SA33-0385-00

IBM 8260 Nways Multiprotocol Switching Hub
IBM 8285 Nways ATM Workgroup Switch

ATM Command Reference Guide

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Note!

Before using this information and the product it supports, be sure to read the general information under “Notices” on page vii.

First Edition (February 1996)

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Industry Standards Reflected in This Product

The IBM 8260 ATM Control Point and Switch module and IBM 8285 ATM Workgroup Switch comply with the following ATM standards:

- ATM User-Network Interface (UNI) Specification V3.0 and V3.1, ATM Forum
- LAN Emulation Over ATM Specifications V1.0, ATM Forum
- Q.2110 Service Specific Connection-Oriented Protocol (SSCOP), ITU, March 17, 1994
- Q.2130 Service Specific Coordination Function (SSCF) for support of signaling at the user-network interface, March 17, 1994.

The ATM Control Point and Switch module and ATM Workgroup Switch are designed according to the specifications of the following industry standards as understood and interpreted by IBM as of September 1994:

- RFC854 - TELNET protocol
- RFC1350 - Trivial File Transfer Protocol (TFTP)
- RFC1577 - Classical IP and ARP (Address Resolution Protocol) over ATM
- SNMP:
  - RFC1155 - Structure and Identification of Management Information (SMI) for TCP/IP based Internet.
  - RFC1156 - Management Information Base (MIB) for network management of TCP/IP based Internets (MIB-I)
  - RFC1157 - Simple Network Management Protocol (SNMP)
  - RFC1212 - Concise MIB definitions
  - RFC1213 - Management Information Base (MIB) for network management of TCP/IP based Internets (MIB-II)
  - RFC1215 - Convention for defining traps for use with SNMP.

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About this Book

This book describes the ATM commands that you enter at a console attached to an ATM Control Point and Switch (A-CPSW) Module installed in an IBM* 8260 Nways* Multiprotocol Switching Hub, or a console attached to an IBM 8285 Nways ATM Workgroup Switch, in order to manage the ATM subsystem.

Who Should Use this Book

This book is intended for the following people at your site:

- ATM network administrator
- ATM network operator
- Hardware installer.

How to Use this Book

- **Chapter 1, "Overview" on page 1** describes how to enter ATM commands, which mode is required to enter the command, and details if a command is specific to the A-CPSW (8260) or ATM Workgroup Switch (8285),
- **Chapter 2, "Quick Reference" on page 5** provides a summary of command structures and syntax.
- **Chapter 3, "ATM Commands" on page 17** gives detailed information for each command. The commands are listed in alphabetical order.

Terms Used in This Book

The term *ATM Control Point* used in this book refers to the Nways ATM Control Point located in either the IBM 8260 Nways ATM Control Point and Switch module or IBM Nways 8285 ATM Workgroup Switch, unless otherwise specified.

The term *8260/8285 Installation and User's Guide* used in this book refers to the *IBM 8260 Nways Multiprotocol Switching Hub, ATM Control Point and Switch Module, Installation and User's Guide*, SA33-0326 and *IBM 8285 Nways ATM Workgroup Switch Installation and User's Guide*, SA33-0381.

Prerequisite Knowledge

To understand the information presented in this book, you should be familiar with:

- Features and characteristics of the IBM 8260 ATM Control Point and Switch Module, as described in *IBM 8260 Multiprotocol Intelligent Switching Hub Product Description*, GA33-0315 and *IBM 8260 Nways Multiprotocol Switching Hub Installation and User's Guide*, SA33-0326.
- Features and characteristics of the 8285 Nways ATM Workgroup Switch, as described in *IBM 8285 Nways ATM Workgroup Switch, Installation and User's Guide*, SA33-0381.
- Principles of asynchronous transfer mode (ATM) technology
- ATM Forum UNI Specification V3.0 and V3.1.

Where to Find More Information

Refer to the documentation listed in the “Bibliography” on page 149.

World Wide Web

You can access the latest news and information about IBM network products, customer service and support, and microcode upgrades via the Internet, at the URL:

`http://www.raleigh.ibm.com`

Chapter 1. Overview

This chapter explains how to enter ATM commands to manage the ATM subsystem via an ATM Control Point located in either the ATM Control Point and Switch Module of the IBM 8260 Nways Multiprotocol Switching Hub, or the IBM 8285 Nways ATM Workgroup Switch.

These commands can be entered:

- From a local console attached to the ATM Control Point's RS-232 console port.
- From a session on a remote console via the TELNET protocol

When working in a remote session, you can use all ATM commands except for TELNET and commands that require Maintenance mode.

Keystroke Functions

When entering ATM commands from the console, you can correct typing mistakes by pressing the DEL or Backspace keys. These keystrokes along with other keystroke functions are as follows:

BS or Backspace	Moves the cursor one space backward and deletes the character.
Enter	runs the command or prompts you for missing parameters.
Space bar	Types the complete command.
Ctrl + **C**	Cancels the command that is currently running and returns the prompt.
Ctrl + **R**	Recalls the last command entered (but does not run it unless Enter pressed).
Ctrl + **L**	Types the currently edited command on the next line.
?	display a list of possible commands or parameters.

Console Modes

Some commands are only accessible from certain modes. The types of mode available depend on the password entered when logging in. The types of mode are:

User mode Logging in with the user password gives you read only access to a subset of ATM commands that allow you to view ATM subsystem status, get help, clear counters, and log off. The factory default user password is a null string.

Administrator mode Logging in with the administrator password gives you read and write access to all ATM commands. The factory default administrator password is **8260** for the A-CPSW and **8285** for the ATM Workgroup Switch.

Maintenance mode gives access to maintenance functions, such as downloading out_of_band, and is accessed by entering the MAINTAIN command when in Administrator mode. No password is required.

Applicable Environments

Table 1 shows which mode is required for each command, and which commands are specific to either the 8260 A-CPSW module or 8285 ATM Workgroup Switch. Note that when in Administrator mode, all User mode commands can be run.

Table 1 (Page 1 of 3). ATM Commands - Required Modes and Applicable Environment

Command	8260	8285	Mode	Details
?	√	√	all	page 18
BOOT	√	√	Maintenance	page 20
CLEAR ALL	√	√	Maintenance	page 21
CLEAR ATM_ESI	√	√	Administrator	page 22
CLEAR COMMUNITY	√	√	Administrator	page 23
CLEAR CONFIGURATION	√	√	Maintenance	page 24
CLEAR ERROR_LOG	√	√	Administrator	page 25
CLEAR LAN_EMUL CONFIGURATION_SERVER	√	√	Administrator	page 26
CLEAR LOGICAL_LINK	√	√	Administrator	page 27
CLEAR PVC	√	√	Administrator	page 28
CLEAR STATIC_ROUTE	√	√	Administrator	page 29
DOWNLOAD INBAND	√	√	Administrator	page 30
DOWNLOAD OUT_OF_BAND	√	√	Maintenance	page 32
DUMP TRS	√	√	Administrator	page 34
LOGOUT	√	√	User	page 35
MAINTAIN	√	√	Administrator	page 36
PING	√	√	User	page 38

Table 1 (Page 2 of 3). ATM Commands - Required Modes and Applicable Environment				
Command	**8260**	**8285**	**Mode**	**Details**
RESET ATM_SUBSYSTEM	√	√	Administrator	page 39
RESET HUB	√		Administrator	page 40
RESET MODULE	√		Administrator	page 41
REVERT	√	√	Administrator	page 42
SAVE	√	√	Administrator	page 43
SET ALERT	√	√	Administrator	page 44
SET ATM_ESI	√	√	Administrator	page 47
SET CLOCK	√	√	Administrator	page 48
SET COMMUNITY	√	√	Administrator	page 49
SET DEVICE	√	√	Administrator	pages 51 to 63
SET DRAM	√		Maintenance	page 66
SET HUB_NUMBER_OF_SLOTS	√		Administrator	page 67
SET LAN_EMUL CONFIGURATION_SERVER	√	√	Administrator	page 59
SET LAN_EMUL SERVER		√	Administrator	page 70
SET LOGICAL_LINK	√	√	Administrator	page 72
SET MODULE	√	√	Administrator	page 74
SET PORT	√	√	Administrator	pages 76 and 78
SET POWER MODE	√		Administrator	page 81
SET PVC	√	√	Administrator	pages 82 and 84
SET ROLE	√		Maintenance	page 86
SET STATIC_ROUTE	√	√	Administrator	page 87
SET TERMINAL	√	√	Administrator	pages 88 to 96
SET TFTP FILE_NAME	√	√	Administrator	page 97
SET TFTP FILE_TYPE	√	√	Administrator	page 98
SET TFTP SERVER_IP_ADDRESS	√	√	Administrator	page 99
SET TFTP TARGET_MODULE	√	√	Administrator	page 100
SET TRACE	√	√	Administrator	page 101
SHOW ALERT	√	√	User	page 102
SHOW ATM_ESI	√	√	User	page 103
SHOW CLOCK	√	√	User	page 104
SHOW COMMUNITY	√	√	User	page 105
SHOW DEVICE	√	√	User	page 106
SHOW ERRORS	√	√	Maintenance	page 110
SHOW FLASH	√	√	Maintenance	page 111

