

LANTRONIX®



XPort® Pro Lx6 Embedded Device Server Command Reference

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Revision History

Date	Revision	Comments
December 2013	A	Initial document.

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1: About This Guide

This guide describes how to configure the XPort® Pro Lx6 embedded device server using the Command Line Interface (CLI) and/or Extensible Markup Language (XML). CLI provides an interactive mode for accessing the device configuration and management interface. It is most suited for system and network administrators comfortable with using similar interfaces on Enterprise IT and Networking products. It is also helpful as a quick tool for access via the product's serial ports or console/management ports.

XML provides an extensible mode for software developers interfacing with the device and system integrators performing batch provisioning/updates.

Chapter Summaries

This table lists and summarizes content of each chapter.

Chapter	Summary
Chapter 2: Overview	Gives an overview of CLI and XML.
Chapter 3: Command Line Interface	Lists commands and describes how to use CLI to configure the XPort Pro Lx6 embedded device server.
Chapter 4: Configuration Using XML	Lists XCR groups and items and describes how to use XCRs to configure the XPort® Pro Lx6 embedded device server.
Chapter 5: Commands and Levels	Provides an index of the CLI Command Hierarchy with hyperlinks to the corresponding command details.

Conventions

The table below lists and describes the conventions used in this book.

Convention	Description
Bold text	Default parameters.
<i>Italic text</i>	Required values for parameters
Brackets []	Optional parameters.
Angle Brackets < >	Possible values for parameters.
Pipe 	Choice of parameters.
Warning	Warning: Means that you are in a situation that could cause equipment damage or bodily injury. Before you work on any equipment, you must be aware of the hazards involved with electrical circuitry and familiar with standard practices for preventing accidents.
Note	Note: Means take notice. Notes contain helpful suggestions, information, or references to material not covered in the publication.
Caution	Caution: Means you might do something that could result in faulty equipment operation, or loss of data.
Screen Font (Courier New)	CLI terminal sessions and examples of CLI input.

Additional Documentation

Visit the Lantronix website at www.lantronix.com/support/documentation for the latest documentation and the following additional documentation.

Document	Description
<i>XPort® Pro Lx6 Embedded Device Server User Guide</i>	Describes how to configure and use the XPort Pro Lx6 embedded device server.
<i>XPort® Pro Embedded Device Server Integration Guide</i>	Contains information about the hardware and integrating the XPort Pro Lx6 into your product.
<i>DeviceInstaller Online Help</i>	Instructions for using the Lantronix Windows-based utility to locate the XPort Pro Lx6 and to view its current settings.

2: Overview

XPort Pro Lx6 embedded device server supports three convenient configuration methods: Web Manager, Command Line Interface (CLI) and Extensible Markup Language (XML). For more information about the Web Manager, see the *XPort Pro Lx6 Embedded Device Server User Guide* on the Lantronix website.

XML Architecture and Device Control

XML is a fundamental building block for the future growth of Machine-to-Machine (M2M) networks. XPort Pro Lx6 embedded device server supports XML configuration records that make configuring the device server easy for users and administrators. XML configuration records are easy to edit with a standard text editor or an XML editor.

For a brief overview of XML, see [Chapter 4: Configuration Using XML](#). It provides rules on basic XML syntax, a guide to the specific XML tags used, and a guide to using XML configuration records.

Command Line Interface

Making the edge-to-enterprise vision a reality, the XPort Pro Lx6 embedded device server uses industry-standard tools for configuration, communication, and control. For example, the XPort Pro Lx6 uses a command line interface (CLI) whose syntax is very similar to that used by data center equipment such as routers and hubs.

For details of the CLI, see [Chapter 5: Commands and Levels](#). It provides an index of the CLI Command Hierarchy with links to the corresponding command details. The CLI provides commands for configuring, monitoring, and controlling the device server.

3: Command Line Interface

This chapter describes accessing the XPort Pro Lx6 embedded device server by using Telnet or serial ports to configure the device, navigating the Command Line Interface (CLI), typing keyboard shortcuts, and moving between the levels.

It contains the following sections:

- ◆ [Configuration Using Telnet](#)
- ◆ [Configuration Using the Serial Port](#)
- ◆ [Navigating the CLI Hierarchy](#)
- ◆ [Using Keyboard Shortcuts and CLI](#)
- ◆ [Understanding the CLI Level Hierarchy](#)

Refer to [Chapter 5: Commands and Levels](#) for a complete list of levels, commands, and descriptions.

Configuration Using Telnet

To access and configure the device server by using a Telnet session over the network, you must first establish a Telnet connection. You can also establish a Telnet connection by clicking the Telnet Configuration tab in the DeviceInstaller utility. See the DeviceInstaller Online Help for more information, available on our website www.lantronix.com/support/downloads.

To access the XPort Pro Lx6 embedded device server by using Telnet, perform the following steps.

1. Click **Start > Run**. The Run dialog box displays.
2. Type `cmd` in the dialog box and press **OK**.
3. Enter telnet command according to the type of device you are utilizing:
 - a. Type `telnet x.x.x.x` (`x.x.x.x` is the IP address) in a Windows/Linux command prompt.
 - a. To login through telnet using IPv6 address, please use the below commands.
 - ◆ Type `telnet x:x:x::x%eth0` (`x:x:x::x` is the IPv6 address) in Linux machines.
 - ◆ Type `telnet x:x:x::x` (`x:x:x::x` is the IPv6 address) in Windows command prompt.
4. The XPort Pro Lx6 embedded device server is online when the command prompt (`>`) displays. You are at the root level of the CLI.

Note: Depending on the level of security, a password may be required.

Configuration Using the Serial Port

Serial Recovery

Serial Recovery mode will temporarily override the line and tunnel settings for the serial line to allow configuration changes to be made. The line and tunnel settings will be restored once the user exits the Serial Recovery mode CLI.

To configure the Lantronix device server locally using a serial port:

1. Connect a terminal or a PC running a terminal emulation program to one of the device server's serial ports.
2. Configure the terminal to the following settings:
 - ◆ 9600 baud
 - ◆ 8-bit
 - ◆ No parity
 - ◆ 1 stop bit
 - ◆ No flow control.
3. Power off the device.
4. Press and hold down the exclamation point (!) key.
5. Power on the device. After about 15 seconds, the exclamation point will display on the terminal or PC screen.
6. Type `xyz` within 5 seconds to display the CLI prompt.

Navigating the CLI Hierarchy

The CLI is organized into a hierarchy of levels. Each level has a group of commands for a specific purpose. For example, to configure a setting for the FTP server, one would navigate to the FTP level, which is under the configuration level.

- ◆ To move to a different level—Enter the name of the level from within its parent level. For example, to enter the tunnel level, type `tunnel <number>` at the enable prompt. This displays: `<enable> tunnel <number>#`.
- ◆ To exit and return to one level higher—Type `exit` and press the **Enter** key. Typing `exit` at the login level or the enable level will close the CLI session.
- ◆ To view the current configuration at any level—Type `show`.
- ◆ To view the list of commands available at the current level—Type the question mark "`?`". Items within `< >` (e.g. `<string>`) are required parameters.
- ◆ To view the available commands and explanations—Type the asterisk (`*`).
- ◆ To view the list of commands available for a partial command—Type the partial command followed by the question mark "`?`". For example: `<tunnel-1>#show?` displays a list of all echo commands at the tunnel level.
- ◆ To view available commands and their explanations for a partial command—Type the partial command followed by the asterisk (`*`). For example: `<tunnel-1>#show*` displays a list of all echo commands and descriptions at the tunnel level.
- ◆ To view the last 20 commands entered at the CLI—Type `show history`.

Using Keyboard Shortcuts and CLI

One useful shortcut built into XPort Pro Lx6 embedded device server is that the complete text of a command does not have to be entered to issue a command. Typing just enough characters to uniquely identify a command, then hitting enter, can be used as a short cut for a command. For example, at the enable level, "sh" can be used for the "show" command.

Tab Completion is also available using the **Tab** and **Enter** keys on the keyboard. Typing the first few characters of a command, then hitting the **Tab** key displays the first command that begins with those characters. Hitting the **Tab** key again displays the next command that begins with the original characters typed. You can press **Enter** to execute the command or you can backspace to edit any parameters.

The following key combinations are allowed when configuring the device server using the CLI:

Table 3-1 Keyboard Shortcuts

Key Combination	Description
Ctrl + a	Places cursor at the beginning of a line
Ctrl + b	Backspaces one character
Ctrl + d	Deletes one character
Ctrl + e	Places cursor at the end of the line
Ctrl + f	Moves cursor forward one character
Ctrl + k	Deletes from the current position to the end of the line
Ctrl + l	Redraws the command line
Ctrl + n	Displays the next line in the history
Ctrl + p	Displays the previous line in the history
Ctrl + u	Deletes entire line and places cursor at start of prompt
Ctrl + w	Deletes one word back
Ctrl + z	Exits the current CLI level
Esc + b	Moves cursor back one word
Esc + f	Moves cursor forward one word

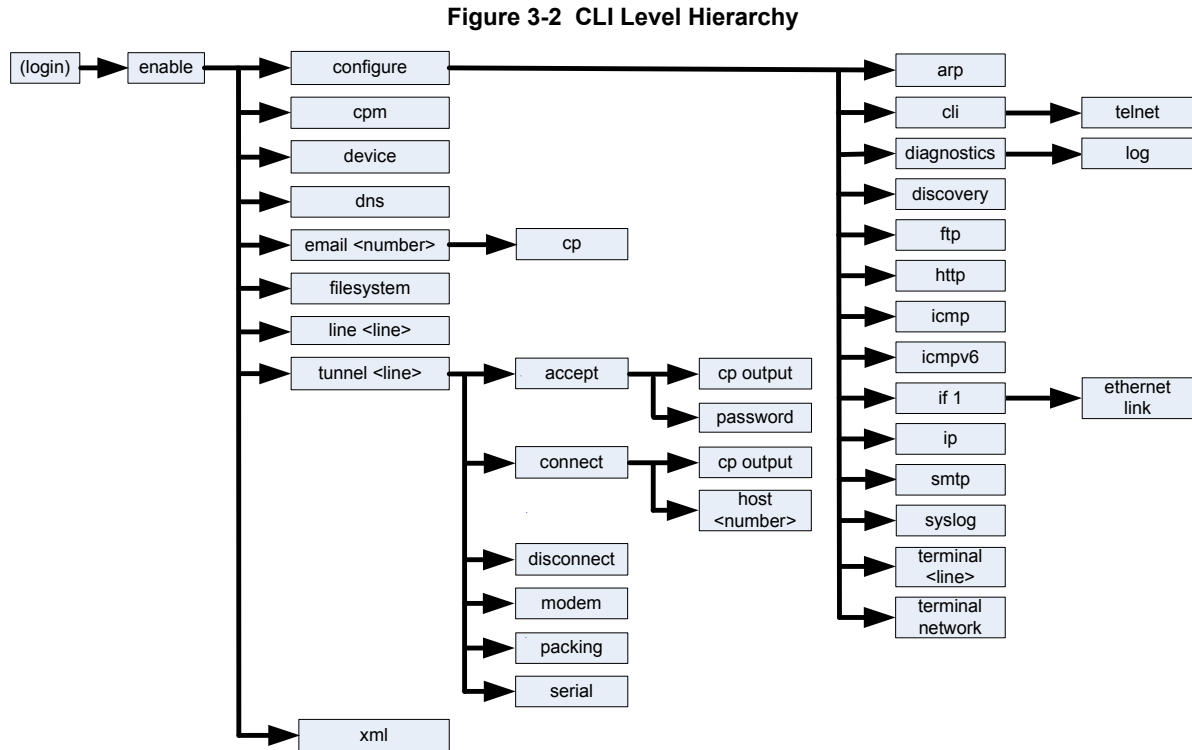
Understanding the CLI Level Hierarchy

The CLI hierarchy is a series of levels. Arranging commands in a hierarchy of levels provides a way to organize and group similar commands, provide different levels of security, and reduce the complexity and number commands and options presented to a user at one time.

When you start a command line session, you begin at the login level. This level can be password protected and provides access to high level status, a few diagnostic commands, and the enable level. Further device information and configuration are accessed via the enable level.

The enable level can also be password protected and is the gateway to full configuration and management of the device server. There are commands for gathering and effecting all elements of device status and configuration, as well as commands that take you to additional levels. For instance, tunnel specific status and configuration is found under the "tunnel" level, and network specific status and configuration commands are found under the "configuration" level.

An overview of the levels in the XPort Pro Lx6 embedded device server is presented in [Figure 3-2 CLI Level Hierarchy](#) below.



Commands at the login level (see [Figure 3-3 Login Level Commands](#) below) do not affect current configuration settings and are not displayed initially. If you type `?`, you will see the login sub-commands. These commands provide diagnostic and status information only.

Figure 3-3 Login Level Commands

```

>
>?
clrscrn                exit
iperf <params>        ping <host>
ping <host> <count>   ping <host> <count> <timeout>
ping6 <host>          ping6 <host> <count>
ping6 <host> <count> <timeout> show
show history          trace route <host>
trace route <host> <protocol> enable
  
```

Note: To configure the XPort Pro Lx6 embedded device server, you must be in the enable level and any of its sub-levels. [Figure 3-4](#) below shows the enable level commands.

Figure 3-4 Enable Level Commands

```
>
>enable
(enable)#?
auto show interfaces          auto show processes
clrscrn                      configure
connect                       connect line <line>
cpm                          device
disable                       dns
email <number>               exit
filesystem                   iperf <params>
kill telnet <session>        line <line>
ping <host>                   ping <host> <count>
ping <host> <count> <timeout> ping6 <host>
ping6 <host> <count>         ping6 <host> <count> <timeout>
reload                       reload factory defaults
show                          show history
show interfaces              show ip sockets
show processes               show sessions
telnet <host>                 telnet <host> <port>
trace route <host>           trace route <host> <protocol>
tunnel <line>                 write
xml

(enable)#
```

See the [Chapter 5: Commands and Levels](#) at the end of this document for a complete list of levels, commands, and descriptions.

4: Configuration Using XML

The device server provides an Extensible Markup Language (XML) interface that you can use to configure device server devices. Every configuration setting that can be issued from the device server Web Manager and CLI can be specified using XML.

The device server can import and export configuration settings as an XML document known as an XML Configuration Record (XCR). An XCR can be imported or exported via the CLI, a Web browser, FTP, or the device server filesystem. An XCR can contain many configuration settings or just a few. For example, it might change all of the configurable parameters for a device server, or it may only change the baud rate for a single serial line. Using XCRs is a straightforward and flexible way to manage the configuration of multiple device server devices.

XML Configuration Record Document Type Definition

An XML document type definition (DTD) is a description of the structure and content of an XML document. It verifies that a document is valid. XCRs are exported using the DTD as shown in [Figure 4-1 DTD for XCRs](#).

Figure 4-1 DTD for XCRs

```
<!DOCTYPE configrecord [  
<!ELEMENT configrecord (configgroup+)>  
<!ELEMENT configgroup (configitem+,configgroup*)>  
<!ELEMENT configitem (value+)>  
<!ELEMENT value (#PCDATA)>  
<!ATTLIST configrecord version CDATA #IMPLIED>  
<!ATTLIST configgroup name CDATA #IMPLIED>  
<!ATTLIST configgroup instance CDATA #IMPLIED>  
<!ATTLIST configitem name CDATA #IMPLIED>  
<!ATTLIST value name CDATA #IMPLIED>  

```

The device server DTD rules state the following:

- ◆ The XML document element is a `<configrecord>` element. This is the root element.
- ◆ A `<configrecord>` must have one or more `<configgroup>` elements and can have a `version` attribute.
- ◆ A `<configgroup>` must have one or more `<configitem>` elements and can have `name` and `instance` attributes.
- ◆ A `<configitem>` element must have one or more `<value>` elements and can have a `name` attribute.
- ◆ A `<value>` element can have only data and can have a `name` attribute.
- ◆ The `name` attribute identifies a group, item, or value. It is always a quoted string.
- ◆ The `instance` attribute identifies the specific option, like the serial port number. The "instance" attribute is always a quoted string.

