measurements on the LX unit.
Threshold Temp.	The highest supported operating temperature for the LX unit.
PowerFail Log	The dates and times when power failures have occurred on the LX unit. **Note:** This field also displays the date and time when the LX unit is unplugged.

monitor/show tacacs+ characteristics

Displays information about the TACACS+ authentication and accounting servers for the LX unit.

The `show tacacs+ characteristics` command displays a static version of the TACACS+ Characteristics Screen; the information in the TACACS+ Characteristics Screen is the information that was in effect when the `show tacacs+ characteristics` command was executed.

The `monitor tacacs+ characteristics` command displays an active version of the TACACS+ Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor tacacs+ characteristics

show tacacs+ characteristics
```

Examples

```
monitor tacacs+ characteristics

show tacacs+ characteristics
```

Figure 101 shows an example of the TACACS+ Characteristics Screen.

```
Time:                                Wed, 02 Feb 2005 09:47:41 US/EASTERN
Primary TACACS+ Authentication Server:
IP Address:                  0.0.0.0  TACACS+ Auth. TCP Port:            49
Secret:               Not configured  Timeout:                           5
Retry:                             3
Secondary TACACS+ Authentication Server:
IP Address:                  0.0.0.0  TACACS+ Auth. TCP Port:            49
Secret:               Not configured  Timeout:                           5
Retry:                             3
Primary TACACS+ Accounting Server:
IP Address:                  0.0.0.0  TACACS+ Acct. TCP Port:            49
Secret:               Not configured  Timeout:                           5
Retry:                             3
Secondary TACACS+ Accounting Server:
IP Address:                  0.0.0.0  TACACS+ Acct. TCP Port:            49
Secret:               Not configured  Timeout:                           5
Retry:                             3
TACACS+ Superuser Request:   Disabled  TACACS+ Accounting Server Period:   5
Local Subscriber:            Disabled
Inbound TACACS+ Authentication Serial Ports:
Outbound TACACS+ Authentication Serial Ports:
TACACS+ Accounting Serial Ports:
TACACS+ Authentication Interfaces:
TACACS+ Accounting Interfaces:
```

Figure 101 - TACACS+ Characteristics Screen

Field	Description
IP Address	The IP Address for the applicable Authentication or Accounting Server.
Secret	The TACACS+ secret shared between the LX unit and the TACACS+ server used for encrypting communications between them.
Retry	The number of times the LX unit will attempt to connect to the TACACS+ server.
TACACS+ Auth. TCP Port	The TCP port that the LX unit and the applicable TACACS+ authentication server will use for communication.
TACACS+ Acct. TCP Port	The TCP port that the LX unit and the applicable TACACS+ accounting server will use for communication.
Timeout	The time to wait for a TACACS+ server to respond before retransmitting packets to the server.
TACACS+ Superuser Request	Indicates whether or not the TACACS+ Superuser password is used to enter the Superuser Command Mode. The possible values of this field are Enabled and Disabled. If this field is Enabled, the TACACS+ Superuser password will be used to enter the Superuser Command Mode. If this field is Disabled, the Local Password will be used to enter the Superuser Command Mode. **Note:** Even if this field is Disabled, the logon authentication to the LX unit will be through TACACS+.
Local Subscriber	The state of the TACACS+ Local Subscriber Feature. The allowable values are Enabled, Disabled, and Only.
Inbound TACACS+ Authentication Serial Ports	The Inbound Authentication serial ports that are enabled for TACACS+.
Outbound TACACS+ Authentication Serial Ports	The Outbound Authentication serial ports that are enabled for TACACS+.
TACACS+ Accounting Serial Ports	The accounting serial ports that are enabled for TACACS+.
TACACS+ Authentication Interfaces	The LX authentication interfaces that are enabled for TACACS+.

TACACS+ Accounting Interfaces	The LX accounting interfaces that are enabled for TACACS+.

monitor/show tacacs+ status

Displays statistical information, and status information, on TACACS+ authentication attempts.

The `show tacacs+ status` command displays a static version of the TACACS+ Status Screen; the information in the TACACS+ Status Screen is the information that was in effect when the `show tacacs+ status` command was executed.

The `monitor tacacs+ status` command displays an active version of the TACACS+ Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor tacacs+ status

show tacacs+ status
```

Example

```
monitor tacacs+ status

show tacacs+ status
```

Figure 102 shows an example of the TACACS+ Status Screen.

```
Time:                                  Wed, 08 May 2002 13:32:34 UTC
Total TACACS+ Authentication Message Exchange:      Primary     Secondary
   Successful attempts:                               2           0
   Failed attempts:                                   0           0

Total TACACS+ Accounting Message Exchange:          Primary     Secondary
   Successful attempts:                               0           0
   Failed attempts:                                   6           6

TACACS+ Authentication Counter Summary:             Primary     Secondary
   Successful Logins:                                 2           0
   Authentication Failures:                           0           0

TACACS+ Accounting Counter Summary:                 Primary     Secondary
   Successful Acct Entries:                           0           0
   Failed Acct Entries:                               0           0

TACACS+ Superuser Enable Summary:                   Primary     Secondary
   Successful Enable Requests:                        0           0
   Failed Enable Requests:                            0           0

TACACS+ Fallback Counter Summary:
   Total Fallback Logins:                     0
```

Figure 102 - TACACS+ Status Screen

Field	Description	
Total TACACS+ Authentication Message Exchange	Successful Attempts	The number of times the primary and secondary TACACS+ authentication servers successfully exchanged messages with the LX unit.
	Failed attempts	The number of times the primary and secondary TACACS+ authentication servers failed to exchange messages with the LX unit.
Total TACACS+ Accounting Message Exchange	Successful Attempts	The number of times the primary and secondary TACACS+ accounting servers successfully exchanged messages with the LX unit.
	Failed attempts	The number of times the primary and secondary TACACS+ accounting servers failed to exchange messages with the LX unit.
TACACS+ Authentication Counter Summary	Successful Logins	The number of successful logins using TACACS+.
	Authenticatio n Failures	The number of unsuccessful logins using TACACS+.
TACACS+ Accounting Counter Summary	Successful Acct Entries	The number of successful TACACS+ accounting entries.
	Failed Acct Entries	The number of failed TACACS+ accounting entries.
TACACS+ Superuser Enable Summary	Successful Enable Requests	This field only contains a value if TACACS+ Superuser Request is enabled. If TACACS+ Superuser Request is enabled, this field indicates the number of successful logins to Superuser Mode.
	Failed Enable Requests	This field only contains a value if TACACS+ Superuser Request is enabled. If TACACS+ Superuser Request is enabled, this field indicates the number of *unsuccessful* attempts at logging in to Superuser Mode.
TACACS+ Fallback Counter Summary	Total Fallback Logins	The number of logins that have been done through the TACACS+ Fallback Login feature.

monitor/show tacacs+ summary

Displays summary data for the TACACS+ authentication and accounting servers.

The `show tacacs+ summary` command displays a static version of the TACACS+ Summary Screen; the information in the TACACS+ Summary Screen is the information that was in effect when the `show tacacs+ summary` command was executed.

The `monitor tacacs+ summary` command displays an active version of the TACACS+ Summary Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor tacacs+ summary

show tacacs+ summary
```

Examples

```
monitor tacacs+ summary

show tacacs+ summary
```

Figure 103 shows an example of the TACACS+ Summary Screen.

```
TACACS+ Server Summary                              Thu, 12 Sep 2002 20:47:18
 Primary Auth. Server:          0.0.0.0  Primary Auth. TCP Port:            49
 Secondary Auth. Server:        0.0.0.0  Secondary Auth. TCP Port:          49
 Primary Acct. Server:          0.0.0.0  Primary Acct. TCP Port:            49
 Secondary Acct. Server:        0.0.0.0  Secondary Acct. TCP Port:          49
```

Figure 103 - TACACS+ Summary Screen

Field	Description
Primary Auth. Server	The IP Address of the Primary TACACS+ Authentication server.
Secondary Auth. Server	The IP Address of the Secondary TACACS+ Authentication server.
Primary Acct. Server	The IP Address of the Primary TACACS+ Accounting server.
Secondary Acct. Server	The IP Address of the Secondary TACACS+ Accounting server.
Primary Auth. TCP Port	The TCP port for the Primary TACACS+ Authentication server.

Secondary Auth. TCP Port	The TCP port for the Secondary TACACS+ Authentication server.
Primary Acct. TCP Port	The TCP port for the Primary TACACS+ Accounting server.
Secondary Acct. TCP Port	The TCP port for the Secondary TACACS+ Accounting server.

monitor/show trigger-action action

Displays the Name, and associated command, for an action.

The `show trigger-action action` command displays a static version of the Action Information Screen; the information in the Action Information Screen is the information that was in effect when the `show trigger-action action` command was executed.

The `monitor trigger-action action` command displays an active version of the Action Information Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor trigger-action action all|name <action_name>`

`show trigger-action action all|name <action_name>`

Where	Means
all	Display information for all the actions that have been configured on the LX unit.
name	Display information for the action specified in the *action_name* field.
action_name	The name of an action.

Examples

```
monitor trigger-action action all

show trigger-action action all

monitor trigger-action action TurnonAC7

show trigger-action action TurnonAC7
```

Figure 104 shows an example of the Action Information Screen.

```
Action Name: TurnOnAC7
Command: outlet 3:7 on
```

Figure 104 - Action Information Screen

monitor/show trigger-action rule characteristics

Displays information on a rule.

The `show trigger-action rule characteristics` command displays a static version of the Rule Information Screen; the information in the Rule Information Screen is the information that was in effect when the `show trigger-action rule characteristics` command was executed.

The `monitor trigger-action rule characteristics` command displays an active version of the Rule Information Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor trigger-action rule all|name <rule_name> characteristics`

`show trigger-action rule all|name <rule_name> characteristics`

Where	Means
all	Display information for all the rules that have been configured on the LX unit.
name	Display information for the rule specified in the *rule_name* field.
rule_name	The name of a rule.

Examples

```
monitor trigger-action rule all characteristics

show trigger-action rule all characteristics

monitor trigger-action rule ACTurnOnRule7 characteristics

show trigger-action rule ACTurnOnRule7 characteristics
```

Figure 105 shows an example of the Rule Information Screen.

```
Rule Name: ACTurnOnRule7
State: disabled
Trigger Name: TempGT30c Type: Temperature (F)
Action Name: TurnOnAC7 Command: outlet 3:7 on
```

Figure 105 - Rule Information Screen

Field	Description
Rule Name	The Name of the Rule.

State	The current state (Enabled/Disabled) of the Rule.
Trigger Name	The Trigger associated with the Rule.
Type	The type of the Trigger (i.e., Humidity, Ping, Temperature, or Timer).
Action Name	The Action associated with the Rule.
Command	The LX command configured for the Action.

monitor/show trigger-action rule status

Displays status information for rules in the LX Trigger-Action Feature.

The `show trigger-action rule status` command displays a static version of the Rule Status Screen; the information in the Rule Status Screen is the information that was in effect when the `show trigger-action rule status` command was executed.

The `monitor trigger-action rule status` command displays an active version of the Rule Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor trigger-action rule all|name <rule_name> status`

`show trigger-action rule all|name <rule_name> status`

Where	Means
all	Display status information for all the rules that have been configured on the LX unit.
name	Display status information for the rule specified in the *rule_name* field.
rule_name	The name of a rule.

Examples

```
monitor trigger-action rule all status

show trigger-action rule all status

monitor trigger-action rule ACTurnOnRule7 status

show trigger-action rule ACTurnOnRule7 status
```

Figure 106 shows an example of the Rule Status Screen for an LX unit.

```
 Rule               Rule       Trigger    Action     Last Action
 Name               Errors     Executed   Executed   Executed

 ACTurnOnRule7      0          344        2          Wed Sep 24 09:40:00
 TurnOnAC1          0          85         0          Never
```

Figure 106 - Rule Status Screen

Field	Description
Rule Name	The Name of the Rule.

Rule Errors	The number of times the Rule has misfired (i.e., failed to fire despite the condition of the Trigger being true).
Trigger Executed	The number of times the Rule has been fired due to the Trigger Condition Being true.
Action Executed	The number of times the Action associated with the Rule has been executed.
Last Action Executed	The date and time that the Action associated with this Rule was last executed.

monitor/show trigger-action rule summary

Displays associated Trigger, associated Action, and current Rule State for each rule in the LX Trigger-Action Feature.

The `show trigger-action rule summary` command displays a static version of the Rule Summary Screen; the information in the Rule Summary Screen is the information that was in effect when the `show trigger-action rule summary` command was executed.

The `monitor trigger-action rule summary` command displays an active version of the Rule Summary Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor trigger-action rule all|name <rule_name> summary`

`show trigger-action rule all|name <rule_name> summary`

Where	Means
all	Display summary information for all the rules that have been configured on the LX unit.
name	Display summary information for the rule specified in the *rule_name* field.
rule_name	The name of a rule.

Examples

```
monitor trigger-action rule all summary

show trigger-action rule all summary

monitor trigger-action rule ACTurnOnRule7 summary

show trigger-action rule ACTurnOnRule7 summary
```

Figure 107 shows an example of the Rule Summary Screen for an LX unit.

```
Rule                Trigger             Action              Rule State

ACTurnOnRule7       TempPort4GT30       TurnOnAC1           enabled
TurnOnAC1           Undefined           TurnOnAC1           disabled
```

Figure 107 - Rule Summary Screen

monitor/show trigger-action trigger

Displays information on a trigger.

The `show trigger-action trigger` command displays a static version of the Trigger Information Screen; the information in the Trigger Information Screen is the information that was in effect when the `show trigger-action trigger` command was executed.

The `monitor trigger-action trigger` command displays an active version of the Trigger Information Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

`monitor trigger-action trigger all|name <`*`trigger_name`*`>`

`show trigger-action trigger all|name <`*`trigger_name`*`>`

Where	Means
all	Display information for all the triggers that have been configured on the LX unit.
name	Display information for the rule specified in the *trigger_name* field.
trigger_name	The name of a trigger.

Examples

```
monitor trigger-action trigger all

show trigger-action trigger all

monitor trigger-action trigger TempPort4GT30

show trigger-action trigger TempPort4GT30
```

The following figures show examples of Trigger Information Screens for each type of trigger.

Figure 108 shows an example of the Trigger Information Screen for a Humidity Trigger.

```
Trigger Name: HumPort2GT85 Type: Humidity
Port: 2
Hysteresis: +/- 5 percent
Humidity > 90
```

Figure 108 - Trigger Information Screen (Humidity Trigger)

Figure 109 shows an example of the Trigger Information Screen for a Pattern Trigger.

```
Trigger Name: Port3Trigger Type: Pattern
                    Port: 3
          Pattern String: .c*\.\*
```

Figure 109 - Trigger Information Screen (Pattern Trigger)

Figure 110 shows an example of the Trigger Information Screen for a Ping Trigger.

```
Trigger Name: RockyIsReachable Type: Ping
                  Status: Up
                 Address: 154.54.67.78
                Interval: 90
               Interface: 1
```

Figure 110 - Trigger Information Screen (Ping Trigger)

Figure 111 shows an example of the Trigger Information Screen for a Signal Trigger.

```
Trigger Name: Port3CTShigh Type: Signal
                    Port: 3
                  Signal: CTS
                  Status: High
```

Figure 111 - Trigger Information Screen (Signal Trigger)

Figure 112 shows an example of the Trigger Information Screen for a Temperature Trigger.

```
Trigger Name: TempGT30c Type: Temperature (F)
                    Port: 3
          Hysteresis: +/- 1 degree
              Temperature > 30
```

Figure 112 - Trigger Information Screen (Temperature Trigger)

Figure 113 shows an example of the Trigger Information Screen for a Timer Trigger.

```
Trigger Name: SundayAt6AM Type: Timer
                    Date: */*
                    Time: 6:00
                     Day: sun
Timer Tester:
(1) Sun Aug  3 06:00:00 2003
(2) Sun Aug 10 06:00:00 2003
(3) Sun Aug 17 06:00:00 2003
(4) Sun Aug 24 06:00:00 2003
(5) Sun Aug 31 06:00:00 2003
```

Figure 113 - Trigger Information Screen (Timer Trigger)

Figure 114 shows an example of the Trigger Information Screen for a Power Trigger.

```
Trigger Name: Track_CTShigh5 Type: Signal
                  Port: 5
                Signal: CTS
                Status: High
Trigger name: track_powerA   Type: Power Input
                Status: No Power
```

Figure 114 - Trigger Information Screen (Power Trigger)

Figure 115 shows an example of the Trigger Information Screen for an Analog Trigger.

```
Trigger Name: analog10      Type: Analog     Errors: 0
Analog Name:  BarometricPressureinOffice
Threshold: > 29.35
```

Figure 115 - Trigger Information Screen (Analog Trigger)

monitor/show users

Displays information about each user that is currently logged in to the LX unit.

The `show users` command displays a static version of the Users Screen; the information in the Users Screen is the information that was in effect when the `show users` command was executed.

The `monitor users` command displays an active version of the Users Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor users

show users
```

Example

```
show users
```

Figure 116 shows an example of the Users Screen.

```
Name            Remote IP Address  Local Port    Protocol    Device
don             0.0.0.0            0             Serial      /dev/ttyCPM0
InReach         120.159.168.175    23            Telnet      /dev/pts/0

Name            Remote IP Address  Local Port    Protocol    Device
don             0.0.0.0            0             Serial      /dev/ttyCPM0
InReach         120.159.168.175    23            Telnet      /dev/pts/010
```

Figure 116 - Users Screen

Field	Description
Name	The user name
Remote IP Address	If the user is logged in from a remote IP Address, the address is displayed in this field.
Local Port	If the user is logged on to a local port of the LX unit, the port number is displayed in this field.
Protocol	The protocol under which the user is connected to the LX unit.
Device	The Linux Device Number under which the user is logged in.

monitor/show version

Displays the Linux OS version, Linux In-Reach version, LX software version, and ppciboot version for the LX unit.

The `show version` command displays a static version of the Version Screen; the information in the Version Screen is the information that was in effect when the `show version` command was executed.

The `monitor version` command displays an active version of the Version Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor version

show version
```

Examples

```
monitor version

show version
```

Figure 117 shows an example of the Version Screen.

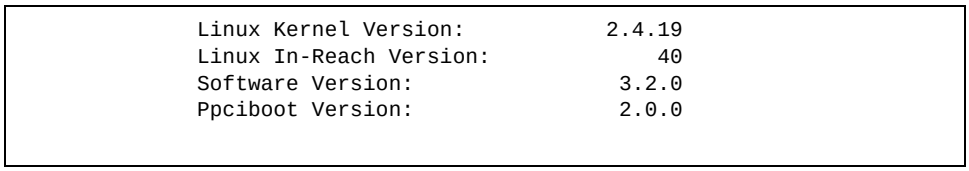


Figure 117 - Version Screen

Field	Description
Linux Kernel Version	The version of the Linux Operating System that is running on the LX unit.
Linux In-Reach Version	The version of the In-Reach implementation of Linux.
Software Version	The version of the LX software that is running on the LX unit.
Ppciboot Version	The version of ppciboot that the LX unit is using.

no

Disables (negates) specific features that have been set in the User Command Mode. Refer to "Usage Guidelines" (below) for more information about using the `no` command in the User Command Mode.

Syntax

`no <feature_name>`

Where	Means
feature_name	The name of the feature that is to be disabled.

Usage Guidelines

The allowable arguments for this command consist of only those features that can be set in the User command mode *and are currently enabled.* To view the features and boolean parameters that are currently enabled, type the `no` command followed by a question mark (?).

Example

```
no pause
```

outlet

Reboots an outlet or turns an outlet on or off.

NOTE: In order to user this command, your Subscriber account must be configured to access specific power ports. The power ports that you can access are listed in the `Outlet Access list` field of the Subscriber Characteristics Screen. Use the `monitor/show subscriber characteristics` command to display the Subscriber Characteristics Screen. The `monitor/show subscriber characteristics` command is described on page 207.

Syntax

`outlet <power_master>:<outlet_number> on|off|reboot`

Where	Means
power_master	Specifies the LX serial port from which the outlet is managed.
outlet_number	Specifies an outlet on the IR-4800 or IR-5150 that is to be managed from the Power port. The Power port number, combined with the outlet number, uniquely identifies each outlet. For example, 2:5 identifies Outlet 5 on the device that is managed from LX serial port 2.
on	Turn the outlet on.
off	Turn the outlet off.
reboot	Reboot the outlet.

Examples

```
outlet 3:5 on

outlet 5:2 off

outlet 6:1 reboot
```

Displaying the State of an Outlet

The state of an outlet is displayed in the `State` column of the Device Screen for a POWER Port. An example of the Device Screen for an POWER Port appears in Figure 19 on page 84.

Use the `monitor/show device status` command to display the Device Screen for an POWER Port. Refer to "monitor/show device status" on page 83 for more information.

outlet group

Reboots, or turns on or off, all of the outlets in an outlet group.

NOTE: In order to user this command, your Subscriber account must be configured to access specific Outlet Groups. The Outlet Groups that you can access are listed in the `Outlet Group Access list` field of the Subscriber Characteristics Screen. Use the `monitor/show subscriber characteristics` command to display the Subscriber Characteristics Screen. The `monitor/show subscriber characteristics` command is described on page 207.

Syntax

`outlet group <group_number>|<group_name> on|off|reboot`

Where	Means
group_number	An integer number that specifies an existing outlet group.
group_name	The descriptive name of an existing outlet group.
on	Turn the outlets in the group on.
off	Turn the outlets in the group off.
reboot	Reboot the outlets in the group.

Examples

```
outlet group 5 reboot

outlet group Laboutlets off

outlet group 6 on
```

Displaying the State of Outlet Groups

The state of an outlet group (On, Off, or Reboot) is displayed in the `State` column of the Outlet Group Status Screen. An example of the Outlet Group Status Screen appears in Figure 65 on page 150.

Use the `monitor/show outlet group status` command to display the Outlet Group Status Screen. Refer to "monitor/show outlet group status" on page 150 for more information.

pause enable

Configures the screen to pause after displaying the number of lines specified in the "lines/screen" value for the terminal.

Syntax

```
pause enable
```

Example

```
pause enable
```

Displaying the State of the Pause Feature

The state of the Pause Feature (Enabled/Disabled) is displayed in the `Screen Pause` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

ping

Sends a series of 4 echo messages to a destination host.

Syntax

```
ping [ipv6] [<ip_address or ipv6_address>|NAME]
```

Where	Means
ipv6	Indicates the following address is IPv6, not IPv4.
ip_address or ipv6_address	The IP Address of the destination host (IPv4 or IPv6). (See "Usage Guidelines" (below) for the default value of this field.)
NAME	The domain name of the destination host. (See "Usage Guidelines" (below) for the default value of this field.)

Usage Guidelines

If a destination host is not specified, the echo message is sent to the default destination host which is your Preferred Service. Refer to the `preferred service` command on page 676 for information on configuring a Preferred Service.

If the `ping command` is executed without a destination host, and you do not have a Preferred Service configured, the following error message is displayed:

```
No Preferred Service Configured
```

Examples

```
ping 119.20.112.3

ping

ping FinanceServer

ping ipv6 fe80::220:edff:fe4B:sc67
```

Displaying Your Preferred Service

Your Preferred Service is displayed in the `Preferred Service` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

shell

Enters the Built-in Linux shell on the LX unit.

NOTE: In order to user this command, your Subscriber account must be configured with Shell ACCESS privileges.

Syntax

`shell`

Usage Guidelines

When this command is executed, the following is displayed on the Linux monitor:

```
BusyBox v0.60.1 (2003.06.16-12:27+0000) Built-in shell (ash)
Enter ‘help’ for a list of built-in commands

InReach:/#
```

You can enter any command in the Built-in Linux shell from the command prompt (`InReach:/#` in the above example). Enter `help` at the command prompt for a list of the built-in commands.

The format of the command prompt is `<username>:/#`, where `<username>` is the username of the subscriber.

Enter `exit` at the command prompt to return to the User Mode.

Example

```
shell
```

ssh

Opens a Secure Shell (Triple-DES/BLOWFISH) connection.

NOTE: In order to open a Secure Shell connection, you must have SSH enabled for your subscriber account. For more information, refer to "Verifying That You Have SSH Enabled" (below).

Syntax

```
ssh [ipv6] [<ip_address or ipv6_address> [NUMBER]]|[NAME [NUMBER]]
[LOGIN NAME]
```

Where	Means
ipv6	Indicates the following address is IPv6, not IPv4.
ip_address or ipv6_address	The IP Address of the SSH server to which the connection is being made. (See "Usage Guidelines" (below) for the default value of this field.)
NAME	The Domain Name of the SSH server to which the connection is being made. (See "Usage Guidelines" (below) for the default value of this field.)
NUMBER	The socket number to which the connection is being made.
LOGIN NAME	The name that you are using to log in to the SSH server.

Usage Guidelines

The default SSH server is your Preferred Service. Refer to the `preferred service` command on page 676 for information on configuring a Preferred Service.

If the `ssh command` is executed without an SSH server, and you do not have a Preferred Service configured, the following error message is displayed:

```
No Preferred Service Configured
```

Examples

```
ssh 102.19.240.14
ssh 102.19.240.14 2322
ssh 102.19.240.14 2322 henryh
ssh ipv6 fe80::220:edff:fe4B:sc67
```

Verifying That You Have SSH Enabled

If SSH is enabled for your subscriber account, it will be listed, with the other enabled protocols, in the lower right-hand corner of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

telnet

Opens a Telnet connection to a host.

NOTE: In order to open a Telnet connection, you must have Telnet enabled for your subscriber account. For more information, refer to "Verifying That You Have Telnet Enabled" (below).

Syntax

`telnet [ipv6] [<ip_address or ipv6_address> [NUMBER]]|[NAME [NUMBER]] [<window_size>]`

Where	Means
ipv6	Indicates the following address is IPv6, not IPv4.
ip_address or ipv6_address	The IP Address of the Telnet host (IPv4 or IPv6). (See "Usage Guidelines" (below) for the default value of this field.)
NAME	The Domain Name of the Telnet host. (See "Usage Guidelines" (below) for the default value of this field.)
NUMBER	The socket number to which the connection is being made.
window_size	An integer number between 128 and 1400 that specifies the TCP window size for the Telnet connection. The default value is 1400.

Usage Guidelines

The default Telnet host is your Preferred Service. Refer to the `preferred service` command on page 676 for information on configuring a Preferred Service.

If the `telnet command` is executed without a Telnet host, and you do not have a Preferred Service configured, the following error message is displayed:

```
No Preferred Service Configured
```

Examples

```
telnet 102.19.240.14
telnet 102.19.240.14 2500 1200
telnet
telnet ipv6 fe80::220:edff:fe4B:sc67
```

Verifying That You Have Telnet Enabled

If Telnet is enabled for your subscriber account, it will be listed, with the other enabled protocols, in the lower right-hand corner of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

terminal

Sets the terminal type for the LX user.

Syntax

`terminal <terminal_type>`

Where	Means
terminal_type	The terminal type for the LX user. The allowable terminal types are VT100 and ANSI.

Example

```
terminal vt100

terminal ansi
```

Displaying the Terminal Type

The terminal type is displayed in the `Configured TermType` field of the Subscriber Status Screen. An example of the Subscriber Status Screen appears in Figure 94 on page 205.

Use the `monitor/show subscriber` command to display the Subscriber Status Screen. Refer to "monitor/show subscriber" on page 202 for more information.

Chapter 2

Superuser Commands

The Superuser commands are executed in the Superuser command mode. When the LX unit is in the Superuser command mode, the Superuser command prompt (e.g., `InReach:0 >>`) is displayed on the terminal screen.

The format of the Superuser command prompt is as follows:

`<username>:<session_number> >>`

where `<username>` is the username that was entered at the `Login:` prompt.

`<session_number>` is the session number of the current connection.

For example, in the `InReach:0 >>` prompt, the username is `InReach` and the session number is 0.

To enter the Superuser command mode, do one of the following:

- If you are in the User command mode, execute the `enable` command. This displays the `Password:` prompt. Enter a Superuser password at the `Password:` prompt.

  Refer to page 57 for more information on the `enable` command.

- If you are in a command mode other than User, execute the `end` command or the `exit` command until the Superuser command prompt is displayed.

clear

Clear the screen.

Syntax

```
clear
```

Example

```
clear
```

config rlogin enable

Enables rlogin.

Syntax

```
config rlogin enable
```

Usage Guidelines

Enable this feature when you want to enable rlogin. This feature is disabled by default. To disable this feature, enter `config no rlogin`. This is a Superuser command only.

Example

```
config rlogin enable

config no rlogin
```

Displaying the State of the rlogin Client

The state of the rlogin Client feature (Enabled/Disabled) is displayed in the `RLogin Client` field of the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

config rlogin transparent enable

Places all rlogin connections of a specified subscriber in rlogin transparent mode.

Syntax

`config subscriber <subscriber_name> rlogin transparent enable`

Where	Means
<*subscriber_name*>	The name of the subscriber to which the service is permanently assigned.

Usage Guidelines

In order to use this command, the rlogin protocol must be enabled. To disable this command, enter `config subscriber <subscriber_name> no rlogin transparent`. This is a Superuser command only.

NOTE: When you are in transparent mode, using the forward, backward, and local switch control sequences have no effect, as these sequences may be part of a binary file. Therefore, you cannot switch between sessions until you exit the current rlogin session.

NOTE: rlogin with full transparency is not supported in the shell. If you are running rlogin from the shell with the –8EL option, the LX will not pass non-ascii characters to the connection partner.

Examples

```
config subscriber mark rlogin transparent enable

config subscriber mark no rlogin transparent
```

Displaying the rlogin Transparent Mode for a Subscriber

The rlogin Transparent Mode for a subscriber displayed in the `Rlogin Transparent` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to “monitor/show subscriber” on page 202 for more information.

config subscriber rlogin dedicated service

Permanently assigns the subscriber to a dedicated service via the rlogin protocol; whenever the subscriber logs into the LX unit, he will begin running the service that is specified in this command.

Syntax

`config subscriber <subscriber_name> rlogin dedicated service <host_name>`

Where	Means
<*subscriber_name*>	The name of the subscriber to which the service is permanently assigned.
<*host_name*>	The host name of the login server or destination.

Usage Guidelines

In order to use this command, the rlogin protocol must be enabled. The rlogin uses the subscriber name in the rlogin connection to the specified service. The rlogin dedicated service parameter and the existing dedicated service parameter are mutually exclusive. Setting one of these will clear the other. To disable this command, enter `config subscriber` *`subscriber_name`* `no rlogin dedicated service` *`host_name`*. This is a Superuser command only.

Examples

```
config subscriber mark rlogin dedicated service a123456

config subscriber mark no rlogin dedicated service a123456
```

Displaying the rlogin Dedicated Service for a Subscriber

The rlogin Dedicated Service for a subscriber displayed in the `Rlogin Ded. Service` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to “monitor/show subscriber” on page 202 for more information.

configuration

Enters the Configuration command mode. When this command is executed, the configuration prompt (e.g., `Config:0 >>`) is displayed. For more information on the Configuration command mode, refer to "Configuration Commands" on page 307.

Syntax

```
configuration
```

Example

```
      configuration
```

connect port async

Opens a port async connection to a serial port on the same physical LX unit.

Syntax

```
connect port async <port_number>
```

Where	Means
port-number	The port number to which the connection is being made.

Examples

```
connect port async 2

connect port async 6
```

control port async

Sets the DTR signal, or the RTS signal, on a port configured for CONTROL access.

Syntax

```
control port async <port_number> dtr|rts high|low
```

Where	Means
port_number	Specifies the port for which the DTR signal, or the RTS signal, is to be set HIGH or LOW. **Note:** The specified port must be configured for CONTROL access.
dtr	Set the DTR signal on the specified port HIGH or LOW.
rts	Set the RTS signal on the specified port HIGH or LOW.
high	Set the specified signal (DTR or RTS) HIGH on the specified port.
low	Set the specified signal (DTR or RTS) LOW on the specified port.

Examples

```
control port async 5 dtr high

control port async 5 dtr low

control port async 5 rts high

control port async 5 rts low
```

Displaying the State of the DTR Signal and the RTS Signal

The UP or DOWN state of the DTR signal is displayed in the `DTR` field of the Port Status Screen. The UP or DOWN state of the RTS signal is displayed in the `RTS` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 69 on page 161.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

Displaying the User Setting of the DTR Signal and the RTS Signal

The user setting of the DTR signal is displayed in the `Last Control DTR State` field of the Port Status Screen. The user setting of the RTS signal is displayed in the `Last Control RTS` State field of the Port Status Screen. An example of the Port Status Screen appears in Figure 69 on page 161.

Use the `monitor/show port async status` command to display the Port Status Screen. Refer to "monitor/show port async status" on page 161 for more information.

debug cluster enable

Generates debug messages for troubleshooting purposes.

Syntax

```
debug cluster enable
```

Usage Guidelines

Enable this command when you want to generate debug messages. This command is disabled by default. To disable this command, enter `no debug cluster`.

Example

```
debug cluster enable

no debug cluster
```

Displaying the State of Cluster Debug

The state of the Cluster Debug feature (Enabled/Disabled) is displayed in the `Cluster Debug` field of the Cluster Characteristics Screen. An example of the Cluster Characteristics Screen appears in Figure 119 on page 1014.

Use the `monitor/show cluster characteristics` command to display the Cluster Characteristics Screen. Refer to "monitor/show cluster characteristics" on page 1014 for more information.

debug flash enable

Enables the debug flash, so that the LX will write to the debug file the write messages generated when you execute the `save config flash`, `update software`, or `update ppciboot` commands.

Syntax

```
debug flash enable
```

Example

```
debug flash enable
```

Displaying the State of the Debug Flash

The state of the debug flash (Enabled/Disabled) is displayed in the `Flash Debug Option` field on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

Displaying the Debug Flash Output

The output of the debug flash is displayed in the Debug Flash Screen. An example of the Debug Flash Screen appears in Figure 10 on page 74.

Use the `monitor/show debug flash` command to display the Debug Flash Screen. Refer to "monitor/show debug flash" on page 74 for more information.

debug interface ppp enable

Generates debug information for PPP Links on an IP interface and sends the same debug information to `/var/log/debug` rather than to syslog.

Syntax

```
debug interface NUMBER ppp enable
```

Where	Means
NUMBER	An IP interface number.

Example

```
debug interface 3 ppp enable
```

Displaying the Debug Information for PPP Links on an IP Interface

You can display the debug information for PPP links on an IP interface by accessing the Linux shell and displaying the contents of the `/var/log/debug` file. Refer to "shell" on page 296 for information on accessing the Linux Shell.

You can also display the debug information for PPP links on an IP interface by executing the `monitor/show debug interface ppp` command. For more information, refer to "monitor/show debug interface ppp" on page 75.

Displaying the State of the PPP-Link Debug Feature

The state of the Port Debug feature (Enabled/Disabled) is displayed in the `PPP Debug` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

debug port async enable

Generates debug information for an asynchronous port and sends the same debug information to `/var/log/debug` rather than to syslog.

NOTE: This characteristic is not saved when the LX parameters are saved. For this reason, port debug is disabled after a reboot.

Syntax

```
debug port async NUMBER enable
```

Where	Means
NUMBER	An asynchronous port number.

Example

```
debug port async 5 enable
```

Displaying the Debug Information for an Asynchronous Port

You can display the debug information for an asynchronous port by accessing the Linux shell and displaying the contents of the `/var/log/debug` file. Refer to "shell" on page 296 for information on accessing the Linux Shell.

You can also display the debug information for an asynchronous port by executing the `monitor/show debug port async` command. Refer to "monitor/show debug port async" on page 76 for more information.

Displaying the State of the Asynchronous Port Debug Feature

The state of the Asynchronous Port Debug feature (Enabled/Disabled) is displayed in the `Port Debug Option` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

debug snmp enable

Sends debug information for SNMP to `/var/log/debug` rather than to syslog.

Syntax

```
debug snmp enable
```

Example

```
debug snmp enable
```

Displaying the Debug Information for SNMP

You can display the SNMP debug information for the LX unit by doing either of the following:

- Accessing the Linux shell and displaying the contents of the `/var/log/debug` file. (Refer to "shell" on page 296 for information on accessing the Linux Shell.)
- Executing the `show debug snmp` command. (Refer to "monitor/show debug snmp" on page 79 for more information on the `show debug system` command.)

debug subscriber enable

Generates debug messages for subscribers.

Syntax

```
debug subscriber enable
```

Usage Guidelines

Enable this command when you want to generate debug messages. This command is disabled by default. To disable this command, enter `no debug subscriber`.

Example

```
debug subscriber enable

no debug subscriber
```

Displaying the Debug Information for a Subscriber

You can display the debug information for a subscriber by accessing the Linux shell and displaying the contents of the `/var/log/debug` file. Refer to "shell" on page 296 for information on accessing the Linux Shell.

You can also display the debug information for a subscriber by executing the `monitor/show debug subscriber` command. Refer to "monitor/show debug subscriber" on page 80 for more information.

Displaying the State of the Subscriber Debug Feature

The state of the Subscriber Debug feature (Enabled/Disabled) is displayed in the `Subscriber Debug Option` field of the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

debug system enable

Generates server-level debug information for the LX unit and sends the same debug information to `/var/log/debug` rather than to syslog.

Syntax

```
debug system enable
```

Example

```
debug system enable
```

Displaying Server-Level Debug Information for the LX Unit

You can display the server-level debug information for the LX unit by doing either of the following:

- Accessing the Linux shell and displaying the contents of the `/var/log/debug` file. (Refer to "shell" on page 296 for information on accessing the Linux Shell.)
- Executing the `show debug system` command. (Refer to "monitor/show debug system" on page 81 for more information on the `show debug system` command.)

Displaying the State of the Server-Level Debug Feature

The state of the Server-Level Debug feature (Enabled/Disabled) is displayed in the `Debug Option` field of the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

debug trigger action enable

Generates debug messages for trigger actions.

Syntax

```
debug trigger action enable
```

Usage Guidelines

Enable this command when you want to generate debug messages. This command is disabled by default. To disable this command, enter `no debug trigger action`.

Example

```
debug trigger action enable

no debug trigger action
```

Displaying the Debug Information for Trigger Action

You can display the debug information for a trigger action by accessing the Linux shell and displaying the contents of the `/var/log/debug` file. Refer to "shell" on page 296 for information on accessing the Linux Shell.

You can also display the debug information for a trigger action by executing the `monitor/show debug trigger action` command. Refer to "monitor/show debug trigger action" on page 82 for more information.

Displaying the State of the Trigger Action Debug Feature

The state of the Trigger Action Debug feature (Enabled/Disabled) is displayed in the `Trigger-Action Debug Option` field of the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

dial back

Initiates a Dialback connection to a host.

NOTE: THIS COMMAND EXISTS IN THE CLI, BUT IT SHOULD NEVER BE EXECUTED BY A USER! This command is executed in the background when the user executes the `dial reverse` command. For more information on the `dial reverse` command, refer to "dial reverse" on page 268.

Syntax

`dial back number <number> token <token_num>`

Where	Means
number	The number that is dialed to initiate the connection.
token_num	A numeric value that is used to identify the modem on which the Dialback call is expected.

Example

```
dial back number 1234567890 token 4325
```

dial direct

Initiates a connection to a host by direct-dialing a number.

Syntax

`dial direct number <number> [login <login_name>] [password <password_name>]`

Where	Means
number	The number that is dialed to initiate the connection.
login	Log in to the dialed host using the name that you specify in the *login_name* field. Refer to "Usage Guidelines" (below) for more information.
login_name	The Login Name that you will use for logging in to the dialed host.
password	Log in to the dialed host using the password that you specify in the *password_name* field. Refer to "Usage Guidelines" (below) for more information.
password_name	The password that you will use for logging in to the remote host.

Usage Guidelines

This feature allows you to execute a command from the CLI to dial a remote site without having to find an available modem on the LX. The LX chooses the first available modem from the modem pool.

In order to use this feature, you must specify a modem pool for the LX unit. For more information, refer to the `pool enable` command on page 738.

The following status messages will be displayed if you execute this command with a Login name and a password:

```
Dial out on modem 10
Sending login
Sending password
```

When the `Sending password` prompt is displayed, you must press a key to get the CLI prompt of the remote LX unit.

Examples

```
dial direct number 1234567890

dial direct number 1234567890 login HenryS

dial direct number 1234567890 login JSmithers password JHoiu45fgij
```

dial ppp

Initiates a dialed connection to a host via a PPP Link.

NOTE: THIS COMMAND SHOULD NOT BE EXECUTED BY A USER FROM THE CLI! IT SHOULD ONLY BE USED AS THE SPECIFIED COMMAND FOR AN ACTION. (Refer to "command" on page 970 for more information on specifying a command for an Action.)

Syntax

```
dial ppp number <number> interface <interface_num>
```

Where	Means
number	The number that is dialed to initiate the connection.
interface_num	The interface number of an IP interface that has been configured for PPP. This IP interface must be bound to an asynchronous port for PPP Links. Refer to "bind port async protocol ppp" on page 495 for more information on binding an IP interface to an asynchronous port for PPP Links.

Usage Guidelines

When this command is executed, the LCP state and IPCP state for the specifed IP interface must be "Closed". If the LCP state and IPCP state are "Closed", the LX will dial out the port that has been bound to the port for PPP.

Example

```
dial ppp number 1234535437 interface 3
```

dial reverse

Initiates a connection to a remote LX unit by reverse dialing. For more information on reverse dialing, refer to "Usage Guidelines" (below).

Syntax

```
dial reverse number <number> login <login_name> password <password_name>
       [phone <phone_num>] [timeout <timeout_setting>]
```

Where	Means
number	The number of the remote LX unit.
login_name	The Login Name that you will use for logging in to the remote LX unit. (This must be the same as your Login Name on the local LX unit.)
password_name	The password that you will use for logging in to the remote host. (This must be the same as your password on the local LX unit.)
phone_num	The number of a modem on the local LX. The remote LX will call you back at this number. (The default value is the Dialback number that is configured for your subscriber account.)
timeout_setting	The length of time (in seconds) that is allowed to complete the connection. (The default value is the idletime in your subscriber account.)

Usage Guidelines

Under reverse dialing, the LX unit dials out to the remote LX using the first available modem from the Modem Pool. The modem for the remote LX validates the subscriber login and calls back the subscriber

In order to use this feature, you must specify a modem pool for the LX unit. For more information, refer to the `pool enable` command on page 738.

NOTE: Dialback should be disabled for your subscriber account when you execute this command. To disable Dialback for your subscriber account, execute the no dialback command in the Subscriber Command Mode.

Example

```
dial reverse number 1234567890 login HenryW password utdls2346ma
phone 1908765432 timeout 40
```

exit

Returns you to the previous command mode. For example, if the current command mode is Superuser, issuing this command will return you to the User command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX Command Modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued.

As noted above, issuing the `exit` command in the Superuser command mode returns the user to the previous command mode. The same goes for issuing the `exit` command in any command mode other than the User command mode. For example, issuing the `exit` command in the Configuration command mode returns the user to the Superuser command mode; issuing the `exit` command in the Subscriber command mode returns the user to the Configuration command mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

logout

Logs out a device, an LX port, an LX subscriber, or an LX process.

Syntax

`logout <device_name>|port <port_number>|<subscriber_name>|<process_number>`

Where	Means
device_name	The name of the device that is to be logged out. For example, the command `logout /dev/ttyGN3` logs out the Linux device /dev/ttyGN3 (port 4).
port_number	The LX port that is to be logged out. For example, the command `logout port 3` logs out port 3.
subscriber_name	The name of the subscriber to be logged out. For example, the command `logout mark` logs out the subscriber `mark`.
process_number	The ID of the Linux process that is to be logged out. For example, `logout 988` logs out the Linux process 988.

Example

```
logout /dev/ttyGN3

logout port 3

logout mark

logout 988
```

menu name

Changes the active Subscriber Session Mode from `CLI` to `Menu`. When the active Subscriber Session Mode is changed to `Menu`, your Menu is displayed and active. Entering an optional Menu Name specifies a menu name to run. The `/config/M_` prefix is added ahead of the Menu Name, so if the menu file is `/config/M_tim`, you need only enter `tim` for the Menu Name.

Syntax

`menu <menu_name>`

Where	Means
menu_name	The name of the menu file you want to run.

Usage Guidelines

You can select any option from your displayed and active Menu. You can exit the active Menu by typing the "Logout" control key.

In order to execute this command (without specifying a Menu Name), you must have a Menu Name already configured for your Subscriber account. (Refer to "menu name" on page 667 to configure a Menu Name for a Subscriber account.)

The `Login Mode` field of the Subscriber Characteristics Screen indicates whether the subscriber will be presented with the CLI, or a menu, when he or she logs in. The name of the Subscriber Menu (If any) is displayed in the `Menu Name` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

Examples

```
menu

menu tim
```

message user

Sends a message to the console of the user(s) who are currently logged in to the LX unit.

Syntax

```
message user [<user_name>]|all [<message_text>]
```

Where	Means
user_name	The LX username of the user to whom the message is to be sent.
all	Send the message to all LX users that are currently logged in.
message_text	The message that is to be sent to the logged-in user(s). This can be an ASCII string of any length.

Usage Guidelines

An interactive user (the user must be typing commands or type ENTER) will be notified whenever they receive a new message via the CLI. This message will tell them that they have a new message, and how many total messages are available for reading. When a message is read, an acknowledgement is automatically sent to the sender of the message to tell them that this message has been read. If a user logs out before reading all of his or her messages, these messages are deleted and negative acknowledgement is sent to the sender of each.

Examples

```
message user mark_w This is a test

message user all The system will go down at 15:30!!!
```

monitor/show

You can execute each of the `monitor/show` commands in the Superuser Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

monitor/show ntp status

Displays a list of peers for which the server is maintaining state, and a summary of that state.

The `show ntp status` command displays a static version of the NTP Status Screen; the information in the NTP Status Screen is the information that was in effect when the `show ntp status` command was executed.

The `monitor ntp status` command displays an active version of the NTP Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen.

Syntax

```
monitor ntp status

show ntp status
```

Examples

```
monitor ntp status

show ntp status
```

Figure 118 shows an example of the NTP Status Screen

```
 remote          local            st poll reach  delay    offset     disp

==============================================================================

=140.179.169.208 140.179.169.206  3  128  377    0.00122  -0.002373  0.00166
```

Figure 118 - NTP Status

Field	Description
=, +, -, ^, ~, *	These characters indicate the mode the peer entry is operating in. "=" means the remote server is being polled in client mode. "+" indicates symmetric active. "-" indicates symmetric passive. "^" means the server is broadcasting to this address. "~" means the remote peer is sending broadcasts. "*" indicates the peer the server is currently synchronizing to.
remote	The address of the remote peer.
local	The address of the local interface.
st	The stratum of the remote peer (a stratum of 16 indicates the remote peer is unsynchronized).
poll	The polling interval (in seconds).
reach	The reachability register (in octal).

delay	The current estimated delay of the peer (in seconds).
offset	The current estimated offset of the peer (in seconds).
disp	The current estimated dispersion of the peer (in seconds).

no

Disables (negates) specific features and boolean parameters on the LX unit. Refer to "Usage Guidelines" (below) for more information about using the `no` command in the Superuser command mode.

Syntax

`no <feature_name>`

Where	Means
feature_name	The name of the feature or boolean parameter that is to be disabled.

Usage Guidelines

The allowable arguments for this command consist of only those features and boolean parameters that can be set in the Superuser command mode *and are currently enabled.* To view the features and boolean parameters that are currently enabled, type the `no` command followed by a question mark (?).

Example

```
no pause
```

notify

Sends a test message to Notification Users that have the specified facility/priority characteristics in their User Profiles. For more information on the facility/priority characteristics in User Profiles, refer to "Overview of User Profiles" in the *LX-Series Configuration Guide*.

Syntax

```
notify [facility <facil_char>] [priority <priority_char>] message <message_text>
```

Where	Means
facil_char	Specifies the facility characteristic for the test message. The allowable values are authpriv, daemon, kern, syslog, user, local0, local1, local2, local3, local4, local5, local6, local7, and all. The default value is user. The test message will be sent to Notification users whose User Profiles match this facility characteristic *and* the specified priority characteristic.
priority_char	Specifies the priority characteristic for the test message. The allowable values are emerg, alert, crit, err, notice, info, and warning. The default value is notice. The test message will be sent to Notification users whose User Profiles match this priority characteristic *and* the specified facility characteristic.
message_text	A text string, of up to 80 characters, that specifies the test message.

Usage Guidelines

The following are verified when a Notification user receives a test message:

- That syslogd is working
- That the user's User Profile (and the Service Profile on which it is based) have been configured correctly
- That the Notification user has the connectivity that he or she needs to receive messages

Examples

```
notify facility daemon priority notice message This is a Test!

notify facility kern priority err message This is another Test!

notify facility user priority crit message This is still a Test!

notify facility user message This is the third-to-last Test!

notify priority err message This is the next-to-last Test!

notify message This is the last Test!
```

outlet

Reboots an outlet or turns an outlet on or off.

Syntax

`outlet <power_master>:<outlet_number> on|off|reboot`

Where	Means
power_master	Specifies the LX serial port from which the outlet is managed.
outlet_number	Specifies an outlet on the IR-4800 or IR-5150 that is to be managed from the Power port. The Power port number, combined with the outlet number, uniquely identifies each outlet. For example, 2:5 identifies Outlet 5 on the device that is managed from LX serial port 2.
on	Turn the outlet on.
off	Turn the outlet off.
reboot	Reboot the outlet.

Examples

```
outlet 3:5 on

outlet 5:2 off

outlet 6:1 reboot
```

Displaying the State of an Outlet

The state of an outlet is displayed in the `State` column of the Device Screen for a POWER Port. An example of the Device Screen for an POWER Port appears in Figure 19 on page 84.

Use the `monitor/show device status` command to display the Device Screen for an POWER Port. Refer to "monitor/show device status" on page 83 for more information.

outlet group

Reboots, or turns on or off, all of the outlets in an outlet group.

Syntax

`outlet group <group_number>|<group_name> on|off|reboot`

Where	Means
group_number	An integer number that specifies an existing outlet group.
group_name	The descriptive name of an existing outlet group.
on	Turn the outlets in the group on.
off	Turn the outlets in the group off.
reboot	Reboot the outlets in the group.

Examples

```
outlet group 5 reboot

outlet group Laboutlets off

outlet group 6 on
```

Displaying the State of Outlet Groups

The state of an outlet group (On, Off, or Reboot) is displayed in the `State` column of the Outlet Group Status Screen. An example of the Outlet Group Status Screen appears in Figure 65 on page 150.

Use the `monitor/show outlet group status` command to display the Outlet Group Status Screen. Refer to "monitor/show outlet group status" on page 150 for more information.

pause enable

Configures the screen to pause after displaying the number of lines specified in the "lines/screen" value for the terminal.

Syntax

```
pause enable
```

Example

```
pause enable
```

Displaying the State of the Pause Feature

The state of the Pause Feature (Enabled/Disabled) is displayed in the `Screen Pause` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

ping

Sends a series of 4 echo messages to a destination host.

Syntax

`ping [ipv6] [<`*`ip_address or ipv6_address`*`>|NAME]`

Where	Means
ipv6	Indicates the following address is IPv6, not IPv4.
ip_address or ipv6_address	The IP Address of the destination host. (See "Usage Guidelines" (below) for the default value of this field.)
NAME	The domain name of the destination host. (See "Usage Guidelines" (below) for the default value of this field.)

Usage Guidelines

If a destination host is not specified, the echo message is sent to the default destination host which is your Preferred Service. Refer to the `preferred service` command on page 676 for information on configuring a Preferred Service.

If the `ping command` is executed without a destination host, and you do not have a Preferred Service configured, the following error message is displayed:

```
No Preferred Service Configured
```

Examples

```
ping 119.20.112.3

ping

ping FinanceServer

ping ipv6 fe80::220:edff:fe4B:sc67
```

Displaying Your Preferred Service

Your Preferred Service is displayed in the `Preferred Service` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

reload

Re-starts the LX unit.

Syntax

```
reload
```

Usage Guidelines

If the LX parameter set has been saved since the last time the LX unit was re-started, or since the last configuration change was made, the LX unit will be re-started immediately. If the LX parameters have *not* been saved, you will be prompted to save them before the LX is re-started.

```
Configuration is not saved!!! Proceed anyway? (y/n) :
```

Enter `y` to re-start the LX unit without saving the changes.

Enter `n` to abort the command.

Refer to "save configuration" on page 291 for more information on saving the LX parameters.

Example

```
reload
```

restart notification

Regenerates the Notification configuration files and re-starts syslogd.

NOTE: It is recommended that you execute this command after you configure the Notification Feature with Multi-Level Command Execution. For more information on Multi-Level Command Execution, refer to "Multi-Level Command Execution" on page 1095.

Syntax

```
restart notification
```

Usage Guidelines

The `restart notification` command regenerates the notification configuration and re-starts syslogd. It is necessary to do this when you configure the Notification Feature from outside of the Notification context. (You are outside of the Notification context when you configure the Notification Feature from outside of the Notification command mode or one of its subordinate command modes.)

Example

```
restart notification
```

rlogin host

Executes the rlogin connection and enables rlogin host parameters.

Syntax

`rlogin [<host_name> | <ip_address>]`

Where	Means
<host_name>	The domain name of the destination host.
<ip_address>	The IP address of the destination host.

Usage Guidelines

Enter `rlogin` only when you want to execute the rlogin connection.

Use this command when you want to enable the following parameters: uses -1, dynamic subscriber name, and typed in *host_name* or *ip_address* . This command is disabled by default. This is a User as well as a Superuser command.

Examples

```
rlogin

rlogin a123456

rlogin 166.133.222.16
```

rlogin transparent host

Enables rlogin transparent parameters and transparent host parameters.

Syntax

`rlogin transparent [<host_name> | <ip_address>]`

Where	Means
<*host_name*>	The domain name of the destination host.
<*ip_address*>	The IP address of the destination host.

Usage Guidelines

Use this command when you need full data transparency in an rlogin session. Enter `rlogin transparent` when you want to enable rlogin transparent parameters only. This command is disabled by default. This is a User as well as a Superuser command.

NOTE: When you are in transparent mode, using the forward, backward, and local switch control sequences have no effect, as these sequences may be part of a binary file. Therefore, you cannot switch between sessions until you exit the current rlogin session.

NOTE: rlogin with full transparency is not supported in the shell. If you are running rlogin from the shell with the –8EL option, the LX will not pass non-ascii characters to the connection partner.

Example

```
rlogin transparent

rlogin transparent a123456

rlogin transparent 166.133.222.16
```

rlogin username host

Invokes the rlogin protocol, and will pass a specified usernameto teh target host.

Syntax

`rlogin username <user_name> [<host_name> |<ip_address>]`

Where	Means
<user_name>	The user name to be passed to the target host.
<host_name>	The domain name of the destination host.
<ip_address>	The IP address of the destination host.

Usage Guidelines

Enter `rlogin username <user_name>` when you want to pass a username that is known to the destination host.

Use this command when you want to enable the following parameters: uses -1, typed in *user_name*, and typed in *host_name* or *ip_address*. This command line is useful when you intend to login to the destination host using a username different than the subscriber name you initially logged into the LX unit. The rlogin protocol is disabled by default. This is a User as well as a Superuser command.

Example

```
rlogin username tim

rlogin username tim a123456

rlogin user 166.122.160.12
```

rlogin username transparent host

Invokes the rlogin protocol, passes a specified username to the target host, and establishes the rlogin session in transparent mode.

Syntax

`rlogin username <user_name> transparent [<host_name> |<ip_address>]`

Where	Means
<user_name>	The user name to be passed to the target host.
<host_name>	The domain name of the destination host.
<ip_address>	The IP address of the destination host.

Usage Guidelines

Enter `rlogin username <user_name> transparent` when you want to enable rlogin user transparent parameters only.

Use this command when you need full data transparency in an rlogin session. This command is disabled by default. This is a User as well as a Superuser command.

NOTE: When you are in transparent mode, using the forward, backward, and local switch control sequences have no effect, as these sequences may be part of a binary file. Therefore, you cannot switch between sessions until you exit the current rlogin session. Software flow control charactersare also passed as data.

NOTE: rlogin with full transparency is not supported in the shell. If you are running rlogin from the shell with the –8EL option, the LX will not pass non-ascii characters to the connection partner.

Examples

```
rlogin username tim transparent

rlogin user tim transparent a123456

rlogin user tim transparent 160.145.120.33
```

save configuration

Saves the configuration of the LX unit to the local flash or to a network parameter server.

Syntax

`save configuration flash|[network <filename> <domain_name>|<ip_address>]`

Where	Means
flash	Save the LX-unit configuration to the local flash.
network	Save the LX-unit configuration to a network parameter server.
filename	Identifies the network file to which the LX-unit configuration is to be saved. The filename will be appended with a `.zip` suffix. For example, `unit1` is a valid filename. The file that exists on the load server appears as `unit1.boston.zip`.
domain_name	Specifies the domain name of the TFTP server to which the LX-unit configuration is to be saved.
ip_address	Specifies the IP Address of the TFTP server to which the LX-unit configuration is to be saved.

Examples

```
save configuration flash

save config network unit1 119.25.42.37
```

Displaying the Configuration Status, Server, and Filename

The configuration status, server, and filename are displayed in the following fields of the System Status Screen:

`Configuration Status`	Indicates whether or not the LX configuration has been saved.
`Configuration Load From`	Indicates whether the LX configuration is loaded from local flash or from a TFTP server. If the LX configuration is loaded from a TFTP server, this field contains the IP address, or domain name, of the TFTP server.
`Configuration Settings to Boot From`	Indicates whether the configuration of the LX unit is booted from the local flash or from the network.
`Configuration Version`	The version number of the LX configuration. This number is incremented by 1 each time a modified version of the LX configuration is saved.
`Configuration Conversion Status`	The LX version to which the existing configuration was converted.

`Network File Name`	The network file to which the LX configuration was saved.

An example of the System Status Screen appears in Figure 100 on page 218.

Use the `monitor/show system status` command to display the System Status Screen. Refer to "monitor/show system status" on page 218 for more information.

script

Executes a script file that contains LX CLI commands.

Syntax

`script <filename>`

Where	Means
filename	The name of an LX script file.

Usage Guidelines

The `script` command allows you to execute multiple LX commands by running one script.

The LX Script file is an ASCII file that can contain the following kinds of entries:

- Commands from the Superuser Command Mode of the LX CLI
- Multi-level commands in which the mode-access portion of the command *begins* with the `configuration` command. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

The LX script file is stored in the `/config/` directory on the LX unit.

The following is an example of an LX Script file called `TurnOffAndDenyAccess.txt`:

```
outlet 5:2 off
outlet 5:5 off
outlet 6:2 off
outlet 7:2 off
configuration subscriber GeorgeJ no access outlet all
configuration subscriber TomW no access outlet all
configuration subscriber JackC no access outlet all
logout GeorgeJ
logout TomW
logout JackC
```

Example

```
script TurnOffAndDenyAccess.txt
```

send trap message

Sends a text message, within an SNMP trap, to all configured SNMP trap clients of the LX unit.

Syntax

```
send trap message <text_string>
```

Where	Means
text_string	The text message that is to be sent to the configured SNMP trap clients. This can be an ASCII string of up to 80 characters.

Usage Guidelines

In order to send an SNMP trap with this command, SNMP must be enabled for the LX *and* SNMP trap clients must be configured for the LX. Refer to "snmp enable" on page 385 to enable SNMP for the LX. Refer to "trap client" on page 705 to configure SNMP trap clients for the LX unit.

Example

```
send trap message This is a Test of SNMP on FinanceServer
```

setup

Runs the setup utility (Quick Start Configurator). For more information on the Quick Start Configurator, refer to the *LX Quick Start Instructions*.

NOTE: You can not execute the `setup` command from a remote connection to the LX unit. You can only execute the `setup` command from a direct serial connection to the LX unit.

Syntax

```
setup
```

Example

```
setup
```

shell

Enters the Built-in Linux shell on the LX unit.

Syntax

`shell`

Usage Guidelines

When this command is executed, the following is displayed on the Linux monitor:

```
BusyBox v0.60.1 (2003.06.16-12:27+0000) Built-in shell (ash)
Enter ‘help’ for a list of built-in commands

InReach:/#
```

You can enter any command in the Built-in Linux shell from the command prompt (`InReach:/#` in the above example). Enter `help` at the command prompt for a list of the built-in commands.

The format of the command prompt is `<username>:/#`, where `<username>` is the username of the subscriber.

Enter `exit` at the command prompt to return to Superuser Mode.

Example

```
shell
```

shell command

Specifies a shell level command to run from the CLI, without having to drop to the shell first.

Syntax

`shell command <shell_command>`

Where	Means
shell_command	The shell level command to be executed from the CLI.

Example

```
shell command cat /var/log/syslog
```

ssh

Opens a Secure Shell (Triple-DES/BLOWFISH) connection.

NOTE: In order to open a Secure Shell connection, you must have SSH enabled for your subscriber account. For more information, refer to "Verifying That You Have SSH Enabled" (below).

Syntax

`ssh [ipv6] [<ip_address or ipv6_address> [NUMBER]]|[NAME [NUMBER]] [LOGIN NAME]`

Where	Means
ipv6	Indicates the following address is IPv6, not IPv4.
ip_address or ipv6_address	The IP Address of the SSH server to which the connection is being made. (See "Usage Guidelines" (below) for the default value of this field.)
NAME	The Domain Name of the SSH server to which the connection is being made. (See "Usage Guidelines" (below) for the default value of this field.)
NUMBER	The socket number to which the connection is being made.
LOGIN NAME	The name that you are using to log in to the SSH server.

Usage Guidelines

The default SSH server is your Preferred Service. Refer to the `preferred service` command on page 676 for information on configuring a Preferred Service.

If the `ssh command` is executed without an SSH server, and you do not have a Preferred Service configured, the following error message is displayed:

```
No Preferred Service Configured
```

Examples

```
ssh 102.19.240.14
ssh 102.19.240.14 2322
ssh 102.19.240.14 2322 henryh
ssh ipv6 fe80::220:edff:fe4B:sc67
```

Verifying That You Have SSH Enabled

If SSH is enabled for your subscriber account, it will be listed, with the other enabled protocols, in the lower right-hand corner of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

telnet

Opens a Telnet connection to a host.

NOTE: In order to open a Telnet connection, you must have Telnet enabled for your subscriber account. For more information, refer to "Verifying That You Have Telnet Enabled" (below).

Syntax

`telnet [ipv6] [<ip_address or ipv6_address> [NUMBER]]|[NAME [NUMBER]] [<window_size>]`

Where	Means
ipv6	Indicates the following address is IPv6, not IPv4.
ip_address or ipv6_address	The IP Address of the Telnet host. (See "Usage Guidelines" (below) for the default value of this field.)
NAME	The Domain Name of the Telnet host. (See "Usage Guidelines" (below) for the default value of this field.)
NUMBER	The socket number to which the connection is being made.
window_size	An integer number between 128 and 1400 that specifies the TCP window size for the Telnet connection. The default value is 1400.

Usage Guidelines

The default Telnet host is your Preferred Service. Refer to the `preferred service` command on page 676 for information on configuring a Preferred Service.

If the `telnet command` is executed without a Telnet host, and you do not have a Preferred Service configured, the following error message is displayed:

```
No Preferred Service Configured
```

Examples

```
telnet 102.19.240.14

telnet 102.19.240.14 2500 1200

telnet

telnet ipv6 fe80::220:edff:fe4B:sc67
```

Verifying That You Have Telnet Enabled

If Telnet is enabled for your subscriber account, it will be listed, with the other enabled protocols, in the lower right-hand corner of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

terminal

Sets the terminal type for the LX user.

Syntax

`terminal <terminal_type>`

Where	Means
terminal_type	The terminal type for the LX unit. The allowable terminal types are VT100 and ANSI.

Example

```
terminal vt100

terminal ansi
```

Displaying the Terminal Type

The terminal type is displayed in the `Configured TermType` field of the Subscriber Status Screen. An example of the Subscriber Status Screen appears in Figure 94 on page 205.

Use the `monitor/show subscriber` command to display the Subscriber Status Screen. Refer to "monitor/show subscriber" on page 202 for more information.

update

Updates the LX software or ppciboot file from a TFTP server on the network.

Syntax

```
update software|ppciboot [<tftp_server>]
```

Where	Means
software	Update the LX software from the specified TFTP server.
ppciboot	Update the LX ppciboot file from the specified TFTP server.
tftp_server	The IP Address or the Domain Name of the TFTP server from which the LX software or ppciboot file is to be copied. If this field is not specified, the default TFTP server is used. To display the default TFTP server, refer to "monitor/show system characteristics" on page 211.

Usage Guidelines

In order for this command to take effect, you must restart the LX unit by executing the `reload` command. The `reload` command is described on page 285.

If this command is executed without a TFTP server specified, and there is no default TFTP server configured, the following error message is displayed:

```
No TFTP Host
Download Failed
```

Examples

```
update ppciboot 102.19.169.141

update software 102.19.169.141

update ppciboot

update software
```

zero all

Erases the statistics data for the LX unit.

Syntax

```
zero all
```

Example

```
zero all
```

zero databuffer port async

Clears the databuffer of a port.

Syntax

`zero databuffer port async <port_number>`

Where	Means
<port_number>	The number of the port on which you want to zero the databuffer.

Example

```
zero databuffer port async 2
```

zero log

Resets the log files for the LX unit.

Syntax

```
zero log
```

Example

```
      zero log
```

zero securid secret

Deletes from the LX unit the SecurID Secret that was sent from the SecurID server.

Syntax

```
zero securid secret
```

Example

```
zero securid secret
```

Displaying the Status of the SecurID Secret

The status of the SecurID secret for the LX unit is displayed in the `Learned SecurID Node Secret` field of the SecurID Status Screen. (When the content of the `Learned SecurID Node Secret` field is `False`, it means that the SecurID secret has been deleted.) An example of the SecurID Status Screen appears in Figure 82 on page 185.

Use the `monitor/show securid status` command to display the SecurID Characteristics Screen. Refer to "monitor/show securid status" on page 185 for more information.

Chapter 3

Configuration Commands

The Configuration commands are executed in the Configuration command mode. When the LX unit is in the Configuration command mode, the Configuration command prompt (i.e., `Config:0 >>`) is displayed on the terminal screen.

The format of the Configuration command prompt is as follows:

```
Config:<session_number> >>
```

where `<session_number>` is the session number of the current connection.

To enter the Configuration command mode, do one of the following:

- If you are in the Superuser command mode, execute the `configuration` command. This displays the configuration prompt.

  Refer to page 254 for more information on the `configuration` command.

- If you are in the Interface, Ethernet, Subscriber, Asynchronous, Menu, Menu Editing, Notification, or Broadcast Groups command mode, execute the `exit` command until the Configuration command prompt is displayed.

aaa

Enters the Authentication, Accounting, and Authorization (AAA) command mode. In the AAA command mode, you configure server-based authentication, accounting, and authorization methods for the LX unit. For more information on the AAA command mode, refer to "Authentication, Accounting, and Authorization Commands" on page 403.

NOTE: The server-based methods for authentication, accounting, and authorization methods are RADIUS, SecurID, and TACACS+.

Syntax

```
aaa
```

Example

```
aaa
```

authenticate image enable

Enables the digital signature authentication, even if you are not in FIPS mode.

Syntax

```
authenticate image enable
```

Example

```
authenticate image enable

no authenticate image
```

Displaying the State of the Authenticate Image

The state of the Authenticate Image (Enabled/Disabled) is displayed on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

boot configuration from flash

Configures the LX unit to boot the configuration from the local flash.

Syntax

```
boot configuration from flash
```

Example

```
boot configuration from flash
```

Verifying That the LX Unit Is Booted from the Local Flash

The `Software Load From` field on the System Status Screen indicates whether the LX unit is booted from the local flash. An example of the System Status Screen appears in Figure 100 on page 218.

Use the `monitor/show system status` command to display the System Status Screen. Refer to "monitor/show system status" on page 218 for more information.

boot configuration from name

Configures the LX unit to boot from a local file on the LX unit.

Syntax

