

## ***Communication Server User Quick Reference***

### ***Introduction***

This booklet provides a summary of the commands available to users of the Cisco terminal server. These commands allow users to make connections and set local terminal parameters, and display the current connection settings. Commands for configuring and monitoring the lines, interfaces, and transmission protocols supported by the terminal server are described in the *Terminal Server Configuration and Reference* manual.

### ***Conventions***

The command descriptions use these conventions:

- Commands and keywords are in **boldface**.
- Variables for which you supply values are in *italics*.
- Elements in square brackets ( [ ] ) are optional.
- Alternative keywords are grouped in braces ( { } ) and are separated by a vertical bar ( | ).

The examples use these conventions:

- Terminal sessions are printed in a **typewriter-type** font.
- Information you enter is in **boldface**.

### ***System Use***

- Enter commands by typing their names at the EXEC prompt and pressing the Return key.
- There are two EXEC prompt levels. The user-level prompt is the server name followed by a >, like this example:

```
TS>
```

There is also a privileged-level prompt available to the system administrator by entering a password. It is the server name followed by a #, like this example:

TS#

**Note:** This booklet describes only connection-related commands available at the user-level prompt.

- Use these editing commands when typing commands at the EXEC prompt:

Command	Function
Delete or Backspace	Erase characters
Ctrl-U	Delete line

- As a shortcut, you can abbreviate commands to the fewest letters that make them unique. The letters “sho” can be entered for the **show** command, for example.
- Certain EXEC commands display multiple screens with this prompt at the bottom of the screen:

--More--

Press the space bar to continue the output; type any other key to return to the prompt.

### **System Help**

- Type a ? to see a list of available commands at either EXEC prompt.
- Type a ? after the **show** and **terminal** commands to see more information about these commands.
- At any time during an active Telnet session, you can list the Telnet commands by typing this command at the system prompt:

**Ctrl ^ ?**

Type the Ctrl and Shift and 6 keys simultaneously, let go, and type ?.

## ***Making Connections to DEC, UNIX, and IBM Hosts***

Enter these commands at the EXEC prompt to connect to DEC, UNIX, and IBM hosts.

---

**lat** *name* [**node** *nodename* | **port** *portname* | /**debug**]

Connects to a learned service on a host running DEC LAT.

*name*—Specifies a LAT learned service.

**node** *nodename*—Specifies a connection to a LAT node.

**port** *portname*—Specifies a destination LAT port name.

/**debug**—Enables LAT message mode.

Example:

```
TS>lat Mfg node mfg1
```

---

**rlogin** *host* [**debug**]

Connects to a UNIX host using the rlogin protocol.

*host*—Host name or Internet address.

**debug**—Enables rlogin message mode.

Example:

```
TS>rlogin Sun1
```

---

**tn3270** *hostname*

Begins a terminal emulation session with a remote IBM host using the TN3270 application.

*hostname*—Name of the IBM host.

Example:

```
TS>tn3270 finance
```

## ***Making Telnet Connections***

Use these commands to make and manage Telnet connections.

---

**[connect | telnet]** *host* [*port*] [*/keyword*]

Enter either **connect** or **telnet** with a host name to make a TCP Telnet connection, or just enter a host name or Internet address.

*host*—Host name or Internet address.

*port*—Optional TCP port number; default is Telnet server port 23.

Optional */keyword* is one of following:

**/route:path**—Specifies loose source routing; *path* is a list of host names or Internet addresses, ending with the destination.

**/line**—Enables Telnet line (local edit) mode.

**/debug**—Enables Telnet message mode.

**/stream**—Enables raw TCP stream mode for connecting to non-Telnet ports.

Examples:

```
TS>telnet nemesis /stream
TS>nemesis /route:10.1.0.11 10.1.1.12 crimea
TS>nemesis
```

---

**resume** [*connection*] [*/keyword*]

Resumes a previous Telnet connection.

*connection*—Connection name or number; the default is the most recent connection.

The argument */keyword* is one of the following:

**/line**—Enables Telnet line mode.

**/noline**—Disables Telnet line mode and enables character-at-a-time mode (default).

**/debug**—Enables Telnet debugging mode.

**/nodebug**—Disables Telnet debugging mode (default).

**/stream**—Turns on stream processing, which enables a raw TCP stream with no Telnet control sequences.

**/nostream**—Turns off stream processing, which enables the Telnet protocol (default).

**/echo**—Enables local echoing of characters (default).

**/noecho**—Disables local echoing of characters.

Example:

```
TS>resume 2 /line
```

### ***Starting SLIP Connections***

Enter these commands to begin a connection to a host using SLIP.