Note:

- ◆ The name for each `<configgroup>` (specified with the `name` attribute) is the group name listed in the Web Manager XCR groups or with the "xcr list" CLI command. See the XPort Pro Lx6 Embedded Device Server User Guide for more information about the XCR groups.
- ◆ An empty or missing `<value>` element in each present `<configgroup>` clears the setting to its default.

Quick Tour of XML Syntax

Declaration

The first line, `<?xml version="1.0" standalone="yes"?>`, is called the XML declaration. It is required and indicates the XML version in use (normally version 1.0). The remainder of the file consists of nested XML elements, some of which have attributes and content.

Element Start and End Tags

An element typically consists of two tags: a start tag and an end tag that surrounds text and other elements (element content). The start tag consists of a name surrounded by angle brackets, for example `<configrecord>`. The end tag consists of the same name surrounded by angle brackets, but with a forward slash preceding the name, for example `</configrecord>`. The element content can also contain other "child" elements.

Element Attributes

The XML element attributes that are name-value pairs included in the start tag after the element name. The values must always be quoted, using single or double quotes. Each attribute name should appear only once in an element.

[Figure 4-2](#) shows an XML example which consists of a declaration (first line), nested elements with attributes and content.

Figure 4-2 XML Example

```
<statusgroup name="arp">
  <statusitem name="arp entry">
    <value name="ip address">172.19.39.17</value>
    <value name="mac address">00:30:48:5B:6A:A6</value>
    <value name="type">dynamic</value>
    <value name="interface">eth0</value>
  </statusitem>
</statusgroup>
```

Record, Group, Item, and Value Tags

A `<configgroup>` is a logical grouping of configuration parameters and must contain one or more `<configitem>` elements. It must have a name attribute and may have an instance attribute.

A `<configitem>` is a specific grouping of configuration parameters relevant to its parent group. An item takes the name attribute and must contain one or more value elements. For example, the line group might have parameters such as baud rate, data bits, and parity.

A value may specify the value of a configuration parameter. It may contain the name attribute. In this example, a value of 9600 might be specified for baud rate; 7 may be specified for data bits, and even may be specified for parity.

A name attribute identifies the group, item, or value. It is always quoted (as are all XML attributes). For example, a group that contains serial port parameters has the name "line".

An instance attribute identifies which of several instances is being addressed. It is always quoted. For example, the serial port name (in the line configgroup) has the instance "1" to indicate serial port 1 or "2" to specify serial port 2.

The following figures show examples of XML configuration records and the use of the `<configrecord>`, `<configgroup>`, `<configitem>`, and `<value>` XML elements.

Figure 4-3 XML Example

```
<configgroup name="arp">
  <configitem name="arp delete">
    <value name="ip address"/>
  </configitem>
```

Figure 4-4 XML Example of Multiple Named Values

```
<configgroup name="cp group" instance="Line1_Modem_Ctl_In">
  <configitem name="cp" instance="3">
    <value name="bit">0</value>
    <value name="type">input</value>
    <value name="assert low">enable</value>
  </configitem>
  <configitem name="state">
    <value>disable</value>
  </configitem>
</configgroup>
<configrecord version="0.1.0.0T0">
  <configgroup name="host" instance="3">
    <configitem name="name">
      <value/>
    </configitem>
    <configitem name="protocol">
      <value>Telnet</value>
    </configitem>
    <configitem name="ssh username">
```



```

        <value/>
    </configitem>
    <configitem name="remote address">
        <value/>
    </configitem>
    <configitem name="remote port">
        <value>0 </value>
    </configitem>
</configgroup>

```

Figure 4-5 XML Example of Multiple Items

```

<configgroup name="xml import control">
    <configitem name="restore factory configuration">
        <value>disable</value>
    </configitem>
    <configitem name="delete cpm groups">
        <value>enable</value>
    </configitem>
    <configitem name="cpm group delete">
        <value name="name"/>
    </configitem>
    <configitem name="delete http authentication uris">
        <value>disable</value>
    </configitem>
    <configitem name="http authentication uri delete">
        <value name="name"/>
    </configitem>
    <configitem name="reboot">
        <value>disable</value>
    </configitem>
</configgroup>

```

Figure 4-6 XML Example with Multiple Groups

```

<configgroup name="cp group" instance="Line1_Modem_Ctl_Out">
    <configitem name="cp" instance="2">
        <value name="bit">0</value>
        <value name="type">output</value>
        <value name="assert low">enable</value>
    </configitem>
    <configitem name="state">
        <value>disable</value>
    </configitem>
</configgroup>
<configgroup name="cp group" instance="Line1_RS485_Select">
    <configitem name="state">
        <value>disable</value>
    </configitem>
</configgroup>

```

```

<configgroup name="cp group" instance="Line1_Modem_Ctl_In">
  <configitem name="cp" instance="3">
    <value name="bit">0</value>
    <value name="type">input</value>
    <value name="assert low">enable</value>
  </configitem>
  <configitem name="state">
    <value>disable</value>
  </configitem>
</configgroup>

```

Importing and Exporting an XML Configuration File

An XCR can be imported or exported using the following methods:

- ◆ Filesystem-XCRs can be saved to the device server file system and imported or accessed as needed. See [Best Practices on page 18](#) or the Filesystem Browser section in the *XPort Pro Lx6 Embedded Device Server User Guide*.
- ◆ CLI-XCRs can be imported (captured) or exported (dumped) directly to a Telnet or serial line CLI session. Capturing an XCR can be started by pasting a valid XCR directly into the CLI prompt. The XPort Pro Lx6 embedded device server immediately processes the configuration record, changing any settings specified. This can be done on any level, including the root. Special tags in the XML allow for providing root and enable level passwords so that this can also be done at the password prompt.
- ◆ Web browser-Web Manager can be used to import and export an XCR to the device server file system. It can also be used to import an XCR from an external source such as your local hard drive.
- ◆ FTP-The device server FTP server can export and import XCRs when an FTP get or put command for the filename (xport_pro_lx6.xcr for export, xport_pro_lx6_import.xcr for import; both are under the pwxcr directory) is requested. On export (FTP get of xport_pro_lx6.xcr), the FTP server obtains the current XCR from the XPort Pro Lx6 and sends it as a file. On import (FTP put of xport_pro_lx6_import.xcr), the FTP server processes the file by sending it directly to the XML engine. In both cases the device server filesystem is not accessed. The files xport_pro_lx6.xcr and xport_pro_lx6_import.xcr are not read from or written to the file system. See FTP in the *XPort Pro Lx6 Embedded Device Server User Guide*.

Best Practices

You can import or export an entire XCR, or just a portion of it, by specifying the group name and/or group instances. In the examples below, import and export operations are performed from the CLI on the local filesystem and require a XCR on the local filesystem. The Web Manager provides the same functionality.

Caution: *Using Microsoft Word to edit and save an XCR will change the format of the file and make it incompatible with XPort Pro Lx6 embedded device server. This is true even if the file is saved as Plain Text (.txt) or an XML Document (.xml). Notepad, a third party text editor, or a specialized XML editor should be used instead.*

Importing

The following syntax can be used to import configurations from a file:

```
xcr import <file>
xcr import <file> <groups and/or group:instances>
```

The first line imports all groups specified in the XML config record named in <file>. Any filename is valid, and the file name and extension are not important.

In the second line:

- ◆ Instance follows group with a colon (see the third example on the next page).
- ◆ Multiple groups are separated with a comma.
- ◆ Any white space requires the list of groups to be quoted.
- ◆ Only the named groups get imported, even if the XCR contains additional XCR groups.

The following syntax can be used to export configurations to a file on the device server's file system:

```
xcr export <file>
xcr export <file> <groups and/or group:instances>
```

The same guidelines above regarding importing configurations also apply to exporting configurations. If no groups are specified, then the export command will export all configuration settings to the file. If instances are specified after the groups, only those group instances are written. If no instance is specified, all instances of that group are written.

Exporting

The following example exports only the accept mode tunneling settings for 1 to the file "tunnel_1.xcr" on the device server filesystem:

```
xcr export tunnel_1.xcr "tunnel accept:1"
```

The following example exports only the mode tunneling settings for all to the file "tunnel_all.xcr" on the device server filesystem:

```
xcr export tunnel_all.xcr "tunnel "
```

The following example imports only the settings for 2 from an XCR named "factory_config.xcr" on the device server filesystem. If "factory_config.xcr" has other configuration settings, they are ignored:

```
xcr import factory_config.xcr ":2"
```

The following example imports only settings for all from a configuration record on the device server filesystem named "foobar.xcr":

```
xcr import foobar.xcr ""
```

To import only mode tunnel settings for 1 and all settings for 2 from an XML configuration record named "production.xcr" that contains these settings (and possibly more), issue the following command:

```
xcr import production.xcr "tunnel :1"
```

The following example exports mode tunneling for all to the file tunnel_config.xcr on the device server filesystem:

```
xcr export tunnel_config.xcr "tunnel"
```

XML Configuration Groups

Table 4-7 lists the XPort Pro Lx6 embedded device server XCR groups in alphabetical order. This table indicates the various group items, as well as some possible value names and options.

Note: Any instance of **<** in the table may be read as "less than" and any instance of **>** may be read as "greater than".

Table 4-7 XCR Groups

Group Name	Group Item	Value Name	Value Options	Additional Information
arp	arp delete	ip address		Remove an entry from the ARP table. Specify the entry by its IP address.
		ip address		
	arp entry	mac address		
cli	inactivity timeout			Default: 15 minutes
	line authentication		enable, disable	Default: disable
	quit connect line			Accepts text containing control characters, for example, &#60;control&#62 ;A represents control-A Default: <control>L
cp group (Attribute of an instance is "Line1_Modem_Ctl_In")	cp (Attribute of an instance is "3")	assert low		
		bit		
		type		
	state		enable, disable	Default: disable
cp group (Attribute of an instance is "Out")	cp (Attribute of an instance is "2")	assert low		
		bit		
		type		
	state		enable, disable	Default: disable
cp group (Attribute of an instance is "Line1_RS485_HDpx")	state		enable, disable	Default: disable
cp group (Attribute of an instance is "Line1_RS485_Select")	state		enable, disable	Default: disable

Group Name (continued)	Group Item	Value Name	Value Options	Additional Information
cp group (Attribute of an instance is "Line1_RS485_TxE nable")	cp (Attribute of an instance is "2")	assert low		
		bit		
		type		
	state		enable, disable	Default: disable
cp group (Attribute of an instance is "Line1_RTS_CTS")	cp (Attribute of an instance is "1")	assert low		
		bit		
		type		
	cp (Attribute of an instance is "3")	assert low		
		bit		
		type		
	state		enable, disable	Default: disable
device	firmware version			7.5.0.0R20
	long name			Lantronix XPort Pro Lx6
	serial number			07110977T8OOR2
	short name			XPort Pro Lx6
diagnostics	log	output		
		max length		
discovery	state		enable, disable	
dns	ipv6 precedence		enable, disable	
	login password			
email (Attribute of "instance" is a number.)	cc			
	cp	group		
		trigger value		
	from			
	local port		<None>, ...	
	message file			
	overriding domain			
	priority		normal	
	reply to			
	server port		25	
	subject			
to				
ethernet (Attribute of an instance is "eth0")	duplex			
	speed			
ftp server	state		enable, disable	Default: enable

Group Name (continued)	Group Item	Value Name	Value Options	Additional Information
http authentication uri	realm			
	type			
	user delete	name		
	user (Attribute of an instance is "admin")	password		
http server	authentication timeout			
	log format			
	logging state			
	max bytes			
	max log entries			
	max timeout			
	port			
	state			
icmp	state		disable, enable	Default: enable
interface (Attribute of an instance is "eth0")	state			
	bootp			
	default gateway			
	dhcp client id			
	dhcp			
	dhcpv6			
	domain			
	hostname			
	ip address			
	ipv6 address			
	ipv6 autoconf			
	ipv6 default gateway			
	mtu			
	primary dns			
secondary dns				
ip	ip time to live			
	multicast time to live			

Group Name (continued)	Group Item	Value Name	Value Options	Additional Information
line (Attribute of "instance" is a number.)	name			
	interface		rs232, rs485 half- duplex, rs485 full- duplex, usb-cdc-acm	Default:
	termination		enable, disable	Default: disable
	state		enable, disable	Default: depends on instance
	protocol		none, tunnel	Default:
	baud rate			Default: 9600 bits per second
	parity		even, none, odd	Default: none
	data bits		7, 8	Default: 8
	stop bits		1, 2	Default: 1
	flow control		none, hardware, software	Default: none
	xon char			Accepts a control character, for example, <control>A represents control-A Default: <control>Q
	xoff char			Accepts a control character, for example, <control>A represents control-A Default: <control>S
	gap timer		<None>, ...	Default: <None>
	threshold			Default: 56 bytes

Group Name (continued)	Group Item	Value Name	Value Options	Additional Information
serial command mode (Attribute of "instance" is a number.)	mode		always, serial string, disable	Default: disable
	echo serial string		enable, disable	Default: enable
	serial string			Sets a string that can be entered at boot time to enter command mode. This text may specify binary characters. Within [] use binary decimal up to 255 or hex up to 0xFF. Within {} specify decimal milliseconds time delay.
	signon message			Sets a sign-on message that is sent from the serial port when the device boots and when the line is in command mode. This text may specify binary characters. Within [] use binary decimal up to 255 or hex up to 0xFF.
	wait time			Default: 5000 milliseconds
smtp	relay address			
	relay port			
syslog	state		enable, disable	Default: disable
	host			
	remote port			Default: 514
	severity log level		none, emergency, alert, critical, error, warning, notice, information, debug	Default: none
telnet	state		enable, disable	Default: enable
	port			Default: 23
	max sessions			Default: 3
	authentication		enable, disable	Default: disable

Group Name (continued)	Group Item	Value Name	Value Options	Additional Information	
terminal (Attribute of “instance” is a number or “network”)	terminal type			Default: UNKNOWN	
	login connect menu		enable, disable	Default: disable	
	exit connect menu		enable, disable	Default: disable	
	send break			Accepts a control character, for example, <code>&#60;control&#62;A</code> represents control-A	
	break duration			Default: 500 milliseconds	
	echo		enable, disable	Default: enable	
tunnel accept (Attribute of “instance” is a number.)	accept mode		disable, always	Default: always	
	start character			Accepts a control character, for example, <code>&#60;control&#62;A</code> represents control-A Default: <code><control>B</code>	
	flush start character		enable, disable	Default: enable	
	local port			Default: 0	
	protocol		tcp, telnet, tcp aes	Default: tcp	
	tcp keep alive		<code>&#60;None&#62;;, ...</code>	Default: 45000 milliseconds	
	aes encrypt key			Value is SECRET, hidden from user view.	
	aes decrypt key			Value is SECRET, hidden from user view.	
	flush serial		enable, disable	Default: disable	
	block serial		enable, disable	Default: disable	
	block network		enable, disable	Default: disable	
	password	password			Value is SECRET, hidden from user view.
		prompt		enable, disable	Default: disable
	email connect		<code>&#60;None&#62;;, ...</code>	Default: <code><None></code>	
	email disconnect		<code>&#60;None&#62;;, ...</code>	Default: <code><None></code>	