```
boot configuration from name <filename>
```

Where	Means
filename	The name of the local (LX-based) from which the LX unit will be booted. The filename may include a suffix. For example, the default filename is `config.prm`.

NOTE: You can use the `monitor/show system status` command to display the name of the boot file. The `monitor/show system status` command is described on page 218.

Example

```
boot configuration from name local.prm
```

Displaying the Name of the Local Boot File

The name of the local boot file is displayed in the `Configuration File to Boot From` field on the System Status Screen. An example of the System Status Screen appears in Figure 100 on page 218.

Use the `monitor/show system status` command to display the System Status Screen. Refer to "monitor/show system status" on page 218 for more information.

boot configuration from network

Configures the LX unit to boot from a TFTP server.

Syntax

`boot configuration from network <ip_address> <filename>`

Where	Means
ip_address	Specifies the IP Address of the TFTP server from which the LX unit is to be booted.
filename	The file on the LX unit, or on the TFTP server, from which the LX unit will be booted. The filename will be appended with a `.zip` suffix on the tftp server when it is saved. For example, `local` and `local.zip` are valid filenames.

Example

```
boot configuration from network 119.25.42.37 new_image
```

Displaying the Configuration Server and Filename

The configuration server and filename are displayed in the following fields of the System Status Screen:

`Configuration Load From`	If the LX configuration is loaded from a TFTP server, this field contains the IP address, or domain name, of the TFTP server.
`Network File Name`	The network file to which the LX configuration was saved.

An example of the System Status Screen appears in Figure 100 on page 218.

Use the `monitor/show system status` command to display the System Status Screen. Refer to "monitor/show system status" on page 218 for more information.

clock

Sets the time for the LX system clock.

NOTE: Use the `date` command to set the date for the system calendar. For more information, refer to "date" on page 317.

Syntax

```
clock HH:MM[:SS]
```

Where	Means
HH	The hour in 24-hour format; for example, `23`.
MM	The minute; for example, `09`.
SS	The second; for example, `02`.

Examples

```
clock 14:47

clock 04:29:11
```

Displaying the Time for the LX System Clock

The Clock Screen shows the time for the LX system clock. An example of the Clock Screen appears in Figure 3 on page 63.

Use the `monitor/show clock` command to display the Clock Screen. Refer to "monitor/show clock" on page 63 for more information.

cluster

Enters the Cluster command mode. The Cluster command prompt (e.g., `Cluster:0 >>`) is displayed while you are in the Cluster command mode. For more information, refer to "Cluster Configuration and Control Commands" on page 1003.

Syntax

```
cluster
```

Example

Config:0>>`cluster`

Cluster:0>>`cluster`

copy port

Copies the configuration of one LX port to another LX port, or to a range of LX ports.

Syntax

`copy port <origin_port> to <destination_list>`

Where	Means
origin_port	The LX port *from* which the configuration is to be copied.
destination_port1	The first port in a range of LX ports *to* which the configuration is to be copied. (**Note:** If *destination_portn* is not specified, the configuration is copied only to *destination_port1*.)
destination_list	Specifies the port(s) to which the configuration is to be copied. If you specify more than one port in the *destination_list*, the ports must be separated by a comma; for example, `5,6,8,10`. You can specify a range of ports by placing a hyphen between the first port and last port in the range; for example, `12-15`.

Usage Guidelines

You can not copy a port configuration to, or from, a port that is configured for SENSOR or POWER access.

Examples

```
copy port 3 to 6

copy port 2 to 5 7

copy port 3 to 8-11,13,15,16
```

copy subscriber

Copies the configuration of one LX subscriber to one, or several, LX subscribers. If the destination subscriber is not in the database, a new subscriber is created.

NOTE: When you create a new subscriber with the `copy subscriber` command, all subscriber characteristics are copied over except the user password, user prompt, menu name, and web menu name.

Syntax

`copy subscriber <origin_subscriber> to <destination_subscriber>*`

Where	Means
origin_subscriber	The LX subscriber from which the configuration is to be copied.
destination_subscriber	The subscribers to which the configuration of *origin_subscriber* is to be copied. **Note:** If you specify an existing subscriber in this field, the *origin_subscriber* configuration overwrites the *destination_subscriber*.

Usage Guidelines

The maximum number of subscribers on an LX unit is equal to double the number of ports on the unit. For example, the maximum number of subscribers is 16 on an 8-port unit, 32 on a 16-port unit, 64 on a 32-port unit, and 96 on a 48-port unit.

Examples

```
copy subscriber benw to jimk billj edw susano emilyc

copy subscriber mark to bill
```

date

Sets the date for the LX system calendar.

NOTE: Use the `clock` command to set the system clock for the LX unit. For more information, refer to "clock" on page 313.

Syntax

```
date MM/DD[/YYYY]
```

Where	Means	
MM/DD[/YYYY]	The date for the LX system calendar, where	
	`MM` =	The month; for example, `03` for March.
	`DD` =	The date; for example, `17` for the 17th.
	`YYYY` =	The 4-digit year; for example, `2002`.

Example

```
date 03/17/2002
```

NOTE: In the above example, the date is set to March 17, 2002.

Displaying the Date for the LX System Calendar

The Clock Screen shows the date for the LX system calendar. An example of the Clock Screen appears in Figure 3 on page 63.

Use the `monitor/show clock` command to display the Clock Screen. Refer to "monitor/show clock" on page 63 for more information.

default boot

Resets the boot file for the LX unit to the default boot file.

When this command is entered the following message is displayed:

```
File Saved
```

Syntax

```
default boot
```

Example

```
default boot
```

Displaying the Boot file for the LX Unit

The boot file for the LX unit is displayed in the `Configuration File to Boot From` field of the System Status Screen. An example of the System Status Screen appears in Figure 100 on page 218.

Use the `monitor/show system status` command to display the System Status Screen. Refer to "monitor/show system status" on page 218 for more information.

default configuration

Resets the configuration of the LX unit to default values and then shuts down and re-starts the LX unit.

Syntax

```
default configuration
```

Usage Guidelines

When this command is entered, the following confirmation prompt is displayed:

```
Do You Really want to default the unit? [y|n]  :
```

Entering "y" will reset the configuration. The system will automatically re-start when you enter "y".

Entering "n" will abort the command.

Example

```
default configuration
```

default log size

Resets the sizes of log files on the LX unit to the default value.

Syntax

```
default log size
```

Example

```
default log size
```

Displaying the Size of Logging Files on the LX Unit

The size of logging files on the LX unit is displayed in the `Logging Size` field of the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

default outlet group off time

Resets the off time for an outlet group to the default value of 10 seconds.

Syntax

`default outlet group <group_number>|<group_name> off time`

Where	Means
group_number	An integer number that identifies the group whose off time is being reset to the default value.
group_name	The name assigned to the outlet group.

Examples

```
default outlet group 2 off time

default outlet group rmlights off time
```

Displaying the Outlet Group Off Time

The off time for an outlet group is displayed in the `Group Off Time` field of the Outlet Group Status Screen. An example of the Outlet Group Status Screen appears in Figure 65 on page 150.

Use the `monitor/show outlet group status` command to display the Outlet Group Status Screen. Refer to "monitor/show outlet group status" on page 150 for more information.

default ppciboot password

Resets the ppciboot password for the LX unit to the default value.

Syntax

```
default ppciboot password
```

Example

```
      default ppciboot password
```

default tftp

Resets the timeout or retry value for the TFTP server to its default value.

Syntax

```
default tftp timeout|retry
```

Where	Means
timeout	Reset the TFTP server timeout to its default value of 3 seconds.
retry	Reset the TFTP server retries to its default value of 3.

Examples

```
default tftp timeout
```

```
default tftp retry
```

Displaying the Timeout and Retry Values for the TFTP Server

The TFTP timeout and retry values are displayed on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

domain name

Specifies the domain name of the LX unit.

Syntax

```
domain name NAME
```

Where	Means
NAME	The domain name for the LX unit. The domain name should include a period (.) and a suffix.

Usage Guidelines

The portion of the domain name that follows the period is the domain name suffix. For example, `com` is the suffix in the domain name `boston_office.com`.

Example

```
domain name boston_office.com
```

Displaying the Domain Name

The Domain Name is displayed in the `Domain Name Suffix` field on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

end

When the end command is issued in the Configuration Command Mode, it returns the user to the Superuser command mode.

Syntax

end

Usage Guidelines

The end command can be issued in all of the LX command modes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

Example

```
end
```

exit

Returns the user to the previous command mode. For example, if the current command mode is Configuration, issuing this command will return the user to the Superuser command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued.

As noted above, issuing the `exit` command in the Configuration command mode returns the user to the previous command mode. The same goes for issuing the `exit` command in any command mode other than User. For example, issuing the `exit` command in the Interface command mode returns the user to the Configuration command mode; issuing the `exit` command in the Menu Editing command mode returns the user to the Menu command mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

fingerd enable

Enables the finger daemon (fingerd) for exchanging information between hosts about users who are logged on to the LX unit.

Syntax

```
fingerd enable
```

Example

```
fingerd enable
```

Displaying the State of the Finger Daemon

The state of the finger daemon (Enabled/Disabled) is displayed on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

gateway

Configures the network gateway IP address for the LX unit.

Syntax

```
gateway A.B.C.D
```

Where	Means
A.B.C.D	The IP Address of the router/gateway that is to be used as the default route for the LX unit.

Example

```
gateway 119.20.112.47
```

Displaying the Gateway IP Address

The gateway IP address of the LX unit is displayed in the `Gateway` field of the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

hostname

Configures a network name for the LX unit.

Syntax

```
hostname NAME
```

Where	Means
NAME	A text string of up to 15 alphanumeric characters that specifies the network name for the LX unit.

Examples

```
hostname boston_office

hostname a123456
```

Displaying the Network Name of the LX Unit

The network name of the LX unit is displayed in the `Name` field of the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

interface

Enters the Interface command mode. In the Interface command mode, the user can create or change an interface record. For more information on the Interface command mode, refer to "Interface Commands" on page 483.

Syntax

```
interface NUMBER
```

Where	Means
NUMBER	Specifies an interface number. In the Interface command mode, you can configure the characteristics of the IP interface that is associated with this interface number. The maximum number of IP interfaces is **the number of serial ports on the LX unit, plus 2**. For example, the maximum number of IP interfaces on an 8-port unit is 11 or 12 (if the unit has a modem port); the maximum number of IP interfaces on an 16-port unit is 20, and so on. On LX-8000 units, the maximum number of IP interfaces is **the number of serial ports on the LX unit, multiplied by the number of Ethernet ports (2), plus 2**. For example, the maximum number of IP interfaces on a 42-port unit is 86. If the IP interface does not exist, it is created when this command is executed.

Example

```
interface 1
```

ip6tables

Configures ip6tables according to the information given in the <*string*>.

Syntax

```
ip6tables <string>
```

Where	Means
<*string*>	Standard ip6table syntax which passes the string directly to the "iptables" executable. Refer to Appendix D in the *LX-Series Configuration Guide* for further information on ip6tables.

Example

```
ip6tables -A INPUT -s fe80::220:edff:febe:3cae -j DROP
```

Displaying the IP6 Tables Information

The IP6 Tables information is displayed in the IP6 Tables Screen. An example of the IP6 Tables Screen appears in Figure 49 on page 132.

Use the `monitor/show ip6tables` command to display the IP6 Tables Screen. Refer to for "monitor/show ip6tables" on page 132 more information.

iptables

Configures iptables according to the information given in the <*string*>.

NOTE: There is no context help with this command. The string is sent and executed by iptables at the shell. If an error occurs, the error is returned to the CLI to notify the user.

Syntax

```
iptables <string>
```

Where	Means
<*string*>	Standard iptable syntax which passes the string directly to the "iptables" executable. Refer to Appendix D in the *LX-Series Configuration Guide* for further information on iptables.

Example

```
iptables -A INPUT -s 10.128.1.11 -j DROP
```

Displaying the IP Tables Information

The IP Tables information is displayed in the IP Tables Screen. An example of the IP Tables Screen appears in Figure 50 on page 133.

Use the `monitor/show iptables` command to display the IP Tables Screen. Refer to "monitor/show iptables" on page 133 for more information.

ipv6 neighbor address

Adds or deletes a static neighbor for the destination <*ipv6_address*> whose ethernet address is the <*ethernet_address*> of the specified ethernet device. Enter `no ipv6 neighbor address <ipv6_address_of_neighbor> lladdr <eth_address_of_neighbor> device <ethernet_device>` to delete a neighbor address.

Syntax

```
ipv6 neighbor address <ipv6_address_of_neighbor> lladdr
<eth_address_of_neighbor> device <ethernet_device>
```

Where	Means
ipv6_address_of_neighbor	The address of the neighbor you want to permanently configure as the neighbor.
eth_address_of_neighbor	The corresponding ethernet address of the above defined neighbor.
ethernet_device	Set to any configured interface.

Example

```
ipv6 neighbor address fe80::220:edff:febe:3cae lladdr 00:20:ed:be:3c:ae
device eth0

no ipv6 neighbor address fe80::220:edff:febe:3cae lladdr 00:20:ed:be:3c:ae
device eth0
```

Displaying the IPv6 Neighbor Addresses

The IPv6 Neighbor Addresses are displayed in the IPv6 Neighbors Screen. An example of the IPv6 Neighbors Screen appears in Figure 51 on page 134.

Use the `monitor/show ipv6 neighbor device ethx` command to display the IPv6 Routes Screen. Refer to "monitor/show ipv6 neighbor device ethx" on page 134 for more information.

ipv6 route address

Adds or deletes a static route for the `<ipv6 address/prefixLength>` via `<ipv6 address>` for the specified ethernet device. "Via" is the IPv6 term for Gateway. Use this parameter when you want communication with the IPv6 internet. If "via" is left out, the route entered is through the specified interface. Enter `no ipv6 address <ipv6 address/prefixLength> device <ethernet_device> via <ipv6_address>` to delete a route address.

Syntax

```
ipv6 route address <ipv6 address/prefixLength> device
<ethernet_device> via <ipv6_address>
```

Where	Means
ipv6_address/ prefixLength	The address you want to route.
ethernet_device	Set to `any` configured interface.
ipv6_address	The address that will route the above defined address.

Examples

```
ipv6 route address 3ffe:303:14:42a0:9cff:fe00:8ad/64 device eth0 via
3ffe:303:14:42a0:9cff:fe00:8ac

no ipv6 route address 3ffe:303:14:42a0:9cff:fe00:8ad/64 device eth0 via
3ffe:303:14:42a0:9cff:fe00:8ac
```

Displaying the IPv6 Route Addresses

The IPv6 Route Addresses are displayed in the IPv6 Routes Screen. An example of the IPv6 Routes Screen appears in Figure 52 on page 135.

Use the `monitor/show ipv6 routes device ethx` command to display the IPv6 Routes Screen. Refer to "monitor/show ipv6 routes device ethx" on page 135 for more information.

ipv6 tunnel default ttl

Defaults the value for the packet TTL used in tunnelling. The default is 255.

Syntax

`ipv6 tunnel <tunnel_name> default ttl`

Where	Means
tunnel_name	The unique name of the tunnel. The maximum amount of tunnels per interface you can configure is 4 (non-configurable). The tunnel name can be up to 10 characters in length, and must be unique.

Example

```
ipv6 tunnel rem-6to4 default ttl
```

Usage Guidelines

The tunnel must already be set up on the interface.

Displaying Information for Tunnel TTL

The Tunnel TTL is displayed in the `Tunnel TTL` field of the IPv6 Tunnel Information Screen. An example of the IPv6 Tunnel Information Screen appears in Figure 53 on page 136.

Use the `monitor/show ipv6 tunnel all|<tunnel_name>` command to display the IPv6 Tunnel Information Screen. Refer to "monitor/show ipv6 tunnel" on page 136 for more information.

ipv6 tunnel name remote any local enable

Creates a standard on-link tunnel on a local IPv4 address going to any remote IPv4 host supporting tunneling on your local link. The command word "any" generates the tunnel's local IPv6 address automatically.

Syntax

`ipv6 tunnel <tunnel_name> local remote any local <ipv4_address_of_eth0> enable`

Where	Means
tunnel_name	The unique name of the tunnel. The maximum amount of tunnels per interface you can configure is 4 (non-configurable). The tunnel name can be up to 10 characters in length, and must be unique.
ipv4_address_of_eth0	The local IPv4 address of the ethernet connection.

Example

```
ipv6 tunnel 6to4 local remote any local 140.179.100.50 enable
```

Usage Guidelines

When this command is entered:

- If you reconfigure the IPv4 address on the "ethx" interface and a matching tunnel exists, the LX **must** dynamically reconfigure the existing 6to4 tunnel interface accordingly and present you with a message to that effect.
- If you delete the IPv4 address on the "ethx" interface and a matching tunnel exists, the LX **must** delete the existing 6to4 tunnel interface accordingly and present you with a message to that effect.

Displaying Information for an IP Configured IPv6 Tunnel

The Tunnel Name is displayed in the `Tunnel Name` field of the IPv6 Tunnel Information Screen. An example of the IPv6 Tunnel Information Screen appears in Figure 53 on page 136.

Use the `monitor/show ipv6 tunnel all|<tunnel_name>` command to display the IPv6 Tunnel Information Screen. Refer to "monitor/show ipv6 tunnel" on page 136 for more information.

ipv6 tunnel name remote local ipv6 address enable

Creates a remote tunnel based on a local IPv4 address, going to the remote IPv4 address with the IPv6 address, via a tunnel broker.

NOTE: MRV Communications is not responsible for acquiring the broker service for the end user. It is up to the user to subscribe to a tunnel broker who will provide the necessary configuration information.

Syntax

```
ipv6 tunnel <tunnel_name> remote <ipv4_address> ipv6 address
<ipv6_address/prefix> local <ipv4_address_of_eth0> enable
```

Where	Means
tunnel_name	The unique name of the tunnel. The maximum amount of tunnels per interface you can configure is 4 (non-configurable). The tunnel name can be up to 10 characters in length, and must be unique.
ipv4_address	The IPv4 address you want to configure on this ethernet device.
ipv6_address/ prefixLength	The IPv6 address you want to configure on this ethernet device.
ipv4_address_of_eth0	The local IPv4 address of the ethernet connection.

Example

```
ipv6 tunnel rem-6to4 remote 3ffe:303:14:42a0:9cff:fe00:8ad/64 ipv6 address
3ffe:303:14:42a0:9cff:fe00:8ad/65 local 140.179.100.50 enable
```

Usage Guidelines

When this command is entered:

- If you reconfigure the IPv4 address on the “ethx” interface and a matching tunnel exists, the LX **must** dynamically reconfigure the existing 6to4 tunnel interface accordingly and present you with a message to that effect.
- If you delete the IPv4 address on the “ethx” interface and a matching tunnel exists, the LX **must** delete the existing 6to4 tunnel interface accordingly and present you with a message to that effect.

Displaying Information for an IPv6 Tunnel Remote Address

The Tunnel Remote Address is displayed in the `Tunnel Remote Address` field of the IPv6 Tunnel Information Screen. An example of the IPv6 Tunnel Information Screen appears in Figure 53 on page 136.

Use the `monitor/show ipv6 tunnel all|<tunnel_name>` command to display the IPv6 Tunnel Information Screen. Refer to "monitor/show ipv6 tunnel" on page 136 for more information.

ipv6 tunnel ttl

Defines the value for the packet TTL.

Syntax

`ipv6 tunnel <tunnel_name> ttl <number_of_seconds>`

Where	Means
tunnel_name	The name of the tunnel on which you want to set TTL. The tunnel name can be set up only for interface `eth0` and `eth1`. The maximum amount of tunnels per interface you can configure is 4 (non-configurable). The tunnel name can be up to 10 characters in length, and must be unique.
number_of_seconds	The number of seconds. The range is from 0-255.

Example

```
ipv6 tunnel rem-6to4 ttl 60

ipv6 tunnel rem-6to4 ttl 130
```

Usage Guidelines

The tunnel must already be set up on the interface.

Displaying Information for IPv6 Tunnel TTL

The Tunnel TTL is displayed in the `Tunnel TTL` field of the IPv6 Tunnel Information Screen. An example of the IPv6 Tunnel Information Screen appears in Figure 53 on page 136.

Use the `monitor/show ipv6 tunnel all|<tunnel_name>` command to display the IPv6 Tunnel Information Screen. Refer to "monitor/show ipv6 tunnel" on page 136 for more information.

load configuration from network

Loads a previously saved (to network) configuration zip file into flash on an LX, so the LX can boot from the saved configuration from flash from this point forward.

Syntax

`load configuration from network <ip_address> <filename>`

Where	Means
ip_address	Specifies the IPv4 address of the TFTP server where the configuration zip file resides.
filename	The name of the configuration zip file without the ".zip" extension. The filename will be appended with a `.zip` suffix by the LX when it goes to retrieve the config file.

Example

```
load configuration from network 119.25.42.37 new_image
```

Usage Guidelines

When this command is entered, you are prompted with two warnings:

"`This will overwrite your current configuration. Are you sure? y/n`"

If you enter `y`, the LX will TFTP get the configuration file and write it into memory. If you enter `n`, the command aborts without changing the configuration in flash, and issues the message "`Operation aborted`".

"`You must reboot for the new configuration to take effect. Reboot now? y/n`"

If you enter `y`, the LX reboots, loading the new configuration from flash upon reboot. If you enter `n`, the command ends and returns to the prompt. The new configuration is now written in flash, and upon the next reboot loads the new configuration.

location

Specifies the physical location of the LX unit.

Syntax

```
location STRING
```

Where	Means
STRING	A text string that describes the physical location of the LX unit.

Example

```
location UpstairsLab
```

Displaying the Location Field

The `Location` field is displayed on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

log size

Specifies the size of log files on the LX unit.

Syntax

```
log size NUMBER
```

Where	Means
NUMBER	A whole number that specifies the size, in bytes, for the LX-unit log files. The number must be greater than 1023 and less than 128001.

Example

```
log size 100000
```

Displaying the Size of Log Files

The size of the LX log files is displayed in the `Logging Size` field on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

menu

Enters the Menu command mode. In the Menu command mode, you can create, delete, or merge menus and enter the Menu Editing command mode. For more information on the Menu command mode, refer to “Menu Commands” on page 781.

Syntax

```
menu
```

Example

```
menu
```

message enable

Enables or disables the message feature on the LX unit. Enter `no message` to disable the message feature. The default is disabled.

Syntax

```
message enable
```

Example

```
message enable

no message
```

Displaying the State of the Message Feature

The state of the Message Feature is displayed in the `Message Feature` field on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

minimum password length

Specifies a minimum allowable password length for subscribers.

Syntax

`minimum password length <number>`

Where	Means
number	The minimum number of characters you want in the password. The range is from 0 to 32.

Example

```
minimum password length 20
```

Usage Guidelines

The password length is now checked whenever the passwords are configured or changed. If you enter a password that is too short, an error message is displayed and the password is not changed. Set the minimum password length to 0 if you want no minimum length.

Displaying the Minimum Password Length

The Minimum Password Length is displayed in the `Minimum Password Length` field of the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

monitor/show

You can execute each of the `monitor/show` commands in the Configuration Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

no

Disables (negates) specific features and boolean parameters on the LX unit. Refer to "Usage Guidelines" (below) for more information about using the `no` command in the Configuration command mode.

Syntax

`no <feature_name>`

Where	Means
feature_name	The name of the feature or boolean parameter that is to be disabled.

Usage Guidelines

The allowable arguments for this command consist of only those features and boolean parameters that can be set in the Configuration command mode *and are currently enabled.* To view the features and boolean parameters that are currently enabled, type the `no` command followed by a question mark (?).

Example

```
no location
```

no ipv6 tunnel

Deletes all tunnels or a configured tunnel.

Syntax

`no ipv6 tunnel all|<tunnel_name>`

Where	Means
tunnel_name	The name of the tunnel to be deleted. The maximum amount of tunnels per interface you can configure is 4 (non-configurable). The tunnel name can be up to 10 characters in length, and must be unique.

Example

```
no ipv6 tunnel rem-6to4

no ipv6 tunnel all
```

notification

Enters the Notification command mode. In the Notification command mode, you can configure the sending of log messages to email addresses, pagers, remote syslogd, asynchronous ports, or local files.

For more information on the Notification command mode, refer to “Notification Commands” on page 831.

Syntax

```
notification
```

Example

```
      notification
```

ntp enable

Enables the Network Time Protocol (NTP).

Syntax

```
ntp enable
```

Usage Guidelines

Before you can enable NTP, you must specify the IP Address of the NTP server. Refer to "ntp server address" on page 354 for more information on specifying the IP Address of the NTP server.

The behavior of NTP (Network Time Protocol) has changed in this release. The NTP daemon now always sets your clock to the NTP server time on the first try (typically, after bootup). However, on subsequent NTP exchanges, if the time difference between the local machine and the NTP server is greater than the sanity limit of 1000 seconds, NTP assumes something has gone wrong and writes an error to syslog, stating that the sanity limit has been exceeded. NTP also kills the NTP daemon. The error message is "`time corrections (in seconds) exceeds sanity limit (1000); set clock manually to the correct UTC time`".

To restart NTP, enter:

InReach:0>>`config no ntp`

InReach:0>>`config ntp enable`

Example

```
ntp enable
```

Displaying the State of NTP

The state of NTP (Enabled/Disabled) is displayed in the `NTP Daemon` field of the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

ntp server address

Specifies the IP address of the Network Time Protocol (NTP) server for the LX unit. Enter `no ntp server address <ip_address>` to delete an ip address.

Syntax

`ntp server address <ip_address>`

Where	Means
ip_address	Specifies the IP Address of the NTP server on the network. Does not allow an address of 0.0.0.0 for IPv4.

Usage Guidelines

After you have specified the NTP server address, you can enable NTP. Refer to "ntp enable" on page 353 for more information on enabling NTP.

Example

```
ntp server address 119.20.110.87
```

Displaying the NTP Server Address

The NTP server address is displayed in the `NTP Server` field on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

ntp server alternate address

Specifies the alternate IP address of the Network Time Protocol (NTP) server for the LX unit. Enter `no ntp server alternate address <ip_address>` to delete an ip address.

Syntax

```
ntp server alternate address <ip_address>
```

Where	Means
ip_address	Specifies the IP Address of the alternate NTP server on the network. Does not allow an address of 0.0.0.0 for IPv4.

Usage Guidelines

After you have specified the NTP server alternate address, you can enable NTP. Refer to "ntp enable" on page 353 for more information on enabling NTP.

Example

```
ntp server alternate address 119.20.110.87

no ntp server alternate address 119.20.110.87
```

Displaying the NTP Server Alternate Address

The alternate NTP server address is displayed in the `NTP Server Alternate` field on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

ntp server alternate ipv6 address

Specifies the IPv6 address of an alternate Network Time Protocol (NTP) server for the LX unit. Enter `no ntp server alternate ipv6 address <ipv6_address>` to delete an alternate ipv6 address.

Syntax

`ntp server alternate ipv6 address <ipv6_address>`

Where	Means
ipv6_address	Specifies the IPv6 Address of the alternate NTP server on the network. Does not allow an address of ::0 for IPv6.

Usage Guidelines

After you have specified the NTP server address, you can enable NTP. Refer to "ntp enable" on page 353 for more information on enabling NTP.

Example

```
ntp server alternate ipv6 address 3ffe:303:14:42a0:9cff:fe00:8ac

no ntp server alternate ipv6 address 3ffe:303:14:42a0:9cff:fe00:8ac
```

Displaying the NTP IPv6 Server Address

The NTP IPv6 server address is displayed in the `NTP IPv6 Server` field on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

ntp server ipv6 address

Specifies the IPv6 address of the Network Time Protocol (NTP) server for the LX unit. Enter `no ntp server ipv6 address <ipv6_address>` to delete an ipv6 address.

Syntax

`ntp server ipv6 address <ipv6_address>`

Where	Means
ipv6_address	Specifies the IPv6 Address of the NTP server on the network. Does not allow an address of ::0 for IPv6.

Usage Guidelines

After you have specified the NTP server address, you can enable NTP. Refer to "ntp enable" on page 353 for more information on enabling NTP.

Example

```
ntp server ipv6 address 3ffe:303:14:42a0:9cff:fe00:8ac

no ntp server ipv6 address 3ffe:303:14:42a0:9cff:fe00:8ac
```

Displaying the NTP IPv6 Server Address

The NTP IPv6 server address is displayed in the `NTP IPv6 Server` field on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

outlet access enable

Enables the Outlet Management Feature on the LX unit.

Syntax

```
outlet access enable
```

Usage Guidelines

The Outlet Management Feature is used to manage outlets via the LX. The managed outlets are on IR-4800 units or IR-5150 units that are connected to Power ports on the LX unit. Managing outlets consists of rebooting outlets and turning outlets on and off.

The Outlet Management Feature is disabled by default. When the Outlet Management Feature is disabled, only users with Superuser privileges can manage outlets.

Refer to the `access power model` command on page 541 to configure ports for outlet management.

In order for a subscriber to manage outlets or outlet groups, he must have access rights to those outlets or outlet groups. Refer to the `access outlet` command on page 635 to configure subscriber access to individual outlets. Refer to the `access outlet group` command on page 636 to configure subscriber access to outlet groups.

Outlets can be managed with the `outlet` command or the `outlet group` command. The `outlet` command is described on page 281. The `outlet group` command is described on page 282.

Example

```
outlet access enable
```

Displaying the State of the Outlet Management Feature

The state of the Outlet Management Feature (Enabled/Disabled) is displayed in the `Outlet Access` field of the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

outlet group

Assigns outlets to an outlet group.

Syntax

`outlet group <group_number>|name <group_name> <outlet_list>`

Where	Means
group_number	An integer number that identifies the group to which outlets are being assigned. The allowable values are 1 - 16.
group_name	The descriptive name of the group to which outlets are being assigned. (Refer to "outlet group name" on page 361 for information on assigning a descriptive name to an outlet group.)
outlet_list	Specifies the outlets that are being added to the outlet group. The Power port number, combined with the outlet number, identifies each outlet. The Power port number and the outlet number are separated by a colon (:). For example, 2:5 identifies outlet 5 on the device that is managed from port 2. If you specify more than one outlet in the *outlet_list*, the outlets must be separated by blank spaces; for example, `2:5 3:7 4:2 4:3 4:5`. Up to 99 outlets can be included in an outlet group. You can specify a range of port numbers, or a range of outlets, by placing a hyphen between the first and last port number, or the first and last outlet, in the range. For example, `2-4:1` specifies outlet `1` on ports `2` through `4`; `2:1-5` specifies outlets `1` through `5` on port `2`.

Usage Guidelines

When outlets are assigned to an outlet group, they can be configured and managed as a group. This can be more efficient than configuring and managing outlet individually. Refer to the following commands for more information about configuring and managing outlet groups:

- "outlet group name" on page 361
- "outlet group off time" on page 362
- "monitor/show outlet group status" on page 150

The Power Control unit must be serially attached to the LX asynchronous port when you create outlet groups. This allows for the LX to poll the Power Control unit to determine the maximum number of outlets available. Checks have been put in place to prevent a user from configuring outlet groups with outlet numbers that do not exist.

When a Power port's access is changed to something other then "power", the outlets that exist for the port will be removed from any existing Outlet group and the port setting will be defaulted. If the port is changed back into a Power port, the previous outlets groups will have to be re-added.

outlet group (continued)

Examples

```
outlet group 2 2:5 3:7 4:2 4:3 4:5

outlet group name Testoutlets 3:4 5:1 5:2 5:3 5:4 5:5 5:6 6:2 6:3

outlet group name newoutlets 7-9 10:2 11:3
```

Displaying Information on Outlet Groups

Information on outlet groups is displayed on the Outlet Group Status Screen. An example of the Outlet Group Status Screen appears in Figure 65 on page 150.

Use the `monitor/show outlet group status` command to display the Outlet Group Status Screen. Refer to "monitor/show outlet group status" on page 150 for more information.

outlet group name

Specifies a descriptive name for an outlet group.

NOTE: Before you can specify a descriptive name for an outlet group, you must create the outlet group with the `outlet group` command (see page 359).

Syntax

`outlet group <group_number> name <group_name>`

Where	Means
group_number	An integer number that specifies an existing outlet group.
group_name	Specifies a descriptive name for the outlet group. This can be a text string of up to 15 characters.

Example

```
outlet group 5 name Testoutlets
```

Displaying the Outlet Group Name

The descriptive name for an outlet group is displayed in the `Group Name` field of the Outlet Group Status Screen. An example of the Outlet Group Status Screen appears in Figure 65 on page 150.

Use the `monitor/show outlet group status` command to display the Outlet Group Status Screen. Refer to "monitor/show outlet group status" on page 150 for more information.

outlet group off time

Specifies the length of time, in seconds, that outlets must remain off before they can be turned back on.

Syntax

`outlet group <group_number>|<group_name> off time NUMBER`

Where	Means
group_number	An integer number that specifies an existing outlet group.
group_name	The descriptive name of an existing outlet group.
NUMBER	An integer number that specifies the off time, in seconds, for the outlet group. After the outlets in the group have been turned off with the `outlet` command (see page 281), they must remain off for at least this length of time. The allowable values are 0 - 255. The default value is 10.

Example

```
outlet group Testoutlets off time 10

outlet group 14 off time 20
```

Displaying the Outlet Group Off Time

The off time for an outlet group is displayed in the `Group Off Time` field of the Outlet Group Status Screen. An example of the Outlet Group Status Screen appears in Figure 65 on page 150.

Use the `monitor/show outlet group status` command to display the Outlet Group Status Screen. Refer to "monitor/show outlet group status" on page 150 for more information.

password

Allows you to set, or change, the Superuser password for the LX unit. (The default Superuser password for the LX unit is **system**.)

Syntax

```
password
```

Usage Guidelines

When you execute the `password` command, the following prompt is displayed:

```
Enter your NEW password   :
```

Type the new Superuser password at the above prompt and press the Enter key. After you press the Enter key, the following prompt is displayed:

```
Re-Enter your NEW password:
```

Re-type the new Superuser password at the above prompt and press the Enter key. The Superuser password for the LX unit is now changed.

Example

```
password
```

password enable

Sets the Superuser password for the LX unit to the default value. (The default Superuser password for the LX unit is **system**.)

Syntax

```
password enable
```

Usage Guidelines

When you execute the `password enable` command, the following informational message is displayed:

```
Password was set to its default value
```

Example

```
password enable
```

port async

Configures an LX asynchronous port, or a range of LX asynchronous ports. When this command is executed in the Configuration Command Mode, the LX CLI goes into the Asynchronous command mode for the port number, or range of ports. The Asynchronous command mode includes commands for configuring asynchronous ports. Refer to "Asynchronous Commands" on page 537 for more information on the Asynchronous command mode.

Syntax

```
port async <first_port> [<last_port>]
```

Where	Means
first_port	The first port in a range of ports that are to be configured as asynchronous.
last_port	The last port in a range of ports that are to be configured as asynchronous. **Note:** If this argument is left out of the command, only the port specified in <*first_port*> is configured as asynchronous.

Example

```
port async 2

port async 3 7
```

port ethernet

Enters the Ethernet Command Mode for an Ethernet port. Refer to “Asynchronous Commands” on page 537 for more information on the Ethernet Command Mode.

Syntax

```
port ethernet NUMBER
```

Where	Means
NUMBER	Specifies the Ethernet port to be configured. The only port that can be configured as an Ethernet port is port 1.

Example

```
port ethernet 1
```

ppciboot address

Specifies the ppciboot address for the LX unit. The ppciboot address is used as the IP Address of the LX unit when any of the ppciboot assignment options is selected as "User Defined". Refer to "ppciboot address assignment option" on page 368 for more information on the ppciboot assignment options.

Syntax

`ppciboot address <ip_address>`

Where	Means
ip_address	The ppciboot address

Example

```
ppciboot address 117.23.79.81
```

Displaying the ppciboot Address

The ppciboot address for the LX unit is displayed in the `Configured IP Address` field on the ppciboot Configured Load Settings Screen. An example of the ppciboot Configured Load Settings Screen appears in Figure 98 on page 215.

Use the `monitor/show system ppciboot` command to display the ppciboot Configured Load Settings Screen. Refer to "monitor/show system ppciboot" on page 215 for more information.

ppciboot address assignment option

Specifies the ppciboot assignment option for the LX unit. The ppciboot assignment option defines how the LX unit will obtain its IP information.

Syntax

```
ppciboot address assignment NUMBER option user|dhcp|rarp|bootp|none
```

Where	Means
NUMBER	The priority for the ppciboot assignment options. The allowable values are 1, 2, 3, and 4. For more information, refer to "Usage Guidelines" (below).
user	Specifies that the ppciboot assignment option is user-defined. This means that the user must manually assign all of the IP information.
dhcp	The IP information will be assigned via a DHCP server.
rarp	The IP information will be assigned via a RARP server.
bootp	The IP information will be assigned via a BOOTP server.
none	Disables the ppciboot assignment option associated with the specified priority. For example, the command `ppciboot ip assignment 2 option none` disables the ppciboot assignment option associated with priority 2.

Usage Guidelines

You can use this command to specify up to 4 ppciboot assignment options for the LX unit.

You must specify a priority for each ppciboot assignment option that you specify with this command. The allowable values are `1`, `2`, `3`, and `4`. For example, if `1` is specified as the priority for DHCP, it means that the *first* attempt at loading an IP Address will be via DHCP; if `2` is specified as the priority for RARP, it means that the *second* attempt at loading an IP Address will be via RARP, and so on.

Examples

```
ppciboot address assignment 1 option dhcp

ppciboot address assignment 2 option rarp

ppciboot address assignment 3 option bootp

ppciboot address assignment 4 option user

ppciboot address assignment 3 option none
```

ppciboot address assignment option (continued)

Displaying the ppciboot Assignment Options

The ppciboot assignment options are displayed in the `IP Assignment Method` fields of the ppciboot Configured Load Settings Screen. An example of the ppciboot Configured Load Settings Screen appears in Figure 98 on page 215.

Use the `monitor/show system ppciboot` command to display the ppciboot Configured Load Settings Screen. Refer to "monitor/show system ppciboot" on page 215 for more information.

ppciboot ethernet network link

Specifies the speed and duplex mode of the ppciboot Ethernet network link.

Syntax

```
ppciboot ethernet network link auto|10half|100half|10full|100full
```

Where	Means
auto	The ppciboot Ethernet network link will auto-negotiate its port speed and duplex mode. This is the default setting.
10half	Sets a speed of 10 Megabytes per second, and a duplex mode of half duplex, for the Ethernet network link.
100half	Sets a speed of 100 Megabytes per second, and a duplex mode of half duplex, for the Ethernet network link.
10full	Sets a speed of 10 Megabytes per second, and a duplex mode of full duplex, for the Ethernet network link.
100full	Sets a speed of 100 Megabytes per second, and a duplex mode of full duplex, for the Ethernet network link.

Examples

```
ppciboot ethernet network link auto

ppciboot ethernet network link 10half

ppciboot ethernet network link 100half

ppciboot ethernet network link 10full

ppciboot ethernet network link 100full
```

Displaying the Speed and Duplex Mode of the ppciboot Ethernet Network Link

The speed of the ppciboot Ethernet network Link is displayed in the `Link Speed` field of the Ethernet Port Characteristics Screen. The duplex mode of the ppciboot Ethernet network Link is displayed in the `Duplex Mode` field of the Ethernet Port Characteristics Screen. An example of the Ethernet Port Characteristics Screen appears in Figure 74 on page 170.

Use the `monitor/show port ethernet characteristics` command to display the Ethernet Port Characteristics Screen. Refer to "monitor/show port ethernet characteristics" on page 170 for more information.

ppciboot gateway

Specifies the ppciboot gateway. This gateway is used when any of the ppciboot assignment options is selected as "User Defined". Refer to "ppciboot address assignment option" on page 368 for more information on ppciboot assignment options.

Syntax

`ppciboot gateway <ip_address>`

Where	Means
ip_address	The IP address of the ppciboot gateway.

Example

```
ppciboot gateway 119.20.110.7
```

Displaying the ppciboot Gateway

The configured ppciboot gateway address is displayed in the `Configured Gateway Address` field of the ppciboot Configured Load Settings Screen. An example of the ppciboot Configured Load Settings Screen appears in Figure 98 on page 215.

Use the `monitor/show system ppciboot` command to display the ppciboot Configured Load Settings Screen. Refer to "monitor/show system ppciboot" on page 215 for more information.

ppciboot image filename

Specifies the filename of the LX software image.

Syntax

```
ppciboot image filename <filename>
```

Where	Means
filename	The filename of the LX software image.

Example

```
ppciboot image filename new_linuxito.img
```

Displaying the ppciboot Image Filename

The ppciboot image filename is displayed in the `Software Filename` field of the ppciboot Configured Load Settings Screen. An example of the ppciboot Configured Load Settings Screen appears in Figure 98 on page 215.

Use the `monitor/show system ppciboot` command to display the ppciboot Configured Load Settings Screen. Refer to "monitor/show system ppciboot" on page 215 for more information.

ppciboot image load from

Specifies the source from which the LX software image will be loaded.

NOTE: The ppciboot image file is specified using the `ppciboot image filename` command (see page 372).

Syntax

```
ppciboot image load from flash|network
```

Where	Means
flash	Load the LX software image from the local flash.
network	Load the LX software image from the network TFTP server. (The TFTP server for loading the LX software image is defined using the `ppciboot tftp` command (see page 376).)

Examples

```
ppciboot image load from flash

ppciboot image load from network
```

Displaying the Load Source for the LX Software Image

The source from which the LX software image will be loaded is indicated by the value of the `Software Load From Flash` field, or the `Software Load From Network` field, of the ppciboot Configured Load Settings Screen. If the LX software image will be loaded from the local flash, the value of the `Software Load From Flash` field is `yes`. If the LX software image will be loaded from the network, the value of the `Software Load From Network` field is `yes`.

NOTE: If the LX software image is loaded from the network, the IP address of the load server is displayed in the `Configured TFTP Server Address` field of the ppciboot Configured Load Settings Screen.

An example of the ppciboot Configured Load Settings Screen appears in Figure 98 on page 215.

Use the `monitor/show system ppciboot` command to display the ppciboot Configured Load Settings Screen. Refer to "monitor/show system ppciboot" on page 215 for more information.

ppciboot mask

Specifies the ppciboot subnet mask for the LX unit. This is used as the subnet mask for the LX unit when any of the ppciboot assignment options is selected as "User Defined". Refer to "ppciboot address assignment option" on page 368 for more information on ppciboot assignment options.

Syntax

`ppciboot mask <subnet_mask>`

Where	Means
subnet_mask	The IP address that will be used as the ppciboot subnet mask.

Example

```
ppciboot mask 255.255.255.0
```

Displaying the ppciboot Subnet Mask

The ppciboot subnet mask is displayed in the `Configured Network Mask` field of the ppciboot Configured Load Settings Screen. An example of the ppciboot Configured Load Settings Screen appears in Figure 98 on page 215.

Use the `monitor/show system ppciboot` command to display the ppciboot Configured Load Settings Screen. Refer to "monitor/show system ppciboot" on page 215 for more information.

ppciboot password

Allows you to set, or change, the ppciboot password for the LX unit.

Syntax

```
ppciboot password
```

Usage Guidelines

When you execute the `ppciboot password` command, the following prompt is displayed:

```
Enter your NEW password   :
```

Type the new ppciboot password at the above prompt and press the Enter key. (The maximum length of the ppciboot password is 16 characters.) After you press the Enter key, the following prompt is displayed:

```
Re-Enter your NEW password:
```

Re-type the new ppciboot password at the above prompt and press the Enter key. The ppciboot password for the LX unit is now changed.

The ppciboot password is used to access the Main Menu from the ppciboot Menu. You can also change the ppciboot password by selecting Option 8 from the Main Menu.

NOTE: If you attempt to change the ppciboot password by selecting Option 8 from the Main Menu, you will be prompted to enter the old ppciboot password.

Example

```
ppciboot password
```

ppciboot tftp server

Specifies the TFTP server for the LX unit. This TFTP server is used when any of the ppciboot assignment options is selected as "User Defined". Refer to "ppciboot address assignment option" on page 368 for more information on ppciboot assignment options.

Syntax

```
ppciboot tftp server <ip_address>
```

Where	Means
ip_address	The IP address of the TFTP server from which the LX software image will be loaded.

Example

```
ppciboot tftp server 118.23.109.18
```

Displaying the Configured TFTP Server Address

The configured TFTP server address is displayed in the `Configured TFTP Server Address` field of the ppciboot Configured Load Settings Screen. An example of the ppciboot Configured Load Settings Screen appears in Figure 98 on page 215.

Use the `monitor/show system ppciboot` command to display the ppciboot Configured Load Settings Screen. Refer to "monitor/show system ppciboot" on page 215 for more information.

primary dns

Specifies the Primary Domain Name Server (DNS) for the LX unit.

Syntax

```
primary dns A.B.C.D
```

Where	Means
A.B.C.D	The Primary DNS for the LX unit.

Example

```
primary dns 119.20.112.3
```

Displaying the Primary DNS for the LX Unit

The Primary DNS for the LX unit is displayed in the `Primary Domain` field of the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics command` to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

radius

The LX CLI supports 21 `radius` commands for configuring the RADIUS period, the RADIUS local subscriber, and the RADIUS primary and secondary server characteristics. The `radius` commands can be executed in the Configuration Command Mode or in the Authentication, Accounting, and Authorization (AAA) Command Mode.

Refer to the following pages for a full description of each of the `radius` commands:

route address

Creates a static route for the LX unit.

Syntax

`route address <destination_ip> mask <subnet_mask> gateway <gateway_ip>`

Where	Means
destination_ip	Specifies the destination IP Address of the route.
subnet_mask	Specifies the subnet mask that will be used by the static route.
gateway_ip	Specifies the IP Address of the gateway by which the destination will be reached.

Usage Guidelines

To delete the static route, use the `no route` command.

Example

```
route address 119.20.112.39 mask 225.255.255.0 gateway 144.34.43.3
```

Displaying the Static Routes for the LX Unit

The static routes for the LX unit are displayed on the Route Screen. An example of the Route Screen appears in Figure 80 on page 182.

Use the `monitor/show route` command to display the Route Screen. Refer to "monitor/show route" on page 182 for more information.

secondary dns

Specifies the Secondary Domain Name Server (DNS) for the LX unit.

Syntax

```
secondary dns A.B.C.D
```

Where	Means
A.B.C.D	The Secondary DNS for the LX unit.

Example

```
secondary dns 119.20.112.3
```

Displaying the Secondary DNS for the LX Unit

The Secondary DNS for the LX unit is displayed in the `Secondary Domain` field of the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

securid

The LX CLI supports 13 `securid` commands for configuring SecurID authentication, and the SecurID local subscriber, for the LX unit. The `securid` commands can be executed in the Configuration Command Mode or in the Authentication, Accounting, and Authorization (AAA) Command Mode.

Refer to the following pages for a full description of each of the `securid` commands:

service

Adds a host name and its address to a Service Table to provide the CLI user with a means for address resolution.

Syntax

```
service name NAME address A.B.C.D
```

Where	Means
NAME	A text string that specifies the name of the IP device.
A.B.C.D	The address of the IP device.

Example

```
service name Finance_Server address 119.20.112.3
```

Displaying the Services for the LX Unit

The services that are configured for the LX unit are displayed on the Service Screen. An example of the Service Screen appears in Figure 84 on page 188.

Use the `monitor/show service` command to display the Service Screen. Refer to "monitor/show service" on page 188 for more information.

service ipv6 address

Adds an IPv6 name and its address to a Service Table to provide the CLI user with a means for address resolution.

Syntax

`service name NAME ipv6 address <ipv6_address>`

Where	Means
NAME	A text string that specifies the name of the IPv6 device.
ipv6_address	The address of the IPv6 device. This address can be up to 32 hex characters long (separated by colons).

Example

```
service name Finance_Server ipv6 address 3ffe:303:14:42a0:9cff:fe00:8ac
```

Displaying the Services for the LX Unit

The services that are configured for the LX unit are displayed on the Service Screen. An example of the Service Screen appears in Figure 84 on page 188.

Use the `monitor/show service` command to display the Service Screen. Refer to "monitor/show service" on page 188 for more information.

snmp

Enters the SNMP command mode. The SNMP command prompt (e.g., `Snmp:0 >>`) is displayed while you are in the SNMP command mode. For more information, refer to "SNMP Commands" on page 687.

Syntax

```
snmp
```

Example

```
snmp
```

snmp enable

Enables the Simple Network Management Protocol (SNMP) for use in managing the LX unit.

Syntax

```
snmp enable
```

Example

```
snmp enable
```

Displaying the State of the SNMP Feature

The state of the SNMP Feature (Enabled/Disabled) is displayed in the `SNMP Feature` field on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

ssh enable

Enables the LX unit to function as an SSH server. This makes it possible for SSH clients to make connections to the LX unit.

Syntax

```
ssh enable
```

Example

```
ssh enable
```

Displaying the State of the SNMP Daemon

The state of the SSH Daemon is displayed in the `SSH Daemon` field on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

ssh v1

Specifies that the LX unit will use Version 1 (V1) of SSH.

Syntax

```
ssh v1
```

Example

```
ssh v1
```

Displaying the SSH Version

The SSH Version is displayed in the `SSH Version` field of the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

ssh v2

Specifies that the LX unit will use Version 2 (V2) of SSH.

Syntax

```
ssh v2
```

Example

```
ssh v2
```

Displaying the SSH Version

The SSH Version is displayed in the `SSH Version` field of the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

subscriber

Enters the Subscriber Command Mode. For more information on the Subscriber Command Mode, refer to "Subscriber Commands" on page 633.

Syntax

```
subscriber NAME
```

Where	Means
NAME	The name of the subscriber that is to be configured. If the subscriber does not exist, a new subscriber record is created.

Usage Guidelines

The maximum number of subscribers on an LX unit is equal to double the number of ports on the unit. For example, the maximum number of subscribers is 16 on an 8-port unit, 32 on a 16-port unit, 64 on a 32-port unit, and 96 on a 48-port unit.

Example

```
subscriber mark
```

Displaying a List of LX Subscribers

The Subscriber Summary Screen displays all of the subscribers that are configured on the LX unit. An example of the Subscriber Summary Screen appears in Figure 96 on page 209.

Use the `monitor/show subscriber summary` command to display the Subscriber Summary Screen. Refer to "monitor/show subscriber summary" on page 209 for more information.

tacacs+

The LX CLI supports 24 `tacacs+` commands for configuring the TACACS+ period, the TACACS+ local subscriber, the TACACS+ Superuser Password Request, and the TACACS+ primary and secondary server characteristics. The `tacacs+` commands can be executed in the Configuration Command Mode or in the Authentication, Accounting, and Authorization (AAA) Command Mode.

Refer to the following pages for a full description of each of the `tacacs+` commands:

telnet client enable

Configures the LX to support outbound Telnet connections to remote clients. This command is enabled by default. If this command is disabled, you cannot change it if you are running in FIPS mode.

Syntax

```
telnet client enable
```

Example

```
telnet client enable

no telnet client
```

Displaying the State of the Telnet Client

The state of the Telnet Client (Enabled/Disabled) is displayed in the `Telnet Client` field on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to “monitor/show system characteristics” on page 211 for more information.

telnet server enable

Configures the LX unit to accept inbound Telnet connections. This command is enabled by default. If this command is disabled, you cannot change it if you are running in FIPS mode.

Syntax

```
telnet server enable
```

Example

```
telnet server enable

no telnet server
```

Displaying the State of the Telnet Server

The state of the Telnet Server (Enabled/Disabled) is displayed in the `Telnet Server` field on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to “monitor/show system characteristics” on page 211 for more information.

tftp

Specifies the timeout and retry values for TFTP transfers.

Syntax

`tftp timeout <`*`timeout_num`*`>|retry <`*`retries_num`*`>`

Where	Means
timeout	Set the TFTP timeout value, in seconds.
retry	Set the TFTP retries value.
timeout_num	The TFTP timeout value.
retries_num	The TFTP retries value.

Examples

```
tftp timeout 60

tftp retry 6
```

Displaying the TFTP Timeout and Retry Values

The TFTP Timeout Value is displayed in the `TFTP Timeout` field on the System Characteristics Screen. The TFTP Retry Value is displayed in the `TFTP Retries` field on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

timed enable

Configures the LX unit to use the Time Daemon (timed).

Syntax

```
timed enable
```

Example

```
timed enable
```

Displaying the State of the Time Daemon

The state of the Time Daemon (Enabled/Disabled) is displayed in the `Timed Daemon` field on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

timezone

Sets the timezone for the LX system clock.

Syntax

```
timezone gmt +<n>|gmt -<n>|UTC|US <us_timezone>
```

Where	Means
gmt +<*n*>	Greenwich Mean Time, plus *n* hours. The value of *n* can be any integer from 1 to 12, inclusive. For example, the timezone for Paris is Greenwich Mean time, plus 1 hour (GMT+1). The default value of *n* is 0. GMT+0 is Greenwich Mean Time itself.
gmt -<*n*>	Greenwich Mean Time, minus *n* hours. The value of *n* can be any integer from 1 to 12, inclusive. For example, the timezone for New York is Greenwich Mean time, minus 6 hours (GMT-6). The default value of *n* is 0. GMT-0 is Greenwich Mean Time itself.
UTC	Specifies that the LX unit will use Coordinated Universal Time.
US	Specifies that the LX unit will use the United States (US) timezone that is specified in the *us_timezone* field.
us_timezone	A US timezone. The allowable values are alaska, aleutian, arizona, central, eastern, east-indiana, hawaii, indiana-starke, michigan, mountain, pacific, and samoa

Example

```
timezone gmt +3

timezone gmt -7

timezone utc

timezone us alaska

timezone us east-indiana

timezone us mountain
```

Displaying the Timezone

The timezone for the LX system clock is displayed on the Clock Screen. An example of the System Characteristics Screen appears in Figure 3 on page 63.

Use the `monitor/show clock` command to display the System Characteristics Screen. Refer to "monitor/show clock" on page 63 for more information.

trigger-action

Enters the Trigger-Action command mode. In the Trigger-Action command mode, you can configure the Rules, Triggers, and Actions for the Trigger-Action Feature.

For more information on the Trigger-Action command mode, refer to "Trigger-Action Commands" on page 945.

Syntax

```
trigger-action
```

Example

```
      trigger-action
```

web_server enable

Configures the LX unit to support Web Browser connections from remote clients.

Syntax

```
web_server enable
```

Example

```
web_server enable
```

Displaying the State of the Web Server Feature

The state of the Web Server Feature (Enabled/Disabled) is displayed in the `Web Server` field on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

web_server fips jcemodule

Sets the name of the FIPS approved JAVA Cryptology module installed on the host running the GUI application. The module name is set by the module vendor. For example, if using RSA's JSafe crytpology module, the module name would be `JSafeJCE`. Enter `no web_server fips jcemodule` to reset to the default, which is "null".

NOTE: This command is available only when the LX is running in FIPS mode.

Syntax

`web_server fips jcemodule <modulename>`

Where	Means
<*modulename*>	The name of the jce module. The module name is set by the module vendor, and can be up to 16 characters long. The default is "null".

Example

```
web_server fips jcemodule JSafeJCE

no web_server fips jcemodule
```

Displaying the Name of the Web Server JCE Module

The name of the Web Server JCE Module is displayed in the `Web JCE Module` field on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

web_server session timeout

Configures the length of inactivity time the Graphic User Interface (GUI) session can remain active before timing out and requiring a login.

Syntax

```
web_server session timeout <time>
```

Where	Means
<*time*>	The length of time, in minutes. The range is from 1 to 240. The default is 20 minutes.

Example

```
web_server session timeout 20
```

Displaying the State of the Web Server Session Timeout

The state of the Web Server Session Timeout (Enabled/Disabled) is displayed in the `Web Server Timeout` field on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

webbanner enable

Enables the Web Banner Feature. When the Web Banner Feature is enabled, the MRV Logo screen will be displayed when you start the LX GUI.

Syntax

```
webbanner enable
```

Example

```
webbanner enable
```

Displaying the State of the Web Banner Feature

The state of the Web Banner Feature (Enabled/Disabled) is displayed on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

webencrypt enable

Enables the Web Encrypt Feature. When the Web Encrypt Feature is enabled, users cannot call up a non-encrypted web session. Enter `no webencrypt` to disable.

Syntax

```
webencrypt enable
```

Example

```
webencrypt enable
```

Displaying the State of the Web Encrypt Feature

The state of the Web Encrypt Feature (Enabled/Disabled) is displayed on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

web server port

Configures a port on an LX unit to serve as a web server port.

Syntax

`web_server port <port_number>`

Where	Means
<port_number>	The number of the port you want to use as a web server port. The range is between 1 and 65535. The default port is 80.

NOTE: Exercise caution when selecting which port number to use when changing this value. Choose a port number that is not being used by another system process or application. The default port value is 80.

Example

```
web_server port 80
```

Displaying the State of the Web Server Port

The value of the Web Server Port is displayed in the `Web Server Port` field on the System Characteristics Screen. An example of the System Characteristics Screen appears in Figure 97 on page 211.

Use the `monitor/show system characteristics` command to display the System Characteristics Screen. Refer to "monitor/show system characteristics" on page 211 for more information.

Chapter 4

Authentication, Accounting, and Authorization Commands

The Authentication, Accounting, and Authorization (AAA) commands are executed in the AAA command mode. When the LX unit is in the AAA command mode, the AAA command prompt (i.e., `AAA:0 >>`) is displayed on the terminal screen.

The format of the AAA command prompt is as follows:

`AAA:<session_number> >>`

where `<session_number>` is the session number of the current connection.

To enter the AAA command mode, execute the `aaa` command. This displays the AAA command prompt.

Refer to page 308 for more information on the `aaa` command.

end

When the end command is issued in the AAA Command Mode, it returns the user to the Superuser command mode.

Syntax

end

Usage Guidelines

The end command can be issued in all of the LX command modes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

Example

```
end
```

exit

Returns the user to the previous command mode. For example, if the current command mode is AAA, issuing this command will return the user to the Configuration command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued.

As noted above, issuing the `exit` command in the AAA command mode returns the user to the previous command mode. The same goes for issuing the `exit` command in any command mode other than User. For example, issuing the `exit` command in the Interface command mode returns the user to the Configuration command mode; issuing the `exit` command in the Menu Editing command mode returns the user to the Menu command mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

ldap local subscriber enable

Enables the LDAP Local Subscriber Feature.

Syntax

```
ldap local subscriber enable
```

Usage Guidelines

Under the LDAP Local Subscriber Feature, a subscriber can be logged on in one of two ways:

- As an LX subscriber with the attributes of that subscriber (if the LX subscriber account exists)
- Or, if the LX subscriber account does *not* exist, as the default (InReach) subscriber.

Under either scenario, the subscriber must have an LDAP account on the LDAP server. If the subscriber account also exists on the LX unit, the subscriber is logged on under that account and with the attributes of that account. If the subscriber account does *not* exist on the LX unit, the subscriber is logged on under his LDAP account with the attributes of the default (InReach) account.

Example

```
ldap local subscriber enable
```

Displaying the State of the LDAP Local Subscriber Feature

The state of the LDAP Local Subscriber Feature (Enabled, Disabled, or Only) is displayed in the `Local Subscriber` field of the LDAP Characteristics Screen. An example of the LDAP Characteristics Screen appears in Figure 55 on page 138.

Use the `monitor/show ldap characteristics` command to display the LDAP Characteristics Screen. Refer to “monitor/show ldap characteristics” on page 138 for more information.

ldap local subscriber only

Specifies that the subscriber must have an LX subscriber account configured in order to be authenticated with LDAP.

Syntax

```
ldap local subscriber only
```

Usage Guidelines

When this setting is in effect, the subscriber can only be logged in if the following conditions are true:

- The subscriber account must be configured on both the LX unit and the LDAP server.
- The subscriber account on the LX server must have the same name as the subscriber account on the LDAP server.

Example

```
ldap local subscriber only
```

Displaying the State of the LDAP Local Subscriber Feature

The state of the LDAP Local Subscriber Feature (Enabled, Disabled, or Only) is displayed in the `Local Subscriber` field of the LDAP Characteristics Screen. An example of the LDAP Characteristics Screen appears in Figure 55 on page 138.

Use the `monitor/show ldap characteristics` command to display the LDAP Characteristics Screen. Refer to "monitor/show ldap characteristics" on page 138 for more information.

ldap primary authentication server address

Specifies the LDAP primary authentication server address for the LX unit.

Syntax

```
ldap primary authentication server address A.B.C.D
```

Where	Means
A.B.C.D	The IP Address of the LDAP primary authentication server for the LX unit.

Example

```
ldap primary authentication server address 157.39.63.31
```

Displaying the IP Address of the LDAP Primary Authentication Server

The IP Address of the LDAP Primary Authentication Server is displayed under the `Primary LDAP Authentication Server` heading on the LDAP Characteristics Screen. An example of the LDAP Characteristics Screen appears in Figure 55 on page 138.

Use the `monitor/show ldap characteristics` command to display the LDAP Characteristics Screen. Refer to "monitor/show ldap characteristics" on page 138 for more information.

ldap primary authentication server base dn

Specifies the search path that will be used to find a match for the *uid* (User ID) component of the Distinguished Name on the LDAP Primary Authentication Server.

Syntax

```
ldap primary authentication server base dn <host>.<database>.<org>[.<group>]*
```

Where	Means
host	The hostname of the LDAP Primary Authentication Server.
database	The domain name of the hierarchy that contains the *uid* (User ID) component of the Distinguished Name.
org	The organization that contains the *uid* (User ID) component of the Distinguished Name.
group	The group that contains the *uid* (User ID) component of the Distinguished Name.

Usage Guidelines

It may be necessary to use this command to specify the search path for the Distinguished Name on legacy versions of LDAP. However, on the current version of LDAP, specifying the search path with this command is optional.

Examples

```
ldap primary authentication server base dn O=box7.acme.boston.sqa.com

ldap primary authentication server base dn O=box9.midstate.finance.com
```

Displaying the Search Path of the LDAP Primary Authentication Server

The Search Path of the LDAP Primary Authentication Server is displayed in the `LDAP Base DN` field, for the Primary LDAP Authentication Server, on the LDAP Characteristics Screen. An example of the LDAP Characteristics Screen appears in Figure 55 on page 138.

Use the `monitor/show ldap characteristics` command to display the LDAP Characteristics Screen. Refer to “monitor/show ldap characteristics” on page 138 for more information.

ldap primary authentication server port

Specifies the TCP port for the LDAP primary authentication server. This is the TCP port that the LDAP server uses to communicate with the LX unit.

Syntax

```
ldap primary authentication server port NUMBER
```

Where	Means
NUMBER	The LDAP primary authentication server TCP port for the LX unit. The allowable values are 0 - 65535. **Note:** If you do not specify a LDAP primary authentication port with this command, the LX unit will use the default LDAP primary authentication port of 389.

Example

```
ldap primary authentication server port 1823
```

Displaying the LDAP Primary Authentication Server TCP Port

The LDAP Primary Authentication Server TCP port is displayed under the `Primary LDAP Authentication Server` heading on the LDAP Characteristics Screen. An example of the LDAP Characteristics Screen appears in Figure 55 on page 138.

Use the `monitor/show ldap characteristics` command to display the LDAP Characteristics Screen. Refer to "monitor/show ldap characteristics" on page 138 for more information.

ldap primary authentication server retransmit

Specifies the maximum number of retries that the LX unit will have for transmitting an Access Request to the LDAP primary authentication server when the LX unit receives no Access Accept or Reject messages from the LDAP primary authentication server.

Syntax

```
ldap primary authentication server retransmit NUMBER
```

Where	Means
NUMBER	The maximum number of times that the LX unit will attempt to contact the LDAP primary authentication server. The allowable values are 0 - 255. The default value is 3.

Example

```
ldap primary authentication server retransmit 3
```

Displaying the Retransmit Value for the LDAP Primary Authentication Server

The Retransmit Value for the LDAP Primary Authentication Server is displayed under the `Primary LDAP Authentication Server` heading on the LDAP Characteristics Screen. An example of the LDAP Characteristics Screen appears in Figure 55 on page 138.

Use the `monitor/show ldap characteristics` command to display the LDAP Characteristics Screen. Refer to "monitor/show ldap characteristics" on page 138 for more information.

ldap primary authentication server timeout

Specifies the length of time that the LX unit will wait for the LDAP primary authentication server to respond before retransmitting packets to the LDAP primary authentication server.

Syntax

```
ldap primary authentication server timeout NUMBER
```

Where	Means
NUMBER	The length of time, in seconds, that the LX unit will wait for a LDAP primary authentication server to respond before retransmitting Access-Request messages to the LDAP primary authentication server. The default value is 5. The allowable values are 1 - 255.

Example

```
ldap primary authentication server timeout 3
```

Displaying the Timeout Value for the LDAP Primary Authentication Server

The Timeout Value for the LDAP Primary Authentication Server is displayed under the `Primary LDAP Authentication Server` heading on the LDAP Characteristics Screen. An example of the LDAP Characteristics Screen appears in Figure 55 on page 138.

Use the `monitor/show ldap characteristics` command to display the LDAP Characteristics Screen. Refer to "monitor/show ldap characteristics" on page 138 for more information.

ldap secondary authentication server address

Specifies the LDAP secondary authentication server address for the LX unit.

Syntax

```
ldap secondary authentication server address A.B.C.D
```

Where	Means
A.B.C.D	The IP Address of the LDAP secondary authentication server for the LX unit.

Example

```
ldap secondary authentication server address 157.39.63.31
```

Displaying the IP Address of the LDAP Secondary Authentication Server

The IP Address of the LDAP Secondary Authentication Server is displayed under the `Secondary LDAP Authentication Server` heading on the LDAP Characteristics Screen. An example of the LDAP Characteristics Screen appears in Figure 55 on page 138.

Use the `monitor/show ldap characteristics` command to display the LDAP Characteristics Screen. Refer to "monitor/show ldap characteristics" on page 138 for more information.

ldap secondary authentication server base dn

Specifies the search path that will be used to find a match for the *uid* (User ID) component of the Distinguished Name on the LDAP Secondary Authentication Server.

Syntax

`ldap secondary authentication server base dn <host>.<database>.<org>[.<group>]*`

Where	Means
host	The hostname of the LDAP Secondary Authentication Server.
database	The domain name of the hierarchy that contains the *uid* (User ID) component of the Distinguished Name.
org	The organization that contains the *uid* (User ID) component of the Distinguished Name.
group	The group that contains the *uid* (User ID) component of the Distinguished Name.

Usage Guidelines

It may be necessary to use this command to specify the search path for the Distinguished Name on legacy versions of LDAP. However, on the current version of LDAP, specifying the search path with this command is optional.

Examples

```
ldap secondary authentication server base dn O=box1.acme.com.boston.sqa

ldap secondary authentication server base dn O=box3.midstate.com.finance
```

Displaying the Search Path of the LDAP Secondary Authentication Server

The Search Path of the LDAP Secondary Authentication Server is displayed in the `LDAP Base DN` field, for the Secondary LDAP Authentication Server, on the LDAP Characteristics Screen. An example of the LDAP Characteristics Screen appears in Figure 55 on page 138.

Use the `monitor/show ldap characteristics` command to display the LDAP Characteristics Screen. Refer to "monitor/show ldap characteristics" on page 138 for more information.

ldap secondary authentication server port

Specifies the TCP port for the LDAP secondary authentication server. This is the UDP port that the LDAP server uses to communicate with the LX unit.

Syntax

```
ldap secondary authentication server port NUMBER
```

Where	Means
NUMBER	The LDAP secondary authentication server TCP port for the LX unit. The allowable values are 0 - 65535. **Note:** If you do not specify a LDAP secondary authentication port with this command, the LX unit will use the default LDAP secondary authentication port of 389.

Example

```
ldap secondary authentication server port 1823
```

Displaying the LDAP Secondary Authentication Server UDP Port

The LDAP Secondary Authentication Server UDP port is displayed under the `Secondary LDAP Authentication Server` heading on the LDAP Characteristics Screen. An example of the LDAP Characteristics Screen appears in Figure 55 on page 138.

Use the `monitor/show ldap characteristics` command to display the LDAP Characteristics Screen. Refer to "monitor/show ldap characteristics" on page 138 for more information.

ldap secondary authentication server retransmit

Specifies the maximum number of retries that the LX unit will have for transmitting an Access Request to the LDAP secondary authentication server when the LX unit receives no Access Accept or Reject messages from the LDAP secondary authentication server.

Syntax