---

#### **slip default**

Begins a SLIP connection when a default SLIP address has been configured.

---

#### **slip**

Begins a SLIP connection.

### ***Starting X Windows***

Enter these commands to start an automatic session using an NCD X Windows terminal.

---

#### **xremote lat *service***

Startup command for host supporting DECwindows login session.

*service*—DEC LAT service.

Example:

```
TS>xremote lat Mfg
```

---

**xremote xdm** *hostname*

Startup command for host supporting XDMCP.

*hostname*—Name of host computer.

Example:

```
TS>xremote xdm chrysalis
```

---

Follow these steps to manually start a session using an NCD X windows terminal:

1 Type **xremote** and make note of your X display location.

Example:

```
Xremote enabled; your display is darkstar:2018  
Start your client and type Xremote again.
```

2 Connect to the host using **telnet**, **lat**, or **rlogin**.

3 Set the location of the display using information given in step 1 and enter the **setenv DISPLAY** command for UNIX, or the **SET DISPLAY** command for DEC VAX/VMS.

Example for UNIX:

```
% setenv DISPLAY darkstar:2018
```

Example for VAX/VMS (type all on one line):

```
$ SET DISPLAY/CREATE/NODE=DARKSTAR/SERVER=2018/  
TRANSPORT=[transport]
```

4 Start the client application on the host system.

5 Return to the EXEC prompt by logging off host or typing the escape sequence.

6 Type **xremote** to access XRemote mode.

7 To disconnect, enter a reset request.

## ***Managing Connections and Access***

Enter these commands at the EXEC prompt to manage your connections and access to the terminal.

---

### **Ctrl ^ X**

Escape sequence command you use to *escape* out of the current connection and return to the EXEC prompt, where you can make another connection or enter other EXEC commands. Allows multiple connections.

To enter this sequence, simultaneously press the Ctrl and Shift and 6 keys, let go, then type the X key. (This sequence can be redefined by your system administrator.)

---

### **lock**

Locks access to the terminal by requesting a temporary password that must be re-entered to access the terminal.

---

### **login**

Allows you to change your login name by prompting for a new user name and password.

---

### **name-connection**

Displays prompts to rename a connection. Connection names and numbers are displayed by the **where** command.

---

### **resume** [*connection*] <Return>

Resumes the previous connection unless the optional *connection* argument is entered to resume a specific connection number or name. Pressing the Return key also resumes the previous connection. Use the **where** command to display open connections.

---

**where**

Lists all open connections. List includes connection number, host address, and name.

***Monitoring Connections***

Enter these commands at the EXEC prompt to monitor your connections.

---

**show hosts**

Displays names of known hosts on the network to which you may connect.

---

**show sessions**

Lists all open connections, including connection number, host address, and name. Same as entering the **where** command.

---

**show users**

Displays a list of users currently logged in, along with host name, line number, and location.



### ***Other Helpful Commands***

Enter the following EXEC commands to check the entries in the queue for LAT services, to display the terminal parameters, to display the version of the software you are using, and to display statistics for XRemote connections.

---

#### **show entry**

Displays list of incoming queue entries for host-initiated DEC LAT connections.

---

#### **show lat services**

Displays LAT learned services, by service name, rating, interface, and node address.

---

#### **show terminal**

Displays local terminal parameter settings.

---

#### **show version**

Displays the current version of the software.

---

#### **show xremote** [*line*]

Displays XRemote server-wide statistics, unless the optional *line* argument is supplied to display statistics for just the line specified.

## ***Disconnecting***

Enter these commands at the EXEC prompt to terminate a connection.

---

**disconnect** [*connection*]

Use only when the **exit** or **quit** commands do not terminate a connection. The optional *connection* argument specifies a connection number.

---

**{exit|quit}**

Either command terminates the EXEC and closes any active terminal session.

## ***Setting Terminal Parameters***

Enter the following commands at the EXEC prompt to temporarily change terminal parameter settings. The **no** option cancels or changes the command. Enter the **show terminal** command to check settings.

---

**terminal databits** {**5|6|7|8**}

Specifies data bits per character. Default is 8 bits per character.

---

**terminal** [**no**] **dispatch-character** *decimal-number1* [*decimal-number2* ... *decimal-numberx*]

Defines or removes a character or string that causes a packet to be sent (dispatched).