Group Name (continued)	Group Item	Value Name	Value Options	Additional Information	
tunnel connect (Attribute of "instance" is a number.)	connect mode		disable, always, any character, start character, modem control asserted, modem emulation	Default: disable	
	start character			Accepts a control character, for example, <code>&#60;control&#62;</code> ; A represents control-A Default: <code><control></code> B	
	flush start character		enable, disable	Default: enable	
	local port		<code>&#60;Random&#62;</code> , ...	Default: <code><Random></code>	
	host (Attribute of an "instance" is a number)	address			
		port		<code>&#60;None&#62;</code> , ...	Default: <code><None></code>
		protocol		tcp, udp, telnet, tcp aes, udp aes	Default: tcp
		tcp keep alive		<code>&#60;None&#62;</code> , ...	Default: 45000 milliseconds
		aes encrypt key			Value is SECRET, hidden from user view.
		aes decrypt key			Value is SECRET, hidden from user view.
	host mode		sequential, simultaneous	Default: sequential	
	reconnect time			Default: 15000 milliseconds	
	flush serial		enable, disable	Default: disable	
	block serial		enable, disable	Default: disable	
	block network		enable, disable	Default: disable	
email connect		<code>&#60;None&#62;</code> , ...	Default: <code><None></code>		
email disconnect		<code>&#60;None&#62;</code> , ...	Default: <code><None></code>		
tunnel disconnect (Attribute of "instance" is a number.)	stop character			Accepts a control character, for example, <code>&#60;control&#62;</code> ; A represents control-A	
	flush stop character		enable, disable	Default: enable	
	modem control		enable, disable	Default: disable	
	timeout			Default: 0 milliseconds	
	flush serial		enable, disable	Default: disable	

Group Name (continued)	Group Item	Value Name	Value Options	Additional Information
tunnel modem (Attribute of “instance” is a number.)	echo pluses		enable, disable	Default: disable
	echo commands		enable, disable	Default: enable
	verbose response		enable, disable	Default: enable
	response type		text, numeric	Default: text
	error unknown commands		enable, disable	Default: disable
	incoming connection		disabled, automatic, manual	Default: disabled
	connect string			
	display remote ip		enable, disable	Default: disable
tunnel packing	packing mode		disable, timeout, send character	Default: disable
	timeout			Default: 1000 milliseconds
	threshold			Default: 512 bytes
	send character			Accepts a control character, for example, <code>&#60;control&#62;</code> ;A represents control-A Default: <code><control> M</code>
	trailing character			Accepts a control character, for example, <code>&#60;control&#62;</code> ;A represents control-A
tunnel serial (Attribute of “instance” is a number.)	dtr		asserted while connected, continuously asserted, unasserted, truport	Default: asserted while connected
xml import control	restore factory configuration		enable, disable	
	cpm group delete			
	delete cpm groups		enable, disable	
	delete http authentication uris		enable, disable	Deletes existing HTTP authentication URIs before importing new ones.
	http authentication uri delete	name		Deletes the specified HTTP authentication URI.
	reboot		enable, disable	Reboots after importing.

XML Status Record Groups and Items

[Table 4-8](#) lists the supported XML Status Record (XSR) groups and items. These groups and items show the status of the device in XML form and can only be exported. The XSR schema differs slightly from the XCR groups and items in that the XSR allows groups within groups.

Note: The Valid Values column of [Table 4-8](#) indicates the default value.

Table 4-8 XSR Group and Items

Group Name	Item Name	Value Name	Valid Values
arp	arp entry	ip address	ip address in format nnn.nnn.nnn.nnn
		mac address	mac address in format xx:xx:xx:xx:xx:xx
		type	dynamic or static
		interface	eth0
device	product info	product type	Lantronix XPort Pro Lx6
		serial number	14 characters alpha-numeric value
		firmware version	string in version format like 7.3.0.1R7
		uptime	elapsed time in format d days hh:mm:ss
		permanent config	saved or unsaved
email (Attribute of "instance" is "<decimal>")	success	sent	decimal number
		sent with retries	decimal number
	failed		decimal number
email log (Attribute of "instance" is "<decimal>")	entry	time	timestamp in format d days hh:mm:ss
		log	string
hardware	cpu	speed	string
		type	string
	memory	flash size	decimal number
		ram size	decimal number
http	state		
http log	totals	entries	decimal number
		bytes	decimal number
	entry (Attribute of "instance" is "<decimal>")		String

Group Name (continued)	Item Name	Value Name	Valid Values
icmp	snmp	InMsgs	decimal number
		InErrors	decimal number
		InDestUnreachs	decimal number
		InTimeExcds	decimal number
		InParmProbs	decimal number
		InSrcQuenchs	decimal number
		InRedirects	decimal number
		InEchos	decimal number
		InEchoReps	decimal number
		InTimestamps	decimal number
		InTimestampReps	decimal number
		InAddrMasks	decimal number
		InAddrMaskReps	decimal number
		OutMsgs	decimal number
		OutErrors	decimal number
		OutDestUnreachs	decimal number
		OutTimeExcds	decimal number
		OutParmProbs	decimal number
		OutSrcQuenchs	decimal number
		OutRedirects	decimal number
		OutEchos	decimal number
		OutEchoReps	decimal number
		OutTimestamps	decimal number
		OutTimestampReps	decimal number
		OutAddrMasks	decimal number
		OutAddrMaskReps	decimal number

Group Name (continued)	Item Name	Value Name	Valid Values	
interface (Attribute of "instance" is "eth0")	default gateway		dotted notation	
	ip address		dotted notation	
	ipv6 addresses	ip		
		source		
	ipv6 default gateway	ip		
		source		
	generic	status	linkup	
	network mask		dotted notation	
	receive	bytes		decimal number
		packets		decimal number
		errs		decimal number
		drop		decimal number
		fifo		decimal number
		frame		decimal number
		compressed		decimal number
		multicast		decimal number
	transmit	bytes		decimal number
		packets		decimal number
		errs		decimal number
		drop		decimal number
fifo			decimal number	
colls			decimal number	
carrier			decimal number	
compressed			decimal number	

Group Name (continued)	Item Name	Value Name	Valid Values
ip	snmp	Forwarding	decimal number
		DefaultTTL	decimal number
		InReceives	decimal number
		InHdrErrors	decimal number
		InAddrErrors	decimal number
		ForwDatagrams	decimal number
		InUnknownProtos	decimal number
		InDiscards	decimal number
		InDelivers	decimal number
		OutRequests	decimal number
		OutDiscards	decimal number
		OutNoRoutes	decimal number
		ReasmTimeout	decimal number
		ReasmReqds	decimal number
		ReasmOKs	decimal number
		ReasmFails	decimal number
		FragOKs	decimal number
		FragFails	decimal number
		FragCreates	decimal number
		netstat	InTruncatedPkts
	InMcastPkts		decimal number
	OutMcastPkts		decimal number
	InBcastPkts		decimal number
	OutBcastPkts		decimal number
	InNoRoutes		decimal number
	ip sockets	ip socket	protocol
rx queue			decimal number
tx queue			decimal number
local address			ip address in format nnn.nnn.nnn.nnn
local port			decimal number
remote address			ip address in format nnn.nnn.nnn.nnn
remote port			decimal number or *
state			LISTEN, SYN_RECVD, SYN_SENT, ESTABLISHED, CLOSE_WAIT, LAST_ACK, FIN_WAIT_1, FIN_WAIT_2, CLOSING, or TIME_WAIT.

Group Name (continued)	Item Name	Value Name	Valid Values
line (Attribute of "instance" is "<decimal>")	receiver	bytes	decimal number
		breaks	decimal number
		parity errors	decimal number
		framing errors	decimal number
		overrun errors	decimal number
		no receive buffer errors	decimal number
		queued bytes	decimal number
		flow control	go, stop, or n/a
	transmitter	bytes	decimal number
		breaks	decimal number
		queued bytes	decimal number
		flow control	go, stop, or n/a
	line levels	cts	asserted or not asserted
rts		asserted or not asserted	
dsr		asserted or not asserted	
dtr		asserted or not asserted	
line (group nested within line above)	state		enable or disable
	protocol		Tunnel or None.
	baud rate		<decimal> bits per second
	parity		None, Odd, or Even
	data bits		7 or 8
	stop bits		1 or 2
	flow control		None, Hardware, or Software
	xon char		of form <control> ;Q
	xoff char		of form <control> ;S
memory	main heap	total memory	decimal number of bytes
		available memory	decimal number of bytes
processes	process (Attribute of "instance" is "<decimal>")	stack used	decimal number
		stack size	decimal number
		cpu %	decimal number
		thread name	String

Group Name (continued)	Item Name	Value Name	Valid Values
query port	last connection	ip address	ip address in format nnn.nnn.nnn.nnn
		port	decimal number
	in	discoveries	decimal number
		unknown queries	decimal number
		erroneous packets	decimal number
	out	discovery replies	decimal number
		errors	decimal number
	status		
sessions	line (Attribute of an instance is a "number")	baud	
		data bits	
		flow control	
		parity	
		stop bits	

Group Name (continued)	Item Name	Value Name	Valid Values
tcp	snmp	RtoAlgorithm	decimal number
		RtoMin	decimal number
		RtoMax	decimal number
		MaxConn	decimal number
		ActiveOpens	decimal number
		PassiveOpens	decimal number
		AttemptFails	decimal number
		EstabResets	decimal number
		CurrEstab	decimal number
		InSegs	decimal number
		OutSegs	decimal number
		RetransSegs	decimal number
		InErrs	decimal number
		OutRsts	decimal number
		netstat	SyncookiesSent
	SyncookiesRecv		decimal number
	SyncookiesFailed		decimal number
	EmbryonicRsts		decimal number
	PruneCalled		decimal number
	RcvPruned		decimal number
	OfoPruned		decimal number
	OutOfWindowIcmps		decimal number
	LockDroppedIcmps		decimal number
	ArpFilter		decimal number
	TW		decimal number
	TWRecycled		decimal number
	TWKilled		decimal number
	PAWSPassive		decimal number
	PAWSActive		decimal number
	PAWSEstab		decimal number
	DelayedACKs		decimal number
	DelayedACKLocked		decimal number
	DelayedACKLost		decimal number
	ListenOverflows		decimal number
	ListenDrops		decimal number
	TCPPrequeued	decimal number	
TCPDirectCopyFromBacklog	decimal number		
TCPDirectCopyFromPrequeue	decimal number		
TCPPrequeueDropped	decimal number		
TCPHPHits	decimal number		

Group Name (continued)	Item Name	Value Name	Valid Values
tcp (continued)	netstat (continued)	TCPHPHitsToUser	decimal number
		TCPPureAcks	decimal number
		TCPHPAcks	decimal number
		TCPRenoRecovery	decimal number
		TCPsackRecovery	decimal number
		TCPsACKReneging	decimal number
		TCPFACKReorder	decimal number
		TCPsACKReorder	decimal number
		TCPRenoReorder	decimal number
		TCPTSReorder	decimal number
		TCPFullUndo	decimal number
		TCPPartialUndo	decimal number
		TCPDSACKUndo	decimal number
		TCPLossUndo	decimal number
		TCPLoss	decimal number
		TCPLostRetransmit	decimal number
		TCPRenoFailures	decimal number
		TCPsackFailures	decimal number
		TCPLossFailures	decimal number
		TCPFastRetrans	decimal number
		TCPForwardRetrans	decimal number
		TCPSlowStartRetrans	decimal number
		TCPTimeouts	decimal number
		TCPRenoRecoveryFail	decimal number
		TCPsackRecoveryFail	decimal number
		TCPSchedulerFailed	decimal number
		TCPRcvCollapsed	decimal number
		TCPDSACKOldSent	decimal number
		TCPDSACKOfoSent	decimal number
		TCPDSACKRecv	decimal number
		TCPDSACKOfoRecv	decimal number
		TCPAbortOnSyn	decimal number
		TCPAbortOnData	decimal number
		TCPAbortOnClose	decimal number
		TCPAbortOnMemory	decimal number
		TCPAbortOnTimeout	decimal number
		TCPAbortOnLinger	decimal number
		TCPAbortFailed	decimal number
		TCPMemoryPressures	decimal number
		TCPsACKDiscard	decimal number
TCPDSACKIgnoredOld	decimal number		
TCPDSACKIgnoredNoUndo	decimal number		

Group Name (continued)	Item Name	Value Name	Valid Values
tcp (continued)	netstat (continued)	TCPSpuriousRTOs	decimal number
		TCPMD5NotFound	decimal number
		TCPMD5Unexpected	decimal number
		TCPsackShifted	decimal number
		TCPsackMerged	decimal number
		TCPsackShiftFallback	decimal number
		TCPBacklogDrop	decimal number
		TCPMinTTLDrop	decimal number
		TCPDeferAcceptDrop	decimal number
		IPReversePathFilter	decimal number
		TCPTimeWaitOverflow	decimal number
tunnel (Attribute of an "instance" is a number.)	aggregate	completed connects	decimal number
		completed accepts	decimal number
		disconnects	decimal number
		dropped connects	decimal number
		dropped accepts	decimal number
		octets from	decimal number
		octets from network	decimal number
		connect 0 connection time	elapsed time in format d days hh:mm:ss
		connect 1 connection time	elapsed time in format d days hh:mm:ss
		connect 2 connection time	elapsed time in format d days hh:mm:ss
		connect 3 connection time	elapsed time in format d days hh:mm:ss
		connect 4 connection time	elapsed time in format d days hh:mm:ss
		connect 5 connection time	elapsed time in format d days hh:mm:ss
		connect 6 connection time	elapsed time in format d days hh:mm:ss
		connect 7 connection time	elapsed time in format d days hh:mm:ss
connect 8 connection time	elapsed time in format d days hh:mm:ss		
connect 9 connection time	elapsed time in format d days hh:mm:ss		
connect 10 connection time	elapsed time in format d days hh:mm:ss		
connect 11 connection time	elapsed time in format d days hh:mm:ss		
connect 12 connection time	elapsed time in format d days hh:mm:ss		

Group Name (continued)	Item Name	Value Name	Valid Values
tunnel (Attribute of an "instance" is a number.) (continued)	aggregate (continued)	connect 13 connection time	elapsed time in format d days hh:mm:ss
		connect 14 connection time	elapsed time in format d days hh:mm:ss
		connect 15 connection time	elapsed time in format d days hh:mm:ss
		accept connection time	elapsed time in format d days hh:mm:ss
		connect dns address changes	decimal number
		connect dns address invalids	decimal number
	echo commands		
	verbose response		
	response type		
	error unknown commands		
	incoming connection		
tunnel modem	echo commands		
	verbose response		
	response type		
	error unknown commands		
	incoming connection		
udp	snmp	InDatagrams	decimal number
		NoPorts	decimal number
		InErrors	decimal number
		OutDatagrams	decimal number
		RcvbufErrors	decimal number
		SndbufErrors	decimal number
xsr	out	bytes	decimal number
		lines	decimal number
		elements	decimal number
	errors		decimal number

5: Commands and Levels

Click the level in the tree structure and it will take you to the command list for that level.