```
ldap secondary authentication server retransmit NUMBER
```

Where	Means
NUMBER	The maximum number of times that the LX unit will attempt to contact the LDAP secondary authentication server. The allowable values are 0 - 255. The default value is 3.

Example

```
ldap secondary authentication server retransmit 3
```

Displaying the Retransmit Value for the LDAP Secondary Authentication Server

The Retransmit Value for the LDAP Secondary Authentication Server is displayed under the `Secondary LDAP Authentication Server` heading on the LDAP Characteristics Screen. An example of the LDAP Characteristics Screen appears in Figure 55 on page 138.

Use the `monitor/show ldap characteristics` command to display the LDAP Characteristics Screen. Refer to "monitor/show ldap characteristics" on page 138 for more information.

ldap secondary authentication server timeout

Specifies the length of time that the LX unit will wait for the LDAP secondary authentication server to respond before retransmitting packets to the LDAP secondary authentication server.

Syntax

```
ldap secondary authentication server timeout NUMBER
```

Where	Means
NUMBER	The length of time, in seconds, that the LX unit will wait for a LDAP secondary authentication server to respond before retransmitting Access-Request messages to the LDAP secondary authentication server. The default value is 5. The allowable values are 1 - 255.

Example

```
ldap secondary authentication server timeout 3
```

Displaying the Timeout Value for the LDAP Secondary Authentication Server

The Timeout Value for the LDAP Secondary Authentication Server is displayed under the `Secondary LDAP Authentication Server` heading on the LDAP Characteristics Screen. An example of the LDAP Characteristics Screen appears in Figure 55 on page 138.

Use the `monitor/show ldap characteristics` command to display the LDAP Characteristics Screen. Refer to “monitor/show ldap characteristics” on page 138 for more information.

monitor/show

You can execute each of the `monitor/show` commands in the Authentication, Accounting, and Authorization Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

no

Disables (negates) specific features and boolean parameters on the LX unit. Refer to "Usage Guidelines" (below) for more information about using the `no` command in the AAA command mode.

Syntax

`no <feature_name>`

Where	Means
feature_name	The name of the feature or boolean parameter that is to be disabled.

Usage Guidelines

The allowable arguments for this command consist of only those features and boolean parameters that can be set in the AAA command mode *and are currently enabled*. To view the features and boolean parameters that are currently enabled, type the `no` command followed by a question mark (?).

Example

```
no radius local subscriber
```

radius local subscriber enable

Enables the RADIUS Local Subscriber Feature.

Syntax

```
radius local subscriber enable
```

Usage Guidelines

Under the RADIUS Local Subscriber Feature, a subscriber can be logged on in one of two ways:

- As an LX subscriber with the attributes of that subscriber (if the LX subscriber account exists)
- Or, if the LX subscriber account does *not* exist, as the default (InReach) subscriber.

Under either scenario, the subscriber must have a RADIUS account on the RADIUS server. If the subscriber account also exists on the LX unit, the subscriber is logged on under that account and with the attributes of that account. If the subscriber account does *not* exist on the LX unit, the subscriber is logged on under his RADIUS account with the attributes of the default (InReach) account.

Example

```
radius local subscriber enable
```

Displaying the State of the Radius Local Subscriber Feature

The state of the Radius Local Subscriber Feature (Enabled, Disabled, or Only) is displayed in the `Local Subscriber` field of the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to “monitor/show radius characteristics” on page 176 for more information.

radius local subscriber only

Specifies that the subscriber must have an LX subscriber account configured in order to be authenticated with RADIUS.

Syntax

```
radius local subscriber only
```

Usage Guidelines

When this setting is in effect, the subscriber can only be logged in if the following conditions are true:

- The subscriber account must be configured on both the LX unit and the RADIUS server.
- The subscriber account on the LX server must have the same name as the subscriber account on the RADIUS server.

Example

```
radius local subscriber only
```

Displaying the State of the Radius Local Subscriber Feature

The state of the Radius Local Subscriber Feature (Enabled, Disabled, or Only) is displayed in the `Local Subscriber` field of the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to "monitor/show radius characteristics" on page 176 for more information.

radius period

Specifies the interval at which the LX unit will update the RADIUS accounting server with the status of each RADIUS user.

Syntax

```
radius period NUMBER
```

Where	Means
NUMBER	The interval, in minutes, at which the LX unit will update the RADIUS accounting server with the status of each RADIUS user. The default value is 5. The allowable values are 0 - 255.

Example

```
radius period 10
```

Displaying the RADIUS Period

The RADIUS Period is displayed in the `RADIUS Accounting Server Period` field of the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to "monitor/show radius characteristics" on page 176 for more information.

radius primary accounting server address

Specifies the IP Address of the RADIUS primary accounting server for the LX unit.

Syntax

```
radius primary accounting server address A.B.C.D
```

Where	Means
A.B.C.D	The IP Address of the RADIUS primary accounting server for the LX unit.

Example

```
radius primary accounting server address 152.34.65.33
```

Displaying the IP Address of the RADIUS Primary Accounting Server

The IP Address of the RADIUS Primary Accounting Server is displayed under the `Primary RADIUS Accounting Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to "monitor/show radius characteristics" on page 176 for more information.

radius primary accounting server port

Specifies the RADIUS primary accounting server UDP port for the LX unit. (This is the UDP port to which the LX unit performs RADIUS accounting.)

Syntax

```
radius primary accounting server port NUMBER
```

Where	Means
NUMBER	The UDP port, on the RADIUS primary accounting server, to which the LX unit performs RADIUS accounting. The allowable values are 0 - 65535. **Note:** If you do not specify a RADIUS primary accounting port with this command, the LX unit will use the default RADIUS primary accounting port of 1813.

Example

```
radius primary accounting server port 1646
```

Displaying the RADIUS Primary Accounting Server UDP Port

The RADIUS Primary Accounting Server UDP port is displayed under the `Primary RADIUS Accounting Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to "monitor/show radius characteristics" on page 176 for more information.

radius primary accounting server retransmit

Specifies the maximum number of retries that the LX unit will have for transmitting an Accounting Request to the RADIUS primary accounting server when the LX unit receives no Accounting Response from the RADIUS primary accounting server.

Syntax

```
radius primary accounting server retransmit NUMBER
```

Where	Means
NUMBER	The maximum number of times that the LX unit will attempt to contact the RADIUS primary accounting server. The allowable values are 0 - 255. The default value is 3.

Example

```
radius primary accounting server retransmit 3
```

Displaying the Retransmit Value for the RADIUS Primary Accounting Server

The Retransmit Value for the RADIUS Primary Accounting Server is displayed under the `Primary RADIUS Accounting Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to "monitor/show radius characteristics" on page 176 for more information.

radius primary accounting server secret

Specifies the RADIUS secret shared between the LX unit and the RADIUS primary accounting server used for encrypting communications between them.

Syntax

```
radius primary accounting server secret WORD
```

Where	Means
WORD	A text string of up to 16 characters. The string is case sensitive.

Example

```
radius primary accounting server secret AaBbCc
```

Displaying the Status of the RADIUS Primary Accounting Server Secret

The status of the RADIUS Primary Accounting Server Secret (Configured/Not Configured) is displayed under the `Primary RADIUS Accounting Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to "monitor/show radius characteristics" on page 176 for more information.

radius primary accounting server timeout

Specifies the length of time that the LX unit will wait for the RADIUS primary accounting server to respond before retransmitting packets to the RADIUS primary accounting server.

Syntax

```
radius primary accounting server timeout NUMBER
```

Where	Means
NUMBER	The length of time, in seconds, that the LX unit will wait for a RADIUS primary accounting server to respond before retransmitting Accounting Requests to the RADIUS primary accounting server. The default value is 5. The allowable values are 1 - 255.

Example

```
radius primary accounting server timeout 3
```

Displaying the Timeout Value for the RADIUS Primary Accounting Server

The Timeout Value for the RADIUS Primary Accounting Server is displayed under the `Primary RADIUS Accounting Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics command` to display the RADIUS Characteristics Screen. Refer to "monitor/show radius characteristics" on page 176 for more information.

radius primary authentication server address

Specifies the RADIUS primary authentication server address for the LX unit.

Syntax

```
radius primary authentication server address A.B.C.D
```

Where	Means
A.B.C.D	The IP Address of the RADIUS primary authentication server for the LX unit.

Example

```
radius primary authentication server address 152.34.65.37
```

Displaying the IP Address of the RADIUS Primary Authentication Server

The IP Address of the RADIUS Primary Authentication Server is displayed under the `Primary RADIUS Authentication Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to "monitor/show radius characteristics" on page 176 for more information.

radius primary authentication server port

Specifies UDP port for the RADIUS primary authentication server.

Syntax

```
radius primary authentication server port NUMBER
```

Where	Means
NUMBER	The RADIUS primary authentication server UDP port for the LX unit. This value must match the primary accounting UDP port that is being used on the RADIUS primary authentication server. The allowable values are 0 - 65535. **Note:** If you do not specify a RADIUS primary authentication port with this command, the LX unit will use the default RADIUS primary authentication port of 1812.

Example

```
radius primary authentication server port 1645
```

Displaying the RADIUS Primary Authentication Server UDP Port

The RADIUS Primary Authentication Server UDP port is displayed under the `Primary RADIUS Authentication Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to "monitor/show radius characteristics" on page 176 for more information.

radius primary authentication server retransmit

Specifies the maximum number of retries that the LX unit will have for transmitting an Access Request to the RADIUS primary authentication server when the LX unit receives no Access Accept or Reject messages from the RADIUS primary authentication server.

Syntax

```
radius primary authentication server retransmit NUMBER
```

Where	Means
NUMBER	The maximum number of times that the LX unit will attempt to contact the RADIUS primary authentication server. The allowable values are 0 - 255. The default value is 3.

Example

```
radius primary authentication server retransmit 3
```

Displaying the Retransmit Value for the RADIUS Primary Authentication Server

The Retransmit Value for the RADIUS Primary Authentication Server is displayed under the `Primary RADIUS Authentication Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to "monitor/show radius characteristics" on page 176 for more information.

radius primary authentication server secret

Specifies the RADIUS secret shared between the LX unit and the RADIUS primary authentication server used for encrypting communications between them.

Syntax

```
radius primary authentication server secret WORD
```

Where	Means
WORD	A text string of up to 16 characters. The string is case sensitive.

Example

```
radius primary authentication server secret AaBbCc
```

Displaying the Status of the RADIUS Primary Authentication Server Secret

The status of the RADIUS Primary Authentication Server Secret (Configured/Not Configured) is displayed under the `Primary RADIUS Authentication Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to "monitor/show radius characteristics" on page 176 for more information.

radius primary authentication server timeout

Specifies the length of time that the LX unit will wait for the RADIUS primary authentication server to respond before retransmitting packets to the RADIUS primary authentication server.

Syntax

```
radius primary authentication server timeout NUMBER
```

Where	Means
NUMBER	The length of time, in seconds, that the LX unit will wait for a RADIUS primary authentication server to respond before retransmitting Access-Request messages to the RADIUS primary authentication server. The default value is 5. The allowable values are 1 - 255.

Example

```
radius primary authentication server timeout 3
```

Displaying the Timeout Value for the RADIUS Primary Authentication Server

The Timeout Value for the RADIUS Primary Authentication Server is displayed under the `Primary RADIUS Authentication Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to “monitor/show radius characteristics” on page 176 for more information.

radius secondary accounting server address

Specifies the IP Address of the RADIUS secondary accounting server for the LX unit.

Syntax

```
radius secondary accounting server address A.B.C.D
```

Where	Means
A.B.C.D	The IP Address of the RADIUS secondary accounting server for the LX unit.

Example

```
radius secondary accounting server address 152.34.65.33
```

Displaying the IP Address of the RADIUS Secondary Accounting Server

The IP Address of the RADIUS Secondary Accounting Server is displayed under the `Secondary RADIUS Accounting Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to "monitor/show radius characteristics" on page 176 for more information.

radius secondary accounting server port

Specifies the RADIUS secondary accounting server UDP port for the LX unit. (This is the UDP port to which the LX unit performs RADIUS accounting.)

Syntax

```
radius secondary accounting server port NUMBER
```

Where	Means
NUMBER	The UDP port, on the RADIUS secondary accounting server, to which the LX unit performs RADIUS accounting. The allowable values are 0 - 65535. **Note:** If you do not specify a RADIUS secondary accounting port with this command, the LX unit will use the default RADIUS secondary accounting port of 1813.

Example

```
radius secondary accounting server port 1813
```

Displaying the RADIUS Secondary Accounting Server UDP Port

The RADIUS Secondary Accounting Server UDP port is displayed under the `Secondary RADIUS Accounting Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to "monitor/show radius characteristics" on page 176 for more information.

radius secondary accounting server retransmit

Specifies the maximum number of retries that the LX unit will have for transmitting an Accounting Request to the RADIUS secondary accounting server when the LX unit receives no Accounting Response from the RADIUS secondary accounting server.

Syntax

```
radius secondary accounting server retransmit NUMBER
```

Where	Means
NUMBER	The maximum number of times that the LX unit will attempt to contact the RADIUS secondary accounting server. The allowable values are 0 - 255. The default value is 3.

Example

```
radius secondary accounting server retransmit 3
```

Displaying the Retransmit Value for the RADIUS Secondary Accounting Server

The Retransmit Value for the RADIUS Secondary Accounting Server is displayed under the `Secondary RADIUS Accounting Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to “monitor/show radius characteristics” on page 176 for more information.

radius secondary accounting server secret

Specifies the RADIUS secret shared between the LX unit and the RADIUS secondary accounting server used for encrypting communications between them.

Syntax

```
radius secondary accounting server secret WORD
```

Where	Means
WORD	A text string of up to 16 characters. The string is case sensitive.

Example

```
radius secondary accounting server secret AaBbCc
```

Displaying the Status of the RADIUS Secondary Accounting Server Secret

The status of the RADIUS Secondary Accounting Server Secret (Configured/Not Configured) is displayed under the `Secondary RADIUS Accounting Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to "monitor/show radius characteristics" on page 176 for more information.

radius secondary accounting server timeout

Specifies the length of time that the LX unit will wait for the RADIUS secondary accounting server to respond before retransmitting packets to the RADIUS secondary accounting server.

Syntax

```
radius secondary accounting server timeout NUMBER
```

Where	Means
NUMBER	The length of time, in seconds, that the LX unit will wait for a RADIUS secondary accounting server to respond before retransmitting Accounting Requests to the RADIUS secondary accounting server. The default value is 5. The allowable values are 1 - 255.

Example

```
radius secondary accounting server timeout 3
```

Displaying the Timeout Value for the RADIUS Secondary Accounting Server

The Timeout Value for the RADIUS Secondary Accounting Server is displayed under the `Secondary RADIUS Accounting Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to “monitor/show radius characteristics” on page 176 for more information.

radius secondary authentication server address

Specifies the RADIUS secondary authentication server address for the LX unit.

Syntax

```
radius secondary authentication server address A.B.C.D
```

Where	Means
A.B.C.D	The IP Address of the RADIUS secondary authentication server for the LX unit.

Example

```
radius secondary authentication server address 152.34.65.37
```

Displaying the IP Address of the RADIUS Secondary Authentication Server

The IP Address of the RADIUS Secondary Authentication Server is displayed under the `Secondary RADIUS Authentication Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to "monitor/show radius characteristics" on page 176 for more information.

radius secondary authentication server port

Specifies the UDP port for the RADIUS secondary authentication server.

Syntax

```
radius secondary authentication server port NUMBER
```

Where	Means
NUMBER	The RADIUS secondary authentication server UDP port for the LX unit. This value must match the secondary accounting UDP port that is being used on the RADIUS secondary authentication server. The allowable values are 0 - 65535. **Note:** If you do not specify a RADIUS secondary authentication port with this command, the LX unit will use the default RADIUS secondary authentication port of 1812.

Example

```
radius secondary authentication server port 1812
```

Displaying the RADIUS Secondary Authentication Server UDP Port

The RADIUS Secondary Authentication Server UDP port is displayed under the `Secondary RADIUS Authentication Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to “monitor/show radius characteristics” on page 176 for more information.

radius secondary authentication server retransmit

Specifies the maximum number of retries that the LX unit will have for transmitting an Access Request to the RADIUS secondary authentication server when the LX unit does not receive Access Accept or Reject messages from the RADIUS secondary authentication server.

Syntax

```
radius secondary authentication server retransmit NUMBER
```

Where	Means
NUMBER	The maximum number of times that the LX unit will attempt to contact the RADIUS secondary authentication server. The allowable values are 0 - 255. The default value is 3.

Example

```
radius secondary authentication server retransmit 3
```

Displaying the Retransmit Value for the RADIUS Secondary Authentication Server

The Retransmit Value for the RADIUS Secondary Authentication Server is displayed under the `Secondary RADIUS Authentication Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to "monitor/show radius characteristics" on page 176 for more information.

radius secondary authentication server secret

Specifies the RADIUS secret shared between the LX unit and the RADIUS secondary authentication server used for encrypting communications between them.

Syntax

```
radius secondary authentication server secret WORD
```

Where	Means
WORD	A text string of up to 16 characters. The string is case sensitive.

Example

```
radius secondary authentication server secret AaBbCc
```

Displaying the Status of the RADIUS Secondary Authentication Server Secret

The status of the RADIUS Secondary Authentication Server Secret (Configured/Not Configured) is displayed under the `Secondary RADIUS Authentication Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to "monitor/show radius characteristics" on page 176 for more information.

radius secondary authentication server timeout

Specifies the length of time that the LX unit will wait for the RADIUS secondary authentication server to respond before retransmitting packets to the RADIUS secondary authentication server.

Syntax

```
radius secondary authentication server timeout NUMBER
```

Where	Means
NUMBER	The length of time, in seconds, that the LX unit will wait for a RADIUS secondary authentication server to respond before retransmitting Access-Request messages to the RADIUS secondary authentication server. The default value is 5. The allowable values are 1 - 255.

Example

```
radius secondary authentication server timeout 3
```

Displaying the Timeout Value for the RADIUS Secondary Authentication Server

The Timeout Value for the RADIUS Secondary Authentication Server is displayed under the `Secondary RADIUS Authentication Server` heading on the RADIUS Characteristics Screen. An example of the RADIUS Characteristics Screen appears in Figure 77 on page 176.

Use the `monitor/show radius characteristics` command to display the RADIUS Characteristics Screen. Refer to "monitor/show radius characteristics" on page 176 for more information.

securid authentication encryption

Specifies the encryption method for SecurID authentication on the LX unit.

NOTE: PPP CHAP is not supported with authentication Securid.

Syntax

```
securid authentication encryption des|sdi
```

Where	Means
des	Specifies DES as the SecurID encryption method.
sdi	Specifies SDI as the SecurID encryption method.

Example

```
securid authentication encryption des

securid authentication encryption sdi
```

Displaying the SecurID Encryption Method

The SecurID encryption method for the LX unit is displayed in the `Authentication Encryption` field of the SecurID Characteristics Screen. An example of the SecurID Characteristics Screen appears in Figure 81 on page 183.

Use the `monitor/show securid characteristics` command to display the SecurID Characteristics Screen. Refer to "monitor/show securid characteristics" on page 183 for more information.

securid authentication port

Specifies the LX UDP port that the that the LX unit and the SecurID authentication server will use for communication.

Syntax

`securid authentication port <port_number>`

Where	Means
port_number	The port number of a UDP port on the LX unit. This can be any UDP port number that is not currently in use. The allowable values are 0 - 65535.

Example

```
securid authentication port 5500
```

Displaying the SecurID Authentication Server UDP Port

The SecurID Authentication Server UDP port is displayed in the `Authentication Port` field of the SecurID Characteristics Screen. An example of the SecurID Characteristics Screen appears in Figure 81 on page 183.

Use the `monitor/show securid characteristics` command to display the SecurID Characteristics Screen. Refer to "monitor/show securid characteristics" on page 183 for more information.

securid authentication retransmit

Specifies the maximum number of retries that the LX unit will have for transmitting an Access Request to the SecurID authentication server when the LX unit receives no Access Accept or Reject messages from the SecurID primary authentication server.

Syntax

```
securid authentication retransmit NUMBER
```

Where	Means
NUMBER	The maximum number of times that the LX unit will attempt to contact the SecurID authentication server. This can be any integer number from 0 through 255. The default value is 3.

Example

```
securid authentication retransmit 7
```

Displaying the SecurID Retransmit Value

The SecurID Retransmit Value is displayed in the `Authentication Retransmit` field of the SecurID Characteristics Screen. An example of the SecurID Characteristics Screen appears in Figure 81 on page 183.

Use the `monitor/show securid characteristics` command to display the SecurID Characteristics Screen. Refer to “monitor/show securid characteristics” on page 183 for more information.

securid authentication timeout

Specifies the length of time that the LX unit will wait for the SecurID authentication server to respond before retransmitting packets to the SecurID authentication server.

Syntax

```
securid authentication timeout NUMBER
```

Where	Means
NUMBER	The length of time, in seconds, that the LX unit will wait for the SecurID authentication server to respond before retransmitting Access-Request messages to the SecurID authentication server. This can be any integer number from 0 through 255. The default value is 3.

Example

```
securid authentication timeout 3
```

Displaying the SecurID Timeout Value

The SecurID timeout Value is displayed in the `Authentication Timeout` field of the SecurID Characteristics Screen. An example of the SecurID Characteristics Screen appears in Figure 81 on page 183.

Use the `monitor/show securid characteristics` command to display the SecurID Characteristics Screen. Refer to "monitor/show securid characteristics" on page 183 for more information.

securid authentication version

Specifies the SecurID authentication version that will be used on the LX unit.

Syntax

```
securid authentication version legacy|version_5
```

Where	Means
legacy	The version of SecurID that will be used is older than Version 5.
version_5	Version 5 SecurID authentication will be used.

Example

```
securid authentication version legacy

securid authentication version version_5
```

Displaying the SecurID Authentication Version

The SecurID authentication version is displayed in the `Authentication Version` field of the SecurID Characteristics Screen. An example of the SecurID Characteristics Screen appears in Figure 81 on page 183.

Use the `monitor/show securid characteristics` command to display the SecurID Characteristics Screen. Refer to "monitor/show securid characteristics" on page 183 for more information.

securid local subscriber enable

Enables the SecurID Local Subscriber Feature.

Syntax

```
securid local subscriber enable
```

Usage Guidelines

Under the SecurID Local Subscriber Feature, a subscriber can be logged on in one of two ways:

- As an LX subscriber with the attributes of that subscriber (if the LX subscriber account exists)
- Or, if the LX subscriber account does *not* exist, as the default (InReach) subscriber.

Under either scenario, the subscriber must have a SecurID account on the SecurID server. If the subscriber account also exists on the LX unit, the subscriber is logged on under that account and with the attributes of that account. If the subscriber account does *not* exist on the LX unit, the subscriber is logged on under his SecurID account with the attributes of the default (InReach) account.

Example

```
securid local subscriber enable
```

Displaying the State of the SecurID Local Subscriber Feature

The state of the SecurID Local Subscriber Feature (Enabled, Disabled, or Only) is displayed in the `Local Subscriber` field of the SecurID Characteristics Screen. An example of the SecurID Characteristics Screen appears in Figure 81 on page 183.

Use the `monitor/show securid characteristics` command to display the SecurID Characteristics Screen. Refer to “monitor/show securid characteristics” on page 183 for more information.

securid local subscriber only

Specifies that the subscriber must have an LX subscriber account configured in order to be authenticated with SecurID.

Syntax

```
securid local subscriber only
```

Usage Guidelines

When this setting is in effect, the subscriber can only be logged in if the following conditions are true:

- The subscriber account must be configured on both the LX unit and the SecurID server.
- The subscriber account on the LX server must have the same name as the subscriber account on the SecurID server.

Example

```
securid local subscriber only
```

Displaying the State of the SecurID Local Subscriber Feature

The state of the SecurID Local Subscriber Feature (Enabled, Disabled, or Only) is displayed in the `Local Subscriber` field of the SecurID Characteristics Screen. An example of the SecurID Characteristics Screen appears in Figure 81 on page 183.

Use the `monitor/show securid characteristics` command to display the SecurID Characteristics Screen. Refer to "monitor/show securid characteristics" on page 183 for more information.

securid master authentication server address

Specifies the SecurID master authentication server address for the LX unit.

NOTE: You can not specify a SecurID master authentication server for Version 5, or higher, or SecurID.

Syntax

```
securid master authentication server address A.B.C.D
```

Where	Means
A.B.C.D	The IP Address of the SecurID master authentication server for the LX unit.

Example

```
securid master authentication server address 192.16.65.38
```

Displaying the SecurID Master Authentication Server Address

The SecurID master authentication server address is displayed in the `Legacy Master Server` field of the SecurID Characteristics Screen. An example of the SecurID Characteristics Screen appears in Figure 81 on page 183.

Use the `monitor/show securid characteristics` command to display the SecurID Characteristics Screen. Refer to "monitor/show securid characteristics" on page 183 for more information.

securid master authentication server name

Specifies the host name of the SecurID master authentication server for the LX unit.

Syntax

```
securid master authentication server name HOSTNAME
```

Where	Means
HOSTNAME	The host name of the SecurID master authentication server for the LX unit.

Example

```
securid master authentication server name bigsky22
```

Displaying the Name of the SecurID Master Authentication Server

The name of the SecurID master authentication server is displayed in the `Master Name` field of the SecurID Characteristics Screen. An example of the SecurID Characteristics Screen appears in Figure 81 on page 183.

Use the `monitor/show securid characteristics` command to display the SecurID Characteristics Screen. Refer to "monitor/show securid characteristics" on page 183 for more information.

securid primary authentication server address

Specifies the SecurID primary authentication server address for the LX unit.

Syntax

```
securid primary authentication server address A.B.C.D
```

Where	Means
A.B.C.D	The IP Address of the SecurID primary authentication server for the LX unit.

Example

```
securid primary authentication server address 138.30.65.34
```

Displaying the SecurID Primary Authentication Server Address

The SecurID primary authentication server address is displayed in the `V5 Primary Server` field of the SecurID Characteristics Screen. An example of the SecurID Characteristics Screen appears in Figure 81 on page 183.

Use the `monitor/show securid characteristics` command to display the SecurID Characteristics Screen. Refer to "monitor/show securid characteristics" on page 183 for more information.

securid primary authentication server name

Specifies the host name of the SecurID primary authentication server for the LX unit.

Syntax

```
securid primary authentication server name HOSTNAME
```

Where	Means
HOSTNAME	The host name of the SecurID primary authentication server for the LX unit.

Example

```
securid primary authentication server name bigsky1
```

Displaying the Name of the SecurID Primary Authentication Server

The name of the SecurID primary authentication server is displayed in the `Primary Name` field of the SecurID Characteristics Screen. An example of the SecurID Characteristics Screen appears in Figure 81 on page 183.

Use the `monitor/show securid characteristics` command to display the SecurID Characteristics Screen. Refer to "monitor/show securid characteristics" on page 183 for more information.

securid slave authentication server address

Specifies the SecurID slave authentication server address for the LX unit.

NOTE: You can not specify a SecurID slave authentication server for Version 5, or higher, or SecurID.

Syntax

```
securid slave authentication server address A.B.C.D
```

Where	Means
A.B.C.D	The IP Address of the SecurID slave authentication server for the LX unit.

Example

```
securid slave authentication server address 192.16.23.115
```

Displaying the SecurID Slave Authentication Server Address

The SecurID slave authentication server address is displayed in the `Legacy Slave Server` field of the SecurID Characteristics Screen. An example of the SecurID Characteristics Screen appears in Figure 81 on page 183.

Use the `monitor/show securid characteristics` command to display the SecurID Characteristics Screen. Refer to "monitor/show securid characteristics" on page 183 for more information.

securid slave authentication server name

Specifies the host name of the SecurID slave authentication server for the LX unit.

Syntax

```
securid slave authentication server name HOSTNAME
```

Where	Means
HOSTNAME	The host name of the SecurID slave authentication server for the LX unit.

Example

```
securid slave authentication server name bigsky37
```

Displaying the Name of the SecurID Slave Authentication Server

The name of the SecurID slave authentication server is displayed in the `Slave Name` field of the SecurID Characteristics Screen. An example of the SecurID Characteristics Screen appears in Figure 81 on page 183.

Use the `monitor/show securid characteristics` command to display the SecurID Characteristics Screen. Refer to "monitor/show securid characteristics" on page 183 for more information.

tacacs+ local subscriber enable

Enables the TACACS+ Local Subscriber Feature.

Syntax

```
tacacs+ local subscriber enable
```

Usage Guidelines

Under the TACACS+ Local Subscriber Feature, a subscriber can be logged on in one of two ways:

- As an LX subscriber with the attributes of that subscriber (if the LX subscriber account exists)
- Or, if the LX subscriber account does *not* exist, as the default (InReach) subscriber.

Under either scenario, the subscriber must have a TACACS+ account on the TACACS+ server. If the subscriber account also exists on the LX unit, the subscriber is logged on under that account and with the attributes of that account. If the subscriber account does *not* exist on the LX unit, the subscriber is logged on under his TACACS+ account with the attributes of the default (InReach) account.

Example

```
tacacs+ local subscriber enable
```

Displaying the State of the TACACS+ Local Subscriber Feature

The state of the TACACS+ Local Subscriber Feature (Enabled, Disabled, or Only) is displayed in the `Local Subscriber` field of the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ local subscriber only

Specifies that the subscriber must have an LX subscriber account configured in order to be authenticated with TACACS+.

Syntax

```
tacacs+ local subscriber only
```

Usage Guidelines

When this setting is in effect, the subscriber can only be logged in if the following conditions are true:

- The subscriber account must be configured on both the LX unit and the TACACS+ server.
- The subscriber account on the LX server must have the same name as the subscriber account on the TACACS+ server.

Example

```
tacacs+ local subscriber only
```

Displaying the State of the TACACS+ Local Subscriber Feature

The state of the TACACS+ Local Subscriber Feature (Enabled, Disabled, or Only) is displayed in the `Local Subscriber` field of the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ period

Specifies the interval at which the LX unit will update the TACACS+ accounting server with the status of each TACACS+ user.

Syntax

```
tacacs+ period NUMBER
```

Where	Means
NUMBER	The interval, in minutes, at which the LX unit will update the TACACS+ accounting server with the status of each TACACS+ user. The default value is 5. The allowable values are 0 - 255.

Example

```
tacacs+ period 10
```

Displaying the TACACS+ Period

The TACACS+ Period is displayed in the `TACACS+ Accounting Server Period` field of the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ primary accounting server address

Specifies the IP Address of the TACACS+ primary accounting server for the LX unit.

Syntax

```
tacacs+ primary accounting server address A.B.C.D
```

Where	Means
A.B.C.D	The IP Address of the TACACS+ primary accounting server for the LX unit.

Example

```
tacacs+ primary accounting server address 152.34.65.33
```

Displaying the IP Address of the TACACS+ Primary Accounting Server

The IP Address of the TACACS+ Primary Accounting Server is displayed under the `Primary TACACS+ Accounting Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ primary accounting server port

Specifies the TACACS+ primary accounting server TCP port for the LX unit. (This is the TCP port to which the LX unit performs TACACS+ accounting.)

Syntax

```
tacacs+ primary accounting server port NUMBER
```

Where	Means
NUMBER	The TCP port, on the TACACS+ primary accounting server, to which the LX unit performs TACACS+ accounting. The allowable values are 0 - 65535. **Note:** If you do not specify a TACACS+ primary accounting port with this command, the LX unit will use the default TACACS+ primary accounting port of 49.

Example

```
tacacs+ primary accounting server port 49
```

Displaying the TACACS+ Primary Accounting Server TCP Port

The TACACS+ Primary Accounting Server TCP port is displayed under the `Primary TACACS+ Accounting Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ primary accounting server retransmit

Specifies the maximum number of retries that the LX unit will have for transmitting an Accounting Request to the TACACS+ primary accounting server when the LX unit does not receive an Accounting Response from the TACACS+ primary accounting server.

Syntax

```
tacacs+ primary accounting server retransmit NUMBER
```

Where	Means
NUMBER	The maximum number of times that the LX unit will attempt to contact the TACACS+ primary accounting server. The allowable values are 0 - 255. The default value is 3.

Example

```
tacacs+ primary accounting server retransmit 3
```

Displaying the Retransmit Value for the TACACS+ Primary Accounting Server

The Retransmit Value for the TACACS+ Primary Accounting Server is displayed under the `Primary TACACS+ Accounting Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to “monitor/show tacacs+ characteristics” on page 221 for more information.

tacacs+ primary accounting server secret

Specifies the TACACS+ secret shared between the LX unit and the TACACS+ primary accounting server used for encrypting communications between them.

Syntax

```
tacacs+ primary accounting server secret WORD
```

Where	Means
WORD	A text string of up to 16 characters. The string is case sensitive.

Example

```
tacacs+ primary accounting server secret AaBbCc
```

Displaying the Status of the TACACS+ Primary Accounting Server Secret

The status of the TACACS+ Primary Accounting Server Secret (Configured/Not Configured) is displayed under the `Primary TACACS+ Accounting Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ primary accounting server timeout

Specifies the length of time that the LX unit will wait for the TACACS+ primary accounting server to respond before retransmitting packets to the TACACS+ primary accounting server.

Syntax

```
tacacs+ primary accounting server timeout NUMBER
```

Where	Means
NUMBER	The length of time, in seconds, that the LX unit will wait for a TACACS+ primary accounting server to respond before retransmitting Accounting Requests to the TACACS+ primary accounting server. The default value is 5. The allowable values are 1 - 255.

Example

```
tacacs+ primary accounting server timeout 3
```

Displaying the Timeout Value for the TACACS+ Primary Accounting Server

The Timeout Value for the TACACS+ Primary Accounting Server is displayed under the `Primary TACACS+ Accounting Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ primary authentication server address

Specifies the TACACS+ primary authentication server address for the LX unit.

Syntax

```
tacacs+ primary authentication server address A.B.C.D
```

Where	Means
A.B.C.D	The IP Address of the TACACS+ primary authentication server for the LX unit.

Example

```
tacacs+ primary authentication server address 152.34.65.37
```

Displaying the IP Address of the TACACS+ Primary Authentication Server

The IP Address of the TACACS+ Primary Authentication Server is displayed under the `Primary TACACS+ Authentication Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ primary authentication server port

Specifies TCP port for the TACACS+ primary authentication server.

Syntax

```
tacacs+ primary authentication server port NUMBER
```

Where	Means
NUMBER	The TACACS+ primary authentication server TCP port for the LX unit. This value must match the primary accounting TCP port that is being used on the TACACS+ primary authentication server. The allowable values are 0 - 65535. **Note:** If you do not specify a TACACS+ primary authentication port with this command, the LX unit will use the default TACACS+ primary authentication port of 49.

Example

```
tacacs+ primary authentication server port 49
```

Displaying the TACACS+ Primary Authentication Server TCP Port

The TACACS+ Primary Authentication Server TCP port is displayed under the `Primary TACACS+ Authentication Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ primary authentication server retransmit

Specifies the maximum number of retries that the LX unit will have for transmitting an Access Request to the TACACS+ primary authentication server when the LX unit does not receive an Access Accept or Reject messages from the TACACS+ primary authentication server.

Syntax

```
tacacs+ primary authentication server retransmit NUMBER
```

Where	Means
NUMBER	The maximum number of times that the LX unit will attempt to contact the TACACS+ primary authentication server. The allowable values are 0 - 255. The default value is 3.

Example

```
tacacs+ primary authentication server retransmit 3
```

Displaying the Retransmit Value for the TACACS+ Primary Authentication Server

The Retransmit Value for the TACACS+ Primary Authentication Server is displayed under the `Primary TACACS+ Authentication Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ primary authentication server secret

Specifies the TACACS+ secret shared between the LX unit and the TACACS+ primary authentication server used for encrypting communications between them.

Syntax

```
tacacs+ primary authentication server secret WORD
```

Where	Means
WORD	A text string of up to 16 characters. The string is case sensitive.

Example

```
tacacs+ primary authentication server secret AaBbCc
```

Displaying the Status of the TACACS+ Primary Authentication Server Secret

The status of the TACACS+ Primary Authentication Server Secret (Configured/Not Configured) is displayed under the `Primary TACACS+ Authentication Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ primary authentication server timeout

Specifies the length of time that the LX unit will wait for the TACACS+ primary authentication server to respond before retransmitting packets to the TACACS+ primary authentication server.

Syntax

```
tacacs+ primary authentication server timeout NUMBER
```

Where	Means
NUMBER	The length of time, in seconds, that the LX unit will wait for a TACACS+ primary authentication server to respond before retransmitting Access-Request messages to the TACACS+ primary authentication server. The allowable values are 0 - 255. The default value is 5.

Example

```
tacacs+ primary authentication server timeout 3
```

Displaying the Timeout Value for the TACACS+ Primary Authentication Server

The Timeout Value for the TACACS+ Primary Authentication Server is displayed under the `Primary TACACS+ Authentication Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ secondary accounting server address

Specifies the IP Address of the TACACS+ secondary accounting server for the LX unit.

Syntax

```
tacacs+ secondary accounting server address A.B.C.D
```

Where	Means
A.B.C.D	The IP Address of the TACACS+ secondary accounting server for the LX unit.

Example

```
tacacs+ secondary accounting server address 152.34.65.33
```

Displaying the IP Address of the TACACS+ Secondary Accounting Server

The IP Address of the TACACS+ Secondary Accounting Server is displayed under the `Secondary TACACS+ Accounting Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ secondary accounting server port

Specifies the TACACS+ secondary accounting server TCP port for the LX unit. (This is the TCP port to which the LX unit performs TACACS+ accounting.)

Syntax

```
tacacs+ secondary accounting server port NUMBER
```

Where	Means
NUMBER	The TCP port, on the TACACS+ secondary accounting server, to which the LX unit performs TACACS+ accounting. The allowable values are 0 - 65535. **Note:** If you do not specify a TACACS+ secondary accounting port with this command, the LX unit will use the default TACACS+ secondary accounting port of 49.

Example

```
tacacs+ secondary accounting server port 89
```

Displaying the TACACS+ Secondary Accounting Server TCP Port

The TACACS+ Secondary Accounting Server TCP port is displayed under the `Secondary TACACS+ Accounting Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ secondary accounting server retransmit

Specifies the maximum number of retries that the LX unit will have for transmitting an Accounting Request to the TACACS+ secondary accounting server when the LX unit does not receive an Accounting Response from the TACACS+ secondary accounting server.

Syntax

```
tacacs+ secondary accounting server retransmit NUMBER
```

Where	Means
NUMBER	The maximum number of times that the LX unit will attempt to contact the TACACS+ secondary accounting server. The allowable values are 0 - 255. The default value is 3.

Example

```
tacacs+ secondary accounting server retransmit 3
```

Displaying the Retransmit Value for the TACACS+ Secondary Accounting Server

The Retransmit Value for the TACACS+ Secondary Accounting Server is displayed under the `Secondary TACACS+ Accounting Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ secondary accounting server secret

Specifies the TACACS+ secret shared between the LX unit and the TACACS+ secondary accounting server used for encrypting communications between them.

Syntax

```
tacacs+ secondary accounting server secret WORD
```

Where	Means
WORD	A text string of up to 16 characters. The string is case sensitive.

Example

```
tacacs+ secondary accounting server secret AaBbCc
```

Displaying the Status of the TACACS+ Secondary Accounting Server Secret

The status of the TACACS+ Secondary Accounting Server Secret (Configured/Not Configured) is displayed under the `Secondary TACACS+ Accounting Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ secondary accounting server timeout

Specifies the length of time that the LX unit will wait for the TACACS+ secondary accounting server to respond before retransmitting packets to the TACACS+ secondary accounting server.

Syntax

```
tacacs+ secondary accounting server timeout NUMBER
```

Where	Means
NUMBER	The length of time, in seconds, that the LX unit will wait for a TACACS+ secondary accounting server to respond before retransmitting Accounting Requests to the TACACS+ secondary accounting server. The allowable values are 0 - 255. The default value is 5.

Example

```
tacacs+ secondary accounting server timeout 3
```

Displaying the Timeout Value for the TACACS+ Secondary Accounting Server

The Timeout Value for the TACACS+ Secondary Accounting Server is displayed under the `Secondary TACACS+ Accounting Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ secondary authentication server address

Specifies the TACACS+ secondary authentication server address for the LX unit.

Syntax

```
tacacs+ secondary authentication server address A.B.C.D
```

Where	Means
A.B.C.D	The IP Address of the TACACS+ secondary authentication server for the LX unit.

Example

```
tacacs+ secondary authentication server address 152.34.65.37
```

Displaying the IP Address of the TACACS+ Secondary Authentication Server

The IP Address of the TACACS+ Secondary Authentication Server is displayed under the `Secondary TACACS+ Authentication Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ secondary authentication server port

Specifies the TCP port for the TACACS+ secondary authentication server.

Syntax

```
tacacs+ secondary authentication server port NUMBER
```

Where	Means
NUMBER	The TACACS+ secondary authentication server TCP port for the LX unit. This value must match the secondary accounting TCP port that is being used on the TACACS+ secondary authentication server. The allowable values are 0 - 65535. **Note:** If you do not specify a TACACS+ secondary authentication port with this command, the LX unit will use the default TACACS+ secondary authentication port of 49.

Example

```
tacacs+ secondary authentication server port 89
```

Displaying the TACACS+ Secondary Authentication Server TCP Port

The TACACS+ Secondary Authentication Server TCP port is displayed under the `Secondary TACACS+ Authentication Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ secondary authentication server retransmit

Specifies the maximum number of retries that the LX unit will have for transmitting an Access Request to the TACACS+ secondary authentication server when the LX unit does not receive an Access Accept or Reject message from the TACACS+ secondary authentication server.

Syntax

```
tacacs+ secondary authentication server retransmit NUMBER
```

Where	Means
NUMBER	The maximum number of times that the LX unit will attempt to contact the TACACS+ secondary authentication server. The allowable values are 0 - 255. The default value is 3.

Example

```
tacacs+ secondary authentication server retransmit 3
```

Displaying the Retransmit Value for the TACACS+ Secondary Authentication Server

The Retransmit Value for the TACACS+ Secondary Authentication Server is displayed under the `Secondary TACACS+ Authentication Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ secondary authentication server secret

Specifies the TACACS+ secret shared between the LX unit and the TACACS+ secondary authentication server used for encrypting communications between them.

Syntax

```
tacacs+ secondary authentication server secret WORD
```

Where	Means
WORD	A text string of up to 16 characters. The string is case sensitive.

Example

```
tacacs+ secondary authentication server secret AaBbCc
```

Displaying the Status of the TACACS+ Secondary Authentication Server Secret

The status of the TACACS+ Secondary Authentication Server Secret (Configured/Not Configured) is displayed under the `Secondary TACACS+ Authentication Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ secondary authentication server timeout

Specifies the length of time that the LX unit will wait for the TACACS+ secondary authentication server to respond before retransmitting packets to the TACACS+ secondary authentication server.

Syntax

```
tacacs+ secondary authentication server timeout NUMBER
```

Where	Means
NUMBER	The length of time, in seconds, that the LX unit will wait for a TACACS+ secondary authentication server to respond before retransmitting Access-Request messages to the TACACS+ secondary authentication server. The allowable values are 0 - 255. The default value is 5.

Example

```
tacacs+ secondary authentication server timeout 3
```

Displaying the Timeout Value for the TACACS+ Secondary Authentication Server

The Timeout Value for the TACACS+ Secondary Authentication Server is displayed under the `Secondary TACACS+ Authentication Server` heading on the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

tacacs+ superuser password request enable

Specifies that a Superuser password request will be sent to TACACS+.

Syntax

```
tacacs+ superuser password request enable
```

Usage Guidelines

When this setting is disabled, the local Superuser password (**system**) will be used to enter the Superuser Command Mode. Use the `no tacacs+ superuser password request` command to disable this setting.

When this setting is enabled, the superuser password that resides on the TACACS+ authentication server will be used to enter the Superuser Command Mode.

Example

```
tacacs+ superuser password request enable
```

Displaying the Timeout Value for the TACACS+ Secondary Authentication Server

The state of the TACACS+ Superuser Password Request setting is displayed in the `TACACS+ Superuser Request` field of the TACACS+ Characteristics Screen. An example of the TACACS+ Characteristics Screen appears in Figure 101 on page 221.

Use the `monitor/show tacacs+ characteristics` command to display the TACACS+ Characteristics Screen. Refer to "monitor/show tacacs+ characteristics" on page 221 for more information.

Chapter 5

Interface Commands

The Interface commands are executed in the Interface command mode. When the LX unit is in the Interface command mode, the Interface command prompt (e.g., `Intf 1-1:0 >>`) is displayed on the terminal screen.

The format of the Interface command prompt is as follows:

```
Intf <interface_num>-<interface_num>:<session_number> >>
```

where `<interface_num>` identifies the IP interface under configuration.

`<session_number>` identifies the current session number.

For example, in the Interface command prompt `Intf 1-1:0 >>`, IP interface 1 is the IP interface under configuration, and the session number is 0.

To enter the Interface command mode, execute the `interface` command in the Configuration command mode. The `interface` command is described on page 330.

address

Specifies the IP Address and subnet mask for the IP interface.

Syntax

`address <ip_address> [mask <subnet_mask>]`

Where	Means
ip_address	The IP Address for the IP interface.
subnet_mask	The subnet mask for the IP interface.

Examples

```
address 119.20.112.3
```

```
address 119.20.112.3 mask 255.0.0.0
```

Displaying the IP Address and Subnet Mask of an IP Interface

The configured IP address of an IP interface is displayed in the `IP Address` field of the Interface Characteristics Screen. The configured subnet mask of an IP interface is displayed in the `IP Mask` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to “monitor/show interface characteristics” on page 115 for more information.

authentication fallback attempts

Sets the number of attempts before falling back to local security.

Syntax

`authentication fallback attempts <number>`

Where	Means
<*number*>	The number of failed login attempts before falling back. The default is 3.

Usage Guidelines

Fallback Login is a mechanism for logging in users when RADIUS authentication, SecurID authentication, LDAP authentication, or TACACS+ authentication, fails because the authentication server is unreachable. When you log in via Fallback, you are logged in to the IP interface as a nonprivileged user. Fallback Attempts lets you set the number of attempts to the primary and secondary server. If you set this number to 0, authentication fallback is disabled automatically. If you set this number to a whole number, authentication fallback is enabled.

Example

```
authentication fallback attempts 3
```

Displaying the State of the Authentication Fallback Attempts Feature

The value of the Authentication Fallback attempts feature is displayed in the `Auth. Fallback Attempts` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

authentication fallback enable

Enables the Fallback Login feature on the IP interface under configuration.

Syntax

```
authentication fallback enable
```

Usage Guidelines

Fallback Login is a mechanism for logging in users when RADIUS authentication, SecurID authentication, LDAP authentication, or TACACS+ authentication, fails because the authentication server is unreachable. When you log in via Fallback, you are logged in to the IP interface as a nonprivileged user. The authentication challenge will be against the local subscriber database. If you disable authentication fallback by typing `no authentication fallback`, `authentication fallback attempts` is set to 0 automatically.

When RADIUS, SecurID, LDAP, and TACACS+ are disabled on the IP interface, Fallback is also disabled.

Example

```
authentication fallback enable
```

Displaying the State of the Fallback Login Feature

The state of the Fallback Login feature (Enabled/disabled) is displayed in the `Authentication Fallback` field of the Interface Characteristics Screen.
An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to “monitor/show interface characteristics” on page 115 for more information.

authentication ldap enable

Enables LDAP Authentication on the IP interface under configuration.

Syntax

```
authentication ldap enable
```

Example

```
authentication ldap enable
```

Displaying the Authentication Method for an IP Interface

The authentication method for an IP interface is displayed in the `Authentication` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

authentication local enable

Enables Local Authentication on the IP interface under configuration.

Syntax

```
authentication local enable
```

Example

```
      authentication local enable
```

Displaying the Authentication Method for an IP Interface

The authentication method for an IP interface is displayed in the `Authentication` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

authentication none

Disables the Authentication feature on the IP interface under configuration.

Syntax

```
authentication none
```

Example

```
authentication none
```

Displaying the Authentication Method for an IP Interface

The authentication method for an IP interface is displayed in the `Authentication` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

authentication radius enable

Enables the RADIUS authentication feature on the IP interface under configuration.

Syntax

```
authentication radius enable
```

Example

```
authentication radius enable
```

Displaying the Authentication Method for an IP Interface

The authentication method for an IP interface is displayed in the `Authentication` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

authentication securid enable

Enables the SecurID authentication feature on the IP interface under configuration.

Syntax

```
authentication securid enable
```

Example

```
authentication securid enable
```

Displaying the Authentication Method for an IP Interface

The authentication method for an IP interface is displayed in the `Authentication` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

authentication tacacs+ enable

Enables the TACACS+ authentication feature on the IP interface under configuration.

Syntax

```
authentication tacacs+ enable
```

Example

```
authentication tacacs+ enable
```

Displaying the Authentication Method for an IP Interface

The authentication method for an IP interface is displayed in the `Authentication` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

banner

Specifies the Banner display option (or welcome message) for the IP interface.

Syntax

```
banner local|none
```

Where	Means
local	Display the banner for the IP interface when the IP interface is accessed from the serial side.
none	Do not display the banner for the IP interface when the IP interface is accessed by any method.

Examples

```
banner local

banner none
```

Displaying the Banner Display Option for an IP Interface

The Banner Display Option for an IP interface is displayed in the `Banner Display` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

banner file

Specifies the Banner file you edit (to change the welcome message) to use for the IP interface.

Syntax

`banner file <filename>`

Where	Means
filename	Displays the banner file for the IP interface when the IP interface is accessed from the serial side.

Examples

```
banner file /config/banner.default
```

Displaying the Banner File for an IP Interface

The Banner File for an IP interface is displayed in the `Banner` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

bind port async protocol ppp

Binds the IP interface under configuration to PPP and specifies the asynchronous port that the IP interface will use for PPP Links.

Syntax

`bind port async <port_number> protocol ppp`

Where	Means
port_number	The LX asynchronous port that will be used for PPP Links by the IP interface under configuration.

Usage Guidelines

By default, the IP interface is bound to Ethernet (Eth0). After you execute this command, you can re-bind the IP interface to Eth0 by executing the `default bind` command. (The `default bind` command is described on page 502.)

If a port has Autobaud enabled, you can not bind it to an IP interface for use with PPP Links. Use the `no autobaud` command, in the Asynchronous Command Mode, to disable Autobaud on a port.

Example

```
bind port async 4 protocol ppp
```

Displaying the Device to Which the IP Interface Is Bound

The device to which the IP interface is bound is displayed in the `Bound to` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

bonding link

Monitors the link by the physical connection and sets the polling interval when using Dual Ethernet Redundancy.

Syntax

`bonding link <number_of_milliseconds>`

Where	Means
<number_of_milliseconds>	The polling interval, in milliseconds.

Example

```
bonding link 1000

bonding link 5000
```

Displaying the Bonding Link for an IP Interface

The Bonding Link for an IP interface is displayed in the `Bound to` field of the Bonding Characteristics Screen. An example of the Bonding Characteristics Screen appears in Figure 36 on page 108.

Use the `monitor/show interface <interface_number> bonding characteristics` command to display the Bonding Characteristics Screen. Refer to "monitor/show interface bonding characteristics" on page 108 for more information.

bonding link arp address

Monitors the redundant ethernet link using ARP.

Syntax

```
bonding link arp address A.B.C.D
```

Where	Means
A.B.C.D	The ARP address of the link.

Example

```
bonding link arp address 119.255.255.255
```

Displaying the Bonding Link ARP Address for an IP Interface

The Bonding Link ARP Address for an IP interface is displayed in the `Arp Address` field of the Bonding Characteristics Screen. An example of the Bonding Characteristics Screen appears in Figure 36 on page 108.

Use the `monitor/show interface <interface_number> bonding characteristics` command to display the Bonding Characteristics Screen. Refer to "monitor/show interface bonding characteristics" on page 108 for more information.

bonding link arp interval

Monitors the link using ARP and sets the polling interval.

Syntax

`bonding link arp interval <number_of_milliseconds>`

Where	Means
<number_of_milliseconds>	The polling interval, in milliseconds.

Example

```
bonding link arp interval 1000
```

Displaying the Bonding Link ARP Interval for an IP Interface

The Bonding Link ARP Address for an IP interface is displayed in the `Arp Address` field of the Bonding Characteristics Screen. An example of the Bonding Characteristics Screen appears in Figure 36 on page 108.

Use the `monitor/show interface <interface_number> bonding characteristics` command to display the Bonding Characteristics Screen. Refer to "monitor/show interface bonding characteristics" on page 108 for more information.

broadcast

Sets the Broadcast Address for the IP interface.

Syntax

```
broadcast A.B.C.D
```

Where	Means
A.B.C.D	The Broadcast Address for the IP interface.

Example

```
broadcast 119.255.255.255
```

Displaying the Broadcast Address for an IP Interface

The Broadcast Address for an IP interface is displayed in the `IP Broadcast` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to “monitor/show interface characteristics” on page 115 for more information.

broadcast group

Creates a Broadcast Group on the current IP interface, or accesses a Broadcast Group that already exists on the current IP interface. When this command is executed, the LX CLI goes into the Broadcast Group Command Mode.

Syntax

`broadcast group <group_number>`

Where	Means
group_number	The group number of the Broadcast Group. This can be any integer number between 1 and 5.

Usage Guidelines

A Broadcast Group consists of Slave Ports and Master Ports. The Slave Ports receive data broadcasts from the Master Ports. The Slave Ports can be asynchronous ports or a TCP port. Users can receive data broadcasts by Telneting to a port that is configured as a Slave Port.

A Master Port and its Slave Ports constitute a Broadcast Group, and a Slave Port can only receive data from its Master Port. Any console port or virtual port can be configured as a Master Port.

Before you can use a Broadcast Group, you must enable it with the `broadcast group enable` command. The `broadcast group enable` command is described on page 501.

Example

```
broadcast group 4
```

Displaying a List of Broadcast Groups

The Broadcast Group Summary Screen shows the group number and state (Enabled/Disabled) of each Broadcast Group on the LX unit. An example of the Broadcast Group Summary Screen appears in Figure 39 on page 114.

Use the `monitor/show interface broadcast group summary` command to display the Broadcast Group Summary Screen. Refer to "monitor/show interface broadcast group summary" on page 114 for more information.

broadcast group enable

Enables a Broadcast Group on the current IP interface.

NOTE: In order to enable a Broadcast Group, the Broadcast Group must contain at least one Master Port and one Slave Port. You can create a master port with the `master port` command (see page 814). You can create a slave port with the `slave port` command (see page 826). The `master port` command and the `slave port` command are in the Broadcast Group Command Mode.

Syntax

`broadcast group <group_number> enable`

Where	Means
group_number	The group number of the Broadcast Group.

Example

```
broadcast group 4 enable
```

Displaying the State of a Broadcast Group

The state of a Broadcast Group (Enabled/Disabled) is displayed on the Broadcast Group summary Screen and on the Broadcast Group Characteristics Screen. An example of the Broadcast Group Summary Screen appears in Figure 39 on page 114. An example of the Broadcast Group Characteristics Screen appears in Figure 38 on page 113.

Use the `monitor/show interface broadcast group summary` command to display the Broadcast Group Summary Screen. Refer to "monitor/show interface broadcast group summary" on page 114 for more information.

Use the `monitor/show interface broadcast group characteristics` command to display the Broadcast Group Characteristics Screen. Refer to "monitor/show interface broadcast group characteristics" on page 112 for more information.

default bind

Re-binds the IP interface to Ethernet (Eth0).

Syntax

```
default bind
```

Example

```
default bind
```

Displaying the Device to Which the IP Interface Is Bound

The device to which the IP interface is bound is displayed in the `Bound to` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

default mtu

Resets the Maximum Transmission Unit (MTU) size for the IP interface to the factory default (1500). Frames that are larger than the designated MTU size are fragmented before transmission. (Note that the software fragments frames on the transmit side only.)

Syntax

```
default mtu
```

Example

```
default mtu
```

Displaying the MTU Size for an IP Interface

The MTU size for an IP interface is displayed in the `IP MTU Size` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

default rotary

Resets any of three rotary parameters to their default values.

Syntax

```
default rotary <rotary_number> [ssh port|tcp port|type]
```

Where	Means
rotary_number	Identifies the rotary for which rotary parameters are being reset to default values.
ssh port	Resets the SSH UDP port for the rotary to its default value. The default SSH UDP port for a rotary is 1522.
tcp port	Resets the TCP UDP port for the rotary to its default value. The default SSH TCP port for a rotary is 1500.
type	Resets the rotary type to the default value of First Available.

Usage Guidelines

The modifiers (i.e., `ssh port`, `tcp port`, and `type`) are optional in this command. If this command is executed without a modifier (i.e., `default rotary`), it will reset the three rotary parameters (SSH port, TCP port, and type) to their default values.

Example

```
default rotary 3 ssh port

default rotary 3 tcp port

default rotary 3 type

default rotary 3
```

Displaying the SSH Port, TCP Port, and Type of a Rotary

The SSH Port, TCP Port, and Type of a rotary are displayed on the Rotary Characteristics Screen. An example of the Rotary Characteristics Screen appears in Figure 46 on page 128.

Use the `monitor/show interface rotary` command to display the Rotary Characteristics Screen. Refer to “monitor/show interface rotary” on page 128 for more information.

default ssh port

Resets the SSH UDP port for the IP interface to its default value of 22.

Syntax

```
default ssh port
```

Example

```
default ssh port
```

Displaying the SSH UDP Port for an IP Interface

The SSH UDP port for an IP interface is displayed in the `SSH port` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

default telnet port

Resets the Telnet UDP port for the IP interface to its default value of 23.

Syntax

```
default telnet port
```

Example

```
      default telnet port
```

Displaying the Telnet UDP Port for an IP Interface

The Telnet UDP port for an IP interface is displayed in the `Telnet port` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

default unnumbered

Resets the search method for an unnumbered interface IP Address to the default value (First Available).

Syntax

```
default unnumbered
```

Example

```
default unnumbered
```

Displaying the Search Method (or Address) for an IP Interface

The search method or address an IP interface is displayed in the `Unnumbered Interface` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

end

When the end command is issued in Interface command mode, it returns the user to the Superuser command mode.

Syntax

end

Usage Guidelines

The end command can be issued in all of the LX command codes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

Example

```
end
```

exit

Returns the user to the previous command mode. For example, if the current command mode is Interface, issuing this command will return the user to the Configuration command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX Command Modes. However, the effect of the `exit` command varies, depending on the mode from which it is issued.

As noted above, issuing the `exit` command in the Interface command mode returns the user to the previous command mode. The same goes for issuing the `exit` command in any command mode other than the User command mode. For example, issuing the `exit` command in the Menu command mode returns the user to the Configuration command mode; issuing the `exit` command in the Configuration command mode returns the user to the Superuser command mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

ipv6 address

Configures or deletes a Global IPv6 address if there are no routers advertising addresses, or if you want to configure another address on an interface. Enter `no ipv6 address <ipv6 address/prefixLength> device <ethernet_device>` to delete an address.

Syntax

`ipv6 address <ipv6 address/prefixLength> device <ethernet_device>`

Where	Means
ipv6_address/ prefixLength	The IP address you want to configure on this ethernet device.
ethernet_device	Set to `eth0` or `eth1`.

Example

```
ipv6 address 3ffe:303:14:42a0:9cff:fe00:8ad/64 device eth0

no ipv6 address 3ffe:303:14:42a0:9cff:fe00:8ad/64 device eth0
```

Displaying the IPv6 Global Address/Prefix

The IPv6 Global Address/Prefix is displayed in the `Global Address/Prefix` field of the Interface IPv6 Characteristics Screen. An example of the Interface IPv6 Characteristics Screen appears in Figure 41 on page 118.

Use the `monitor/show interface ipv6 characteristics` command to display the Interface IPv6 Characteristics Screen. Refer to "monitor/show interface ipv6 characteristics" on page 118 for more information.

ipv6 default maximum addresses

Defines the maximum number of IPv6 addresses per interface to the default value of 4.

Syntax

```
ipv6 default maximum addresses
```

Example

```
ipv6 default maximum addresses
```

Displaying the Number of IPv6 Maximum Addresses

The Maximum Addresses are displayed in the `Maximum Addresses` field of the Interface IPv6 Characteristics Screen. An example of the Interface IPv6 Characteristics Screen appears in Figure 41 on page 118.

Use the `monitor/show interface ipv6 characteristics` command to display the Interface IPv6 Characteristics Screen. Refer to "monitor/show interface ipv6 characteristics" on page 118 for more information.

ipv6 default probes

Defaults the number of duplicate address detection probes to send when attempting to configure an IPv6 address on an interface. The default is 1.

Syntax

```
ipv6 default probes
```

Example

```
ipv6 default probes
```

Displaying the Number of IPv6 Duplicate Address Detection (DAD) Probes

The Maximum DAD Probes is displayed in the `Maximum DAD Probes` field of the Interface IPv6 Characteristics Screen. An example of the Interface IPv6 Characteristics Screen appears in Figure 41 on page 118.

Use the `monitor/show interface ipv6 characteristics` command to display the Interface IPv6 Characteristics Screen. Refer to "monitor/show interface ipv6 characteristics" on page 118 for more information.

ipv6 maximum addresses

Defines the maximum number of IPv6 addresses assigned to an ethernet interface.

Syntax

`ipv6 maximum addresses <number_of_addresses>`

Where	Means
number_of_addresses	The maximum number of IPv6 addresses that can be assigned (either Stateless or Stateful) to an ethernet interface. The range is from 1-4. The default is 4.

Example

```
ipv6 maximum addresses 3

ipv6 maximum addresses 4
```

Displaying the Number of IPv6 Maximum Addresses

The Maximum Addresses are displayed in the `Maximum Addresses` field of the Interface IPv6 Characteristics Screen. An example of the Interface IPv6 Characteristics Screen appears in Figure 41 on page 118.

Use the `monitor/show interface ipv6 characteristics` command to display the Interface IPv6 Characteristics Screen. Refer to "monitor/show interface ipv6 characteristics" on page 118 for more information.

ipv6 probes

Defines the number of duplicate address detection probes to send when attempting to configure an IPv6 address on an interface.

Syntax

`ipv6 probes <number_of_probes>`

Where	Means
number_of_probes	The number of duplicate address detection probes. The range is from 1-5. The default is 1.

Example

```
ipv6 probes 5
```

Displaying the Number of IPv6 Duplicate Address Detection (DAD) Probes

The Maximum DAD Probes is displayed in the `Maximum DAD Probes` field of the Interface IPv6 Characteristics Screen. An example of the Interface IPv6 Characteristics Screen appears in Figure 41 on page 118.

Use the `monitor/show interface ipv6 characteristics` command to display the Interface IPv6 Characteristics Screen. Refer to "monitor/show interface ipv6 characteristics" on page 118 for more information.

ipv6 stateless autoconfiguration

Enables or disables stateless auto-configuration of the IPv6 Scope-Global Address.

Syntax

```
ipv6 stateless autoconfiguration
```

Example

```
ipv6 stateless autoconfiguration

no ipv6 stateless autoconfiguration
```

Displaying the State of the IPv6 Autoconfiguration

The Stateless Autoconfiguration is displayed in the `Stateless Autoconfiguration` field of the Interface IPv6 Characteristics Screen. An example of the Interface IPv6 Characteristics Screen appears in Figure 41 on page 118.

Use the `monitor/show interface ipv6 characteristics` command to display the Interface IPv6 Characteristics Screen. Refer to "monitor/show interface ipv6 characteristics" on page 118 for more information.

mask

Sets the configured subnet mask for the IP interface.

Syntax

`mask <subnet_mask>`

Where	Means
subnet_mask	The subnet mask for the IP interface.

Example

```
mask 255.0.0.0
```

Displaying the Subnet Mask for an IP Interface

The configured subnet mask for an IP interface is displayed in the `IP Mask` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

NOTE: The *configured* subnet mask for an IP interface should not be confused with the *learned* subnet mask for an IP interface. The latter is displayed in the `Learned IP Mask` field of the Interface Characteristics Screen.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

monitor/show

You can execute each of the `monitor/show` commands in the Interface Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

mtu

Sets the Maximum Transmission Unit (MTU) size for an interface. Frames that are larger than the designated MTU size are fragmented before transmission. (Note that the software fragments frames on the transmit side only.)

Syntax

```
mtu NUMBER
```

Where	Means
NUMBER	The MTU size for the interface. This can be any numerical value between 1000 and 1500. (It is recommended that you use a value of 1500 for Ethernet connections.) The default MTU size is 1500.

Examples

```
mtu 1000

mtu 1200

mtu 1500
```

Displaying the MTU Size for an IP Interface

The MTU size for an IP interface is displayed in the `IP MTU Size` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

no

Disables (negates) specific features and boolean parameters on the LX unit. Refer to "Usage Guidelines" (below) for more information about using the `no` command in the Interface command mode.

Syntax

`no <feature_name>`

Where	Means
feature_name	The name of the feature or boolean parameter that is to be disabled.

Usage Guidelines

The allowable arguments for this command consist of only those features and boolean parameters that can be set in the Interface command mode *and are currently enabled.*
To view the features and boolean parameters that are currently enabled, type the `no` command followed by a question mark (?).

Example

```
no rotary port
```

ppp

Enters the PPP command mode. For more information on the PPP command mode, refer to "PPP Commands" on page 741.

Syntax

```
ppp
```

Example

```
ppp
```

radius accounting enable

Enables the RADIUS accounting feature on the IP interface under configuration.

Syntax

```
radius accounting enable
```

Example

```
radius accounting enable
```

Displaying the State of the RADIUS Accounting Feature

The state of the RADIUS Accounting Feature (Enabled/Disabled) is displayed in the `Radius Accounting` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

rotary enable

Changes the state of a rotary to Enabled. When a rotary is in the Enabled state, connections to the IP interface can be made via the rotary.

Syntax

`rotary <rotary_number> enable`

Where	Means
rotary_number	Identifies the rotary. Valid rotary numbers are 1, 2, and 3.

Usage Guidelines

The term "rotary" refers to the ability to assign the same Internet address or domain name to multiple ports that offer the same type of service.

In order for this command to take effect, the Telnet protocol must be enabled.

Refer to “Configuring Rotaries” in the *LX-Series Configuration Guide* for more information on rotaries.

Examples

```
rotary 2 enable

rotary 3 enable
```

Displaying the State of the Rotary Feature

The state of the Rotary Feature (Enabled/Disabled) is displayed in the `Rotary Feature` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to “monitor/show interface characteristics” on page 115 for more information.

rotary port

Assigns serial ports on the LX unit to a rotary. The term "rotary" refers to the ability to assign the same Internet address or domain name to multiple ports that offer the same type of service.

Syntax

`rotary <rotary_number> port <port_number>|PORT LIST|all`

Where	Means
rotary_number	Identifies the rotary. Valid rotary numbers are 1, 2, and 3.
port_number	The port number of an LX port that is to be assigned to the rotary.
PORT LIST	A list of serial ports on the LX unit that are to be assigned to the rotary. The port numbers must be separated by blank spaces (e.g., `2 3 5 8`) or commas (e.g., `2,3,5,8`). You can specify a range of port numbers as two port numbers separated by a hyphen (e.g., `5-8`).
all	Assigns all ports on the LX unit to the rotary.

Usage Guidelines

When this command is used to assign ports to a rotary, the IP Address of the IP interface serves as the IP Address of the rotary.

To create a rotary, do the following:

1. Create an IP interface (see the “interface” command on page 330).
2. Assign ports to the rotary using the “rotary port” command.
3. Configure the IP Address for the IP interface (see the “address” command on page 484).
4. Configure the Rotary SSH port for the IP interface (see the “rotary ssh port” command on page 528).
5. Configure the Rotary TCP port for the IP interface (see the “rotary tcp port” command on page 529).

For example, you could create a rotary on interface 1 with a TCP port of 3500 and an SSH port of 3522. Then you could assign ports 2, 3, and 4 to it. You could connect (assuming all ports have dynamic or remote access) to ports 2, 3, or 4 via TCP port 3500 for telnet, and 3522 for SSH. You could connect to port 2 via TCP port 2200 for telnet or 2222 for SSH, or port 5 via TCP port 2500 for telnet or 2522 for SSH. A telnet connection to the IP address of the LX on TCP port 23 would get you to a virtual port, and an SSH connection to port 22 would also get you to a virtual port via SSH.

NOTE: You cannot add the DIAG port (port 0) to a rotary.

Examples