Table 1 (Page 3 of 3). ATM Commands - Required Modes and Applicable Environment				
Command	**8260**	**8285**	**Mode**	**Details**
SHOW HUB	√		User	page 112
SHOW INVENTORY	√		User	page 113
SHOW LAN_EMUL CONFIGURATION_SERVER	√	√	User	page 115
SHOW LAN_EMUL SERVERS		√	User	page 116
SHOW LOGICAL_LINK	√	√	User	page 117
SHOW MODULE	√	√	User	page 118
SHOW PORT	√	√	User	page 124
SHOW POWER	√		User	page 129
SHOW PVC	√	√	User	pages 131 & 133
SHOW RAM	√		Maintenance	page 134
SHOW ROLE	√		Maintenance	page 135
SHOW STATIC_ROUTE	√	√	User	page 136
SHOW TERMINAL	√	√	User	page 137
SHOW TFTP	√	√	User	page 138
SHOW TRACE	√	√	Administrator	page 140
SWAP ACTIVE	√	√	Maintenance	page 141
SWAP FPGA_PICOCODE	√	√	Administrator	page 142
SWAP MICROCODE	√	√	Administrator	page 143
TELNET	√	√	User	page 144
UPLOAD	√	√	Administrator	page 145
USE BAUD	√	√	Maintenance	page 147
WRAP	√	√	Administrator	page 148

Chapter 2. Quick Reference

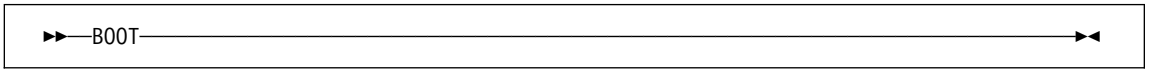
This chapter contains an overview of the required syntax for the ATM commands. Commands are shown in alphabetical order, detailing:

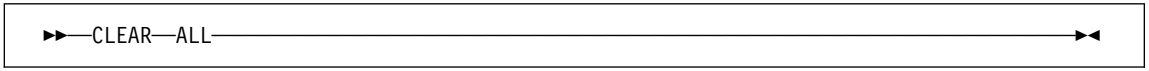
- Groups of valid parameters (shown in a column below the command line) that can be entered with the command
- Variables (shown in italics) for which you must enter a valid value
- Parameters (shown in uppercase) which must be entered exactly as they appear in the command syntax.

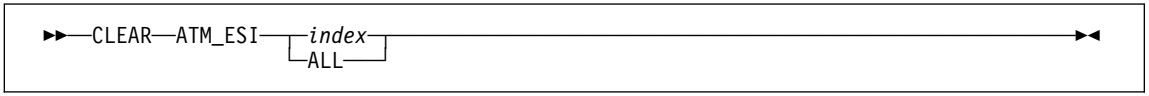
A group of parameters is optional when none of the parameters in the group is shown on the command line (for example, `FORCE` in LOGOUT and MAINTAIN or `NODISPLAY` and `DISPLAY` in SET ALERT).

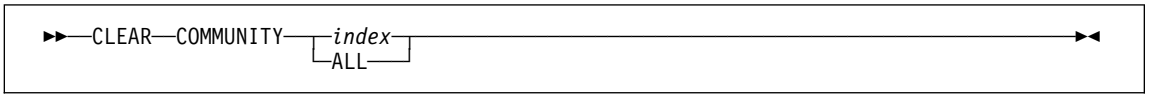
The default value for a parameter appears above the command line (for example, `INBAND` in DOWNLOAD or `NO_VERBOSE` in SHOW MODULE).

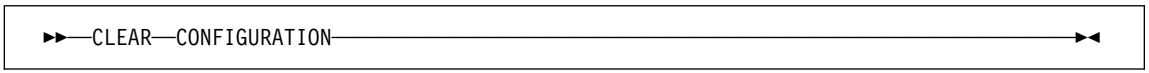
Note: When you enter ATM commands at the console prompt, you can enter parameters in either upper or lowercase letters. For example, you can enter either `CLEAR COMMUNITY ALL` or `clear community all`, or even `CLEAR Community All`.