[root](#)

- [enable \(enable\)](#)
 - [configure \(config\)](#)
 - [arp \(config-arp\)](#)
 - [cli \(config-cli\)](#)
 - [telnet \(config-cli-telnet\)](#)
 - [diagnostics \(config-diagnostics\)](#)
 - [log \(config-diagnostics-log\)](#)
 - [discovery \(config-discovery\)](#)
 - [ftp \(config-ftp\)](#)
 - [http \(config-http\)](#)
 - [icmp \(config-icmp\)](#)
 - [icmpv6 \(config-icmpv6\)](#)
 - [if 1 \(config-if:eth0\)](#)
 - [link \(config-ethernet:eth0\)](#)
 - [ip \(config-ip\)](#)
 - [smtp \(config-smtp\)](#)
 - [syslog \(config-syslog\)](#)
 - [terminal 1 \(config-terminal:1\)](#)
 - [terminal network \(config-terminal:network\)](#)
 - [cpm \(cpm\)](#)
 - [device \(device\)](#)
 - [dns \(dns\)](#)
 - [email 1 \(email:1\)](#)
 - [cp \(email-cp:1\)](#)
 - [email 2 \(email:2\)](#)
 - [cp \(email-cp:2\)](#)
 - [email 3 \(email:3\)](#)
 - [cp \(email-cp:3\)](#)
 - [email 4 \(email:4\)](#)
 - [cp \(email-cp:4\)](#)
 - [filesystem \(filesystem\)](#)
 - [line 1 \(line:1\)](#)
 - [tunnel 1 \(tunnel:1\)](#)
 - [accept \(tunnel-accept:1\)](#)
 - [cp output \(tunnel-accept-cp_output:1\)](#)
 - [password \(tunnel-accept-password:1\)](#)
 - [connect \(tunnel-connect:1\)](#)
 - [cp output \(tunnel-connect-cp_output:1\)](#)
 - [host 1 \(tunnel-connect-host:1:1\)](#)
 - [host 2 \(tunnel-connect-host:1:2\)](#)
 - [host 3 \(tunnel-connect-host:1:3\)](#)
 - [host 4 \(tunnel-connect-host:1:4\)](#)
 - [host 5 \(tunnel-connect-host:1:5\)](#)
 - [host 6 \(tunnel-connect-host:1:6\)](#)
 - [host 7 \(tunnel-connect-host:1:7\)](#)
 - [host 8 \(tunnel-connect-host:1:8\)](#)
 - [host 9 \(tunnel-connect-host:1:9\)](#)

- [host 10 \(tunnel-connect-host:1:10\)](#)
- [host 11 \(tunnel-connect-host:1:11\)](#)
- [host 12 \(tunnel-connect-host:1:12\)](#)
- [host 13 \(tunnel-connect-host:1:13\)](#)
- [host 14 \(tunnel-connect-host:1:14\)](#)
- [host 15 \(tunnel-connect-host:1:15\)](#)
- [host 16 \(tunnel-connect-host:1:16\)](#)
- [disconnect \(tunnel-disconnect:1\)](#)
- [modem \(tunnel-modem:1\)](#)
- [packing \(tunnel-packing:1\)](#)
- [serial \(tunnel-serial:1\)](#)
- [xml \(xml\)](#)

Table 5-1 Commands and Levels

accept (tunnel-accept:1) level commands	
accept mode always	Enables the tunneling server to always accept tunneling connections.
accept mode any character	Enables the tunneling server to accept tunneling connections only when a character is received through the corresponding line (serial port).
accept mode disable	Disables accept mode tunneling.
accept mode modem control asserted	Enables the tunneling server to accept tunneling connections when the modem control pin is asserted.
accept mode modem emulation	Enables modem emulation for accept mode tunneling.
accept mode start character	Enables accept mode tunneling when the configured start character is received on the line.
aes decrypt key <hexadecimal>	Sets the accept tunnel AES decrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes decrypt key text <text>	Sets the accept tunnel AES decrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
aes encrypt key <hexadecimal>	Sets the accept tunnel AES encrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes encrypt key text <text>	Sets the accept tunnel AES encrypt key with up to 16 bytes.

	Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
block network disable	Forwards (tunnels) network data in accept mode tunneling.
block network enable	Discards all data coming in from the accept mode tunnel before forwarding it to the serial interface (generally used for debugging).
block serial disable	Restores the default priority for the interface.
block serial enable	Sets the priority for interface. <number> = priority number.
clrscrn	Clears the screen.
cp output	Enters the next lower level.
default accept mode	Restores the default accept mode as "always".
default local port	Uses the default port number as the local port for accept mode tunneling. The default port is 10000 + #, where # is the line number for this tunnel.
default protocol	Restores the default protocol as "TCP".
default start character	Defaults the accept mode start character.
default tcp keep alive	Restores the default 45 second accept mode TCP keep alive timeout.
email connect <number>	Sets an email profile to use to send an email alert upon establishing an accept mode tunnel. <number> = the number of the email profile to use.
email disconnect <number>	Sets an email profile to use to send an email alert upon closing an accept mode tunnel. <number> = the number of the email profile to use.
exit	Returns to the tunnel level.
flush serial disable	Characters already in the serial data buffer are retained upon establishing an accept mode tunneling connection.
flush serial enable	Flushes the serial data buffer upon establishing an accept mode tunneling connection.
flush start character disable	Enables forwarding of the accept start character into the network.
flush start character enable	Disables forwarding of the accept start character into the network.
kill connection	Disconnects the active accept mode tunneling connection.
local port <number>	Sets the port to use for accept mode tunneling. <number> = number of the port to use.
no aes decrypt key	Removes the accept tunnel AES decrypt key.
no aes encrypt key	Removes the accept tunnel AES encrypt key.
no email connect	Discontinues sending email alerts upon establishing an accept mode tunnel.
no email disconnect	Discontinues sending email alerts upon closing an accept mode tunnel.
no tcp keep alive	Disables the accept mode TCP keep alive timeout.

password	Enters the next lower level.
protocol tcp	Uses TCP protocol for accept mode tunneling.
protocol tcp aes	Uses TCP protocol with AES encryption for accept mode tunneling.
protocol telnet	Uses Telnet protocol (with IAC) for accept mode tunneling.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show status	Displays tunnel accept status.
start character <control>	Sets the accept mode start character. The character may be input as text, control, decimal, or hex. A control character has the form <control>C. A decimal value character has the form \99. A hex value character has the form 0xFF.
tcp keep alive <milliseconds>	Enables TCP keep alive for accept mode tunneling and sets the timer. <milliseconds> = timer value, in milliseconds.
write	Stores the current configuration in permanent memory.
arp (config-arp) level commands	
add <IP address> <MAC address>	Adds an entry to the ARP table, mapping an IP address to a MAC address. <ip address> = IP address to be mapped. <mac address> = MAC address in colon-separated form.
clrscrn	Clears the screen.
exit	Exits to the configuration level.
remove all	Removes all entries from the ARP cache.
remove ip <IP address>	Removes an entry from the ARP cache. <ip address> = address of the entry being removed.
show cache	Displays the ARP cache table.
show history	Displays the last 20 commands entered during the current CLI session.
write	Stores the current configuration in permanent memory.
cli (config-cli) level commands	
clrscrn	Clears the screen.
default inactivity timeout	The default inactivity timeout will apply to CLI sessions.
default login password	Restores the default CLI login password.
default quit connect line	Restores the default string to quit the "connect line", "telnet", and "ssh" commands.
enable level password <text>	Sets the enable-level password.
exit	Exits to the configuration level.
inactivity timeout <minutes>	Sets the inactivity timeout for all CLI sessions.
line authentication disable	No password required for Line CLI users.
line authentication enable	Challenges the Line CLI user with a password.
login password <text>	Sets the CLI login password.
no enable level password	Removes the enable-level password.
no inactivity timeout	No inactivity timeout will apply to CLI sessions.

quit connect line <control>	Sets the string used to quit the "connect line", "telnet", and "ssh" commands. The characters may be input as text or control. A control character has the form <control>C.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
telnet	Change to menu level for Telnet configuration and status.
write	Stores the current configuration in permanent memory.
configure (config) level commands	
arp	Changes to the command level for ARP configuration and status.
cli	Change to menu level for CLI configuration and status
clrscrn	Clears the screen.
diagnostics	Enters the diagnostics level.
discovery	Enters the discovery level.
exit	Exits to the enable level.
ftp	Enters the ftp level.
http	Enters the http level.
icmp	Changes to the command level for ICMP configuration and status.
icmpv6	Changes to the command level for ICMPv6 configuration and status.
if <instance>	Changes to the interface configuration level.
ip	Changes to the command level for IP configuration and status.
kill telnet <session>	Kills Telnet session with index from "show sessions"
show	Displays system information.
show history	Displays the last 20 commands entered during the current CLI session.
smtp	Changes to the command level for SMTP configuration and status.
syslog	Enters the syslog level.
terminal <line>	Enters the configure-terminal level. <line> = number of the terminal line (serial port) to be configured.
terminal network	Enters the configure-terminal level for the network.
write	Stores the current configuration in permanent memory.
connect (tunnel-connect:1) level commands	
block network disable	Forwards (tunnels) network data in connect mode tunneling.
block network enable	Discards all data coming in from the connect mode tunnel before forwarding it to the serial interface (generally used for debugging).
block serial disable	Forwards (tunnels) serial data in connect mode tunneling.
block serial enable	Discards all data coming in from the serial interface before forwarding it to the connect mode tunnel (generally used for debugging).

clrscrn	Clears the screen.
connect mode always	Enables the tunneling server to always establish tunneling connections.
connect mode any character	Enables the tunneling server to establish a tunneling connection when a character is received on the corresponding line (serial port).
connect mode disable	Disables connect mode tunneling.
connect mode modem control asserted	Enables the tunneling server to make tunneling connections when the modem control pin is asserted.
connect mode modem emulation	Enables modem emulation for connect mode tunneling.
connect mode start character	Enables connect mode tunneling when the configured start character is received on the line.
cp output	Enters the next lower level.
default connect mode	Restores the default connect mode as "disable".
default host mode	Connects to the first host in the list that accepts the connection.
default local port	Uses a random port number as the local port for establishing tunneling connections to other devices.
default reconnect time	Restores the default reconnect time value for connect mode tunneling.
default start character	Defaults the connect mode start character.
email connect <number>	Sets an email profile to use to send an email alert upon establishing a connect mode tunnel. <number> = the number of the email profile to use.
email disconnect <number>	Sets an email profile to use to send an email alert upon closing a connect mode tunnel. <number> = the number of the email profile to use.
exit	Returns to the tunnel level.
flush serial disable	Characters already in the serial data buffer are retained upon establishing a connect mode tunneling connection.
flush serial enable	Flushes the serial data buffer upon establishing a connect mode tunneling connection.
flush start character disable	Enables forwarding of the connect start character into the network.
flush start character enable	Disables forwarding of the connect start character into the network.
host <instance>	Enters the next lower level. Specify the instance for the next lower level.
host mode sequential	Connects to the first host in the list that accepts the connection.
host mode simultaneous	Selects simultaneous connections to all hosts on the host list.
kill connection	Disconnects the active connect mode tunneling connection or connections.

local port <number>	Sets a specific port for use as the local port. <number> = the number of the port to use.
no email connect	Discontinues sending email alerts upon establishing a connect mode tunnel.
no email disconnect	Discontinues sending email alerts upon closing a connect mode tunnel.
promote host <number>	Promotes the identified host, exchanging it place with the host above it, to adjust the order of the defined hosts.
reconnect time <milliseconds>	Sets the reconnect time value for tunneling connections established by the device in milliseconds. <milliseconds> = timeout in milliseconds.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show status	Displays tunnel connect status.
start character <control>	Sets the connect mode start character. The character may be input as text, control, decimal, or hex. A control character has the form <control>C. A decimal value character has the form \99. A hex value character has the form 0xFF.
write	Stores the current configuration in permanent memory.
cp (email-cp:4) level commands	
clrscrn	Clears the screen.
exit	Exits to the next higher level.
group <text>	Specify a CP group that shall trigger an email. <text> = configurable pin group.
no group	Disables the trigger to send an email.
no trigger value	Clears the value that shall trigger an email.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
trigger value <number>	Specify a value of the CP group that shall trigger an email. <number> = numeric value to watch for from the CP group. Can be specified as hex if prepended with "0x".
write	Stores the current configuration in permanent memory.
cp (email-cp:3) level commands	
clrscrn	Clears the screen.
exit	Exits to the next higher level.
group <text>	Specify a CP group that shall trigger an email. <text> = configurable pin group.
no group	Disables the trigger to send an email.
no trigger value	Clears the value that shall trigger an email.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
trigger value <number>	Specify a value of the CP group that shall trigger an email.

	<number> = numeric value to watch for from the CP group. Can be specified as hex if prepended with "0x".
write	Stores the current configuration in permanent memory.
cp (email-cp:2) level commands	
clrscrn	Clears the screen.
exit	Exits to the next higher level.
group <text>	Specify a CP group that shall trigger an email. <text> = configurable pin group.
no group	Disables the trigger to send an email.
no trigger value	Clears the value that shall trigger an email.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
trigger value <number>	Specify a value of the CP group that shall trigger an email. <number> = numeric value to watch for from the CP group. Can be specified as hex if prepended with "0x".
write	Stores the current configuration in permanent memory.
cp (email-cp:1) level commands	
clrscrn	Clears the screen.
exit	Exits to the next higher level.
group <text>	Specify a CP group that shall trigger an email. <text> = configurable pin group.
no group	Disables the trigger to send an email.
no trigger value	Clears the value that shall trigger an email.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
trigger value <number>	Specify a value of the CP group that shall trigger an email. <number> = numeric value to watch for from the CP group. Can be specified as hex if prepended with "0x".
write	Stores the current configuration in permanent memory.
cp output (tunnel-connect-cp_output:1) level commands	
clrscrn	Clears the screen.
connection value <number>	Sets the value to output to the CP Group upon connect mode connection. <number> = binary to output (typically 1 or 0).
default connection value	Restores the default value for connect mode connection.
default disconnection value	Restores the default value for connect mode disconnection.
disconnection value <number>	Sets the value to output to the CP Group upon connect mode disconnection. <number> = binary to output (typically 1 or 0).
exit	Exits to the next higher level.
group <text>	Configures the CP Group to set upon making or breaking a connect mode connection.

