APPENDIX A

Command Reference

The LightStream 100 is configured and maintained using commands entered at a command line interface.This appendix provides detailed descriptions of the LightStream 100 ATM switch commands.

Command Groups

Commands that you enter at the console terminal provide instructions to the LightStream 100 switch, which is connected to a console terminal via the EIA/TIA-232 interface.

Commands for the LightStream 100 switch are made up of two groups of commands: user commands and privileged commands. Both types of commands help to prevent system data and network-related data from being changed by unauthorized individuals. User commands display configuration data for reference. Privileged commands display and configure system data. Privileged commands, intended for use by operation and maintenance personnel, can execute only after password verification.

Two modes of operation correspond to the two groups of commands. The user mode makes only user commands available; the privileged mode makes privileged commands available in addition to user commands.

The LightStream 100 switch is in the user mode when power is turned ON. The **enable** command, which requires a registered password entry, transfers the system from user mode to the privileged mode. The **exit** command returns the system to user mode.

Command Entry Format

A prompt character that is displayed on the console terminal screen indicates either normal or privileged mode. If a host name is registered for the system, it is displayed before the prompt. The system uses the following user mode prompts and privileged mode prompts:

The user mode prompt is *host name*>.

For example:

```
LS100>
```

The privileged mode prompt is *host name#*.

For example:

```
LS100#
```

Enter each command after the prompt. Some commands are used alone, and some commands are used with a subcommand and parameters (if applicable). Enter a space character between the command and subcommand and between each subcommand and parameter. The system does not distinguish between uppercase characters and lowercase characters. Only a password is case-sensitive.

The following examples show normal command mode formats:

```
LS100> command
LS100> command subcommand
LS100> command subcommand P1 P2 ...
```

The following examples show privileged command mode formats:

```
LS100# command
LS100# command subcommand
LS100# command subcommand P1 P2 ...
```

Using Online Help

Enter a question mark (**?**) or **help** after a command or subcommand to display helpful information. The following example shows formats to get help on all available commands:

```
LS100> ?
```

or

```
LS100> help
```

Entering the question mark (**?**) or **help** in user mode displays user commands; entering the same commands (the question mark [**?**] or **help**) in privileged mode displays privileged commands.

To display a list of subcommands, enter the command followed by a question mark (**?**), as shown in the following example:

```
LS100> show ?
```

User Commands

Table A-1 provides a list of the user commands. The rest of this section lists each normal command, subcommand, parameters, and output response formats.

Table A-1 User Commands

Command	Subcommand	Function
Enable	(None)	Transfers from user mode to privileged mode
?/help	(None)	Displays help information
Show/Display	alarm	Displays alarm messages
	atmsig	Displays Q.2931 parameters
	boot	Displays the boot parameter
	clock	Displays the clock mode
	count	Displays Flash memory history
	ether	Displays the IP address of the Ethernet interface

Command	Subcommand	Function
Show/Display	interface	Displays line interface data
	line	Displays line interface alarm status
	looptime	Displays the looptime mode
	mac	Displays the MAC address
	pvc	Displays PVC data
	route	Displays the SVC routing table
	scroll	Displays the number of lines displayed for one command on the console terminal
	server	Displays the boot server IP address
	signaling	Displays the signaling channel on all lines
	sscop	Displays SSCOP parameters
	status	Displays device status
	svc	Displays SVC data
	svcline	Displays SVC status on lines
	time	Displays system time
	tparam	Displays traffic control parameters
	traffic	Displays traffic data
	traffic type	Displays traffic data for different traffic types
	version	Displays software and ROM version

enable

The **enable** command transfers the system from user command mode to privileged command mod, which is intended for use by operation and maintenance personnel only. The **enable** command requires a registered password. If the **enable** command is entered without a previously registered password, the system prompts you to register a new password.

The > prompt indicates operation in user mode, and the # prompt indicates operation in privileged mode.

After completing command operation in privileged mode, operations and maintenance personnel must enter the **exit** command to return the system to user mode to prevent system data alterations by unauthorized individuals.

Format:

```
LS100> enable
LS100> Input password: ********
```

Note The password is not displayed. Because the password is case-sensitive, the system distinguishes between uppercase and lowercase characters. If you forget or don't know the password, contact technical support.

Example:

```
LS100> enable
LS100> Input password: ********
LS100#
```

show

The **show** command functions the same as the **display** command. These commands are interchangeable. For simplicity, this publication references the **show** command.

show alarm

The **show alarm** command displays all the LightStream 100 switch alarms on the console terminal. The LightStream 100 switch saves alarm information in a database each time it detects an alarm. The system deletes alarm information from the database after the alarm is recovered.

Format:

```
LS100> show alarm
```

See the chapter “Troubleshooting” for the action to take to clear alarms.

show atmsig

The **show atmsig** command shows the Broadband signalling standard Q.2931 (formerly Q.93B) parameters.

Format:

```
LS100> show atmsig
```

Information continues to display with parameters set for lines in online status.

T398 and T399 are currently not supported. Placeholder data is displayed.

Example:

```
LS100#sh atmsig
Line   U/N   T303 T308 T309 T310 T313 T316 T317 T322 T398 T399  UNIver   VPI
   0 Network    4   30   90   10    4  120   60    4    4   14    3.1      0
   1 Network    4   30   90   10    4  120   60    4    4   14    3.0      0
   2 Network    4   30   90   10    4  120   60    4    4   14    3.0      0
   3 Network    4   30   90   10    4  120   60    4    4   14    3.0      0
  15 Network    4   30   90   10    4  120   60    4    4   14    3.0      0

LS100#
```

Output Explanation:

1: Line number

2: User or Network

3: T303, T308, T309, T310, T313, T316, T317, T322, T398, T399 are values of timers in seconds. These timers are defined in the *ATM Forum User-Network Interface Specification.*

show boot

The **show boot** command is displayed the boot parameter.

Format:

```
LS100> show boot
```

Output explanation:

One of the following boot modes display:

- Initialize: Online program stored in the workstation will be loaded after reset. Configuration data will be initialized.
- Network: Online program stored in the workstation will be loaded after reset. Configuration data will be loaded from Flash memory.
- Flash: Online program stored in Flash memory will be loaded after reset.

Example:

```
LS100> show boot
FLASH :
    Online program stored in the Flash Memory will be loaded after reset.
```

show clock

The **show clock** command displays the clock mode.

Format:

```
LS100> show clock
```

The console terminal displays the clock mode: master or slave.

Example:

```
LS100> show clock
Clocking Mode: Master
```

show count

The **show count** command displays Flash memory history.

Format:

```
LS100> show count
```

Example:

```
LS100> show count
Group0: 2
Group1: 101
```

show ether

The **show ether** command displays the IP address of the Ethernet interface on the LightStream 100 switch.

Format:

```
LS100> show ether
```

Example:

```
LS100> show ether
IP Address/Mask of Ethernet Interface:192.168.38.76,255.255.255.224
```

show interface

The **show interface** command displays line interface data. The user network interface (UNI)/network node interface (NNI), valid virtual path identifier (VPI), and valid virtual channel identifier (VCI) fields indicate the values set by the **set interface** command. Initial data is displayed for the line not yet entered by the **set interface** command. The physical layer field indicates the hardware attribute information on the card. The command does not display data for a line if a LINF card is not installed for the line or information cannot be read because of failure.

Format:

```
LS100> show interface
```

Output:

```
Line Inf_type Physical Layer Forum/ITU Vd VPI Vd VCI LBO PLCP    Scramble
  0  pri_UNI   OC-3C(MMF)    ATM Forum    4      8   Lo  Direct     ON
  1  pri_UNI   OC-3C(MMF)    ATM Forum    4      8   Lo  Direct     ON
  2  pri_UNI   OC-3C(MMF)    ATM Forum    4      8   Lo  Direct     ON
  3  pri_NNI   OC-3C(MMF)      ITU        4      8   Lo  Direct     ON
 15  pri_UNI   UTP5          ATM Forum    4      8   Lo  Direct     ON
```

Output explanation:

1: Line number

2: Interface type

3: Physical layer

- TAXI
- STS-3c/STM-1 (single-mode fiber)
- STS-3c/STM-1 (multimode fiber)
- STS-3c/STM-1 UTP-5
- DS3
- E3

4: Standard body conformance (0=ATM Forum; 1=International Telecommunication Union [ITU])

5: Valid VPI bits

6: Valid VCI bits

7: LBO (Line Build Out) (0=0–255 feet, 1=255–450 feet). Optional for DS3/E3 line interface only.