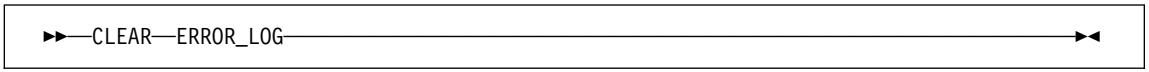

BOOT

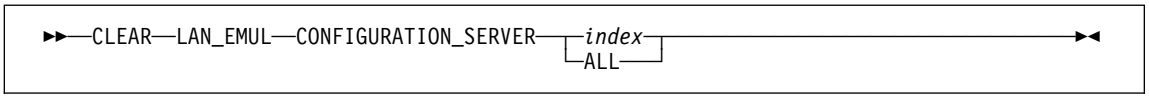

CLEAR
ALL

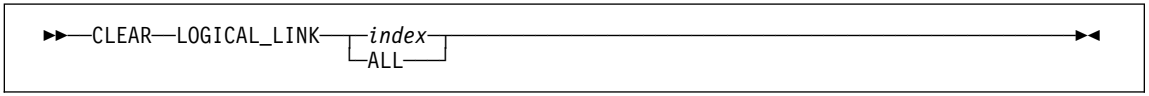

CLEAR
ATM_ESI
index
ALL

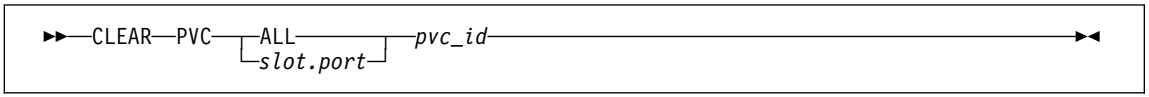

CLEAR
COMMUNITY
index
ALL

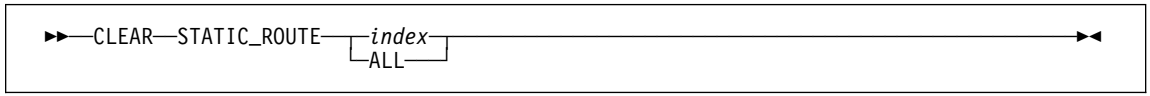

CLEAR
CONFIGURATION

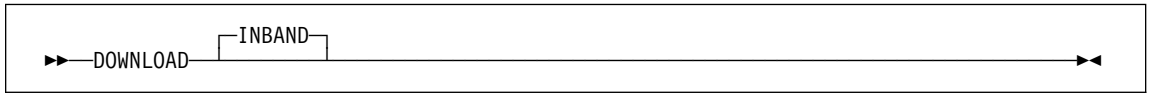

CLEAR
ERROR_LOG

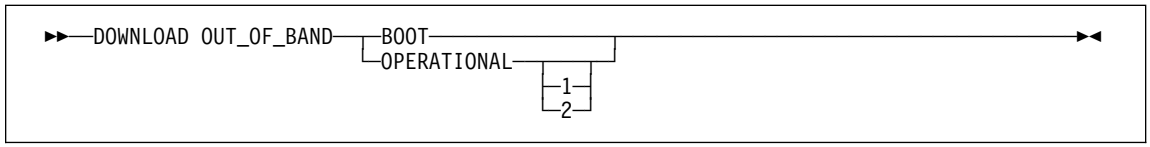

CLEAR
LAN_EMUL
CONFIGURATION_SERVER
index
ALL

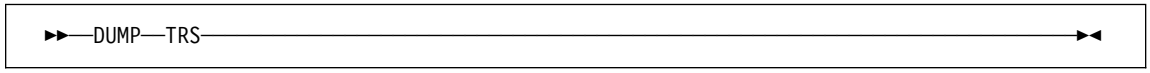

CLEAR
LOGICAL_LINK
index
ALL

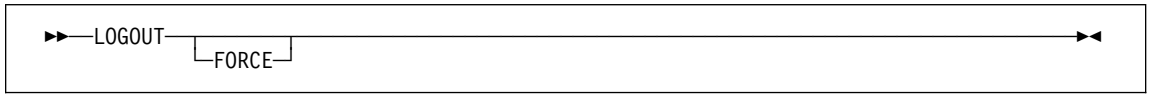

CLEAR
PVC
ALL
slot.port
pvc_id

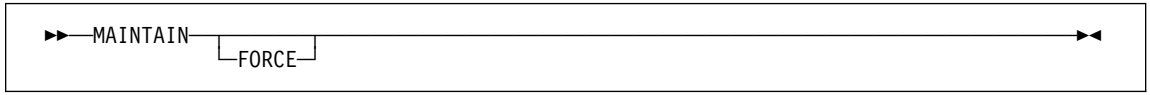

CLEAR STATIC_ROUTE
index
ALL

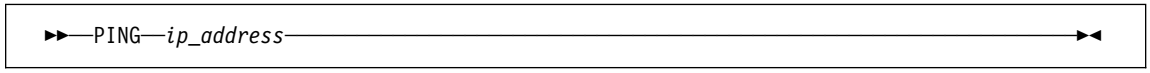

DOWNLOAD
INBAND

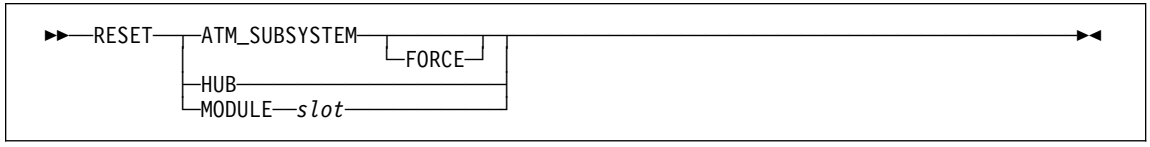

DOWNLOAD OUT_OF_BAND
BOOT
OPERATIONAL
1
2

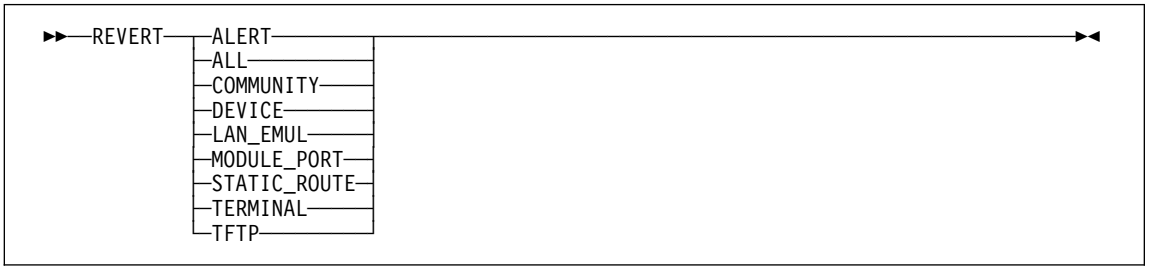

DUMP TRS

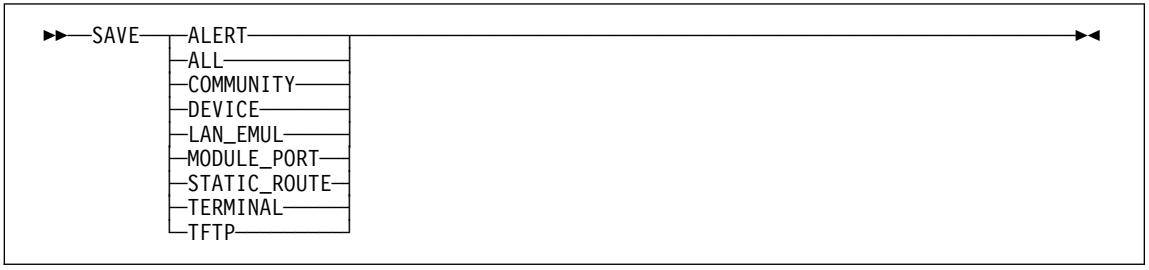

LOGOUT
FORCE

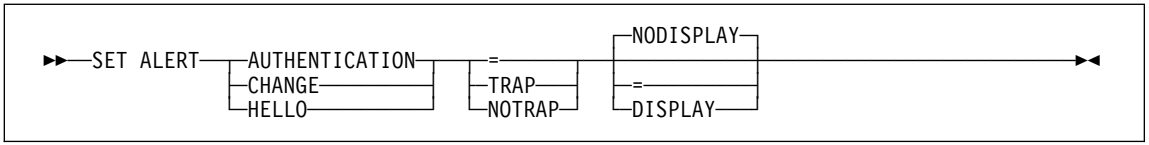

MAINTAIN
FORCE

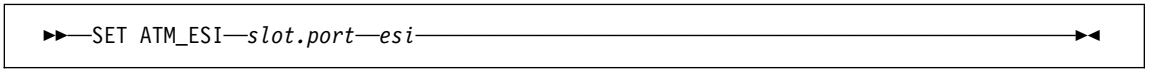

PING ip_address

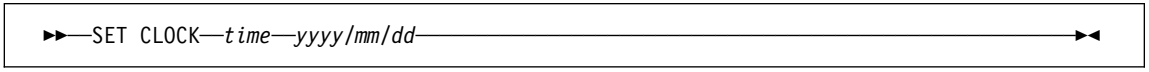