```
rotary 2 port 4

rotary 3 port 2 3 5 8

rotary 1 port all

rotary 3 port 2,3,5-8
```

Displaying the Serial Ports in a Rotary

The serial ports in a rotary are displayed in the `Serial Ports` column of the Rotary Characteristics Screen. An example of the Rotary Characteristics Screen appears in Figure 46 on page 128.

Use the `monitor/show interface rotary` command to display the Rotary Characteristics Screen. Refer to "monitor/show interface rotary" on page 128 for more information.

rotary ssh port

Assigns an SSH socket number to the rotary that was created with the `rotary port` command. (The `rotary port` command is described on page 526.)

Syntax

`rotary <rotary_number> ssh port <socket_number>`

Where	Means
rotary_number	Identifies the rotary. Valid rotary numbers are 1, 2, and 3.
socket_number	The SSH socket number that will be used to make SSH connections to the rotary that was created with the `rotary port` command. SSH will attempt to connect to the ports in the rotary on a First Available basis. The default SSH socket number is 1522.

Example

```
rotary 1 ssh port 988
```

Displaying the SSH Port for a Rotary

The SSH port a rotary is displayed in the `SSH` column of the Rotary Characteristics Screen. An example of the Rotary Characteristics Screen appears in Figure 46 on page 128.

Use the `monitor/show interface rotary` command to display the Rotary Characteristics Screen. Refer to "monitor/show interface rotary" on page 128 for more information.

rotary tcp port

Assigns a TCP socket number to the rotary that was created with the `rotary port` command. (The `rotary port` command is described on page 526.)

Syntax

`rotary <rotary_number> tcp port <socket_number>`

Where	Means
rotary_number	Identifies the rotary. Valid rotary numbers are 1, 2, and 3.
socket_number	The TCP socket number that will be used to make TCP connections to the rotary that was created with the `rotary port` command. The default TCP socket number is 1500.

Example

```
rotary 2 tcp port 1497
```

Displaying the TCP Port for a Rotary

The TCP port a rotary is displayed in the `TCP` column of the Rotary Characteristics Screen. An example of the Rotary Characteristics Screen appears in Figure 46 on page 128.

Use the `monitor/show interface rotary` command to display the Rotary Characteristics Screen. Refer to "monitor/show interface rotary" on page 128 for more information.

rotary type

Specifies the rotary type according to the port search method (Round Robin or First Available).

Syntax

```
rotary <rotary_number> type round robin|first available
```

Where	Means
rotary_number	Identifies the rotary. Valid rotary numbers are 1, 2, and 3.
round robin	The LX unit will search the rotary for an available port, starting with the lowest-numbered port in the rotary. Unlike "First Available", Round Robin will always go the next available port. For example, if all ports on the rotary are available and a connection to port 3 goes away, the next connection is to port 4.
first available	An incoming call is connected to the First Available (non-busy) port in the rotary. For example, if ports 1 - 5 are connected in a rotary of ports 1 - 7, and the connection to port 3 went away (so that port 3 was now available), the next connection would be to port 3.

Examples

```
rotary 1 type round robin

rotary 2 type first available
```

Displaying the Rotary Type

The rotary type is displayed in the `Rotary Type` column of the Rotary Characteristics Screen. An example of the Rotary Characteristics Screen appears in Figure 46 on page 128.

Use the `monitor/show interface rotary` command to display the Rotary Characteristics Screen. Refer to "monitor/show interface rotary" on page 128 for more information.

serial

Assigns user-defined Telnet, or SSH, socket numbers to an LX serial port. This is typically done to prevent hackers from accessing LX serial ports via default SSH socket numbers, or default Telnet socket numbers.

Syntax

`serial <serial_port> ssh|telnet <ssh/telnet_port>`

Where	Means
serial_port	The port number of an LX serial port. The valid values are 1 through 8.
ssh	Set the SSH socket number for the LX serial port specified in *serial_por*t.
telnet	Set the Telnet socket number for the LX serial port specified in *serial_port.*
ssh/telnet_port	Specifies the Telnet socket number, or the SSH socket number, for the LX port specified in *serial_por*t. **Note:** The default SSH and Telnet port numbers are as follows:

LX Serial Port	Default Telnet Port	Default SSH Port
0	0	0
1	2100	2122
2	2200	2222
3	2300	2322
4	2400	2422
5	2500	2522
6	2600	2622
7	2700	2722
8	2800	2822

Example

```
serial 4 ssh 983

serial 6 telnet 1297
```

Displaying the Interface Port Mapping

The Telnet, and SSH, socket numbers of a serial port are displayed on the Port Mapping Screen. An example of the Port Mapping Screen appears in Figure 43 on page 122.

Use the `monitor/show interface port mapping` command to display the Port Mapping Screen. Refer to “monitor/show interface port mapping” on page 121 for more information.

ssh port

Specifies the UDP port for making an SSH connection to the IP interface.

Syntax

```
ssh port NUMBER
```

Where	Means
NUMBER	The SSH UDP port for the IP interface. The default value is 22.

Example

```
ssh port 988
```

Displaying the SSH UDP Port for an IP Interface

The SSH UDP port for an IP interface is displayed in the `SSH port` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

tacacs+ accounting enable

Enables the TACACS+ accounting feature on the IP interface under configuration.

Syntax

```
tacacs+ accounting enable
```

Example

```
tacacs+ accounting enable
```

Displaying the SSH UDP Port for an IP Interface

The state of the TACACS+ Accounting Feature (Enabled/Disabled) is displayed in the `Tacacs+ Accounting` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

telnet port

Specifies the socket number for making a Telnet connection to the IP interface.

Syntax

```
telnet port NUMBER
```

Where	Means
NUMBER	The socket number for making a Telnet connection to the IP interface. The default value is 23.

Example

```
telnet port 1743
```

Displaying the Telnet UDP Port for an IP Interface

The Telnet UDP port for an IP interface is displayed in the `Telnet port` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

unnumbered interface

Configures the specified IP interface as an unnumbered interface. (An unnumbered interface is an IP interface that does not have an assigned IP address; it uses the IP address of the next available IP interface.)

Syntax

```
unnumbered interface NUMBER
```

Where	Means
NUMBER	Specifies an interface number. The maximum number of IP interfaces is **the number of serial ports on the LX unit, plus 4**. For example, the maximum number of IP interfaces on an 8-port unit is 12; the maximum number of IP interfaces on an 16-port unit is 20, and so on. If the IP interface does not exist, it is created when this command is executed.

Example

```
unnumbered interface 3
```

Displaying the Search Method (or Address) for an IP Interface

The search method or address an IP interface is displayed in the `Unnumbered Interface` field of the Interface Characteristics Screen. An example of the Interface Characteristics Screen appears in Figure 40 on page 115.

Use the `monitor/show interface characteristics` command to display the Interface Characteristics Screen. Refer to "monitor/show interface characteristics" on page 115 for more information.

Chapter 6

Asynchronous Commands

The Asynchronous port commands are executed in the Asynchronous command mode. When the LX unit is in the Asynchronous command mode, the Asynchronous command prompt (e.g., `Async 4-4:0 >>`) is displayed on the terminal screen.

The format of the Asynchronous command prompt is as follows:

`Async <1st_port_number>-<`*n*`th_port_number>:<session_number> >>`

where `<1st_port_number>` identifies the first port in the range of ports under configuration.

`<`*n*`th_port_number>` identifies the last port in the range of ports under configuration.

`<session_number>` identifies the current session number.

To enter the Asynchronous command mode, execute the `port async` command in the Configuration command mode. The `port async` command is described on page 365.

access

Specifies any access method, other than power, for the asynchronous port(s) under configuration. (Refer to "access power model" on page 541 for information on specifying port(s) as power ports.)

The default access method is LOCAL on modem ports and on port 0. On all other non-modem ports, the default access method is REMOTE.

Syntax

```
access local|dynamic|remote|sensor|databuffer|apd|control|hdam|none
```

Where	Means
local	Specifies that the port(s) under configuration will use the LOCAL access method. The LOCAL access method is used to support inbound connections (i.e., when the user logs in to the port via a terminal or via a dialin connection).
dynamic	Specifies that the port(s) under configuration will use the DYNAMIC access method. **Note:** You cannot specify DYNAMIC as the access method for port 0.
remote	Specifies that the port(s) under configuration will use the REMOTE access method. The REMOTE access method is used to support outbound connections (i.e., connections from the LAN). **Note:** You cannot specify REMOTE as the access method for port 0.
sensor	Specifies that the port(s) under configuration will be used as a Temperature/Humidity Sensor port(s). Refer to *Getting Started with the LX Series* for information on connecting a Temperature/Humidity Sensor to an LX port. Refer to "monitor/show device status" on page 83 to display the temperature and humidity recorded on a Temperature/Humidity Sensor attached to a SENSOR port. **Note:** You cannot configure port 0 as a SENSOR port.
databuffer	Specifies that the port(s) under configuration will be used for data buffering. **Note:** You cannot configure port 0 as a DATABUFFER port.
apd	Specifies that the port(s) under configuration will be used for Automatic Protocol Detection (APD). When APD is enabled, the port will automatically determine the protocol being used to make a connection and adjust port settings appropriately. The following kinds of ports cannot be configured as APD ports: • Port 0 • A port that is in a Broadcast Group or has Autobaud enabled • A port that is configured as a POWER port or a SENSOR port and has a Power strip or Temperature/Humidity Sensor connected to it

control	Specifies that the port(s) under configuration will be used for controlling DTR and RTS output signals. For more information, refer to the `control port async` command on page 256. **Note:** Modem Control, Flow Control, Autohangup, and Autobaud are disabled on any port that is configured for Control access. In addition, the following restrictions exist: • SSH and Telnet connections can not be made to a port that is configured for Control access. • A port that is configured for Control access can not be logged out.
hdam	Specifies that the port(s) under configuration will use the HDAM (High Density Alarm Manager) access method. You must have a 7104 High Density Alarm Manager attached to your network to use this method.
none	Specifies that the port(s) under configuration are allowed no input or output.

Examples

```
access local
access dynamic
access remote
access sensor
access databuffer
access apd
access control
access hdam
access none
```

Displaying the Access Method for an Asynchronous Port

The access method for an asynchronous port is displayed in the `Access` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

access control

Specifies that an asynchronous port(s) is configured for Control outputs.

Syntax

```
access control
```

Usage Guidelines

When an asynchronous port is configured for Control outputs, the DTR and RTS signals of the port can be set independently to a High or Low state. Modem Control, Flow Control, Autohangup, and Autobaud are disabled on any port that is configured for Control outputs. The following restrictions also apply to such ports:

- SSH and Telnet connections cannot be made to the port.
- The port cannot be logged out.

Example

Async 5-5:0>>`access control`

Displaying Access Control for an Asynchronous Port

The access method for an asynchronous port is displayed in the `Access` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

access power model

Specifies that the asynchronous port(s) under configuration will be used as Power port(s) for an IR-4800 or IR-5150.

Syntax

```
access power model ir4800|ir5150
```

Where	Means
ir4800	Specifies that the asynchronous port(s) under configuration will be Power port(s) for an IR-4800.
ir5150	Specifies that the asynchronous port(s) under configuration will be Power port(s) for an IR-5150.

Usage Guidelines

Refer to the applicable *Getting Started* Guide for information on connecting an IR-4800 or an IR-5150 unit to an LX asynchronous port.

NOTE: You cannot configure port 0 as a Power port.

Examples

```
access power model ir4800

access power model ir5150
```

Displaying the Access Method for an Asynchronous Port

The access method for an asynchronous port is displayed in the `Access` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

access tcp pipe

Specifies that the asynchronous port(s) is dedicated as a transparent TCP pipe. The following port setting are also configured and cannot be changed while the port is in access tcppipe mode:

- Inbound authentication none
- Outbound authentication none
- No break
- No telnet negotiation
- No telnet cr filtering
- Banner none

Syntax

```
access tcppipe
```

Usage Guidelines

TCP Pipe allows you to create a dedicated, raw tcp socket connection from the LX port to a device on your network or another LX port. This type of connection may be needed to ensure that the data transfer between the two end devices passes without any interpretation from the LX. This allows the passing of binary data, which often contains extended ASCII characters that may randomly match special break/control sequences. This type of data is passed transparently through the LX in TCP Pipe mode. TCP Pipe is a one to one connection, much like setting up a dedicated service on a port.

The actual "pipe" is not created until the LX observes the raising of DSR on the port, indicating that a device has been plugged into the port. The LX then uses the configured values in "`tcp destination address`" and "`tcp destination port`" to establish a raw socket connection. When an LX port is configured access type “TCP Pipe”, the following parameters are disabled at the port level: Telnet Negotiations, inbound/outbound authentication, Telnet Break, and Port Banner. Since no login data is sent, the target must also be open to connections without Authentication. If your destination is another LX port, the above mentioned parameters need to be manually disabled on a remote port. This allows the connection to be made, and ensure the clear passing of data.

If the TCP destination address and/or TCP port number are not configured, or if the port’s flow control is set to XON/XOFF, the appropriate error message is displayed and the command is not performed. For information on the TCP destination address refer to “tcp destination address” on page 611. For information on the TCP destination port, refer to “tcp destination port” on page 612.

Example

```
access tcppipe
```

Displaying the TCP Pipe Access

The access method for an asynchronous port is displayed in the `Access` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

apd retry

Specifies the number of times an APD-enabled port will attempt to determine the protocol of an incoming connection.

NOTE: You cannot execute this command on port 0.

Syntax

```
apd retry NUMBER
```

Where	Means
NUMBER	The number of times that the port will attempt to determine the protocol of an incoming connection. The allowable values are 0 - 255. The default value is 2.

Example

```
apd retry 6
```

Displaying the APD Retry Value

The APD Retry value is displayed in the `APD Retry` field of the Port APD Settings Screen. An example of the Port APD Settings Screen appears in Figure 66 on page 153.

Use the `monitor/show port async apd` command to display the Port APD Settings Screen. Refer to "monitor/show port async apd" on page 153 for more information.

apd signature

Specifies the APD signature for the port(s) under configuration.

NOTE: You cannot execute this command on port 0.

Syntax

```
apd signature WORD
```

Where	Means
WORD	A text string.

Example

```
apd signature 7eff00000000000000000000000000
```

Displaying the APD Signature

The APD Signature is displayed in the `APD Signature` field of the Port APD Settings Screen. An example of the Port APD Settings Screen appears in Figure 66 on page 153.

Use the `monitor/show port async apd` command to display the Port APD Settings Screen. Refer to "monitor/show port async apd" on page 153 for more information.

apd timeout

Specifies the APD timeout for the port(s) under configuration. The APD timeout is the length of time (in seconds) an APD port can spend attempting to determine which protocol is being used to make a connection.

NOTE: You cannot execute this command on port 0.

Syntax

```
apd timeout NUMBER
```

Where	Means
NUMBER	Specifies how much time the port can spend in an attempt to determine which protocol is being used to make a connection. Valid timeout values are from 1 to 255 seconds. The default value is 1.

Example

```
apd timeout 30
```

Displaying the APD Timeout Value

The APD Timeout value (in seconds) is displayed in the `APD Timeout` field of the Port APD Settings Screen. An example of the Port APD Settings Screen appears in Figure 66 on page 153.

Use the `monitor/show port async apd` command to display the Port APD Settings Screen. Refer to “monitor/show port async apd” on page 153 for more information.

authentication enable

Enables an authentication method (Local, RADIUS, SecurID, or TACACS+) as the inbound, or outbound, authentication method for the asynchronous port(s) under configuration.

Syntax

```
authentication inbound|outbound local|ldap|radius|securid|tacacs+ enable
```

Where	Means
inbound	The specified authentication method (Local, RADIUS, SecurID, or TACACS+) will be enabled as the method of inbound authentication for the asynchronous port(s) under configuration. (Inbound authentication is used on ports that have an access method of LOCAL. For more information on LOCAL access, refer to "access" on page 538.)
outbound	The specified authentication method (Local, RADIUS, SecurID, or TACACS+) will be enabled as the method of outbound authentication for the asynchronous port(s) under configuration. (Outbound authentication is used on ports that have an access method of REMOTE. For more information on REMOTE access, refer to "access" on page 538.) **Note:** You cannot configure outbound authentication for the DIAG port (port 0).
local	Enables Local authentication for inbound (or outbound) connections on the asynchronous port(s) under configuration. Under local authentication, the subscriber's username and password are checked against the subscriber database that resides on the LX.
ldap	Enables LDAP authentication for inbound (or outbound) connections on the asynchronous port(s) under configuration. Under LDAP authentication, the authentication is validated by a network-based LDAP server.
radius	Enables RADIUS authentication for inbound (or outbound) connections on the asynchronous port(s) under configuration. Under RADIUS authentication, the authentication is validated by a network-based RADIUS server.
securid	Enables SecurID authentication for inbound (or outbound) connections on the asynchronous port(s) under configuration. Under SecurID authentication, the authentication is validated by a network-based SecurID server.
tacacs+	Enables TACACS+ authentication for inbound (or outbound) connections on the asynchronous port(s) under configuration. Under TACACS+ authentication, the authentication is validated by a network-based TACACS+ server.

Examples

```
authentication inbound radius enable

authentication outbound radius enable

authentication inbound local enable
```

```
authentication outbound local enable

authentication inbound securid enable

authentication outbound securid enable

authentication inbound tacacs+ enable

authentication outbound tacacs+ enable

authentication inbound ldap enable

authentication outbound ldap enable
```

Displaying the Authentication Method for an Asynchronous Port

The method of inbound authentication for an asynchronous port is displayed in the `Inbound Authentication` field of the Port Characteristics Screen. The method of outbound authentication for an asynchronous port is displayed in the `Outbound Authentication` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

authentication fallback attempts

Sets the number of attempts before falling back to local security.

Syntax

`authentication fallback attempts <number>`

Where	Means
<*number*>	The number of failed login attempts before falling back. The default is 3.

Usage Guidelines

Fallback Login is a mechanism for logging in users when RADIUS authentication, SecurID authentication, LDAP authentication, or TACACS+ authentication, fails because the authentication server is unreachable. When you log in via Fallback, you are logged in to the IP interface as a nonprivileged user. Fallback Attempts lets you set the number of attempts. If you set this number to 0, authentication fallback is disabled automatically. If you set this number to a whole number, authentication fallback is enabled.

Example

```
authentication fallback attempts 3
```

Displaying the State of the Authentication Fallback Attempts Feature

The value of the Authentication Fallback attempts feature is displayed in the `Auth. Fallback Attempts` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

authentication fallback enable

Enables the Fallback Login feature on the asynchronous port(s) under configuration.

Syntax

```
authentication fallback enable
```

Usage Guidelines

Fallback Login is a mechanism for logging in users when RADIUS, SecurID, LDAP, or TACACS+, fails because the authentication server is unreachable. When you log in via Fallback, you are logged in to the asynchronous port as a nonprivileged user. The authentication challenge will be against the local subscriber database. If you disable authentication fallback by typing `no authentication fallback`, `authentication fallback attempts` is set to 0 automatically.

When RADIUS, SecurID, LDAP, and TACACS+ are disabled on the asynchronous port, Fallback is effectively disabled on the port.

Example

```
authentication fallback enable
```

Displaying the State of the Fallback Login Feature

The state of the Fallback Login feature (Enabled/Disabled) is displayed in the `Authentication Fallback` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

autobaud enable

Specifies that the port(s) under configuration will determine the input port speed, parity, and character size for the device connected to the port, and automatically set the matching LX port settings.

Autobaud is disabled by default, except on the last physical port.

Syntax

```
autobaud enable
```

Usage Guidelines

The LX unit uses the ASCII RETURN character to determine the port speed, parity, and character size. Normally, the user must press the RETURN key a few times until the LX unit determines the port speed, parity, and character size, and begins a logon sequence.

You can only enable AUTOBAUD where the attached device is configured with the following settings at a port set to LOCAL ACCESS:

- CHARACTER SIZE 8, (7 if EVEN parity)
- PARITY NONE (EVEN if character size is set to 7)
- SPEED is set to 1200, 2400, 4800, 9600, 19200, or 38400.

A port that has Autobaud enabled cannot be configured for APD or bound to an IP interface for use in PPP Links.

Autobaud can not be enabled on a port that has a Connect command configured for it. For more information on Connect commands, refer to `connect` on page 559.

Example

```
autobaud enable
```

Displaying the State of the Autobaud Feature

The state of the Autobaud feature (Enabled/Disabled) is displayed in the `Autobaud` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to “monitor/show port async characteristics” on page 155 for more information.

autobaud retry

Specifies the number of times an autobaud-enabled port will attempt to determine the input port speed, parity, and character size for the device connected to the port.

Syntax

```
autobaud retry NUMBER
```

Where	Means
NUMBER	The number of times that the port will attempt to determine the input port speed, parity, and character size for the device connected to the port.

Usage Guidelines

You cannot enable the Autobaud feature on port 0. If you execute the `autobaud enable` command on port 0, the following message will be displayed:

```
Operation not permitted on diagnostic/management port
```

Example

```
autobaud retry 6
```

Displaying the Autobaud Retry Value for an Asynchronous Port

The autobaud Retry value for an asynchronous port is displayed in the `Autobaud Retry` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

autodial enable

Specifies that the port(s) under configuration will be automatically dialed.

Syntax

```
autodial enable
```

Usage Guidelines

You cannot enable the Autodial feature on port 0. If you execute the `autodial enable` command on port 0, the following message will be displayed:

```
Operation not permitted on diagnostic/management port
```

Example

```
autodial enable
```

Displaying the State of the Autodial Feature

The state of the Autodial feature (Enabled/Disabled) is displayed in the `Auto Dial` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

autohangup enable

Specifies that the port(s) under configuration will automatically log out when the attached device drops its signal to the DSR pin of the LX port. The default state of the Autohangup feature is Enabled.

NOTE: Autohangup cannot be enabled on port 0.

Syntax

```
autohangup enable
```

Usage Guidelines

Keep the following in mind when you use the Autohangup Feature:

- If Autohangup is enabled, the attached device is required to assert the LX port's DSR signal. If Autohangup is enabled *and* the DSR pin is Down, remote connections to the LX port are refused.
- If Autohangup is enabled, the LX port will reset when the attached device drops DSR.
- When working with modems, it is best to enable modem control. (Refer to "modem enable" on page 578 for information on enabling modem control.) With modem control enabled, you have the following advantages:
  - The port will allow remote access when DSR is Down.
  - The port will be logged out/reset when the dialout/dialin connection closes and the modem lowers DSR.

Example

```
autohangup enable
```

Displaying the State of the Autohangup Feature

The state of the Autohangup feature (Enabled/Disabled) is displayed in the `Autohangup` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

banner

Specifies the Banner display option for the port.

Syntax

```
banner local|remote|both|none
```

Where	Means
local	Display the banner for the port when the port is accessed from the serial side.
remote	Display the banner for the port when the port is accessed from the LAN side.
both	Display the banner for the port when the port is accessed from both the serial, and the LAN, side.
none	Do not display the banner for the port when the port is accessed by any method.

Usage Guidelines

The login banner file contains the login banner for the port. The login banner file is stored in the `/config` directory. Use the `banner file` command to specify the login banner for the port. For more information, refer to "banner file" on page 556.

Examples

```
banner local

banner remote

banner both

banner none
```

Displaying the Banner Display Option for an Asynchronous Port

The Banner Display Option for an asynchronous port is displayed in the `Banner Display` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155. On the Port Characteristics Screen, `/config` is prepended to the banner filename for clarity.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

banner file

Specifies the login banner file for the port.

Syntax

`banner file <filename>`

Where	Means
filename	The filename of the login banner file. The login banner file is a text file that must exist in the `/config` directory of the Linux shell.

Usage Guidelines

The login banner file contains the banner that is displayed when the user logs in to the port. The login banner file is stored in the `/config` directory.

You can create or edit the banner file with the Linux "vi" editor. There is no size limit to the banner file as long as memory allows it.

You should not include comments in the banner file, as they will be taken as regular characters.

NOTE: If you change the name of the banner file, you must execute the `save configuration` command to preserve the new banner file across a reboot. The `save configuration` command is described on page 291.

A telnet to a virtual interface of the LX will print out the contents of the default banner file (`banner.default`). The only way to print out a different message is to edit the `banner.default` file. For more information on the default banner file, refer to "default banner" on page 565.

Example

```
banner file new_banner.txt
```

Displaying the Banner for an Asynchronous Port

The Banner for an asynchronous port is displayed in the `Banner` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155. On the Port Characteristics Screen, `/config` is prepended to the banner filename for clarity.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

bits

Specifies the number of data bits per character for the port(s) under configuration.

Syntax

```
bits NUMBER
```

Where	Means
NUMBER	The number of data bits per character for the port(s) under configuration. The allowable values are 5, 6, 7, or 8.

Example

```
bits 6
```

Displaying the Bits-per-character for an Asynchronous Port

The bits-per-character for an asynchronous port is displayed in the `Bits per Character` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

break enable

Specifies that the port(s) under configuration will send a standard break signal to the serial line when a break or a Telnet break signal is received, via Telnet or SSH, from a remote host.

Syntax

```
break enable
```

Example

```
      break enable
```

Displaying the State of the Break Signal Feature

The state of the Break Signal feature (Enabled/Disabled or Special) is displayed in the `Break` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

connect command

Specifies the connect command(s) for the asynchronous port(s) under configuration. The connect command(s) are executed when a connection to the port is made, or when the port detects assertion of DSR. This feature is also known as the "Dedicated Async Port Service".

NOTE: Autobaud can not be enabled on a port that has a connect command configured for it.

NOTE: The valid shell level command `cli <cli_command>` is not supported when configured within/as the `port async connect` command.

Syntax

`connect command <command_sequence>`

Where	Means
command_sequence	Specifies the connect command(s) for the port. The connect command(s) can be any of the Built-in Linux shell commands. If you specify more than one command, you must separate the commands with semi-colons (;). You can also specify an executable file or a batch file in this field.

Examples

```
connect command telnet 10.1.2.3

connect command mew_startup.exe

connect command ssh 10.1.2.3 -p 2022
```

Displaying the Connect Command for an Asynchronous Port

The connect command for an asynchronous port is displayed in the `Connect Command` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

databuffer display

Specifies the display option for a databuffer port.

Syntax

```
databuffer display enable|prompt
```

Where	Means
enable	The contents of the data buffer will be displayed for the user as soon as the user logs in to the port; the user will *not* be prompted for whether or not he wants to display the contents of the data buffer.
prompt	When the user logs in to the port, he will be prompted for whether or not he wants to display the contents of the data buffer. If the user enters a `y` response, the contents of the data buffer will be displayed at the user's terminal. If the user enters an `n` response, the contents of the data buffer will *not* be displayed at the user's terminal.

Usage Guidelines

You can disable the databuffer display by executing the following command in the Asynchronous command mode:

```
no databuffer display
```

When you execute the `no databuffer display` command, the contents of the databuffer will not be displayed when you log in to the port.

Example

```
databuffer display enable

databuffer display prompt
```

Displaying the Data Buffer Display Option

The Data buffer Display option is displayed in the `Data Buffer Display` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

databuffer size

Specifies the size, in bytes, of the data buffer on the port(s) under configuration.

Syntax

```
databuffer size NUMBER
```

Where	Means
NUMBER	A whole number that specifies the size, in bytes, for the data buffer on the port(s) under configuration. This can be any number from 28 to 65535. The default databuffer size is 1024 bytes.

Example

```
databuffer size 62000
```

Displaying the Data Buffer Size

The data buffer size is displayed in the `Data Buffer Size` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

databuffer syslog enable

Specifies that the data received on the port(s) under configuration will be logged to the local syslogd.

NOTE: This feature can only be enabled on asynchronous ports that are configured for data buffering. Refer to the `access` command on page 538 for information on configuring ports for data buffering.

Syntax

```
databuffer syslog enable
```

Example

```
databuffer syslog enable
```

Displaying the State of the Data Buffer syslog Feature

The state of the Data Buffer syslog feature (Enabled/Disabled) is displayed in the `Data Buffer Syslog` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

databuffer timestamp enable

Specifies that there will be a timestamp added to every entry of the data buffer for the port(s) under configuration. The default is disabled.

Syntax

```
databuffer timestamp enable
```

NOTE: When databuffer timestamp is enabled, the LX uses a 700ms timeout, converts non-printable characters to periods, and uses timestamp. When databuffer timestamp is disabled, the LX does not use 700 ms timeout, or convert non-printable characters to periods (except to syslog), or use timestamp.

Therefore, turning off timestamp allows 'vi' editing. Make sure that the terminal type on the subscriber and the connected terminal type is vt100.

Example

```
databuffer timestamp enable
```

Displaying the State of the Data Buffer Timestamp Feature

The state of the Data Buffer Timestamp feature (Enabled/Disabled) is displayed in the `Data Buffer Time Stamp` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

default apd

Resets the APD retries, APD signature, or APD timeout to the default value.

Syntax

```
default apd retry|signature|timeout
```

Where	Means
retry	Resets the apd retry value of the port(s) under configuration to the factory default.
signature	Resets the apd signature of the port(s) under configuration to the factory default.
timeout	Resets the apd timeout value of the port(s) under configuration to the factory default.

Example

```
default apd retry

default apd signature

default apd timeout
```

Displaying the APD Signature, APD Timeout, and APD Retry Value

The APD Signature, APD Timeout, and APD Retry Value are displayed on the Port APD Settings Screen. An example of the Port APD Settings Screen appears in Figure 66 on page 153.

Use the `monitor/show port async apd` command to display the Port APD Settings Screen. Refer to "monitor/show port async apd" on page 153 for more information.

default banner

Resets the login banner file for the port to `banner.default` and resets the contents of `banner.default` to the factory default. The factory-default contents of `banner.default` are the following:

```
Welcome to MRV Communications, In-Reach Product Division
```

Syntax

```
default banner
```

Usage Guidelines

The login banner file contains the banner that is displayed when the user logs in to the port. The login banner file is stored in the `/config` directory.

You can edit the `banner.default` file with the Linux "vi" editor. There is no size limit to the `banner.default` file as long as disk space allows it.

You should not include comments in the `banner.default` file, as they will be taken as regular characters.

NOTE: If you change the name of the banner file with this command, you must execute the `save configuration` command to preserve the new banner file across a reboot. The `save configuration` command is described on page 291.

Example

```
default banner
```

default databuffer size

Resets the data buffer size on the port(s) under configuration to the factory-default value of 1024 bytes.

Syntax

```
default databuffer size
```

Example

```
      default databuffer size
```

Displaying the Data Buffer Size

The data buffer size is displayed in the `Data Buffer Size` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

default port

Resets all of the parameters of the port(s) under configuration to their factory-default values.

Syntax

```
default port
```

Example

```
      default port
```

default power off time

Resets the off time for the power outlets on the asynchronous port(s) to the default value of 10 seconds.

Syntax

```
default power off time
```

Example

```
      default power off time
```

Displaying the Off Time for Power Outlets

The off time for power outlets is displayed in the `Outlet Minimum Off Time` field of the Device Screen for a POWER Port. An example of the Device Screen for a POWER Port appears in Figure 19 on page 84.

Use the `monitor/show device status` command to display the Device Screen for a POWER Port. Refer to “monitor/show device status” on page 83 for more information.

default speed

Resets the speed of the port(s) under configuration to their factory-default values. The default port speed is 9600.

Syntax

```
default speed
```

Example

```
      default speed
```

Displaying the Port Speed

The port speed is displayed in the `Speed` field of the Port Status Screen. An example of the Port Status Screen appears in Figure 69 on page 161.

Use the `monitor/show port async status` command to display the Port Status Screen. Refer to "monitor/show port async status" on page 161 for more information.

default tcp destination retries

Sets this field to defaults. The default is 10.

Syntax

```
default tcp destination retries
```

Example

```
      default tcp destination retries
```

Displaying the Default TCP Pipe Destination Retries

The default TCP Pipe Destination retries is displayed in the `Tcppipe Destination Retries` field of the Port Async TCP Characteristics Screen. An example of the Port Async TCP Characteristics Screen appears in Figure 72 on page 167.

Use the `monitor/show port async tcp characteristics` command to display the Port Async TCP Characteristics Screen. Refer to "monitor/show port async tcp characteristics" on page 167 for more information.

default tcp transmit

Resets the transmission mode for the port(s) under configuration to its default value. The default is `immediate`.

Syntax

```
default tcp transmit
```

Example

```
default tcp transmit
```

Displaying the TCP Transmit Mode

The TCP Transmit Mode for an asynchronous port is displayed in the `Tcp Transmit Mode` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

default tcp window size

Resets the TCP window size to its default value of 1400 bytes.

Syntax

```
default tcp window size
```

Example

```
default tcp window size
```

Displaying the TCP Window Size

The TCP Window Size for an asynchronous port is displayed in the `Tcp Window Size` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

end

When the end command is issued in the Asynchronous command mode, it returns the user to the Superuser command mode.

Syntax

end

Usage Guidelines

The end command can be issued in all of the LX command modes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

Example

```
end
```

exit

Returns the user to the previous command mode. For example, if the current command mode is the Asynchronous command mode, issuing this command will return the user to the Configuration command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX Command Modes. However, the effect of the `exit` command varies, depending on the mode from which it is issued.

As noted above, issuing the `exit` command in the Asynchronous command mode returns the user to the previous command mode. The same goes for issuing the `exit` command in any mode other than the User command mode. For example, issuing the `exit` command in the Menu Editing command mode returns the user to the Menu command mode; issuing the `exit` command in the Configuration command mode returns the user to the Superuser command mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

flowcontrol

Specifies the type of flow control ("handshaking") that is used by the serial interface(s) of the port(s) under configuration.

On all ports except modem ports, the default flow control is XON/XOFF; on modem ports, the default flow control is CTS.

Syntax

```
flowcontrol cts|xon
```

Where	Means
cts	The LX unit will use CTS flow control for the specified port(s). **Note:** When CTS flow control is enabled on a port, CTS input signal transitions will not be tracked by syslog.
xon	The LX unit will use XON/XOFF flow control for the specified port(s).

Example

```
flowcontrol cts

flowcontrol xon
```

Displaying the Flow Control Method

The flow control method for an asynchronous port is displayed in the `Flow Control` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to “monitor/show port async characteristics” on page 155 for more information.

idlebuffer enable

Enables the Idlebuffer feature for port async. Idle Buffer is enabled by default. Therefore, the async port will buffer data before a TCP connection arrives. If you want to flush (discard) all data upon a TCP connection's arrival, disable the IdleBuffer feature. If IdleBuffer is disabled, the port will not buffer erroneous data that enters the port prior to a telnet session.

Syntax

```
idlebuffer enable
```

Examples

```
idlebuffer enable

no idlebuffer
```

Displaying the State of the Idlebuffer Feature

The state of the IdleBuffer (Enabled/Disabled) is displayed in the `IdleBuffer` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

modem

Enters the Modem command mode. For more information on the Modem command mode, refer to "Modem Commands" on page 727.

Syntax

```
modem
```

Example

```
modem
```

Displaying the Modem Settings for an Asynchronous Port

The modem settings for an asynchronous port are displayed on the Port Modem Settings Screen. An example of the Port Modem Settings Screen appears in Figure 68 on page 159.

Use the `monitor/show port async modem` command to display the Port Modem Settings Screen. Refer to "monitor/show port async modem" on page 159 for more information.

modem enable

Specifies that the port(s) under configuration will have Modem Control enabled. The default state of the Modem Control Feature is Disabled.

Syntax

```
modem enable
```

Usage Guidelines

You cannot enable Modem Control on port 0. If you execute the `modem enable` command on port 0, the following message will be displayed:

```
Operation not permitted on diagnostic/management port
```

When working with modems, it is best to disable port autohangup and enable modem control. With modem control enabled, you have the following advantages:

- The port will allow remote access when DSR is Down.
- The port will be logged out/reset when the dialout/dialin connection closes and the modem lowers DSR.

NOTE: When CTS flow control is enabled on a port, CTS input signal transitions will not be tracked by syslog. Since CTS flow control is used with the internal modems, CTS input signal transitions will not be tracked by syslog.

Example

```
modem enable
```

Displaying the State of the Modem Control Feature

The state of the Modem Control feature (Enabled/Disabled) is displayed in the `Modem Control` field of the Port Modem Settings Screen. An example of the Port Modem Settings Screen appears in Figure 68 on page 159.

Use the `monitor/show port async modem` command to display the Port Modem Settings Screen. Refer to “monitor/show port async modem” on page 159 for more information.

monitor/show

You can execute each of the `monitor/show` commands in the Asynchronous Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

name

Specifies a description of the port(s) under configuration.

Syntax

```
name STRING
```

Where	Means
STRING	A text string that describes the port(s) under configuration. The text string can contain up to 60 characters.

Example

```
name FieldOffice3
```

Displaying the Port Name

The name of an asynchronous port is displayed in the `Port Name` field on the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics command` to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

no

Disables (negates) specific features and boolean parameters on the LX unit. Refer to "Usage Guidelines" (below) for more information about using the `no` command in the Asynchronous command mode.

Syntax

`no <feature_name>`

Where	Means
feature_name	The name of the feature or boolean parameter that is to be disabled.

Usage Guidelines

The allowable arguments for this command consist of only those features and boolean parameters that can be set in the Asynchronous command mode *and are currently enabled.* To view the features and boolean parameters that are currently enabled, type the `no` command followed by a question mark (?).

Examples

```
no modem

no signal all
```

no outlet off

Disables the Outlet Off Feature for outlets managed from the port under configuration. For more information on the Outlet Off Feature, refer to "outlet off enable" on page 588.

Syntax

`no outlet off <outlet_list>|all`

Where	Means
outlet_list	Specifies the outlets for which Outlet Off is being disabled. If you include more than one outlet in the *outlet_list*, the outlets must be separated by commas; for example, `2,3,5,7`. You can specify a range of outlets by placing a hyphen (-) between the first and last outlet in the range. For example, `9-11` specifies outlet `9` through outlet `11`.
all	Disable Outlet Off on all of the outlets that are managed from the port(s) under configuration.

Usage Guidelines

When Outlet Off is enabled, a user *can* turn off outlets with the "off" option of the `outlet` command. (Refer to "outlet" on page 281 for more information.)

When Outlet Off is disabled, a user can *not* turn off outlets with the "off" option of the `outlet` command.

To enable Outlet Off, use the `outlet off enable` command. (Refer to "outlet off enable" on page 588 for more information.)

Examples

```
no outlet off 5,6

no outlet off 3,5,7-11

no outlet off all
```

Displaying the State of the Outlet Off Feature

The state of the Outlet Off feature (Enabled/Disabled) is displayed in the `Off` column of the Device Screen for a POWER Port. An example of the Device Screen for a POWER Port appears in Figure 19 on page 84.

Use the `monitor/show device status` command to display the Device Screen for a POWER Port. Refer to "monitor/show device status" on page 83 for more information.

outlet boot timer

Specifies a boot timer for an IR-4800/IR-5150 outlet.

NOTE: This command can only be used on a port that is configured as a Power port for an IR-4800/IR-5150 unit. Refer to the `access power model` command on page 541 to configure an asynchronous port as a Power port for an IR-4800/IR-5150 unit.

Syntax

`outlet <outlet_number> boot timer NUMBER`

Where	Means
outlet_number	Specifies an IR-4800/IR-5150 outlet. For example, 5 specifies outlet 5 on the device that is managed from the port currently under configuration.
NUMBER	An integer number that specifies the length of time (in seconds) that the outlet must wait before it can be turned on after a Cold Start (boot) of the IR-4800/IR-5150 unit. The allowable values are 0 through 960.

Usage Guidelines

The IR-4800/IR-5150 CLI must be disabled, and the outlet wakeup state must be turned off, in order to use this command. To disable the IR-4800/IR-5150 CLI, execute the `no power cli` command in the Asynchronous Command Mode. To turn off the outlet wakeup state, execute the `no outlet wakeup` command in the Asynchronous Command Mode.

NOTE: Use the `power off time` command to specify the length of time an individual outlet must remain off under all circumstances other than a Cold Start. For more information, refer to "power off time" on page 595.

Examples

```
outlet 5 boot timer 60
```

Displaying the Boot Timer for an IR-4800/IR-5150 Outlet

The Boot Timer for an IR-4800/IR-5150 Outlet is displayed in the `Outlet Minimum off Time` field on the Port Status Screen for outlets. An example of the Port Status Screen for outlets appears in Figure 70 on page 164.

Use the `monitor/show port async status command` to display the Port Status Screen for outlets. Refer to "monitor/show port async status" on page 161 for more information.

outlet name

Specifies a descriptive name for a Power Outlet that is connected to a Power port on the LX unit. Refer to “access power model” on page 541 for information on configuring an LX port as a Power port.

Syntax

`outlet <outlet_number> name <outlet_name>`

Where	Means
outlet_number	An integer number that specifies an outlet on the Power Control unit that is being managed via the asynchronous port under configuration. **Note:** This number consists of the Outlet Number without the Power port number.
outlet_name	Specifies a descriptive name for the outlet. This can be a text string of up to 15 characters. Printable characters (!, @, #, $, %, ^, &, *, +) are also supported.

Example

```
outlet 2 name Build5NTserver
```

Displaying the Name of a Power Outlet

The names of power outlets are displayed in the `Name` column of the Device Screen for a POWER Port. An example of the Device Screen for a POWER Port appears in Figure 19 on page 84.

Use the `monitor/show device status command` to display the Device Screen. Refer to “monitor/show device status” on page 83 for more information.

outlet off enable

Enables Outlet Off for outlets managed from the port under configuration. For more information on Outlet Off, refer to "Usage Guidelines" (below).

Syntax

`outlet off <outlet_list>|all enable`

Where	Means
outlet_list	Specifies the outlets for which Outlet Off is being enabled. If you include more than one outlet in the *outlet_list*, the outlets must be separated by commas; for example, `2,3,5,7`. You can specify a range of outlets by placing a hyphen (-) between the first and last outlet in the range. For example, `9-11` specifies outlet `9` through outlet `11`.
all	Enable Outlet Off on all of the outlets that are managed from the port(s) under configuration.

Usage Guidelines

When Outlet Off is enabled, a user *can* turn off outlets with the "off" option of the `outlet` command. (Refer to "outlet" on page 281 for more information.)

When Outlet Off is disabled, a user can *not* turn off outlets with the "off" option of the `outlet` command.

Outlet Off is enabled by default. To disable Outlet Off, use the `no outlet off` command. (Refer to "no outlet off" on page 585 for more information.)

Examples

```
outlet off 5,6 enable

outlet off 3,5,7-11 enable

outlet off all enable
```

Displaying the State of the Outlet Off Feature

The state of the Outlet Off feature (Enabled/Disabled) is displayed in the `Off` column of the Device Screen for a POWER Port. An example of the Device Screen for a POWER Port appears in Figure 19 on page 84.

Use the `monitor/show device status` command to display the Device Screen for a POWER Port. Refer to "monitor/show device status" on page 83 for more information.

outlet wakeup enable

Enables the Wake Up state of an IR-4800/IR-5150 outlet (s). When an outlet wakeup is set to enable, that configured outlet state will be "on" when the IR-4800/IR5150 unit is power cycled. When the outlet wakeup is turned off, the configured outlet state will be "off" when the IR-4800/IR-5150 unit is power cycled.

NOTE: This command can only be used on a port that is configured as a Power port for an IR-4800/IR-5150 unit. Refer to the `access power model` command on page 541 to configure an asynchronous port as a Power port for an IR-4800/IR-5150 unit.

Syntax

`outlet wakeup <outlet_list>|all enable`

Where	Means
outlet_list	Specifies the outlets for which the Wake Up state is being enabled. If you include more than one outlet in the *outlet_list*, the outlets must be separated by commas; for example, `2,3,5,7`. You can specify a range of outlets by placing a hyphen (-) between the first and last outlet in the range. For example, `9-11` specifies outlet `9` through outlet `11`.
all	Enable the Wake Up state on all of the outlets that are managed from the port(s) under configuration.

Usage Guidelines

When a boot-up sequence is used, the outlet wakeup state must be turned off. To turn off the outlet wakeup state, execute the `no outlet wakeup` command in the Asynchronous Command Mode.

Examples

```
outlet wakeup 5,6 enable

outlet wakeup 3,5,7-11 enable

outlet wakeup all enable
```

Displaying the Wake Up State for an IR-4800/IR-5150 Outlet

The Wake Up state for an IR-4800/IR-5150 Outlet is displayed in the `Wake-Up` column on the Port Status Screen for outlets. An example of the Port Status Screen for outlets appears in Figure 70 on page 164.

Use the `monitor/show port async status command` to display the Port Status Screen for outlets. Refer to "monitor/show port async status" on page 161 for more information.

parity

Specifies whether or not the port(s) under configuration will provide a bit (parity bit) with each character for error checking. The value you set for this characteristic must match the value set at the device attached to the port.

Syntax

```
parity even|odd|none
```

Where	Means
even	The port will ensure that each byte (character) that is transmitted or received contains an even number of 1's, including the parity bit. If the port receives a byte that contains an odd number of 1 bits, it indicates to the LX unit that an error occurred.
odd	The port will ensure that each byte (character) that is transmitted or received contains an odd number of 1's, including the parity bit. If the port receives a byte that contains an even number of 1 bits, it indicates to the LX unit that an error occurred.
none	A parity bit will not be provided. This is the default setting.

Examples

```
parity even

parity odd

parity none
```

Displaying the Parity Setting for an Asynchronous Port

The parity setting for an asynchronous port is displayed in the `Parity` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

power boot sequence enable

Enables the Power Boot Sequence Feature. Enabling this feature allows the administrator to pre-determine the order in which the outlets are turned to "on" when the IR-4800/IR-5150 is power cycled.

NOTE: This command can only be used on a port that is configured as a Power port for an IR-4800/IR-5150 unit. Refer to the `access power model` command on page 541 to configure an asynchronous port as a Power port for an IR-4800/IR-5150 unit.

Syntax

```
power boot sequence enable
```

Usage Guidelines

When this feature is enabled, the LX turns on the IR-4800/IR-5150 outlets from a power cycle in an order configured by the administrator.

To disable this feature, execute the `no power boot sequence` command in the Asynchronous Command Mode.

Example

```
power boot sequence enable
```

Displaying the State of the Power Boot Sequence Feature

The state of the Power boot Sequence Feature is displayed on the Port Status Screen. An example of the Port Status Screen appears in Figure 69 on page 161.

Use the `monitor/show port async status` command to display the Port Status Screen. Refer to "monitor/show port async status" on page 161 for more information.

power cli enable

Enables the use of the IR-4800/IR-5150's own onboard CLI on the port(s) under configuration. To interact with the IR-4800/IR-5150 directly instead of through the LX CLI, you must set this parameter and set the port to access remote.

NOTE: This command can only be used on a port that is configured as a Power port for an IR-4800/IR-5150 unit. Refer to the `access power model` command on page 541 to configure an asynchronous port as a Power port for an IR-4800/IR-5150 unit.

Syntax

```
power cli enable
```

Usage Guidelines

To disable this feature, execute the `no power cli` command in the Asynchronous Command Mode.

In order to access the IR-4800/IR-5150 CLI, you must first specify REMOTE as the access method for the LX port to which the IR-4800/IR-5150 unit is connected. After the access method has been set to REMOTE, the IR-4800/IR-5150 CLI can be accessed via a Telnet (or SSH) connection to the LX port at which the IR-4800/IR-5150 is connected. Refer to "access" on page 538 to configure the port access method as REMOTE.

Example

```
power cli enable
```

Displaying the State of the IR-4800/IR-5150 CLI Feature

The state of the IR-4800/IR-5150 CLI Feature is displayed on the Port Status Screen. An example of the Port Status Screen appears in Figure 69 on page 161.

Use the `monitor/show port async status` command to display the Port Status Screen. Refer to "monitor/show port async status" on page 161 for more information.

power factory default

Resets, to factory defaults, the IR-4800/IR-5150 unit(s) that are managed from the port(s) under configuration.

NOTE: This command can only be used on a port that is configured as a Power port for an IR-4800/IR-5150 unit. Refer to the `access power model` command on page 541 to configure an asynchronous port as a Power port for an IR-4800/IR-5150 unit.

Syntax

```
power factory default
```

Usage Guidelines

When you execute this command, the following confirmation prompt is displayed:

```
Are you sure you want to factory default the IR-5150 <yes/no>?
```

Enter `y` to reset the IR-4800/IR-5150 unit to factory defaults.

Enter `n` to abort the command.

Example

```
power factory default
```

power factory reset button enable

Enables the Factory Reset Button for the IR-4800/IR-5150 unit that is managed from the port under configuration. When the Factory Reset Button is enabled, you can reset the IR-4800/IR-5150 unit to factory-default values by pressing the Factory Reset Button.

NOTE: This command can only be used on a port that is configured as a Power port for an IR-4800/IR-5150 unit. Refer to the `access power model` command on page 541 to configure an asynchronous port as a Power port for an IR-4800/IR-5150 unit.

Syntax

```
power factory reset button enable
```

Usage Guidelines

When you execute the `power factory reset button enable` command, the following confirmation prompt is displayed:

```
Are you sure you want to enable the factory-reset button on the IR-5150
<yes/no>?
```

Enter `y` to enable the factory reset button on the IR-4800/IR-5150 unit.

Enter `n` to abort the command.

To disable the Factory Reset Button, execute the `no power factory reset button` command.

When you execute the `no power factory reset button` command, the following confirmation prompt is displayed:

```
Are you sure you want to disable the factory-reset button on the IR-
5150 <yes/no>?
```

Enter `y` to disable the factory reset button on the IR-4800/IR-5150 unit.

Enter `n` to abort the command.

Example

```
power factory reset button enable
```

Displaying the State of the Factory Reset Button Feature

The state of the Factory Reset Button Feature is displayed on the Port Status Screen. An example of the Port Status Screen appears in Figure 69 on page 161.

Use the `monitor/show port async status` command to display the Port Status Screen. Refer to "monitor/show port async status" on page 161 for more information.

power off time

Specifies the length of time, in seconds, that outlets must remain off before they can be turned back on.

NOTE: This is the length of time that an outlet must remain off after it has been turned off with the `outlet` command. The `outlet boot timer` command specifies the length of time that an outlet must remain off after a Cold Start of the Power Control unit. For more information on the `outlet boot timer` command, refer to page 586.

Syntax

```
power off time NUMBER
```

Where	Means
NUMBER	An integer number that specifies the length of time, in seconds, that the outlets must remain off before they can be turned back on. After the outlets in the group have been turned off with the `outlet` command (see page 281), they must remain off for at least this length of time. The allowable values are 0 - 255. The default value is 10.

Example

```
power off time 15
```

Displaying the Off Time for Power Outlets

The off time for power outlets is displayed in the `Outlet Minimum Off Time` field of the Device Screen for a POWER Port. An example of the Device Screen for a POWER Port appears in Figure 19 on page 84.

Use the `monitor/show device status` command to display the Device Screen for an POWER Port. Refer to "monitor/show device status" on page 83 for more information.

power scp admin name

Specifies an IR-4800/IR-5150 Admin Name for a POWER port and the IR-4800/IR-5150 unit that is connected to it.

NOTE: The IR-4800/IR-5150 Admin Name and Password are passed automatically from the LX POWER port to the IR-4800/IR-5150 unit; the user does not enter these values to "log on" to the IR-4800/IR-5150 unit.

Syntax

```
power scp admin name NAME
```

Where	Means
NAME	The Admin Name of the IR-4800/IR-5150 Administrator.

Usage Guidelines

This command can only be executed on a port that is configured for IR-4800/IR-5150 power access and currently has an IR-4800/IR-5150 unit connected to it. Refer to "access power model" on page 541 to configure an asynchronous port for IR-4800/IR-5150 power access.

This command configures the IR-4800/IR-5150 Admin Name for both the port *and* the IR-4800/IR-5150 unit that is connected to the port. This is a one-to-one username/password correlation. If you connect the IR-4800/IR-5150 unit to another LX async port, even if the second port is set to access power, the IR-4800/IR-5150 will not respond due to an incorrect SCP login.

If you execute the `power scp admin name` command on a port, you must also execute the `power scp admin password` command on the port. For more information, refer to "power scp admin password" on page 597.

Example

```
power scp admin name HenryK
```

Displaying the State of the IR-4800/IR-5150 Admin Name

The state (Configured/Not Configured) of the IR-4800/IR-5150 Admin Name is displayed on the Device Screen. An example of the Device Screen for a POWER Port appears in Figure 19 on page 84.

Use the `monitor/show device <device_number> status` command to display the Device Screen for a POWER Port. Refer to "monitor/show device status" on page 83 for more information.

power scp admin password

Specifies an IR-4800/IR-5150 Login Password for a POWER port and the IR-4800/IR-5150 unit that is connected to it.

NOTE: The IR-4800/IR-5150 Login Password and Name are passed automatically from the LX POWER port to the IR-4800/IR-5150 unit; the user does not enter these values to "log on" to the IR-4800/IR-5150 unit.

Syntax

```
power scp admin password
```

Usage Guidelines

When you execute the `power scp admin password` command, the following prompt is displayed:

```
Enter your NEW password:
```

Enter the password at the above prompt. The following prompt is displayed:

```
Re-Enter your NEW password:
```

Re-enter the password at the above prompt.

This command can only be executed on a port that is configured for IR-4800/IR-5150 power access and currently has an IR-4800/IR-5150 unit connected to it. Refer to "access power model" on page 541 to configure an asynchronous port for IR-4800/IR-5150 power access.

This command configures the IR-4800/IR-5150 Login Password for both the port *and* the IR-4800/IR-5150 unit that is connected to the port. If you connect the IR-4800/IR-5150 unit to another port, you re-specify the IR-4800/IR-5150 Login Password, and Name, for that port.

If you execute the `power scp admin password` command on a port, you must also execute the `power scp admin name` command on the port. For more information, refer to "power scp admin name" on page 596.

Example

```
power scp admin password
```

power scp authentication enable

Enables the IR-4800/IR-5150 Authentication Feature for a POWER port.

NOTE: An IR-4800/IR-5150 Admin Name and Password must be configured for the port before you can enable the IR-4800/IR-5150 Authentication Feature with this command. Refer to "power scp admin name" on page 596 to configure an IR-4800/IR-5150 Admin Name. Refer to "power scp admin password" on page 597 to configure an IR-4800/IR-5150 Password.

Syntax

```
power scp authentication enable
```

Usage Guidelines

When the IR-4800/IR-5150 Authentication Feature is enabled, the connection to the IR-4800/IR-5150 unit will be authenticated with the IR-4800/IR-5150 Admin Name/Password combination. The authentication process occurs automatically; the user does not have to enter a Admin Name/Password combination in order to manage the IR-4800/IR-5150 unit. This provides a level of security so the management cable between the LX and IR-4800/IR-5150 cannot be moved to a different LX port.

In order to execute this command, the IR-4800/IR-5150 unit must be attached to the port.

Example

```
power scp authentication enable
```

Displaying the State of the IR-4800/IR-5150 Authentication Feature

The state of the IR-4800/IR-5150 Authentication Feature (Enabled/Disabled) is displayed in the `Power SCP Authentication` field of the Device Screen. An example of the Device Screen for a POWER Port appears in Figure 19 on page 84.

Use the `monitor/show device <device_number> status` command to display the Device Screen for a POWER Port. Refer to "monitor/show device status" on page 83 for more information.

prompt

Specifies the port prompt for local connections.

Syntax

`prompt <prompt_string>`

Where	Means
prompt_string	The text string that will be used as the port prompt. The text string can contain up to 60 characters.

Example

```
prompt Finance-Group
```

Displaying the Port Prompt

The Port Prompt is displayed in the `Port Prompt String` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

radius accounting enable

Enables the RADIUS accounting feature on the port(s) under configuration.

Syntax

```
radius accounting enable
```

Example

```
radius accounting enable
```

Displaying the State of the RADIUS Accounting Feature

The state of the RADIUS Accounting feature (Enabled/Disabled) is displayed in the `Radius Accounting` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

signal action

Creates the necessary Actions for all the given ports.

Syntax

`signal action send trap message signal <signal> <current state> <port>`

Usage Guidelines

You can use substitution characters for port, signal, and current state. The % character is now a reserved character. The substitution characters are:

- `%p` is for port
- `%s` is for signal
- `%c` is for current state

The substitution is translated into the correct command message for the applicable port, signal, or state. This functions only on existing reserved trigger actions, so you must enable signal notification first.

Examples

```
signal action send trap message signal %s is %c on port %p

signal action send trap message signal CTS is High on port 8
```

Displaying the Signal Action

The state of the Signal Action is displayed in the Rule Summary Screen. If Signal Action is enabled, it will display the action in the `Action` field. An example of the Rule Summary Screen appears in Figure 107 on page 233.

Use the `monitor/show trigger action rule` command to display the Rule Summary Screen. Refer to "monitor/show trigger-action rule summary" on page 233 for more information.

signal all enable

Creates the necessary Triggers, Actions, and Rules, and enables them for all the given ports. The names used will be reserved and hard coded into the system.

NOTE: When Signal Notice is configured on a sensor port, a warning message is generated. This message is generated because frequent polling can generate a high number of CTS transition syslog messages.

Syntax

```
signal all enable
```

Usage Guidelines

The reserved names are:

- pa *port_number* ctsup
- pa *port_number* ctsdn
- pa *port_number* dsrup
- pa *port_number* dsrdn

For example, a reserved name on port 2 would be `pa2ctsup`.

If someone tries to create a trigger/action/rule using these reserved names, an error message is generated. The action created is a default notification message that sends the port, signal, and state to the syslog. The `all` argument enables both "dsr-dcd" and "cts". You can also specify "dsr-dcd" only *or* "cts" only.

Before this command makes any changes to the Trigger-Action table, it ensures that there is enough space to fit the necessary amount of triggers, actions, and rules in the Trigger-Action table. This prevents partial completion of the command. If there is not enough space, an error message is returned. If you get such an error message, resolve the issue by reducing the port range, or eliminating some pre-configured triggers, actions, or rules before retrying the command.

Example

```
signal all enable
```

Displaying the Signal All State

The state of the Signal Notification is displayed in the Port Characteristics Screen. If Signal Notification is enabled, it will say `enabled` in the one of the four `Signal Notif.` fields. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

signal all rule enable

Enables the signal all rule feature.

Syntax

```
signal all rule enable
```

Usage Guidelines

To disable this feature, execute the `signal all rule disable` command in the Asynchronous Command Mode.

Use this command to enable signal notification on the given ports without removing all the triggers, actions, and rules that were created. The command allows you to modify actions you have already created.

Example

```
signal all rule enable

signal all rule disable
```

Displaying the Signal All Rule Feature

The state of the Signal Notification is displayed in the Port Characteristics Screen. If Signal Notification is enabled, it will say `enabled` in the one of the four `Signal Notif.`fields. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to “monitor/show port async characteristics” on page 155 for more information.

special break enable

Specifies that the port(s) under configuration will send the configured special break string out the serial line of the port(s) when a break (break string or break control characters, if configured) is received, via Telnet or SSH, from a remote host. Refer to "special break string" on page 605 to specify the special break string. To disable the special break, enter `no special break`.

Syntax

```
special break enable
```

Usage Guidelines

In order to use this command, you must first specify a Special Break String with the `special break string` command. The `special break string` command is described on page 605.

Example

```
special break enable

no special break
```

Displaying the State of the Special Break Feature

The state of the Special Break Feature is displayed in the `Break` field of the Port Characteristics Screen. If the Special Break Feature is enabled, it will say `Special` in the `Break` field. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

special break string

Specifies a unique character sequence that is sent out the serial line of the ports under configuration when a telnet break is received, or a datastream break string or break control character (if configured) is received, via Telnet or SSH, from a remote host. Refer to "telnet break control" on page 617 to specify the telnet break control. Refer to "telnet break string" on page 618 to specify the telnet break string.

NOTE: For the special break string to be sent out the serial port, special break must be enabled.

Syntax

`special break string <break_sequence>`

Where	Means
break_sequence	Specifies the unique break sequence. This can be any string of up to six characters.

Example

```
special break string gfeij
```

Displaying the Special Break String for an Asynchronous Port

The Special Break String for an asynchronous port is displayed in the `Special Break String` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

speed

Specifies the speed of the port(s) under configuration.

Syntax

```
speed NUMBER
```

Where	Means
NUMBER	The port speed, in bits per second, to which the port(s) under configuration will be set. The valid speeds are 134, 200, 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 or 230400. The default port speed is 9600.

Example

```
speed 57600
```

Displaying the Port Speed

The port speed is displayed in the `Speed` field of the Port Status Screen. An example of the Port Status Screen appears in Figure 69 on page 161.

Use the `monitor/show port async status` command to display the Port Status Screen. Refer to "monitor/show port async status" on page 161 for more information.

stopbits

Specifies the number of stop bits to be used to maintain synchronization of data on the port(s) under configuration.

Syntax

```
stopbits NUMBER
```

Where	Means
NUMBER	A whole number that maps to the number of stop bits to be used to maintain synchronization of data. The allowable values are 1 or 2.

Example

```
stopbits 1

stopbits 2
```

Displaying the Stop Bits for an Asynchronous Port

The stop bits for an asynchronous port is displayed in the `Stop Bits` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

tacacs+ accounting enable

Enables the TACACS+ accounting feature on the port(s) under configuration.

Syntax

```
tacacs+ accounting enable
```

Example

```
tacacs+ accounting enable
```

Displaying the State of the TACACS+ Accounting Feature

The state of the TACACS+ Accounting feature (Enabled/Disabled) is displayed in the `Tacacs+ Accounting` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

tcp accept message

Specifies the TCP Accept Message for the port(s) under configuration. The TCP Accept Message is displayed to the remote user when that user successfully connects via Telnet, once the user login has been accepted. This command applies to both Telnet and SSH.

Syntax

`tcp accept message <string>`

Where	Means
string	A text string of up to 31 characters. The default message text is "Login Successful".

Usage Guidelines

In order for the TCP Acceptance Message to be displayed, the TCP Accept Verification Feature must be enabled. Refer to "tcp accept verification enable" on page 610 to enable the TCP Accept Verification Feature.

Example

```
tcp accept message Connection Successful
```

Displaying the TCP Accept Message

The TCP Accept Message is displayed in the `TCP Accept Message String` field of the Asynchronous Port TCP Characteristics Screen. An example of the Asynchronous Port TCP Characteristics Screen appears in Figure 72 on page 167.

Use the `monitor/show port async tcp characteristics` command to display the Asynchronous Port TCP Characteristics Screen. Refer to "monitor/show port async tcp characteristics" on page 167 for more information.

tcp accept verification enable

Specifies that the configured TCP Accept Message will be displayed to the user upon a successful remote Telnet connection. The TCP Accept Message is configured with the `tcp accept message` command (see page 609). This command applies to both Telnet and SSH.

Syntax

```
tcp accept verification enable
```

Example

```
tcp accept verification enable
```

Displaying the State of the TCP Accept Verification Feature

The state of the TCP Accept Verification Feature (Enabled/Disabled) is displayed in the `TCP Accept Verification` field of the Asynchronous Port TCP Characteristics Screen. An example of the Asynchronous Port TCP Characteristics Screen appears in Figure 72 on page 167.

Use the `monitor/show port async tcp characteristics` command to display the Asynchronous Port TCP Characteristics Screen. Refer to "monitor/show port async tcp characteristics" on page 167 for more information.

tcp destination address

Specifies a connection to a specific destination address. You cannot change this characteristic when the access is set to `tcppipe`.

Syntax

`tcp destination address <`*`ip_address`*`>|<`*`host@domainname`*`>`

Where	Means
ip_address	The IP Address that will be used as the destination for TCP.
host@domainname	The host@domainname that will be used as the destination for TCP.

Example

```
tcp destination address 140.179.111.22

tcp destination address myhost.mrv.com
```

Displaying the TCP Destination Address

The TCP destination address is displayed in the `Tcp Destination IP Address` field of the Port Async TCP Characteristics Screen. An example of the Port Async TCP Characteristics Screen appears in Figure 72 on page 167.

Use the `monitor/show port async tcp characteristics` command to display the Port Async TCP Characteristics Screen. Refer to "monitor/show port async tcp characteristics" on page 167" for more information.

tcp destination port

Sets up the port to connect to the `tcp destination address` TCP port. You cannot change this characteristic when the access is set to `tcppipe`.

Syntax

`tcp destination port <port_number>`

Where	Means
port_number	The TCP port to be connected to, using the TCP address.

Example

```
tcp destination port 2100
```

Displaying the TCP Destination Port

The TCP destination port is displayed in the `Tcp Destination Port` field of the Port Async TCP Characteristics Screen. An example of the Port Async TCP Characteristics Screen appears in Figure 72 on page 167.

Use the `monitor/show port async tcp characteristics` command to display the Port Async TCP Characteristics Screen. Refer to "monitor/show port async tcp characteristics" on page 167 for more information.

tcp destination retries

Sets the number of times the LX attempts to reach the TCP destination.

Syntax

```
tcp destination retries <retries>
```

Where	Means
retries	The number of times the LX attempts to reach the TCP destination. The range is 0-60. The default is 10. An entry of 0 causes the LX to retry indefinitely.

Example

```
tcp destination retries 20
```

Displaying the TCP Pipe Destination Retries

The TCP Pipe Destination retries is displayed in the `Tcppipe Destination Retries` field of the Port Async TCP Characteristics Screen. An example of the Port Async TCP Characteristics Screen appears in Figure 72 on page 167.

Use the `monitor/show port async tcp characteristics` command to display the Port Async TCP Characteristics Screen. Refer to "monitor/show port async tcp characteristics" on page 167 for more information.

tcp transmit buffered

Specifies the type of transmission mode for sessions at the port(s) under configuration. The Buffered transmission mode means the software will fill TCP frames as much as possible before sending data after 10 milliseconds. The default is `tcp transmit immediate`.

Syntax

```
tcp transmit buffered
```

Example

```
      tcp transmit buffered
```

Displaying the TCP Transmit Mode

The TCP Transmit Mode for an asynchronous port is displayed in the `Tcp Transmit Mode` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to “monitor/show port async characteristics” on page 155 for more information.

tcp transmit immediate

Specifies that characters will be transmitted immediately (i.e., as soon as possible after they are typed) for sessions at the port(s) under configuration. This command is the default TCP Transmit Mode.

Syntax

```
tcp transmit immediate
```

Example

```
      tcp transmit immediate
```

Displaying the TCP Transmit Mode

The TCP Transmit Mode for an asynchronous port is displayed in the `Tcp Transmit Mode` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to “monitor/show port async characteristics” on page 155 for more information.

tcp window size

Specifies the TCP window size for the port(s) under configuration.

Syntax

```
tcp window size NUMBER
```

Where	Means
NUMBER	An integer number between 128 and 1400. The default value is 1400. This is the size (in bytes) of the TCP window. The TCP window is used by the TCP/IP protocol.

Example

```
tcp window size 1000
```

Displaying the TCP Window Size

The TCP Window Size for an asynchronous port is displayed in the `Tcp Window Size` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to "monitor/show port async characteristics" on page 155 for more information.

telnet break control

Specifies the Telnet break control character for the ports under configuration. The LX async port can generate a Sun Console break signal based on a configured control character within the telnet connection or SSH connection data stream. Once the port's telnet break control is configured for a control character, the LX port will watch the telnet session or SSH connection data stream for the control-character pattern.

NOTE: This port parameter is very useful for telnet and SSH applications that do not support or are unable to generate a normal telnet break signal, or send out the port a configured "special break string."

The telnet break control allows the port to generate the Console break signal based on a non-printable control character (^), and an uppercase letter (A-Z) within the telnet data stream. The LX unit will send the enabled break feature (console break signal or special break string) out the serial line. Refer to "break enable" on page 558 to enable the break signal. Refer to "special break enable" on page 604 to enable the special break string.

Syntax

```
telnet break control <^A-^Z>
```

Where	Means
<^*A*-^*Z*>	The LX interprets the "^" as a control character, and the CLI interprets Control A-Z as a Sun Console Break sequence. NOTE: When choosing a Control Character, it is important to choose one that will not be interrupted by your local telnet or SSH application.

Example