8: Cell delineation method (0=PLCP [physical layer convergence procedure], 1=direct mapping). Optional for DS3/E3 line interface only.

9: Scramble mode (ON=payload scrambled; OFF=payload not scrambled). Optional for DS3/E3 line interface only.

Example:

```
LS100> show interface
Line UNI/NNI Physical Layer Forum/ITU Valid VPI Valid VCI LBO PLCP Scramble
  0     0           4           0         4         8     1    1      1
  1     0           4           0         4         8     1    1      1
  2     0           4           0         4         8     1    1      1
  3     0           4           0         4         8     1    1      1
 15     0           7           0         4         8     1    1      1
```

show line

The **show line** command displays the line interface alarm status. The command does not display data for the line if a LINF card is not installed for the line or interface data is not set by the **set interface** command. When the **show line** command is entered, the system tests the LINF card hardware to check for failures.

Format:

```
LS100> show line
```

Output:

```
Line 0 : (xxxxxxxxxxxxxxxxxxxxxxxx)
 •
 •
 •
Line 15 : (xxxxxxxxxxxxxxxxxxxxxxxx)
 1
```

Output explanation:

1: Alarm Status

NA: Not applicable; NA displays when a hardware failure is already detected or when the line is out of service.

- Good
- Loss of Signal
- Red Alarm
- Yellow Alarm
- Blue Alarm
- Loss of Cell Delineation

Example:

```
LS100> show line
Line 0 : (NA)
Line 1 : (GOOD)
Line 2 : (Loss of Signal)
Line 3 : (GOOD)
Line 4 : (NA)
Line 5 : (Blue Alarm)
Line 6 : (Loss of Cell Delineation)
Line 7 : (GOOD)
Line 8 : (GOOD)
Line 9 : (NA)
Line 10 : (Red Alarm)
Line 11 : (NA)
Line 12 : (Yellow Alarm)
Line 13 : (NA)
Line 14 : (GOOD)
Line 15 : (GOOD)
```

show looptime

The **show looptime** command displays the looptime mode for all STS-3c/STM-1 line interfaces.

Format:

```
LS100> show looptime
```

Example:

```
LS100> show looptime
  0: -
  1: -
  2: -
  3: off
 15: off
```

show mac

The **show mac** command displays the Ethernet MAC address.

Format:

```
LS100> show mac
```

Example:

```
LS100> show mac
0.0.40.30.27.3C
```

show pvc

The **show pvc** command displays PVC data. You can specify a line number, line number and VPI, or a line number and VPI and VCI. If only a line number is specified, all the connections on the specified line interface are displayed. If a line number and VPI are specified, all the connections with the specified VPI on the specified line interface are displayed.

Format:

```
LS100> show pvc p1 (p2 (p3))
```

Format explanation:

P1: Line number (0-15)

P2: VPI (0-4095). If P2 and P3 are omitted, all PVCs on the line interface specified by P1 are displayed.

P3: VCI (0-4095). If P3 is omitted, all PVCs with the specified VPI established on the line specified by P1 are displayed.

Examples:

```
LS100> show pvc 1
Bandwidth Available (Forward/Backward/Line Rate): 155.0 / 155.0 / 155.0 Mbps
Existing connections :    0 (Uni),    0 (Bi),    0 (Multipoint),    2 (Gateway)
LowLine LowVPI LowVCI  HiLine  HiVPI  HiVCI TrfType CONNECTION
    1       0       5    16       0       1 UBR-BE  Gateway
    1       0      16    16       0       2 UBR-BE  Gateway


LS100#show pvc 1 0
Bandwidth Available (Forward/Backward/Line Rate): 155.0 / 155.0 / 155.0 Mbps
Existing connections :    0 (Uni),    0 (Bi),    0 (Multipoint),    2 (Gateway)
LowLine LowVPI LowVCI  HiLine  HiVPI  HiVCI TrfType CONNECTION
    1       0       5    16       0       1 UBR-BE  Gateway
    1       0      16    16       0       2 UBR-BE  Gateway


LS100#show pvc 1 0 16
Connection Type         : Gateway
LowLine LowVPI LowVCI LowUP  LowCO   HiLine  HiVPI  HiVCI  HiUP   HiCO
    1       0     16     7    Pass     16       0      2     0    Pass

ATM Traffic :  LowIncoming  LowOutgoing   HighIncoming HighOutgoing
                         0            0              0            0


UPC Violation: LowIncoming  LowOutgoing   HighIncoming HighOutgoing
                         0            0              0            0
```

show route

The **show route** command displays the contents of the SVC routing table.

Format:

```
LS100> show route p1
```

Format explanation:

P1: Line number (0-15)

Example:

```
LS100#show route 1
Destination                              Type  Primary   VPI Secondary  VPI
22XXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX NSAP      1     -      -     -
2AXXXXXXXX XXXXXXXXXX XXXXXXXXXX XXXXXXXXXX NSAP      1     -      -     -
4700001408 5267858F00 00000002XX XXXXXXXXXX NSAP      1     -      -     -
```

Output explanation:

Destination: Destination address

Type: Address format (network service access point [NSAP] or E.164)

Primary: Primary line output port number

VPI (0-4095): Primary tunneling VPI number, if using SVC tunneling

Secondary: Secondary line output port number

VPI (0-4095): Secondary tunneling VPI number, if using SVC tunneling

(When a primary line output port has errors or is not installed, the system uses a secondary line output port.)

show scroll

The **show scroll** command indicates the number of lines that are displayed for one command. The command and command responses are displayed on the same screen. When the number of displayed lines reaches 24, the screen scroll stops. Pressing the Return key restarts scrolling. The set number of display lines is in a range of 1 through 49; the default is 24. Use the **scroll** subcommand to change the number of display lines.

Format:

```
LS100> show scroll
```

Example:

```
Scroll Filter : ON
Number of line : 36
```

Output explanation:

1: Scroll filter:

— ON: Specified number is between 1 and 49.

— OFF: Specified number is 0 or greater than 49.

2: Number of lines to display

show server

The **show serve**r command displays the IP address of the boot server.

Format:

```
LS100> show server
```

Example:

```
LS100> show server
IP Address                :171.69.246.35
Default Router IP Address :192.168.38.65
Rboot File Name           :/dirt/LS100/LM2504/LS100.bootfiles
```

show signaling

The **show signaling** command displays the default signaling channels on all line interface cards.

Format:

```
LS100> show signaling
```

Example:

```
LS100> show signaling
Line Number    VPI    VCI
     0          0      5
     1          0      5
     2          0      5
     3          0      5
    15          0      5
```

show sscop

The **show sscop** command displays Service-Specific Connection-Oriented Protocol (SSCOP) parameters.

Format:

```
LS100> show sscop
```

Example:

```
LS100> show sscop
Line   MaxCC  TimerCC  KPALIVE  NORESP  POLL  MaxPD  MaxSTAT  clr-buff   VPI
   0       4        1       30      10     1     10        4  Yes          0
   1       4        1       30      10     1     10        4  Yes          0
   2       4        1       30      10     1     10        4  Yes          0
   3       4        1       30      10     1     10        4  Yes          0
  15       4        1       30      10     1     10        4  Yes          0
```

show status

The **show status** command displays the device operation status. This command does not display data for a line if a LINF card is not installed or interface data has not been set by the **set interface** command. When the **show status** command is entered, the system tests the line interface card hardware to check for failures.