RESET
ATM_SUBSYSTEM
FORCE
HUB
MODULE slot

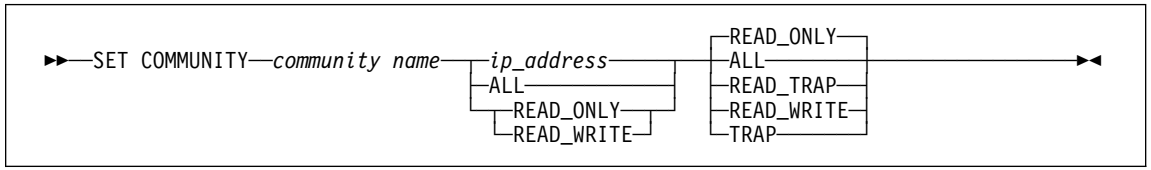

REVERT
ALERT
ALL
COMMUNITY
DEVICE
LAN_EMUL
MODULE_PORT
STATIC_ROUTE
TERMINAL
TFTP

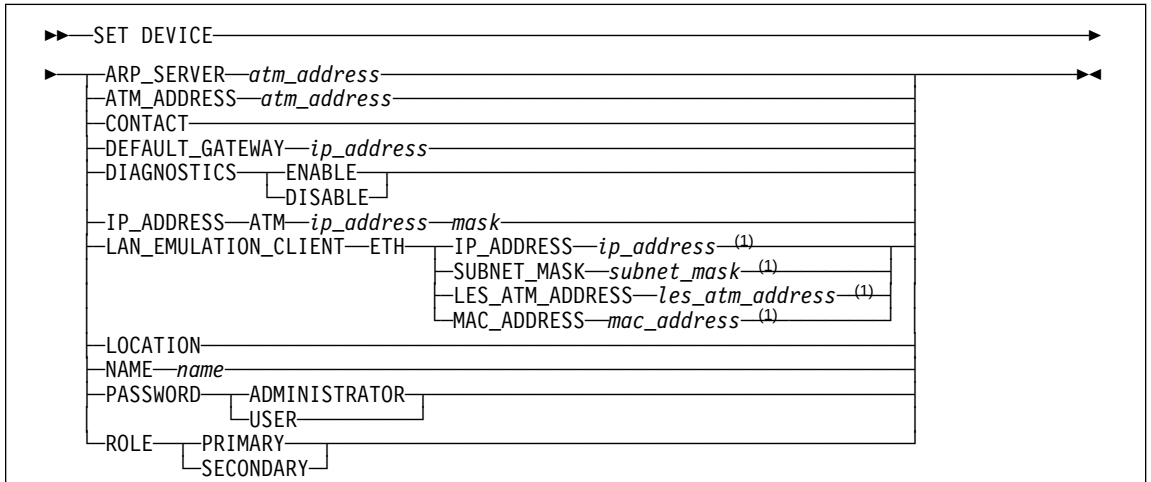

SAVE
ALERT
ALL
COMMUNITY
DEVICE
LAN_EMUL
MODULE_PORT
STATIC_ROUTE
TERMINAL
TFTP


SET ALERT
AUTHENTICATION
CHANGE
HELLO
=
TRAP
NOTRAP
NODISPLAY
=
DISPLAY


SET ATM_ESI
slot.port
esi

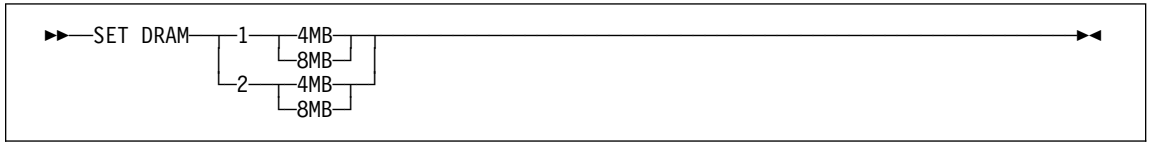

SET CLOCK
time
yyyy/mm/dd

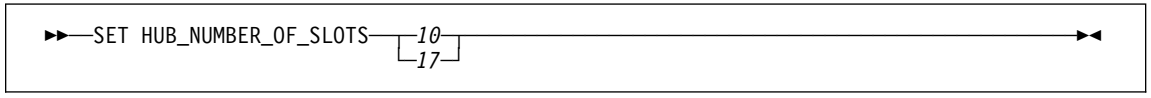


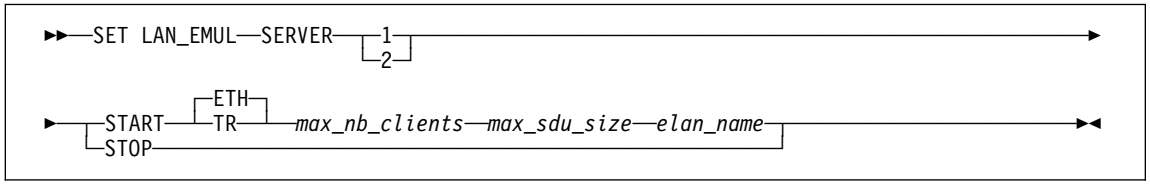


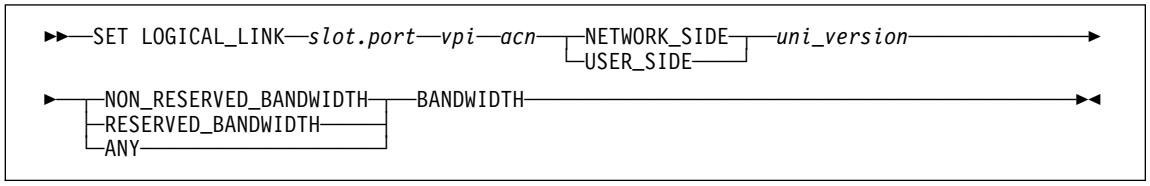
Note:

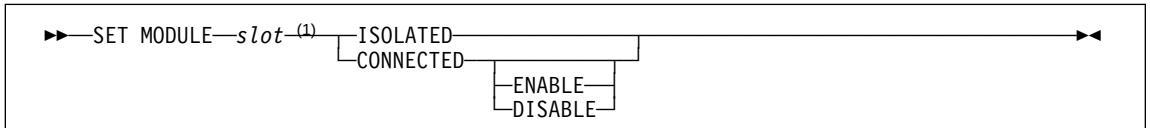
1 All four parameters are required the first time the command is used. After that, the parameters can be entered individually, as shown in this diagram.



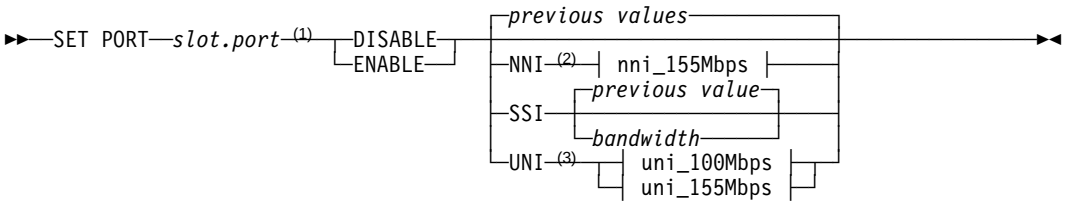




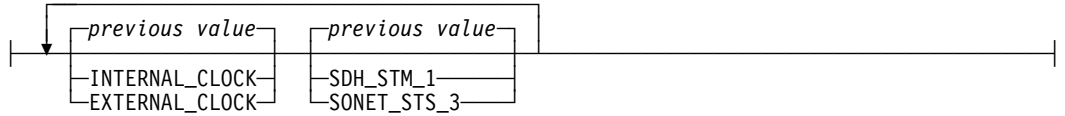




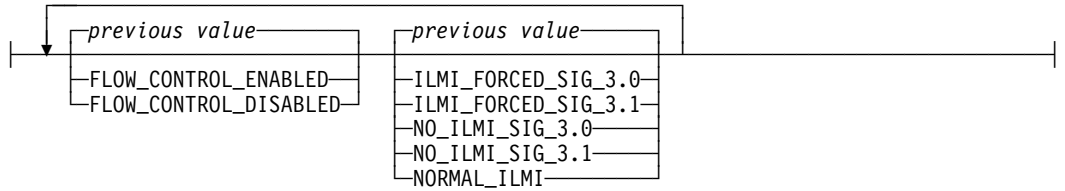
Note:
[1] Multiple slots can be entered in sequence.



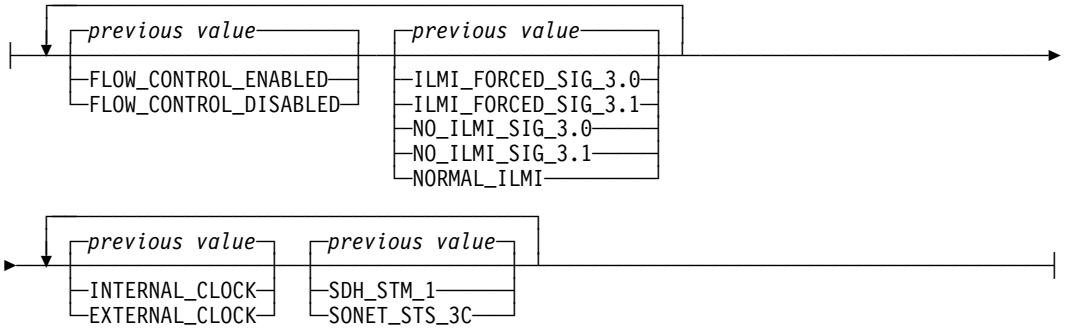
nni_155Mbps:



uni_100Mbps:



uni_155Mbps:

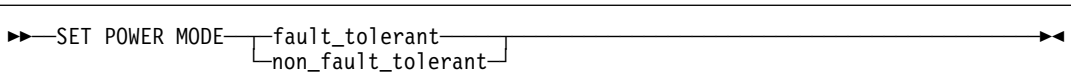


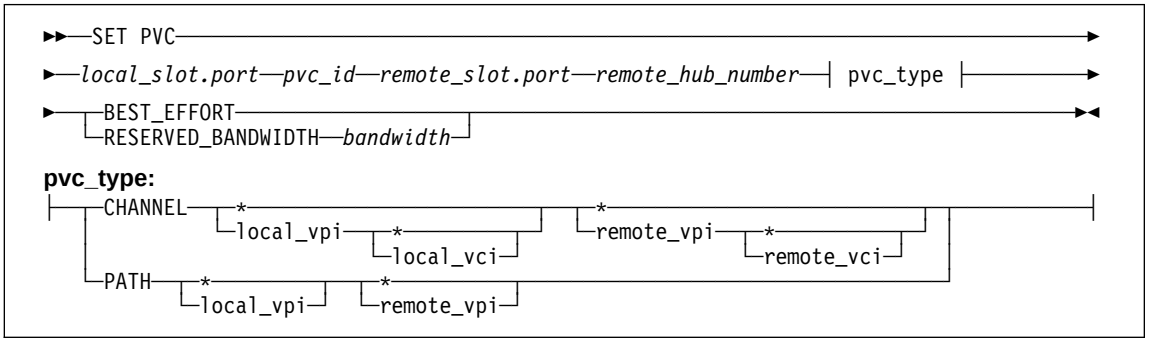
Notes:

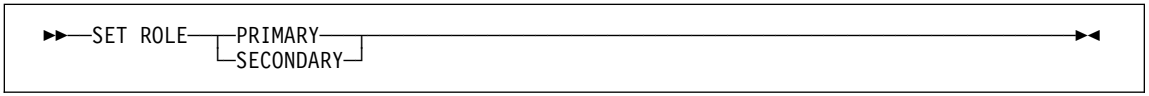
1 Multiple ports can be entered in sequence.

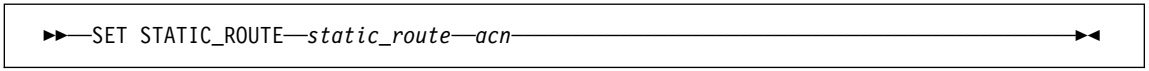
2 25 Mbps and 100 Mbps NNI ports require no further parameters.

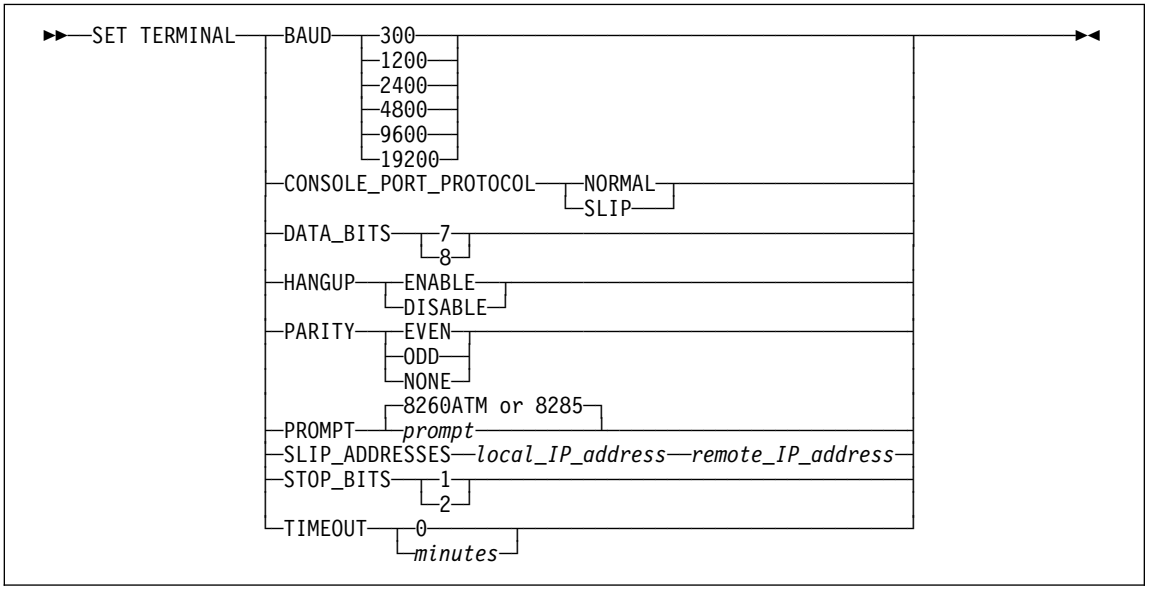
3 25 Mbps UNI ports require no further parameters.

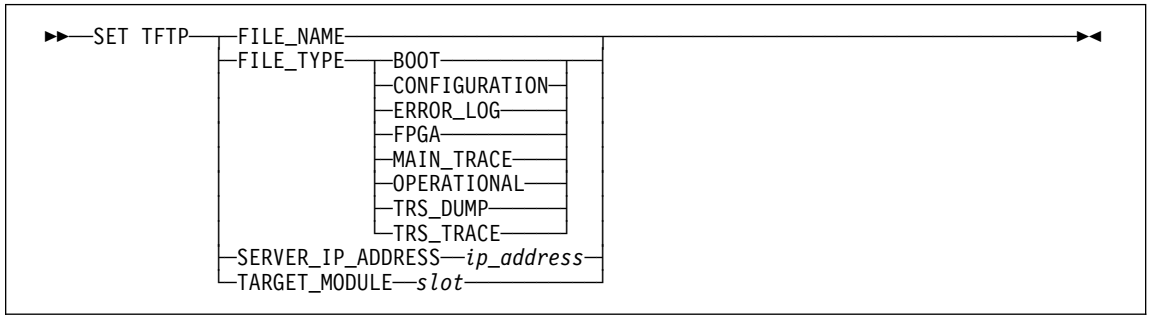


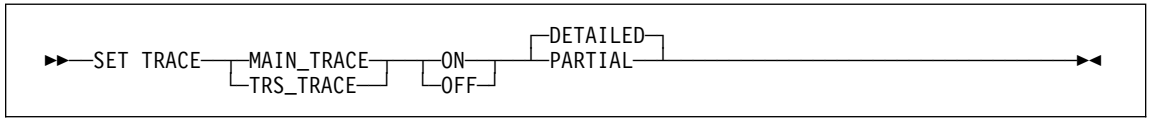

SET PVC
local_slot.port
pvc_id
remote_slot.port
remote_hub_number
pvc_type
BEST_EFFORT
RESERVED_BANDWIDTH
bandwidth
pvc_type:
CHANNEL
local_vpi
local_vci
remote_vpi
remote_vci
PATH
local_vpi
remote_vpi

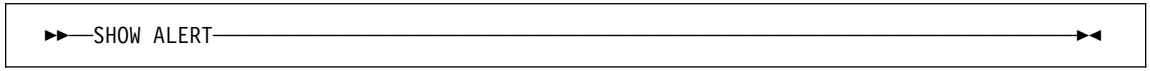

SET ROLE
PRIMARY
SECONDARY

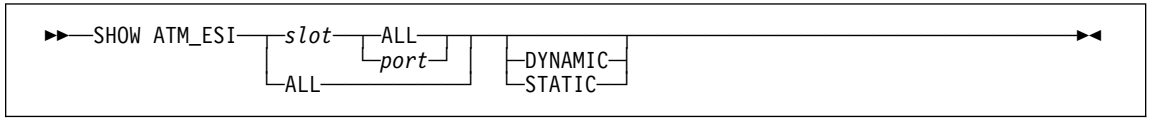

SET STATIC_ROUTE
static_route
acn

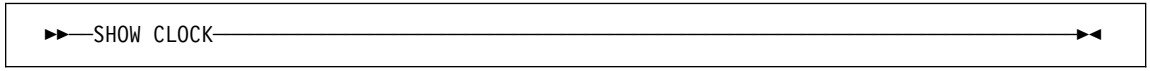

SET TERMINAL
BAUD
300
1200
2400
4800
9600
19200
CONSOLE_PORT_PROTOCOL
NORMAL
SLIP
DATA_BITS
7
8
HANGUP
ENABLE
DISABLE
PARITY
EVEN
ODD
NONE
PROMPT
8260ATM or 8285
prompt
SLIP_ADDRESSES
local_IP_address
remote_IP_address
STOP_BITS
1
2
TIMEOUT
0
minutes