*decimal-number*—ASCII decimal representation of the character or several characters to form a string.

Example:

```
TS>terminal dispatch-character 27 117
```

---

**terminal [no] download**

Sets or removes the ability of a line to act as a transparent pipe that can transmit data when running a program such as KERMIT, XMODEM, or CrossTalk.

---

**terminal [no] escape-character** *decimal-number*

Sets an escape character for the current terminal line. Default is Ctrl ^ X.  
*decimal-number*—ASCII escape character.

Example:

```
TS>terminal escape-character 127
```

---

**terminal flowcontrol** {**none**|**software** [**in**|**out**] | **hardware**}

Sets the flow control method.

**none**—No flow control (default).

**software** [**in** | **out**]—Software flow control; **in** causes the terminal server to listen to flow control from the attached device; **out** causes the terminal server to send flow control information to the attached device. If not set, both directions are assumed.

**hardware**—Hardware flow control.

---

**terminal [no] hold-character** *decimal-number*

Enables or disables a hold character for the current terminal line. By default, a hold character is disabled.

*decimal-number*—ASCII hold character or control sequence.

Example:

```
TS>terminal hold-character 14
```

---

**terminal [no] length** *screen-length*

Sets the number of screen lines. A value of zero or the **no** keyword disables pausing between screens of output. The screen length specified can be learned by hosts. Default is 24.

*screen-length*—Desired number of lines.

Example:

```
TS>terminal length 0
```

---

**terminal [no] monitor**

Enables or disables logging of system messages on the current terminal.

---

**terminal [no] notify**

Establishes or removes message notification.

---

**terminal [no] padding** *decimal-number count*

Sets or removes character padding on a specific output character. By default, no output characters are padded.

*decimal-number*— ASCII output character.

*count*—Number of NULL bytes sent after the character.

Example:

```
TS>terminal padding 12 5
```

---

**terminal parity** {**none** | **even** | **odd** | **space** | **mark**}

Defines the parity bit for the current terminal line. Default is **none**.

---

**terminal speed** *baud*

Changes the transmit and receive speeds of the current terminal line. Default is 9600 baud.

*baud*—Baud rate: 300, 1200, 2400, 4800, 9600, 19200, or 38400, or any user-defined speed in a range from 75 to 57600.

Example:

```
TS>terminal speed 19200
```

---

**terminal [no] start-character *decimal-number***

Sets or removes the character that signals the start of data transmission when software flow control is in effect. Default is Ctrl-Q.

*decimal-number*—ASCII start character.

Example:

```
TS>terminal start-character 26
```

---

**terminal stopbits {1 | 1.5 | 2}**

Sets the number of transmitted stop bits. Default is 2.

---

**terminal [no] stop-character *decimal-number***

Sets or removes the character that signals the end of data transmission when software flow control is in effect. Default is Ctrl-S.

*decimal-number*—ASCII decimal representation of the desired stop character.

Example:

```
TS>terminal stop-character 24
```

---

**terminal [no] telnet-transparent**

Sets or removes ability to send a RETURN as a RETURN followed by a NULL instead of followed by a LINE FEED signal.

Example:

```
TS>terminal no telnet-transparent
```

---

**terminal** [**no**] **terminal-type** *terminal-name*

Records, removes, or changes the current terminal type.

*terminal-name*—Terminal name passed to applications that set terminal types.

Example:

```
TS>terminal terminal-type VT100
```

---

**terminal transport** [**telnet** | **lat** | **pad** | **rlogin** | **none**]

Sets the preferred protocol for the duration of the current session. Default is LAT.

---

**terminal width** *columns*

Sets or changes the columns displayed. Default is 80.

*columns*—Sets preferred column width.

Example:

```
TS>terminal width 132
```

### ***Making X.3 PAD Connections***

Enter this command to make connections to a PAD host.

---

**pad** {*X.121-address* | *hostname*} [/ **cud** *text*] [/ **debug**] [/ **reverse**]

Begins connection to an X.3 PAD host.

*X.121-address*—X.121 address.

*hostname*—Defined X.25 host name.

/ **cud** *text*—Switch that includes *text* in the Call User Data field of the outgoing Call Request Packet.

**/debug**—Switch that causes the informational level of logging messages to be printed whenever the remote host changes an X.3 parameter setting or sends any other X.29 control packet.

**/reverse**—Switch that causes Reverse Charge calls to be accepted on a per-call, rather than a per-interface, basis.

Example:

```
TS>pad 77630 /reverse
```

---

### **Setting X.3 PAD Parameters**

Enter these commands to set X.3 PAD parameters. See Table 1 for parameter numbers and values.