Format:

```
LS100> show status
```

Example:

```
LS100> show status
```

```
CPU           :(Normal)
SwitchCore    :(Normal)
Bus Interface :(Normal)
FAN           :(Normal)
GWPAD         :(Normal)
Line0         :(Normal)
Line1         :(Normal)
Line2         :(Normal)
Line3         :(Normal)
Line4         :(NA)
Line5         :(NA)
Line6         :(NA)
Line7         :(NA)
Line8         :(NA)
Line9         :(NA)
Line10        :(NA)
Line11        :(NA)
Line12        :(NA)
Line13        :(NA)
Line14        :(NA)
Line15        :(Normal)
```

Output explanation:

1: Central processor unit (CPU) status

— Normal

— Diagnostics

2: Switch core status

— Normal

— Failure

— Diagnostics

3: Bus interface status

— Normal

— Failure

— Diagnostics

4: Fan status

— Normal

— Failure

5: Gateway Packet Assembler/Disassembler (GWPAD) status

— Normal

— Failure

6: Line interface status (0 - 15)

— NA. Not applicable. NA displays when a hardware failure is already detected or when a line is out of service.

— Normal

— Failure

— Local Loopback

— Remote Loopback

show svc

The **show svc** command displays SVC data set on the specified line.

To set and delete an SVC, see the **route add** privileged command, the **route delete** privileged command, and **route flush** privileged command.

Format:

```
LS100> show svc p1 p2 p3
```

Format explanation:

P1: Line number (0-15)

P2: VPI number (0-4095)

P3: VCI number (0-4095)

Example:

```
LS100> show svc 0 0 34
Connection Type         : P-to-P
Traffic Type            : UBR-BE
Throughput              : -
LowLine LowVPI LowVCI                              HiLine HiVPI HiVCI
    0       0     34                                  0     0      35

ATM Traffic:     LowIncoming Low Outgoing HighIncoming HighOutgoing
                       39341             0            0          39341
UPC Violation:   LowIncoming Low Outgoing HighIncoming HighOutgoing
                           0             0            0              210
```

show svcline

The **show svcline** command displays SVC status on lines.

To change SVC status, see the **set svcline** privileged command.

Format:

```
LS100> show svcline
```

Output explanation:

1: SVC line status

— Normal

— Suspended

— Resumed

Example:

```
LS100> show svcline
Line 1 : Normal
Line 2 : Suspended
Line 3 : Normal
Line 6 : Normal
Line 8 : Normal
Line 10 : Suspended
Line 12 : Normal
```

show time

The **show time** command displays the system clock time in year-month-date and hour:minute:second format. Use the **set time** privileged command to change the system time.

Format:

```
LS100> show time
```

Example:

```
LS100> show time
94-06-07 08:47:50
```

show tparam

The **show tparam** command displays traffic control parameters in the following order: best effort buffer size, guaranteed buffer size, best effort threshold, guaranteed threshold, Usage Parameter Control (UPC) window.

In best effort service, the transmission bandwidth is adjusted to the occurrence of transmission data, which allows efficient use of network resources. In guaranteed service, the transmission bandwidth is set per-virtual-path or per-virtual-channel for each device.

Format:

```
LS100> show tparam
```

Example:

```
LS100> show tparam
Buffer Size (x 128 Cells)  Threshold    (x 128 Cells)   (x 512 Cell Time)
Guaranteed  Best EffortGuaranteed       Best Effort     UPC Window Size
   11          5                8          4                100
```

show traffic

The **show traffic** command displays the line number and numbers of received (input) cells, transmitted (output) cells, misdelivered cells, Header Error Check (HEC) errored cells, and buffer overflow cells for each line. The contents of software-controlled, 32-bit counters are read out. (The counters can be reset with the **clear tcounter** command.)

Format:

```
LS100> show traffic p1
```

Format explanation:

P1: Line number (0-15). Traffic and performance data of the specified line interface is displayed.

Example:

```
LS100> show traffic 1
Line Number : 1
Number of Received     Cells     :          0
Number of Transmitted  Cells     :       3868

Number of Misdelivered Cells     :          0
Number of HEC Errored  Cells     :          0
```

show traffic type

The show traffic type command displays the number of received and transmitted cells by traffic type (GS, BE).

Format:

```
LS100> show traffic p1 type
```

Format explanation:

P1: Line number (0-15). Traffic data for different traffic types (GS, BE) on the specified line interface is displayed.

Example:

```
LS100> show traffic 8 type
Line Number : 8
                Received Cell Count        Transmitted Cell Count
CBR-GS Traffic                  0                             0
VBR-GS Traffic                  0                             0
UBR-BE Traffic              59917                         59920
```

show version

The **show version** command displays software, boot ROM, and signaling software (SVC) version data.

Format:

```
LS100> show version
```

Example:

```
LS100> show version
Cisco Systems, Inc. LightStream 100
LS100 Software Version x.x(x)
Boot ROM Version xxx 22 Mar 95
ATMSIG Version x.x(x) 20 Mar 95
```

Privileged Commands

The LightStream 100 switch generally operates in user command mode; however, when the system and network-related data require changes, the system must change to privileged command mode. The **enable** command transfers the system from user command mode to privileged command mode; the **exit** command returns the system to user command mode. Because privileged commands are intended for use by operations personnel, the **enable** command requires a registered password.

Table A-2 provides a list of privileged commands. This section lists each privileged command, subcommand, parameter, and output response formats.

Table A-2 Privileged Commands

Command	Subcommand	Function
Clear	tcounter	Clears all traffic counters on all line interface cards
Delete	atmsig	Deletes Q.2931 signaling parameters
	configserver	Deletes the ATM address of the LAN Emulation server.
	ilmi	Deletes an ILMI channel on each interface.
	lbpoint	Deletes the termination point of the virtual path for end-to-end loopback tests.
	signaling	Deletes a virtual path on a particular port/line
	sscop	Deletes SSCOP parameters for ATM signaling
Diagnosis	(None)	Displays diagnostic information
Display	configserver	Displays the ATM address of the LAN emulation server.
	ilmi	Displays ilmi channel and timer values on each line.
	lbpoint	Displays the termination point of the virtual path.
Exit	(None)	Transfers from privileged mode to user mode
Generate		The generate command activates OAM loopback cell flow.
?/Help	(None)	Displays help information
Passwd	(None)	Changes the password
PVC	add	Adds a permanent virtual circuit (PVC) endpoint
	delete	Deletes a PVC
	establish	Sets a PVC
	flush	Deletes all PVP and PVC connections associated with a specified line interface
	remove	Removes a PVC endpoint
Reset	(None)	Performs a soft reset from a console terminal or NMS station

Command	Subcommand	Function
Route	add	Sets Switched Virtual Circuit (SVC) routing table
	delete	Deletes an SVC routing table
	flush	Deletes an SVC routing table
Save	(None)	Saves data
Set	atmsig	Sets Q.2931 parameters for ATM signaling
	boot	Sets the boot mode
	clock	Sets the clock mode
	configserver	Registers the ATM address of the LAN Emulation Configuration Server (LECS).
	ether	Sets the IP address of the Ethernet interface
	ilmi	Sets up an ILMI channel on each line interface.
	interface	Changes line parameters
	line	Changes line interface status
	lbpoint	Specifies the termination point of the virtual path for an end-to-end loopback test.
	local	Sets the IP address, mask, and host name of the LightStream 100 ATM switch
	looptime	Enables or disables looptime mode on the STS-3c/STM-1 interface
	mib	Sets Management Information Base (MIB) II administrator and installation site names
Set	nms	Sets the IP address, mask, and access privilege for the Network Management System (NMS)
	nmsdelete	Deletes up to four NMS connections at once
	nmsroute	Permits multiple NMSs to share the same VPI/VCI across a line interface
	scroll	Changes the number of display lines on the console terminal
	server	Sets boot server IP address

Command	Subcommand	Function
Set	sigflag	Enables the signaling software flag for debugging
	signaling	Configures a virtual path on a particular port/line
	sscop	Sets SSCOP parameters for ATM signaling
	sscopflag	Enables or disables the SSCOP flag for debugging
	svcline	Sets the SVC status on the line interface (suspend/resume)
	time	Sets the system clock
	tparam	Sets traffic control parameters
Show/Display	network	Displays network-related data
	softPVP	Displays soft PVC/PVP information
Soft	delete	Releases a PVC/PVP connection
	establish	Sets up a soft PVC connection
Write	erase	Erases all configuration data in Flash memory

clear tcounter

The **clear tcounter** command clears all traffic counters on all line interface cards.