	<text> = CP Group.
no group	Removes the CP Set Group for connect mode.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
write	Stores the current configuration in permanent memory.
cp output (tunnel-accept-cp_output:1) level commands	
clrscrn	Clears the screen.
connection value <number>	Sets the value to output to the CP Group upon accept mode connection. <number> = binary to output (typically 1 or 0).
default connection value	Restores the default value for accept mode connection.
default disconnection value	Restores the default value for accept mode disconnection.
disconnection value <number>	Sets the value to output to the CP Group upon accept mode disconnection. <number> = binary to output (typically 1 or 0).
exit	Exits to the next higher level.
group <text>	Configures the CP Group to set upon making or breaking an accept mode connection. <text> = CP Group.
no group	Removes the CP Set Group for accept mode.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
write	Stores the current configuration in permanent memory.
cpm (cpm) level commands	
add <cp> to <group>	Adds the specified CP to the specified group. <cp> = configurable pin. <group> = the name of the group to which you want to add the CP.
add <cp> to <group> <bit>	Adds a specified CP to a specified group at a specified bit position. <cp> = configurable pin. <group> = the name of the group to which you want to add the CP. <bit> = bit position.
clrscrn	Clears the screen.
create <group>	Creates a configurable pin (CP) group. <group> = the name for the new group.
delete <cp> from <group>	Removes a CP from a specified group and sets the CP to its default configuration of input. <cp> = configurable pin. <group> = the name of the group.
delete <group>	Removes a group and resets all CPs in that group to the default configuration of input. <group> = the name of the group.
disable <group>	Disables the specified group. <group> = the name of the group.

enable <group>	Enables a disabled group. <group> = the name of the group.
exit	Exits to the enable level.
get <group>	Displays the value of the specified group. <group> = the name of the group.
set <cp> as input	Configures a CP as an asserted high input. <cp> = configurable pin.
set <cp> as input assert low	Configures a CP as an asserted low input. <cp> = configurable pin.
set <cp> as output	Configures a CP as an asserted high output. <cp> = configurable pin.
set <cp> as output assert low	Configures a CP as an asserted low output. <cp> = configurable pin.
set <group> <value>	Assigns a value to the specified group. <group> = the name of the group. <value> = numeric value to assign to the CP group. Can be specified as hex if prepended with "0x".
show <group>	Displays group information for specified group. <group> = the name of the group.
show cp	Displays configuration and group information for all CPs.
show groups	Displays all groups defined and their state.
show history	Displays the last 20 commands entered during the current CLI session.
write	Stores the current configuration in permanent memory.
device (device) level commands	
auto show tlog	Continuously displays the internal trouble log.
clrscrn	Clears the screen.
exit	Exit to the enable level.
show	Show system information
show hardware information	Displays information about the hardware.
show history	Displays the last 20 commands entered during the current CLI session.
show memory	Displays current memory usage information.
show task state	Displays current task states.
show tlog	Displays the internal trouble log.
write	Stores the current configuration in permanent memory.
diagnostics (config-diagnostics) level commands	
clrscrn	Clears the screen.
exit	Returns to the config level.
log	Enters the next lower level.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
write	Stores the current configuration in permanent memory.
disconnect (tunnel-disconnect:1) level commands	
clrscrn	Clears the screen.
exit	Returns to the tunnel level.

flush serial disable	Does not flush serial data upon closing a tunneling connection.
flush serial enable	Flushes serial data buffer when a tunneling connection is closed.
flush stop character disable	Forwards the stop character from the Line to the network.
flush stop character enable	Prevents the stop character from the Line from being forwarded to the network.
modem control disable	Does not watch the modem control pin to disconnect.
modem control enable	Watches the modem control pin and disconnects if it is not asserted.
no stop character	Removes the stop character.
no timeout	Disables disconnect after timeout feature for tunneling sessions.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
stop character <control>	Sets the stop character. The character may be input as text, control, decimal, or hex. A control character has the form <control>C. A decimal value character has the form \99. A hex value character has the form 0xFF.
timeout <milliseconds>	Disconnects when no data has been received on the line (serial port) for the specified length of time. <milliseconds> = timeout in milliseconds.
write	Stores the current configuration in permanent memory.
discovery (config-discovery) level commands	
clear counters	Zeros Query Port counters
clrscrn	Clears the screen.
exit	Returns to the config level.
no clear counters	Unzeros Query Port counters
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	Displays statistics and information about the discovery services.
state disable	Disables the Query Port server.
state enable	Enables the Query Port server.
write	Stores the current configuration in permanent memory.
dns (dns) level commands	
clrscrn	Clears the screen.
exit	Exits to the enable level.
ipv6 precedence disable	Disables IPv6 DNS record precedence.
ipv6 precedence enable	Enables IPv6 DNS record precedence.
lookup <host_or_ip>	Return a lookup on the DNS name or IP address.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current

	CLI session.
show status	Show DNS status.
write	Stores the current configuration in permanent memory.
email 1 (email:1) level commands	
auto show statistics	Continuously displays email statistics.
cc <text>	Sets Cc addresses for email alerts. <text> = a quoted, semicolon separated list of email addresses.
clear log	Clears all entries from the mail log.
clear mail counters	Sets the email counters to zero.
clrscrn	Clears the screen.
cp	Enters the next lower level.
default local port	Sets the local port (used to send email alerts) to random.
default priority	Sets X-Priority for email alerts to 3 (normal).
default server port	Restores the factory default port for SMTP on the server side.
email <number>	Enters the configure email level.
exit	Exits to the enable level.
from <text>	Sets the From address for email alerts. <text> = email address to place in the From field of the email alert.
local port <number>	Sets the local port used to send email alerts. <number> local port to use for email alerts.
message file <text>	Specifies a text file, the contents of which will be the message body of an email alert. <text> = the name of a local file.
no cc	Removes the Cc addresses for email alerts.
no clear mail counters	Restores the email counters to the aggregate values.
no from	Removes the From address for email alerts.
no message file	Removes the file name, so the message body will be empty.
no overriding domain	Removes the overriding domain name option.
no reply to	Removes the Reply To address for email alerts.
no subject	Removes subject used for email alerts.
no to	Removes the To addresses for email alerts.
overriding domain <text>	Sets a domain name that will be used when connecting to an SMTP server to send an email alert instead of the device's domain name in EHLO. <text> = domain name to override the current domain name in EHLO.
priority high	Sets X-Priority for email alerts to 2 (high).
priority low	Sets X-Priority for email alerts to 4 (low).
priority normal	Sets X-Priority for email alerts to 3 (normal).
priority urgent	Sets X-Priority for email alerts to 1 (urgent).
priority very low	Sets X-Priority for email alerts to 5 (very low).
reply to <text>	Sets the Reply To address for email alerts.

	<text> = email address to place in the Reply To field of the email alert.
send	Sends an email using the current settings.
server port <number>	Sets the port used by the SMTP server. <number> = port used for SMTP on the server side.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show log	Displays the email log.
show statistics	Displays email statistics.
subject <text>	Sets the Subject for email alerts. <text> = text to placed as the subject.
to <text>	Sets To addresses for email alerts. <text> = a quoted, semicolon separated list of email addresses.
write	Stores the current configuration in permanent memory.
email 2 (email:2) level commands	
auto show statistics	Continuously displays email statistics.
cc <text>	Sets Cc addresses for email alerts. <text> = a quoted, semicolon separated list of email addresses.
clear log	Clears all entries from the mail log.
clear mail counters	Sets the email counters to zero.
clrscrn	Clears the screen.
cp	Enters the next lower level.
default local port	Sets the local port (used to send email alerts) to random.
default priority	Sets X-Priority for email alerts to 3 (normal).
default server port	Restores the factory default port for SMTP on the server side.
email <number>	Enters the configure email level.
exit	Exits to the enable level.
from <text>	Sets the From address for email alerts. <text> = email address to place in the From field of the email alert.
local port <number>	Sets the local port used to send email alerts. <number> local port to use for email alerts.
message file <text>	Specifies a text file, the contents of which will be the message body of an email alert. <text> = the name of a local file.
no cc	Removes the Cc addresses for email alerts.
no clear mail counters	Restores the email counters to the aggregate values.
no from	Removes the From address for email alerts.
no message file	Removes the file name, so the message body will be empty.
no overriding domain	Removes the overriding domain name option.
no reply to	Removes the Reply To address for email alerts.
no subject	Removes subject used for email alerts.

no to	Removes the To addresses for email alerts.
overriding domain <text>	Sets a domain name that will be used when connecting to an SMTP server to send an email alert instead of the device's domain name in EHLO. <text> = domain name to override the current domain name in EHLO.
priority high	Sets X-Priority for email alerts to 2 (high).
priority low	Sets X-Priority for email alerts to 4 (low).
priority normal	Sets X-Priority for email alerts to 3 (normal).
priority urgent	Sets X-Priority for email alerts to 1 (urgent).
priority very low	Sets X-Priority for email alerts to 5 (very low).
reply to <text>	Sets the Reply To address for email alerts. <text> = email address to place in the Reply To field of the email alert.
send	Sends an email using the current settings.
server port <number>	Sets the port used by the SMTP server. <number> = port used for SMTP on the server side.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show log	Displays the email log.
show statistics	Displays email statistics.
subject <text>	Sets the Subject for email alerts. <text> = text to placed as the subject.
to <text>	Sets To addresses for email alerts. <text> = a quoted, semicolon separated list of email addresses.
write	Stores the current configuration in permanent memory.
email 3 (email:3) level commands	
auto show statistics	Continuously displays email statistics.
cc <text>	Sets Cc addresses for email alerts. <text> = a quoted, semicolon separated list of email addresses.
clear log	Clears all entries from the mail log.
clear mail counters	Sets the email counters to zero.
clrscrn	Clears the screen.
cp	Enters the next lower level.
default local port	Sets the local port (used to send email alerts) to random.
default priority	Sets X-Priority for email alerts to 3 (normal).
default server port	Restores the factory default port for SMTP on the server side.
email <number>	Enters the configure email level.
exit	Exits to the enable level.
from <text>	Sets the From address for email alerts. <text> = email address to place in the From field of the email alert.
local port <number>	Sets the local port used to send email alerts. <number> local port to use for email alerts.

message file <text>	Specifies a text file, the contents of which will be the message body of an email alert. <text> = the name of a local file.
no cc	Removes the Cc addresses for email alerts.
no clear mail counters	Restores the email counters to the aggregate values.
no from	Removes the From address for email alerts.
no message file	Removes the file name, so the message body will be empty.
no overriding domain	Removes the overriding domain name option.
no reply to	Removes the Reply To address for email alerts.
no subject	Removes subject used for email alerts.
no to	Removes the To addresses for email alerts.
overriding domain <text>	Sets a domain name that will be used when connecting to an SMTP server to send an email alert instead of the device's domain name in EHLO. <text> = domain name to override the current domain name in EHLO.
priority high	Sets X-Priority for email alerts to 2 (high).
priority low	Sets X-Priority for email alerts to 4 (low).
priority normal	Sets X-Priority for email alerts to 3 (normal).
priority urgent	Sets X-Priority for email alerts to 1 (urgent).
priority very low	Sets X-Priority for email alerts to 5 (very low).
reply to <text>	Sets the Reply To address for email alerts. <text> = email address to place in the Reply To field of the email alert.
send	Sends an email using the current settings.
server port <number>	Sets the port used by the SMTP server. <number> = port used for SMTP on the server side.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show log	Displays the email log.
show statistics	Displays email statistics.
subject <text>	Sets the Subject for email alerts. <text> = text to placed as the subject.
to <text>	Sets To addresses for email alerts. <text> = a quoted, semicolon separated list of email addresses.
write	Stores the current configuration in permanent memory.
email 4 (email:4) level commands	
auto show statistics	Continuously displays email statistics.
cc <text>	Sets Cc addresses for email alerts. <text> = a quoted, semicolon separated list of email addresses.
clear log	Clears all entries from the mail log.
clear mail counters	Sets the email counters to zero.
clrscrn	Clears the screen.

cp	Enters the next lower level.
default local port	Sets the local port (used to send email alerts) to random.
default priority	Sets X-Priority for email alerts to 3 (normal).
default server port	Restores the factory default port for SMTP on the server side.
email <number>	Enters the configure email level.
exit	Exits to the enable level.
from <text>	Sets the From address for email alerts. <text> = email address to place in the From field of the email alert.
local port <number>	Sets the local port used to send email alerts. <number> local port to use for email alerts.
message file <text>	Specifies a text file, the contents of which will be the message body of an email alert. <text> = the name of a local file.
no cc	Removes the Cc addresses for email alerts.
no clear mail counters	Restores the email counters to the aggregate values.
no from	Removes the From address for email alerts.
no message file	Removes the file name, so the message body will be empty.
no overriding domain	Removes the overriding domain name option.
no reply to	Removes the Reply To address for email alerts.
no subject	Removes subject used for email alerts.
no to	Removes the To addresses for email alerts.
overriding domain <text>	Sets a domain name that will be used when connecting to an SMTP server to send an email alert instead of the device's domain name in EHLO. <text> = domain name to override the current domain name in EHLO.
priority high	Sets X-Priority for email alerts to 2 (high).
priority low	Sets X-Priority for email alerts to 4 (low).
priority normal	Sets X-Priority for email alerts to 3 (normal).
priority urgent	Sets X-Priority for email alerts to 1 (urgent).
priority very low	Sets X-Priority for email alerts to 5 (very low).
reply to <text>	Sets the Reply To address for email alerts. <text> = email address to place in the Reply To field of the email alert.
send	Sends an email using the current settings.
server port <number>	Sets the port used by the SMTP server. <number> = port used for SMTP on the server side.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show log	Displays the email log.
show statistics	Displays email statistics.
subject <text>	Sets the Subject for email alerts. <text> = text to be placed as the subject.

to <text>	Sets To addresses for email alerts. <text> = a quoted, semicolon separated list of email addresses.
write	Stores the current configuration in permanent memory.
enable (enable) level commands	
auto show interfaces	Show interface statistics
auto show processes	Continuously show thread runtime information
clrscrn	Clears the screen.
configure	Enters the configuration level.
connect	Show name and number for lines.
connect line <line>	Begin session on serial port.
cpm	Enters the CP Manager level.
device	Enters the device level.
disable	Exits the enable level.
dns	Enters the DNS level.
email <number>	Enters the configure email level.
exit	Exit from the system
filesystem	Enters the filesystem level.
iperf <params>	Run iperf with command line parameters passed in quoted string.
kill telnet <session>	Kills Telnet session with index from "show sessions"
line <line>	Enters the line level. <line> = number of the line (serial port) to be configured.
ping <host>	Ping destination continuously with 5 second timeout
ping <host> <count>	Ping destination n times with 5 second timeout
ping <host> <count> <timeout>	Ping destination n times with x timeout (in seconds)
ping6 <host>	Ping IPv6 destination continuously with 5 second timeout
ping6 <host> <count>	Ping IPv6 destination n times with 5 second timeout
ping6 <host> <count> <timeout>	Ping IPv6 destination n times with x timeout (in seconds)
reload	Reboot system
reload factory defaults	Reload factory defaults to permanent storage
show	Show system information
show history	Displays the last 20 commands entered during the current CLI session.
show interfaces	Show interface statistics
show ip sockets	Show UDP/TCP state information
show processes	Show thread runtime information
show sessions	Show active Telnet Sessions
telnet <host>	Begin telnet session on network <host>.
telnet <host> <port>	Begin telnet session on network <host>:<port>.
trace route <host>	Trace route to destination
trace route <host> <protocol>	Trace route to destination using TCP, ICMP, or UDP
tunnel <line>	Enters the tunnel level. <line> = number of the tunnel line (serial port) to be configured.

write	Stores the current configuration in permanent memory.
xml	Enters the XML level.
filesystem (filesystem) level commands	
cat <file>	Show the contents of a file
cd <directory>	Change the current directory to the specified directory
clrscrn	Clears the screen.
cp <source file> <destination file>	Copy an existing file
dump <file>	Show contents of a file as a hex dump
exit	Exits to the enable level.
format	Format the file system and lose all data
ls	Show all files and directories in the current directory
ls <directory>	Show all files and directories in the specified directory
mkdir <directory>	Create a directory
mv <source file> <destination file>	Move a file on the file system
pwd	Print working directory
rm <file>	Remove a file
rmdir <directory>	Remove a directory
show	Show file system statistics
show history	Displays the last 20 commands entered during the current CLI session.
show tree	Show all files and directories from current directory
ftpp get <source file> <destination file> <host>	Get a file using TFTP
ftpp get <source file> <destination file> <host> <port>	Get a file using TFTP
ftpp put <source file> <destination file> <host>	Put a file using TFTP
ftpp put <source file> <destination file> <host> <port>	Put a file using TFTP
touch <file>	Create a file
ftp (config-ftp) level commands	
clrscrn	Clears the screen.
exit	Returns to the config level.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	Displays the FTP statistics.
state disable	Disables the FTP server.
state enable	Enables the FTP server.
write	Stores the current configuration in permanent memory.
host 1 (tunnel-connect-host:1:1) level commands	
address <text>	Sets the remote host to establish tunneling connections with. <text> = IP address or host name of the remote host.
aes decrypt key <hexadecimal>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc

	Note that quotes must enclose the value if it contains spaces.
aes decrypt key <i><text></i>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
aes encrypt key <i><hexadecimal></i>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes encrypt key text <i><text></i>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
auto show statistics	show connection statistics
clrscrn	Clears the screen.
default protocol	Restores the default protocol as "TCP".
default tcp keep alive	Restores the default 45 second connect mode TCP keep alive timeout.
exit	Exits to the next higher level.
no address	Removes the remote host address used to establish tunneling connections.
no aes decrypt key	Removes the connect tunnel AES decrypt key.
no aes encrypt key	Removes the connect tunnel AES encrypt key.
no port	Removes the remote port used to establish tunnel connections.
no tcp keep alive	Disables the connect mode TCP keep alive timeout.
port <i><number></i>	Sets the remote port to use for connect mode tunneling. <i><number></i> = number of the port to use.
protocol tcp	Uses TCP protocol for connect mode tunneling.
protocol tcp aes	Uses TCP protocol with AES encryption for connect mode tunneling.
protocol telnet	Uses Telnet protocol (with IAC) for connect mode tunneling.
protocol udp	Uses UDP protocol for connect mode tunneling.
protocol udp aes	Uses UDP protocol with AES encryption for connect mode tunneling.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	show connection statistics
tcp keep alive <i><milliseconds></i>	Enables TCP keep alive for connect mode tunneling and sets the timer. <i><milliseconds></i> = timer value, in milliseconds.
write	Stores the current configuration in permanent memory.

host 10 (tunnel-connect-host:1:10) level commands	
address <text>	Sets the remote host to establish tunneling connections with. <text> = IP address or host name of the remote host.
aes decrypt key <hexadecimal>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes decrypt key text <text>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
aes encrypt key <hexadecimal>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes encrypt key text <text>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
auto show statistics	show connection statistics
clrscrn	Clears the screen.
default protocol	Restores the default protocol as "TCP".
default tcp keep alive	Restores the default 45 second connect mode TCP keep alive timeout.
exit	Exits to the next higher level.
no address	Removes the remote host address used to establish tunneling connections.
no aes decrypt key	Removes the connect tunnel AES decrypt key.
no aes encrypt key	Removes the connect tunnel AES encrypt key.
no port	Removes the remote port used to establish tunnel connections.
no tcp keep alive	Disables the connect mode TCP keep alive timeout.
port <number>	Sets the remote port to use for connect mode tunneling. <number> = number of the port to use.
protocol tcp	Uses TCP protocol for connect mode tunneling.
protocol tcp aes	Uses TCP protocol with AES encryption for connect mode tunneling.
protocol telnet	Uses Telnet protocol (with IAC) for connect mode tunneling.
protocol udp	Uses UDP protocol for connect mode tunneling.
protocol udp aes	Uses UDP protocol with AES encryption for connect mode tunneling.

show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	show connection statistics
tcp keep alive <milliseconds>	Enables TCP keep alive for connect mode tunneling and sets the timer. <milliseconds> = timer value, in milliseconds.
write	Stores the current configuration in permanent memory.
host 11 (tunnel-connect-host:1:11) level commands	
address <text>	Sets the remote host to establish tunneling connections with. <text> = IP address or host name of the remote host.
aes decrypt key <hexadecimal>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes decrypt key text <text>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
aes encrypt key <hexadecimal>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes encrypt key text <text>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
auto show statistics	show connection statistics
clrscrn	Clears the screen.
default protocol	Restores the default protocol as "TCP".
default tcp keep alive	Restores the default 45 second connect mode TCP keep alive timeout.
exit	Exits to the next higher level.
no address	Removes the remote host address used to establish tunneling connections.
no aes decrypt key	Removes the connect tunnel AES decrypt key.
no aes encrypt key	Removes the connect tunnel AES encrypt key.
no port	Removes the remote port used to establish tunnel connections.
no tcp keep alive	Disables the connect mode TCP keep alive timeout.
port <number>	Sets the remote port to use for connect mode tunneling. <number> = number of the port to use.

protocol tcp	Uses TCP protocol for connect mode tunneling.
protocol tcp aes	Uses TCP protocol with AES encryption for connect mode tunneling.
protocol telnet	Uses Telnet protocol (with IAC) for connect mode tunneling.
protocol udp	Uses UDP protocol for connect mode tunneling.
protocol udp aes	Uses UDP protocol with AES encryption for connect mode tunneling.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	show connection statistics
tcp keep alive <milliseconds>	Enables TCP keep alive for connect mode tunneling and sets the timer. <milliseconds> = timer value, in milliseconds.
write	Stores the current configuration in permanent memory.
host 12 (tunnel-connect-host:1:12) level commands	
address <text>	Sets the remote host to establish tunneling connections with. <text> = IP address or host name of the remote host.
aes decrypt key <hexadecimal>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes decrypt key text <text>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
aes encrypt key <hexadecimal>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes encrypt key text <text>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
auto show statistics	show connection statistics
clrscrn	Clears the screen.
default protocol	Restores the default protocol as "TCP".
default tcp keep alive	Restores the default 45 second connect mode TCP keep alive timeout.
exit	Exits to the next higher level.
no address	Removes the remote host address used to establish tun-

	neling connections.
no aes decrypt key	Removes the connect tunnel AES decrypt key.
no aes encrypt key	Removes the connect tunnel AES encrypt key.
no port	Removes the remote port used to establish tunnel connections.
no tcp keep alive	Disables the connect mode TCP keep alive timeout.
port <number>	Sets the remote port to use for connect mode tunneling. <number> = number of the port to use.
protocol tcp	Uses TCP protocol for connect mode tunneling.
protocol tcp aes	Uses TCP protocol with AES encryption for connect mode tunneling.
protocol telnet	Uses Telnet protocol (with IAC) for connect mode tunneling.
protocol udp	Uses UDP protocol for connect mode tunneling.
protocol udp aes	Uses UDP protocol with AES encryption for connect mode tunneling.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	show connection statistics
tcp keep alive <milliseconds>	Enables TCP keep alive for connect mode tunneling and sets the timer. <milliseconds> = timer value, in milliseconds.
write	Stores the current configuration in permanent memory.
host 13 (tunnel-connect-host:1:13) level commands	
address <text>	Sets the remote host to establish tunneling connections with. <text> = IP address or host name of the remote host.
aes decrypt key <hexadecimal>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes decrypt key text <text>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
aes encrypt key <hexadecimal>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes encrypt key text <text>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains

	spaces.
auto show statistics	show connection statistics
clrscrn	Clears the screen.
default protocol	Restores the default protocol as "TCP".
default tcp keep alive	Restores the default 45 second connect mode TCP keep alive timeout.
exit	Exits to the next higher level.
no address	Removes the remote host address used to establish tunneling connections.
no aes decrypt key	Removes the connect tunnel AES decrypt key.
no aes encrypt key	Removes the connect tunnel AES encrypt key.
no port	Removes the remote port used to establish tunnel connections.
no tcp keep alive	Disables the connect mode TCP keep alive timeout.
port <number>	Sets the remote port to use for connect mode tunneling. <number> = number of the port to use.
protocol tcp	Uses TCP protocol for connect mode tunneling.
protocol tcp aes	Uses TCP protocol with AES encryption for connect mode tunneling.
protocol telnet	Uses Telnet protocol (with IAC) for connect mode tunneling.
protocol udp	Uses UDP protocol for connect mode tunneling.
protocol udp aes	Uses UDP protocol with AES encryption for connect mode tunneling.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	show connection statistics
tcp keep alive <milliseconds>	Enables TCP keep alive for connect mode tunneling and sets the timer. <milliseconds> = timer value, in milliseconds.
write	Stores the current configuration in permanent memory.
host 14 (tunnel-connect-host:1:14) level commands	
address <text>	Sets the remote host to establish tunneling connections with. <text> = IP address or host name of the remote host.
aes decrypt key <hexadecimal>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes decrypt key text <text>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
aes encrypt key <hexadecimal>	Sets the connect tunnel AES encrypt key with up to 16 bytes.

	Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes encrypt key text <text>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
auto show statistics	show connection statistics
clrscrn	Clears the screen.
default protocol	Restores the default protocol as "TCP".
default tcp keep alive	Restores the default 45 second connect mode TCP keep alive timeout.
exit	Exits to the next higher level.
no address	Removes the remote host address used to establish tunneling connections.
no aes decrypt key	Removes the connect tunnel AES decrypt key.
no aes encrypt key	Removes the connect tunnel AES encrypt key.
no port	Removes the remote port used to establish tunnel connections.
no tcp keep alive	Disables the connect mode TCP keep alive timeout.
port <number>	Sets the remote port to use for connect mode tunneling. <number> = number of the port to use.
protocol tcp	Uses TCP protocol for connect mode tunneling.
protocol tcp aes	Uses TCP protocol with AES encryption for connect mode tunneling.
protocol telnet	Uses Telnet protocol (with IAC) for connect mode tunneling.
protocol udp	Uses UDP protocol for connect mode tunneling.
protocol udp aes	Uses UDP protocol with AES encryption for connect mode tunneling.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	show connection statistics
tcp keep alive <milliseconds>	Enables TCP keep alive for connect mode tunneling and sets the timer. <milliseconds> = timer value, in milliseconds.
write	Stores the current configuration in permanent memory.
host 15 (tunnel-connect-host:1:15) level commands	
address <text>	Sets the remote host to establish tunneling connections with. <text> = IP address or host name of the remote host.
aes decrypt key <hexadecimal>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation:

	123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes decrypt key text <text>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
aes encrypt key <hexadecimal>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes encrypt key text <text>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
auto show statistics	show connection statistics
clrscrn	Clears the screen.
default protocol	Restores the default protocol as "TCP".
default tcp keep alive	Restores the default 45 second connect mode TCP keep alive timeout.
exit	Exits to the next higher level.
no address	Removes the remote host address used to establish tunneling connections.
no aes decrypt key	Removes the connect tunnel AES decrypt key.
no aes encrypt key	Removes the connect tunnel AES encrypt key.
no port	Removes the remote port used to establish tunnel connections.
no tcp keep alive	Disables the connect mode TCP keep alive timeout.
port <number>	Sets the remote port to use for connect mode tunneling. <number> = number of the port to use.
protocol tcp	Uses TCP protocol for connect mode tunneling.
protocol tcp aes	Uses TCP protocol with AES encryption for connect mode tunneling.
protocol telnet	Uses Telnet protocol (with IAC) for connect mode tunneling.
protocol udp	Uses UDP protocol for connect mode tunneling.
protocol udp aes	Uses UDP protocol with AES encryption for connect mode tunneling.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	show connection statistics
tcp keep alive <milliseconds>	Enables TCP keep alive for connect mode tunneling and sets the timer. <milliseconds> = timer value, in milliseconds.

write	Stores the current configuration in permanent memory.
host 16 (tunnel-connect-host:1:16) level commands	
address <text>	Sets the remote host to establish tunneling connections with. <text> = IP address or host name of the remote host.
aes decrypt key <hexadecimal>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes decrypt key text <text>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
aes encrypt key <hexadecimal>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes encrypt key text <text>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
auto show statistics	show connection statistics
clrscrn	Clears the screen.
default protocol	Restores the default protocol as "TCP".
default tcp keep alive	Restores the default 45 second connect mode TCP keep alive timeout.
exit	Exits to the next higher level.
no address	Removes the remote host address used to establish tunneling connections.
no aes decrypt key	Removes the connect tunnel AES decrypt key.
no aes encrypt key	Removes the connect tunnel AES encrypt key.
no port	Removes the remote port used to establish tunnel connections.
no tcp keep alive	Disables the connect mode TCP keep alive timeout.
port <number>	Sets the remote port to use for connect mode tunneling. <number> = number of the port to use.
protocol tcp	Uses TCP protocol for connect mode tunneling.
protocol tcp aes	Uses TCP protocol with AES encryption for connect mode tunneling.
protocol telnet	Uses Telnet protocol (with IAC) for connect mode tunneling.
protocol udp	Uses UDP protocol for connect mode tunneling.

protocol udp aes	Uses UDP protocol with AES encryption for connect mode tunneling.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	show connection statistics
tcp keep alive <milliseconds>	Enables TCP keep alive for connect mode tunneling and sets the timer. <milliseconds> = timer value, in milliseconds.
write	Stores the current configuration in permanent memory.
host 2 (tunnel-connect-host:1:2) level commands	
address <text>	Sets the remote host to establish tunneling connections with. <text> = IP address or host name of the remote host.
aes decrypt key <hexadecimal>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes decrypt key text <text>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
aes encrypt key <hexadecimal>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes encrypt key text <text>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
auto show statistics	show connection statistics
clrscrn	Clears the screen.
default protocol	Restores the default protocol as "TCP".
default tcp keep alive	Restores the default 45 second connect mode TCP keep alive timeout.
exit	Exits to the next higher level.
no address	Removes the remote host address used to establish tunneling connections.
no aes decrypt key	Removes the connect tunnel AES decrypt key.
no aes encrypt key	Removes the connect tunnel AES encrypt key.
no port	Removes the remote port used to establish tunnel connections.
no tcp keep alive	Disables the connect mode TCP keep alive timeout.

port <number>	Sets the remote port to use for connect mode tunneling. <number> = number of the port to use.
protocol tcp	Uses TCP protocol for connect mode tunneling.
protocol tcp aes	Uses TCP protocol with AES encryption for connect mode tunneling.
protocol telnet	Uses Telnet protocol (with IAC) for connect mode tunneling.
protocol udp	Uses UDP protocol for connect mode tunneling.
protocol udp aes	Uses UDP protocol with AES encryption for connect mode tunneling.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	show connection statistics
tcp keep alive <milliseconds>	Enables TCP keep alive for connect mode tunneling and sets the timer. <milliseconds> = timer value, in milliseconds.
write	Stores the current configuration in permanent memory.
host 3 (tunnel-connect-host:1:3) level commands	
address <text>	Sets the remote host to establish tunneling connections with. <text> = IP address or host name of the remote host.
aes decrypt key <hexadecimal>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes decrypt key text <text>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
aes encrypt key <hexadecimal>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes encrypt key text <text>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
auto show statistics	show connection statistics
clrscrn	Clears the screen.
default protocol	Restores the default protocol as "TCP".
default tcp keep alive	Restores the default 45 second connect mode TCP keep alive timeout.