```
telnet break control ^Y
```

Displaying the Telnet Break Control

The Telnet break Control is displayed in the `Telnet Break String/Control` field of the Asynchronous Port TCP Characteristics Screen. An example of the Asynchronous Port TCP Characteristics Screen appears in Figure 72 on page 167.

Use the `monitor/show port async tcp characteristics` command to display the Port TCP Characteristics Screen. Refer to "monitor/show port async tcp characteristics" on page 167 for more information.

telnet break string

Specifies the Telnet break string for the ports under configuration. Once the port's telnet break string is configured, the LX port will watch the telnet session or SSH connection data stream for the configured telnet break string pattern.

NOTE: This port parameter is very useful for telnet and SSH applications that do not support or are unable to generate a normal telnet break signal.

The telnet break string allows the port to generate a Console break signal to the device connected to the port. When the port receives either a normal telnet break signal or identifies the break string pattern within the session's data stream, the LX unit will send the enabled break feature (Sun Console break signal or special break string) out the serial line. Refer to "break enable" on page 558 to enable the break signal. Refer to "special break enable" on page 604 to enable the special break string.

Syntax

```
telnet break string <string>
```

Where	Means
string	An alphanumeric string of 1 - 4 characters. This character set will be interpreted as a string. If you configure a ^, it will be interpreted as a ^ character, not as Ctrl.

Example

```
telnet break string sfg9
```

Displaying the Telnet Break String

The Telnet break String is displayed in the `Telnet Break String/Control` field of the Asynchronous Port TCP Characteristics Screen. An example of the Asynchronous Port TCP Characteristics Screen appears in Figure 72 on page 167.

Use the `monitor/show port async tcp characteristics` command to display the Port TCP Characteristics Screen. Refer to "monitor/show port async tcp characteristics" on page 167 for more information.

telnet cr lf filtering enable

Specifies that Carriage Return/Linefeed (CRLF) characters that are received by the port(s) under configuration will be converted to Carriage Return (CR) characters. If enabled, this command strips the LF from any CRLF combination or LFCR combination, and passes the CR. If the characters are CR only, the CR will be passed. If the characters are LF only, the LF will be passed.

Syntax

```
telnet cr lf filtering enable
```

Example

```
telnet cr lf filtering enable
```

Displaying the State of the Telnet CR LF Filtering Feature

The state of the Telnet CR LF Filtering Feature (Enabled/Disabled) is displayed in the `Telnet Cr Lf Filter` field of the Asynchronous Port TCP Characteristics Screen. An example of the Asynchronous Port TCP Characteristics Screen appears in Figure 72 on page 167.

Use the `monitor/show port async tcp characteristics` command to display the Asynchronous Port TCP Characteristics Screen. Refer to "monitor/show port async tcp characteristics" on page 167 for more information.

telnet cr null filtering enable

Specifies that if Carriage Return/Null (CR NULL) characters are received by the port(s) under configuration, the port filters out the NULL and passes the CR.

Syntax

```
telnet cr null filtering enable
```

Example

```
telnet cr null filtering enable
```

Displaying the State of the Telnet CR Null Filtering Feature

The state of the Telnet CR Null Filtering Feature (Enabled/Disabled) is displayed in the `Telnet Cr Null Filter` field of the Asynchronous Port TCP Characteristics Screen. An example of the Asynchronous Port TCP Characteristics Screen appears in Figure 72 on page 167.

Use the `monitor/show port async tcp characteristics` command to display the Asynchronous Port TCP Characteristics Screen. Refer to "monitor/show port async tcp characteristics" on page 167 for more information.

telnet negotiation enable

Enables Telnet negotiation on the port(s) under configuration. When Telnet negotiation is enabled, the LX unit will begin negotiating Telnet parameters as soon as the session is started.

NOTE: Telnet negotiation is enabled by default. This command is typically used to re-enable Telnet negotiation after it has been disabled. (To disable Telnet negotiation, execute the `no telnet negotiation` command in the Asynchronous Command Mode.)

Syntax

```
telnet negotiation enable
```

Usage Guidelines

You can disable Telnet Negotiation on the LX to ensure that when a host telnets into the LX port (access remote) from the LAN, no telnet negotiations will be done. Disabling Telnet Negotiation on the LX effectively disables the negotiation of all telnet options in the TCP three-way handshaking process.

When Telnet Negotiation is enabled, the LX filters incoming options and characters, and does not pass them to the async port. Once the socket connection is open between the LX and the host device, the LX begins sending its Telnet Negotiation option string to the host device.

When Telnet Negotiation is disabled, no filtering occurs and all Telnet Negotiation and characters are passed directly through to the async port.

Example

```
telnet negotiation enable
```

Displaying the State of the Telnet Negotiation Feature

The state of the Telnet Negotiation feature (Enabled/Disabled) is displayed in the `Telnet Negotiations` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to “monitor/show port async characteristics” on page 155 for more information.

transparency enable

Sets the port(s) under configuration to Transparency Mode.

Syntax

```
transparency enable
```

Usage Guidelines

Transparency Mode is only applicable to a port in remote or dynamic access mode. It has no effect on a port in local access mode. When Transparency Mode is enabled, common control characters are not interpreted. For example, a character that would not be interpreted (and its Hex equivalent) is NULL (00). CR filtering and CR NULL filtering is also disabled when in Transparency Mode. Break/Special Break generation is disabled in Transparency Mode.

- Telnet Negotiation is enabled by default. However, if you want a fully transparent connection it should be disabled.
- Xon/Xoff Flow Control is enabled by default. However, if you want a fully transparent connection it should be disabled.
- If you have disabled Transparency Mode, Telnet Negotiation, and Xon/Xoff Flow Control for complete transparency and the attached device still requires Flow Control, then you must use hardware Flow Control.

To disable transparency mode, execute the following command in the Asynchronous Command Mode:

```
no transparency
```

Example

```
transparency enable
```

Displaying the State of the Transparency Mode

The state of the Transparency Mode (Enabled/Disabled) is displayed in the `Transparent Mode` field of the Port Characteristics Screen. An example of the Port Characteristics Screen appears in Figure 67 on page 155.

Use the `monitor/show port async characteristics` command to display the Port Characteristics Screen. Refer to “monitor/show port async characteristics” on page 155 for more information.

Chapter 7

Ethernet Commands

The Ethernet commands are executed in the Ethernet command mode. When the LX unit is in the Ethernet command mode, the Ethernet command prompt (e.g., `Ether 1-1:0 >>`) is displayed on the terminal screen.

The format of the Ethernet command prompt is as follows:

`Ether <1st_port_number>-<`*n*`th_port_number>:<session_number> >>`

where `<1st_port_number>` identifies the first port in the range of ports under configuration.

`<`*n*`th_port_number>` identifies the last port in the range of ports under configuration.

`<session_number>` identifies the current session number.

To enter the Ethernet command mode, execute the `port ethernet` command in the Configuration command mode. The `port ethernet` command is described on page 366.

description

Specifies the description for the Ethernet port.

Syntax

```
description STRING
```

Where	Means
STRING	A text string that describes the Ethernet port. The text string can contain up to 60 characters.

Example

```
description Port 0 on the Lab Unit
```

Displaying the Description of the Ethernet Port

The description of the Ethernet port is displayed in the `Description` field of the Ethernet Port Characteristics Screen. An example of the Ethernet Port Characteristics Screen appears in Figure 74 on page 170.

Use the `monitor/show port ethernet characteristics` command to display the Ethernet Port Characteristics Screen. Refer to "monitor/show port ethernet characteristics" on page 170 for more information.

end

When the end command is issued in Ethernet Command Mode, it returns the user to the Superuser command mode.

Syntax

end

Usage Guidelines

The end command can be issued in all of the LX Command Modes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

Example

```
end
```

exit

Returns the user to the previous command mode. For example, if the current command mode is the Ethernet command mode, issuing this command will return the user to the Configuration command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the mode from which it is issued.

As noted above, issuing the `exit` command in the Ethernet command mode returns the user to the previous command mode. The same goes for issuing the `exit` command in any mode other than the User command mode. For example, issuing the `exit` command in the Menu Editing command mode returns the user to the Menu command mode; issuing the `exit` command in the Configuration command mode returns the user to the Superuser command mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

monitor/show

You can execute each of the `monitor/show` commands in the Ethernet Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

no description

Removes (deletes) the description field for the Ethernet port(s) under configuration. Refer to "description" on page 624 for more information on the description field.

Syntax

```
no description
```

Example

```
      no description
```

Displaying the Description of the Ethernet Port

The description of the Ethernet port is displayed in the `Description` field of the Ethernet Port Characteristics Screen. An example of the Ethernet Port Characteristics Screen appears in Figure 74 on page 170.

Use the `monitor/show port ethernet characteristics` command to display the Ethernet Port Characteristics Screen. Refer to "monitor/show port ethernet characteristics" on page 170 for more information.

speed

Specifies the speed and duplex mode of the Ethernet port under configuration.

Syntax

```
speed auto|10mb|100mb duplex full|half
```

Where	Means
auto	The Ethernet port under configuration will auto-negotiate its port speed and duplex mode. This is the default setting. **Note:** If the `auto` option is specified, you will not be able to specify `full` or `half` as the duplex mode for the port; the duplex mode will be auto-negotiated.
10mb	Sets a speed of 10 Megabytes per second for the Ethernet port under configuration.
100mb	Sets a speed of 100 Megabytes per second for the Ethernet port under configuration.
full	The Ethernet port under configuration will use full duplex.
half	The Ethernet port under configuration will use half duplex.

Examples

```
speed auto

speed 10mb duplex full

speed 100mb duplex full

speed 10mb duplex half

speed 100mb duplex half
```

Displaying the Speed and Duplex Mode of the Ethernet Port

The speed of the Ethernet port is displayed in the `Link Speed` field of the Ethernet Port Characteristics Screen. The duplex mode of the Ethernet port is displayed in the `Duplex Mode` field of the Ethernet Port Characteristics Screen. An example of the Ethernet Port Characteristics Screen appears in Figure 74 on page 170.

Use the `monitor/show port ethernet characteristics` command to display the Ethernet Port Characteristics Screen. Refer to "monitor/show port ethernet characteristics" on page 170 for more information.

Chapter 8

Subscriber Commands

The Subscriber commands are executed in the Subscriber command mode. When the LX unit is in the Subscriber command mode, the Subscriber command prompt (e.g., `Subs_mark >>`) is displayed on the terminal screen.

The format of the Subscriber command prompt is as follows:

```
Subs_<subscriber_name> >>
```

where `<subscriber_name>` is the name of the subscriber under configuration.

To enter the Subscriber command mode, execute the `subscriber` command in the Configuration command mode. The `subscriber` command is described on page 389.

access console enable

Enables the subscriber to access the LX unit via a direct connection to the LX console port.

Syntax

```
access console enable
```

Example

```
access console enable
```

Displaying the Subscriber Access Methods

The subscriber access methods are displayed in the `Remote Access list` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to “monitor/show subscriber” on page 202 for more information.

access outlet

Specifies the outlet(s) that the subscriber can manage.

NOTE: In order to execute this command, you must enable the Outlet Management Feature for the LX unit. For more information, refer to the `outlet access enable` command on page 358.

Syntax

`access outlet all|<outlet_list>`

Where	Means
all	Allows the subscriber to manage all of the outlets connected to the LX unit.
outlet_list	Specifies the outlets that the subscriber is allowed to manage. The Power port number, combined with the outlet number, identifies each outlet. The Power port number and the outlet number are separated by a colon (:). For example, 2:5 identifies outlet 5 on the device that is managed from port 2. If you specify more than one outlet in the *outlet_list*, the outlets must be separated by blank spaces; for example, `2:5 3:7 4:2 4:3 4:5`. Up to 99 outlets can be included in an outlet group. You can specify a range of port numbers, or a range of outlets, by placing a hyphen between the first and last port number, or the first and last outlet, in the range. For example, `2-4:1` specifies outlet `1` on ports `2` through `4`; `2:1-5` specifies outlets `1` through `5` on port `2`.

Examples

```
access outlet all

access outlet 2:5 3:4

access outlet 5-7:1 6:3-7 7:3
```

Displaying the Outlets That the Subscriber Can Manage

The outlets that the subscriber can manage are displayed in the `Outlet Access list` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

access outlet group

Specifies the outlet groups that the subscriber can manage.

NOTE: Outlet groups are managed with the `outlet group` command in the Superuser Command Mode. The `outlet group` command is described on page 282.

NOTE: In order to execute this command, you must enable the Outlet Management Feature for the LX unit. For more information, refer to the `outlet access enable` command on page 358.

Syntax

`access outlet group <group_list>|all|name <group_name>`

Where	Means
group_list	One or more outlet group numbers. An outlet group number is assigned with the `outlet group` command (see page 359). If you specify more than one group in the *group_list*, the group numbers must be separated by spaces or commas; for example, `3 6 8` or `3,6,8`. You can specify a range of group numbers by placing a hyphen between the first and last number in the range; for example `10-12`. A *group_list* can contain a combination of individual group numbers and ranges.
all	Allows the subscriber to manage all of the outlets groups connected to the LX unit.
group_name	The descriptive name of an outlet group. (Refer to "outlet group name" on page 361 for information on assigning a descriptive name to an outlet group.) You can only specify one *group_name*.

Examples

```
access outlet group 2 4 5 7-10

access outlet group 2,4,5,7-10

access outlet group name Testoutlets
```

Displaying the Outlet Groups That the Subscriber Can Manage

The outlet groups that the subscriber can manage are displayed in the `Outlet Group Access list` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

access port

Specifies the LX asynchronous ports that the subscriber can access.

Syntax

`access port <port_list>`

Where	Means
port_list	Specifies the asynchronous port(s) that the user can access on the LX unit. If more than one asynchronous port is specified, they should be separated by blank spaces or commas; for example, `2 3 5 6` or `2,3,5,6`. In order to specify a range of ports, put a hyphen between the first port and the last port; for example: `3-7`.

Examples

```
access port 2

access port 0 2 3 5 6

access port 3-7

access port 2,3,5-7

access port 8 9 11 14
```

Displaying the LX Asynchronous Ports That the Subscriber Can Access

The LX asynchronous ports that the subscriber can access are displayed in the `Port Access list` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to “monitor/show subscriber” on page 202 for more information.

access ssh enable

Enables the subscriber to access the LX unit by an SSH connection.

Syntax

```
access ssh enable
```

Example

```
access ssh enable
```

Displaying the Subscriber Access Methods

The subscriber access methods are displayed in the `Remote Access list` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to “monitor/show subscriber” on page 202 for more information.

access telnet enable

Enables the subscriber to access the LX unit by a Telnet connection.

Syntax

```
access telnet enable
```

Example

```
      access telnet enable
```

Displaying the Subscriber Access Methods

The subscriber access methods are displayed in the `Remote Access list` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to “monitor/show subscriber” on page 202 for more information.

access web enable

Enables the subscriber to access the LX unit from a web browser via an Internet connection.

Syntax

```
access web enable
```

Example

```
access web enable
```

Displaying the Subscriber Access Methods

The subscriber access methods are displayed in the `Remote Access list` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to “monitor/show subscriber” on page 202 for more information.

audit log enable

Enables the auditing of subscriber activity at the CLI. Log the data received from the serial port to syslog.

Syntax

```
audit log enable
```

Usage Guidelines

Audit Log Enable is disabled by default.

Audit logging creates a record of subscriber input/output activity at the CLI prompt as well as from a remote connection. The audit trail is sent to the accounting log and to syslogd. Use the `monitor/show audit log` command to display the audit log. The `monitor/show audit log` command is described on page 61.

NOTE: When audit logging is enabled, you do not have rights to execute the `monitor/show audit log` command.

Example

```
audit log enable
```

Displaying the State of the Auditing Feature

The state of the Auditing feature (Enabled/Disabled) is displayed in the `Audit Feature` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

backward_switch

Specifies the Backward Switch character for the subscriber; when the subscriber enters the Backward Switch character, he is returned to the previous (lower-numbered) session without returning to the local command mode.

Syntax

```
backward_switch CHARACTER
```

Where	Means
CHARACTER	A capital letter (A - Z) that the user will type to return to the previous session. It is recommended that you specify an unused CTRL character.

Usage Guidelines

To specify that the Backward Switch character is a CTRL character, the character must be preceded by the caret symbol (^) in the `backward_switch` command. For example, the following command specifies that the Backward Switch character is CTRL/I:

```
backward_switch ^I
```

Be sure that there are no conflicting uses for the character you select (particularly with control characters that are used by applications programs, or with the character you set for the FORWARD SWITCH, the LOCAL SWITCH, or any Telnet command characters). If you specify a CTRL character, when the user types the character, it will be displayed as ^<Key> (i.e., if the user types CTRL/I, the terminal will echo the characters: ^I).

Example

```
backward_switch ^I
```

Displaying the Backward Switch Character

The Backward Switch character is displayed in the `Backward Switch` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to “monitor/show subscriber” on page 202 for more information.

change password enabled

Enables password changing on the subscriber account and enables the subscriber to change his password at any time. (The subscriber will be prompted to enter, and confirm, his new password the next time he logs in.) The default is Disabled.

Syntax

```
change password enable
```

Example

```
change password enable
```

Displaying the State of the Change Password Feature

The state of the Change Password feature (Enabled/Disabled) is displayed in the `Change User Password` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

command log enable

Enables command logging for the subscriber.

Syntax

```
command log enable
```

Usage Guidelines

The Command Logging Feature is disabled by default.

Command logging creates a record of valid commands inputted in a CLI session. The information trail is sent to the accounting log and to syslogd. Use the `monitor/show command log` command to display the command log. The `monitor/show command log` command is described on page 64.

Example

```
command log enable
```

Displaying the State of the Command Logging Feature

The state of the Command Logging feature (Enabled/Disabled) is displayed in the `Command Logging` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

dedicated service

Permanently assigns the subscriber to a dedicated service; whenever the subscriber logs into the LX unit, he will begin running the service that is specified in this command.

Syntax

```
dedicated service NAME
```

Where	Means
NAME	The name of the service to which the subscriber is permanently assigned.

Usage Guidelines

In order to use this command, the Telnet protocol must be enabled.

Example

```
dedicated service finance_server
```

Displaying the Dedicated Service for a Subscriber

The Dedicated Service for a subscriber displayed in the `Dedicated Service` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to “monitor/show subscriber” on page 202 for more information.

default access port

Resets the access ports for the subscriber to the factory default of all physical ports on the LX unit, including port 0.

Syntax

```
default access port
```

Example

```
default access port
```

Displaying the LX Asynchronous Ports That the Subscriber Can Access

The LX asynchronous ports that the subscriber can access are displayed in the `Port Access list` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

default access remote

Resets the subscriber's remote access to the default value, which is no remote access.

Syntax

```
default access remote
```

Example

```
default access remote
```

Displaying the Subscriber Access Methods

The subscriber access methods are displayed in the `Remote Access list` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

default backward_switch

Resets the Backward Switch character for the subscriber back to the factory default.

NOTE: The factory-default Backward Switch character is Control-B (^B).

Syntax

```
default backward_switch
```

Example

```
default backward_switch
```

Displaying the Backward Switch Character

The Backward Switch character is displayed in the `Backward Switch` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

default forward_switch

Resets the Forward Switch character for the subscriber back to the factory default.

NOTE: The factory-default Forward Switch character is Control-F (^F).

Syntax

```
default forward_switch
```

Example

```
default forward_switch
```

Displaying the Forward Switch Character

The Forward Switch character is displayed in the `Forward Switch` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

default idletime

Resets the Inactivity timeout for the subscriber to the factory default of 0. A value of 0 means that the Inactivity Timer is effectively disabled.

Syntax

```
default idletime
```

Example

```
default idletime
```

Displaying the Inactivity Timeout for the Subscriber

The Inactivity timeout for the subscriber is displayed in the `Idle Timeout` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

default local_switch

Resets the Local Switch character for the subscriber back to the factory default.

NOTE: The factory-default Forward Switch character is Control-L (^L).

Syntax

```
default local_switch
```

Example

```
default local_switch
```

Displaying the Local Switch Character

The Local Switch character is displayed in the `Local Switch` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

default menu name

Resets the Subscriber Menu to the default Subscriber Menu. The default Subscriber Menu name is in the following format:

`Subs_<subscriber_name> >>`

where `<subscriber_name>` is the name of the subscriber under configuration.

Syntax

```
default menu name
```

Example

```
default menu name
```

Displaying the Subscriber Menu Name

The Subscriber Menu Name is displayed in the `Menu Name` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

default security

Specifies that the subscriber account will be defaulted to the security level of a standard user. A standard user can use all of the commands in the User command mode but cannot access the Linux shell or the Superuser command mode, and cannot manage outlets or execute the `monitor/show` commands.

Syntax

```
default security
```

Example

```
default security
```

Displaying the Security Level for a Subscriber

The security level for a subscriber is displayed in the `Security` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

default ssh log level

Resets the SSH log level to the factory-default level, which is INFO.

Syntax

```
default ssh log level
```

Example

```
default ssh log level
```

Displaying the SSH Log Level

The SSH Log Level is displayed in the `SSH Log Level` field of the Subscriber TCP Screen. An example of the Subscriber TCP Screen appears in Figure 95 on page 206.

Use the `monitor/show subscriber` command to display the Subscriber TCP Screen. Refer to “monitor/show subscriber” on page 202 for more information.

default telnet escape

Resets the Telnet Escape character to the default value of `^]`.

Syntax

```
default telnet escape
```

Example

```
default telnet escape
```

Displaying the Telnet Escape Character

The Telnet Escape character is displayed in the `Telnet Escape` field of the Subscriber TCP Screen. An example of the Subscriber TCP Screen appears in Figure 95 on page 206.

Use the `monitor/show subscriber` command to display the Subscriber TCP Screen. Refer to "monitor/show subscriber" on page 202 for more information.

dialback enable

Enables the Dialback feature for the subscriber.

NOTE: Before you can execute this command, a dialback number must be configured for the subscriber. Refer to the `dialback number` command on page 657 for more information.

Syntax

```
dialback enable
```

Example

```
dialback enable
```

Displaying the State of the Dialback Feature

The state of the Dialback feature (Enabled/Disabled) is displayed in the `Dialback Feature` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

dialback number

Specifies the telephone number that the LX modem will dial when the subscriber makes a Dialback call to the LX unit.

Syntax

`dialback number <telephone_number>`

Where	Means
telephone_number	The telephone number that the LX modem will dial when the subscriber makes a Dialback call to the LX unit.

Example

```
dialback number 19785551978
```

Displaying the Dialback Number for the Subscriber

The Dialback Number for the subscriber is displayed in the `Dialback Number` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to “monitor/show subscriber” on page 202 for more information.

end

When the end command is issued in the Subscriber command mode, it returns the user to the Superuser command mode.

Syntax

end

Usage Guidelines

The end command can be issued in all of the LX Command Modes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

Example

```
end
```

exit

Returns the user to the previous command mode. For example, if the current command mode is the Subscriber command mode, issuing this command will return the user to the Configuration command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the mode from which it is issued.

As noted above, issuing the `exit` command in the Subscriber command mode returns the user to the previous command mode. The same goes for issuing the `exit` command in any mode other than the User command mode. For example, issuing the `exit` command in the Menu command mode returns the user to the Configuration command mode; issuing the `exit` command in the Configuration command mode returns the user to Superuser command mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

forward_switch

Specifies the Forward Switch character for the subscriber; when the subscriber enters the Forward Switch character, he is switched to the next (higher-numbered) session without returning to the local command mode.

Syntax

```
forward_switch CHARACTER
```

Where	Means
CHARACTER	A capital letter (A - Z) that the user will type to switch to the next session. It is recommended that you specify an unused CTRL character.

Usage Guidelines

To specify that the Forward Switch character is a CTRL character, the character must be preceded by the caret symbol (^) in the `forward_switch` command. For example, the following command specifies that the Forward Switch character is CTRL/M:

```
forward_switch ^M
```

Be sure that there are no conflicting uses for the character you select (particularly with control characters that are used by applications programs, or with the character you set for the BACKWARD SWITCH, the LOCAL SWITCH, or any Telnet command characters). If you do specify a CTRL character, when the user types the character, it will be displayed as ^<Key> (i.e., if the user types CTRL/M, the terminal will echo the characters: ^M).

Example

```
forward_switch ^M
```

Displaying the Forward Switch Character

The Forward Switch character is displayed in the `Forward Switch` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to “monitor/show subscriber” on page 202 for more information.

idletime

Sets the Inactivity Timeout for the subscriber. The subscriber is logged out if he does not enter keyboard data before the expiration of the Inactivity Timeout.

Syntax

`idletime <timeout_value>`

Where	Means
timeout_value	The length of the Inactivity Timeout, in minutes. The allowable values are 0 through 65535. The default value is 0. A value of 0 means that the Inactivity Timer is effectively disabled.

Syntax

```
idletime 1200
```

Displaying the Inactivity Timeout for the Subscriber

The Inactivity timeout for the subscriber is displayed in the `Idle Timeout` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

local_switch

Specifies the Local Switch character for the subscriber; when the subscriber enters the Local Switch character, he is returned to the local command mode.

Syntax

```
local_switch CHARACTER
```

Where	Means
CHARACTER	A capital letter (A - Z) that the user will type to return to the local command mode. It is recommended that you specify an unused CTRL character.

Usage Guidelines

To specify that the Local Switch character is a CTRL character, the character must be preceded by the caret symbol (^) in the `local_switch` command. For example, the following command specifies that the Local Switch character is CTRL/K:

```
local_switch ^K
```

Be sure that there are no conflicting uses for the character you select (particularly with control characters that are used by applications programs, or with the character you set for the BACKWARD SWITCH, the FORWARD SWITCH, or any Telnet command characters). If you do specify a CTRL character, when the user types the character, it will be displayed as ^<Key> (i.e., if the user types CTRL/K, the terminal will echo the characters: ^K).

Example

```
local_switch ^K
```

Displaying the Local Switch Character

The Local Switch character is displayed in the `Local Switch` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to “monitor/show subscriber” on page 202 for more information.

login mode

Specifies the Login Mode for the subscriber.

Syntax

```
login mode cli|menu|shell
```

Where	Means
cli	The subscriber will be in the CLI when he or she logs in to the LX unit.
menu	The subscriber will be in his or her Menu when he or she logs in to the LX unit.
shell	The subscriber will be in the Linux Shell when he or she logs in to the LX unit.

Usage Guidelines

Subscribers can have the option to switch between the Login Modes during a subscriber session. For example, a subscriber with a configured Login Mode of `CLI` can have the option of switching to a Menu or to a Linux shell from the CLI. To configure a subscriber with these capabilities, do the following:

- Enable the Menu Feature for the subscriber, and assign a Menu to the subscriber. For more information, refer to the `menu enable` command on page 666.
- Enable the subscriber to use the Linux Shell feature. For more information, refer to the `shell enable` command on page 679.

Examples

```
login mode cli

login mode menu

login mode shell
```

Displaying the Login Mode

The Login Mode is displayed in the `Login Mode` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

maxconnections

Sets the maximum simultaneous connections for the subscriber.

Syntax

```
maxconnections NUMBER
```

Where	Means
NUMBER	The maximum simultaneous connections for the subscriber. The allowable values are 1 through 255. The default value is 5.

Syntax

```
maxconnections 10
```

Displaying the Maximum Simultaneous Connections for the Subscriber

The maximum simultaneous connections for the subscriber is displayed in the `Maximum Connections` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

maxsessions

Sets the maximum sessions for the subscriber.

Syntax

```
maxsessions NUMBER
```

Where	Means
NUMBER	The maximum sessions for the subscriber. The allowable values are 1 through 10. The default value is 4.

Syntax

```
maxsessions 10
```

Displaying the Maximum Sessions for the Subscriber

The maximum sessions for the subscriber is displayed in the `Maximum Sessions` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

menu enable

Enables the Menu feature for the subscriber. If the Menu feature is enabled, and a menu exists for the subscriber, a menu is displayed when the subscriber logs in to the LX unit. Refer to "Menu Commands" on page 781 for more information on creating menus.

Syntax

```
menu enable
```

Usage Guidelines

Before you can execute the `menu enable` command, you must assign a menu to the subscriber.

Use the `menu name` command to assign a menu to a subscriber. The `menu name` command is described on page 667.

Use the `open` command to create a menu. The `open` command is described on page 787.

Example

```
menu enable
```

Displaying the State of the Menu Feature

The state of the Menu feature (Enabled/Disabled) is displayed in the `Menu Feature` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

menu name

Assigns a menu to the subscriber. If the Menu feature is enabled for the subscriber, the menu is displayed when the subscriber logs in to the LX unit. Refer to "Menu Commands" on page 781 for more information on creating menus.

NOTE: Refer to the `menu enable` command on page 666 to enable the Menu Feature for the subscriber.

Syntax

```
menu name NAME
```

Where	Means
NAME	The name of the menu that is to be displayed when the subscriber logs in to the LX unit. Refer to "Menu Commands" on page 781 for more information on creating menus.

Example

```
menu name tom
```

monitor/show

You can execute each of the `monitor/show` commands in the Subscriber Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

no

Disables (negates) specific features and boolean parameters for the subscriber under configuration. Refer to "Usage Guidelines" (below) for more information about using the `no` command in the Subscriber mode.

Syntax

`no <feature_name>`

Where	Means
feature_name	The name of the feature or boolean parameter that is to be disabled.

Usage Guidelines

The allowable arguments for this command consist of only those features and boolean parameters that can be set in the Subscriber command mode *and are currently enabled for this subscriber*. To view the features and boolean parameters that are currently enabled, type the `no` command followed by a question mark (?).

Example

```
no pause
```

password

Assigns a new login password to the subscriber's account.

Syntax

```
password
```

Usage Guidelines

The subscriber account is not active until a password is defined or the "user password" field is disabled.

When this command is executed, the following prompts are displayed:

```
Enter your NEW password   :
Re-enter your NEW password:
```

Enter the new password at the `Enter` prompt, and re-enter it at the `Re-enter` prompt. The password string can be up to 32 characters in length, and it will be masked when you enter it at the above prompts.

Example

```
password
```

password enable

Enables password login protection on the subscriber account and enables the subscriber to reset his password the next time he logs in. (The subscriber will be prompted to enter, and confirm, his new password the next time he logs in.)

Syntax

```
password enable
```

Example

```
password enable
```

Displaying the State of the Password Feature

The state of the Password feature (Enabled/Disabled) is displayed in the `User Password` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

pause enable

Configures the screen pause feature for this subscriber. When this feature is enabled, the screen will pause after displaying the number of lines specified in the "lines/screen" value for the terminal.

Syntax

```
pause enable
```

Example

```
pause enable
```

Displaying the State of the Screen Pause Feature

The state of the Screen Pause feature (Enabled/Disabled) is displayed in the `Screen Pause` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

preferred service

Assigns a service to which the port will connect whenever a user makes a connect request without specifying a service.

Syntax

```
preferred service NAME
```

Where	Means
NAME	The name of the preferred service.

Usage Guidelines

After assigning a Preferred Service to a subscriber, you must log out the subscriber in order for the Preferred Service to take effect.

Examples

```
preferred service finance_server

preferred service 10.240.10.86
```

Displaying the Preferred Service for a Subscriber

The Preferred Service for a subscriber displayed in the `Preferred Service` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

prompt

Sets the *<username>* portion of the subscriber's user prompt. Refer to page 47 for more information on the format of the user prompt.

Syntax

```
prompt STRING
```

Where	Means
STRING	A text string of up to 8 ASCII characters.

Example

```
prompt BILL
```

Displaying the User Prompt for a Subscriber

The user prompt for a subscriber displayed in the `User Prompt` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

security level

Specifies the security level for the subscriber.

Syntax

```
security level outlet|read|shell|superuser
```

Where	Means
outlet	The subscriber can manage the outlets, or outlet groups, that are assigned to his subscriber account. Refer to "access outlet" on page 635, and "access outlet group" on page 636, to assign outlets, or assign outlets, or outlet groups, to a subscriber account.
read	The subscriber can execute the `monitor/show` commands. Refer to "monitor/show" on page 668 for more information on the `monitor/show` commands.
shell	The user can access the Linux shell by executing the `shell` command. Refer to "shell" on page 244 for more information on the `shell` command.
superuser	The subscriber has Superuser access. This means that the subscriber can execute all of the commands in the LX CLI.

Usage Guidelines

By default, a subscriber account does not have Outlet, Read, Shell, or Superuser privileges. These privileges must be added to a subscriber account with this command.

Examples

```
security level outlet

security level read

security level shell

security level superuser
```

Displaying the Security Level for a Subscriber

The security level for a subscriber is displayed in the `Security` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

shell enable

Configures the Subscriber Session Mode as `Shell`. When the Subscriber Session Mode is `Shell`, the subscriber is logged into the Linux shell when he accesses the LX unit.

Syntax

```
shell enable
```

Usage Guidelines

You can reset the Subscriber Session Mode to `CLI` by executing the `no shell` command in the Subscriber Command Mode. When the Subscriber Session Mode is `CLI`, the subscriber will be logged into the LX CLI (or his specified Menu) when he accesses the LX unit.

When the `shell enable` command is executed for a non-Superuser account, it adds the `shell` security level to the account. Refer to "security level" on page 678 for more information on the `shell` security level.

Example

```
shell enable
```

Displaying the Subscriber Session Mode

The Subscriber Session Mode is indicated by the value of the `Shell` field of the Subscriber Characteristics Screen. If the value of the `Shell` field is Disabled, it means that the Subscriber Session Mode is `CLI`. If the value of the `Shell` field is Enabled, it means that the Subscriber Session Mode is `Shell`. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

ssh key

Specifies a unique SSH key for this subscriber. When a subscriber has a unique SSH key, he can log on to the LX unit via SSH without entering a password. (The only requirement is that the user must log on from the host on which his SSH key was generated.)

Syntax

```
ssh key
```

Usage Guidelines

When this command is executed, the following prompt is displayed:

```
Please enter your key:
```

Type an SSH key at the above prompt. The SSH key can be any random string of characters. The minimum length of an SSH key is 96 characters (768 bits). The maximum length of an SSH key is 1200 characters (9600 bits).

As an alternative to typing the SSH key, you can paste a generated SSH key at the above prompt. (The SSH key must be generated on the host from which the subscriber will make SSH connections to the LX unit. Refer to your Linux documentation for more information on generating an SSH key.)

Example

```
ssh key
```

telnet escape

Specifies the Telnet Escape character for the subscriber. When this character is typed by the subscriber in a remote Telnet session, will cause the Telnet host to return to the operating system command prompt.

Syntax

```
telnet escape CHARACTER
```

Where	Means
CHARACTER	A capital letter (A - Z) that the subscriber can type to cause the Telnet host to return to the operating system command prompt. This must be an unused CTRL character. See "Usage Guidelines" (below) for more information.

Usage Guidelines

To specify that the Telnet Escape character is a CTRL character, the character must be preceded by the caret symbol (^) in the `telnet escape` command. For example, the following command specifies that the Telnet Escape character is CTRL/R:

```
telnet escape ^R
```

Be sure that there are no conflicting uses for the character you select (particularly with control characters that are used by applications programs, or with the character you set for the FORWARD SWITCH, the LOCAL SWITCH, or any Telnet command characters). If you specify a CTRL character, when the user types the character, it will be displayed as ^<Key> (i.e., if the user types CTRL/I, the terminal will echo the characters: ^I).

Example

```
telnet escape ^I
```

Displaying the Telnet Escape Character

The Telnet Escape character is displayed in the `Telnet Escape` field of the Subscriber TCP Screen. An example of the Subscriber TCP Screen appears in Figure 95 on page 206.

Use the `monitor/show subscriber` command to display the Subscriber TCP Screen. Refer to "monitor/show subscriber" on page 202 for more information.

telnet mode

Specifies the Telnet mode for the subscriber.

Syntax

```
telnet mode line|character
```

Where	Means
line	The subscriber will use Telnet line mode.
character	The subscriber will use Telnet character mode.

Examples

```
telnet mode line

telnet mode character
```

Displaying the Telnet Mode for a Subscriber

The Telnet Mode for a subscriber is displayed in the `Telnet Line Mode` field of the Subscriber TCP Screen. An example of the Subscriber TCP Screen appears in Figure 95 on page 206.

Use the `monitor/show subscriber` command to display the Subscriber TCP Screen. Refer to “monitor/show subscriber” on page 202 for more information.

terminal

Sets the terminal type for the subscriber.

Syntax

`terminal <`*`terminal_type`*`>`

Where	Means
terminal_type	The terminal type for the subscriber. The allowable terminal types are VT100 and ANSI.

Example

```
terminal vt100

terminal ansi
```

Displaying the Terminal Type for a Subscriber

The terminal type for a subscriber is displayed in the `Configured TermType` field of the Subscriber Status Screen. An example of the Subscriber TCP Screen appears in Figure 94 on page 205.

Use the `monitor/show subscriber` command to display the Subscriber Status Screen. Refer to "monitor/show subscriber" on page 202 for more information.

web login mode

Specifies the web login mode for the subscriber.

Syntax

```
web login mode configuration|menu
```

Where	Means
configuration	The subscriber will use the Configuration mode.
menu	The subscriber will use the Menu mode.

Examples

```
web login mode config

web login mode menu
```

Displaying the Login Mode for a Subscriber

The Web Login Mode for a subscriber is displayed in the `Web Login Mode` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to "monitor/show subscriber" on page 202 for more information.

web menu name

Specifies the web menu name for the subscriber.

Syntax

`web menu name` *`menu_name`*

Where	Means
`menu_name`	The subscriber menu name, up to 22 characters.

Examples

```
web menu name tim
```

```
web menu name billm
```

Displaying the Web Menu Name for a Subscriber

The Web Menu Name for a subscriber is displayed in the `Web Menu Name` field of the Subscriber Characteristics Screen. An example of the Subscriber Characteristics Screen appears in Figure 93 on page 203.

Use the `monitor/show subscriber` command to display the Subscriber Characteristics Screen. Refer to “monitor/show subscriber” on page 202 for more information.

Chapter 9

SNMP Commands

The SNMP commands are executed in the SNMP command mode. When the LX unit is in the SNMP command mode, the SNMP command prompt (e.g., `Snmp:0 >>`) is displayed on the terminal screen.

The format of the SNMP command prompt is as follows:

```
Snmp:<session_number> >>
```

where `<session_number>` is the session number of the current connection.

To enter the SNMP command mode, execute the `snmp` command in the Configuration command mode. The `snmp` command is described on page 384.

contact

Configure the mib-2 SysContact object.

Syntax

```
contact STRING
```

Where	Means
STRING	The name of a system contact for the LX unit. This information is available via an SNMP query (get) but is provided for administrative or informational purposes only. The MIB object is sysContact. The text string can contain up to 26 characters.

Example

```
contact Henry Smith
```

Displaying the System Contact for the LX Unit

The system contact for the LX unit is displayed in the `Contact` field of the SNMP Characteristics Screen. An example of the SNMP Characteristics Screen appears in Figure 86 on page 191.

Use the `monitor/show snmp characteristics` command to display the SNMP Characteristics Screen. Refer to "monitor/show snmp characteristics" on page 191 for more information.

end

When the end command is issued in SNMP Mode, it returns the user to the Superuser command mode.

Syntax

end

Usage Guidelines

The end command can be issued in all of the LX Command Modes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

Example

```
end
```

exit

Returns the user to the previous command mode. For example, if the current command mode is the SNMP command mode, issuing this command will return the user to the Configuration command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX Command Modes. However, the effect of the `exit` command varies, depending on the mode from which it is issued.

As noted above, issuing the `exit` command in the SNMP command mode returns the user to the previous command mode. The same goes for issuing the `exit` command in any mode other than the User command mode. For example, issuing the `exit` command in the Menu Editing command mode returns the user to the Menu command mode; issuing the `exit` command in the Configuration command mode returns the user to the Superuser command mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

get client

Configure an SNMP GET client.

Syntax

```
get client NUMBER A.B.C.D
```

Where	Means
NUMBER	The index of the table entry being configured. Valid values are 0 - 15.
A.B.C.D	The Internet address of an SNMP client that has permission to perform an SNMP GET request on the LX unit.

Example

```
get client 4 119.20.112.3
```

Displaying Information on the SNMP Get Clients for the LX Unit

Information on the SNMP Get clients for the LX unit is displayed on the SNMP Client Screen. An example of the SNMP Client Screen appears in Figure 87 on page 192.

Use the `monitor/show snmp client` command to display the SNMP Client Screen. Refer to "monitor/show snmp client" on page 192 for more information.

get client community

Configure an SNMP Get client community.

Syntax

`get client NUMBER community <community_name>`

Where	Means
NUMBER	The index of the table entry being configured. Valid values are 0 - 15.
community_name	The name of the SNMP Get community. The name can be up to 32 characters long.

Example

```
get client 4 community labunits
```

Displaying the SNMP Get Client Community

The SNMP Get client community is displayed in the `Community` field on the SNMP Client Screen. An example of the SNMP Client Screen appears in Figure 87 on page 192.

Use the `monitor/show snmp client` command to display the SNMP Client Screen. Refer to "monitor/show snmp client" on page 192 for more information.

get client mask

Configure an SNMP GET client mask value.

Syntax

```
get client NUMBER mask A.B.C.D
```

Where	Means
NUMBER	The index of the table entry being configured. Valid values are 0 - 15.
A.B.C.D	The mask of an SNMP client entry. The default value is 255.255.255.255.

Example

```
get client 4 mask 255.255.255.0
```

Displaying Information on the SNMP Get Client Mask for the LX Unit

Information on the SNMP Get client mask for the LX unit is displayed on the SNMP Client Screen. An example of the SNMP Client Screen appears in Figure 87 on page 192.

Use the `monitor/show snmp client` command to display the SNMP Client Screen. Refer to "monitor/show snmp client" on page 192 for more information.

get client version

Configure the SNMP GET client version.

Syntax

`get client NUMBER version <version_number>`

Where	Means
NUMBER	The index of the table entry being configured. Valid values are 0 - 15.
version_number	An SNMP get client version number. The allowable values are v1 or v2c. V1 means the SNMP client uses v1 protocol. V2C means the client uses v2c protocol.

Example

```
get client 4 version v2c
```

Displaying the SNMP Get Client Version

The SNMP Get client version is displayed in the `Version` field on the SNMP Client Screen. An example of the SNMP Client Screen appears in Figure 87 on page 192.

Use the `monitor/show snmp client` command to display the SNMP Client Screen. Refer to "monitor/show snmp client" on page 192 for more information.

location

Configure the mib-2 SysLocation value.

Syntax

```
location STRING
```

Where	Means
STRING	The physical location of the LX unit. This information is available via an SNMP query (get) but is provided for administrative or informational purposes only. The MIB object is sysLocation. The text string can contain up to 26 characters.

Example

```
location Engineering Lab
```

Displaying the Physical Location of the LX Unit

The physical location of the LX unit is displayed in the `Location` field of the SNMP Characteristics Screen. An example of the SNMP Characteristics Screen appears in Figure 86 on page 191.

Use the `monitor/show snmp characteristics` command to display the SNMP Characteristics Screen. Refer to "monitor/show snmp characteristics" on page 191 for more information.

monitor/show

You can execute each of the `monitor/show` commands in the SNMP Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

no

Disables (negates) specific features and boolean parameters on the LX unit. Refer to "Usage Guidelines" (below) for more information about using the `no` command in the SNMP mode.

Syntax

`no <feature_name>`

Where	Means
feature_name	The name of the feature or boolean parameter that is to be disabled.

Usage Guidelines

The allowable arguments for this command consist of only those features and boolean parameters that can be set in the SNMP command mode *and are currently enabled*. To view the features and boolean parameters that are currently enabled, type the `no` command followed by a question mark (?).

Example

```
no contact
```

set client

Configure an SNMP SET client.

Syntax

```
set client NUMBER A.B.C.D
```

Where	Means
NUMBER	The index of the table entry being configured. Valid values are 0 - 15.
A.B.C.D	The Internet address of an SNMP client that has permission to perform an SNMP set on the LX unit.

Example

```
set client 4 119.20.112.3
```

Displaying Information on the SNMP Set Clients for the LX Unit

Information on the SNMP Set clients for the LX unit is displayed on the SNMP Client Screen. An example of the SNMP Client Screen appears in Figure 87 on page 192.

Use the `monitor/show snmp client` command to display the SNMP Client Screen. Refer to "monitor/show snmp client" on page 192 for more information.

set client community

Configure an SNMP SET client community.

Syntax

`set client NUMBER community <`*`community_name`*`>`

Where	Means
NUMBER	The index of the table entry being configured. Valid values are 0 - 15.
community_name	The name of the SNMP Set community. The name can be up to 32 characters long.

Example

```
set client 4 community labunits
```

Displaying the SNMP Set Client Community

The SNMP Set client community is displayed in the `Community` field on the SNMP Client Screen. An example of the SNMP Client Screen appears in Figure 87 on page 192.

Use the `monitor/show snmp client` command to display the SNMP Client Screen. Refer to "monitor/show snmp client" on page 192 for more information.

set client mask

Configure an SNMP SET client mask.

Syntax

```
set client NUMBER mask A.B.C.D
```

Where	Means
NUMBER	The index of the table entry being configured. Valid values are 0 - 15.
A.B.C.D	The mask of an SNMP client that has permission to perform an SNMP set on the LX unit. The default value is 255.255.255.255.

Example

```
set client 4 mask 255.255.255.0
```

Displaying Information on the SNMP Set Clients for the LX Unit

Information on the SNMP Set client mask for the LX unit is displayed on the SNMP Client Screen. An example of the SNMP Client Screen appears in Figure 87 on page 192.

Use the `monitor/show snmp client` command to display the SNMP Client Screen. Refer to "monitor/show snmp client" on page 192 for more information.

set client version

Configure the SNMP SET client version.

Syntax

`set client NUMBER version <version_number>`

Where	Means
NUMBER	The index of the table entry being configured. Valid values are 0 - 15.
version_number	An SNMP set client version number. The allowable values are v1 or v2c. V1 means the SNMP client uses v1 protocol. V2C means the client uses v2c protocol.

Example

```
set client 4 version v2c
```

Displaying the SNMP Set Client Version

The SNMP Set client version is displayed in the `Version` field on the SNMP Client Screen. An example of the SNMP Client Screen appears in Figure 87 on page 192.

Use the `monitor/show snmp client` command to display the SNMP Client Screen. Refer to "monitor/show snmp client" on page 192 for more information.

trap client

Configure an SNMP trap client.

Syntax

```
trap client NUMBER A.B.C.D
```

Where	Means
NUMBER	The index of the table entry being configured. Valid values are 0 - 15.
A.B.C.D	The IP address of an SNMP client that is configured to receive SNMP traps from the LX unit.

Example

```
trap client 4 119.20.112.3
```

Displaying Information on the SNMP Trap Clients for the LX Unit

Information on the SNMP Trap clients for the LX unit is displayed on the SNMP Client Screen. An example of the SNMP Client Screen appears in Figure 87 on page 192.

Use the `monitor/show snmp client` command to display the SNMP Client Screen. Refer to "monitor/show snmp client" on page 192 for more information.

trap client community

Configure an SNMP Trap client community.

Syntax

`trap client NUMBER community <`*`community_name`*`>`

Where	Means
NUMBER	The index of the table entry being configured. Valid values are 0 - 15.
community_name	The name of the SNMP Trap community. The name can be up to 32 characters long.

Example

```
trap client 4 community labunits
```

Displaying the SNMP Trap Client Community

The SNMP Trap client community is displayed in the `Community` field on the SNMP Client Screen. An example of the SNMP Client Screen appears in Figure 87 on page 192.

Use the `monitor/show snmp client` command to display the SNMP Client Screen. Refer to "monitor/show snmp client" on page 192 for more information.

trap client retransmit count

Configures how many times a trap is to be retransmitted.

Syntax

`trap client NUMBER retransmit count <count_number>`

Where	Means
NUMBER	The index of the trap client table entry being configured. Valid values are 0 - 15.
count_number	The number of times the trap that was originally sent is retransmitted. The range is 0 - 10.

Example

```
trap client 4 retransmit count 10
```

Displaying Information on the SNMP Trap Client Retransmit Count for the LX Unit

Information on the SNMP Trap Client Retransmit Count for the LX unit is displayed on the SNMP Client Screen. An example of the SNMP Client Screen appears in Figure 87 on page 192.

Use the `monitor/show snmp client` command to display the SNMP Client Screen. Refer to "monitor/show snmp client" on page 192 for more information.

trap client retransmit interval

Configures how much time (in seconds) between trap retransmissions.

Syntax

`trap client NUMBER retransmit interval <interval_number>`

Where	Means
NUMBER	The index of the trap client table entry being configured. Valid values are 0 - 15.
interval_number	The number of seconds between retransmissions of a trap. The range is 0 - 30 seconds.

Example

```
trap client 4 retransmit interval 30
```

Displaying Information on the SNMP Trap Client Retransmit Interval for the LX Unit

Information on the SNMP Trap Client Retransmit Interval for the LX unit is displayed on the SNMP Client Screen. An example of the SNMP Client Screen appears in Figure 87 on page 192.

Use the `monitor/show snmp client` command to display the SNMP Client Screen. Refer to "monitor/show snmp client" on page 192 for more information.

trap client udp port

Configure the UDP port to which traps are to be sent.

Syntax

`trap client NUMBER udp port <port_number>`

Where	Means
NUMBER	The number of the SNMP trap client for which the UDP port is to be set. The range is 0 - 15.
port_number	A UDP port number. The default value is 162.

Example

```
trap client 1 udp port 8006
```

Displaying the SNMP UDP Port

The SNMP UDP port is displayed in the `UDP Port` field on the SNMP Client Screen. An example of the SNMP Client Screen appears in Figure 87 on page 192.

Use the `monitor/show snmp client` command to display the SNMP Client Screen. Refer to "monitor/show snmp client" on page 192 for more information.

trap client v3 user index

Configure an SNMP trap client V3 user index. Use this when the trap client version is set to v3.

Syntax

`trap client NUMBER v3 user index <user_index_number>`

Where	Means
NUMBER	The index of the table entry being configured. Valid values are 0 - 15.
user_index_number	The index points to the entry in the v3 user table on whose behalf this trap client is configured. The range is from 0 to 9.

Example

```
trap client 4 v3 user index 8
```

Displaying Information on the V3 User Index

Information on the V3 User Index for the LX unit is displayed on the SNMP Client Screen. An example of the SNMP Client Screen appears in Figure 87 on page 192.

Use the `monitor/show snmp client` command to display the SNMP Client Screen. Refer to "monitor/show snmp client" on page 192 for more information.

trap client version

Configure the SNMP trap client version for an SNMP trap client.

The LX unit sends an Enterprise-specific SNMP trap before a reboot and a Cold Start SNMP trap when the LX unit has rebooted. During normal operation of the LX unit, SNMP traps can be sent to trap clients via the Notification feature.

Syntax

`trap client NUMBER version <version_number>`

Where	Means
NUMBER	The number of the SNMP trap client for which the SNMP trap client version is to be set.
version_number	An SNMP trap client version number. The allowable values are v1, v2c, v2c-inform, or v3. The values are defined as follows: v1 - Generate v1 traps to a client. v2c - Generate v2c traps to a client. v2c-inform - Generate v2c information (acknowledged) traps to client. v3 - Generate v3 traps to client.

Example

```
trap client 4 version v2c
```

Displaying the SNMP Trap Client Version

The SNMP Trap client version is displayed in the `Version` field on the SNMP Client Screen. An example of the SNMP Client Screen appears in Figure 87 on page 192.

Use the `monitor/show snmp client` command to display the SNMP Client Screen. Refer to "monitor/show snmp client" on page 192 for more information.

v3 access name

Configure an SNMP V3 Access entry.

Syntax

`v3 access <entry_number> name <string>`

Where	Means
entry_number	The entry in the access table being configured.
string	The name assigned to this entry.

Examples

```
v3 access 4 name bob
```

Displaying the Access Name of an SNMP V3 Client

The name of an SNMP V3 client is displayed in the `accessEntry` field of the V3 Access Screen. An example of the V3 Access Screen appears in Figure 88 on page 194.

Use the `monitor/show snmp v3 access` command to display the V3 Access Screen. Refer to "monitor/show snmp v3 access" on page 194 for more information.

v3 access readview

Configure the readview for an SNMP V3 Access entry.

Syntax

`v3 access <entry_number> readview <word>`

Where	Means
entry_number	The entry in the access table being configured.
word	The name of the entry in the view table that will be used as the read view for the SNMP V3 client. The read view is used for validating incoming SNMP Get Requests.

Example

```
v3 access 3 readview all
```

Displaying the Access Read View

The Access read view for a V3 client is displayed in the `ReadView` field of the V3 Access Screen. An example of the V3 Access Screen appears in Figure 88 on page 194.

Use the `monitor/show snmp v3 access` command to display the V3 Access Screen. Refer to "monitor/show snmp v3 access" on page 194 for more information.

v3 access seclevel

Configure the security level for an SNMP V3 Access entry.

Syntax

`v3 access <entry_number> seclevel <security_level>`

Where	Means
entry_number	The entry in the access table being configured.
seclevel	Specify the access security level.
security_level	The access security level in an incoming SNMP packet must match this value in order for the packet to be allowed. The valid options are: `noAuthNoPriv(1)`, `authNoPriv(2)`, and `authAndPriv(3)`.

Examples

```
v3 access 3 seclevel authAndPriv

v3 access 3 seclevel authNoPriv

v3 access 3 seclevel noAuthNoPriv
```

Displaying the Access Security Level and Access Security Model

The Access Security Level for a V3 client is displayed in the `Security Level` field of the V3 Access Screen. The Access Security Model for a V3 client is displayed in the `Security Model` field of the V3 Access Screen. An example of the V3 Access Screen appears in Figure 88 on page 194.

Use the `monitor/show snmp v3 access` command to display the V3 Access Screen. Refer to “monitor/show snmp v3 access” on page 194 for more information.

v3 access writeview

Configure the writeview for an SNMP V3 Access entry.

Syntax

`v3 access <entry_number> writeview <word>`

Where	Means
entry_number	The entry in the access table being configured.
word	The name of the entry in the view table that will be used as the write view for the SNMP V3 client. The write view is used for validating incoming SNMP Get Requests.

Example

```
v3 access 3 writeview all
```

Displaying the Access Write View

The Access write view for a V3 client is displayed in the `WriteView` field of the V3 Access Screen. An example of the V3 Access Screen appears in Figure 88 on page 194.

Use the `monitor/show snmp v3 access` command to display the V3 Access Screen. Refer to "monitor/show snmp v3 access" on page 194 for more information.

v3 group group

Configure an group entry in the SNMP V3 group table.

Syntax

`v3 group <group_number> group <group_name>`

Where	Means
group_number	The index for the group entry being configured.
group_name	The group name of the user.

Example

```
v3 group 3 group grpAll
```

Displaying the Group User of an SNMP V3 Group

The name of an SNMP V3 group is displayed in the `Group Name` field of the V3 Group Screen. An example of the V3 Group Screen appears in Figure 89 on page 196.

Use the `monitor/show snmp v3 group` command to display the V3 Group Screen. Refer to "monitor/show snmp v3 group" on page 196 for more information.

v3 group user

Configure a user entry in the SNMP V3 group table.

Syntax

`v3 group <group_number> user <user_name>`

Where	Means
group_number	The index for the group entry being configured.
user_name	The name of the user.

Example

```
v3 group 3 user bob
```

Displaying the Group User of an SNMP V3 User

The name of an SNMP V3 user is displayed in the `User Name` field of the V3 User Screen. An example of the V3 User Screen appears in Figure 91 on page 198.

Use the `monitor/show snmp v3 user` command to display the V3 User Screen. Refer to "monitor/show snmp v3 user" on page 198 for more information.

v3 user authpass

Configure an authentication password for an SNMP V3 user entry.

Syntax

`v3 user <user_number> authpass <password>`

Where	Means
user_number	The user entry in the user table being configured.
password	The authentication password, from 8 to 32 characters long.

Example

```
v3 user 3 authpass 12345678
```

Displaying the Authentication Password of an SNMP V3 User

The authentication password of an SNMP V3 user is displayed in the `authPassword` field of the V3 User Screen. An example of the V3 User Screen appears in Figure 91 on page 198.

Use the `monitor/show snmp v3 user` command to display the V3 User Screen. Refer to "monitor/show snmp v3 user" on page 198 for more information.

v3 user authproto

Configure the authentication protocol for an SNMP V3 user entry.

Syntax

`v3 user <user_number> authproto <protocol>`

Where	Means
user_number	The index for the user entry being configured.
protocol	The protocol type. The valid options are `none`, `md5`, and `sha`.

Examples

```
v3 user 3 authproto none
```

```
v3 user 3 authproto md5
```

Displaying the Authentication Protocol of an SNMP V3 User

The authentication protocol of an SNMP V3 user is displayed in the `authProtocol` field of the V3 User Screen. An example of the V3 User Screen appears in Figure 91 on page 198.

Use the `monitor/show snmp v3 user` command to display the V3 User Screen. Refer to "monitor/show snmp v3 user" on page 198 for more information.

v3 user name

Configure an entry in the SNMP V3 user table.

Syntax

`v3 user <user_number> user <user_name>`

Where	Means
user_number	The index for the user entry being configured.
user_name	The name of the user.

Example

```
v3 user 3 user bob
```

Displaying the User Name of an SNMP V3 User

The name of an SNMP V3 user is displayed in the `User Name` field of the V3 Group Screen. An example of the V3 Group Screen appears in Figure 89 on page 196.

Use the `monitor/show snmp v3 group` command to display the V3 Group Screen. Refer to "monitor/show snmp v3 group" on page 196 for more information.

v3 user privpass

Configure the privacy password for an SNMP V3 user entry.

Syntax

`v3 user <user_number> privpass <password>|<0xkey>`

Where	Means
user_number	The index for the user entry being configured.
password	The privacy password, from 8 to 32 characters long.
0xkey	The privacy key, in hex format. To indicate that a key value is being entered, the value must begin with "`0x`."The key must be 32 characters or less.

Example

```
v3 user 3 privpass abcde

v3 user 3 privpass 0x12345
```

Displaying the Privacy Password of an SNMP V3 User

The privilege password of an SNMP V3 user is displayed in the `privPassword` field of the V3 User Screen. An example of the V3 User Screen appears in Figure 91 on page 198.

Use the `monitor/show snmp v3 user` command to display the V3 User Screen. Refer to "monitor/show snmp v3 user" on page 198 for more information.

v3 user privproto

Configure the user privacy protocol for an SNMP V3 user entry.

Syntax

`v3 user <user_number> privproto <protocol>`

Where	Means
user_number	The user entry in the access table being configured.
protocol	The privacy protocol type. The valid options are `none`, `des` and `aes128`. `aes128` uses AES protocol (128 bit keylength) to encrypt data.

Examples

```
v3 user 3 privproto none

v3 user 3 privproto des
```

Displaying the Privacy Protocol of an SNMP V3 User

The privilege protocol of an SNMP V3 user is displayed in the `privProtocol` field of the V3 User Screen. An example of the V3 User Screen appears in Figure 91 on page 198.

Use the `monitor/show snmp v3 user` command to display the V3 User Screen. Refer to "monitor/show snmp v3 user" on page 198 for more information.

v3 view mask

Configure an SNMP V3 mask for an SNMP V3 view entry.

Syntax

`v3 view <entry_number> mask <FF>`

Where	Means
entry_number	The entry in the view table being configured.
FF	A hexadecimal string representing a view mask.

Examples

```
v3 view 4 FF
```

Displaying the View Mask for an SNMP V3 View

The View Mask for an SNMP V3 view is displayed in the `viewMask` field of the V3 View Screen. An example of the V3 View Screen appears in Figure 92 on page 200.

Use the `monitor/show snmp v3 view` command to display the V3 View Screen. Refer to "monitor/show snmp v3 view" on page 200 for more information.

v3 view name

Configure an SNMP V3 view entry.

Syntax

`v3 view <entry_number> name <view_name>`

Where	Means
entry_number	The entry in the access table being configured.
view_name	The name of the view.

Examples

```
v3 view 4 bob
v3 view 4 all
```

Displaying the View Name for an SNMP V3 View

The View Name for an SNMP V3 view is displayed in the `viewName` field of the V3 View Screen. An example of the V3 View Screen appears in Figure 92 on page 200.

Use the `monitor/show snmp v3 view` command to display the V3 View Screen. Refer to "monitor/show snmp v3 view" on page 200 for more information.

v3 view subtree

Configure a subtree value for an SNMP V3 entry.

Syntax

`v3 view <entry_number> subtree <object_id>`

Where	Means
entry_number	The entry in the access table being configured.
subtree	Specify the subtree for the V3 entry.
object_id	An object ID used as a filter for incoming SNMP packets, as specified by the mask value.

Examples

```
v3 view 4 subtree 1.3.6.1
```

Displaying the View Subtree for an SNMP V3 View

The Subtree for an SNMP V3 view is displayed in the `subTree` field of the V3 View Screen. An example of the V3 View Screen appears in Figure 92 on page 200.

Use the `monitor/show snmp v3 view` command to display the V3 View Screen. Refer to "monitor/show snmp v3 view" on page 200 for more information.

v3 view type

Configure a type value for an SNMP V3 entry.

Syntax

`v3 view <entry_number> type <word>`

Where	Means
entry_number	The entry in the access table being configured.
type	Specify the type for the V3 view.
word	The type of the V3 view. The allowable values are: **included** - Requests that match the mask and subtree in this view will be allowed to make requests on the LX unit. **excluded** - Requests that match the mask and subtree in this view will *not* be allowed to make requests on the LX unit.

Examples

```
v3 view 4 type included
```

```
v3 view 4 type excluded
```

Displaying the View Type for an SNMP V3 View

The Type for an SNMP V3 view is displayed in the `viewType` field of the V3 View Screen. An example of the V3 View Screen appears in Figure 92 on page 200.

Use the `monitor/show snmp v3 view` command to display the V3 View Screen. Refer to “monitor/show snmp v3 view” on page 200 for more information.

Chapter 10

Modem Commands

The Modem commands, which are used to configure modems for asynchronous ports, are executed in the Modem command mode. When the LX unit is in the Modem command mode, the Modem command prompt (e.g., `Modem 4-4:0 >>`) is displayed on the terminal screen.

The format of the Modem command prompt is as follows:

`Modem <1st_port_number>-<nth_port_number>:<session_number> >>`

where

`<1st_port_number>` identifies the first port in the range of ports under configuration. (This value is inherited from the Asynchronous command mode.)

`<nth_port_number>` identifies the last port in the range of ports under configuration. (This value is inherited from the Asynchronous command mode.)

`<session_number>` identifies the current session number.

To enter the Modem command mode, execute the `modem` command in the Asynchronous command mode. The `modem` command is described on page 577.

default initstring

Resets the modem initialization string to its default value.

Syntax

```
default initstring
```

Example

```
default initstring
```

Displaying the Modem Initialization String

The initialization string for a modem port is displayed in the `Modem Init String` field of the Port Modem Settings Screen. An example of the Port Modem Settings Screen appears in Figure 68 on page 159.

Use the `monitor/show port async modem` command to display the Port Modem Settings Screen. Refer to "monitor/show port async modem" on page 159 for more information.

dialout number

Specifies the telephone number that the LX modem will dial for a dialout connection.

Syntax

`dialout number <telephone_number>`

Where	Means
telephone_number	The telephone number that the LX modem will dial for a dialout connection.

Usage Guidelines

You cannot specify a dialout number for port 0. If you execute the `dialout number` command on port 0, the following message will be displayed:

```
Operation not permitted on diagnostic/management port
```

Example

```
dialout number 19785558371
```

Displaying the Dialout Number for a Modem Port

The Dialout Number for a modem port is displayed in the `Modem Dialout Num.` field of the Port Modem Settings Screen. An example of the Port Modem Settings Screen appears in Figure 68 on page 159.

Use the `monitor/show port async modem` command to display the Port Modem Settings Screen. Refer to "monitor/show port async modem" on page 159 for more information.

end

When the end command is issued in the Modem command mode, it returns the user to the Superuser command mode.

Syntax

end

Usage Guidelines

The end command can be issued in all of the LX Command Modes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

Example

```
end
```

exit

Returns the user to the previous command mode. For example, if the current command mode is the Modem command mode, issuing this command will return the user to the Asynchronous command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued.

As noted above, issuing the `exit` command in the Modem command mode returns the user to the previous command mode. The same goes for issuing the `exit` command in any command mode other than the User command mode. For example, issuing the `exit` command in the Menu Editing command mode returns the user to the Menu command mode; issuing the `exit` command in the Configuration command mode returns the user to the Superuser command mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

initstring

Specifies the Modem Initialization string that the port(s) under configuration will pass to the modem.

Syntax

```
initstring STRING
```

Where	Means
STRING	The Modem Initialization string

Usage Guidelines

You cannot specify a Modem Initialization string for port 0. If you execute the `initstring` command on port 0, the following message will be displayed:

```
Operation not permitted on diagnostic/management port
```

Example

```
initstring AT S7=45 S0=1 L1 V1 X4 &C1 &1 Q0 &S1
```

Displaying the Modem Initialization String

The initialization string for a modem port is displayed in the `Modem Init String` field of the Port Modem Settings Screen. An example of the Port Modem Settings Screen appears in Figure 68 on page 159.

Use the `monitor/show port async modem` command to display the Port Modem Settings Screen. Refer to "monitor/show port async modem" on page 159 for more information.

monitor/show

You can execute each of the `monitor/show` commands in the Modem Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

no

Disables (negates) specific features and boolean parameters on the LX unit. Refer to "Usage Guidelines" (below) for more information about using the `no` command in the Modem command mode.

Syntax

`no <feature_name>`

Where	Means
feature_name	The name of the feature or boolean parameter that is to be disabled.

Usage Guidelines

The allowable arguments for this command consist of only those features and boolean parameters that can be set in the Modem command mode *and are currently enabled.* To view the features and boolean parameters that are currently enabled, type the `no` command followed by a question mark (?).

Example

```
no dialout number
```

pool enable

Specifies that the port(s) under configuration are included in the modem pool for the LX unit.

Syntax

```
pool enable
```

Usage Guidelines

When a port is included in the modem pool, it can be used for Reverse Dial connections. For more information on Reverse Dial connections, refer to the `dial reverse` command on page 54.

In order to include a port in the modem pool, the port access must be REMOTE and the port must be modem-enabled. Use the `access` command (see page 538) to set the port access to REMOTE. Use the `modem enable` command (see page 578) to modem-enable a port.

Example

```
pool enable
```

Displaying the State of the Modem Pool Feature

The state of the Modem Pool feature (Enabled/Disabled) is displayed in the `Modem Pool` field of the Port Modem Settings Screen. An example of the Port Modem Settings Screen appears in Figure 68 on page 159.

Use the `monitor/show port async modem` command to display the Port Modem Settings Screen. Refer to "monitor/show port async modem" on page 159 for more information.

retry

Specifies the number of times that the port(s) under configuration will attempt to make a dialout connection via a modem, after the initial attempt.

Syntax

```
retry NUMBER
```

Where	Means
NUMBER	The number of times that the port(s) under configuration will attempt to make a dialout connection via a modem. The valid values are 0 - 255.

Usage Guidelines

You cannot specify a retry value for port 0. If you execute the `retry` command on port 0, the following message will be displayed:

```
Operation not permitted on diagnostic/management port
```

Example

```
retry 6
```

Displaying the Retry Value

The retry value for a modem port is displayed in the `Modem Retry` field of the Port Modem Settings Screen. An example of the Port Modem Settings Screen appears in Figure 68 on page 159.

Use the `monitor/show port async modem` command to display the Port Modem Settings Screen. Refer to "monitor/show port async modem" on page 159 for more information.

timeout

Specifies the length of time that the port(s) under configuration can spend attempting to make a modem connection.

Syntax

```
timeout NUMBER
```

Where	Means
NUMBER	Specifies how much time the port(s) under configuration can spend attempting to make a modem connection. Valid timeout values are from 1 to 255 seconds.

Usage Guidelines

You cannot specify a modem timeout for port 0. If you execute the `timeout` command on port 0, the following message will be displayed:

```
Operation not permitted on diagnostic/management port
```

Example

```
timeout 30
```

Displaying the Timeout Value

The timeout value for a modem port is displayed in the `Modem Timeout` field of the Port Modem Settings Screen. An example of the Port Modem Settings Screen appears in Figure 68 on page 159.

Use the `monitor/show port async modem` command to display the Port Modem Settings Screen. Refer to “monitor/show port async modem” on page 159 for more information.

Chapter 11

PPP Commands

The PPP commands, which are used to configure the Point-to-Point Protocol (PPP) for IP interfaces, are executed in the PPP command mode. When the LX unit is in the PPP command mode, the PPP command prompt (e.g., `PPP 3-3:0 >>`) is displayed on the terminal screen.

The format of the PPP command prompt is as follows:

```
PPP <int_number>-<int_number>:<session_number> >>
```

where `<int_number>` identifies the IP interface under configuration. (This value is inherited from the Interface command mode.)

`<session_number>` identifies the current session number.

To enter the PPP command mode, execute the `ppp` command in the Interface command mode. The `ppp` command is described on page 523.

authentication

Sets the PPP link authentication parameters for the IP interface under configuration.

Syntax

`authentication chap|pap|retry <retry_limit>|timeout <timeout_limit>`

Where	Means
chap	Enables CHAP authentication on the PPP link.
pap	Enables PAP authentication on the PPP link.
retry	Set the retry value for CHAP or PAP authentication.
retry_limit	The number of times that the LX unit will attempt to authenticate a PPP link. The allowable values are 0 through 255.
timeout	Set the timeout value for CHAP or PAP authentication.
timeout_limit	The length of time that the LX unit has to perform CHAP or PAP authentication for a PPP link. If the link can not be authenticated within this time, the link is refused. The allowable values are 0 through 255.

Examples

```
authentication chap

authentication pap

authentication retry 5

authentication timeout 30
```

Displaying the Retry Value, Timeout Value, and Method for Authenticating PPP Links

The authentication method for PPP links is displayed in the `PPP Authent.` field of the PPP Settings Screen. The retry value for authenticating PPP links is displayed in the `PPP Authent. Retry` field of the PPP Settings Screen. The timeout value for authenticating PPP links is displayed in the `PPP Authent. Timeout` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

backup enable

Enables or disables the PPP backup rule.

Syntax

```
backup enable
```

Usage Guidelines

The ping interface and ping host must be specified before you issue this command. Once you issue this command, you must issue the `ppp no backup` command before changing the ping host, interval, or interface.

To disable this command, enter `no backup`. When PPP backup is disabled, the ping host, interval, and interface can be modified, but the PPP backup link will not be established.

Example

```
backup enable

no backup
```

Displaying the State of the Backup Feature

The state of PPP Backup Feature (Enabled/Disabled) is displayed in the `PPP Backup Feature` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

backup ping host

Sets the ping host for the PPP backup on a given interface.

Syntax

`backup ping host <A.B.C.D>`

Where	Means
A.B.C.D	The IP address of the backup ping host.

Usage Guidelines

The ping host will be queried periodically (based on the ping interval) using a ICMP ping packet. If the ping host does not reply, it is assumed to be down and the PPP backup link will be dialed. Before the backup ping host or ping interval can be modified, the rule itself must be disabled.

Example

```
backup ping host 129.27.172.19
```

Displaying the Address of the Backup Ping Host

The address of PPP Backup Ping Host (IP_address) is displayed in the `PPP Backup Ping Host` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

backup ping interface

Specifies the ping interface through which the ICMP ping packet will be sent.

Syntax

`backup ping interface <interface_address>`

Where	Means
interface_address	The IP interface address of the backup ping host.

Usage Guidelines

You must set this parameter correctly, as improper configuration may result in the PPP backup link never being dialed or never being brought down. The ping interface must not be the same as the PPP backup interface. Before the backup ping host or ping interval can be modified, the rule itself must be disabled.

Example

```
backup ping interface 129.27.172.19
```

Displaying the Address of the Backup Ping Interface

The address of the PPP Backup Ping Interface is displayed in the `PPP Backup Ping Interface` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

backup ping interval

Specifies the number of seconds between ping requests.

Syntax

```
backup ping interval <seconds>
```

Where	Means
seconds	The number of seconds between ping requests. The default is 30 seconds.

Usage Guidelines

Before the backup ping host or ping interval can be modified, the rule itself must be disabled.

Example

```
backup ping interval 30
```

Displaying the State of the Backup Ping Interval

The state of the Backup Ping Interval (in seconds) is displayed in the `PPP Backup Ping Interval` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

ccp enable

Enables PPP Compression Control Protocol (CCP) negotiation on the IP interface under configuration.

Syntax

```
ccp enable
```

Example

```
ccp enable
```

Displaying the State of CCP Negotiation

The state of CCP negotiation (Enabled/Disabled) is displayed in the `PPP CCP` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

default authentication

Resets the retry and timeout values for PPP authentication to the factory-default settings.

Syntax

```
default authentication retry|timeout
```

Where	Means
retry	Resets the retry value for PPP authentication to the factory-default setting. Refer to "authentication" on page 742 for more information on the retry value for PPP authentication.
timeout	Resets the timeout value for PPP authentication to the factory-default setting. Refer to "authentication" on page 742 for more information on the timeout value for PPP authentication.

Example

```
default authentication retry

default authentication timeout
```

Displaying the Retry Value and Timeout Value for Authenticating PPP Links

The retry value for authenticating PPP links is displayed in the `PPP Authent. Retry` field of the PPP Settings Screen. The timeout value for authenticating PPP links is displayed in the `PPP Authent. Timeout` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

default ipcp

Resets the negotiation options for the Internet Protocol Control Protocol (IPCP) to their factory-default values.

Syntax

```
default ipcp compression|failure limit|timeout
```

Where	Means
compression	Resets the compression option for IPCP to the factory-default value. Refer to "ipcp compression enable" on page 762 for more information on the compression option for IPCP.
failure limit	Resets the failure limit for IPCP to the factory-default value. Refer to "ipcp failure limit" on page 763 for more information on the failure limit for IPCP.
timeout	Resets the timeout value for IPCP to the factory-default value. Refer to "ipcp timeout" on page 764 for more information on the timeout value for IPCP.

Example

```
default ipcp compression

default ipcp failure limit

default ipcp timeout
```

Displaying the IPCP Negotiation Options for PPP Links

The state of the IPCP compression option (Enabled/Disabled) is displayed in the `PPP IPCP Compress. (VJ)` field of the PPP Settings Screen. The IPCP failure limit is displayed in the `PPP IPCP Failure Limit` field of the PPP Settings Screen. The IPCP timeout value is displayed in the `PPP IPCP Timeout` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

default lcp compression

Resets the compression option for the Link Control Protocol (LCP) to the factory-default value.

Refer to “lcp compression enable” on page 765 for more information on the compression option for LCP.

Syntax

```
default lcp compression
```

Example

```
default lcp compression
```

Displaying the State of the LCP Compression Option

The state of the LCP compression option (Enabled/Disabled) is displayed in the `PPP LCP Compress.` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to “monitor/show interface ppp characteristics” on page 123 for more information.

default lcp echo

Resets the echo failure parameter, or the echo interval parameter, for the Link Control Protocol (LCP) to the factory-default value.

Refer to "lcp echo failure" on page 766 for more information on the echo failure parameter for LCP.

Refer to "lcp echo interval" on page 767 for more information on the echo interval parameter for LCP.

Syntax

```
default lcp echo failure|interval
```

Where	Means
failure	Reset the echo failure parameter for LCP to its default value.
interval	Reset the echo interval parameter for LCP to its default value.

Examples

```
default lcp echo failure

default lcp echo interval
```

Displaying the LCP Echo Failure Limit

The LCP Echo Failure Limit is displayed in the `PPP LCP Echo Failure Limit` field of the PPP Settings Screen. The LCP Echo Interval is displayed in the `PPP LCP Echo Interval` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

default lcp failure limit

Resets the failure limit parameter for the Link Control Protocol (LCP) to the factory-default value.

Refer to "lcp failure limit" on page 768 for more information on the failure limit parameter for LCP.

Syntax

```
default lcp failure limit
```

Example

```
default lcp failure limit
```

Displaying the LCP Failure Limit

The LCP Failure Limit is displayed in the `PPP LCP Failure Limit` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

default lcp timeout

Resets the Link Control Protocol (LCP) timeout for the IP interface under configuration to the factory-default value.

Refer to “lcp timeout” on page 769 for more information on the LCP timeout.

Syntax

```
default lcp timeout
```

Example

```
default lcp timeout
```

Displaying the LCP Timeout

The LCP timeout is displayed in the `PPP LCP Timeout` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to “monitor/show interface ppp characteristics” on page 123 for more information.

default outbound username

Configures the default outbound client username (`In-Reach`) for PPP Links on the IP interface under configuration.

Syntax

```
default outbound username
```

Example

```
default outbound username
```

Displaying the Default Outbound Client Username

The default username for the outbound client username for PPP Links is displayed in the `Outbound Username` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

default remote address

Resets the IP address of the remote system in the PPP link to the default value.

Syntax

```
default remote address
```

Example

```
default remote address
```

Displaying the Remote Address for a PPP Link

The remote address for a PPP link is displayed in the `PPP Remote IP Address` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

dialback enable

Enables dialback for PPP. Enter `no dialback` to disable dialback.

Syntax

```
dialback enable
```

Example

```
dialback enable
```

Displaying the Dialback Setting

The Dialback Setting is displayed in the `PPP Dialback Mode` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

dialback secure

Enables dialback secure for PPP. Enter `no dialback secure` to disable dialback secure. This forces the LX to dial back every incoming call. Dialback must be enabled with a Dialback phone number at the Subscriber level, or the call will be dropped.

Syntax

```
dialback secure
```

Example

```
dialback secure
```

Displaying the Dialback Secure Setting

The Dialback Setting is displayed in the `PPP Dialback Mode` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

end

When the end command is issued in the PPP command mode, it returns the user to the Superuser command mode.

Syntax

end

Usage Guidelines

The end command can be issued in all of the LX command modes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

Example

```
end
```

exit

Returns the user to the previous command mode. For example, if the current command mode is the PPP command mode, issuing this command will return the user to the Interface command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the mode from which it is issued.

As noted above, issuing the `exit` command in the PPP command mode returns the user to the previous command mode. The same goes for issuing the `exit` command in any command mode other than User. For example, issuing the `exit` command in the Menu Editing command mode command mode returns the user to the Menu command mode; issuing the `exit` command in the Configuration command mode returns the user to the Superuser command mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

inactivity timeout

Specifies the length of time the PPP link will wait for an LCP echo reply before closing the link.

Syntax

`inactivity timeout <`*`seconds`*`>`

Where	Means
seconds	The number of seconds the PPP link will wait for a reply before closing the link. The valid values are 0 - 65535 seconds.

Example

```
inactivity timeout 6
```

Displaying the Inactivity Timeout for a PPP Link

The Inactivity Timeout for a PPP Link is displayed in the `PPP Inactivity Timeout` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

ipcp accept address enable

Configures the PPP link to accept negotiation of local addresses or remote addresses.

Syntax

```
ipcp accept local|remote address enable
```

Where	Means
local	Specifies that the PPP link will only accept negotiation of local addresses.
remote	Specifies that the PPP link will only accept negotiation of remote addresses.

Examples

```
ipcp accept local address enable

ipcp accept remote address enable
```

Displaying the State of the IPCP Address Negotiation Option

The state of the Local Address Negotiation option (Enabled/Disabled) is displayed in the `PPP IPCP Accept Local` field of the PPP Settings Screen. The state of the Remote Address Negotiation option (Enabled/Disabled) is displayed in the `PPP IPCP Accept Remote` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

ipcp compression enable

Specifies that the IP interface under configuration will try to negotiate the use of Van Jacobson (VJ) compression over a PPP link.

Syntax

```
ipcp compression enable
```

Usage Guidelines

Data compression allows more data to be transferred over the link. The use of the VJ compression method can result in significant bandwidth savings, which can be important when PPP connections are made over telephone lines or when a PPP link is very heavily used. VJ compression is very memory intensive, however. The use of VJ compression is negotiated during PPP options negotiation. Compression can be used in one direction only.

Example

```
ipcp compression enable
```

Displaying the State of the IPCP Compression Option

The state of the IPCP compression option (Enabled/Disabled) is displayed in the `PPP IPCP Compress. (VJ)` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

ipcp failure limit

Specifies the number of attempts at IPCP option negotiation that can be made by the IP interface under configuration.

Syntax

```
ipcp failure limit NUMBER
```

Where	Means
NUMBER	A whole number that specifies the number of attempts at IPCP option negotiation that can be made by the IP interface under configuration. The attempt at making a PPP link will be aborted if the options are not successfully negotiated within this number of tries.

Example

```
ipcp failure limit 6
```

Displaying the IPCP Failure Limit

The IPCP failure limit is displayed in the `PPP IPCP Failure Limit` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

ipcp timeout

Specifies the length of time that the IP interface under configuration have for IPCP option negotiation.

Syntax

```
ipcp timeout NUMBER
```

Where	Means
NUMBER	The length of time, in seconds, that the IP interface under configuration have for IPCP option negotiation. The attempt at making a PPP link will be aborted if the options are not successfully negotiated within this time limit.

Example

```
ipcp timeout 30
```

Displaying the IPCP Timeout Value

The IPCP timeout value is displayed in the `PPP IPCP Timeout` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

lcp compression enable

Specifies that the IP interface under configuration will try to negotiate the use of LCP compression over a PPP link.

Syntax

```
lcp compression enable
```

Example

```
      lcp compression enable
```

Displaying the State of the LCP Compression Option

The state of the LCP compression option (Enabled/Disabled) is displayed in the `PPP LCP Compress.` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

lcp echo failure

Specifies the number of times that the IP interface under configuration can send an LCP echo request.

Syntax

```
lcp echo failure NUMBER
```

Where	Means
NUMBER	A whole number that specifies the number of times that the IP interface under configuration can send an LCP echo request. The attempt at making a PPP link will be aborted if the port does not receive an LCP echo after the last echo request is sent.

Example

```
lcp echo failure 6
```

Displaying the LCP Echo Failure Limit

The LCP Echo Failure Limit is displayed in the `PPP LCP Echo Failure Limit` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

lcp echo interval

Specifies the interval between the sending of LCP echo requests.

Syntax

```
lcp echo interval NUMBER
```

Where	Means
NUMBER	A whole number that specifies the interval, in seconds, between the sending of LCP echo requests.

Example

```
lcp echo interval 10
```

Displaying the LCP Echo Interval

The LCP Echo Interval is displayed in the `PPP LCP Echo Interval` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

lcp failure limit

Specifies the number of attempts at LCP option negotiation that can be made by the IP interface under configuration.

Syntax

```
lcp failure limit NUMBER
```

Where	Means
NUMBER	A whole number that specifies the number of attempts at LCP option negotiation that can be made by the IP interface under configuration. The attempt at making a PPP link will be aborted if the options are not successfully negotiated within this number of tries.

Example

```
lcp failure limit 6
```

Displaying the LCP Failure Limit

The LCP Failure Limit is displayed in the `PPP LCP Failure Limit` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

lcp timeout

Specifies the length of time that the IP interface under configuration have for LCP option negotiation.

Syntax

```
lcp timeout NUMBER
```

Where	Means
NUMBER	The length of time, in seconds, that the IP interface under configuration have for LCP option negotiation. The attempt at making a PPP link will be aborted if the options are not successfully negotiated within this time limit.

Example

```
lcp timeout 30
```

Displaying the LCP Timeout

The LCP timeout is displayed in the `PPP LCP Timeout` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

mode

Specifies the PPP mode for the IP interface under configuration as Active, Passive, Demand, or Backup.

Syntax

```
mode active|passive|demand|backup
```

Where	Means
active	Specifies that the IP interface under configuration will use PPP active mode. (In PPP active mode, the port that is bound to the IP interface for PPP Links will periodically send PPP LCP negotiation packets.)
passive	Specifies that the IP interface under configuration will use PPP passive mode. (In PPP passive mode, the port that is bound to the IP interface for PPP Links is in listening mode; the port listens for incoming PPP LCP negotiation packets.)
demand	Specifies that the IP interface under configuration will use PPP demand mode. (In PPP demand mode, the port that is bound to the IP interface for PPP Links will only attempt to dial a modem and negotiate PPP when there is a demand to do so, such as when IP Network traffic matching the interface's PPP Remote IP address appears on the unit.) The LCP negotiations will always assume *active* mode.
backup	Specifies that the IP interface under configuration will use PPP backup mode. PPP backup is not enabled until you issue the `ppp backup enable` command. Once the interface is configured for PPP backup, you must configure the ping host, ping interface, and ping interval. You must first bind the interface to a port for this command to function. This command creates the triggers, actions, and associated rules used by PPP backup. The LCP negotiations will always assume *active* mode.

Usage Guidelines

Use the `bind port async protocol ppp` command to bind a port to an IP interface for PPP Links. For more information, refer to "bind port async protocol ppp" on page 495.

Examples

```
mode active

mode passive

mode demand

mode backup
```

Displaying the PPP Mode for the IP Interface

The PPP mode for the port is displayed in the `PPP Mode` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

Displaying the Device to Which the IP Interface Is Bound

The device to which the IP interface is bound is displayed in the `Bound to` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

monitor/show

You can execute each of the `monitor/show` commands in the PPP Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

no

Disables (negates) specific features and boolean parameters on the LX unit. Refer to "Usage Guidelines" (below) for more information about using the `no` command in the PPP command mode.

Syntax

`no <feature_name>`

Where	Means
feature_name	The name of the feature or boolean parameter that is to be disabled.

Usage Guidelines

The allowable arguments for this command consist of only those features and boolean parameters that can be set in the PPP command mode *and are currently enabled*. To view the features and boolean parameters that are currently enabled, type the `no` command followed by a question mark (?).

Example

```
no authentication
```

outbound dialback

Enables dialing a number if the server is doing dialback. To clear a number, enter `no outbound dialback <number>`.

Syntax

`outbound dialback number <telephone_number>`

Where	Means
telephone_number	The telephone number that the LX modem will dial when the subscriber makes an outbound Dialback call to the LX unit.

Examples

```
outbound dialback number 19785551978

no outbound dialback number
```

Displaying Outbound Dialback Number

The Outbound Dialback number is displayed in the `PPP Dialback Mode` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

outbound secret

Configures the outbound CHAP secret, or the outbound PAP secret, for PPP Links on the IP interface under configuration.

Syntax

`outbound chap|pap secret <text_string>`

Where	Means
chap	Specifies the outbound CHAP secret for the PPP Links on the IP interface under configuration.
pap	Specifies the outbound PAP secret for the PPP Links on the IP interface under configuration.
text_string	A string of ASCII characters that specifies the CHAP or PAP secret.

Examples

```
outbound chap secret wtrrrbbbba

outbound pap secret irtntobaalanwmtg
```

Displaying the Status of the Outbound CHAP and PAP Secrets

The status of the Outbound CHAP Secret (Configured/Not configured) is displayed in the `Outbound CHAP Secret` field of the PPP Settings Screen. The status of the Outbound PAP Secret (Configured/Not configured) is displayed in the `Outbound PAP Secret` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

outbound username

Configures the outbound client username for PPP Links on the IP interface under configuration.

Syntax

`outbound username <name>`

Where	Means
name	The username for the outbound PPP client. This can be any text string.

Example

```
outbound username HenryWX
```

Displaying the Outbound Client Username

The username for the outbound client username for PPP Links is displayed in the `Outbound Username` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

remote address

Identifies the remote system in the PPP link.

Syntax

```
remote address A.B.C.D
```

Where	Means
A.B.C.D	The IP Address of the remote unit in the PPP link.

Example

```
remote address 129.27.172.19
```

Displaying the IP Address of the Remote System in the PPP Link

The IP address of the remote system in the PPP link is displayed in the `PPP Remote IP Address` field of the PPP Settings Screen. An example of the PPP Settings Screen appears in Figure 44 on page 123.

Use the `monitor/show interface ppp characteristics` command to display the PPP Settings Screen. Refer to "monitor/show interface ppp characteristics" on page 123 for more information.

Chapter 12

Menu Commands

The Menu commands are executed in the Menu command mode. When the LX unit is in the Menu command mode, the Menu command prompt (e.g., `Menu :0 >>`) is displayed on the terminal screen.

The format of the Menu command prompt is as follows:

```
Menu :<session_number> >>
```

where `<session_number>` identifies the current session number.

To enter the Menu command mode, execute the `menu` command in the Configuration command mode, or execute the `exit` command in the Menu Editing command mode. The `menu` command is described on page 343.

delete

Deletes a menu from the LX unit.

Syntax

```
delete NAME
```

Where	Means
NAME	The name of the menu that is to be deleted from the database of menus on the LX unit.

Example

```
delete finance_menu
```

Displaying a List of Menus on the LX Unit

Use the `list` command to display a list of menus on the LX unit. Refer to "list" on page 786 for more information.

end

When the end command is issued in the Menu command mode, it returns the user to the Superuser command mode.

Syntax

end

Usage Guidelines

The end command can be issued in all of the LX command modes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

Example

```
end
```

exit

Returns the user to the previous command mode. For example, if the current command mode is Menu, issuing this command will return the user to the Configuration command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX Command Modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. For example, issuing the `exit` command in the Menu command mode returns the user to the Configuration command mode; issuing the `exit` command in Configuration command mode returns the user to the Superuser command mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

import

Merges existing menus into one menu.

Syntax

`import to <destination_menu> from <source_menu>`

Where	Means
destination_menu	Specifies the filename of the menu to which the files in *menu_list* are to be merged.
source_menu	Specifies the menu file that is to be merged into the destination menu. This menu file is appended to the destination menu. Each menu or submenu counts as a separate menu page.

Usage Guidelines

If the destination menu already exists, the following prompt will be displayed when you execute the `import` command:

```
The destination file already exists.  Do you want to overwrite it?  (yes/no)
```

Answering "yes" will overwrite the destination file.

Answering "no" will abort the command.

Examples

```
import to finance_menu from menu_1

import to group_menu from susans_menu
```

list

Displays a list of the menus on the LX unit.

NOTE: If this command is executed while a menu file is open, a list of the submenus in the menu will be displayed.

Syntax

```
list
```

Example

```
list
```

open

Opens a new or existing menu in the Menu Editing command mode. For more information on the Menu Editing command mode, refer to "Menu Commands" on page 781.

Syntax

```
open NAME
```

Where	Means
NAME	The name of the menu that is to be opened for editing.

Example

```
open finance_menu
```

Chapter 13

Menu Editing Commands

The Menu Editing commands are executed in the Menu Editing command mode. When the LX unit is in the Menu Editing command mode, the Menu Editing command prompt (e.g., `mark-1:0 >>`) is displayed on the terminal screen.

The format of the Menu Editing command prompt is as follows:

`<menu_name>-<menu_number>:<session_number> >>`

where `<menu_name>` identifies the Menu name.

`<menu_number>` identifies the submenu number of the menu. The top-level menu always has a submenu number of 1.

`<session_number>` identifies the current session number.

To enter the Menu Editing command mode, execute the `open` command in the Menu command mode. The `open` command is described on page 787.

control key

Assigns control keys for the menu.

Syntax

```
control key logout|repaint|top|up <character> <text>
```

Where	Means
logout	Assigns a function key that will log out the subscriber account.
repaint	Assigns a function key that will redisplay the menu.
top	Assigns a function key that will move to the top-level menu for the subscriber.
up	Assigns a function key that will move up to the next-higher menu level.
character	The keyboard character that performs the assigned function.
text	Message text that is displayed at the bottom of the menu. This text typically describes what happens when the specified control key is pressed. This message has a limit of 18 characters.

Examples

```
control key logout W Log out of LX

control key repaint Z Refresh screen

control key top H Go to top level

control key up G Go back menu level
```

Displaying the Control Keys for the Current Menu or Submenu

Use the `display` command to display the control keys for the current menu or submenu. Refer to “display” on page 791 for more information.

display

Displays the current menu, or a submenu associated with the current menu. The menu is displayed in the same form as it would be seen by an end user.

Syntax

```
display [menu <menu_number>]
```

Where	Means
menu_number	An integer number, from 1 through 16, that identifies an existing submenu. Menu 1 is the top-level menu. The default value is the current menu.

Usage Guidelines

When this command is executed without a submenu number, the current menu or submenu is displayed.

Example

```
display

display menu 11
```

end

When the end command is issued in the Menu Editing command mode, it returns the user to the Superuser command mode.

Syntax

```
end
```

Usage Guidelines

The end command can be issued in all of the LX Command Modes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

If you made changes to the current menu file, the following prompt is displayed when you execute the end command:

```
The Menu has been modified.
Do you want to save the changes? (y/n)
```

Enter y to save the changes and return to the Superuser command mode.

Enter n to abort the command and stay in the Menu Editing command mode.

Example

```
end
```

entry

Display a menu entry as it appears in the menu file.

NOTE: This command displays an entry as it appears in the menu file rather than as the end user will see it. The label and the associated command are listed.

Syntax

`entry <entry_number>`

Where	Means
entry_number	An integer number, from 1 through 40, that identifies the menu entry that is to be displayed.

Example

```
entry 12
```

entry command

Creates or modifies a command entry. A Command entry executes an LX CLI command when the user selects it from the menu.

Syntax

`entry <entry_number> command <command_text>`

Where	Means
entry_number	An integer number, from 1 through 40, that identifies the menu entry that is to be created or modified.
command_text	The LX CLI command that is to be executed when this menu entry is selected by the user. This field can contain any syntactically correct LX CLI command.

Example

```
entry 3 command show system status
```

Displaying a Command Entry from the Current Menu or Submenu

Use the `entry` command to display a command entry in the current menu or submenu. Refer to "entry" on page 793 for more information.

entry label

Creates or modifies a label for a command entry or a menu entry. The label is displayed to the user in the menu.

Syntax

`entry <entry_number> label <label_text>`

Where	Means
entry_number	An integer number, from 1 through 40, that identifies the menu entry for which the label is to be created or modified.
label_text	A text string that describes the entry. The text string can contain any text characters, including spaces. If the menu or submenu has less than 21 entries, the text string can contain up to 52 characters. If the menu or submenu has 21 or more entries, the text string is limited to 36 characters.

Example

```
entry 3 label List the log entries
```

Displaying the Label for an Entry

Use the `entry` command to display the label for an entry. Refer to "entry" on page 793 for more information.

entry menu

Creates or modifies a menu entry. When a menu entry is selected from a menu, it switches to a submenu.

NOTE: This command will create an entry with a label. The default label is the same as the command string itself. You can change the label with the `entry label` command. The `entry label` command is described on page 795.

Syntax

`entry <entry_number> menu <menu_number>`

Where	Means
entry_number	An integer number, from 1 through 40, that identifies the menu entry that is to be created or modified.
menu_number	An integer number, from 1 through 16, that identifies the submenu that is to be displayed when the user selects this menu entry.

Example

```
entry 11 menu 6
```

Displaying a Menu Entry from the Current Menu or Submenu

Use the `entry` command to display a menu entry in the current menu or submenu. Refer to "entry" on page 793 for more information.

exit

Returns the user to the previous command mode. For example, if the current command mode is Menu Editing, issuing this command will return the user to the Menu command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. For example, issuing the `exit` command in the Menu Editing command mode returns the user to the Menu command mode; issuing the `exit` command in the Menu command mode returns the user to the Configuration command mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

If you made changes to the current menu file, the following prompt is displayed when you execute the `exit` command:

```
The Menu has been modified.
Do you want to save the changes? (y/n)
```

Enter `y` to save the changes and return to the Superuser command mode.

Enter `n` to abort the command and stay in the Menu Editing command mode.

Example

```
exit
```

header

Creates a header for the current submenu.

Syntax

`header <header_text>`

Where	Means
header_text	The text string that will be used as the Menu header. The text string can contain up to 60 characters, including spaces.

Examples

```
header Finance Department
```

Displaying Menus and Menu Headers

Use the `list` command to display a list of menus and menu headers on the LX unit. Refer to "list" on page 799 for more information.

list

Displays all of the configured submenus for the current menu, and their configured headers. An asterisk (*) indicates the menu that is currently under configuration.

Syntax

```
list
```

Example

```
      list
```

menu

Opens a new or existing submenu for editing.

Syntax

`menu <submenu_number>`

Where	Means
submenu_number	The menu number of the submenu that is to be opened for editing. This can be any integer number from 1 through 16.

Usage Guidelines

After this command is executed, the `<submenu_#>` field of the Menu Editing prompt changes to the Submenu number that is being edited. For example, the prompt `mark-12:0 >>` indicates that Submenu 12 is currently being edited.

Example

```
menu 12
```

menu continue string

Specifies the continue string for the current menu. If a continue string is specified, the screen will pause after a command entry is executed; the user must press the ENTER key to re-display the menu from which the command entry was selected. If a continue string is *not* specified, the screen will pause after a command entry is executed, but no prompt string will be displayed.

The continue string typically describes how to re-display the menu (e.g., `Press ENTER to return`).

The continue string appears at the bottom of the screen when you display the menu using the `display` command. The `display` command is described on page 791.

Syntax

`menu continue string <continue_string>`

Where	Means
continue_string	The continue string for the current menu or submenu. This is a text string of up to 60 characters.

Examples

```
menu continue string Press ENTER to return
```

Displaying the Continue String for the Current Menu or Submenu

Use the `display` command to display the continue string for the current menu or submenu. Refer to "display" on page 791 for more information.

menu prompt

Specifies the prompt string for the current menu. The prompt string is displayed at the bottom of the menu, and it typically describes how to select a menu option.

The prompt string appears at the bottom of the screen when you display the menu using the `display` command. The `display` command is described on page 791.

Syntax

`menu prompt <prompt_string>`

Where	Means
prompt_string	The prompt string for the current menu or submenu. This is limited to 53 characters.

Examples

```
menu prompt Highlight options with Arrow Keys and press RETURN
```

Displaying the Prompt String for the Current Menu or Submenu

Use the `display` command to display the prompt string for the current menu or submenu. Refer to "display" on page 791 for more information.

no control key

Removes control keys from the current menu.

Syntax

```
no control key logout|repaint|top|up
```

Where	Means
logout	Removes the logout control key from the current menu.
repaint	Removes the repaint control key from the current menu.
top	Removes the top control key from the current menu.
up	Removes the up control key from the current menu.

Examples

```
no control key logout

no control key repaint

no control key top

no control key up
```

Displaying the Control Keys for the Current Menu or Submenu

Use the `display` command to display the control keys for the current menu or submenu. Refer to “display” on page 791 for more information.

no entry

Resets (negates) an entry in the current menu. When this command is executed, the menu entry no longer has a command, or a menu entry, associated with it.

Syntax

`no entry <entry_number>`

Where	Means
entry_number	An integer number, from 1 through 40, that identifies the menu entry that is to reset.

Example

```
no entry 11
```

Displaying an Entry from the Current Menu or Submenu

Use the `entry` command to display an entry in the current menu or submenu. Refer to "entry" on page 793 for more information.

no header

Removes the configured header from the current menu or submenu. (The configured header is specified with the `header` command, which is described on page 798.)

Syntax

```
no header
```

Usage Guidelines

After the `no header` command is executed, the default menu header will be used in the menu. The format of the default menu header is as follows:

```
Menu <menu_number> LX Menu
```

where `<menu_number>` identifies the submenu number of the menu. The top-level menu always has a submenu number of 1.

For example, the default menu header for the top-level menu is `Menu 1 LX Menu`.

Example

```
no header
```

Displaying Menus and Menu Headers

Use the `list` command to display a list of menus and menu headers on the LX unit. Refer to "list" on page 799 for more information.

no menu continue string

Removes (deletes) the continue string from the current menu or submenu.

Syntax

```
no menu continue string
```

Example

```
      no menu continue string
```

Displaying the Continue String for the Current Menu or Submenu

Use the `display` command to display the continue string for the current menu or submenu. Refer to “display” on page 791 for more information.

no menu prompt

Removes (deletes) the prompt from the current menu or submenu.

Syntax

```
no menu prompt
```

Example

```
no menu prompt
```

Displaying the Prompt String for the Current Menu or Submenu

Use the `display` command to display the prompt string for the current menu or submenu. Refer to “display” on page 791 for more information.

open

Opens a new or existing menu file, and closes the current menu file.

Syntax

```
open NAME
```

Where	Means
NAME	The name of the menu that is to be opened for editing.

Usage Guidelines

If you have made any changes to the current menu, the following prompt will be displayed when you execute the `open` command:

```
The Menu has been modified.

Do you want to save your changes? (y/n) :
```

Enter `y` to save your changes to the current menu.

Enter `n` to abandon your changes to the current menu.

Example

```
open finance_menu
```

save

Saves the current menu file.

Syntax

`save [<filename>]`

Where	Means
filename	The filename under which the current menu file is to be saved. If no filename is specified, it will be saved to the filename of the current menu file.

Example

```
save

save finance_menu
```

Chapter 14

Broadcast Group Commands

The Broadcast Group commands are executed in the Broadcast Group command mode. When the LX unit is in the Broadcast Group command mode, the Broadcast Group command prompt (e.g., `BrGroups 6:0 >>`) is displayed on the terminal screen.

The format of the Broadcast Group command prompt is as follows:

```
BrGroups <broadcast_group_number>:<session_number> >>
```

where `<broadcast_group_number>` identifies the Broadcast Group under configuration.

`<session_number>` identifies the current session number.

To enter the Broadcast Group command mode, execute the `broadcast group` command in the Interface command mode. The `broadcast group` command is described on page 500.

end

When the end command is issued in Broadcast Group Mode, it returns the user to the Superuser command mode.

Syntax

end

Usage Guidelines

The end command can be issued in all of the LX Command Modes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

Example

```
end
```

exit

Returns the user to the previous command mode. For example, if the current command mode is the Broadcast Group Command Mode, issuing this command will return the user to the Configuration command mode.

Syntax

`exit`

Usage Guidelines

The `exit` command can be issued in all of the LX Command Modes. However, the effect of the `exit` command varies, depending on the mode from which it is issued.

As noted above, issuing the `exit` command in the Broadcast Group command mode returns the user to the previous command mode. The same goes for issuing the `exit` command in any command mode other than User. For example, issuing the `exit` command in the Menu Editing command mode returns the user to the Menu command mode; issuing the `exit` command in the Configuration command mode returns the user to the Superuser command mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

master port

Specifies the asynchronous port(s), or TCP port(s), that are to be used as Master Port(s) for the Broadcast Group under configuration. The Master Port is the port from which all input for a Broadcast Group is sent to the Slave Ports.

NOTE: To prevent data overruns, it is recommended that the Master Port(s) and Slave Port(s) in a Broadcast Group be set to the same port speed.

Syntax

`master port async|tcp <port_list> [timestamp]`

Where	Means
async	An asynchronous port, or asynchronous ports, will be specified as the Master Port(s) for the Broadcast Group under configuration.
tcp	A TCP port, or TCP port(s), will be specified as the Master Port(s) of the Broadcast Group under configuration. The allowable values are 1024 - 65535.
port_list	Specifies the asynchronous port(s), or TCP port(s), that will be used as the Master Port(s) for the Broadcast Group under configuration. If more than one port is specified, they should be separated by commas; for example, `2,3,5,6`. You can specify a range of asynchronous ports by placing a hyphen between the first and last port in the range. For example, `10-12` specifies a range of asynchronous ports that includes port 10 through port 12. **Note:** You cannot specify the DIAG port (port 0) as a Master Port. A maximum of 20 ports, including Masters and Slaves, can be configured for a Broadcast Group. You cannot specify a range of TCP ports.
timestamp	Specifies that a timestamp will be appended at the beginning of each new line of data. This option can only be applied after the Master Port has been created.

Usage Guidelines

The following *cannot* be specified as Master Ports:

- Any port that belongs to another Broadcast Group
- A TCP port that is already in use
- A port that is configured as a Slave Port in any Broadcast Group

At most, one TCP socket may be open on a single TCP port.

Examples

```
master port async 5,6,8,10-12

master port tcp 1500,1644
```

Displaying the Master Port(s) for a Broadcast Group

The master port(s) for a broadcast group are displayed on the Broadcast Group Characteristics Screen. An example of the Broadcast Group Characteristics Screen appears in Figure 38 on page 113.

Use the `monitor/show broadcast group characteristics` command to display the Broadcast Group Characteristics Screen. Refer to "monitor/show interface broadcast group characteristics" on page 112 for more information.

mode

Specifies the Telnet mode for the Broadcast Group under configuration.

Syntax

```
mode line|character
```

Where	Means
line	The Broadcast Group will use Telnet line mode.
character	The Broadcast Group will use Telnet character mode.

Examples

```
mode line

mode character
```

Displaying the Telnet Mode for a Broadcast Group

The Telnet mode for a broadcast group are displayed in the `Mode` field of the Broadcast Group Characteristics Screen. An example of the Broadcast Group Characteristics Screen appears in Figure 38 on page 113.

Use the `monitor/show broadcast group characteristics` command to display the Broadcast Group Characteristics Screen. Refer to "monitor/show interface broadcast group characteristics" on page 112 for more information.

monitor/show

You can execute each of the `monitor/show` commands in the Broadcast Group Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

no master port

Removes a Master Port, or Master Ports, from the Broadcast Group under configuration.

Syntax

`no master port async|tcp <port_list>`

Where	Means
async	Remove asynchronous Master Port(s) from the Broadcast Group under configuration.
tcp	Remove TCP Master Port(s) from the Broadcast Group under configuration. The allowable values are 1024 - 65535.
port_list	Specifies the asynchronous port(s), or TCP port(s), that are being removed from the Broadcast Group under configuration. If more than one port is specified, they should be separated by commas; for example, `2,3,5,6`. You can specify a range of asynchronous ports by placing a hyphen between the first and last port in the range. For example, `10-12` specifies a range of asynchronous ports that includes port 10 through port 12. **Note:** You cannot specify a range of TCP ports.

Examples

```
no master port async 5

no master port async 5,6,8,10-16

no master port tcp 1500,2500
```

Displaying the Master Port(s) for a Broadcast Group

The master port(s) for a broadcast group are displayed on the Broadcast Group Characteristics Screen. An example of the Broadcast Group Characteristics Screen appears in Figure 38 on page 113.

Use the `monitor/show broadcast group characteristics` command to display the Broadcast Group Characteristics Screen. Refer to "monitor/show interface broadcast group characteristics" on page 112 for more information.

no master port timestamp

Removes the timestamp setting from a Master Port, or from a group of Master Ports, in the Broadcast Group.

NOTE: Executing this command does not remove Master Ports from the Broadcast Group. It only removes the timestamp setting from the Master Port. When the timestamp setting is removed, a timestamp will *not* be appended at the beginning of each new line of data.

Syntax

`no master port async|tcp <port_list> timestamp`

Where	Means
async	Remove asynchronous Master Port(s) from the Broadcast Group under configuration.
tcp	Remove TCP Master Port(s) from the Broadcast Group under configuration. The allowable values are 1024 - 65535.
port_list	Specifies the asynchronous port(s), or TCP port(s), that are being removed from the Broadcast Group under configuration. If more than one port is specified, they should be separated by commas; for example, `2,3,5,6`. You can specify a range of asynchronous ports by placing a hyphen between the first and last port in the range. For example, `10-12` specifies a range of asynchronous ports that includes port 10 through port 12. **Note:** You cannot specify a range of TCP ports.

Examples

```
no master port async 5 timestamp

no master port async 5,6,8,10-16 timestamp

no master port tcp 1500,2500 timestamp
```

Displaying the Timestamp Setting for Master Ports

The timestamp setting for master ports in broadcast group are displayed on the Broadcast Group Characteristics Screen. An example of the Broadcast Group Characteristics Screen appears in Figure 38 on page 113.

Use the `monitor/show broadcast group characteristics` command to display the Broadcast Group Characteristics Screen. Refer to "monitor/show interface broadcast group characteristics" on page 112 for more information.

no slave port

Removes a Slave Port, or Slave Ports, from the Broadcast Group under configuration.

Syntax

```
no slave port async|tcp <port_list>
```

Where	Means
async	Remove asynchronous Slave Port(s) from the Broadcast Group under configuration.
tcp	Remove TCP Slave Port(s) from the Broadcast Group under configuration.
port_list	Specifies the asynchronous port(s), or TCP port(s), that are being removed from the Broadcast Group under configuration. If more than one port is specified, they should be separated by commas; for example, `2,3,5,6`. You can specify a range of asynchronous ports by placing a hyphen between the first and last port in the range. For example, `10-12` specifies a range of asynchronous ports that includes port 10 through port 12. **Note:** You cannot specify a range of TCP ports.

Examples

```
no slave port async 5

no slave port async 2,5,6,7,15-19

no slave port tcp 1500

no slave port tcp 1500,2500
```

Displaying the Slave Port(s) for a Broadcast Group

The slave port(s) for a broadcast group are displayed on the Broadcast Group Characteristics Screen. An example of the Broadcast Group Characteristics Screen appears in Figure 38 on page 113.

Use the `monitor/show broadcast group characteristics` command to display the Broadcast Group Characteristics Screen. Refer to "monitor/show interface broadcast group characteristics" on page 112 for more information.

no slave port discard

Removes the discard setting from a Slave Port, or Slave Ports, in the Broadcast Group under configuration.

Syntax

```
no slave port async|tcp <port_list> discard
```

Where	Means
async	Remove the discard setting from asynchronous Slave Ports.
tcp	Remove the discard setting from TCP Slave Ports.
port_list	Specifies the asynchronous port(s), or TCP port(s), for which the discard setting is being removed. If more than one port is specified, they should be separated by commas; for example, `2,3,5,6`. You can specify a range of asynchronous ports by placing a hyphen between the first and last port in the range. For example, `10-12` specifies a range of asynchronous ports that includes port 10 through port 12. **Note:** You cannot specify a range of TCP ports.

Examples

```
no slave port async 5 discard

no slave port async 2,5,6,7,15-18 discard

no slave port tcp 1500 discard

no slave port tcp 1500,2500 discard
```

Displaying the Slave Port(s) for a Broadcast Group

The slave port(s) for a broadcast group are displayed on the Broadcast Group Characteristics Screen. An example of the Broadcast Group Characteristics Screen appears in Figure 38 on page 113.

Use the `monitor/show broadcast group characteristics` command to display the Broadcast Group Characteristics Screen. Refer to "monitor/show interface broadcast group characteristics" on page 112 for more information.

no slave port localecho

Removes the localecho setting from a Slave Port, or Slave Ports, in the Broadcast Group under configuration.

Syntax

`no slave port async|tcp <port_list> localecho`

Where	Means
async	Remove the localecho setting from asynchronous Slave Ports.
tcp	Remove the localecho setting from TCP Slave Ports.
port_list	Specifies the asynchronous port(s), or TCP port(s), for which the localecho setting is being removed. If more than one port is specified, they should be separated by commas; for example, `2,3,5,6`. You can specify a range of asynchronous ports by placing a hyphen between the first and last port in the range. For example, `10-12` specifies a range of asynchronous ports that includes port 10 through port 12. **Note:** You cannot specify a range of TCP ports.

Examples

```
no slave port async 5 localecho

no slave port async 2,5,6,7,15-18 localecho

no slave port tcp 1500 localecho

no slave port tcp 1500,2500 localecho
```

Displaying the Slave Port(s) for a Broadcast Group

The slave port(s) for a broadcast group are displayed on the Broadcast Group Characteristics Screen. An example of the Broadcast Group Characteristics Screen appears in Figure 38 on page 113.

Use the `monitor/show broadcast group characteristics` command to display the Broadcast Group Characteristics Screen. Refer to "monitor/show interface broadcast group characteristics" on page 112 for more information.

slave port

Specifies the asynchronous port(s), or TCP port(s), that are to be used as Slave Port(s) for the Broadcast Group under configuration. The Slave Ports receive data from the Master Port and send all of their data to the Master Port.

NOTE: To prevent data overruns, it is recommended that the Slave Port(s) and Master Port(s) in a Broadcast Group be set to the same port speed.

Syntax

```
slave port async|tcp <port_list>
```

Where	Means
async	An asynchronous port, or asynchronous ports, will be specified as the Slave Port(s) for the Broadcast Group under configuration.
tcp	A TCP port, or TCP port(s), will be specified as the Slave Port(s) of the Broadcast Group under configuration. The allowable values are 1024 - 65535.
port_list	Specifies the asynchronous port(s), or TCP port(s), that will be used as the Slave Port(s) for the Broadcast Group under configuration. If more than one port is specified, they should be separated by commas; for example, `2,3,5,6`. You can specify a range of asynchronous ports by placing a hyphen between the first and last port in the range. For example, `10-12` specifies a range of asynchronous ports that includes port 10 through port 12. **Note:** You cannot specify the DIAG port (port 0) as a Slave Port. A maximum of 20 ports, including Masters and Slaves, can be configured for a Broadcast Group. A maximum of two TCP ports can be configured for a Broadcast Group. You cannot specify a range of TCP ports.

Usage Guidelines

The following *cannot* be specified as Slave Ports:

- Any port that belongs to another Broadcast Group
- A TCP port that is already in use
- A port that is configured as a Master Port in any Broadcast Group

At most, one TCP socket may be open on a single TCP port.

Examples

```
slave port async 5
```

```
slave port async 2,5,6,7,10-13

slave port tcp 1500

slave port tcp 1500,2500
```

Displaying the Slave Port(s) for a Broadcast Group

The slave port(s) for a broadcast group are displayed on the Broadcast Group Characteristics Screen. An example of the Broadcast Group Characteristics Screen appears in Figure 38 on page 113.

Use the `monitor/show broadcast group characteristics` command to display the Broadcast Group Characteristics Screen. Refer to "monitor/show interface broadcast group characteristics" on page 112 for more information.

slave port discard

Specifies the `discard` parameter for certain slave ports in the Broadcast Group under configuration. When the `discard` parameter is specified for a slave port, that slave port will discard any data that comes into it.

Syntax

`slave port async|tcp <port_list> discard`

Where	Means
async	The ports in the *port_list* are asynchronous ports.
tcp	The ports in the *port_list* are TCP ports.
port_list	Specifies the asynchronous slave port(s), or TCP slave port(s), that are to be set to `discard` for the Broadcast Group under configuration. If more than one port is specified, they should be separated by commas; for example, `2,3,5,6`. You can specify a range of asynchronous ports by placing a hyphen between the first and last port in the range. For example, `10-12` specifies a range of asynchronous ports that includes port 10 through port 12. **Note:** Before you can include a port in this field, it must be a slave port in the Broadcast Group under configuration. Refer to the `slave port` command on page 826 for more information.

Examples

```
slave port async 5 discard

slave port async 2,5,6,7,10-13 discard

slave port tcp 1500 discard

slave port tcp 1500,2500 discard
```

Displaying Information on Slave Port(s)

Information on slave ports is displayed on the Broadcast Group Characteristics Screen. An example of the Broadcast Group Characteristics Screen appears in Figure 38 on page 113.

Use the `monitor/show broadcast group characteristics` command to display the Broadcast Group Characteristics Screen. Refer to "monitor/show interface broadcast group characteristics" on page 112 for more information.

slave port localecho

Specifies the `localecho` parameter for certain slave ports in the Broadcast Group under configuration. When the `localecho` parameter is specified for a slave port, that slave port will echo any data that comes into it.

Syntax

`slave port async|tcp <port_list> localecho`

Where	Means
async	The ports in the *port_list* are asynchronous ports.
tcp	The ports in the *port_list* are TCP ports.
port_list	Specifies the asynchronous slave port(s), or TCP slave port(s), that are to be set to `localecho` for the Broadcast Group under configuration. If more than one port is specified, they should be separated by commas; for example, `2,3,5,6`. You can specify a range of asynchronous ports by placing a hyphen between the first and last port in the range. For example, `10-12` specifies a range of asynchronous ports that includes port 10 through port 12. **Note:** Before you can include a port in this field, it must be a slave port in the Broadcast Group under configuration. Refer to the `slave port` command on page 826 for more information.

Examples

```
slave port async 5 localecho

slave port async 2,5,6,7,10-13 localecho

slave port tcp 1500 localecho

slave port tcp 1500,2500 localecho
```

Displaying Information on Slave Port(s)

Information on slave ports is displayed on the Broadcast Group Characteristics Screen. An example of the Broadcast Group Characteristics Screen appears in Figure 38 on page 113.

Use the `monitor/show broadcast group characteristics` command to display the Broadcast Group Characteristics Screen. Refer to "monitor/show interface broadcast group characteristics" on page 112 for more information.

Chapter 15

Notification Commands

The Notification commands are executed in the Notification command mode. When the LX unit is in the Notification command mode, the Notification command prompt (e.g., `Notification:0 >>`) is displayed on the terminal screen.

The format of the Notification command prompt is as follows:

`Notification:<session_number> >>`

where `<session_number>` identifies the current session number.

To enter the Notification command mode, execute the `notification` command in the Configuration command mode. The `notification` command is described on page 352.

end

When the end command is issued in the Notification command mode, it returns the user to the Superuser command mode.

Syntax

end

Usage Guidelines

The end command can be issued in all of the LX command modes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

Example

```
end
```

exit

Returns the user to the previous command mode. For example, if the current command mode is Notification, issuing this command will return the user to the Configuration command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. For example, issuing the `exit` command in the Notification command mode returns the user to the Configuration command mode; issuing the `exit` command in the Configuration command mode returns the user to the Superuser command mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

message default

Specifies the facility, priority, and string content of configurable syslogd messages to their factory default values. To display the configurable messages, refer to "monitor/show notification message" on page 145.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

```
message all|NUMBER default
```

Where	Means
NUMBER	The ID number of a configurable syslogd message. This can be any integer number from 1 through 40.
all	Reset the facility, priority, and string content of *all* configurable syslogd messages. **Note:** Executing this command resets all of the parameters that you have specified with the `message facility` command, the `message priority` command, and the `message string` command.

Example

```
message all default

message 19 default

message 31 default
```

message facility

Specifies the facility of a configurable syslogd messages. To display the configurable messages, refer to “monitor/show notification message” on page 145.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to “Multi-Level Command Execution” on page 1095.

NOTE: The facility parameters “LOCAL0” and “LOG_ALL” are now reserved for Databuffer Messaging. There are no system log messages for “LOCAL0”. Configuration notification messages do not support “LOCAL0” and “LOG_ALL” either.

NOTE: System messages issued by the syslog at the facility kern level are syslogged to the facility user level. For example, enter:

```
notify facility kern priority notice message “your message”
```

Your message will be syslogged to a notification user profile that is set to facility user priority notice.

Syntax

```
message NUMBER facility user|syslog|kern|daemon|authpriv|local1
|local2|local3|local4|local5|local6|local7
```

Where	Means
NUMBER	The ID number of a configurable syslogd message. This can be any integer number from 1 through 40.
user	The message applies to the User processes.
syslog	The message applies to the syslog daemon (`syslogd`).
kern	The message applies to the Linux kernel.
daemon	The message applies to a system daemon, such as `in.ftpd`.
authpriv	The message applies to the Superuser authentication process.
local1	This message applies to remote syslog level 1.
local2	This message applies to remote syslog level 2.
local3	This message applies to remote syslog level 3.
local4	This message applies to remote syslog level 4.
local5	This message applies to remote syslog level 5.
local6	This message applies to remote syslog level 6.

local7 This message applies to remote syslog level 7.

Examples

```
message 1 facility user

message 2 facility syslog

message 3 facility kern

message 4 facility daemon

message 5 facility authpriv

message 5 facility local1

message 5 facility local2

message 5 facility local3

message 5 facility local4

message 5 facility local5

message 5 facility local6

message 5 facility local7
```

Displaying the Facility of a Configurable syslogd Message

The facility of a configurable syslogd message is displayed in the `Facility` field of the Message Screen. An example of the Message Screen appears in Figure 61 on page 145.

Use the `monitor/show notification message` command to display the Message Screen. Refer to "monitor/show notification message" on page 145 for more information.

message priority

Specifies the priority of a configurable syslogd messages. To display the configurable messages, refer to "monitor/show notification message" on page 145.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

```
message NUMBER priority emerg|alert|crit|err|notice|warning|info
```

Where	Means
NUMBER	The ID number of a configurable syslogd message. This can be any integer number from 1 through 40.
emerg	The message indicates a severe condition. This is the kind of condition that can immediately affect the users' ability to work on the LX.
alert	The message indicates a condition that the system administrator needs to correct immediately, such as a corrupted system database.
crit	The message indicates a critical condition, such as a hard device error.
err	The message indicates a software error condition.
notice	The message indicates a condition which is not an error, but which might require specific procedures to adjust it.
warning	This message indicates a warning condition.
info	The message is a normal, informational message.

Examples

```
message 1 priority emerg

message 2 priority alert

message 3 priority crit

message 4 priority err

message 5 priority notice

message 6 priority info
```

Displaying the Priority of a Configurable syslogd Message

The priority of a configurable syslogd message is displayed in the `Priority` field of the Message Screen. An example of the Message Screen appears in Figure 61 on page 145.

Use the `monitor/show notification message` command to display the Message Screen. Refer to "monitor/show notification message" on page 145 for more information.

message string

Specifies the string portion of a configurable syslogd messages. To display the configurable messages, refer to "monitor/show notification message" on page 145.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

`message NUMBER string <text>`

Where	Means
NUMBER	The ID number of a configurable syslogd message. This can be any integer number from 1 through 40.
text	The string portion of the configurable syslogd message. This string can contain up to 48 characters.

Example

```
message 1 string New CLI mode entered by
```

Displaying the String Portion of a Configurable syslogd Message

The string portion of a configurable syslogd message is displayed in the `Message` field of the Message Screen. An example of the Message Screen appears in Figure 61 on page 145.

Use the `monitor/show notification message` command to display the Message Screen. Refer to "monitor/show notification message" on page 145 for more information.

monitor/show

You can execute each of the `monitor/show` commands in the Notification Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

no profile

Deletes a Service Profile or a User Profile. (Service Profiles and User Profiles are used in the Notification Feature.)

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

`no profile service|user <name>|all`

Where	Means
service	Delete the Service Profile specified in this command.
user	Delete the User Profile specified in this command.
name	The name of the Service Profile, or User Profile, that is to be deleted.
all	Delete all Service Profiles, or all User Profiles.

Examples

```
no profile service FinanceServerprof2

no profile service all

no profile user Philpager

no profile user all
```

profile service

Creates a Service Profile and enters the Service Profile Command Mode. For more information on the Service Profile Command Mode, refer to "Service Profile Commands" on page 849.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

`profile service <profile_name>`

Where	Means
profile_name	Specifies the name of the Service Profile. The name can be any text string of up to 20 characters. You can configure a maximum of 20 Service Profiles.

Examples

```
profile service onboard_port_3

profile service onboard_log_1

profile service branch_log_2

profile service mail_server_lun

profile service admin_clients

profile service field_pagers

profile service text_pagers

profile service net_clients
```

profile user

Creates a User Profile and enters the User Service Command Mode. For more information on the User Service Command Mode, refer to "User Service Commands" on page 927.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

NOTE: The TAP, SMTP, WEB, and SNPP profiles are sensitive to an exorbitant amount of queued messages for delivery, which are generated by databuffering on ports. The syslog facilities "LOG_ALL" or "LOCAL0" will log all the databuffer messages, thus these facilities are not supported in the TAP, SMTP, WEB, and SNPP profile types.

Syntax

`profile user <profile_name>`

Where	Means
profile_name	Specifies the name of a new or existing User Profile. The name can contain up to 20 characters and is subject to the restrictions described in "Usage Guidelines" (below). **Note:** The LX unit supports a maximum of 20 User Profiles.

Usage Guidelines

The following characters can not be included in a User Profile name that will be associated with a Service Profile of the SMTP, TAP, WEB, or SNPP type:

- `(` – open parentheses
- `)` – close parentheses
- `{` – open bracket
- `}` – close bracket
- `,` – comma
- `.` – period
- `;` – semicolon
- `:` – colon
- `@` – at sign

The following text strings can be included in a User Profile name that will be associated with a Service Profile of the SMTP, TAP, WEB, or SNPP type. However, such a User profile can not *begin* with the following text strings:

- `true` (case-insensitive) – For example, the name `TrueBillJones` is unacceptable; the name `BillJonesTrue` is acceptable.
- `false` (case-insensitive) – For example, the name `falseBillJones` is unacceptable; the name `BillJonesfalse` is acceptable.
- `no` (case-insensitive) – For example, the name `NObillJones` is unacceptable; the name `BillJonesNo` is acceptable.
- `yes` (case-insensitive) – For example, the name `YesBillJones` is unacceptable; the name `BilljonesYES` is acceptable.

Examples

```
profile user joan_w_email

profile user ron_c_pager

profile ed_w_text_pager
```

Chapter 16

Service Profile Commands

The Service Profile commands are executed in the Service Profile command mode. The Service Profile commands are used to specify a protocol for a Service Profile. When the LX unit is in the Service Profile command mode, the Service Profile command prompt (e.g., `Noti_Serv_Protocol:0 >>`) is displayed on the terminal screen.

The format of the Service Profile command prompt is as follows:

`Noti_Serv_Protocol:<`*`session_number`*`> >>`

where `<session_number>` identifies the current session number.

To enter the Service Profile command mode, execute the `profile service` command in the Notification command mode. The `profile service` command is described on page 845.

async

Specifies Async as the protocol of the Service Profile under configuration; enters the Async Protocol Command Mode. For more information on the Async Protocol Command Mode, refer to "Async Protocol Commands" on page 863.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

```
async
```

Usage Guidelines

A Service Profile of the Async type is used to send notification messages to asynchronous ports on the LX unit.

Each Service Profile of the Async type must be configured to send notification messages to at least one asynchronous port on the LX unit. Use the `port` command, in the Async Protocol Command Mode, to configure the asynchronous port(s) to which notification messages will be sent. Refer to page 869 for a description of the `port` command in the Async Protocol Command Mode.

Execute the `monitor/show notification profile service` command to verify that the Service Profile has asynchronous port(s) configured for it. The `monitor/show notification profile service` command is described on page 146.

Example

```
async
```

exit

Returns the user to the previous command mode. For example, if the current command mode is Service Profile, issuing this command will return the user to the Notification command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. For example, issuing the `exit` command in the Service Profile command mode returns the user to the Notification command mode; issuing the `exit` command in the Notification command mode returns the user to the Configuration command mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

localsyslog

Specifies Localsyslog as the protocol of the Service Profile under configuration; enters the Localsyslog Protocol Command Mode. For more information on the Localsyslog Protocol Command Mode, refer to "Localsyslog Protocol Commands" on page 871.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

```
localsyslog
```

Usage Guidelines

A Service Profile of the Localsyslog type is used to send notification messages to a local file on the LX unit. The size of the local syslog file is set to 64K by default, and it can be increased to a maximum size of 128K. The local syslog file wraps when it reaches its maximum size.

Use the `file` command, in the Localsyslog Protocol Command Mode, to specify the local file to which the notification messages will be sent. Refer to page 873 for a description of the `file` command in the Localsyslog Protocol Command Mode.

Execute the `monitor/show notification profile service` command to verify that the Service Profile has a destination file for configuration messages. The `monitor/show notification profile service` command is described on page 146.

Example

```
localsyslog
```

monitor/show

You can execute each of the `monitor/show` commands in the Service Profile Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

remotesyslog

Specifies Remotesyslog as the protocol of the Service Profile under configuration; enters the Remotesyslog Protocol Command Mode. For more information on the Remotesyslog Protocol Command Mode, refer to "Remotesyslog Protocol Commands" on page 879.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

```
remotesyslog
```

Usage Guidelines

A Service Profile of the Remotesyslog type is used to send notification messages to syslogd on a remote host.

Use the `host` command, in the Remotesyslog Command Mode, to specify the host to which the notification messages will be sent. Refer to page 881 for a description of the `host` command in the Remotesyslog Command Mode.

Execute the `monitor/show notification profile service` command to verify that the Service Profile has a remote host configured for it. The `monitor/show notification profile service` command is described on page 146.

Example

```
remotesyslog
```

smtp

Specifies SMTP as the protocol of the Service Profile under configuration; enters the SMTP Protocol Command Mode. For more information on the SMTP Protocol Command Mode, refer to "SMTP Protocol Commands" on page 887.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

```
smtp
```

Usage Guidelines

A Service Profile of the SMTP type uses the Simple Mail Transfer Protocol to send notification messages to addresses.

Each Service Profile of the SMTP type must be configured to send notification messages via an email server. Use the `server` command to specify the email server via which notification messages will be sent. Refer to page 894 for a description of the `server` command in the SMTP Protocol Command Mode.

Execute the `monitor/show notification profile service` command to display the email server for a Service Profile of the SMTP type. The `monitor/show notification profile service` command is described on page 146.

Example

```
smtp
```

snmp

Specifies SNMP as the protocol of the Service Profile under configuration.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

```
snmp
```

Usage Guidelines

The `snmp` command is the only command that is used to configure a Service Profile of the SNMP type. As soon as you execute this command, the LX unit will begin sending notification messages to the SNMP trap clients configured for the LX unit.

When you execute this command, the LX CLI returns to the Notification Command Mode. The Notification command prompt (e.g., `Notification:0 >>`) is displayed.

Execute the `monitor/show notification profile service` command to display the Service Profiles that are configured as SNMP. The `monitor/show notification profile service` command is described on page 146.

Example

```
snmp
```

snpp

Specifies SNPP as the protocol of the Service Profile under configuration; enters the SNPP Protocol Command Mode. For more information on the SNPP Protocol Command Mode, refer to "SNPP Protocol Commands" on page 897.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

```
snpp
```

Usage Guidelines

A Service Profile of the SNPP type is used to send notification messages to pagers via the Simple Network Pager Protocol (SNPP).

A Service Profile of the SNPP type must specify the SNPP server that will be used to send notification messages to a pager, and the TCP port on the SNPP server that will be used to receive notification messages from the SNPP server.

The SNPP server is specified with the `server` command in the SNPP Protocol Command Mode. Refer to page 904 for a description of the `server` command as it is used in the SNPP Protocol Command Mode.

The TCP port for receiving notification messages from the SNPP server is specified with the `port` command in the SNPP Protocol Command Mode. Refer to page 903 for a description of the `port` command as it is used in the SNPP Protocol Command Mode.

Execute the `monitor/show notification profile service` command to list the SNPP server, and the LX TCP port, for Service Profiles of the SNPP type. The `monitor/show notification profile service` command is described on page 146.

Example

```
snpp
```

tap

Specifies TAP as the protocol of the Service Profile under configuration; enters the TAP Protocol Command Mode. For more information on the TAP Protocol Command Mode, refer to "TAP Protocol Commands" on page 905.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

```
tap
```

Usage Guidelines

A Service Profile of the TAP type is used to send notification messages to pagers via the Telocator Alphanumeric Protocol (TAP).

Before you can use a Service Profile of the TAP type, the following must be included in the Service Profile:

- The Short Message Service Center (SMSC) number that is dialed to send text or pager messages. The SMSC is specified with the `smsc` command in the TAP Protocol Command Mode. Refer to page 915 for more information on the `smsc` command.
- The bits-per-byte setting that is supported by the provider's application. The bits-per-byte setting is specified with the `bits` command in the TAP Protocol Command Mode. Refer to page 906 for more information on the `bits` command.
- The stopbits setting that is supported by the provider's application. The stopbits setting is specified with the `stopbits` command in the TAP Protocol Command Mode. Refer to page 917 for more information on the `stopbits` command.
- The parity setting that is supported by the provider's application. The parity setting is specified with the `parity` command in the TAP Protocol Command Mode. Refer to page 914 for more information on the `parity` command.
- The LX modem port that is used to send notification messages to the SMSC. The modem port is specified with the `modem` command in the TAP Protocol Command Mode. Refer to page 908 for more information on the `modem port` command.

Execute the `monitor/show notification profile service` command to list the SMSC, bits-per-byte, stopbits, parity, and LX modem port for Service Profiles of the TAP type. The `monitor/show notification profile service` command is described on page 146.

Example

```
tap
```

web

Specifies WEB as the protocol of the Service Profile under configuration; enters the Web Protocol Command Mode. For more information on the Web Protocol Command Mode, refer to "WEB Protocol Commands" on page 919.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

```
web
```

Usage Guidelines

A Service Profile of the WEB type is used to send notification messages to pagers via a web interface.

A Service Profile of the WEB type must specify the Web driver that will be used to send notification messages to a destination. (The destination is pager ID or a telephone number.)

The Web driver is specified with the `driver` command in the Web Protocol Command Mode. Refer to page 920 for a description of the `web` command as it is used in the Web Protocol Command Mode.

Execute the `monitor/show notification profile service` command, in the Web Protocol Command Mode, to verify that the Service Profile has a web driver configured for it. The `monitor/show notification profile service` command is described on page 146.

Example

```
web
```

Chapter 17

Async Protocol Commands

The Async Protocol commands are executed in the Async Protocol Command Mode. When the LX unit is in the Async Protocol Command Mode, the Async Protocol command prompt (e.g., `Noti_Serv_Async:0 >>`) is displayed on the terminal screen.

The format of the Async Protocol command prompt is as follows:

`Noti_Serv_Async:<session_number> >>`

where `<session_number>` identifies the current session number.

To enter the Async Protocol Command Mode, do one of the following:

- **For a new Service Profile,** execute the `async` command in the Service Profile command mode; for example:

  Noti_Serv_Protocol:0 >>`async`

- **For an existing Service Profile of the ASYNC type,** execute the `profile service` command in the Notification command mode; for example:

  `Notification:0 >>``profile service onboard_port_3`

exit

Returns the user to the Notification command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. Issuing the exit command in most command modes returns the user to the previous command mode. However, issuing the `exit` command in the ASYNC Protocol Command Mode returns the user to the Notification command mode.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

monitor/show

You can execute each of the `monitor/show` commands in the Async Protocol Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

port

Specifies the asynchronous port(s) for a Service Profile of the ASYNC type.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

`port <async_list>|all|none`

Where	Means
async_list	Specifies the LX asynchronous port(s) to which syslogd will send the log messages. In order to specify asynchronous port(s) in this field, the Service Profile in the *name* field must be configured as ASYNC. Refer to the `async` command on page 850 for more information on configuring a Service Profile as ASYNC. If more than one asynchronous port is specified, they should be separated by blank spaces; for example, `2 3 5 6`. **Note:** You cannot specify port 0 in this command.
all	Log messages will be sent to all asynchronous ports on the LX unit.
none	Log messages will not be sent to any asynchronous ports on the LX unit.

Usage Guidelines

When you include this command in a multi-level command, the Service-Profile type (`async`) must precede this command; for example:

Config>>`notification profile service onboard` **async** `port 2 3 4 5`

For more information, refer to "Configuring the Notification Feature with Multi-Level Commands" on page 1096.

Examples

```
port 7

port 2 3 4 5

port all

port none
```

Displaying the Asynchronous Ports for a Service Profile of the ASYNC Type

The asynchronous ports of a Service Profile of the ASYNC type are displayed in the `Async Port` field of the Service Profile Screen. An example of the Service Profile Screen appears in Figure 62 on page 146.

Use the `monitor/show notification profile service` command to display the Service Profile Screen. Refer to "monitor/show notification profile service" on page 146 for more information.

Chapter 18

Localsyslog Protocol Commands

The Localsyslog Protocol commands are executed in the Localsyslog Protocol Command Mode. When the LX unit is in the Localsyslog Protocol Command Mode, the Localsyslog Protocol command prompt (e.g., `Noti_Serv_LSyslog:0 >>`) is displayed on the terminal screen.

The format of the Localsyslog Protocol command prompt is as follows:

`Noti_Serv_LSyslog:<session_number> >>`

where `<session_number>` identifies the current session number.

To enter the Localsyslog Protocol Command Mode, do one of the following:

- **For a new Service Profile,** execute the `localsyslog` command in the Service Profile command mode; for example:

  Noti_Serv_Protocol:0 >>`localsyslog`

- **For an existing Service Profile of the Localsyslog type,** execute the `profile service` command in the Notification command mode; for example:

  Notification:0 >>`profile service labunit`

exit

Returns the user to the Notification command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. Issuing the exit command in most command modes returns the user to the previous command mode. However, issuing the `exit` command in the LOCALSYSLOG Protocol Command Mode returns the user to the Notification command mode.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

file

Specifies the file to which log messages are to be sent for a Service Profile of the Localsyslog type.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

`file <filename>`

Where	Means
filename	Specifies the name of the file to which the log messages are to be sent. This file resides in the `/var/log` directory of the LX unit. **Note:** You can not specify a suffix in the filename; for example `ricklog` is an acceptable filename, but `ricklog.txt` is *not* an acceptable filename.

Usage Guidelines

When you include this command in a multi-level command, the Service-Profile type (`localsyslog`) must precede this command; for example:

Config:0 >>`notification profile service local` **`localsyslog`** `file ricklog`

For more information, refer to "Configuring the Notification Feature with Multi-Level Commands" on page 1096.

Example