Format:

```
LS100# clear tcounter
```

Example:

```
LS100# clear tcounter
LS100# show tr 8 type
Line Number : 8
                Received Cell Count        Transmitted Cell Count
CBR-GS Traffic                  0                             0
VBR-GS Traffic                  0                             0
UBR-BE Traffic                  0                             0
```

delete atmsig

The **delete atmsig** command deletes the ATM signaling tunnel configured on a specified line/port.

Format:

```
LS100# delete atmsig p1 p2
```

Format explanation:

P1: Line number (0–15)

P2: VPI (0-4095)

Example:

```
LS100# delete atmsig 1 0
Line = 1 :
VPI = 0 : in use
0 SVC configuration data has been deleted.
```

delete configserver

The **delete configserver** command deletes the ATM address of the LAN emulation server.

Format:

```
LS-100# delete configserver P1 P2
```

Format Explanation:

P1: Index to the LECS address table (0-3)

P2: ATM address (0-9, a-f, A-F; maximum address length = 40)

Example:

```
Model5# delete configserver 0 abcdef
Configuration server has been deleted.
```

Error Messages:

Command name is illegal.

Subcommand name is illegal.

Number of parameter is illegal.

Specified Configuration server is out of range.

Specified Index is invalid.

delete ilmi

The **delete ilmi** command deletes an ILMI channel on each line interface.

Format:

```
LS100# delete ilmi P1 P2
```

Format Explanation:

P1: Line number (0-15)

P2: VPI number (0-4095)

Example:

```
LS100# delete ilmi 1 12
Ilmi path has been deleted.
```

Error Messages:

Command name is illegal.

Subcommand name is illegal.

Number of parameter is illegal.

Specified line is invalid.

Specified VPI is out of range.

Specified ilmi path is non-existing.

delete lbpoint

The **delete lbpoint** command deletes the termination point of the virtual path for end-to-end loopback tests. This command relates to the **set lbpoint** and **generate** commands. Refer to these commands for more details about end-to-end loopback testing.

Format:

```
LS100# delete lbpoint P1 P2
```

Format Explanation:

P1: Line number (0-15)

P2: VPI number (0-4095)

Example:

```
LS100# delete lbpoint 1 12
Loopback point has been deleted.
```

Error Messages:

Command name is illegal.

Sub command name is illegal.

Number of parameter is illegal.

Specified line is invalid.

Specified VPI is out of range.

Specified Loopback point is non-existing.

delete signaling

The **delete signaling** command deletes a Q.2931 signaling channel within a virtual path tunnel on a specified line.

Format:

```
LS100# delete signaling p1 p2
```

Format explanation:

P1: Line number (0–15)

P2: VPI (0-4095)

Example:

```
LS100# delete signaling 1 0
Signaling path has been deleted.
```

delete sscop

The **delete sscop** command deletes SSCOP on a configured virtual path tunnel on a specified line.

Format:

```
LS100# delete sscop p1 p2
```

Format explanation:

P1: Line number (0–15)

P2: VPI (0-4095)

Example:

```
LS100# delete sscop 15
Line = 15 :
Line = 15 :
0 SVC configuration data has been deleted.
***Specified Signaling path is non-existing.
```

diagnosis

The **diagnosis** command displays diagnostic information, as follows.

Format:

```
LS100# diagnosis p1 p2
```

Format explanation:

P1 is one of the following:

- cpu (CPU board diagnosis)
- switch (XATOM/motherboard diagnosis)
- gateway (gateway PAD card diagnosis)
- line (line interface card diagnosis)
- all (entire system diagnosis)

P2: Line number (specified when P1 = line)

The result of any diagnostics process is displayed on a console terminal or can be retrieved by entering **show alarm** command.

display compareroute

The **display compareroute** command shows which routing table (dynamic or static) is used to choose the next hop route for each traffic type.

Format:

```
LS100> display compareroute
```

Output:

```
                  CBR          VBR          ABR
               xxxxxxx      xxxxxxx      xxxxxxx
```

Example:

```
LS100> display compareroute
                  CBR          VBR          ABR
               Static      Dynamic       Static
```

Error Message:

Subcommand name is illegal.

display configserver

The **dispaly configserver** command displays the ATM address of the LAN emulation server (LECS). The parameter P1 is optional. When ommitted, the command displays all the LECS addresses in the table.

Format:

```
LS-100# display configserver (P1)
```

Format Explanation:

P1: Index to the LECS address table (0-3)

Command Example:

```
LS-100# display configserver 0
Index   Configuration server
>         0       ABCDEF
```

Error Messages:

Command name is illegal.

Subcommand name is illegal.

Number of parameter is illegal.

Specified Configuration server is out of range.

Specified Index is invalid.

display ilmi

The **display ilmi** command displays ilmi channel and timer values on each line.

Format:

```
LS100# display ilmi (P1)
```

Format Explanation:

P1: Line number (0-15)

Example:

```
LS100# dispay ilmi
Line Number    VPI    VCI    Timer(s)
     1          12     22     120
     1          13     23      10
     2           1     11     200
     4          12     20     300

LS100# display ilmi 1
```

```
Line Number    VPI    VCI    Timer(s)
     1          12     22     120
     1          13     23      10
```

Error Messages:

Subcommand name is illegal.

Number of parameter is illegal.

Specified line is invalid.

display lbpoint

The **display lbpoint** command displays the termination point of the virtual path. End-to-end loopback cells (specified using the F4 parameter in the **generate** command) are sent back to source.

Format:

```
LS100# display lbpoint (P1)
```

Format Explanation:

P1: Line number (0-15)

Output Explanation:

1: Line number

2: VPI

3: VCI

Examples:

```
LS100# display lbpoint
line Number    VPI    VCI
     1          12     40
     1          12     42
     2          14     44
     5          12     47

LS100# display lbpoint 1
```

```
Line Number    VPI    VCI
     1          12     40
     1          12     42
```

Output Example:

```
LS100>display lbpoint
L LS100>display lbpoint 1
Line Number    VPI    VCI
     1          12     40
     1          12     42
```

Error Messages:

Command name is illegal.

Subcommand name is illegal.

Number of parameter is illegal.

Specified line is invalid.

exit

The **exit** command transfers the system from privileged mode to user mode. To prevent the LightStream 100 system data from being altered by unauthorized individuals, be sure to return the system to user mode after completing command operation in privileged mode.

The # prompt indicates operation in the privileged mode, and the > prompt indicates operation in the user mode.

Format:

```
LS100# exit
```

Example:

```
LS100# exit
LS100>
```

generate

The **generate** command activates Operation and Maintenenace (OAM) loopback cell flow. Upon accepting this command, OAM cells are generated every 10 seconds.

Format:

```
LS100# generate P1 P2 P3 P4 P5
```

Format explanation:

P1: OAM layer. Specify eihter F4 or F5 when P1. The value specified for P1 affects the values of P2 through P5: Refer to the explanation for each.