exit	Exits to the next higher level.
no address	Removes the remote host address used to establish tunneling connections.
no aes decrypt key	Removes the connect tunnel AES decrypt key.
no aes encrypt key	Removes the connect tunnel AES encrypt key.
no port	Removes the remote port used to establish tunnel connections.
no tcp keep alive	Disables the connect mode TCP keep alive timeout.
port <number>	Sets the remote port to use for connect mode tunneling. <number> = number of the port to use.
protocol tcp	Uses TCP protocol for connect mode tunneling.
protocol tcp aes	Uses TCP protocol with AES encryption for connect mode tunneling.
protocol telnet	Uses Telnet protocol (with IAC) for connect mode tunneling.
protocol udp	Uses UDP protocol for connect mode tunneling.
protocol udp aes	Uses UDP protocol with AES encryption for connect mode tunneling.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	show connection statistics
tcp keep alive <milliseconds>	Enables TCP keep alive for connect mode tunneling and sets the timer. <milliseconds> = timer value, in milliseconds.
write	Stores the current configuration in permanent memory.
host 4 (tunnel-connect-host:1:4) level commands	
address <text>	Sets the remote host to establish tunneling connections with. <text> = IP address or host name of the remote host.
aes decrypt key <hexadecimal>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes decrypt key text <text>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
aes encrypt key <hexadecimal>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes encrypt key text <text>	Sets the connect tunnel AES encrypt key with up to 16

	bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
auto show statistics	show connection statistics
clrscrn	Clears the screen.
default protocol	Restores the default protocol as "TCP".
default tcp keep alive	Restores the default 45 second connect mode TCP keep alive timeout.
exit	Exits to the next higher level.
no address	Removes the remote host address used to establish tunneling connections.
no aes decrypt key	Removes the connect tunnel AES decrypt key.
no aes encrypt key	Removes the connect tunnel AES encrypt key.
no port	Removes the remote port used to establish tunnel connections.
no tcp keep alive	Disables the connect mode TCP keep alive timeout.
port <number>	Sets the remote port to use for connect mode tunneling. <number> = number of the port to use.
protocol tcp	Uses TCP protocol for connect mode tunneling.
protocol tcp aes	Uses TCP protocol with AES encryption for connect mode tunneling.
protocol telnet	Uses Telnet protocol (with IAC) for connect mode tunneling.
protocol udp	Uses UDP protocol for connect mode tunneling.
protocol udp aes	Uses UDP protocol with AES encryption for connect mode tunneling.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	show connection statistics
tcp keep alive <milliseconds>	Enables TCP keep alive for connect mode tunneling and sets the timer. <milliseconds> = timer value, in milliseconds.
write	Stores the current configuration in permanent memory.
host 5 (tunnel-connect-host:1:5) level commands	
address <text>	Sets the remote host to establish tunneling connections with. <text> = IP address or host name of the remote host.
aes decrypt key <hexadecimal>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes decrypt key text <text>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains

	spaces.
aes encrypt key <hexadecimal>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes encrypt key text <text>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
auto show statistics	show connection statistics
clrscrn	Clears the screen.
default protocol	Restores the default protocol as "TCP".
default tcp keep alive	Restores the default 45 second connect mode TCP keep alive timeout.
exit	Exits to the next higher level.
no address	Removes the remote host address used to establish tunneling connections.
no aes decrypt key	Removes the connect tunnel AES decrypt key.
no aes encrypt key	Removes the connect tunnel AES encrypt key.
no port	Removes the remote port used to establish tunnel connections.
no tcp keep alive	Disables the connect mode TCP keep alive timeout.
port <number>	Sets the remote port to use for connect mode tunneling. <number> = number of the port to use.
protocol tcp	Uses TCP protocol for connect mode tunneling.
protocol tcp aes	Uses TCP protocol with AES encryption for connect mode tunneling.
protocol telnet	Uses Telnet protocol (with IAC) for connect mode tunneling.
protocol udp	Uses UDP protocol for connect mode tunneling.
protocol udp aes	Uses UDP protocol with AES encryption for connect mode tunneling.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	show connection statistics
tcp keep alive <milliseconds>	Enables TCP keep alive for connect mode tunneling and sets the timer. <milliseconds> = timer value, in milliseconds.
write	Stores the current configuration in permanent memory.
host 6 (tunnel-connect-host:1:6) level commands	
address <text>	Sets the remote host to establish tunneling connections with. <text> = IP address or host name of the remote host.
aes decrypt key <hexadecimal>	Sets the connect tunnel AES decrypt key with up to 16 bytes.

	Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes decrypt key text <text>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
aes encrypt key <hexadecimal>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes encrypt key text <text>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
auto show statistics	show connection statistics
clrscrn	Clears the screen.
default protocol	Restores the default protocol as "TCP".
default tcp keep alive	Restores the default 45 second connect mode TCP keep alive timeout.
exit	Exits to the next higher level.
no address	Removes the remote host address used to establish tunneling connections.
no aes decrypt key	Removes the connect tunnel AES decrypt key.
no aes encrypt key	Removes the connect tunnel AES encrypt key.
no port	Removes the remote port used to establish tunnel connections.
no tcp keep alive	Disables the connect mode TCP keep alive timeout.
port <number>	Sets the remote port to use for connect mode tunneling. <number> = number of the port to use.
protocol tcp	Uses TCP protocol for connect mode tunneling.
protocol tcp aes	Uses TCP protocol with AES encryption for connect mode tunneling.
protocol telnet	Uses Telnet protocol (with IAC) for connect mode tunneling.
protocol udp	Uses UDP protocol for connect mode tunneling.
protocol udp aes	Uses UDP protocol with AES encryption for connect mode tunneling.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	show connection statistics
tcp keep alive <milliseconds>	Enables TCP keep alive for connect mode tunneling and

	sets the timer. <milliseconds> = timer value, in milliseconds.
write	Stores the current configuration in permanent memory.
host 7 (tunnel-connect-host:1:7) level commands	
address <text>	Sets the remote host to establish tunneling connections with. <text> = IP address or host name of the remote host.
aes decrypt key <hexadecimal>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes decrypt key text <text>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
aes encrypt key <hexadecimal>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes encrypt key text <text>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
auto show statistics	show connection statistics
clrscrn	Clears the screen.
default protocol	Restores the default protocol as "TCP".
default tcp keep alive	Restores the default 45 second connect mode TCP keep alive timeout.
exit	Exits to the next higher level.
no address	Removes the remote host address used to establish tunneling connections.
no aes decrypt key	Removes the connect tunnel AES decrypt key.
no aes encrypt key	Removes the connect tunnel AES encrypt key.
no port	Removes the remote port used to establish tunnel connections.
no tcp keep alive	Disables the connect mode TCP keep alive timeout.
port <number>	Sets the remote port to use for connect mode tunneling. <number> = number of the port to use.
protocol tcp	Uses TCP protocol for connect mode tunneling.
protocol tcp aes	Uses TCP protocol with AES encryption for connect mode tunneling.
protocol telnet	Uses Telnet protocol (with IAC) for connect mode tunneling.

protocol udp	Uses UDP protocol for connect mode tunneling.
protocol udp aes	Uses UDP protocol with AES encryption for connect mode tunneling.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	show connection statistics
tcp keep alive <milliseconds>	Enables TCP keep alive for connect mode tunneling and sets the timer. <milliseconds> = timer value, in milliseconds.
write	Stores the current configuration in permanent memory.
host 8 (tunnel-connect-host:1:8) level commands	
address <text>	Sets the remote host to establish tunneling connections with. <text> = IP address or host name of the remote host.
aes decrypt key <hexadecimal>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes decrypt key text <text>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
aes encrypt key <hexadecimal>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes encrypt key text <text>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
auto show statistics	show connection statistics
clrscrn	Clears the screen.
default protocol	Restores the default protocol as "TCP".
default tcp keep alive	Restores the default 45 second connect mode TCP keep alive timeout.
exit	Exits to the next higher level.
no address	Removes the remote host address used to establish tunneling connections.
no aes decrypt key	Removes the connect tunnel AES decrypt key.
no aes encrypt key	Removes the connect tunnel AES encrypt key.
no port	Removes the remote port used to establish tunnel connections.

no tcp keep alive	Disables the connect mode TCP keep alive timeout.
port <number>	Sets the remote port to use for connect mode tunneling. <number> = number of the port to use.
protocol tcp	Uses TCP protocol for connect mode tunneling.
protocol tcp aes	Uses TCP protocol with AES encryption for connect mode tunneling.
protocol telnet	Uses Telnet protocol (with IAC) for connect mode tunneling.
protocol udp	Uses UDP protocol for connect mode tunneling.
protocol udp aes	Uses UDP protocol with AES encryption for connect mode tunneling.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	show connection statistics
tcp keep alive <milliseconds>	Enables TCP keep alive for connect mode tunneling and sets the timer. <milliseconds> = timer value, in milliseconds.
write	Stores the current configuration in permanent memory.
host 9 (tunnel-connect-host:1:9) level commands	
address <text>	Sets the remote host to establish tunneling connections with. <text> = IP address or host name of the remote host.
aes decrypt key <hexadecimal>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes decrypt key text <text>	Sets the connect tunnel AES decrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
aes encrypt key <hexadecimal>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by two adjacent hex digits. Bytes may run together or be separated by optional punctuation: 123ABC "12 3A BC" 12,3A,BC 12.3a.bc 12:3a:bc Note that quotes must enclose the value if it contains spaces.
aes encrypt key text <text>	Sets the connect tunnel AES encrypt key with up to 16 bytes. Each byte is represented by a single character. Note that quotes must enclose the value if it contains spaces.
auto show statistics	show connection statistics
clrscrn	Clears the screen.
default protocol	Restores the default protocol as "TCP".
default tcp keep alive	Restores the default 45 second connect mode TCP keep

	alive timeout.
exit	Exits to the next higher level.
no address	Removes the remote host address used to establish tunneling connections.
no aes decrypt key	Removes the connect tunnel AES decrypt key.
no aes encrypt key	Removes the connect tunnel AES encrypt key.
no port	Removes the remote port used to establish tunnel connections.
no tcp keep alive	Disables the connect mode TCP keep alive timeout.
port <number>	Sets the remote port to use for connect mode tunneling. <number> = number of the port to use.
protocol tcp	Uses TCP protocol for connect mode tunneling.
protocol tcp aes	Uses TCP protocol with AES encryption for connect mode tunneling.
protocol telnet	Uses Telnet protocol (with IAC) for connect mode tunneling.
protocol udp	Uses UDP protocol for connect mode tunneling.
protocol udp aes	Uses UDP protocol with AES encryption for connect mode tunneling.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	show connection statistics
tcp keep alive <milliseconds>	Enables TCP keep alive for connect mode tunneling and sets the timer. <milliseconds> = timer value, in milliseconds.
write	Stores the current configuration in permanent memory.
http (config-http) level commands	
auth <uri>	Creates a new HTTP server authentication directive. <uri> = URI of the server.
auth type <uri> digest	Sets an HTTP server authentication directive to the Digest Access Authentication scheme. <uri> = URI of the server.
auth type <uri> none	Sets the authentication type for an HTTP server authentication directive to none. <uri> = URI of the server.
authentication timeout <minutes>	For any Digest AuthType, sets the timeout for authentication. <minutes> = authentication timeout value.
clear counters	Sets the HTTP counters to zero.
clear log	Clears the HTTP server log.
clrscrn	Clears the screen.
default authentication timeout	Resets the authentication timeout to its default value.
default log format	Restores the HTTP Server log format string to its default value.
default max bytes	Resets the maximum bytes to its default value.
default max log entries	Restores the default maximum number of HTTP Server

	log entries.
default max timeout	Resets the timeout to its default value.
default port	Resets the HTTP Server port to its default value.
delete auth <uri>	Deletes an existing HTTP Server authentication directive. <uri> = URI of the server.
exit	Returns to the config level.
log format <text>	Sets the log format string for the HTTP server, using the following directives: %a remote ip address (could be a proxy) %b bytes sent excluding headers %B bytes sent excluding headers (0 = '-') %h remote host (same as %a) %{h}i header contents from request (h = header string) %m request method %p ephemeral local port value used for request %q query string (prepend with '?' or empty '-') %t timestamp HH:MM:SS (same as Apache '%(%H:%M:%S)t') %u remote user (could be bogus for 401 status) %U URL path info %r first line of request (same as '%m %U%q <version>') %s return status
logging state disable	Disables HTTP server logging.
logging state enable	Enables HTTP server logging.
max bytes <number>	Sets the maximum number of bytes the HTTP server accepts when receiving a request.
max log entries <number>	Sets the maximum number of HTTP server log entries. <number> = maximum number of HTTP server log entries.
max timeout <seconds>	Sets the maximum time the HTTP server waits when receiving a request. <seconds> = maximum timeout value.
no clear counters	Restores the HTTP counters to the aggregate values.
no port	Disables the HTTP Server port.
port <number>	Sets the port number the HTTP server will use. <number> = port number.
show	Displays the current configuration.
show auth	Displays the HTTP server authentication settings.
show history	Displays the last 20 commands entered during the current CLI session.
show log	Displays the HTTP server log.
show statistics	Displays the HTTP statistics.
state disable	Disables the HTTP server.
state enable	Enables the HTTP server.
write	Stores the current configuration in permanent memory.
icmp (config-icmp) level commands	
clrscrn	Clears the screen.
exit	Exits to the configuration level.
show	Displays the current configuration.

show history	Displays the last 20 commands entered during the current CLI session.
state disable	Prevents ICMP packets from being sent or received.
state enable	Allows ICMP packets to be sent and received.
write	Stores the current configuration in permanent memory.
icmpv6 (config-icmpv6) level commands	
clrscrn	Clears the screen.
exit	Exits to the configuration level.
show history	Displays the last 20 commands entered during the current CLI session.
show neighbors	Displays IPv6 neighbor cache.
write	Stores the current configuration in permanent memory.
if 1 (config-if:eth0) level commands	
bootp disable	Disables BOOTP.
bootp enable	Enables BOOTP.
clrscrn	Clears the screen.
default gateway <IP address>	Sets the configurable gateway IP address to the default value.
default mtu	Restores the default Maximum Transmission Unit (MTU) size.
dhcp client id <text>	Sets the DHCP client id.
dhcp disable	Disables DHCP.
dhcp enable	Enables DHCP.
dhcpv6 disable	Disabled DHCPv6 support.
dhcpv6 enable	Enables DHCPv6 support.
domain <text>	Sets the domain name. <text> = name of the domain.
exit	Exits to the config level.
hostname <text>	Sets the host name. <text> = name of the host.
ip address <ip address/cidr>	Sets the IP address and network mask. Formats accepted: 192.168.1.1 (default mask) 192.168.1.1/24 (CIDR) "192.168.1.1 255.255.255.0" (explicit mask)
ipv6 address <ip address/prefix_length>	Sets the IPv6 address and network prefix length. Formats accepted: 3456:abcd::456:de10/64 (address and prefix length)
ipv6 autoconf enable	Enables support for stateless autoconfiguration of IPv6 addresses.
ipv6 default gateway <IP address>	Sets the IPv6 default gateway.
link	Enter link configuration level
mtu <bytes>	Sets the Maximum Transmission Unit (MTU) size.
no default gateway	Clears the default gateway.
no dhcp client id	Clears the DHCP client ID.
no domain	Clears the domain name.
no hostname	Clears the host name.

no ip address	Clears the IP address.
no ipv6 address	Clears the IPv6 address.
no ipv6 default gateway	Clears the IPv6 default gateway.
no primary dns	Clears the name of the primary DNS server.
no secondary dns	Clears the name of the secondary DNS server.
primary dns <text>	Sets the IP address of the primary DNS server.
secondary dns <text>	Sets the IP address of the secondary DNS server.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show status	Show interface status
write	Stores the current configuration in permanent memory.
ip (config-ip) level commands	
clrscrn	Clears the screen.
default ip time to live	Restores the default IP time to live.
default multicast time to live	Restores the default IP multicast time to live, which is one hop.
exit	Exits to the configuration level.
ip time to live <hops>	Sets the IP time to live, known by SNMP as "ipDefaultTTL". <hops> = number of hops that a typical IP packet is allowed to live.
multicast time to live <hops>	Sets the IP multicast time to live. <hops> = number of hops that a multicast IP packet is allowed to live.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
write	Stores the current configuration in permanent memory.
line 1 (line:1) level commands	
auto show statistics	Continuously displays line statistics.
baud rate <bits per second>	Sets the line speed. <bits per second> = the speed. Standard speeds include 1200, 2400, 4800, 9600, 19200, and so on.
clear line counters	Sets the serial counters to zero.
clrscrn	Clears the screen.
command mode always	Sets the current line to always be in command mode.
command mode echo serial string disable	Disables user-defined serial boot string to be echoed in the CLI.
command mode echo serial string enable	Enables user-defined serial boot string to be echoed in the CLI.
command mode serial string	Enables user to enter a custom string at boot time to enter command mode.
command mode serial string <string>	Sets a string that can be entered at boot time to enter command mode. <string> = text with possible binary characters. Within [] use binary decimal up to 255 or hex up to 0xFF. Within {} specify decimal milliseconds time delay.