```
file ricklog
```

Displaying the Name of the File to Which Log Messages Will Be Sent

The name of the file to which log messages will be sent is displayed in the `File` field of the Service Profile Screen. An example of the Service Profile Screen appears in Figure 62 on page 146.

Use the `monitor/show notification profile service` command to display the Service Profile Screen. Refer to "monitor/show notification profile service" on page 146 for more information.

monitor/show

You can execute each of the `monitor/show` commands in the Localsyslog Protocol Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

Chapter 19

Remotesyslog Protocol Commands

The Remotesyslog Protocol commands are executed in the Remotesyslog Protocol Command Mode. When the LX unit is in the Remotesyslog Protocol Command Mode, the Remotesyslog Protocol command prompt (e.g., `Noti_Serv_RSyslog:0 >>`) is displayed on the terminal screen.

The format of the Remotesyslog Protocol command prompt is as follows:

`Noti_Serv_RSyslog:<session_number> >>`

where `<session_number>` identifies the current session number.

To enter the Remotesyslog Protocol Command Mode, do one of the following:

- **For a new Service Profile,** execute the `remotesyslog` command in the Service Profile command mode; for example:

  Noti_Serv_Protocol:0 >>`remotesyslog`

- **For an existing Service Profile of the Remotesyslog type,** execute the `profile service` command in the Notification command mode; for example:

  Notification:0 >>`profile service mapleprof`

exit

Returns the user to the Notification command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. Issuing the exit command in most command modes returns the user to the previous command mode. However, issuing the `exit` command in the REMOTESYSLOG Protocol Command Mode returns the user to the Notification command mode.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

host

Specifies the destination host for a Service Protocol of the Remotesyslog type.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

`host <hostname>`

Where	Means
hostname	Specifies the host to which the log messages are to be forwarded. The host can be specified as an IP Address or as any symbolic name that can be resolved by DNS.

Usage Guidelines

After you have specified the remote host with the `host` command, you must configure the remote host to serve as a destination host for log messages. Do the following:

1. Add the following entry to the `/etc/syslog.conf` file on the remote host:

```
user.warning      /tftpboot/test/user.warning.log
```

2. Create an empty log file on the remote host:

```
#touch /tftpboot/test/user.warning.log
#chmod 777 /tftpboot/test/user.warning.log
```

3. Restart the syslog daemon on the remote host:

```
# ps –ef|grep syslog
# kill –HUP pid#
```

When you include the `host` command in a multi-level command, the Service-Profile type (`remotesyslog`) must precede the `host` command; for example:

```
Config:0 >>notification profile service r-server remotesyslog host
140.76.45.123
```

For more information, refer to "Configuring the Notification Feature with Multi-Level Commands" on page 1096.

Examples

```
host 140.76.45.123

host hostmachine
```

Displaying the Destination Host for a Service Profile of the REMOTESYSLOG Type

The destination host for a Service Profile of the REMOTESYSLOG type is displayed in the `Remote Host` field of the Service Profile Screen. An example of the Service Profile Screen appears in Figure 62 on page 146.

Use the `monitor/show notification profile service` command to display the Service Profile Screen. Refer to "monitor/show notification profile service" on page 146 for more information.

monitor/show

You can execute each of the `monitor/show` commands in the Remotesyslog Protocol Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

Chapter 20

SMTP Protocol Commands

The SMTP Protocol commands are executed in the SMTP Protocol Command Mode. When the LX unit is in the SMTP Protocol Command Mode, the SMTP Protocol command prompt (e.g., `Noti_Serv_SMTP:0 >>`) is displayed on the terminal screen.

The format of the SMTP Protocol command prompt is as follows:

`Noti_Serv_SMTP:<session_number> >>`

where `<session_number>` identifies the current session number.

To enter the SMTP Protocol Command Mode, do one of the following:

- **For a new Service Profile,** execute the `smtp` command in the Service Profile command mode; for example:

  Noti_Serv_Protocol:0 >>`smtp`

- **For an existing Service Profile of the SMTP type,** execute the `profile service` command in the Notification command mode; for example:

  Notification:0 >>`profile service emailprof`

exit

Returns the user to the Notification command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. Issuing the exit command in most command modes returns the user to the previous command mode. However, issuing the `exit` command in the SMTP Protocol Command Mode returns the user to the Notification command mode.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

monitor/show

You can execute each of the `monitor/show` commands in the SMTP Protocol Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

name email

Specifies the LX Email sender username.

Syntax

`name <email_name>`

Where	Means
email_name	Specifies the email sender name associated with your LX notification message. You can use numbers, characters, periods, dashes, and underscores.

Usage Guidelines

When you include this command in a multi-level command, the Service-Profile type (`smtp`) must precede this command; for example:

Config:0 >>`notification profile service server16 name JohnDoe`

Displaying the Email Name

The Email Name of the SMTP type is displayed in the `Email Name` field of the Service Profile Screen. An example of the Service Profile Screen appears in Figure 62 on page 146.

Use the `monitor/show notification profile service` command to display the Service Profile Screen. Refer to "monitor/show notification profile service" on page 146 for more information.

server

Specifies the server for a Service Profile of the SMTP type.

NOTE: In order to execute this command, you must have already configured the Domain Name suffix, Local DNS Address, and IP parameters for the LX unit.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

`server <server_name>`

Where	Means
server_name	Specifies the server to which syslogd will send the log messages. The messages will be forwarded from the server to the user. The server can be specified as an IP Address or as any symbolic name that can be resolved by DNS.

Usage Guidelines

When you include this command in a multi-level command, the Service-Profile type (`smtp`) must precede this command; for example:

Config:0 >>`notification profile service email` **`smtp`** `server 118.28.118.34`

For more information, refer to "Configuring the Notification Feature with Multi-Level Commands" on page 1096.

Examples

```
server 118.28.118.34

server mailserver.CorpHQ.com
```

Displaying the Server of a Service Profile of the SMTP Type

The server of a Service Profile of the SMTP or SNPP type is displayed in the `Server` field of the Service Profile Screen. An example of the Service Profile Screen appears in Figure 62 on page 146.

Use the `monitor/show notification profile service` command to display the Service Profile Screen. Refer to "monitor/show notification profile service" on page 146 for more information.

subject email

Specifies the Email subject.

Syntax

`subject <email_subject>`

Where	Means
email_subject	Specifies the email subject for your notification message.

Usage Guidelines

When you include this command in a multi-level command, the Service-Profile type (`smtp`) must precede this command; for example:

```
Config:0 >>notification profile service Server16 subject system
notification from lx2
```

Displaying the Email Name

The Email Subject string of the SMTP type is displayed in the `Email Subject` field of the Service Profile Screen. An example of the Service Profile Screen appears in Figure 62 on page 146.

Use the `monitor/show notification profile service` command to display the Service Profile Screen. Refer to "monitor/show notification profile service" on page 146 for more information.

Chapter 21

SNPP Protocol Commands

The SNPP Protocol commands are executed in the SNPP Protocol Command Mode. When the LX unit is in the SNPP Protocol Command Mode, the SNPP Protocol command prompt (e.g., `Noti_Serv_SNPP:0 >>`) is displayed on the terminal screen.

The format of the SNPP Protocol command prompt is as follows:

`Noti_Serv_SNPP:<session_number> >>`

where `<session_number>` identifies the current session number.

To enter the SNPP Protocol Command Mode, do one of the following:

- **For a new Service Profile,** execute the `snpp` command in the Service Profile command mode; for example:

  Noti_Serv_Protocol:0 >>`snpp`

- **For an existing Service Profile of the SNPP type,** execute the `profile service` command in the Notification command mode; for example:

  Notification:0 >>`profile service skytel`

exit

Returns the user to the Notification command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. Issuing the exit command in most command modes returns the user to the previous command mode. However, issuing the `exit` command in the SNPP Protocol Command Mode returns the user to the Notification command mode.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

monitor/show

You can execute each of the `monitor/show` commands in the SNPP Protocol Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

port

Specifies an optional TCP port for receiving messages from the LX unit.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

`port <tcp_port>`

Where	Means
tcp_port	Specifies a TCP port on the provider's SNPP server. The LX syslogd will send log messages to this TCP port. The Service Profile in the *name* field must be configured as SNPP. Refer to the `snpp` command on page 860 for more information on configuring a Service Profile as SNPP.

Usage Guidelines

When you include this command in a multi-level command, the Service-Profile type (`snpp`) must precede this command; for example:

Config:0 >>`notification profile service pager1` **snpp** `port 7777`

For more information, refer to "Configuring the Notification Feature with Multi-Level Commands" on page 1096.

Example

```
port 7777
```

Displaying the TCP Port for a Service Profile of the SNPP Type

The TCP port a Service Profile of the SNPP type is displayed in the `Port` field of the Service Profile Screen. An example of the Service Profile Screen appears in Figure 62 on page 146.

Use the `monitor/show notification profile service` command to display the Service Profile Screen. Refer to "monitor/show notification profile service" on page 146 for more information.

server

Specifies the server for a Service Profile of the SNPP type.

NOTE: In order to execute this command, you must have already configured the Domain Name suffix, Local DNS Address, and IP parameters for the LX unit.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

`server <server_name>`

Where	Means
server_name	Specifies the server to which syslogd will send the log messages. The messages will be forwarded from the server to the user. The server can be specified as an IP Address or as any symbolic name that can be resolved by DNS.

Usage Guidelines

When you include this command in a multi-level command, the Service-Profile type (`snpp`) must precede this command; for example:

Config:0 >>`notification profile service pager2` **snpp** `server 118.28.118.34`

For more information, refer to "Configuring the Notification Feature with Multi-Level Commands" on page 1096.

Examples

```
server 118.28.118.34

server snpp.skytel.com
```

Displaying the Server of a Service Profile of the SNPP Type

The server of a Service Profile of the SNPP type is displayed in the `Server` field of the Service Profile Screen. An example of the Service Profile Screen appears in Figure 62 on page 146.

Use the `monitor/show notification profile service` command to display the Service Profile Screen. Refer to "monitor/show notification profile service" on page 146 for more information.

Chapter 22

TAP Protocol Commands

The TAP Protocol commands are executed in the TAP Protocol Command Mode. When the LX unit is in the TAP Protocol Command Mode, the TAP Protocol command prompt (e.g., `Noti_Serv_TAP:0 >>`) is displayed on the terminal screen.

The format of the TAP Protocol command prompt is as follows:

`Noti_Serv_TAP:<session_number> >>`

where `<session_number>` identifies the current session number.

To enter the TAP Protocol Command Mode, do one of the following:

- **For a new Service Profile,** execute the `tap` command in the Service Profile command mode; for example:

  Noti_Serv_Protocol:0 >>`tap`

- **For an existing Service Profile of the TAP type,** execute the `profile service` command in the Notification command mode; for example:

  Notification:0 >>`profile service pager1`

bits

Specifies the bits-per-byte setting for a Service Profile of the TAP type.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

`bits` *NUMBER*

Where	Means
NUMBER	Specifies the number of bits per byte that must be supported on any modem port that is included in this Service Profile. The allowable values are 5 - 8. The default value is 8.

Usage Guidelines

When you include this command in a multi-level command, the Service-Profile type (`tap`) must precede this command; for example:

Config:0 >>`notification profile service pager3` **`tap`** `bits 6`

For more information, refer to "Configuring the Notification Feature with Multi-Level Commands" on page 1096.

Example

```
bits 6
```

Displaying the Bits-per-byte Setting for a Service Profile of the TAP Type

The bits-per-byte setting of a Service Profile of the TAP type is displayed in the `Bits/Parity/StopBits` field of the Service Profile Screen. An example of the Service Profile Screen appears in Figure 62 on page 146.

Use the `monitor/show notification profile service` command to display the Service Profile Screen. Refer to "monitor/show notification profile service" on page 146 for more information.

exit

Returns the user to the Notification command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. Issuing the exit command in most command modes returns the user to the previous command mode. However, issuing the `exit` command in the TAP Protocol Command Mode returns the user to the Notification command mode.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

modem port

Specifies the modem ports for a Service Profile of the TAP type.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

`modem port <port_list>|all|none`

Where	Means
port_list	Specifies the modem port(s) that syslogd can dial out to send a log message via TAP. If more than one asynchronous port is specified, they should be separated by blank spaces; for example, `2 3 5 6`. The modem ports that are specified in this field must support the bits-per-byte setting of the Service Profile. Refer to `bits` on page 906 for information on specifying the bits-per-byte setting for a Service Profile. Refer to the `bits` command on page 906 for information on setting the bits-per-byte setting for a modem port.
all	All modem ports on the LX unit can be dialed to send a message via TAP.
none	None of the modem ports on the LX unit can be dialed to send a message via TAP.

Usage Guidelines

When you include this command in a multi-level command, the Service-Profile type (`tap`) must precede this command; for example:

```
Config:0 >>notification profile service pager3 tap modem port 2 3 5 6
```

For more information, refer to "Configuring the Notification Feature with Multi-Level Commands" on page 1096.

Refer to "Configuring TAP Service Profiles" in the *LX-Series Configuration Guide* for more information on configuring modems to support TAP Service Profiles.

Examples

```
modem port 7

modem port 2 3 5 6
```

```
modem port all

modem port none
```

Displaying the Modem Ports for a Service Profile of the TAP Type

The modem ports for a Service Profile of the TAP type is displayed in the `Modem Port(s)` field of the Service Profile Screen. An example of the Service Profile Screen appears in Figure 62 on page 146.

Use the `monitor/show notification profile service` command to display the Service Profile Screen. Refer to "monitor/show notification profile service" on page 146 for more information.

monitor/show

You can execute each of the `monitor/show` commands in the TAP Protocol Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

parity

Specifies the bit parity characteristic for a Service Profile of the TAP type.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

`parity <parity_setting>`

Where	Means
priority_setting	Specifies the bit parity that must be used by a modem port in order to send log messages with the TAP protocol. The allowable values are odd, even, and none. The default value is none. Refer to the `parity` command on page 590 for information on specifying the bit parity of a port.

Usage Guidelines

When you include this command in a multi-level command, the Service-Profile type (`tap`) must precede this command; for example:

Config:0 >>`notification profile service pager3 tap modem parity odd`

For more information, refer to "Configuring the Notification Feature with Multi-Level Commands" on page 1096.

Examples

```
parity odd

parity even

parity none
```

Displaying the Parity Setting for a Service Profile of the TAP Type

The parity setting of a Service Profile of the TAP type is displayed in the `Bits/Parity/StopBits` field of the Service Profile Screen. An example of the Service Profile Screen appears in Figure 62 on page 146.

Use the `monitor/show notification profile service` command to display the Service Profile Screen. Refer to "monitor/show notification profile service" on page 146 for more information.

smsc

Specifies the Short Message Service Center (SMSC) for a Service Profile of the TAP type.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

`smsc <tel_num>`

Where	Means
tel_num	Specifies the telephone number of the SMSC to which the notification is to be sent. The telephone number must contain at least 10 digits. The maximum length of the telephone number is 20 digits. **Note:** Your modem settings for bits-per-second, stopbits, and parity are not required to match those of your SMSC provider.

Usage Guidelines

Now configure the LX modem port that will be used for sending messages. In the following example, the required settings are specified on port 17:

```
Config>>port async 17
Async 17>>access remote
Async 17>>modem
Modem>>modem enable
Modem>>type dialout
```

A list of wireless SMSC phone numbers is provided here for your convenience:

Carrier	SMSC Number	Email Address SMSC Phone#@
AT&T 7, 1, e	Not Available	@mobile.att.net
Cingular 7, 1, e	800-909-4602	@Cingular.com
Nextel 7, 1, e	801-301-6683	@messaging.nextel.com
Sprint 7, 1, e	888-656-1727	@sprintpcs.com
Verizon 7, 1, e, 8, 1, n	866-823-0501	@vtext.com
Skytel 8, 1, n	800-679-2778	pin@skytel.com

NOTE: MRV Communications is not responsible for these SMSC phone numbers and cannot guarantee their service. Please contact your provider for a number near you.

When you include the `smsc` command in a multi-level command, the Service-Profile type (`tap`) must precede this command; for example:

```
Config>>notification profile service pager3 tap modem smsc 3776809977
```

For more information, refer to "Configuring the Notification Feature with Multi-Level Commands" on page 1096.

Example

```
smsc 3776809977
```

Displaying the SMSC of a Service Profile of the TAP Type

The SMSC of a Service Profile of the TAP type is displayed in the `SMSC` field of the Service Profile Screen. An example of the Service Profile Screen appears in Figure 62 on page 146.

Use the `monitor/show notification profile service` command to display the Service Profile Screen. Refer to "monitor/show notification profile service" on page 146 for more information.

stopbits

Specifies the stop bits characteristic for a Service Profile of the TAP type.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

`stopbits` *NUMBER*

Where	Means
NUMBER	Specifies the number of stop bits for the Service Profile. The allowable values are 1 or 2. The default value is 1. Refer to the `stopbits` on page 590 for information on setting the stop bits for a port.

Usage Guidelines

When you include this command in a multi-level command, the Service-Profile type (`tap`) must precede this command; for example:

```
Config>>notification profile service pager3 tap stopbits 1
```

For more information, refer to "Configuring the Notification Feature with Multi-Level Commands" on page 1096.

Examples

```
stopbits 1

stopbits 2
```

Displaying the Stopbits Setting for a Service Profile of the TAP Type

The Stopbits setting of a Service Profile of the TAP type is displayed in the `Bits/Parity/StopBits` field of the Service Profile Screen. An example of the Service Profile Screen appears in Figure 62 on page 146.

Use the `monitor/show notification profile service` command to display the Service Profile Screen. Refer to "monitor/show notification profile service" on page 146 for more information.

Chapter 23

WEB Protocol Commands

The WEB Protocol commands are executed in the WEB Protocol Command Mode. When the LX unit is in the WEB Protocol Command Mode, the WEB Protocol command prompt (e.g., `Noti_Serv_Web:0 >>`) is displayed on the terminal screen.

The format of the WEB Protocol command prompt is as follows:

`Noti_Serv_Web:<session_number> >>`

where `<session_number>` identifies the current session number.

To enter the WEB Protocol Command Mode, do one of the following:

- **For a new Service Profile,** execute the `web` command in the Service Profile command mode; for example:

  Noti_Serv_Protocol:0 >>`web`

- **For an existing Service Profile of the Web type,** execute the `profile service` command in the Notification command mode; for example:

  Notification:0 >>`profile service internetATT`

driver

Specifies the web driver for a Service Profile of the WEB type.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

`driver <drivername>`

Where	Means
drivername	Specifies the web driver that will be used to send a log message through a web interface. The allowable values are att_web, cellnet_web, cingular_web, orange_web, pagenet_web, proximus_web, and verizon_web.

Usage Guidelines

The date and time should be set for the LX unit. (If the date and the time are not set, some wireless providers will reject the message.) The date and time are set with the `date` and `clock` commands in the Configuration Command Mode. For more information, see the `date` command on page 317 and the `clock` command on page 313.

When you include the `driver` command in a multi-level command, the Service-Profile type (`web`) must precede this command; for example:

```
Config>>notification profile service net_clients web driver att_web
```

For more information, refer to "Configuring the Notification Feature with Multi-Level Commands" on page 1096.

Example

```
driver orange_web
```

Displaying the Name of the Web Driver for a Service Profile of the WEB Type

The name of the web driver for a Service Profile of the WEB type is displayed in the `Driver` field of the Service Profile Screen. An example of the Service Profile Screen appears in Figure 62 on page 146.

Use the `monitor/show notification profile service` command to display the Service Profile Screen. Refer to "monitor/show notification profile service" on page 146 for more information.

exit

Returns the user to the Notification command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. Issuing the exit command in most command modes returns the user to the previous command mode. However, issuing the `exit` command in the WEB Protocol Command Mode returns the user to the Notification command mode.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

monitor/show

You can execute each of the `monitor/show` commands in the WEB Protocol Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

Chapter 24

User Service Commands

The User Service commands are executed in the User Service command mode. When the LX unit is in the User Service command mode, the User Service command prompt (e.g., `Noti_User_Service:0 >>`) is displayed on the terminal screen.

The format of the User Service command prompt is as follows:

`Noti_User_Service:<session_number> >>`

where `<session_number>` identifies the current session number.

To enter the User Service command mode, execute the `profile user` command in the Notification command mode. The `profile user` command is described on page 846.

exit

Returns the user to the previous command mode. For example, if the current command mode is User Service, issuing this command will return the user to the Notification command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. For example, issuing the `exit` command in the User Service command mode returns the user to the Notification command mode; issuing the `exit` command in the Notification command mode returns the user to the Configuration command mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

monitor/show

You can execute each of the `monitor/show` commands in the User Service Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

service

Specifies the Service Profile for a User Profile, and enters the User Information Command Mode. For more information on the User Information Command Mode, refer to "User Information Commands" on page 935.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

`service <service_profile_name>`

Where	Means
service_profile_name	Specifies the name of a fully defined Service Profile. A Service Profile is fully defined when all of its mandatory parameters have been specified. The mandatory parameters for each type of Service Profile are described in the "Usage Guidelines" for the following commands: • `async` command (see page 850) for Service Profiles of the Async type • `localsyslog` command (see page 852) for Service Profiles of the Localsyslog type • `remotesyslog` command (see page 857) for Service Profiles of the Remotesyslog type • `smtp` command (see page 858) for Service Profiles of the SMTP type • `snpp` command (see page 860) for Service Profiles of the SNPP type • `tap` command (see page 861) for Service Profiles of the TAP type • `web` command (see page 862) for Service Profiles of the Web type **Note:** You do not have to specify any mandatory parameters for a Service Profile of the SNMP type. A Service Profile of the SNMP type is considered fully configured as soon as the SNMP Protocol is specified for it. (However, you must have an SNMP Trap Client configured and the SNMP Feature enabled.)

Usage Guidelines

After a User Profile has been created, a facility characteristic and a priority characteristic can be specified for it. For more information, refer to `facility` on page 938 and `priority` on page 943.

You must define a contact field for a User Profile that is based on a Service Profile of the SNPP, SMTP, TAP, or WEB type. For more information, refer to the `contact` command on page 936.

Examples

```
service internetATT

service Center10

service emailprof
```

Displaying the Service Profile for a User Profile

The Service Profile for a User Profile is displayed in the `ServiceProfile` field of the User Profile Screen. An example of the User Profile Screen appears in Figure 63 on page 147.

Use the `monitor/show notification profile user` command to display the User Profile Screen. Refer to "monitor/show notification profile user" on page 147 for more information.

Chapter 25

User Information Commands

The User Information commands are executed in the User Information command mode. When the LX unit is in the User Information command mode, the User Information command prompt (e.g., `Noti_User_Info:0 >>`) is displayed on the terminal screen.

The format of the User Information command prompt is as follows:

`Noti_User_Info:<session_number> >>`

where `<session_number>` identifies the current session number.

To enter the User Information command mode, execute the `service` command in the User Service command mode. The `service` command is described on page 933.

contact

Specifies the contact information for a User Profile. Contact information must be specified for any User Profile that is associated with a Service Profile of the Web, SNPP, SMTP, or TAP type.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

`contact <contact_name>`

Where	Means
contact_name	Specifies the contact information for the User Profile. (The contact information is the telephone number, pager ID, or email address to which the log messages will be sent.) The content of this field depends on the type of the Service Profile that is associated with the User Profile. If the associated Service Profile is of the SMTP type, this field must contain an email address. If the associated Service Profile is of the Web, SNPP, or TAP type, this field can contain a pager ID or a telephone number. The pager ID must consist of between 1 and 35 digits. **Note:** You can not specify this field for a Service Profile of the Async, Localsyslog, or Remotesyslog type.

Examples

```
contact 167451

contact 3995987642

contact 3996541276

contact nwillis@yourcompany.com
```

Displaying the Contact Information for a User Profile

The contact information for a User Profile is displayed in the `Contact` field of the User Profile Screen. An example of the User Profile Screen appears in Figure 63 on page 147.

Use the `monitor/show notification profile user` command to display the User Profile Screen. Refer to "monitor/show notification profile user" on page 147 for more information.

exit

Returns the user to the Notification command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. Issuing the exit command in most command modes returns the user to the previous command mode. However, issuing the `exit` command in the User Information command mode returns the user to the Notification command mode.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

facility

Specifies the facility characteristic for a User Profile. Only those log messages that originate from a Linux facility that matches this characteristic will be sent to the user.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

`facility <facility_char>`

Where	Means
facility_char	Specifies the facility characteristic for the User Profile. The allowable values are all, authpriv, daemon, kern, syslog, user, local1, local2, local3, local4, local5, local6, and local7. The default value is user. **Note:** You can not specify a facility characteristic of `all` with a priority characteristic of `info` for User Profiles that are based on a Service profile of the TAP Type.

Examples

```
facility authpriv

facility daemon

facility kern

facility local5
```

Displaying the Facility Setting for a User Profile

The facility setting for a User Profile is displayed in the `Facility` field of the User Profile Screen. An example of the User Profile Screen appears in Figure 63 on page 147.

Use the `monitor/show notification profile user` command to display the User Profile Screen. Refer to "monitor/show notification profile user" on page 147 for more information.

monitor/show

You can execute each of the `monitor/show` commands in the User Information Command Mode.

Refer to the following pages for a full description of each of the `monitor/show` commands.

priority

Specifies the priority characteristic for a User Profile. Only those log messages that match this priority level will be sent to the user.

NOTE: If you execute this command as the target command in a multi-level command, it is recommended that you execute the `restart notification` command afterwards. For more information on the `restart notification` command, refer to page 286. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Syntax

```
priority emerg|alert|crit|err|notice|info|warning
```

Where	Means
name	Specifies the name of a User Profile.
emerg	Only messages with a priority of `emerg` will be sent to the user. Messages with this priority indicate a condition that can immediately affect the users' ability to work on the LX.
alert	Only messages with a priority of `alert` will be sent to the user. Messages with this priority indicate a condition that the system administrator needs to correct immediately, such as a corrupted system database.
crit	Only messages with a priority of `critical` will be sent to the user. Messages with this priority indicate a critical condition, such as a hard device error.
err	Only messages with a priority of `error` will be sent to the user. Messages with this priority indicate a software error condition.
notice	Only messages with a priority of `notice` will be sent to the user. Messages with this priority indicate a condition which is not an error, but which might require specific procedures to adjust it.
info	Only messages with a priority of `info` will be sent to the user. These are normal, informational messages. **Note:** You can not specify a facility characteristic of `all` with a priority characteristic of `info` for User Profiles that are based on a Service profile of the TAP Type.
warning	Only messages with a priority of `warning` will be sent to the user.

Examples

```
priority info

priority emerg
```

```
priority notice

priority warning
```

Displaying the Priority Setting for a User Profile

The priority setting for a User Profile is displayed in the `Priority` field of the User Profile Screen. An example of the User Profile Screen appears in Figure 63 on page 147.

Use the `monitor/show notification profile user` command to display the User Profile Screen. Refer to "monitor/show notification profile user" on page 147 for more information.

Chapter 26

Trigger-Action Commands

The Trigger-Action commands are executed in the Trigger-Action command mode. When the LX unit is in the Trigger-Action command mode, the Trigger-Action command prompt (e.g., `Trigger-Action:0 >>`) is displayed on the terminal screen.

The format of the Trigger-Action command prompt is as follows:

`Trigger-Action:<session_number> >>`

where `<session_number>` identifies the current session number.

To enter the Trigger-Action command mode, execute the `trigger-action` command in the Configuration command mode. The `trigger-action` command is described on page 396.

action name

Creates an Action, or opens an existing Action, and enters the Action Command Mode. For more information on the Action Command Mode, refer to "Action Commands" on page 969.

Syntax

`action name <name>`

Where	Means
name	A text string that specifies the name of an action. The text string may contain up to 19 characters but may not contain any blank spaces or special characters. The text string must begin with a non-numeric character. **Note:** If you specify an existing action, the action must *not* be associated with an enabled rule. To disable a rule, refer to the `disable` command on page 959.

Usage Guidelines

In the Action Command Mode, you will specify the LX command that gets executed when this action is triggered. For more information on the Action Command Mode, refer to "Action Commands" on page 969.

Example

```
action name TurnonAC7
```

Displaying Information on an Action

The name of an action, and the LX command that it executes, are displayed on the Action Information Screen. An example of the Action Information Screen appears in Figure 104 on page 228.

Use the `show trigger-action action` command to display the Action Information Screen. Refer to "monitor/show trigger-action action" on page 228 for more information.

end

When the end command is issued in the Trigger-Action command mode, it returns the user to the Superuser command mode.

Syntax

end

Usage Guidelines

The end command can be issued in all of the LX command modes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

Example

```
end
```

exit

Returns the user to the Configuration command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. Issuing the exit command in most command modes returns the user to the previous command mode. For example, executing the `exit` command in the Trigger-Action Command Mode returns the user to the Configuration Command Mode; executing the `exit` command in the Configuration Command Mode returns the user to the Superuser Command Mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

no

Deletes actions, rules, or triggers from the Trigger-Action Feature.

Syntax

```
no action|rule|trigger all|name <name>
```

Where	Means
action	Delete the specified action(s). For more information, refer to "Usage Guidelines" (below).
rule	Delete the specified rule(s). For more information, refer to "Usage Guidelines" (below).
trigger	Delete the specified trigger(s). For more information, refer to "Usage Guidelines" (below).
all	Delete *all* of the specified items (actions, rules, or triggers).
name	Delete the action, rule, or trigger that is specified in the *name* field.
name	The name of the action, rule, or trigger that is to be deleted.

Usage Guidelines

A Rule must be disabled before it can be deleted with this command. A Rule must also be disabled before the Trigger or Action associated with it can be deleted with this command.

You can use the `rule` command, in the Trigger-Action Command Mode, to disable a Rule. For more information, refer to "rule" on page 950.

You can also use the `disable` command, in the Rule Command Mode, to disable a Rule. For more information, refer to "disable" on page 959.

Examples

```
no action all

no action name TurnonAC7

no rule all

no rule name AC7TurnOnRule

no trigger all

no trigger name TempPort4GT30
```

rule

Enables, or disables, rules in the Trigger-Action Environment. When a rule is *enabled*, its action is executed when the condition specified in its trigger is true. When a rule is *disabled*, its action does not get executed in response to its trigger.

Syntax

`rule all|name <rule_name> enable|disable`

Where	Means
all	Enable, or disable, all of the rules that have been configured for the Trigger-Action Environment.
name	Enable, or disable, a single rule.
rule_name	The name of the configured rule in the Trigger-Action Environment.
enable	Enable the specified rule(s).
disable	Disable the specified rule(s).

Usage Guidelines

In order to enable a rule, the rule must have a valid Action *and* a valid Trigger specified for it. Refer to the `action` command on page 958 to specify an Action for a Rule. Refer to the `trigger` command on page 967 to specify a Trigger for a Rule.

NOTE: In the Rule command mode, you can execute the `enable` command to enable a Rule, or the `disable` command to disable a Rule. For more information, refer to the `enable` command on page 960 and the `disable` command on page 959.

Example

```
rule name TurnOnAC7Rule enable

rule name TurnOnAC7Rule disable
```

Displaying the State of a Rule

The state of a Rule (Enabled/Disabled) is displayed in the `State` field of the Rule Information Screen. An example of the Rule Information Screen appears in Figure 105.

Use the `show trigger-action rule characteristics` command to display the Rule Information Screen. Refer to "monitor/show trigger-action rule characteristics" on page 229 for more information.

rule name

Creates a Rule, or opens an existing Rule, and enters the Rule Command Mode. For more information on the Rule Command Mode, refer to "Rule Commands" on page 957.

Syntax

`rule name <name>`

Where	Means
name	A text string that specifies the name of a rule. The text string may contain up to 19 characters but may not contain any blank spaces or special characters.

Usage Guidelines

In the Rule Command Mode, you can specify a trigger and an action for the rule and enable and disable the rule. For more information on the Rule Command Mode, refer to "Rule Commands" on page 957.

Example

```
rule name AC7TurnOnRule
```

Displaying Information on a Rule

The name of a rule, its Current State, associated Trigger and Action, and Times Fired are displayed on the Rule Information Screen. An example of the Rule Information Screen appears in Figure 105.

Use the `show trigger-action rule characteristics` command to display the Rule Information Screen. Refer to "monitor/show trigger-action rule characteristics" on page 229 for more information.

show

You can execute each of the `show` commands in the Trigger-Action Command Mode.

Refer to the following pages for a full description of each of the `show` commands.

trigger name

Creates a Trigger, or opens an existing Trigger, and enters the Trigger Command Mode. For more information on the Trigger Command Mode, refer to "Trigger Commands" on page 977.

Syntax

`trigger name <name>`

Where	Means
name	A text string that specifies the name of a trigger. The text string may contain up to 19 characters but may not contain any blank spaces or special characters. **Note:** If you specify an existing trigger, the trigger must *not* be associated with an enabled rule. To disable a rule, refer to the `disable` command on page 959.

Usage Guidelines

In the Trigger Command Mode, you can specify the type of the trigger (i.e., Humidity, Temperature, Ping, timer, or Power, etc.) the condition that, when true, causes an action to be performed. For more information on the Trigger Command Mode, refer to "Trigger Commands" on page 977.

Example

```
trigger name TempPort4GT30
```

Displaying Information on a Trigger

The Name of a Trigger is displayed on the Trigger Information Screen. An example of the Trigger Information Screen appears in Figure 108 on page 234.

Use the `show trigger-action trigger` command to display the Trigger Information Screen. Refer to "monitor/show trigger-action trigger" on page 234 for more information.

Chapter 27

Rule Commands

The Rule commands are executed in the Rule command mode. When the LX unit is in the Rule command mode, the Rule command prompt (e.g., `Rule_rule-name:0 >>`) is displayed on the terminal screen.

The format of the Rule command prompt is as follows:

`Rule_<`*`rule_name`*`>:<session_number> >>`

where `<`*`rule_name`*`>` identifies the rule under configuration.

To enter the Rule command mode, execute the `rule name` command in the Trigger-Action command mode. The `rule name` command is described on page 951.

action

Specifies the Action for the Rule that is currently under configuration.

Syntax

`action <action_name>`

Where	Means
action_name	The name of a fully configured action. An action is fully configured when it has a command associated with it. Refer to `action name` on page 946 for information on configuring an Action for the LX Trigger-Action Feature. Refer to `command` on page 970 for information on associating a command with an action.

Usage Guidelines

An Action executes an LX command. Actions are configured in the Action Command Mode. For more information on the Action Command Mode, refer to "Action Commands" on page 969.

The Rule binds a Trigger, along with an Action. The Action is performed when the condition specified in the Trigger is true.

In order to enable a rule, the rule must have an Action *and* a Trigger specified for it. Refer to the `trigger` command on page 967 to specify a Trigger for a rule. Refer to the `enable` command on page 960 to enable a Rule.

Example

```
action TurnonAC7
```

Displaying the Action for a Rule

The Action associated with a Rule is displayed in the `Action` field of the Rule Information Screen. An example of the Rule Information Screen appears in Figure 105 on page 229.

Use the `show trigger-action rule characteristics` command to display the Rule Information Screen. Refer to "monitor/show trigger-action rule characteristics" on page 229 for more information.

disable

Disables the rule that is currently under configuration. When a rule is disabled, its action does *not* get executed.

Syntax

```
disable
```

Usage Guidelines

Use the `enable` command to enable a rule.

Example

```
disable
```

Displaying the State of a Rule

The state of a Rule (Enabled/Disabled) is displayed in the `State` field of the Rule Information Screen. An example of the Rule Information Screen appears in Figure 105.

Use the `show trigger-action rule characteristics` command to display the Rule Information Screen. Refer to "monitor/show trigger-action rule characteristics" on page 229 for more information.

enable

Enables the rule that is currently under configuration. When a rule is enabled, its action is executed when the condition specified in its trigger is true.

Syntax

```
enable
```

Usage Guidelines

In order to enable a rule, the rule must first have a valid action and trigger specified for it. Refer to the `action` command on page 958 to specify an action for a rule. Refer to the `trigger` command on page 967 to specify a trigger for a rule.

Refer to the `disable` command on page 959 to disable a rule.

Example

```
enable
```

Displaying the State of a Rule

The state of a Rule (Enabled/Disabled) is displayed in the `State` field of the Rule Information Screen. An example of the Rule Information Screen appears in Figure 105.

Use the `show trigger-action rule characteristics` command to display the Rule Information Screen. Refer to "monitor/show trigger-action rule characteristics" on page 229 for more information.

end

When the end command is issued in the Rule command mode, it returns the user to the Superuser command mode.

Syntax

end

Usage Guidelines

The end command can be issued in all of the LX command modes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

Example

```
end
```

exit

Returns the user to the Trigger-Action command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. Issuing the exit command in most command modes returns the user to the previous command mode. For example, executing the `exit` command in the Rule Command Mode returns the user to the Trigger-Action Command Mode; executing the `exit` command in the Trigger-Action Command Mode returns the user to the Configuration Command Mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

show

You can execute each of the `show` commands in the Rule Command Mode.

Refer to the following pages for a full description of each of the `show` commands.

trigger

Specifies the Trigger for the Rule that is currently under configuration.

Syntax

`trigger <trigger_name>`

Where	Means
trigger_name	The name of a fully configured Trigger. A Trigger is fully configured when it has a condition associated with it. Refer to `trigger name` on page 956 for information on configuring a Trigger for the LX Trigger-Action Feature. Refer to the following commands for information on associating a condition with a trigger: `humidity` on page 983 `pattern` on page 986 `ping address` on page 987 `signal port cts` on page 995 `signal port dsr-dcd` on page 996 `temperature` on page 997 `timer date` on page 999 `timer day` on page 1000 `timer time` on page 1002 `compound` on page 979

Usage Guidelines

A Trigger specifies the conditions that, when true, will cause the action associated with the Rule to be executed. Actions are configured in the Action Command Mode. For more information on the Action Command Mode, refer to "Action Commands" on page 969.

In order to enable a rule, the rule must have an Action *and* a Trigger specified for it. Refer to the `action` command on page 958 to specify an Action for a Rule. Refer to the `enable` command on page 960 to enable a Rule.

Example

```
trigger TempPort4GT30
```

Displaying Information on a Trigger

The Name and Type of a Trigger are displayed on the Trigger Information Screen. An example of the Trigger Information Screen appears in Figure 108 on page 234.

Use the `show trigger-action trigger` command to display the Trigger Information Screen. Refer to "monitor/show trigger-action trigger" on page 234 for more information.

Chapter 28

Action Commands

The Action commands are executed in the Action command mode. When the LX unit is in the Action command mode, the Action command prompt (e.g., `Action_action-name:0 >>`) is displayed on the terminal screen.

The format of the Action command prompt is as follows:

`Action_<action_name>:<session_number> >>`

where `<action_name>` identifies the Action under configuration.

To enter the Action command mode, execute the `action name` command in the Trigger-Action command mode. The `action name` command is described on page 946.

command

Specifies the command for the Action that is currently under configuration.

Syntax

`command <command_string>`

Where	Means
command_string	A command from the Superuser Command Mode of the LX CLI, or a multi-level command in which the mode-access portion of the command *begins* with the `configuration` command. For more information on multi-level commands, refer to "Multi-Level Command Execution" on page 1095.

Examples

```
command outlet 5:2 off

command telnet 102.19.240.14 2500

command configuration interface 1 broadcast group 4 slave port async 2

command configuration subscriber mark command log enable

command script TurnOnOutlets.txt
```

Displaying Information on an Action

The name of an action, and the LX command that it executes, are displayed on the Action Information Screen. An example of the Action Information Screen appears in Figure 104 on page 228.

Use the `show trigger-action action` command to display the Action Information Screen. Refer to "monitor/show trigger-action action" on page 228 for more information.

end

When the end command is issued in the Action command mode, it returns the user to the Superuser command mode.

Syntax

end

Usage Guidelines

The end command can be issued in all of the LX command modes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

Example

```
end
```

exit

Returns the user to the Trigger-Action command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. Issuing the exit command in most command modes returns the user to the previous command mode. For example, executing the `exit` command in the Action Command Mode returns the user to the Trigger-Action Command Mode; executing the `exit` command in the Trigger-Action Command Mode returns the user to the Configuration Command Mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

show

You can execute each of the `show` commands in the Action Command Mode.

Refer to the following pages for a full description of each of the `show` commands.

- page 229 – `show trigger-action rule` command
- page 234 – `show trigger-action trigger` command
- page 237 – `show users` command
- page 238 – `show version` command

Chapter 29

Trigger Commands

The Trigger commands are executed in the Trigger command mode. When the LX unit is in the Trigger command mode, the Trigger command prompt (e.g., `Trigger_trigger-name:0 >>`) is displayed on the terminal screen.

The format of the Trigger command prompt is as follows:

`Trigger_<`*`trigger_name`*`>:<session_number> >>`

where *<trigger_name>* identifies the Trigger under configuration.

To enter the Trigger command mode, execute the `trigger name` command in the Trigger-Action command mode. The `trigger name` command is described on page 956.

bootup

A trigger type executed once when the unit reboots. A reboot triggers the action command if the rule is enabled.

Syntax

```
bootup
```

Usage Guidelines

A fully configured bootup trigger is launched on a cold or warm restart.

Examples

```
bootup
```

Displaying Information on a Trigger

The characteristics of a trigger are displayed on the Trigger Information Screen. An example of the Trigger Information Screen appears in Figure 108 on page 234.

Use the `show trigger-action trigger` command to display the Trigger Information Screen. Refer to "monitor/show trigger-action trigger" on page 234 for more information.

compound

Creates a Compound Trigger. The state of a Compound Trigger is based on an AND/OR condition between two existing Triggers.

Syntax

`compound <trigger_1> and|or <trigger_2>`

Where	Means
trigger_1	Any fully configured trigger. Refer to "Usage Guidelines" (below) for more information on what constitutes a fully configured trigger.
and	Specifies that the condition for the Compound Trigger is a Joint Condition; the condition is true only when the conditions specified for both *trigger_1* and *trigger_2* are true.
or	Specifies that the condition for the Compound Trigger is a Disjoint Condition; the condition is true when the conditions specified for either, or both, *trigger_1* and *trigger_2* are true.
trigger_2	Any fully configured trigger. Refer to "Usage Guidelines" (below) for more information on what constitutes a fully configured trigger.

Usage Guidelines

A fully configured trigger is a trigger that has a condition associated with it. Refer to the following commands for information on associating a condition with a trigger:

- `humidity` on page 983
- `pattern` on page 986
- `ping address` on page 987
- `signal port cts` on page 995
- `signal port dsr-dcd` on page 996
- `temperature` on page 997
- `timer date` on page 999
- `timer day` on page 1000
- `timer time` on page 1002

Examples

```
compound TempPort4GT30 and HumPort4GT80

compound TempPort4GT30 or HumPort4GT80
```

Displaying Information on a Trigger

The characteristics of a trigger are displayed on the Trigger Information Screen. An example of the Trigger Information Screen appears in Figure 108 on page 234.

Use the `show trigger-action trigger` command to display the Trigger Information Screen. Refer to "monitor/show trigger-action trigger" on page 234 for more information.

end

When the end command is issued in the Trigger command mode, it returns the user to the Superuser command mode.

Syntax

end

Usage Guidelines

The end command can be issued in all of the LX command modes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

Example

```
end
```

exit

Returns the user to the Trigger-Action command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. Issuing the exit command in most command modes returns the user to the previous command mode. For example, executing the `exit` command in the Trigger Command Mode returns the user to the Trigger-Action Command Mode; executing the `exit` command in the Trigger-Action Command Mode returns the user to the Configuration Command Mode, and so on.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

humidity

Creates a Humidity Trigger.

Syntax

```
humidity port <port_number> <|>|<=|>= <humidity_thresh> [hysteresis <setting>]
```

Where	Means
port_number	An LX port that is configured as a SENSOR port.
<	Specifies that the humidity reading on the sensor port must be LESS THAN the specified *humidity_thresh* in order for the Trigger Condition to be true.
>	Specifies that the humidity reading on the sensor port must be GREATER THAN the specified *humidity_thresh* in order for the Trigger Condition to be true.
<=	Specifies that the humidity reading on the sensor port must be LESS THAN OR EQUAL TO the specified *humidity_thresh* in order for the Trigger Condition to be true.
>=	Specifies that the humidity reading on the sensor port must be GREATER THAN OR EQUAL TO the specified *humidity_thresh* in order for the Trigger Condition to be true.
humidity_level	Specifies the Humidity Threshold for the Trigger Condition. This can be any number between 0 and 100.
hysteresis	Use the value specified in *setting* as the hysteresis for this Humidity Trigger.
setting	An integer value from 0 through 10 that specifies a range above and below the actual threshold setting. After a threshold is crossed, any readings within the hysteresis range are not considered a crossing of the threshold until a measurement outside the hysteresis has been taken. For more information, refer to "User Guidelines" (below). The default value is 1. A value of 0 effectively disables the Hysteresis feature for the Humidity Trigger.

Usage Guidelines

You should only configure the hysteresis to prevent "sporadic" or "spike" humidity levels from producing inappropriate firings of the Rule associated with this Trigger.

For example, consider the following, in which a Sensor Input is used to take humidity readings:

- The Humidity Threshold is configured at 80 percent.
- The Hysteresis Setting is configured at 4.

In the above example, an initial humidity reading of 80% would cause the Humidity Condition to be true. However, a sudden spike in humidity, with a subsequent drop below 80%, would not fire the rule until the actual humidity fell to 76%.

Examples

```
humidity port 3 < 40

humidity port 4 > 55

humidity port 5 <= 60 hysteresis 7

humidity port 6 >= 65 hysteresis 4
```

Displaying Information on a Trigger

The trigger characteristics are displayed on the Trigger Information Screen. An example of the Trigger Information Screen appears in Figure 108 on page 234.

Use the `show trigger-action trigger` command to display the Trigger Information Screen. Refer to "monitor/show trigger-action trigger" on page 234 for more information.

pattern case

Specifies that the match string for a Pattern Trigger is case sensitive or case insensitive.

Syntax

```
pattern case sensitive|insensitive
```

Where	Means
sensitive	Specifies that the match string for a pattern Trigger is case sensitive.
insensitive	Specifies that the match string for a pattern Trigger is case insensitive.

Examples

```
pattern case sensitive

pattern case insensitive
```

Displaying Information on a Trigger

The Trigger characteristics are displayed on the Trigger Information Screen. An example of the Trigger Information Screen appears in Figure 108 on page 234.

Use the `show trigger-action trigger` command to display the Trigger Information Screen. Refer to "monitor/show trigger-action trigger" on page 234 for more information.

pattern port string

Creates a Pattern Trigger. The pattern trigger is limited to the port async access types of databuffer and remote.

Syntax

`pattern port <port_number> string <string>`

Where	Means
port_number	Any LX asynchronous port that is configured for DATABUFFER or REMOTE access.
string	A text string that is used as a match pattern for incoming data. This string can contain up to 15 characters, including the period operator (".") and the asterisk operator ("*"). When a string of incoming data matches this pattern, the Trigger Condition is true. (**Note:** The pattern match string can not begin or end with the asterisk operator ("*").) The period operator represents a single character. For example, the pattern `a.c.ef` matches the strings `abc3ef`, `azcxef`, and `a2cgef`. The asterisk operator represents from 0 to 16 iterations of the last character before the asterisk. For example, the pattern `abc*` matches the strings `ab`, `abccccccc`, and `abccc`. A period operator *followed* by an asterisk operator ("`.*`") will match any string and functions as a true wildcard. (**Note:** The pattern match string can not contain more than one instance of the asterisk wildcard ("*").) The backslash delimiter (\) is used to indicate that the next character is an ASCII period or an ASCII asterisk. For example, the pattern `.c*\.\*` matches the strings `a.*`, `acccccccc.*`, and `b.*`.

Examples

```
pattern port 5 string a.c.ef

pattern port 5 string abc*c

pattern port 5 string c*\.\*n
```

Displaying Information on a Trigger

The Trigger characteristics are displayed on the Trigger Information Screen. An example of the Trigger Information Screen appears in Figure 108 on page 234.

Use the `show trigger-action trigger` command to display the Trigger Information Screen. Refer to "monitor/show trigger-action trigger" on page 234 for more information.

ping address

Specifies the Ping Address for a Ping Trigger.

Syntax

`ping address <ip_address>`

Where	Means
ip_address	An IP Address.

Usage Guidelines

The address that you specify with this command is pinged at the interval that you specify with the `ping interval` command. (The `ping interval` command is described on page 989.) The Ping Condition is true if status of the pinged host is `up` or `down` as specified in the `ping status` command. (The `ping status` command is described on page 990.)

Example

```
ping address 119.20.110.87
```

Displaying Information on a Trigger

The Trigger characteristics are displayed on the Trigger Information Screen. An example of the Trigger Information Screen appears in Figure 108 on page 234.

Use the `show trigger-action trigger` command to display the Trigger Information Screen. Refer to "monitor/show trigger-action trigger" on page 234 for more information.

ping interface

Specifies the Ping Interface for a Ping Trigger.

Syntax

`ping interface <`*`interface_address`*`>`

Where	Means
interface_address	An interface Address.

Usage Guidelines

The address that you specify with this command is pinged at the interval that you specify with the `ping interval` command. (The `ping interval` command is described on page 989.) The Ping Condition is true if status of the pinged host is `up` or `down` as specified in the `ping status` command. (The `ping status` command is described on page 990.)

Example

```
ping interface 119.20.110.87
```

Displaying Information on a Trigger

The Trigger characteristics are displayed on the Trigger Information Screen. An example of the Trigger Information Screen appears in Figure 110 on page 235.

Use the `show trigger-action trigger` command to display the Trigger Information Screen. Refer to "monitor/show trigger-action trigger" on page 234 for more information.

ping interval

Specifies the Ping Interval for a Ping Condition.

Syntax

`ping interval <interval_value>`

Where	Means
interval_value	Specifies a Ping Interval in seconds. This can be any integer value from 30 to 180.

Usage Guidelines

Ping messages are sent to the Ping Address at the interval that you specify with this command. (The Ping Address is specified with the `ping address` command, which is described on page 987.) The Ping Condition is true if status of the pinged host is `up` or `down` as specified in the `ping status` command. (The `ping status` command is described on page 990.)

Example

```
ping interval 30
```

Displaying Information on a Trigger

The Trigger characteristics are displayed on the Trigger Information Screen. An example of the Trigger Information Screen appears in Figure 108 on page 234.

Use the `show trigger-action trigger` command to display the Trigger Information Screen. Refer to "monitor/show trigger-action trigger" on page 234 for more information.

ping status

Specifies the Ping Status for a Ping Condition.

Syntax

```
ping status up|down
```

Where	Means
up	The Ping Condition is true if the pinged host is Up when it is pinged.
down	The Ping Condition is true if the pinged host is Down when it is pinged.

Usage Guidelines

In order to create a Ping Condition, you must specify a Ping Status, a Ping Interval, and a Ping Address. For more information, refer to the `ping address` command on page 987 and the `ping interval` command page 989.

Examples

```
ping status up

ping status down
```

Displaying Information on a Trigger

The Trigger characteristics are displayed on the Trigger Information Screen. An example of the Trigger Information Screen appears in Figure 108 on page 234.

Use the `show trigger-action trigger` command to display the Trigger Information Screen. Refer to "monitor/show trigger-action trigger" on page 234 for more information.

show

You can execute each of the `show` commands in the Trigger Command Mode.

Refer to the following pages for a full description of each of the `show` commands.

signal port cts

Creates a CTS Signal Trigger.

Syntax

`signal port <port_number> cts high|low`

Where	Means
port_number	The port number of an asynchronous port on the LX unit.
high	The Trigger Condition is true when the CTS signal of the specified asynchronous port is high.
low	The Trigger Condition is true when the CTS signal of the specified asynchronous port is low.

Examples

```
signal port 4 cts high

signal port 6 cts low
```

Displaying Information on a Trigger

The Trigger characteristics are displayed on the Trigger Information Screen. An example of the Trigger Information Screen appears in Figure 108 on page 234.

Use the `show trigger-action trigger` command to display the Trigger Information Screen. Refer to "monitor/show trigger-action trigger" on page 234 for more information.

signal port dsr-dcd

Creates a DSR/DCD Signal Trigger.

Syntax

`signal port <port_number> dsr-dcd high|low`

Where	Means
port_number	The port number of an asynchronous port on the LX unit.
high	The Trigger Condition is true when the DSR/DCD signal of the specified asynchronous port is high.
low	The Trigger Condition is true when the DSR/DCD signal of the specified asynchronous port is low.

Examples

```
signal port 4 dsr-dcd high

signal port 6 dsr-dcd low
```

Displaying Information on a Trigger

The Trigger characteristics are displayed on the Trigger Information Screen. An example of the Trigger Information Screen appears in Figure 108 on page 234.

Use the `show trigger-action trigger` command to display the Trigger Information Screen. Refer to "monitor/show trigger-action trigger" on page 234 for more information.

temperature

Creates a Temperature Trigger.

NOTE: The MRV temperature/humidity sensor does not support a temperature value of –100 or a humidity value of –1. If these values are returned, the device is not responding, or there is no device connected, or the temperature/humidity thresholds are not configured.

Syntax

```
temperature port <port_number> <|>|<=|>= <temp_thresh> celsius|fahrenheit
[hysteresis <setting>]
```

Where	Means
port_number	An LX port that is configured as a SENSOR port.
<	Specifies that the humidity reading on the sensor port must be LESS THAN the specified *temp_thresh* in order for the Trigger Condition to be true.
>	Specifies that the humidity reading on the sensor port must be GREATER THAN the specified *temp_thresh* in order for the Trigger Condition to be true.
<=	Specifies that the humidity reading on the sensor port must be LESS THAN OR EQUAL TO the specified *temp_thresh* in order for the Trigger Condition to be true.
>=	Specifies that the humidity reading on the sensor port must be GREATER THAN OR EQUAL TO the specified *temp_thresh* in order for the Trigger Condition to be true.
temp_thresh	Specifies the Temperature Threshold, in Celsius Degrees, for the Trigger Condition. This can be any integer value.
celsius	Specifies that the Temperature Threshold is in degrees Celsius.
fahrenheit	Specifies that the Temperature Threshold is in degrees Fahrenheit.
hysteresis	Use the value specified in *setting* as the hysteresis for this Temperature Trigger.
setting	An integer value from 0 through 10 that specifies a range above and below the actual threshold setting. After a threshold is crossed, any readings within the hysteresis range are not considered a crossing of the threshold until a measurement outside the hysteresis has been taken. For more information, refer to "User Guidelines" (below). The default value is 1. A value of 0 effectively disables the Hysteresis feature for the Temperature Trigger.

Usage Guidelines

You should only configure the hysteresis to prevent "sporadic" or "spike" temperature levels from producing inappropriate firings of the Rule associated with this Trigger.

For example, consider the following, in which a Sensor Input is used to take humidity readings:

- The Temperature Threshold is configured at 34 degrees Celsius.
- The Hysteresis Setting is configured at 4.

In the above example, an initial humidity reading of 34 degrees would cause the Temperature Condition to be true. However, a sudden spike in humidity, with a subsequent rise above 34 degrees, would not fire the rule until the temperature rose to 38 degrees.

Examples

```
temperature port 3 < 30 celsius

temperature port 4 > 25 celsius hystereses 4

temperature port 5 <= 87 fahrenheit

temperature port 6 >= 70 fahrenheit hystereses 4
```

Displaying Information on a Trigger

The Trigger characteristics are displayed on the Trigger Information Screen. An example of the Trigger Information Screen appears in Figure 108 on page 234.

Use the `show trigger-action trigger` command to display the Trigger Information Screen. Refer to "monitor/show trigger-action trigger" on page 234 for more information.

timer date

Creates a Timer Date Trigger.

Syntax

`timer date MM/DD|<date_list>`

Where	Means
MM/DD	A date where `MM` = The month; for example, `09` for September. `DD` = The date; for example, `17` for the 17th. When the LX system calendar reaches this date, the Trigger Condition will be true.
date_list	Specifies a range or list of dates in the `MM/DD` format. You can specify a range of months, or a range of days, by placing a hyphen between the first and last month, or the first and last day, in the range. For example, `02-05/1,15` means the first and fifteenth of February, March, April, and May; `03/2-6` means the second through the sixth of March. The asterisk (`*`) can be used as a wildcard character. For example, `*/1,3` means the first and third of each month (January through December); `1/*` means the first through the thirty-first of January.

Examples

```
timer date 05/12

timer date 12/12-23
```

Displaying Information on a Trigger

The Trigger characteristics are displayed on the Trigger Information Screen. An example of the Trigger Information Screen appears in Figure 108 on page 234.

Use the `show trigger-action trigger` command to display the Trigger Information Screen. Refer to "monitor/show trigger-action trigger" on page 234 for more information.

timer day

Creates a Timer Day Trigger.

Syntax

```
timer day sun|mon|tue|wed|thu|fri|sat|<day_list>
```

Where	Means
sun	Specifies that the Trigger condition will be true at 12:00 midnight on the next Sunday in the LX system calendar.
mon	Specifies that the Trigger condition will be true at 12:00 midnight on the next Monday in the LX system calendar.
tue	Specifies that the Trigger condition will be true at 12:00 midnight on the next Tuesday in the LX system calendar.
wed	Specifies that the Trigger condition will be true at 12:00 midnight on the next Wednesday in the LX system calendar.
thu	Specifies that the Trigger condition will be true at 12:00 midnight on the next Thursday in the LX system calendar.
fri	Specifies that the Trigger condition will be true at 12:00 midnight on the next Friday in the LX system calendar.
sat	Specifies that the Trigger condition will be true at 12:00 midnight on the next Saturday in the LX system calendar.
day_list	Specifies a range or list of days. You can specify a range of days by placing a hyphen between the first and last day in the range. For example, `tuesday-thursday` means Tuesday, Wednesday, and Thursday. The wildcard character (*) indicates all days of the week.

Examples

```
timer day sun

timer day mon

timer day sun,tue-fri

timer day *

timer day thursday
```

Displaying Information on a Trigger

The Trigger characteristics are displayed on the Trigger Information Screen. An example of the Trigger Information Screen appears in Figure 108 on page 234.

Use the `show trigger-action trigger` command to display the Trigger Information Screen. Refer to "monitor/show trigger-action trigger" on page 234 for more information.

timer time

Creates a Timer Time Trigger.

Syntax

`timer time <time_list>`

Where	Means
time_list	Specifies a time, or times, in the format `HH:MM`, where HH is the hour in 24-hour format; for example, `23`. MM is the minute; for example, `09`. The Trigger Condition will be true when the system clock reaches the specified time(s). You can specify a range of times by placing a hyphen between the first and last time in the range; for example, `10-12` specifies 10:00, 11:00, and 12:00 (noon); `10:27-47` means every minute (on the minute) between 10:27 and 10:47 inclusive. You can use the asterisk (*) as a wildcard; for example, `10:*7` means every minute from 10:00 through 10:59, inclusive.

Examples

```
timer time 14:47

timer time 04:29
```

Displaying Information on a Trigger

The Trigger characteristics are displayed on the Trigger Information Screen. An example of the Trigger Information Screen appears in Figure 108 on page 234.

Use the `show trigger-action trigger` command to display the Trigger Information Screen. Refer to "monitor/show trigger-action trigger" on page 234 for more information.

Chapter 30

Cluster Configuration and Control Commands

The Cluster Configuration and Control commands are executed in the Cluster command mode or from the superuser `InReach:0>>` mode. When the LX unit is in the Cluster command mode, the Cluster command prompt (e.g., `Cluster:0 >>`) is displayed on the terminal screen.

The format of the Cluster command prompt is as follows:

```
Cluster:<session_number> >>
```

To enter the Cluster command mode, execute the `cluster` command in the Configuration command mode, or enter `config cluster` in the superuser `InReach:0>>` mode.

address

Adds a specific LX node to a cluster.

Syntax

`address <ip_address>`

Where	Means
ip_address	An LX IP address you want to add to the cluster.

Usage Guidelines

Add all nodes (LX units) to the cluster, including your own.

Examples

```
address 140.179.111.22

address 123.456.123.45
```

cluster command

Issues a CLI command to any remote cluster member without having to log in to that cluster member.

Syntax

`cluster command all | <ip_address> <superuser_name> <superuser_password> <cluster_command>`

Where	Means
all	Runs the command across all clusters.
ip-address	The IP address of the cluster member to which you want to send a command.
superuser_name	The superuser name of the cluster member to which you want to send a command.
superuser_password	The superuser password of the cluster member to which you want to send a command.
cluster_command	The cluster command you want to send to the cluster member.

Usage Guidelines

At the Superuser level, you must enter the superuser name and password, and then enter the command.

Examples

```
InReach:0>>cluster command all enable system conf port async 1

InReach:0>>cluster command 120.130.222.33 enable system conf port 1
```

cluster name

Assigns a name to a cluster. This name is shared automatically between nodes in the cluster.

Syntax

```
cluster name <cluster_name>
```

Where	Means
cluster_name	The name of the cluster. This name can be from 1-31 characters long.

Example

```
cluster name southcampus
```

cluster reload

Reboots a specific node within the cluster, or across the entire cluster. This command is available only at the Superuser level.

Syntax

`cluster reload | <ip_address>`

Where	Means
ip-address	The IP address of the cluster member you want to reload.

Usage Guidelines

Enter `cluster reload` to reboot the entire cluster. Enter `cluster reload` *`ip_address`* to reload a specific node.

Examples

```
InReach:0>>cluster reload

InReach:0>>cluster reload 111.222.333.44
```

cluster save config

Saves configuration changes on a specific cluster, or a specific cluster member.

Syntax

```
cluster save config |<ip_address>
```

Where	Means
ip-address	The IP address of the cluster member whose configuration you want to update.

Usage Guidelines

This command requires that a common cluster secret be configured, and that the member IP address be configured for the cluster, or an error message is displayed.

Examples

```
cluster save config

cluster save config 111.222.333.44
```

cluster search

Searches all nodes in a cluster for a specific port name or serial access mode. Each search displays a different results screen, depending on what field you searched for.

Syntax

```
cluster search portname <port_name> | <access>
```

Where	Means
port_name	The name of the port you want to search. The port name is case sensitive, and must be typed with initial capitalization and an underscore between the word “Port” and the port number.
access	The access method for the port. Options are: apd, control, databuffer, dynamic, ir4800, ir5150, local, master, notify, ppp, remote, sensor, slave, tcppipe, edap, hdam, and none.

Usage Guidelines

This command requires that a common cluster secret be configured, and that the member IP address be configured for the cluster, or an error message is displayed.

Examples

```
cluster search portname Port_1

cluster search access apd
```

cluster update ppciboot

Updates the ppciboot on a specific node within a cluster, or across the entire cluster.

Syntax

```
cluster update ppciboot | <ip_address>
```

Where	Means
ip-address	The IP address of the specific unit in the cluster whose ppciboot you want to update.

Usage Guidelines

Enter `cluster update ppciboot` to update the entire cluster. Enter `cluster update ppciboot` *`ip_address`* to update the ppciboot on a specific node.

Examples

```
cluster update ppciboot

cluster update ppciboot A.B.C.D
```

cluster update software

Updates the software on a specific node within a cluster, or across the entire cluster.

Syntax

```
cluster update software | <ip_address>
```

Where	Means
ip-address	The IP address of the specific unit in the cluster whose software you want to update.

Usage Guidelines

Enter `cluster update software` to update the entire cluster. Enter `cluster update software` *`ip_address`* to update software on a specific node.

Examples

```
cluster update software

cluster update software A.B.C.D
```

end

When the end command is issued in the Cluster command mode, it returns the user to the Superuser command mode.

Syntax

end

Usage Guidelines

The end command can be issued in all of the LX command modes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

Example

```
end
```

exit

Returns the user to the previous command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. Issuing the exit command in most command modes returns the user to the previous command mode.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

monitor/show cluster characteristics

Displays characteristics information for a cluster.

The `show cluster characteristics` command displays a static version of the Cluster Characteristics Screen; the information in the Cluster Characteristics Screen is the information that was in effect when the `show cluster characteristics` command was executed. This is a cluster command as well as a superuser command.

The `monitor cluster characteristics` command displays an active version of the Cluster Characteristics Screen; the information in the screen is updated with each change to the data that is displayed in the screen. This is a superuser command only.

Syntax

```
monitor cluster characteristics

show cluster characteristics
```

Examples

```
monitor cluster characteristics

show cluster characteristics
```

Figure 119 shows an example of the Cluster Characteristics Screen.