P2: Depending on whether P1 equals F4 or F5, the value for P2 is as follows:

— F4: OAM option. Specify **seg** for segmentation loopback or **end** for end-to-end loopback

— F5: Line number (0-15)

P3: Depending on whether P1 equals F4 or F5, the value for P3 is as follows:

— F4: Line number (0-15)

— F5: VPI number (0-4195)

P4: Depending on whether P1 equals F4 or F5, the value for P4 is as follows:

— F4: VPI number (0-4195)

— F5: VPI number (0-4195)

P5: Depending on whether P1 equals F4 or F5, the value for P5 is as follows:

— F4: Count (1-16)

— F5: Count (1-16)

Examples:

```
LS100# GENERATE f4 seg 1 12 8
1  F5   Line = xx  VPI = xxxx  VCI = xxxx ...OK
2  F5   Line = xx  VPI = xxxx  VCI = xxxx ...NG
3  F5   Line = xx  VPI = xxxx  VCI = xxxx ...OK
```

```
LS100# GENERATE f5 1 12 2 8
1  F4   seg   Line = xx  VPI = xxxx ...OK
2  F4   seg   Line = xx  VPI = xxxx ...NG
F4   seg   Line = xx  VPI = xxxx ...OK
```

If unexpected OAM cell is received, following message is displayed:

```
Unexpected cell has been received
```

Error Messages:

Command name is illegal.

Number of parameter is illegal.

Specified OAM is out of range.

Specified Base is out of range.

Specified line is invalid.

Specified VPI is out of range.

Specified VCI is out of range.

Specified count is out of range.

Specified Memory block is nonexisting.

passwd

The **passwd** command changes the registered password.

Format:

```
LS100# passwd
Input old password:  ********
   1
Input new password:  ********
   2
Retype new password:  ********
```

Note The LightStream 100 switch prompts you to enter the old password (1), new password (2), and new password again for verification (3). For each prompt, enter the requested information, and press the Return or Enter key.

Password entry guidelines follow:

- The password does not display on the screen.
- The password must be eight characters or fewer.
- The password must consist of only alphanumeric characters; symbols such as the plus sign (+), equal sign (=), percent sign (%), and ampersand (&) cannot be used.
- The password is case-sensitive.

Example:

```
LS100# passwd
Input New Password:
Retype New Password:
Please do NOT push reset button until the “save” is complete
###[OK]
```

Error messages:

Specified PASSWORD is out of range.

Specified PASSWORD is not alphanumeric.

Mismatch—password unchanged.

pvc add

The **pvc add** command adds a PVC endpoint. When using this command, confirm that a broadcast connection is already set by the **pvc establish** command. Enter the same source parameters (line number, VPI, VCI) as those specified by the **pvc establish** command. Note that the traffic type (bit rate type) on the endpoint becomes the same as that specified by the **pvc establish** command.

Format:

```
LS100# pvc add p1 p2 p3 p4 p5 p6
```

Format explanation:

P1: Low line number (0-15, corresponds to slot number)

P2: Low VPI (0-4095)

P3: Low VCI (0-4095)

P4: High line number (0-15, corresponds to slot number)

P5: High VPI (0-4095)

P6: High VCI (0-4095)

Example:

```
LS100# pvc add 1 3 3 12 5 5
Connection endpoint has been added.
Modified Connection:
Low:     1,     3,     3,     1, 1
High:    1,     5,     5
High:    12,    5,     5
```

Error messages:

Hardware error has been detected on specified line/Switch.

Specified connection is non-existing.

Specified connection is bidirectional.

Specified VPI/VCI is out of range.

Specified line number is invalid.

PVC Table Overflow.

Error messages (Multicast):

Command name is illegal.

Subcommand name is illegal.

Number of parameter is illegal.

Specified line is invalid.

Specified VPI is out of range.

Specified VCI is out of range.

Specified VPI+VCI is out of range.

Specified connection is uni/bidirection.

ICI Hunt Error.

BCI Hunt Error.

If an endpoint is added incorrectly, first remove the endpoint using the **pvc remove** command; then reenter the **pvc add** command.

pvc delete

The **pvc delete** command deletes a PVC setting.

Format:

```
LS100# pvc delete p1 p2 p3 p4 p5 p6 p7 p8
```

Format explanation:

P1: Connection type

- 0: Unidirectional
- 1: Bidirectional
- 2: Multicast

P2: Traffic type

- 0: Guaranteed
- 1: Best effort

P3: Low line number (0-15, corresponds to slot number)

P4: Low VPI (0-4095)

P5: Low VCI (0-4095)

P6: High line number (0-15, corresponds to slot number)

P7: High VPI (0-4095)

P8: High VCI (0-4095)

Example:

```
LS100# pvc delete 1 1 1 2 7 1 3 8
Bi direction Best Effort Connection has been deleted.
Low:         1,      2,      7,      1,      1
High:        1,      3,      8,      1,      1
```

Error message:

No such connection

Note Some error messages listed under the **pvc establish** command may occur.

pvc establish

The **pvc establish** command allows the user to specify the throughput (data rate) parameters for both forward and backward directions.

Format:

```
LS100# pvc establish p1 p2 p3 p4 p5 p6 p7 p8 p9 p10 p11 p12 p13 p14
```

Format explanation:

P1: Connection type (uni, bi, or multicast)

P2: Traffic type (GS, BE), VBR-GS (0), CBR-GS (1), UBR-BE(2)

P3: Low line number (0-15)

P4: Low VPI (0-4095)

P5: Low VCI (0-4095)

P6: Low UPVP (0-512)

P7: Low (forward) UPC enforcement option (through, discard)

P8: Low (forward) line (allocated) transmission rate (Mbps)

P9: High line number (0-15)

P10: High VPI (0-4095)

P11: High VCI (0-4095)

P12: High UPVP (0-512)

P13: High (backward) UPC enforcement option (through, discard)

P14: High (backward) line (allocated) transmission rate (Mbps)

Command examples:

```
LS100# pvc est 1 0 2 0 50 512 1 100 8 0 50 500 1 80
***Connection has been established.
Connection Type     : Bi
Traffic Type        : VBR-GS
Low  Throughput     : 100Mbps
High Throughput     : 80Mbps
LowLine LowVPI LowVCI LowUP  LowCO   HiLine  HiVPI  HiVCI  HiUP   HiCO
    2       0     50   512  Discard     8       0     50   500  Discard

LS100-5# pvc est 1 2 2 3 60 66 0 0 8 3 60 66 0 0
***Connection has been established.
Connection Type     : Bi
Traffic Type        : UBR-BE
Low  Throughput     : 0Mbps
High Throughput     : 0Mbps
LowLine LowVPI LowVCI LowUP  LowCO   HiLine  HiVPI  HiVCI  HiUP   HiCO
    2       3     60    66  Through     8       3     60    66  Through
```

pvc flush

The **pvc flush** command deletes all PVP and PVC connections associated with a specified line interface. However, the configuration data stored in flash memory is not affected by executing this command. To change the contents of flash memory, use the **save** command. This CLI command is executed in an interactive manner.

Format:

```
LS100# pvc flush p1
```

Format explanation:

P1: Line number (0-15)

Example:

```
LS100# pvc flush 15
Are you sure [Y or N] ?
delete this line
y
All connections on this LINF have been deleted.
```

pvc remove

The **pvc remov**e command deletes a PVC endpoint from a point-to-multipoint connection.

Format:

```
LS100# pvc remove p1 p2 p3 p4 p5 p6
```

Format explanation:

P1: Low line number (0-15, corresponds to slot number)

P2: Low VPI (0-4095)

P3: Low VCI (0-4095)

P4: High line number (0-15, corresponds to slot number)

P5: High VPI (0-4095)

P6: High VCI (0-4095)

Output:

```
Connection endpoint has been removed.
Modified Connection:
Low    : xx, xxxx, xxxxx, xxxx, x
          1    2     3     4    5
High   :  xx, xxxx, xxxxx
          1    2    3
```

Output explanation:

1: Line number

2: VPI number

3: VCI number

4: UPVP

5: COOP

Note The removed endpoint does not display. Destination data continues to display up to the last endpoint.

Example:

```
LS100# pvc remove 1 3 3 12 5 5
Connection endpoint has been removed.
Modified Connection:
Low:      1,      3,     3,     1,  1
High:     1,      5,     5
High:     7,      5,     5
```

Error messages:

Hardware error has been detected on specified line/switch.

No such connection.

Specified connection is bidirectional.

Specified VPI is out of range.

Specified VCI is out of range.

Specified line is invalid.

reset

System soft reset from a console terminal and/or NMS station is supported. The **reset** command is executed in an interactive manner.