command mode signon message <string>	Sets a sign-on message that is sent from the serial port when the device boots and when the line is in command mode. <string> = text with possible binary characters. Within [] use binary decimal up to 255 or hex up to 0xFF.
command mode wait time <milliseconds>	Sets boot-up wait time for command mode serial string. <milliseconds> = wait time.
configure current settings	Configures line with the current value of settings.
data bits 7	Uses seven bits for data on the line.
data bits 8	Uses eight bits for data on the line.
default baud rate	Restores the default speed of 9600 bits per second.
default data bits	Restores the default of eight data bits.
default flow control	Restores the default of no flow control.
default interface	Restores the default interface type to this line.
default parity	Restores the default of no parity.
default protocol	Restores the default protocol on the line.
default stop bits	Restores the default of one stop bit.
default threshold	Restores the factory default threshold.
default xoff char	Restores the default xoff character on this line.
default xon char	Restores the default xon character on this line.
exit	Exits to the enable level
flow control hardware	Uses hardware (RTS/CTS) flow control on the line.
flow control none	Does not provide flow control on the line.
flow control software	Uses software (xon/xoff characters) flow control on the line.
gap timer <milliseconds>	Sets the gap timer in milliseconds. If some data has been received, it will be forwarded after this time since the last character.
interface rs232	Sets the line interface to RS232.
interface rs485 full-duplex	Sets the line interface to RS485 in full-duplex mode.
interface rs485 half-duplex	Sets the line interface to RS485 in half-duplex mode.
kill session	Kills command mode session on the Line
line <line>	Enters the line level. <line> = number of the line (serial port) to be configured.
name <text>	Sets the name for this line.
no clear line counters	Restores the serial counters to the aggregate values.
no command mode	Disables command mode for the current line.
no command mode signon message	Clears the signon message displayed at boot time and when entering command mode.
no gap timer	Removes the gap timer, so forwarding depends on the line speed.
no name	Removes the name of this line.
parity even	Uses a parity bit on the line for even parity.
parity none	Does not use a parity bit on the line.
parity odd	Uses a parity bit on the line for odd parity.
protocol none	Uses no protocol on the line.

protocol tunnel	Applies tunnel protocol on the line.
reassert	Asserts line status with current configured values.
show	Displays the current status.
show command mode	Shows the command mode settings for the current line.
show history	Displays the last 20 commands entered during the current CLI session.
show line	Displays the current configuration.
show statistics	Shows the line statistics.
state disable	Disables the line so data cannot be sent/received.
state enable	Enables the line so data can be sent/received.
stop bits 1	Uses one stop bit after data on the line.
stop bits 2	Uses two stop bits after data on the line.
terminal <line>	Enters the configure-terminal level. <line> = number of the terminal line (serial port) to be configured.
terminal network	Enters the configure-terminal level for the network.
termination disable	Refrains from terminating the line.
termination enable	Enables 120 ohm line termination in RS485 half-duplex mode.
threshold <bytes>	Sets the threshold in bytes. After this many bytes are received, they are forwarded without delay.
tunnel <line>	Enters the tunnel level. <line> = number of the tunnel line (serial port) to be configured.
write	Stores the current configuration in permanent memory.
xoff char <control>	Sets the xoff character for use with software flow control on this line. The character may be input as text, control, decimal, or hex. A control character has the form <control>C. A decimal value character has the form \99. A hex value character has the form 0xFF.
xon char <control>	Sets the xon character for use with software flow control on this line. The character may be input as text, control, decimal, or hex. A control character has the form <control>C. A decimal value character has the form \99. A hex value character has the form 0xFF.
link (config-ethernet:eth0) level commands	
clrscrn	Clears the screen.
default duplex	Restores the default duplex setting, which is auto.
default speed	Restores the default speed setting, which is auto-negotiate.
duplex auto	Sets duplex mode to auto.
duplex full	Sets duplex mode to full.
duplex half	Sets duplex mode to half.
exit	Exit back to interface configuration level
show	Displays the current configuration.

show history	Displays the last 20 commands entered during the current CLI session.
speed 10	Sets the speed of the Ethernet link to 10 Mbps.
speed 100	Sets the speed of the Ethernet link to 100 Mbps.
speed auto	Sets the speed of the Ethernet link to auto-negotiate.
write	Stores the current configuration in permanent memory.
log (config-diagnostics-log) level commands	
clrscrn	Clears the screen.
default max length	Restores the factory default maximum Log file size.
default output	Restores the default log output, which is disable.
exit	Exits to the next higher level.
max length <Kbytes>	Sets the maximum size in Kbytes for the Log file.
output disable	Disables log output.
output filesystem	Enables log to filesystem.
output line <number>	Enables log to serial line.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
write	Stores the current configuration in permanent memory.
modem (tunnel-modem:1) level commands	
clrscrn	Clears the screen.
connect string <text>	Sets the CONNECT string used in modem emulation. <string> = connect string.
default incoming connection	Default disables incoming network connections.
default response type	Default uses text type responses.
display remote ip disable	The incoming RING has nothing following it.
display remote ip enable	The incoming RING is followed by the IP address of the caller.
echo commands disable	Does not echo modem commands.
echo commands enable	Echoes modem commands.
echo pluses disable	Does not echo the +++ characters when entering modem command mode.
echo pluses enable	Echoes the +++ characters when entering modem command mode.
error unknown commands disable	Returns OK on unknown AT commands.
error unknown commands enable	Returns an error upon unknown AT commands.
exit	Returns to the tunnel level.
incoming connection automatic	Automatically answer incoming network connections.
incoming connection disabled	Disable incoming network connections.
incoming connection manual	Wait for an ATA command before answering an incoming network connection.
no connect string	Removes optional CONNECT string information for modem emulation.
reassert	Asserts tunnel modem status with current configured values.
response type numeric	Uses numeric type responses.

response type text	Uses text type responses.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show status	Displays tunnel modem status.
verbose response disable	Does not send Modem Response Codes.
verbose response enable	Sends Modem Response Codes out on the Serial Line.
write	Stores the current configuration in permanent memory.
packing (tunnel-packing:1) level commands	
clrscrn	Clears the screen.
default packing mode	Sets to default packing mode, which is "Disable"
default send character	Removes the send character for packing mode.
default threshold	Restores the default threshold.
default timeout	Restores the default packing mode timeout.
exit	Returns to the tunnel level.
no trailing character	Removes the trailing character for packing mode.
packing mode disable	Disables packing. Data is sent to the network when received.
packing mode send character	Sets packing mode to accumulate data and transmit it upon receiving the configured send character on the line (serial port).
packing mode timeout	Sets packing mode to accumulate data and transmit it after a specified amount of time (timeout).
send character <control>	Sets the send character for packing mode. The character may be input as text, control, decimal, or hex. A control character has the form <control>C. A decimal value character has the form \99. A hex value character has the form 0xFF.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
threshold <bytes>	Sets the threshold (byte count). If the queued data reaches this threshold then the data will be sent. <bytes> = number of bytes in the threshold.
timeout <milliseconds>	Sets the timeout value for packing mode in milliseconds. <milliseconds> = timeout value, in milliseconds.
trailing character <control>	Sets the trailing character for packing mode. The character may be input as text, control, decimal, or hex. A control character has the form <control>C. A decimal value character has the form \99. A hex value character has the form 0xFF.
write	Stores the current configuration in permanent memory.
password (tunnel-accept-password:1) level commands	
clrscrn	Clears the screen.
exit	Exits to the next higher level.
no password	Removes the password so connections will be accepted

	unchallenged.
password <text>	Sets the password required on the network side of the tunnel to begin a connection.
prompt disable	Inhibits any prompting for password on the network side of the tunnel.
prompt enable	Sets up so a user on the network side of the tunnel will be prompted for a password.
show	Shows the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
write	Stores the current configuration in permanent memory.
root level commands	
clrscrn	Clears the screen.
enable	Enters the enable level.
exit	Exit from the system
iperf <params>	Run iperf with command line parameters passed in quoted string.
ping <host>	Ping destination continuously with 5 second timeout
ping <host> <count>	Ping destination n times with 5 second timeout
ping <host> <count> <timeout>	Ping destination n times with x timeout (in seconds)
ping6 <host>	Ping IPv6 destination continuously with 5 second timeout
ping6 <host> <count>	Ping IPv6 destination n times with 5 second timeout
ping6 <host> <count> <timeout>	Ping IPv6 destination n times with x timeout (in seconds)
show	Show system information
show history	Displays the last 20 commands entered during the current CLI session.
trace route <host>	Trace route to destination
trace route <host> <protocol>	Trace route to destination using TCP, ICMP, or UDP
serial (tunnel-serial:1) level commands	
clrscrn	Clears the screen.
default dtr	Restores default DTR control, asserted while connected.
dtr asserted while connected	Asserts DTR whenever a connect or accept mode tunnel connection is active.
dtr continuously asserted	Asserts DTR regardless of any connections.
dtr truport	Asserts DTR to match remote DSR when connected via Telnet.
dtr unasserted	Does not assert DTR.
exit	Returns to the tunnel level.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
write	Stores the current configuration in permanent memory.
smtp (config-smtp) level commands	
clrscrn	Clears the screen.
default relay port	Restores the SMTP relay port to its default.

exit	Exits to the configuration level.
no relay address	Removes the SMTP relay address.
relay address <text>	Sets an SMTP relay address to direct all outbound email messages through a mail server.
relay port <number>	Sets the SMTP relay port.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
write	Stores the current configuration in permanent memory.
syslog (config-syslog) level commands	
clrscrn	Clears the screen.
default remote port	Restores the default syslog remote port.
default severity log level	No logging.
exit	Returns to the config level.
host <text>	Sets the address of the syslog recipient. <text> = IP address or name of the host.
no host	Removes the address of the syslog recipient.
remote port <number>	Sets the syslog remote port. <number> = number of the remote port used when making a syslog connection.
severity log level alert	Log only Alert and more severe events.
severity log level critical	Log only Critical and more severe events.
severity log level debug	Log all events.
severity log level emergency	Log only Emergency events.
severity log level error	Log only Error and more severe events.
severity log level information	Log only Information and more severe events.
severity log level none	No logging.
severity log level notice	Log only Notice and more severe events.
severity log level warning	Log only Warning and more severe events.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	Displays the syslog statistics.
state disable	Disables syslog logging.
state enable	Enables syslog logging.
write	Stores the current configuration in permanent memory.
telnet (config-cli-telnet) level commands	
authentication disable	No password required for Telnet users.
authentication enable	Challenges the Telnet user with a password.
clrscrn	Clears the screen.
default max sessions	Restores the default maximum allowed concurrent incoming Telnet sessions.
default port	Restores the default local port to the Telnet server.
exit	Exits to the CLI level.
max sessions <number>	Sets the maximum allowed concurrent incoming Telnet

	sessions. <number> = number of sessions.
port <number>	Sets the local port that the Telnet server uses. <number> = local port number.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	Displays the Telnet statistics.
state disable	Disables the Telnet Server.
state enable	Enables the Telnet Server.
write	Stores the current configuration in permanent memory.
terminal 1 (config-terminal:1) level commands	
break duration <milliseconds>	Sets how long a break should last when it is being sent to the line. <milliseconds> = number of milliseconds.
clrscrn	Clears the screen.
default break duration	Restores the break duration to the default value (500 ms).
default terminal type	Sets the default terminal type, "UNKNOWN".
echo disable	Disables echoing of characters received on the line back to the line.
echo enable	Enables echoing of characters received on the line back to the line.
exit	Exits to the configuration level.
exit connect menu disable	On the login connect menu, removes the menu item allowing the user to exit to the CLI.
exit connect menu enable	On the login connect menu, inserts the menu item allowing the user to exit to the CLI.
line <line>	Enters the line level. <line> = number of the line (serial port) to be configured.
login connect menu disable	Disables the login connect menu, so a user will get the CLI immediately after logging in.
login connect menu enable	Enables the login connect menu, so a user will get the menu rather than the CLI immediately after logging in.
no send break	Removes the configured send break character.
preview connect menu	Shows the layout of the connect menu with current settings.
send break <control/>	Sets the optional send break character. <text> = the character. The character may be input as text, control, decimal, or hex. A control character has the form <control>C. A decimal value character has the form \99. A hex value character has the form 0xFF.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
terminal <line>	Enters the configure-terminal level.

	<line> = number of the terminal line (serial port) to be configured.
terminal network	Enters the configure-terminal level for the network.
terminal type <text>	Sets the terminal type.
tunnel <line>	Enters the tunnel level. <line> = number of the tunnel line (serial port) to be configured.
write	Stores the current configuration in permanent memory.
terminal network (config-terminal:network) level commands	
break duration <milliseconds>	Sets how long a break should last when it is being sent to the line. <milliseconds> = number of milliseconds.
clrscrn	Clears the screen.
default break duration	Restores the break duration to the default value (500 ms).
default terminal type	Sets the default terminal type, "UNKNOWN".
echo disable	Disables echoing of characters received on the line back to the line.
echo enable	Enables echoing of characters received on the line back to the line.
exit	Exits to the configuration level.
exit connect menu disable	On the login connect menu, removes the menu item allowing the user to exit to the CLI.
exit connect menu enable	On the login connect menu, inserts the menu item allowing the user to exit to the CLI.
line <line>	Enters the line level. <line> = number of the line (serial port) to be configured.
login connect menu disable	Disables the login connect menu, so a user will get the CLI immediately after logging in.
login connect menu enable	Enables the login connect menu, so a user will get the menu rather than the CLI immediately after logging in.
no send break	Removes the configured send break character.
preview connect menu	Shows the layout of the connect menu with current settings.
send break <control>	Sets the optional send break character. <text> = the character. The character may be input as text, control, decimal, or hex. A control character has the form <control>C. A decimal value character has the form \99. A hex value character has the form 0xFF.
show	Displays the current configuration.
show history	Displays the last 20 commands entered during the current CLI session.
terminal <line>	Enters the configure-terminal level. <line> = number of the terminal line (serial port) to be configured.
terminal network	Enters the configure-terminal level for the network.

terminal type <text>	Sets the terminal type.
tunnel <line>	Enters the tunnel level. <line> = number of the tunnel line (serial port) to be configured.
write	Stores the current configuration in permanent memory.
tunnel 1 (tunnel:1) level commands	
accept	Enters the accept level for this tunnel.
auto show statistics	show connection statistics
clear counters	Zeros all tunnel counters
clrscrn	Clears the screen.
connect	Enters the connect level for this tunnel.
disconnect	Enters the disconnect level for this tunnel.
exit	Exits to the enable level.
line <line>	Enters the line level. <line> = number of the line (serial port) to be configured.
modem	Enters the modem level for this tunnel.
no clear counters	Unzeros all tunnel counters
packing	Enters the packing level for this tunnel.
serial	Enters the serial level for this tunnel.
show history	Displays the last 20 commands entered during the current CLI session.
show statistics	show connection statistics
terminal <line>	Enters the configure-terminal level. <line> = number of the terminal line (serial port) to be configured.
terminal network	Enters the configure-terminal level for the network.
tunnel <line>	Enters the tunnel level. <line> = number of the tunnel line (serial port) to be configured.
write	Stores the current configuration in permanent memory.
xml (xml) level commands	
clrscrn	Clears the screen.
exit	Exits to the enable level.
secret xcr dump	Dump XML configuration containing secrets to the console
secret xcr dump <group list>	Dump specified XML configuration containing secrets to the console
secret xcr export <file>	Save XML configuration containing secrets to a file
secret xcr export <file> <group list>	Save specified XML configuration containing secrets to a local file
show history	Displays the last 20 commands entered during the current CLI session.
write	Stores the current configuration in permanent memory.
xcr dump	Dump XML configuration to the console
xcr dump <group list>	Dump specified XML configuration to the console
xcr export <file>	Save XML configuration to a file
xcr export <file> <group list>	Save specified XML configuration to a local file

xcr import <file>	Load XML configuration from a local file
xcr import <file> <group list>	Load specified XML configuration from a local file
xcr list	List XML Configuration Record groups to the console
xsr dump	Dump XML Status Records to the console
xsr dump <group list>	Dump specified XML Status Records to the console
xsr export <file>	Save XML Status Record to a file
xsr export <file> <group list>	Save specified XML Status Record to a local file
xsr list	List XML Status Record groups to the console