---

**resume** [*connection*] [*/keyword*] [**/set** *parameter:value*]

Resumes PAD connections and allows changing local X.3 parameters during a connection.

*connection*—Connection number.

The argument */keyword* is one of:

**/line**—Enables line-mode editing.

**/noline**—Disables line mode and enables character-at-a-time mode, which is the default.

**/debug**—Displays informational messages whenever the remote host changes an X.3 parameter or sends an X.29 control packet.

**/nodebug**—Disables the informational display, which is the default.

**/echo**—Enables local echo, which is the default.

**/noecho**—Disables local echo.

The **/set** switch sets the X.3 parameters defined by *parameter number* and *value*, separated by a colon. These parameters and their values are described in Table 1 at the end of this booklet.

For outgoing connections, the X.3 parameters default to the following:

```
2:1, 3:2, 4:1, 7:4, 16:127, 17:21, 18:19
```

All other parameters default to zero, but can be changed using the **/set** switch.

For incoming PAD connections, software sends an X.29 SET PARAMETER packet to set only the following parameters:

```
2:0, 4:1, 7:21, 15:0
```

Example:

Reset the outgoing connection default for local echo mode.

```
TS>resume 3 /set 2:1
```

---

### **x3**

Sets local PAD parameters directly, without using a command switch.

Example:

Reset the outgoing connection default for local echo mode.

```
TS>x3 2:1
```



**Table 1: PAD Parameters (1 of 3)**

<b>Par.</b>	<b>Action</b>	<b>Value</b>	<b>Description</b>
1	Escape from Data Transfer		Not supported.
2	Local Echo Mode	0	No local echo (incoming PAD connection default).
		1	Local echo on (outgoing connection default).
3	Data Forward Character	0	None—full packet.
		1	Forward packet upon receipt of an alphanumeric character.
		2	Forward packet upon receipt of a RETURN (outgoing connection default).
		4	Forward packet upon receipt of ESCAPE, BEL, ENQ, or ACK.
		8	Forward packet upon receipt of DEL, CAN, or DC2.
		16	Forward packet upon receipt of ETX or EOT.
		32	Forward packet upon receipt of HT, LT, VT, or FE.
4	Idle Timer	0	No timer.
		1-255	Delay value in twentieths of a second (default for both connection types is 1).
5	Device Control		Not supported.
6	PAD Service Signals		Not supported.
7	Receipt of BREAK	0	Ignore the BREAK signal.
		1	Transmit an INTERRUPT packet to notify the remote host or another PAD that the BREAK signal has been generated.
		2	Transmit a RESET packet to reset the virtual circuit.
		4	Transmit an X.29 break indication to the remote host, or to a PAD (outgoing connection default).
		8	Escape from data transfer mode.
		16	Discard output to the terminal by setting parameter 8 to a value of 1.
		21	Combination of values 1, 4 and 16 (incoming connection default).

Par.	Action	Value	Description
8	Discard Output	0	Normal data delivery to the terminal (outgoing connection default).
		1	Discard all output to the terminal. (Set by parameter 7.)
9	Return Padding		Not supported.
10	Line Folding		Not supported.
11	Baud Rate	10	50 baud
		5	75
		9	100
		0	110
		1	134.5
		6	150
		8	200
		2	300
		4	600 <sup>†</sup>
		3	1200
		7	1800
		11	75/1200 <sup>‡</sup>
		12	2400
		13	4800
		14	9600
		15	19200
		16	48000
		17	56000
18	64000		
12	Input Flow Control		Not supported.
13	Line Feed Insertion	0	Do not insert (outgoing connection default).
		1	Insert after transmitting RETURN to the terminal.
		2	Insert after echoing RETURN to the terminal.
		4	Insert after echoing RETURN to the remote host.
14	Line Feed Padding		Not supported.

Par.	Action	Value	Description
15	Local Editing	0	Disables editing capabilities.
		1	Enables editing capabilities.
16	Character Delete	0-127	Select one ASCII character. Default is ASCII 127 (DEL).
17	Line Delete	0-127	Select one ASCII character. Default is ASCII 21 (CTRL-U).
18	Line Display	0-127	Select one ASCII character. Default is ASCII 18 (CTRL-R).

<sup>†</sup>Begins values that are PAD-type dependent

<sup>‡</sup>From PAD/to PAD