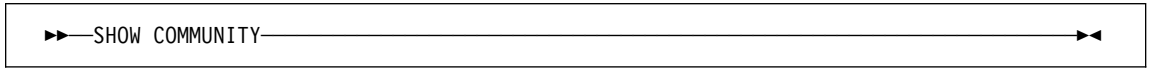

SET TFTP
FILE_NAME
FILE_TYPE
BOOT
CONFIGURATION
ERROR_LOG
FPGA
MAIN_TRACE
OPERATIONAL
TRS_DUMP
TRS_TRACE
SERVER_IP_ADDRESS
ip_address
TARGET_MODULE
slot

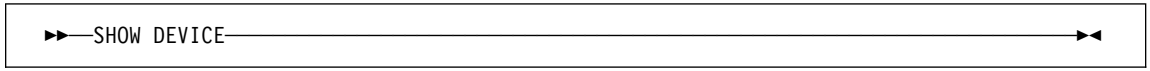

SET TRACE
MAIN_TRACE
TRS_TRACE
ON
OFF
DETAILED
PARTIAL

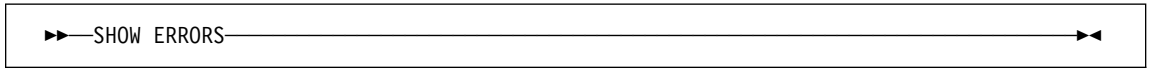

SHOW ALERT

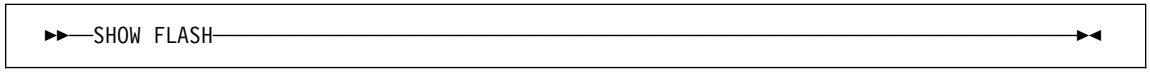

SHOW ATM_ESI
slot
ALL
port
ALL
DYNAMIC
STATIC

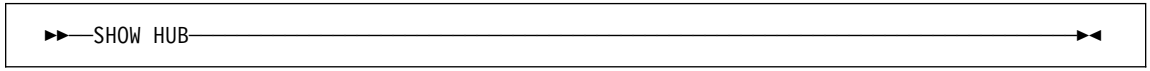

SHOW CLOCK

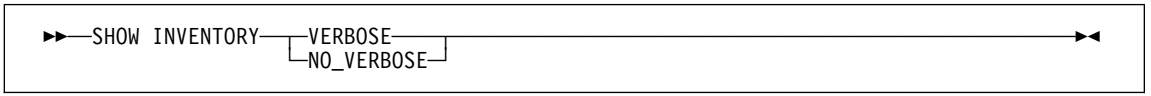

SHOW COMMUNITY

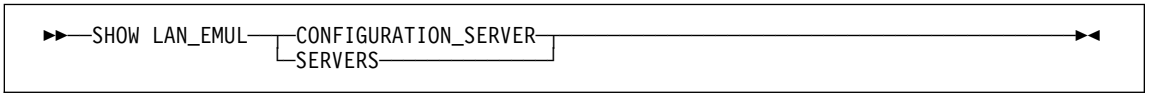

SHOW DEVICE

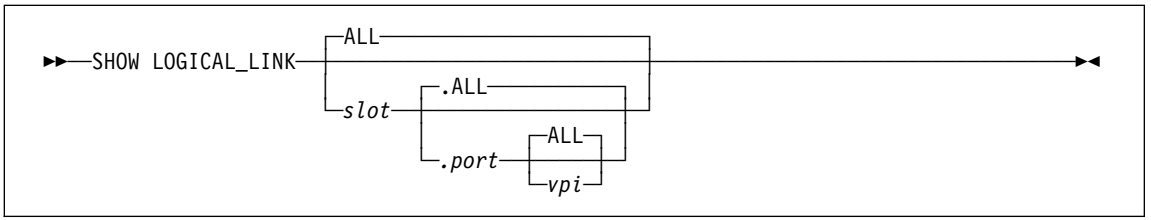

SHOW ERRORS

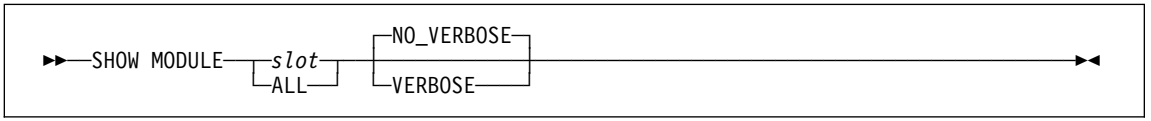

SHOW FLASH

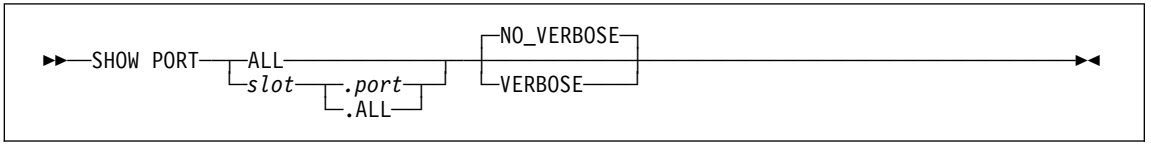

SHOW HUB

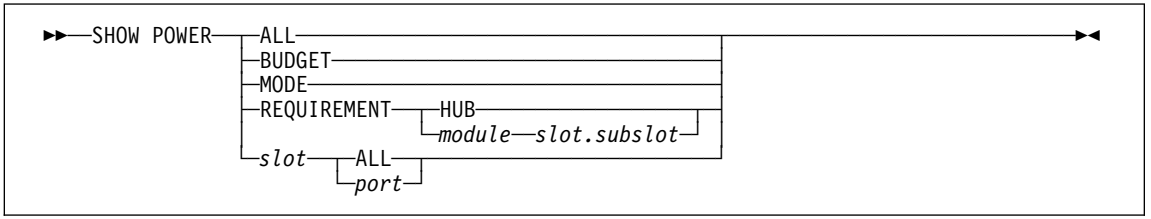

SHOW INVENTORY
VERBOSE
NO_VERBOSE

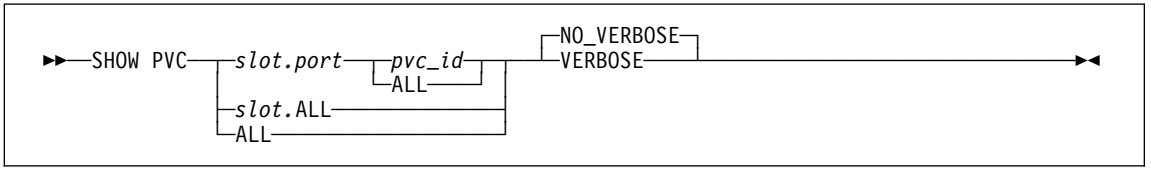

SHOW LAN_EMUL
CONFIGURATION_SERVER
SERVERS

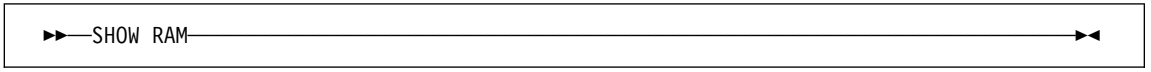

SHOW LOGICAL_LINK
ALL
slot
.ALL
.port
ALL
vpi

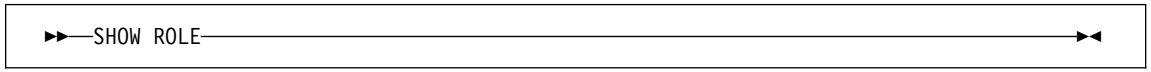

SHOW MODULE
slot
ALL
NO_VERBOSE
VERBOSE

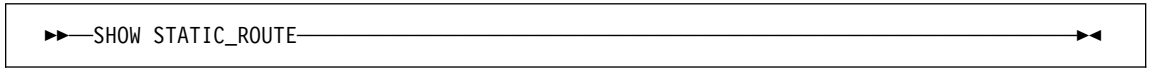

SHOW PORT
ALL
slot
.port
.ALL
NO_VERBOSE
VERBOSE

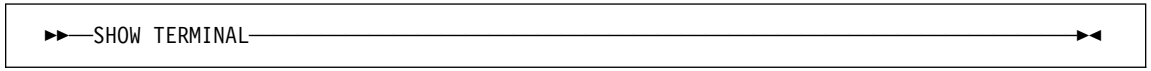

SHOW POWER
ALL
BUDGET
MODE
REQUIREMENT
HUB
module
slot.subslot
slot
ALL
port

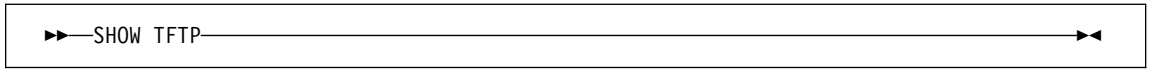

SHOW PVC
slot.port
pvc_id
ALL
slot.ALL
ALL
NO_VERBOSE
VERBOSE

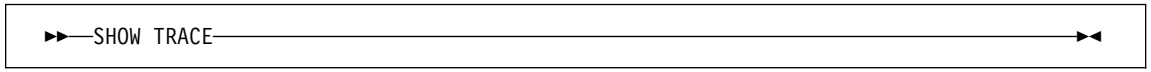

SHOW RAM

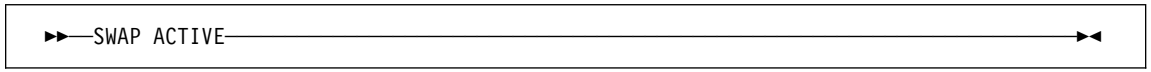


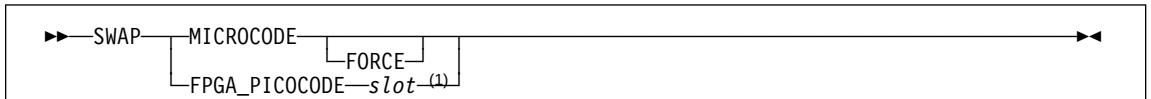




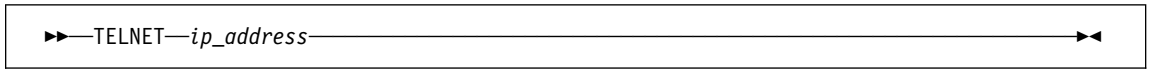


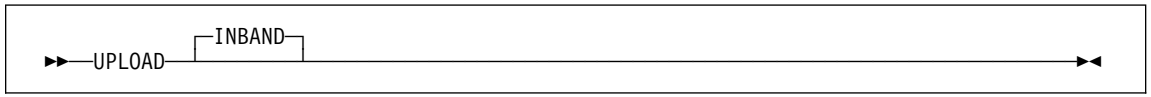


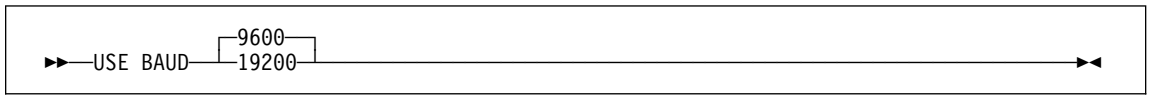


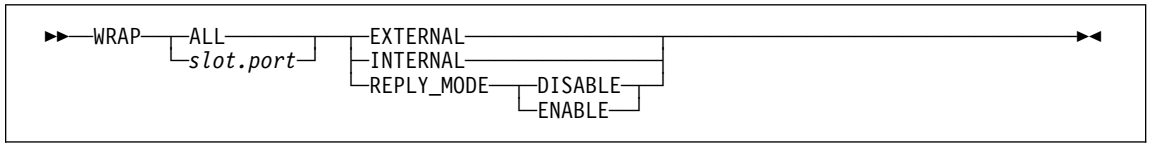


Note:
1 Multiple slots can be entered in sequence.









Chapter 3. ATM Commands

A detailed description of the syntax and parameters in each command is given in the rest of this chapter. Note that the conventions used to describe the command syntax differ slightly from the conventions used in Chapter 2, “Quick Reference” on page 5:

Uppercase Characters
Uppercase characters must be entered exactly as shown.

Lowercase Characters
Lowercase words and characters represent a variable in place of which you must enter a valid value.

Vertical line |
Parameters or variables that you can choose between are separated by a vertical line.

When an item has a vertical line **on both sides**, the item is detailed below, usually when the item contains several options and cannot be displayed coherently in the correct place.

Square Brackets [ ]
Information enclosed in square brackets is optional.

The prompt displayed at the console depends on whether the console is attached to an IBM 8260 ATM Control Point and Switch module (prompt= 8260ATM) or IBM 8285 ATM Workgroup Switch (prompt= 8285).

These are the factory default values, which may have been changed via the SET TERMINAL PROMPT command. In the examples given in this book, `ATMPROMPT` is used.

When in Maintenance mode, the prompt >> is displayed.

?

When entered by itself, the ? command displays all available ATM commands for the password level (administrator or user) used to log on, or for Maintenance mode.

```
?
```

When entered after all or part of another ATM command, ? displays the list of available parameters to complete the command.

```
command ?
```

Examples: If you logged on using the administrator password, the following is an example of the SAVE command and its returned reply:

```
ATMPROMPT> save ?        [ENTER]

Possible completions
   alert
   all
   community
   device
   module_port
   lan_emul
   terminal
   tftp
ATMPROMPT>
```