Format:

```
LS100# reset
```

Example:

```
LS100# reset
      [OK; Y or N] ?
      (If Y is entered, system reset is executed.)
```

route add

The **route add** command is used by IISP to route signaling messages across multiple switches and even among multiple ports on a single switch.

Format:

```
LS100# route add p1 p2 p3 p4 p5 p6
```

Format explanation:

P1: Destination address (40 hexadecimal digits maximum)

P2: ATM address type (NSAP/E.164)

P3: Primary port number (0–15). The primary port is the port through which the destination ATM node is reachable and, if active, will always be selected first by the LightStream 100 switch.

P4: Secondary port number (0–15). The secondary port is the alternate port through which the destination node is reachable and will be selected only by the LightStream 100 switch if the primary port is inactive.

Note If there is no alternate route to the destination, specify the same port for both P3 and P4.

P5: Primary tunneling VPI (0–4095)

P6: Secondary tunneling VPI (0–4095)

Example:

```
LS100# route add xxx123456789 e.164 2 3 10 200
SVC route has been added.
```

Error messages:

Command name is illegal.

Subcommand name is illegal.

Number of parameter is illegal.

Specified parameter is invalid.

Routing Table Overflow.

The **route add** command has been extended to now include a virtual path tied to a particular port because there could be multiple virtual paths associated with a single port.

route delete

The **route delete** command deletes an SVC route.

Format:

```
LS100# route delete p1 p2
```

Format explanation:

P1: ATM address (arbitrary bit string in 20 bytes hexadecimal for NSAP format or in 15 bytes hexadecimal for E.164 format. To perform partial collation, use the value X. For E.164 format, system appends X.)

P2: Address format (NSAP or E.164)

Example:

```
LS100# route delete 1234567890 nsap
SVC route has been deleted.
```

Error messages:

Specified Routing Table is nonexisting.

Note Some error messages listed under the **route add** command may be displayed.

route flush

The **route flush** command deletes the entire SVC routing table.

Format:

```
LS100# route flush
```

Example:

```
LS100# route flush
SVC routing table has been flushed.
```

save

The **save** command saves the system data set by the **set** commands or the **nms snmp-set** commands in Flash Read-Only Memory (ROM) inside the main unit. The Flash ROM can have 9000 writes. If the LightStream 100 switch is powered off or reset without executing the **save** command, the system deletes the set data.

Format:

```
LS100# save
```

Example:

```
LS100# save
Please do NOT push reset button until the "save" is complete
#######[OK]
```

Caution To avoid the loss of your entered configuration data, after entering the **save** command and before pushing the Reset button, wait for the save process to finish. The save process can take over five minutes.

Error messages:

Command name is illegal.

Number of parameter is illegal.

set atmsig

The **set atmsig** command sets the Broadband Signaling standard Q.2931 (formerly Q.93B) parameters for ATM signaling on the specified line.

Format:

```
LS100# set atmsig p1 p2 p3 p4 p5 p6 p7 p8 p9 p10 p11 p12 p13
```

Format explanation:

P1: Line number (0-15)

P2: User/network switch identifier

— 0: Slave (user)

— 1: Network

Note The system accepts either alphabetic or numeric values.

P3: T303 (1-255; default = 4 seconds.)

P4: T308 (1-511; default = 30 seconds.)

P5: T309 (1-511; default = 90 seconds.)

P6: T310 (1-255; default = 10 seconds.)

P7: T313 (1-255; default = 4 seconds.)

P8: T316 (1-511; default = 120 seconds.)

P9: T317 (1-255; default = 60 seconds.)

P10: T322 (1-255; default = 4 seconds.)

P11: T398 (1-255; default = 4 seconds.)

P12: T399 (1-511; default = 14 seconds.)

Note P11 and P12 are not supported; specify a number within the range listed.

P13: VP (0–4095)

Example:

```
LS100# set atmsig 0 master 4 30 90 10 4 120 15 4 4 14 8
```

Error messages:

Specified line number is invalid.

Specified line number is out of range or not installed.

Note that parameters P1 and P13 should match the port number and virtual path configured by the **set signaling** command. Parameters P1 and P13 should also match parameters P1 and P10 specified by the **set sscop** command.

Parameters P2 through P12 are standard Q.2931 parameters with built-in default parameters. The default parameters are well suited for most networks. Do not change these parameters unless you have excellent working knowledge of the Q.2931 protocol and the network configuration.

Display the default values by entering the **show atmsig** command, which displays parameters P2 through P12. Then refer to them when configuring SVC tunnels.

The LightStream 100 switch currently supports only UNI 3.0 signaling.

The **delete atmsig** command deletes the configured tunnel.

set boot

The **set boot** command sets the boot mode.

Format:

```
LS100# set boot p1
```

Format explanation:

P1: Booting mode

- Initialize (boots from server connected to the network through an Ethernet interface. This option erases all current system configuration data.)
- Network (boots from server connected to the network through an Ethernet interface. This option keeps current system configuration data.)
- Flash (boots from Flash memory)

Note The boot program automatically resets the LightStream 100 switch.

Example:

```
LS100# set boot initialize
```

Error messages:

Specified parameter is out of range.

Number of parameter is illegal.

set clock

The **set clock** command sets the clock mode to either master or slave.

Format:

```
LS100# set clock p1
```

Format explanation:

P1: Master/slave switch identifier

- 0: Master (default)
- 1: Slave

Note The console terminal displays the set mode: master or slave.

Example:

```
LS100# set clock 0
Operational Mode: Master
```

Error messages:

Command name is illegal.

Subcommand name is illegal.

Number of parameter is illegal.

Specified parameter is out of range.

set configserver

The **set configserver** command registers the ATM address of the LAN emulation configuration server (LECS). The LightStream 100 can store a maximun of four LECS addresses. The first parameter specifies the index to the LECS address table. If the specified index already has a NSAP address, this command will be rejected.

Format:

```
LS-100# set configserver P1 P2
```

Format explanation:

P1: Index to the LECS address table (0-3)

P2: ATM address (0-9, a-f, A-F; maximum address length =40)

Example:

```
LS-100# set configserver 0 abcdef
Configuration server has been set.
```

Error Messages:

Command name is illegal.

Subcommand name is illegal.

Number of parameter is illegal.

Specified Configuration server is out of range.

Specified Index is invalid.

Specified Index in the address table is not empty.

set ether

The **set ether** command sets the IP address of the Ethernet interface.

Format:

```
LS100# set ether p1 p2 p3
```

Format explanation:

P1: IP address (x.x.x.x where 0 x 255)

P2: Subnet mask (x.x.x.x where 0 x 255)

P3: Default router IP address (x.x.x.x where 0 x 255)

Example:

```
LS100# set ether 192.168.38.76 255.255.255.224
Ethernet ip address has been set.
```

set ilmi

This command sets up an ILMI channel on each line interface.

Format :

```
LS100# SET ilmi P1 P2 P3 (P4)
```

Format explanation :

P1: Line number(0-15)

P2: VPI number(0-4095)

P3: VCI number(0-4095)

(P4): Timer for health check and retry (1-511 seconds; the default is 10 seconds.)

Example:

```
LS100# SET ilmi 1 12 20 128
LS100# SET ilmi 1 12 20
Ilmi path has been set.
```

Error Messages:

Command name is illegal.

Subcommand name is illegal.

Number of parameter is illegal.

Specified line is invalid.

Specified VPI is out of range.

Specified VCI is out of range.

Specified VPI+VCI is out of range.

Specified timer is out of range.

set interface

The **set interface** command changes the line interface data for the specified line interface card. Use the **set interface** command after the LINF card is installed.

Format:

```
LS100# set interface p1 p2 p3 p4 p5 (p6 p7 p8)
```

Format explanation:

P1: Line number (0-15)

P2: UNI(0) - GFC + 8-bit VPI and 16-bit VCI; NNI(1) - 16-bit VPI and 16-bit VCI

P3: Forum(0) - Unassigned cell is filled to adjust cell stream.