```
System Name:           In-Reach     Time:   Sun, 08 Feb 2004 22:22:47 UTC
Cluster Name:                                              ClusterDAone
Cluster Secret:            Configured  Cluster Debug:          Disabled
Cluster Member Addresses:
111.222.33.44
111.222.33.55
111.222.33.66
112.223.33.77
Interface 1 is being shared
Interface 2 is being shared
Ntp is being shared
SSH is being shared
Telnet is being shared
Gui is being shared
Fingerd is being shared
Gateway1 is being shared
Dns1 is being shared
Dns2 is being shared
TftpTimeout is being shared
TftpRetries is being shared
Subscriber ab is being shared
Subscriber billm is being shared
Subscriber timb is being shared
```

Figure 119 - Cluster Characteristics

Field	Description
System Name	If the port is connected to a remote host, the IP Address of the remote host appears in this field.
Cluster Name	The name of the cluster, from 1 to 31 characters in length.
Cluster Secret	The secret condition that allows access to the cluster.
Cluster Member Addresses	The addresses of the cluster members.
Shared Attributes	Attributes being shared on the cluster.

monitor/show cluster status

Displays status information for a cluster.

The `show cluster status` command displays a static version of the Cluster Status Screen; the information in the Cluster Status Screen is the information that was in effect when the `show cluster status` command was executed. This is a cluster command as well as a superuser command.

The `monitor cluster status` command displays an active version of the Cluster Status Screen; the information in the screen is updated with each change to the data that is displayed in the screen. This is a superuser command only.

Syntax

```
monitor cluster status

show cluster status
```

Examples

```
monitor cluster status

show cluster status
```

Figure 120 shows an example of the Cluster Status Screen

```
Cluster Node IP      Software Version     PpciBoot Version    Synchronized
140.111.222.333       3.3.0                3.2.0               yes
140.111.222.334       3.3.0                3.2.0               no
File ssh_authorized_john.pub does not exist

140.111.222.336       3.3.0                3.2.0               no
Telnet is not shared
Value of ClusterAddress is different
Value of ClusterAddress is different
Value of ClusterAddress is different
Subscriber john does not exist
```

Figure 120 - Cluster Status

Field	Description
Cluster Node IP	The IP address of the administrator's node in the cluster.
Software Version	The current software version running on the node.
Ppciboot Version	The current ppciboot version running on the node.
Synchronized	Indicates whether the shared attributes are synchronized among cluster members. If they are not synchronized, the reason is displayed at the bottom of the screen.

monitor/show debug cluster

Displays debug information for a cluster.

The `show debug cluster` command displays a static version of the Debug Cluster Screen; the information in the Debug Cluster Screen is the information that was in effect when the `show debug cluster` command was executed. This is a Cluster Mode command as well as a Superuser Mode and Configuration Mode command.

The `monitor debug cluster` command displays additional information in the log file.

Syntax

```
monitor debug cluster

show debug cluster
```

Examples

```
monitor debug cluster

show debug cluster
```

Figure 121 shows an example of the Debug Cluster Screen

```
Mar 24 14:40:19 ConfCall: registered port 8101
Mar 24 14:40:19 ConfCall: unregistered port 8101
Mar 24 14:49:59 looking for ssh key /config/ssh_authorized_InReach.pub
Mar 24 14:49:59 adding file /config/ssh_authorized_InReach.pub
Mar 24 14:49:59 looking for menu /config/Menu2
Mar 24 14:49:59 looking for gui menu /config/Menu2
Mar 24 14:49:59 looking for ssh key /config/ssh_authorized_cmurch.pub
Mar 24 14:49:59 looking for menu /config/M_cmurch
Mar 24 14:49:59 looking for gui menu /config/M_cmurch
Mar 24 14:49:59 external ref = /config/ssh_authorized_InReach.pub
Mar 24 14:50:00 calling Agent_Main
Mar 24 14:50:00 calling Tcl_CreateInterp
Mar 24 14:50:00 calling initialize
```

Figure 121 - Debug Cluster

no address

Removes member IP addresses from the cluster.

Syntax

`no address <ip_address>|all`

Where	Means
ip_address	The address of the node you want to remove from the cluster.
all	Removes the addresses of all nodes from the cluster.

Examples

```
no address 119.20.110.87
```

```
no address all
```

Displaying Information on No Address All

The cluster characteristics are displayed on the Cluster Characteristics Screen. An example of the Cluster Characteristics Screen appears in Figure 119 on page 1014.

Use the `show cluster characteristics` command to display the Cluster Characteristics Screen. Refer to "monitor/show cluster characteristics" on page 1014 for more information.

secret

Configures the node's cluster secret.

Syntax

`secret <cluster_secret>`

Where	Means
cluster_secret	The unique cluster secret for the cluster. The secret must be a minimum of 16 characters, and a maximum of 32 characters. It can be made up of both letters and numbers, but it must start with a letter. This controls access to a specific cluster.

Examples

```
secret abcdefg123456789

secret clusternodebosMA
```

Displaying Information on a Secret

The cluster secret is displayed as "Configured" on the Cluster Characteristics Screen. An example of the Cluster Characteristics Screen appears in Figure 119 on page 1014.

Use the `show cluster characteristics` command to display the Cluster Characteristics Screen. Refer to "monitor/show cluster characteristics" on page 1014 for more information.

share

Shares LX system attributes with other nodes in the cluster.

Syntax

`share <attribute>`

Where	Means
<*attribute*>	**System Attributes**: Primary Domain, Secondary Domain, Gateway, TFTP Timeout, TFTP Retries, NTP Server, SNMP Daemon, Finger Daemon, Timed Daemon, NTP Daemon, Telnet Daemon, SSH Daemon, Logging Size, Web_Server, Web Banner, Outlet Access, Timezone, Service Configuration, LDAP, RADIUS, SecurID, TACACS+, SNMP, TCP Pipe Retries, ThttpdPort **Subscriber Attributes**: All, Name, Port Access List, Outlet Access List, Outlet Group Access List, Change Password, Connect Escape Character **Port Async Attributes**: The complete port configuration is shared. Attributes are not individually sharable. The only attributes not shared on a port are Port Name, Outlet Name, Signal Notification, and SNMP Sensor Units/ Alarm Severity.

Examples

```
share telnet daemon

share primary dns

share timezone
```

Displaying Information on Share

The shared attributes are displayed on the Cluster Characteristics Screen. An example of the Cluster Characteristics Screen appears in Figure 119 on page 1014.

Use the `show cluster characteristics` command to display the Cluster Characteristics Screen. Refer to “monitor/show cluster characteristics” on page 1014 for more information.

share authenticate image

Shares the authenticate image with the cluster members.

Syntax

```
share authenticate image
```

Examples

```
share authenticate image
```

Displaying Information on Share Authenticate Image

The shared authenticate image is displayed on the Cluster Characteristics Screen. An example of the Cluster Characteristics Screen appears in Figure 119 on page 1014.

Use the `show cluster characteristics` command to display the Cluster Characteristics Screen. Refer to “monitor/show cluster characteristics” on page 1014 for more information.

share interface

Shares interface(s) attributes with the cluster members.

Syntax

`share interface all | <interface_number>`

Where	Means
all	Shares interface attributes with all cluster members.
interface_number	The number of a specific interface with which you want to share attributes.

Examples

```
share interface all

share interface 6
```

Displaying Information on Share Interface

The shared interfaces are displayed on the Cluster Characteristics Screen. An example of the Cluster Characteristics Screen appears in Figure 119 on page 1014.

Use the `show cluster characteristics` command to display the Cluster Characteristics Screen. Refer to "monitor/show cluster characteristics" on page 1014 for more information.

share message

Shares the message with the cluster members.

Syntax

```
share message
```

Examples

```
share message
```

Displaying Information on Share Message

The shared message is displayed on the Cluster Characteristics Screen. An example of the Cluster Characteristics Screen appears in Figure 119 on page 1014.

Use the `show cluster characteristics` command to display the Cluster Characteristics Screen. Refer to “monitor/show cluster characteristics” on page 1014 for more information.

share subscriber

Shares subscriber(s) attributes with the cluster members.

Syntax

`share subscriber all | <subscriber_name>`

Where	Means
all	Shares subscriber attributes with all cluster members.
subscriber_name	A unique subscriber name with which you want to share attributes.

Examples

```
share subscriber all

share subscriber billm
```

Displaying Information on Share Subscriber

The shared subscribers are displayed on the Cluster Characteristics Screen. An example of the Cluster Characteristics Screen appears in Figure 119 on page 1014.

Use the `show cluster characteristics` command to display the Cluster Characteristics Screen. Refer to "monitor/show cluster characteristics" on page 1014 for more information.

share telnet client

Shares the telnet client with the cluster members.

Syntax

```
share telnet client
```

Examples

```
share telnet client
```

Displaying Information on Share Telnet Client

The shared telnet client is displayed on the Cluster Characteristics Screen. An example of the Cluster Characteristics Screen appears in Figure 119 on page 1014.

Use the `show cluster characteristics` command to display the Cluster Characteristics Screen. Refer to "monitor/show cluster characteristics" on page 1014 for more information.

show

You can execute each of the `show` commands in the Privilege Command Mode.

Refer to the following pages for a full description of each of the `show` commands.

show (continued)

unshare

Unshares LX system attributes with other nodes in the cluster.

Syntax

`unshare <attribute>`

Where	Means
<*attribute*>	**System Attributes**: Primary Domain, Secondary Domain, Gateway, TFTP Timeout, TFTP Retries, NTP Server, SNMP Daemon, Finger Daemon, Timed Daemon, NTP Daemon, Telnet Daemon, SSH Daemon, Logging Size, Web_Server, Web Banner, Outlet Access, Timezone, Service Configuration, LDAP, RADIUS, SecurID, TACACS+, SNMP **Subscriber Attributes**: All, Name, Port Access List, Outlet Access List, Outlet Group Access List **Port Async Attributes**: The complete port configuration is shared. Attributes are not individually sharable. The only attributes not shared on a port are Port Name, Outlet Name, Signal Notification, and SNMP Sensor Units/ Alarm Severity.

Examples

```
unshare telnet daemon

unshare primary dns

unshare timezone
```

Displaying Information on Unshare

Unshared attributes are not displayed on the Cluster Characteristics Screen. An example of the Cluster Characteristics Screen appears in Figure 119 on page 1014.

Use the `show cluster characteristics` command to display the Cluster Characteristics Screen. Refer to "monitor/show cluster characteristics" on page 1014 for more information.

unshare interface

Removes an individual or all member interfaces from the cluster.

Syntax

```
unshare interface all | <interface_number>
```

Where	Means
all	Unshares all interfaces from the cluster.
interface_number	The number of the interface to be unshared from the cluster.

Examples

```
unshare interface all

unshare interface 8
```

Displaying Information on Unshare Interface

Only shared attributes and subscribers are displayed on the Cluster Characteristics Screen. Unshared attributes and subscribers are not displayed. An example of the Cluster Characteristics Screen appears in Figure 119 on page 1014.

Use the `show cluster characteristics` command to display the Cluster Characteristics Screen. Refer to "monitor/show cluster characteristics" on page 1014 for more information.

unshare local interface

Removes all local interfaces or a specific interface from the cluster.

Syntax

`unshare local interface all | <interface_number>`

Where	Means
all	Unshares all interfaces on the node.
interface_number	The number of the local interface to be unshared.

Usage Guidelines

To unshare the interface for all or a specific LX node. This LX uses its own setting for this field and not that value of the cluster.

Examples

```
unshare local interface all
```

```
unshare local interface 3
```

Displaying Information on Unshare Local Subscriber

The local subscribers are displayed on the Cluster Characteristics Screen. An example of the Cluster Characteristics Screen appears in Figure 119 on page 1014.

Use the `show cluster characteristics` command to display the Cluster Characteristics Screen. Refer to "monitor/show cluster characteristics" on page 1014 for more information.

unshare local subscriber

Removes all local subscribers or a specific subscriber from the cluster.

Syntax

```
unshare local subscriber all | <subscriber_name>
```

Where	Means
all	Unshares all subscribers on the node.
subscriber_name	The name of the local subscriber to be unshared.

Usage Guidelines

To unshare the attribute for all or a specific LX node. This LX uses its own setting for this field and not that value of the cluster.

Examples

```
unshare local subscriber all

unshare local subscriber name FieldOffice3
```

Displaying Information on Unshare Local Subscriber

The local subscribers are displayed on the Cluster Characteristics Screen. An example of the Cluster Characteristics Screen appears in Figure 119 on page 1014.

Use the `show cluster characteristics` command to display the Cluster Characteristics Screen. Refer to "monitor/show cluster characteristics" on page 1014 for more information.

unshare subscriber

Removes an individual or all member subscribers from the cluster.

Syntax

```
unshare subscriber all | <subscriber_name>
```

Where	Means
all	Unshares all subscribers from the cluster.
subscriber_name	The name of the subscriber to be unshared from the cluster.

Examples

```
unshare subscriber all

unshare subscriber name FieldOffice8
```

Displaying Information on Unshare Subscriber

Only shared attributes and subscribers are displayed on the Cluster Characteristics Screen. Unshared attributes and subscribers are not displayed. An example of the Cluster Characteristics Screen appears in Figure 119 on page 1014.

Use the `show cluster characteristics` command to display the Cluster Characteristics Screen. Refer to "monitor/show cluster characteristics" on page 1014 for more information.

Chapter 31

High Density Alarm Manager (HDAM) Commands

IMPORTANT

The IR-7104 HDAM is compatible only with the LX-Series. It is no longer compatible with In-Reach legacy products.

The High Density Alarm Manager (HDAM) commands are executed in the superuser `InReach:0>>` mode and the `Config:0>>` mode.

The format of these command prompts is as follows:

```
InReach:<session_number> >>

Config:<session_number> >>
```

To enter the `Config:0>>` command mode, enter the `config` command in the `InReach:0>>` command mode, or type `config,` followed by the HDAM command of your choice in the superuser `InReach:0>>` mode.

end

When the end command is issued in the Config command mode, it returns the user to the Superuser command mode.

Syntax

end

Usage Guidelines

The end command can be issued in all of the LX command modes except for User and Superuser. Executing the end command always returns the user to the Superuser command mode.

Example

```
end
```

exit

Returns the user to the previous command mode.

Syntax

```
exit
```

Usage Guidelines

The `exit` command can be issued in all of the LX command modes. However, the effect of the `exit` command varies, depending on the command mode from which it is issued. Issuing the exit command in most command modes returns the user to the previous command mode.

Issuing the `exit` command in the User command mode exits the LX CLI and closes the connection to the LX unit.

Example

```
exit
```

hdam alarm default name

Resets the name of a single named alarm input to its default name.

Syntax

```
hdam alarm <alarm_name> default name
```

Where	Means
alarm_name	The name of the alarm input you want to reset to the default name.

Usage Guidelines

The default name for an alarm input is canonically derived from the port number, slot number and point number. For example, the default name for the 31st alarm input on the 2nd slot of the HDAM being managed by port 5 is 5_2_31.

Use the default name command when you want to return an alarm point name to its default numeric value.

Examples

```
hdam alarm DoorAlarm default name
```

hdam alarm name

Renames the given alarm.

Syntax

`hdam alarm <alarm_name_1> name <alarm_name_2>`

Where	Means
alarm_name_1	The name of the alarm input you want to rename.
alarm_name_2	The new alarm name you want to assign the alarm input. This command fails if the name `<alarm_name_2>` is already in use. The name must start with a letter, and the remainder of the name can contain only letters and/or numbers and/or underscores.

Usage Guidelines

The alarm name can be a maximum of 31 characters long. Use the `default name` command when you want to return an alarm point name to its default numeric value.

Examples

```
hdam alarm 5_2_31 name DoorAlarm

hdam alarm DoorAlarm name WindowAlarm
```

Displaying Information on HDAM Alarm Name

The Alarm Name is displayed on the HDAM Alarm Name Characteristics Screen. An example of the HDAM Alarm Name Characteristics Screen appears in Figure 21 on page 86.

Use the `show hdam alarm characteristics` command to display the HDAM Alarm Name Characteristics Screen. Refer to "monitor/show hdam alarm name characteristics" on page 86 for more information.

hdam alarm name audible enable

Enables the audible alarm for a single named alarm.

Syntax

`hdam alarm <alarm_name> audible enable`

Where	Means
alarm_name	The name of the alarm to which you want to enable the audible alarm.

Usage Guidelines

To disable this feature, enter `hdam alarm <alarm_name> no audible`.

Examples

```
hdam alarm 5_2_31 audible enable

hdam alarm WindowAlarm no audible
```

Displaying Information on HDAM Alarm Name Audible

The Alarm Name Audible is displayed on the HDAM Alarm Name Characteristics Screen. An example of the HDAM Alarm Name Characteristics Screen appears in Figure 21 on page 86.

Use the `show hdam alarm <alarm_name> characteristics` command to display the HDAM Alarm Name Characteristics Screen. Refer to "monitor/show hdam alarm name characteristics" on page 86 for more information.

hdam alarm name debounce

Configures the debounce interval for a single named alarm. The debounce is the grace period after which the alarm input is first faulted and consecutive faults will not be alarmed/trapped.

Syntax

`hdam alarm <alarm_name> debounce <time>`

Where	Means
alarm_name	The name of the alarm to which you want to set a debounce interval.
time	Specifies the number of seconds for which the alarm must be in the fault state before it is considered faulted. Allowable values are 0 - 1800 seconds. The default value is 0.

Examples

```
hdam alarm 5_2_31 debounce 30

hdam alarm WindowAlarm debounce 1800
```

Displaying Information on HDAM Alarm Name Debounce

The Alarm Name Debounce is displayed on the HDAM Alarm Name Characteristics Screen. An example of the HDAM Alarm Name Characteristics Screen appears in Figure 21 on page 86.

Use the `show hdam alarm <alarm_name> characteristics` command to display the HDAM Alarm Name Characteristics Screen. Refer to "monitor/show hdam alarm name characteristics" on page 86 for more information.

hdam alarm name default description

Configures the default description for a single named alarm.

Syntax

```
hdam alarm <alarm_name> default description
```

Where	Means
alarm_name	The name of the alarm to which you want to add a default description.

Examples

```
hdam alarm 5_2_31 default description

hdam alarm WindowAlarm default description
```

Displaying Information on Alarm Name Default Description

The Alarm Name Default Description is displayed on the HDAM Alarm Name Characteristics Screen. An example of the HDAM Alarm Name Characteristics Screen appears in Figure 21 on page 86.

Use the `show hdam alarm name characteristics` command to display the HDAM Alarm Name Characteristics Screen. Refer to "monitor/show hdam alarm name characteristics" on page 86 for more information.

hdam alarm name default point

Resets all configurable values to defaults for a single named alarm.

Syntax

```
hdam alarm <alarm_name> default point
```

Where	Means
alarm_name	The name of the alarm you want to default.

Usage Guidelines

Defaults reset include the Name, Trap Severity (to Minor), Trap Setting (to Enable), Description (removes any description), Audible (Disabled), Debounce (reset to 0), and Fault State (reset to Normal).

Examples

```
hdam alarm 5_2_31 default point

hdam alarm 3_1_22 default point
```

hdam alarm name description

Configures the description string for a single named alarm.

Syntax

`hdam alarm <alarm_name> description <string>`

Where	Means
alarm_name	The name of the alarm to which you want to add a description.
string	The description of the alarm. This string can be up to 63 characters long.

Examples

```
hdam alarm 5_2_31 description secondfloorlab

hdam alarm WindowAlarm description halldoor

hdam alarm 8_1_1 description third floor office by computer room
```

Displaying Information on Alarm Name Description

The Alarm Name Description is displayed on the HDAM Alarm Name Characteristics Screen. An example of the HDAM Alarm Name Characteristics Screen appears in Figure 21 on page 86.

Use the `show hdam alarm name characteristics` command to display the HDAM Alarm Name Characteristics Screen. Refer to "monitor/show hdam alarm name characteristics" on page 86 for more information.

hdam alarm name fault state

Configures the fault state for a single named alarm.

Syntax

```
hdam alarm <alarm_name> fault state [open|closed]
```

Where	Means
alarm_name	The name of the alarm input on which you want change the fault state.

Usage Guidelines

Use this command to configure the fault state of a single alarm to `open` or `closed`. When the alarm is in the state configured by this command, it is in the faulted state. When the alarm transitions into the faulted state (after the debounce interval), an SNMP trap is sent (if configured to do so) and any associated trigger-action triggers are executed.

Examples

```
hdam alarm 5_2_31 fault state open

hdam alarm WindowAlarm fault state closed
```

Displaying Information on HDAM Alarm Name Fault State

The Alarm Name Fault State is displayed on the HDAM Alarm Name Characteristics Screen. An example of the HDAM Alarm Name Characteristics Screen appears in Figure 21 on page 86.

Use the `show hdam alarm name characteristics` command to display the HDAM Alarm Name Characteristics Screen. Refer to "monitor/show hdam alarm name characteristics" on page 86 for more information.

hdam alarm name trap enable

Configures a single named alarm to send SNMP traps.

Syntax

`hdam alarm <alarm_name> trap enable`

Where	Means
alarm_name	The name of the alarm input about which you want to issue traps.

Usage Guidelines

Traps are enabled by default. Use this command to configure an alarm input so that SNMP traps are sent when the alarm enters or leaves the faulted state (after the debounce interval). To disable this feature, enter `hdam alarm <alarm_name> no trap.`

Examples

```
hdam alarm 5_2_31 trap enable

hdam alarm WindowAlarm no trap
```

Displaying Information on HDAM Alarm Name Trap Enable

The Alarm Name Trap Setting is displayed on the HDAM Alarm Name Characteristics Screen. An example of the HDAM Alarm Name Characteristics Screen appears in Figure 21 on page 86.

Use the `show hdam alarm name characteristics` command to display the HDAM Alarm Name Characteristics Screen. Refer to “monitor/show hdam alarm name characteristics” on page 86 for more information.

hdam alarm name trap severity

Configures the trap severity of a single named alarm.

Syntax

`hdam alarm <alarm_name> trap severity <severity_level>`

Where	Means
alarm_name	The name of the alarm input on which you want to set trap severity.
severity_level	The severity level of the trap. The options are Critical, Information, Major, Minor, and Warning.

Usage Guidelines

This value is sent along with any Alarm, Fault, or Event traps.

Examples

```
hdam alarm 5_2_31 trap severity critical

hdam alarm 5_2_31 trap severity information

hdam alarm WindowAlarm trap severity major

hdam alarm 5_2_31 trap severity minor

hdam alarm 5_2_31 trap severity warning
```

Displaying Information on HDAM Alarm Name Trap Severity

The Alarm Name Trap Severity is displayed on the HDAM Port/Slot/Point Characteristics Alarm Card Screen. An example of the HDAM Port/Slot/Point Characteristics Alarm Card Screen appears in Figure 30 on page 101.

Use the `show hdam <port_number> slot <slot_list> point <point_list> characteristics` command to display the HDAM Port/Slot/Point Characteristics Alarm Card Screen. Refer to "monitor/show hdam port/slot/point characteristics" on page 100 for more information.

hdam alarm port/slot/point audible enable

Configures the audible alarm for one or more alarms.

Syntax

```
hdam alarm port <port_number> slot [<slot_list>|all] point [<point_list>|all]
audible enable
```

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The list of the slots (or all) on which you want to enable the audible alarm.
point_list	The list of the points on which you want to enable the audible alarm.

Usage Guidelines

To disable this feature, enter `hdam alarm port <port_number> slot <slot_list> point <point_list> no audible`.

Examples

```
hdam alarm port 2 slot 2 point 2 audible enable

hdam alarm port 2 slot 1,2 point 1,2,3,4 audible enable

hdam alarm port 2 slot 2-4 point 6-18 audible enable

hdam alarm port 2 slot all point all no audible

hdam alarm port 2 slot 1-3 point 1,2,6-18 no audible
```

Displaying Information on HDAM Port/Slot/Point Audible Alarm

The Alarm Port/Slot/Point Audible Alarm is displayed on the HDAM Port/Slot/Point Characteristics Alarm Card Screen. An example of the HDAM Port/Slot/Point Characteristics Alarm Card Screen appears in Figure 30 on page 101.

Use the `show hdam <port_number> slot <slot_list> point <point_list> characteristics` command to display the HDAM Port/Slot/Point Characteristics Alarm Card Screen. Refer to "monitor/show hdam port/slot/point characteristics" on page 100 for more information.

hdam alarm port/slot/point debounce

Configures the debounce interval for one or more alarms.

Syntax

```
hdam alarm port <port_number> slot [<slot_list>|all] point [<point_list>|all]
debounce <time>
```

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The list of the slots on which you want to set the debounce interval.
point_list	The list of the points on which you want to set the debounce interval.
time	Specifies the number of seconds for which the alarm must be in the fault state before it is considered faulted. Allowable values are 0 - 1800 seconds. The default value is 0.

Examples

```
hdam alarm port 2 slot 1,2 point 1,2,3,4 debounce 30

hdam alarm port 2 slot 2-4 point 6-18 debounce 20

hdam alarm port 2 slot all point all debounce 90

hdam alarm port 2 slot 1-3 point 1,2,6-18 debounce 45
```

Displaying Information on HDAM Alarm Port/Slot/Point Debounce Interval

The Alarm Port/Slot/Point Debounce Interval is displayed on the HDAM Port/Slot/Point Characteristics Alarm Card Screen. An example of the HDAM Port/Slot/Point Characteristics Alarm Card Screen appears in Figure 30 on page 101.

Use the `show hdam <port_number> slot <slot_list> point <point_list> characteristics` command to display the HDAM Port/Slot/Point Characteristics Alarm Card Screen. Refer to "monitor/show hdam port/slot/point characteristics" on page 100 for more information.

hdam alarm port/slot/point default description

Configures a default description for a one or more alarms.

Syntax

`hdam alarm port <port_number> slot [<slot_list>|all] point [<point_list>|all] default description`

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The list of the slots whose points you want to configure a description for.
point_list	The list of the points for which you want to configure a description.

Usage Guidelines

This command allows you to specify ranges of slots and ports (respectively). You can use `all`, a comma-separated list of numbers (e.g. `1,3,4`), a range of numbers (e.g. `2-28`), or a combination thereof (e.g. `1,2,5-18`). Using lists allows you to execute commands on multiple points. If any of the values specified are beyond the configurable range or are invalid, the command is aborted and an appropriate message is displayed.

Examples

```
hdam alarm port 2 slot 1,2 point 1,2,3,4 default description

hdam alarm port 2 slot 2-4 point 6-18 default description

hdam alarm port 2 slot all point all default description

hdam alarm port 2 slot 1-3 point 1,2,6-18 default description
```

Displaying Information on HDAM Alarm Default Description

The Alarm Default Description is displayed on the HDAM Port/Slot/Point Characteristics Alarm Card Screen. An example of the HDAM Port/Slot/Point Characteristics Alarm Card Screen appears in Figure 30 on page 101.

Use the `show hdam <port_number> slot <slot_list> point <point_list> characteristics` command to display the HDAM Port/Slot/Point Characteristics Alarm Card Screen. Refer to "monitor/show hdam port/slot/point characteristics" on page 100 for more information.

hdam alarm port/slot/point default name

Resets the name of one or more alarm inputs to their default names.

Syntax

`hdam alarm port <port_number> slot [<slot_list>|all] point [<point_list>|all] default name`

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The list of the slots whose points you want to reset to the default name.
point_list	The list of the points you want to reset to the default name.

Usage Guidelines

This command allows you to specify ranges of slots and ports (respectively). You can use `all`, a comma-separated list of numbers (e.g. `1,3,4`), a range of numbers (e.g. `2-28`), or a combination thereof (e.g. `1,2,5-18`). Using lists allows you to execute commands on multiple points. If any of the values specified are beyond the configurable range or are invalid, the command is aborted and an appropriate message is displayed. Use the `default name` command when you want to return an alarm point name to its default numeric value.

Examples

```
hdam alarm port 2 slot 1,2 point 1,2,3,4 default name

hdam alarm port 2 slot 1-3 point 6-18 default name

hdam alarm port 2 slot all point all default name

hdam alarm port 2 slot 1-3 point 1,2,6-18 default name
```

Displaying Information on HDAM Alarm Port/Slot/Point Default Name

The Alarm Port/Slot/Point Default Name is displayed on the HDAM Port/Slot/Point Characteristics Alarm Card Screen. An example of the HDAM Port/Slot/Point Characteristics Alarm Card Screen appears in Figure 30 on page 101.

Use the `show hdam <port_number> slot <slot_list> point <point_list> characteristics` command to display the HDAM Port/Slot/Point Characteristics Alarm Card Screen. Refer to “monitor/show hdam port/slot/point characteristics” on page 100 for more information.

hdam alarm port/slot/point default point

Resets one or more alarms to their default values.

Syntax

`hdam alarm port <port_number> slot [<slot_list>|all] point [<point_list>|all] default point`

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The list of the slots whose points you want to default.
point_list	The list of the points you want to default.

Usage Guidelines

This command allows you to specify ranges of slots and ports (respectively). You can use `all`, a comma-separated list of numbers (e.g. `1,3,4`), a range of numbers (e.g. `2-28`), or a combination thereof (e.g. `1,2,5-18`). Using lists allows you to execute commands on multiple points. If any of the values specified are beyond the configurable range or are invalid, the command is aborted and an appropriate message is displayed.

Examples

```
hdam alarm port 2 slot 1,2 point 1,2,3,4 default point

hdam alarm port 2 slot 2-4 point 6-18 default point

hdam alarm port 2 slot all point all default point

hdam alarm port 2 slot 1-3 point 1,2,6-18 default point
```

Displaying Information on HDAM Alarm Port/Slot/Point Default Point

The Alarm Port/Slot/Point Default Point is displayed on the HDAM Port/Slot/Point Characteristics Alarm Card Screen. An example of the HDAM Port/Slot/Point Characteristics Alarm Card Screen appears in Figure 30 on page 101.

Use the `show hdam <port_number> slot <slot_list> point <point_list> characteristics` command to display the HDAM Port/Slot/Point Characteristics Alarm Card Screen. Refer to “monitor/show hdam port/slot/point characteristics” on page 100 for more information.

hdam alarm port/slot/point description

Configures a description string for a one or more alarms.

Syntax

`hdam alarm port <port_number> slot [<slot_list>|all] point [<point_list>|all] description <string>`

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The list of the slots whose points you want to configure a description for.
point_list	The list of the points for which you want to configure a description.
string	The description of the alarm. This string can be up to 63 characters long.

Usage Guidelines

This command allows you to specify ranges of slots and ports (respectively). You can use `all`, a comma-separated list of numbers (e.g. `1,3,4`), a range of numbers (e.g. `2-28`), or a combination thereof (e.g. `1,2,5-18`). Using lists allows you to execute commands on multiple points. If any of the values specified are beyond the configurable range or are invalid, the command is aborted and an appropriate message is displayed.

Examples

```
hdam alarm port 2 slot 1,2 point 1,2,3,4 description lab1

hdam alarm port 2 slot 2-4 point 6-18 description lab2

hdam alarm port 2 slot all point all description library on 2nd floor

hdam alarm port 2 slot 1-3 point 1,2,6-18 description lab6
```

Displaying Information on HDAM Alarm Description String

The Alarm Description String is displayed on the HDAM Port/Slot/Point Characteristics Alarm Card Screen. An example of the HDAM Port/Slot/Point Characteristics Alarm Card Screen appears in Figure 30 on page 101.

Use the `show hdam <port_number> slot <slot_list> point <point_list> characteristics` command to display the HDAM Port/Slot/Point Characteristics Alarm Card Screen. Refer to “monitor/show hdam port/slot/point characteristics” on page 100 for more information.

hdam alarm port/slot/point fault state

Configures the fault state for one or more alarms.

Syntax

`hdam alarm port <port_number> slot [<slot_list>|all] point [<point_list>|all] fault state [open|closed]`

Where	Means
port_number	The number of the port to which the HDAM is configured.
slot_list	The list of the slots on whose points you want to change the fault state.
point_list	The list of the points on which you want to change the fault state.

Usage Guidelines

Use this command to configure the fault state of one or more alarms to `open` or `closed`. When the alarm is in the state configured by this command, it is in the faulted state. When the alarm transitions into the faulted state (after the debounce interval), an SNMP trap is sent (if configured to do so) and any associated trigger-action triggers are executed.

Examples

```
hdam alarm port 2 slot 1,2 point 1,2,3,4 fault state open

hdam alarm port 2 slot 2-4 point 6-18 fault state closed

hdam alarm port 2 slot all point all fault state open

hdam alarm port 2 slot 1-3 point 1,2,6-18 fault state closed
```

Displaying Information on HDAM Alarm Port/Slot/Point Fault State

The Alarm Port/Slot/Point Fault State is displayed on the HDAM Port/Slot/Point Characteristics Alarm Card Screen. An example of the HDAM Port/Slot/Point Characteristics Alarm Card Screen appears in Figure 30 on page 101.

Use the `show hdam <port_number> slot <slot_list> point <point_list> characteristics` command to display the HDAM Port/Slot/Point Characteristics Alarm Card Screen. Refer to “monitor/show hdam port/slot/point characteristics” on page 100 for more information.

hdam alarm port/slot/point name

Renames a given alarm.

Syntax

`hdam alarm port <port_number> slot <slot_number> point <point_number> name <new_name>`

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_number	The number of the slot on whose point you want to give the new name.
point_number	The number of the point you want to give the new name.
new_name	The new name of the alarm. The name can be a maximum of 31 characters long. The name must start with a letter, and the remainder of the name can contain only letters and/or numbers and/or underscores.

Usage Guidelines

You cannot list multiple slots or points, because point names must be unique.

Examples

```
hdam alarm port 2 slot 1 point 1 name lab1

hdam alarm port 2 slot 4 point 18 name lab2

hdam alarm port 2 slot 1 point 6 name lab6
```

Displaying Information on HDAM Alarm Port/Slot/Point Name

The Alarm Port/Slot/Point Name is displayed on the HDAM Port/Slot/Point Characteristics Alarm Card Screen. An example of the HDAM Port/Slot/Point Characteristics Alarm Card Screen appears in Figure 30 on page 101.

Use the `show hdam <port_number> slot <slot_list> point <point_list> characteristics` command to display the HDAM Port/Slot/Point Characteristics Alarm Card Screen. Refer to “monitor/show hdam port/slot/point characteristics” on page 100 for more information.

hdam alarm port/slot/point trap enable

Configures one or more alarms to send SNMP traps.

Syntax

`hdam alarm port <port_number> slot [<slot_list>|all] point [<point_list>|all] trap enable`

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The list of the slots whose points about which you want to send SNMP traps.
point_list	The list of the points about which you want to send SNMP traps.

Usage Guidelines

This command allows you to specify ranges of slots and ports (respectively). You can use `all`, a comma-separated list of numbers (e.g. `1,3,4`), a range of numbers (e.g. `2-28`), or a combination thereof (e.g. `1,2,5-18`). Using lists allows you to execute commands on multiple points. If any of the values specified are beyond the configurable range or are invalid, the command is aborted and an appropriate message is displayed.

To disable this feature, enter `hdam alarm port <port_number> slot <slot_list> point <point_list> no trap.`

Examples

```
hdam alarm port 2 slot 1,2 point 1,2,3,4 trap enable
hdam alarm port 2 slot 2-4 point 6-18 trap enable
hdam alarm port 2 slot all point all trap enable
hdam alarm port 2 slot 1-3 point 1,2,6-18 trap enable
hdam alarm port 2 slot 1-3 point 6-18 no trap
```

Displaying Information on HDAM Alarm Port/Slot/Point Trap Setting

The Alarm Port/Slot/Point Trap Setting is displayed on the HDAM Port/Slot/Point Characteristics Alarm Card Screen. An example of the HDAM Port/Slot/Point Characteristics Alarm Card Screen appears in Figure 30 on page 101.

Use the `show hdam <port_number> slot <slot_list> point <point_list> characteristics` command to display the HDAM Port/Slot/Point Characteristics Alarm Card Screen. Refer to “monitor/show hdam port/slot/point characteristics” on page 100 for more information.

hdam alarm port/slot/point trap severity

Configures the trap severity for one or more alarms.

Syntax

`hdam alarm port <port_number> slot [<slot_list>|all] point [<point_list>|all] trap severity <severity_level>`

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The list of the slots whose points you want to set trap severity on.
point_list	The list of the points at which you want to set trap severity.
severity_level	The severity level of the trap. The options are Critical, Information, Major, Minor, and Warning.

Usage Guidelines

This command allows you to specify ranges of slots and ports (respectively). You can use `all`, a comma-separated list of numbers (e.g. `1,3,4`), a range of numbers (e.g. `2-28`), or a combination thereof (e.g. `1,2,5-18`). Using lists allows you to execute commands on multiple points. If any of the values specified are beyond the configurable range or are invalid, the command is aborted and an appropriate message is displayed.

Examples

```
hdam alarm port 2 slot 1,2 point 1,2,3,4 trap severity critical
hdam alarm port 2 slot 2-4 point 6-18 trap severity information
hdam alarm port 2 slot all point all trap severity major
hdam alarm port 2 slot 1-3 point 1,2,6-18 trap severity minor
hdam alarm port 2 slot 1-3 point 6-18 trap severity warning
```

Displaying Information on HDAM Alarm Port/Slot/Point Trap Severity

The Alarm Port/Slot/Point Trap Severity is displayed on the HDAM Port/Slot/Point Characteristics Alarm Card Screen. An example of the HDAM Port/Slot/Point Characteristics Alarm Card Screen appears in Figure 30 on page 101.

Use the `show hdam <port_number> slot <slot_list> point <point_list> characteristics` command to display the HDAM Port/Slot/Point Characteristics Alarm Card Screen. Refer to "monitor/show hdam port/slot/point characteristics" on page 100 for more information.

hdam analog default name

Resets the name of a single named analog input to its default name.

Syntax

```
hdam analog <analog_name> default name
```

Where	Means
analog_name	The name of the analog input you want to reset to the default name.

Usage Guidelines

The default name for an analog input is canonically derived from the port number, slot number and point number. For example, the default name for the 8th analog input on the 2nd slot of the HDAM being managed by port 5 is 5_2_8.

Use the default name command when you want to return an analog point name to its default value.

Examples

```
hdam analog DoorAlarm default name
```

hdam analog name

Renames the given analog.

Syntax

`hdam analog <analog_name_1> name <analog_name_2>`

Where	Means
analog_name_1	The name of the analog input you want to rename.
analog_name_2	The new analog name you want to assign the analog input. This command fails if the name `<analog_name_2>` is already in use. The name must start with a letter, and the remainder of the name can contain only letters and/or numbers and/or underscores.

Usage Guidelines

The analog name can be a maximum of 31 characters long. Use the `default name` command when you want to return an analog point name to its default value.

Examples

```
hdam analog 5_2_31 name DoorAlarm

hdam analog DoorAlarm name WindowAlarm
```

Displaying Information on HDAM Analog Name

The Analog Name is displayed on the HDAM Analog Name Characteristics Screen. An example of the HDAM Analog Name Characteristics Screen appears in Figure 23 on page 89.

Use the `show hdam analog characteristics` command to display the HDAM Analog Name Characteristics Screen. Refer to "monitor/show hdam analog name characteristics" on page 89 for more information.

hdam analog name calibrate

Configures the calibration values and a native unit identifier for a single named analog input.

Syntax

`hdam analog <analog_point_name> calibrate minimum <minimum_value> maximum <maximum_value> units <unit_name_string> [margin <margin_value>]`

Where	Means
analog_name	The name of the analog on which you want to calibrate values.
minimum_value	The minimum calibration setting. The range is -9999.9999 to 9999.9999. Refer to your analog device manual for the minimum/maximum values for 4-20 milliamps.
maximum_value	The maximum calibration setting. The range is -9999.9999 to 9999.9999. Refer to your analog device manual for the minimum/ maximum values for 4-20 milliamps.
unit_name_string	The name of the unit. This can be from 1 to 7 characters long, and consists of the type of units the sensors are to report in (celsius/ fahrenheit).
margin_value	The optional margin value. The margin is used to adjust the reading in software so the actual output of the sensor can be calibrated to an external baseline. This value is used to adjust a sensor reading before being displayed and/or used in analog trigger-action rules. The range is -9999.9999 to 9999.9999.

Examples

```
hdam analog 5_2_8 calibrate minimum 32 maximum 120 units fahrnht margin
1.000

hdam analog 5_2_8 calibrate minimum 10 maximum 30 units psi
```

Displaying Information on Analog Unit Calibration

The Analog Name Calibration is displayed on the HDAM Analog Name Characteristics Screen. An example of the HDAM Analog Name Characteristics Screen appears in Figure 23 on page 89.

Use the `show hdam analog characteristics` command to display the HDAM Analog Name Characteristics Screen. Refer to "monitor/show hdam analog name characteristics" on page 89 for more information.

hdam analog name default point

Resets all configurable values to defaults for a single named analog point.

Syntax

```
hdam analog <analog_name> default point
```

Where	Means
analog_name	The name of the analog you want to default.

Usage Guidelines

Defaults reset the Name, Description (removes any description), State (Disabled), Minimum (0), Maximum (0), Margin (0), Calibration values, and Native Units (removes identifiers).

Examples

```
hdam analog 5_2_8 default point

hdam analog 3_1_8 default point
```

hdam analog name description

Configures the description string for a single named analog point.

Syntax

`hdam analog <analog_name> description <string>`

Where	Means
analog_name	The name of the analog to which you want to add a description.
string	The description of the analog. This string can be up to 63 characters long.

Examples

```
hdam analog 5_2_8 description secondfloorlab

hdam analog WindowAlarm description halldoor

hdam analog 8_1_1 description third floor office by computer room
```

Displaying Information on Analog Name Description

The Analog Name Description is displayed on the HDAM Analog Name Characteristics Screen. An example of the HDAM Analog Name Characteristics Screen appears in Figure 23 on page 89.

Use the `show hdam analog characteristics` command to display the HDAM Analog Name Characteristics Screen. Refer to "monitor/show hdam analog name characteristics" on page 89 for more information.

hdam analog port/slot/point calibrate

Configures the calibration values and a native unit identifier for multiple named analog inputs.

Syntax

```
hdam analog port <port_number> slot [<slot_list>|all] point
[<point_list>|all]calibrate minimum <minimum_value> maximum <maximum_value>
units <unit_name_string> [margin <margin_value>]
```

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The list of the slots whose points you want to calibrate.
point_list	The list of the points you want to calibrate.
minimum_value	The minimum calibration setting. The range is -9999.9999 to 9999.9999. Refer to your analog device manual for the minimum/maximum values for 4-20 milliamps.
maximum_value	The maximum calibration setting. The range is -9999.9999 to 9999.9999. Refer to your analog device manual for the minimum/ maximum values for 4-20 milliamps.
unit_name_string	The name of the unit. This can be from 1 to 7 characters long, and consists of the type of units the sensors are to report in (celsius/ fahrenheit).
margin_value	The optional margin value. The margin is used to adjust the reading in software so the actual output of the sensor can be calibrated to an external baseline. This value is used to adjust a sensor reading before being displayed and/or used in analog trigger-action rules. The range is -9999.9999 to 9999.9999.

Examples

```
hdam analog port 2 slot 1,2 point 1,2,3,4 calibrate minimum 4 maximum 12
units fahrnht margin 0.500

hdam analog port 2 slot 1-3 point 6-8 calibrate minimum 5 maximum 140 units
tempF
```

Displaying Information on Analog Unit Calibration

The Analog Unit Calibration is displayed on the HDAM Analog Name Characteristics Screen. An example of the HDAM Analog Name Characteristics Screen appears in Figure 23 on page 89.

hdam analog port/slot/point calibrate (continued)

Use the `show hdam analog characteristics` command to display the HDAM Analog Name Characteristics Screen. Refer to “monitor/show hdam analog name characteristics” on page 89 for more information.

hdam analog port/slot/point default name

Resets the name of one or more analog inputs to their default names.

Syntax

`hdam analog port <port_number> slot [<slot_list>|all] point [<point_list>|all] default name`

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The list of the slots whose points you want to reset to their respective default names.
point_list	The list of the points you want to reset to their respective default names.

Usage Guidelines

This command allows you to specify ranges of slots and ports (respectively). You can use `all`, a comma-separated list of numbers (e.g. `1,3,4`), a range of numbers (e.g. `2-28`), or a combination thereof (e.g. `1,2,5-18`). Using lists allows you to execute commands on multiple points. If any of the values specified are beyond the configurable range or are invalid, the command is aborted and an appropriate message is displayed. Use the `default name` command when you want to return an analog point name to its default value.

Examples

```
hdam analog port 2 slot 1,2 point 1,2,3,4 default name

hdam analog port 2 slot 1-3 point 6-8 default name

hdam analog port 2 slot all point all default name

hdam analog port 2 slot 1-3 point 1,2,6-8 default name
```

Displaying Information on HDAM Analog Port/Slot/Point Default Name

The Analog Name is displayed on the HDAM Analog Name Characteristics Screen. An example of the HDAM Analog Name Characteristics Screen appears in Figure 23 on page 89.

Use the `show hdam analog characteristics` command to display the HDAM Analog Name Characteristics Screen. Refer to "monitor/show hdam analog name characteristics" on page 89 for more information.

hdam analog port/slot/point default point

Resets one or more analogs to their default values.

Syntax

```
hdam analog port <port_number> slot [<slot_list>|all] point [<point_list>|all]
default point
```

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The list of the slots whose points you want to default.
point_list	The list of the points you want to default.

Usage Guidelines

This command allows you to specify ranges of slots and ports (respectively). You can use `all`, a comma-separated list of numbers (e.g. `1,3,4`), a range of numbers (e.g. `2-28`), or a combination thereof (e.g. `1,2,5-8`). Using lists allows you to execute commands on multiple points. If any of the values specified are beyond the configurable range or are invalid, the command is aborted and an appropriate message is displayed.

Defaults reset the Name, Description (removes any description), State (Disabled), Minimum (0), Maximum (0), Margin (0), Calibration values and Native Units (removes identifiers).

Examples

```
hdam analog port 2 slot 1,2 point 1,2,3,4 default point
hdam analog port 2 slot 2-4 point 6-8 default point
hdam analog port 2 slot all point all default point
hdam analog port 2 slot 1-3 point 1,2,6-8 default point
```

Displaying Information on HDAM Analog Port/Slot/Point Default Point

The Analog Port/Slot/Point Default Point is displayed on the HDAM Analog Name Characteristics Screen. An example of the HDAM Analog Name Characteristics Screen appears in Figure 23 on page 89.

Use the `show hdam analog characteristics` command to display the HDAM Analog Name Characteristics Screen. Refer to "monitor/show hdam analog name characteristics" on page 89 for more information.

hdam analog port/slot/point name

Renames one analog point.

Syntax

`hdam analog port <port_number> slot <slot_number> point <point_number> name <new_name>`

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_number	The slot whose point you want to give a new name.
point_number	The point you want to give a new name.
new_name	The new name for the point.

Usage Guidelines

You cannot list multiple slots or points, because point names must be unique.

Examples

```
hdam analog port 2 slot 1 point 1 name BankVaultDoor
```

Displaying Information on HDAM Analog Port/Slot/Point Name

The Analog Point Name is displayed on the HDAM Analog Name Characteristics Screen. An example of the HDAM Analog Name Characteristics Screen appears in Figure 23 on page 89.

Use the `show hdam analog characteristics` command to display the HDAM Analog Name Characteristics Screen. Refer to "monitor/show hdam analog name characteristics" on page 89 for more information.

hdam analog port/slot/point name description

Configures the description string for multiple named analog points.

Syntax

`hdam analog port <port_number> slot [<slot_list>|all] point [<point_list>|all] description <string>`

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The number of the slot on whose point you want to add a description.
point_list	The number of the point you want to add a description.
string	The description of the analog. The description can be up to 63 characters long.

Usage Guidelines

This command allows you to specify ranges of slots and ports (respectively). You can use `all`, a comma-separated list of numbers (e.g. `1,3,4`), a range of numbers (e.g. `2-8`), or a combination thereof (e.g. `1,2,5-8`). Using lists allows you to execute commands on multiple points. If any of the values specified are beyond the configurable range or are invalid, the command is aborted and an appropriate message is displayed.

Examples

```
hdam analog port 2 slot 1 point 1-4 description lab1

hdam analog port 2 slot 4 point 8 description library
```

Displaying Information on HDAM Analog Port/Slot/Point Name Description

The Analog Point Name Description is displayed on the HDAM Analog Name Characteristics Screen. An example of the HDAM Analog Name Characteristics Screen appears in Figure 23 on page 89.

Use the `show hdam analog characteristics` command to display the HDAM Analog Name Characteristics Screen. Refer to "monitor/show hdam analog name characteristics" on page 89 for more information.

hdam analog port/slot/point state

Configures the state for multiple named analog points. To disable the state, enter `hdam analog port <port_number> slot <slot_number> point <point_number> state disable.`

Syntax

`hdam analog port <port_number> slot [<slot_list>|all] point [<point_list>|all] state enable`

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The number of the slot on whose point you want to enable or disable the state.
point_list	The number of the point you want to enable or disable the state.

Usage Guidelines

This command allows you to specify ranges of slots and ports (respectively). You can use `all`, a comma-separated list of numbers (e.g. `1,3,4`), a range of numbers (e.g. `2-8`), or a combination thereof (e.g. `1,2,5-8`). Using lists allows you to execute commands on multiple points. If any of the values specified are beyond the configurable range or are invalid, the command is aborted and an appropriate message is displayed.

Examples

```
hdam analog port 2 slot 1 point 1 state enable

hdam analog port 2 slot 4 point 8 state disable
```

Displaying Information on the HDAM Analog Port/Slot/Point State

The Analog Point State is displayed on the HDAM Analog Name Characteristics Screen. An example of the HDAM Analog Name Characteristics Screen appears in Figure 23 on page 89.

Use the `show hdam analog characteristics` command to display the HDAM Analog Name Characteristics Screen. Refer to "monitor/show hdam analog name characteristics" on page 89 for more information.

hdam analog state

Configures the state of a single named analog. To disable the state, enter `hdam analog <analog_name> state disabled`.

Syntax

`hdam analog <analog_name> state enable`

Where	Means
analog_name	The name of the analog on which you want to enable the state.

Examples

```
hdam analog 5_2_8 state enable

hdam analog WindowAlarm state disable
```

Displaying Information on Analog Name State

The Analog Name State is displayed on the HDAM Analog Name Characteristics Screen. An example of the HDAM Analog Name Characteristics Screen appears in Figure 23 on page 89.

Use the `show hdam analog characteristics` command to display the HDAM Analog Name Characteristics Screen. Refer to "monitor/show hdam analog name characteristics" on page 89 for more information.

hdam banner

Sets a user-configurable LCD banner. The default banner is displayed at all times unless there is an active alarm, in which case the alarm information is displayed. Use this command to customize the default banner.

Syntax

`hdam <port_number> banner <string>`

Where	Means
port_number	The number of the port connected to the HDAM for which you want to configure a banner.
string	Enter an LCD banner, up to 32 alphanumeric characters.

Usage Guidelines

The default is no banner configured.

Examples

```
hdam 5 banner HDAM 7104 Series SW Ver. x.x

hdam 5 banner MDX_Alarm Closet

hdam 28 banner secondfloorlab
```

Displaying Information on HDAM Banner

The HDAM Banner is displayed on the HDAM Port Characteristics Screen. An example of the HDAM Port Characteristics Screen appears in Figure 25 on page 94.

Use the `show hdam characteristics` command to display the HDAM Port Characteristics Screen. Refer to “monitor/show hdam characteristics” on page 93 for more information.

hdam control active state

Configures the active state of a single named control to open or closed.

Syntax

`hdam control <control_name> active state [open|closed]`

Where	Means
control_name	The name of the control output whose active state you want to configure as open or closed.

Usage Guidelines

Use this command to configure the active state of a single control output to `open` or `closed`.

Examples

```
hdam control 5_2_8 active state open

hdam control 5_2_1 active state closed
```

Displaying Information on HDAM Control Name Active State

The HDAM Control Name Active State is displayed on the HDAM Control Name Characteristics Screen. An example of the HDAM Control Name Characteristics Screen appears in Figure 26 on page 96.

Use the `show hdam control name characteristics` command to display the HDAM Control Name Characteristics Screen. Refer to "monitor/show hdam control name characteristics" on page 96 for more information.

hdam control default description

Configures the default description of a single named control output.

Syntax

```
hdam control <control_name> default description
```

Where	Means
control_name	The default name of the control output to which you want to add a description.

Examples

```
hdam control 5_2_1 default description

hdam control 3_1_8 default description
```

Displaying Information on Control Name Default Description

The HDAM Control Name Default Description is displayed on the HDAM Control Name Characteristics Screen. An example of the HDAM Control Name Characteristics Screen appears in Figure 26 on page 96.

Use the `show hdam control name characteristics` command to display the HDAM Control Name Characteristics Screen. Refer to "monitor/show hdam control name characteristics" on page 96 for more information.

hdam control default name

Resets the name of a single named control output to its default name.

Syntax

```
hdam control <control_name> default name
```

Where	Means
control_name	The name of the control output you want to reset to the default name.

Usage Guidelines

The default name for a control output is canonically derived from the port number, slot number and point number. For example, the default name for the 8th control output on the 2nd slot of the HDAM being managed by port 5 is 5_2_8. Use the `default name` command when you want to return a control point name to its default numeric value.

Examples

```
hdam control dooralarm default name

hdam control labalarm default name
```

Displaying Information on HDAM Control Output Default Name

The HDAM Control Name is displayed on the HDAM Control Name Characteristics Screen. An example of the HDAM Control Name Characteristics Screen appears in Figure 26 on page 96.

Use the `show hdam control name characteristics` command to display the HDAM Control Name Characteristics Screen. Refer to “monitor/show hdam control name characteristics” on page 96 for more information.

hdam control default point

Resets all configurable values to defaults for a single named control output.

Syntax

`hdam control <control_name> default point`

Where	Means
control_name	The name of the control you want to default.

Usage Guidelines

Defaults reset include the Name, Description (removes any description), Active State (reset to Opened), and Current State (reset to Opened).

Examples

```
hdam control 5_2_8 default point

hdam control 3_1_1 default point
```

Displaying Information on HDAM Control Name Default Point

The HDAM Control Name Default Point is displayed on the HDAM Control Name Characteristics Screen. An example of the HDAM Control Name Characteristics Screen appears in Figure 26 on page 96.

Use the `show hdam control name characteristics` command to display the HDAM Control Name Characteristics Screen. Refer to “monitor/show hdam control name characteristics” on page 96 for more information.

hdam control description

Configures the description string of a single named control output.

Syntax

`hdam control <control_name> description <string>`

Where	Means
control_name	The name of the control output to which you want to add a description.
string	The description of the control output, up to 63 alphanumeric characters long.

Examples

```
hdam control 5_2_1 description door alarm

hdam control Exit_sign description main entry way exit sign
```

Displaying Information on Control Name Description

The HDAM Control Name Description is displayed on the HDAM Control Name Characteristics Screen. An example of the HDAM Control Name Characteristics Screen appears in Figure 26 on page 96.

Use the `show hdam control name characteristics` command to display the HDAM Control Name Characteristics Screen. Refer to "monitor/show hdam control name characteristics" on page 96 for more information.

hdam control name

Renames the given control output.

Syntax

`hdam control <control_name_1> name <control_name_2>`

Where	Means
control_name_1	The name of the control output you want to rename.
control_name_2	The new control output name you want to assign to the control output. The name can be a maximum of 31 characters long. The name must start with a letter, and the remainder of the name can contain only letters and/or numbers and/or underscores.

Usage Guidelines

This command fails if the name <*control_name_2*> is already in use.

Examples

```
hdam control 5_2_1 name dooralarm

hdam control Stairway_sign name Exit_sign
```

Displaying Information on HDAM Control Output Name

The HDAM Control Name is displayed on the HDAM Control Name Characteristics Screen. An example of the HDAM Control Name Characteristics Screen appears in Figure 26 on page 96.

Use the `show hdam control name characteristics` command to display the HDAM Control Name Characteristics Screen. Refer to "monitor/show hdam control name characteristics" on page 96 for more information.

hdam control port/slot/point active state

Configures the active state of one or more control outputs to open or closed.

Syntax

`hdam control port <port_number> slot [<slot_list>|all] point [<point_list>|all] active state [open|closed]`

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The list of the slots whose points you want to configure as open or closed.
point_list	The list of the points whose active state you want to set open or closed.

Examples

```
hdam control port 8 slot 4 point all active state open

hdam control port 5 slot 1 point 5-8 active state closed
```

Displaying Information on HDAM Control Port/Slot/Point Active State

The HDAM Control Port/Slot/Point Active State is displayed on the HDAM Port/Slot/Point Characteristics Control Card Screen. An example of the HDAM Port/Slot/Point Characteristics Control Card Screen appears in Figure 29 on page 100.

Use the `show hdam <port_number> slot <slot_list> point <point_list> characteristics` command to display the HDAM Port/Slot/Point Characteristics Control Card Screen. Refer to “monitor/show hdam port/slot/point characteristics” on page 100 for more information.

hdam control port/slot/point default description

Configures a default description for one or more control outputs.

Syntax

```
hdam control port <port_number> slot [<slot_list>|all] point
[<point_list>|all] default description
```

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The list of the slots whose points you want to configure a description for.
point_list	The list of the points you want to configure a description for.

Usage Guidelines

This command allows you to specify ranges of slots and ports (respectively). You can use `all`, a comma-separated list of numbers (e.g. `1,3,4`), a range of numbers (e.g. `2-8`), or a combination thereof (e.g. `1,2,5-8`). Using lists allows you to execute commands on multiple points. If any of the values specified are beyond the configurable range or are invalid, the command is aborted and an appropriate message is displayed.

Examples

```
hdam control port 2 slot 1,2 point 1,2,3,4 default description

hdam control port 2 slot 1-4 point 6-10 default description

hdam control port 2 slot all point all default description

hdam control port 2 slot 1-3 point 1,2,6-8 default description
```

Displaying Information on HDAM Control Default Description

The HDAM Control Default Description is displayed on the HDAM Port/Slot/Point Characteristics Control Card Screen. An example of the HDAM Port/Slot/Point Characteristics Control Card Screen appears in Figure 29 on page 100.

Use the `show hdam <port_number> slot <slot_list> point <point_list> characteristics` command to display the HDAM Port/Slot/Point Characteristics Control Card Screen. Refer to "monitor/show hdam port/slot/point characteristics" on page 100 for more information.

hdam control port/slot/point default name

Resets the name of one or more control outputs to the default name.

Syntax

```
hdam control port <port_number> slot [<slot_list>|all] point [<point_list>|all]
default name
```

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The list of the slots whose points you want to reset to the default name.
point_list	The list of the points you want to reset to the default name.

Usage Guidelines

This command allows you to specify ranges of slots and ports (respectively). You can use `all`, a comma-separated list of numbers (e.g. `1,3,4`), a range of numbers (e.g. `2-8`), or a combination thereof (e.g. `1,2,5-8`). Using lists allows you to execute commands on multiple points. If any of the values specified are beyond the configurable range or are invalid, the command is aborted and an appropriate message is displayed. Use the default name command when you want to return a control point name to its default numeric value.

Examples

```
hdam control port 2 slot 1,2 point 1,2,3,4 default name

hdam control port 2 slot 1-4 point 6-10 default name

hdam control port 2 slot all point all default name

hdam control port 2 slot 1-3 point 1,2,6-8 default name

hdam control Enter_sign default name
```

Displaying Information on Control Default Name

The HDAM Control Default Name is displayed on the HDAM Control Name Characteristics Screen. An example of the HDAM Control Name Characteristics Screen appears in Figure 26 on page 96.

Use the `show hdam control name characteristics` command to display the HDAM Control Name Characteristics Screen. Refer to "monitor/show hdam control name characteristics" on page 96 for more information.

hdam control port/slot/point default point

Resets one or more control outputs to its default values.

Syntax

```
hdam control port <port_number> slot [<slot_list>|all] point [<point_list>|all]
default point
```

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The list of the slots whose points you want to reset to defaults.
point_list	The list of the points you want to reset to defaults.

Usage Guidelines

This command allows you to specify ranges of slots and ports (respectively). You can use `all`, a comma-separated list of numbers (e.g. `1,3,4`), a range of numbers (e.g. `2-8`), or a combination thereof (e.g. `1,2,5-8`). Using lists allows you to execute commands on multiple points. If any of the values specified are beyond the configurable range or are invalid, the command is aborted and an appropriate message is displayed.

Examples

```
hdam control port 2 slot 1,2 point 1,2,3,4 default point

hdam control port 2 slot 1-4 point 6-10 default point

hdam control port 2 slot all point all default point

hdam control port 2 slot 1-3 point 1,2,6-8 default point
```

Displaying Information on Control Default Point

The HDAM Control Default Point is displayed on the HDAM Control Name Characteristics Screen. An example of the HDAM Control Name Characteristics Screen appears in Figure 26 on page 96.

Use the `show hdam control name characteristics` command to display the HDAM Control Name Characteristics Screen. Refer to "monitor/show hdam control name characteristics" on page 96 for more information.

hdam control port/slot/point description

Configures a description string for one or more control outputs.

Syntax

`hdam control port <port_number> slot [<slot_list>|all] point [<point_list>|all] description <string>`

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The list of the slots whose points you want to configure a description for.
point_list	The list of the points you want to configure a description for.
string	The description of the control output. The description can be up to 63 characters long, including spaces.

Usage Guidelines

This command allows you to specify ranges of slots and ports (respectively). You can use `all`, a comma-separated list of numbers (e.g. `1,3,4`), a range of numbers (e.g. `2-8`), or a combination thereof (e.g. `1,2,5-8`). Using lists allows you to execute commands on multiple points. If any of the values specified are beyond the configurable range or are invalid, the command is aborted and an appropriate message is displayed.

Examples

```
hdam control In_use description studio “In-use” sign
hdam control port 2 slot 1,2 point 1,2,3,4 description lab1
hdam control port 2 slot 1-4 point 6-10 description lab2
hdam control port 2 slot all point all description library on second floor
hdam control port 2 slot 1-3 point 1,2,6-8 description lab6
```

Displaying Information on HDAM Control Description String

The HDAM Control Description String is displayed on the HDAM Port/Slot/Point Characteristics Control Card Screen. An example of the HDAM Port/Slot/Point Characteristics Control Card Screen appears in Figure 29 on page 100.

Use the `show hdam <port_number> slot <slot_list> point <point_list> characteristics` command to display the HDAM Port/Slot/Point Characteristics Control Card Screen. Refer to “monitor/show hdam port/slot/point characteristics” on page 100 for more information.

hdam control port/slot/point name

Renames a given control output.

Syntax

`hdam control port <port_number> slot <slot_number> point <point_number> name <new_name>`

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_number	The number of the slot whose point you want to give a new name.
point_number	The point you want to give the new name.
new_name	The new name of the control output. The name can be up to 31 characters long. The name must start with a letter, and the remainder of the name can contain only letters and/or numbers and/or underscores.

Usage Guidelines

You cannot list multiple slots or points, because point names must be unique.

Examples

```
hdam control port 2 slot 1 point 1 name lab1

hdam control port 2 slot 2 point 3 name lab2

hdam control port 2 slot 1 point 6 name lab6
```

Displaying Information on HDAM Control Port/Slot/Point Name

The HDAM Control Port/Slot/Point Name is displayed on the HDAM Port/Slot/Point Characteristics Control Card Screen. An example of the HDAM Port/Slot/Point Characteristics Control Card Screen appears in Figure 29 on page 100.

Use the `show hdam <port_number> slot <slot_list> point <point_list> characteristics` command to display the HDAM Port/Slot/Point Characteristics Control Card Screen. Refer to "monitor/show hdam port/slot/point characteristics" on page 100 for more information.

hdam control port/slot/point set

Sets control output signals to open or closed.

Syntax

```
hdam control port <port_number> slot [<slot_list>|all] point [<point_list>|all]
set [open|closed]
```

Where	Means
port_number	The number of the port to which the HDAM is connected.
slot_list	The list of the slots whose points you want to configure as open or closed.
point_list	The list of the points whose state you want to set open or closed.

Examples

```
hdam control port 8 slot 4 point all open

hdam control port 5 slot 1 point 5-8 closed
```

Displaying Information on HDAM Control Port/Slot/Point Setting

The HDAM Control Port/Slot/Point Current State is displayed on the HDAM Port/Slot/Point Status Control Card Screen. An example of the HDAM Port/Slot/Point Status Control Card Screen appears in Figure 32 on page 103.

Use the `show hdam <port_number> slot <slot_list> point <point_list> status` command to display the HDAM Port/Slot/Point Status Control Card Screen. Refer to "monitor/show hdam port/slot/point status" on page 103 for more information.

hdam control set

Sets the state of the single named control output to open or closed.

Syntax

```
hdam control <control_name> set [open|closed]
```

Where	Means
control_name	The name of the control output you want to set open or closed.

Usage Guidelines

Use this command to open or close a single control output.

Examples

```
hdam control Enter_sign set open

hdam control 5_2_8 set closed
```

Displaying Information on HDAM Control Name Set

The HDAM Control Name Set Value is displayed as Current State on the HDAM Control Name Status Screen. An example of the HDAM Control Name Status Screen appears in Figure 27 on page 97.

Use the `show hdam control name characteristics` command to display the HDAM Control Name Status Screen. Refer to “monitor/show hdam control name status” on page 97 for more information.

hdam default banner

Defaults the LCD banner.

Syntax

```
hdam <port_number> default banner
```

Where	Means
port_number	The number of the port connected to the HDAM for which you want to default the banner.

Usage Guidelines

The default is no banner configured.

Examples

```
hdam 5 default banner

hdam 28 default banner
```

hdam reset

Resets the HDAM connected to a specific port. This command is available at the **In-Reach:0>>** level only. You cannot access it in the **Config:0>>** mode.

Syntax

`hdam <port_number> reset`

Where	Means
port_number	The number of the port connected to the HDAM you want to reset.

Examples

```
hdam 5 reset

hdam 28 reset
```

hdam update

Launches an attempt to update the firmware on the HDAM connected to a specific port. The LX attempts to download the `hdam.img` file and copy it to the HDAM's flash memory.

Syntax

`hdam <port_number> update <ip_address>|<domain_name>`

`hdam <port_number> update`

Where	Means
port_number	The number of the port connected to the HDAM on which you want to update firmware.
ip_address	The IP address of the TFTP server from which the firmware update will be obtained.
domain_name	The domain name of the TFTP server from which the firmware update will be obtained.

Usage Guidelines

If no IP address is given, the command uses the LX default TFTP server address.

Example

```
hdam 5 update 130.155.110.55

hdam 5 update

hdam 5 update local_host_foo
```

port async access hdam

Dedicates a port for controlling a high-density alarm manager.

Syntax

```
port async <port_number> access hdam
```

Where	Means
port_number	The number of the port you want to use to control the HDAM.

Usage Guidelines

You can configure any port other than port 0 (diagnostic/management port) as alarm master, but you can configure a total of only four such ports. If four alarm managers have already been configured on the LX unit when you attempt to configure another, an error message is displayed and no action occurs. When you perform this command, normal serial settings are ignored and set to the proper values for communication with the HDAM unit. Remote access and port logging are denied on this port.

Example

```
port async 6 access hdam
```

show

You can execute each of the `show` commands in the Privilege Command Mode.

Refer to the following pages for a full description of each of the `show` commands.

Appendix A

Advanced Features

Multi-Level Command Execution

Multi-Level Command Execution is the ability to execute a command that resides in a command mode other than the current command mode. A command that is executed in this way is called a **target command**, and it must reside in a command mode that is nested in the current one. Figure 1 on page 35 shows the nesting of command modes in the LX CLI.

For example, a target command in the Interface command mode can be executed in the Configuration command mode. In the following example, the target command `broadcast 123.43.34.34` is executed from the Configuration command mode:

```
Config:0 >>interface 1 broadcast 123.43.34.34
```

The command that precedes the target command is known as the **mode-access** command. The mode-access command is used to reach the command mode in which the target command resides. In the above example, the mode-access command is `interface 1`.

You can have more than one mode-access command before a target command, depending on the number of command modes that must be traversed to execute the target command. In the following example, two mode-access commands are used to execute the `open mark1` command from the Superuser command mode:

```
InReach:0 >>configuration menu open mark1
```

In the above example, the mode-access commands are `configuration` and `menu`.

Executing Multi-Level Commands from the User Command Mode

You can execute multi-level commands in the User command mode if you are logged in with an account that gives you access to the Configuration commands.

When you execute a multi-level command from the User command mode, the command string must begin with `enable system`. This is an **access-mode** command that consists of the `enable` command and the Superuser password (**system**). In the following example, the target command is `ssh v1`:

```
InReach:0 >enable system configuration ssh v1
```

Configuring the Notification Feature with Multi-Level Commands

You need to execute the `restart notification` command, in the Superuser command mode, after you execute a multi-level command that effects the Notification Feature. The commands that effect the Notification Feature are those that reside in the Notification command mode and in its subordinate command modes.[1]

The `restart notification` command regenerates the notification configuration and re-starts syslogd. It is necessary to do this when you configure the Notification Feature from outside of the Notification context. (You are outside of the Notification context when you configure the Notification Feature from outside of the Notification command mode or one of its subordinate command modes.) For more information, refer to the `restart notification` command in the *LX-Series Commands Reference Guide*.

1. The subordinate command modes of the Notification command mode are User Service, User Information, Service Profile, Async Profile, Localsyslog Profile, Remotesyslog Profile, SMTP Profile, SNPP Profile, TAP Profile, and WEB Profile. Figure 1 on page 35 shows the nesting of command modes in the Notification command mode.

You must specify the Service Profile type (protocol) in multi-level commands that affect the settings of Service Profiles. The commands that affect the settings of Service Profiles are those in the Async Protocol, Localsyslog Protocol, Remotesyslog Protocol, SMTP Protocol, SNPP Protocol, TAP Protocol, and WEB Protocol Command Modes. The format for such a multi-level command is as follows:

<mode-access-cmd> <protocol> <target-cmd>*

Where	Means
mode-access-cmd	The mode-access commands that are necessary to access the target command.
protocol	The Service-Profile type (protocol) of the Service Profile for which the command is being executed.
target-cmd	The target command.

The following are examples of multi-level commands in which the Service-Profile type (protocol) is specified before the target command:

```
Config:0 >>notification profile service email smtp server
140.179.169.20
```

```
Config:0 >>notification profile service onboard async port 2
```

```
Config:0 >>notification profile service pager tap 3776809977
```

Examples of Multi-Level Commands

The following are examples of multi-level commands. Note that the following is not an exhaustive list of multi-level commands. The following is a list of examples of some of the multi-level commands that could be executed from the User and Configuration command modes.

Examples of Multi-Level Commands in the User Command Mode

```
InReach:0 >enable system zero all
```

```
InReach:0 >enable system configuration secondary dns
119.20.112.3
```

```
InReach:0 >enable system configuration port async 4
break enable

InReach:0 >enable system configuration port async 4
default port

InReach:0 >enable system configuration interface 1 mtu
1200

InReach:0 >enable system enable system ssh
```

Examples of Multi-Level Commands in the Configuration Command Mode

```
Config:0 >>interface 1 broadcast group 4 slave port
async 2

Config:0 >>subscriber mark command log enable

Config:0 >>menu open mark1

Config:0 >>subscriber mark access console enable

Config:0 >>snmp get client 4 125.65.45.34
```

INDEX

E

F

G

H

I

Q

R

S

T

U

V

W

Z