If you logged on using the administrator password, the following example shows how to display a list all available commands:

```
ATMPROMPT> ?       [ENTER]

Possible completions
   clear
   download
   dump
   logout
   maintain
   ping
   reset
   revert
   save
   set
   show
   swap
   telnet
   upload
   wrap
ATMPROMPT>
```

BOOT

You can run this command only from Maintenance mode. To start Maintenance mode, enter the MAINTAIN command.

The BOOT command ends Maintenance mode and activates the ATM operational code that was downloaded using the DOWNLOAD OUT_OF_BAND command from the station attached to the RS-232 console port.

BOOT does the following:

- Resets the hardware of all ATM and ATM media modules in the hub or workgroup switch.
- Runs ATM diagnostics if they are enabled.
- Activates the new operational software downloaded to the flash EEPROM.

Once the ATM subsystem boots up with the new operational software, press Enter to redisplay the password prompt and log on to the system.

```
BOOT
```

Example: The following is an example of how to run the command from Maintenance mode. Note that after the ATM modules reboot, you must press Enter again to display the Password prompt:

```
>> boot

ATM Switch/Control Module
(c) Copyright IBM Corp. 1994, 1996. All rights reserved.
                                                                    [ENTER]
Password:
```

CLEAR ALL

You can run this command only from Maintenance mode. To start Maintenance mode, enter the MAINTAIN command.

This command deletes all stored information, such as configuration, error log, and restart counters for example.

```
CLEAR ALL
```

Example:

```
>> clear all       [ENTER]

Entries cleared.
>>
```

CLEAR ATM_ESI

You can run this command only if you logged on with the Administrator password..

Use this command to delete a specific static entry or all static entries in the End System Identifiers (ESI) table.

If you want to delete a specific entry, use the SHOW ATM_ESI command first to verify the identification ID (Id=) of the entry you want to delete.

```
CLEAR ATM_ESI Id|ALL
```

Id Identification of the static entry to be deleted from the table.

ALL All static entries of the end system identifier table will be deleted.

Example: In this example, the static entries allocated to ATM port 1.3 are listed, then the static entry with Id=1 is deleted.

```
ATMPROMPT> show atm_esi 1.3       [ENTER]

Port    ATM_ESI           Type
------------------------------------------------------------------------------
 1.03 99.99.99.99.91.00 static (id=  1)
 1.03 99.99.99.99.93.00 static (id=  7)
 1.03 99.99.99.99.9A.00 static (id= 13)

ATMPROMPT> clear atm_esi 1       [ENTER]

Entry cleared.
ATMPROMPT>
```

CLEAR COMMUNITY

You can run this command only if you logged on with the Administrator password.

Use this command to delete a specific entry or all entries in the Community table.

If you want to delete a specific entry, use the SHOW COMMUNITY command first to verify the index number of the community you want to delete.

```
CLEAR COMMUNITY index|ALL
```

index A community index number from 1 to 10

all All community entries.

Example:

```
ATMPROMPT> show community          [ENTER]

Index   Community Name   IP Address         Access
-----   --------------   ---------------    ---------
  1     user1            139.24.387.54      Read-only
  2     admin            24.137.24.25       Read-Write-Trap
  3     man              35.27.135.40       Read-Write-Trap

7 entries empty.
ATMPROMPT> clear community 3       [ENTER]

Entry cleared.
ATMPROMPT>
```

CLEAR CONFIGURATION

You can run this command only from Maintenance mode. To start Maintenance mode, enter the MAINTAIN command.