- SS bit of the SONET Overhead = 10
- ITU-T(1) - Idle cell is filled.
- SS bit of the SDH Overhead = 11

P4: The number of valid VPI bits (0-8, default=4)

P5: The number of valid VCI bits (0-12, default=8)

P6: Line build out ->

- 0-255 feet(0)
- 255-450 feet(1)

P7: Cell delineation method ->

- PLCP - G.751(0)
- Direct_Mapping - G.804(1)

P8: Payload

- Payload_Not_Scrambled(0)
- Payload_Scrambled(1)

P6 through P8 are for DS3/E3 line interface cards only and can be ignored for the other (PHY) types of line interface cards.

set lbpoint

The **set lbpoint** command specifies the termination point of the virtual path for an end-to-end loopback test. This command relates the **generate** command. Refer to the **generate** command for information about performing an end-to end loopback test.

Format:

```
LS100# set lbpoint P1 P2
```

Format Explanation:

P1: Line number(0-15)

P2: VPI number(0-4095)

Example:

```
LS100# set lbpoint 2 1[CR]
Loopback point has been set.
```

Error Messages:

Command name is illegal.

Subcommand name is illegal.

Number of parameter is illegal.

Specified line is invalid.

Specified VPI is out of range.

set line

The **set line** command changes the line interface status.

Format:

```
LS100# set line p1 p2
```

Format explanation:

P1: Line number (0-15)

P2: Line status

— Normal

— Local (local loopback)

— Remote (remote loopback)

Example:

```
LS100# set line 8 local

Line Interface 8 is set.
```

Error message:

Specified line is invalid.

set local

The **set local** command sets the IP address, mask, and host name of the LightStream 100 switch.

Format:

```
LS100# set local p1 p2 p3 p4
```

Format explanation:

P1: Host name (up to eight alphabetic characters)

P2: IP address (x.x.x.x where 0 x 255)

P3: Mask (x.x.x.x where 0 x 255)

P4: Node ID (up to 20 characters, 0-9, A-F)

The first 13 bytes of the 20-byte ATM NSAP addressare used for the address prefix.

Example:

```
LS100# set local m5core 13.12.11.10 222.123.22.23
cc0102030405060708091011l2
Local configuration data has been set.
```

Error messages:

Command name is illegal.

Subcommand name is illegal.

Number of parameter is illegal.

Specified HOST NAME is out of range.

Specified IP ADDRESS is out of range.

Specified MASK is out of range.

Enter the **show local** command on the console to display the ATM address.

set looptime

The **set looptime** command enables or disables looptime mode on the STS-3c/STM-1 interface.

Format:

```
LS100# set looptime p1 p2
```

Format explanation:

P1: Line interface number

P2: Looptime mode (0=Off, 1=On)

Example:

```
LS100# set looptime 3 1
Line Interface 3 has been set.
```

set mib

The **set mib** command sets Management Information Base (MIB) II sysContact (administrator) and sysLocation (installation site) names.

Format:

```
LS100# set mib p1 p2
```

Format explanation:

P1: sysContact (administrator) name (up to 32 alphanumeric characters)

P2: sysLocation (installation site) name (up to 32 alphanumeric characters)

Spaces are permitted in the sysContact and sysLocation parameters. To include a space in the parameter, enclose the name within double quotation marks.

Example:

```
LS100# set mib “Someone Special” Technical_Support
MIB information has been set.
```

Error messages:

Command name is illegal.

Subcommand name is illegal.

Number of parameter is illegal.

Specified sysContact is out of range.

Specified sysLocation is out of range.

set nms

The **set nms** command sets the IP address, mask, and access privilege for the NMS.

Format:

```
LS100# set nms p1 p2 p3 p4 p5 p6
```

Format explanation:

P1: NMS number (0-3)

P2: IP address (x.x.x.x where 0 x 255)

P3: Mask (x.x.x.x where 0 x 255)

P4: Community name (up to 16 alphanumeric characters)

P5: Access privilege

0: Read only

1: Read and write

P6: Gateway. The gateway IP address (x.x.x.x where 0 x 255). If the gateway is on the same segment, specify 0.0.0.0.

Example:

```
LS100# set nms 1 133.2.4.6 255.255.255.0 atm-public 1
NMS information has been set.
```

Error messages:

Command name is illegal.

Subcommand name is illegal.

Number of parameter is illegal.

Specified NMS Number is out of range.

Specified IP ADDRESS is out of range.

Specified MASK is out of range.

Specified COMMUNITY NAME is out of range.

Specified ACCESS PRIVILEGE is out of range.

Specified ACCESS RANGE is out of range.

set nmsdelete

The **set nmsdelete** command deletes up to four NMS connections at once.

Format:

```
LS100# set nmsdelete p1
```

Format explanation:

P1: NMS number (0-3)

Example:

```
LS100# set nmsdelete 1
NMS information and NMS route information has been deleted.
```

set nmsroute

The **set nmsroute** command permits multiple network management systems (NMS) to share the same VPI/VCI across a line interface.

Format:

```
LS100# set nmsroute p1 p2 p3 p4
```

Format explanation:

P1: NMS number (0-3)

P2: Line number (0-15)

P3: VPI number (0-4095)

P4: VCI number (0-4095)

Example:

```
LS100# set nmsroute 0 3 8 89
```

```
NMS ROUTE information has been set.
```

Error messages:

Command name is illegal.

Sub command name is illegal.

Number of parameter is illegal.

Specified line is invalid.

Specified VPI is out of range.

Specified VCI is out of range.

Specified Valid VPI+VALID VCI is out of range.

Connection is already established on this line.

set scroll

The **set scroll** command changes the number of display lines on the console terminal.

Format:

```
LS100# set scroll p1
```

Format explanation:

P1: Number of display lines (1–49)

Example:

```
LS100# set scroll 24
Scroll Filter  :ON
```

set server

The **set server** command sets the boot server IP address.

Format:

```
LS100# set server p1 p2 p3
```

Format explanation:

P1: IP address (x.x.x.x where 0 x 255)

P2: Default router IP address (x.x.x.x where 0 x 255)

P3: The Rboot file name (127 characters maximum)

Example:

```
LS100# set server 129.245.60.4
```

set sigflag

The **set sigflag** command enables the signaling software flag for debugging.

Format:

```
LS100# set sigflag p1 p2
```

Example:

```
LS100# set sigflag 00 1
```

set signaling

The **set signaling** command configures a virtual path on a particular port/line. Configure multiple VPs per port by entering the **set signaling** command multiple times.

Format:

```
LS100# set signaling p1 p2
```

Format explanation:

P1: Port/line number (0–15)

P2: Virtual path (0–4095)

The **delete signaling** command deletes the configured tunnel.

Example:

```
LS100# set signaling 1 12
```

Error message:

Number of parameter is illegal.

set sscop

The **set sscop** command sets the SSCOP parameters for ATM signaling per line.

Format:

```
LS100# set sscop p1 p2 p3 p3 p4 p5 p6 p7 p8 p9 p10
```

Format explanation:

P1: Line number (0-15)

P2: MaxCC (1-255; default = 4 seconds)

P3: TimerCC (1-255; default = 1 second)

P4: Timer_KEEPALIVE (1-255; default = 30 seconds)

P5: Timer_NORESPONCE (1-255; default = 10 seconds)

P6: Timer_POLL (1-1023 seconds; default = 1 second)

P7: MaxPD (1-255; default = 10)

P8: MaxSTAT (1-255; default = 4)

P9: Clear buffers

— No

— Yes (default)

P10: VP (0–4095)

Example:

```
LS100# set sscop 0 4 1 1 10 100 25 4 yes 70
```

Error messages:

Specified line is invalid.

Specified parameter is out of range.

Note that P1 and P10 should match the port number and virtual path configured by the **set signaling** command.

Parameters P2 through P9 are standard SSCOP parameters with built-in default values. The default parameters are well suited for most networks. Do not change the parameters unless you have excellent knowledge of the SSCOP protocol and the network configuration.

Display the defaults by entering the **show sscop** command to display parameters P2 through P9. Then refer to the parameters when configuring tunnels.

The **delete sscop** command deletes the configured tunnel.

Format explanation:

P1: Flag identification number

- 00 = Disable event flag, packet flag, and error flag
- 01= Enable event flag
- 02=Enable packet flag
- 03=Enable event flag and packet flag
- 04=Enable error flag
- 05=Enable event flag and error flag
- 06=Enable packet flag and error flag
- 07=Enable event flag, packet flag, and error flag

P2: Line interface number (0–15). If no line interface number is specified, all lines configured.

set sscopflag

The **set sscopflag** command sets SSCOP parameters for ATM signaling.

Format:

```
LS100# set sscopflag p1 p2
```

Format explanation:

P1: Flag identification number

- 00 = Disable event flag, packet flag, and error flag
- 01= Enable event flag
- 02=Enable packet flag
- 03=Enable event flag and packet flag
- 04=Enable error flag
- 05=Enable event flag and error flag
- 06=Enable packet flag and error flag
- 07=Enable event flag, packet flag, and error flag

P2: Line interface number (0–15). If no line interface number is specified, all lines are configured.

Example:

```
LS100# set sscopflag 00 1
```

set svcline

The **set svcline** command sets the SVC status per line.

Format:

```
LS100# set svcline p1 p2
```

Format explanation:

P1: Line number (0-15)

P2: SVC status

- Suspend: Suspends signaling
- Resume

Example:

```
LS100# set svcline 10 suspend
SVC status of the Line Interface 10: Suspended
```

Error message:

Specified line is invalid.

set time

The **set time** command sets the LightStream 100 system date and time in year, month, day and hour, minute, second format.

Format:

```
LS100# set time p1 p2
```

Format explanation:

P1:

- Current date
- Year: 0-99 (Specify last two digits of year.)
- Month: 1-12
- Day: 1-31

P2: Current time

- Hour: 0-23
- Minute: 0-59
- Second: 0-59

Connect the year, month, and day with a hyphen (-); connect the hour, minute, and second with a colon (:).

Example:

```
LS100# set time 94-04-01 18:30:00
System Timer is set.
 94-04-01 18:30:00
```

Error messages:

Command name is illegal.

Subcommand name is illegal.

Number of parameter is illegal.

Specified time is out of range.

set tparam

The **set tparam** command sets the following traffic control parameters:

- BE buffer depth (Nv)
- BE buffer threshold (Nvt)
- GS buffer threshold (Nct)
- UPC window size (Nw)

The GS buffer depth (Nc) is 16-Nv, where 0 Nv 16, Nv≥Nvt, and Nc>Nct. The default values are Nv=8, Nvt=4, and Nc=4. The UPC window size (Nw) is 0<Nw 120 (1.4 milliseconds through 168 milliseconds). The default is 120 milliseconds.

Format:

```
LS100# set tparam p1 p2 p3 p4
```

Format explanation:

P1: Best effort buffer capacity (Nb) (0-16)

P2: Guaranteed buffer threshold (Nbt) (0-16)

P3: Best effort buffer threshold (Ngt) (0-16)

P4: UPC window size (Nw) (0-120)

Example:

```
LS100# set tparam 11 8 4 100
Traffic parameters are set.
```

Error message:

Specified parameter is out of range.

After setting traffic control parameters using the **set tparam** command, save the configuration using the **save** command. Press the Reset button to initialize the traffic parameters.

show network

The **show network** command displays network-related data.

Format:

```
LS100# show network
```

Example:

```
LS100# show network
Local Information:
Host Name  :a100
IP Address :192.168.38.76
NetMask    :255.255.255.224
sysContact :
sysLocation:
ATM Address:1

NMS Information:
NMS Number          0               1               2               3
----------+---------------+---------------+---------------+---------------
IP Address :     0.0.0.0          0.0.0.0          0.0.0.0          0.0.0.0
NetMask    :     0.0.0.0          0.0.0.0          0.0.0.0          0.0.0.0
Line Number:        0                0                0                0
VPI/VCI    :       0/   0           0/   0           0/   0           0/   0
Community
       Name:
Access
  Privilege:
```

Output explanation:

1: Host name

2: Local IP address

3: Local mask

4: sysContact (administrator) name

5: sysLocation (installation site) name

6: NMS number

7: IP address

8: Mask

9: Line number

10: VPI number

11: VCI number

12: Community name

13: Access privilege (0=read only; 1=read and write)

14: MIB access range

show softPVP

The **show softPVP** command displays soft PVC/PVP information. Enter this command on either the source-border or the target-border switch, but not on an intermediate switch. Intermediate switches cannot differentiate a normal SVC from soft PVC/PVPs.

Format:

```
LS100# show softPVP p1
```

Format explanation:

P1: The port/line number (0-15) of the border switch directly connected to the ATM host.

Example:

```
LS100# show softPVP 0
Line Number : 0
Endpoint TrfType FwdMbps BkwdMbps LN VPI VCI VPI VCI Retry Calling UBR-BE
--00 500 502 Calling UBR-BE--02 703 802
CallingPartyAddress AA AA
CalledPartyAddress CC010203040506070809101112O4
CC010203040506070809101112O4
```

If the calling party address is not fully specified, the system will left justify the address and fill in the remaining bytes with zeros.

Also, the fourteenth byte of the called party address is the port number (in this case, port number 4), which is the port to which the target ATM host is directly connected.

Use the **show svc** command to display all the SVCs associated with a particular port. The **show svc** command does not differentiate between regular end-to-end signaling and soft PVC/PVP connections.

soft delete

The **soft delete** command releases a soft PVC/PVP connection.

Format:

```
LS100# soft delete p1 p2 p3
```

Format explanation:

P1: Input/source port number (0–15)

P2: Input/source VPI (0–4095)

P3: Input/source VCI (0–4095)

All parameters are required.

Upon entering the **soft delete** command, the source-border switch sends a release message to the target-border switch to remove the soft PVC/PVP connection. Both the source-border and target-border switches tear down the VP/VC created between them and the ATM hosts.

soft establish

The **soft establish** command sets up a soft PVC connection.

Format:

```
LS100# soft establish p1 p2 p3 p4 p5 p6 p7 p8 p9 p10 p11 p12 p13 p14 p15
```

Format explanation:

P1: Calling party address (40 hexadecimal digits maximum). The LightStream 100 ATM address of source-border switch.

P2: Input/source port number (0–15). The port connected to the PVC-capable ATM host.

P3: Input/source VPI (0–4095). The VPI allocated to the PVC-capable ATM host.

P4: Input/source VCI (0–4095). The VCI allocated to the PVC-capable ATM host. When soft PVP, set P4 to zero.

P5: Called party address (40 hexadecimal digits maximum). The LightStream 100 ATM address of the target-border switch. Specify the called party address in LightStream 100 NSAP address format.

P6: Output/target VPI (0–4095). The VPI allocated to the target PVC-capable ATM host.

P7: Output/target VCI (0–4095). The VCI allocated to the target PVC-capable ATM host. When soft PVP, set P7 to zero.

P8: Number of retries (0–15; default=2). Retry time interval is 10 seconds.

P9: Traffic type (GS, BE or UBR; default=UBR).

P10: Forward peak cell rate in Mbps.

P11: Backward peak cell rate in Mbps.

P12: Local upvp, 0-512

P13: Local COOP 0: Pass nonconforming cells; 1: Drop nonconforming cells

P14: Remote UPVP (0-512)

P15: Remote COOP 0: Pass nonconforming cells; 1: Drop nonconforming cells

Note UPVP/512 should be greater than PCR/line-rate.

Output example:

```
Soft PVPC/PVCC has been issued.
```

Error message:

Number of parameter is illegal.

write erase (configuration erase)

The **write erase** command completely erases the entire configuration in Flash memory.

Format:

```
LS100# write erase
```

Example:

```
LS100# write erase
     [OK; Y or N] ?
     (If Y is entered, the configuration data stored in the Flash memory
      will be completely erased !)
```