Use this command to restore the factory-default configuration settings for an A-CPSW module or ATM Workgroup Switch. The currently configured parameters (for example, Community entries, logical links, and so on) are deleted.

After entering CLEAR CONFIGURATION, the current settings remain active until you restart normal operation in any of the following ways:

- Entering the BOOT command
- Pressing the ATM Reset button
- Powering OFF and powering ON the hub or ATM workgroup switch.

After entering the BOOT command, you may lose the connection to the ATM Control Point console if the console uses different baud, parity, data bit, and stop bit values than the defaults. In this case, you must either reconfigure the console to the factory-default settings or attach another console that uses these settings.

Note: If you insert an A-CPSW module in another hub before clearing its current configuration, the module will start up with the current configuration instead of with its default settings. As a result, the ATM subsystem may not operate properly and some ATM connections may not be established.

```
CLEAR CONFIGURATION
```

Example:

```
>> clear configuration

Configuration cleared.
>>
```

CLEAR ERROR_LOG

You can run this command only if you logged on with the Administrator password.

Use this command to erase all entries stored in the ATM error log.

```
CLEAR ERROR_LOG
```

Example:

```
ATMPROMPT> clear error_log       [ENTER]

Error log cleared.
ATMPROMPT>
```

CLEAR LAN_EMUL CONFIGURATION_SERVER

You can run this command only if you logged on with the Administrator password..

This command enables you to delete a specific entry or all entries in the LAN emulation servers addresses table.

If you wish to delete a specific entry, use the SHOW LAN_EMUL CONFIGURATION_SERVER command first to verify the index number of the entry you want to delete.

```
CLEAR LAN_EMUL CONFIGURATION_SERVER index|ALL
```

index Index of the entry to be deleted from the table.

ALL All entries in the table will be deleted.

Example:

```
ATMPROMPT> show lan_emul configuration_server          [ENTER]

Index            ATM address
--------------------------------------------------------------------------------
  1            99.99.99.99.99.99.00.00.99.99.01.02.00.80.05.A9.92.9F.00.00
  2 WKA active 99.99.99.99.99.99.00.00.99.99.01.02.00.80.05.A9.92.92.00.00

ATMPROMPT> clear lan_emul configuration_server 1       [ENTER]
Entry cleared.

ATMPROMPT> show lan_emul configuration_server          [ENTER]
Index            ATM address
--------------------------------------------------------------------------------
  2 WKA active 99.99.99.99.99.99.00.00.99.99.01.02.00.80.05.A9.92.92.00.00

ATMPROMPT>
```

CLEAR LOGICAL_LINK

You can run this command only if you logged on with the Administrator password.

Use this command to delete a specific entry or all entries in the Logical Links table. Each entry defines an ATM trunk connection that uses a network-to-network interface (NNI). You configure logical links using the SET LOGICAL_LINK command.

If you want to delete a specific entry, use the SHOW LOGICAL_LINK command first to verify the index number of the entry you want to delete.

```
CLEAR LOGICAL_LINK index|ALL
```

index Line number (1-50) of a logical link in the table.

all All logical links.

Example:

```
ATMPROMPT> show logical_link          [ENTER]
 Port Vpi Acn Side Mode Sig Traf  Bwidth Status         Index
-------------------------------------------------------------------------------
 1.01   0  01 netw enab 3.0  RB      400          UP      1
 1.02   0  02 netw enab 3.1  ANY     300          UP      2

48 entries empty.
ATMPROMPT> clear logical_link 2       [ENTER]

Entry cleared.
ATMPROMPT>
```

CLEAR PVC

You can run this command only if you logged on with the Administrator password..

Use this command to delete a specific definition or all definitions of permanent virtual connections (PVCs). It only deletes the PVCs created on this ATM Control Point (end point with **primary** role).

If you want to delete a specific PVC, use the SHOW PVC ALL command first to verify the id for the PVC you want to delete.

```
CLEAR PVC ALL|slot.port pvc_id
```

ALL All defined PVCs are cleared.

slot.port Selects the local end point (slot.port) of the PVC to be cleared.

8260: Slots in the range [1-8] for A10 models or [1-8, 12-17], for A17 models.
8285: Slot 1 only, or in the range [1-4] if an expansion unit installed.

pvc_id Identifies the PVC to be cleared in the range 1-999.

Example:

```
ATMPROMPT> show pvc all         [ENTER]

       Local end point       ! Remote end point  !
-------------------------------------------------
 Port   id   type   Vpi/Vci  ! Port Vpi/Vci   HNb!   role  !QOS! Status
-------------------------------------------------------------------------------
 1.02     1 PTP-PVP   0/*    ! 4.04   0/*       2! Primary ! BE!Active
 1.02     2 PTP-PVP   1/*    ! 4.04   1/*       2! Primary ! RB!Active

ATMPROMPT> clear pvc all        [ENTER]

2 PVC(s) cleared.
ATMPROMPT>
```

CLEAR STATIC_ROUTE

You can run this command only if you logged on with the Administrator password..

This command enables you to delete a specific entry or all entries in the static route table.

Before entering CLEAR STATIC_ROUTE, use the SHOW STATIC_ROUTE command first to verify the index number of the entry you want to delete.

```
CLEAR STATIC_ROUTE index|ALL
```

index Line number (1-50) of the static route in the table.

ALL All entries in the static route table.

Example:

```
ATMPROMPT> show static_route             [ENTER]

Index Acn Static route
-------------------------------------
  1     B 39999999999999000060601
  2     5 3999999999999900005555
  4     9 3999999999999900009999

46 empty entries.

ATMPROMPT> clear static_route all        [ENTER]

ATMPROMPT>
```

DOWNLOAD INBAND

You can run this command only if you logged on with the Administrator password.

Use this command to load A-CPSW module or ATM Workgroup Switch software updates from a server that is connected to the ATM Control Point in normal mode (or SLIP mode on RS232 link) via the network. The command is also used to download FPGA picocode to the ATM Control Point and ATM media modules. It should be used only when a new diskette is issued from IBM Corporation.

The server from which you download the software must be defined using the SET TFTP SERVER_IP_ADDRESS command (page 99). The download file containing the software (boot or operational load) must be defined with the SET TFTP FILE_NAME and SET TFTP FILE_TYPE commands (pages 97 98 respectively).

After completion of the download operation, the ATM Control Point **will not** activate the new version at reset time. The activation of the latest microcode version is handled by the SWAP command (see pages 141 through 142). Resetting the A-CPSW module or ATM Workgroup Switch will **not** cause the last downloaded microcode version to become the active one.

DOWNLOAD INBAND does not disrupt normal operation of the ATM subsystem. The operation of the ATM subsystem is, however, interrupted when you enter the SWAP command to activate the downloaded code.

If you are downloading software from a server running AIX, you must first configure AIX for TFTP before you enter the DOWNLOAD INBAND command. For instructions on how to do this, see the *IBM 8260 Nways Multiprotocol Switching Hub, ATM Control Point and Switch Module, Installation and User's Guide*, SA33-0326, or *IBM 8285 Nways ATM Workgroup Switch, Installation and User's Guide*, SA33-0381 (hereafter referred to as *8260/8285 Installation and User's Guide*) as appropriate.

```
DOWNLOAD [INBAND]
```

Examples: The following example shows the operation being completed successfully:

```
ATMPROMPT> download inband       [ENTER]

Download successful.
ATMPROMPT>
```

The following example shows how an error code is displayed when the command is not successfully run:

```
ATMPROMPT> download inband       [ENTER]

Download failed: Connection lost.
ATMPROMPT>
```

For information on the meaning of the error, see the appropriate *8260/8285 Installation and User's Guide*.

DOWNLOAD OUT_OF_BAND

You can run this command only from Maintenance mode. To start Maintenance mode, enter the MAINTAIN command.

Use this command to load ATM software updates from the station attached to the RS-232 Console port operating in normal mode (as opposed to SLIP mode). Use this command only after:

- You receive a new software diskette from IBM Corporation.
- You connect a workstation with an emulated VT100 protocol.

The software you download is stored in the flash EEPROM of the ATM module and replaces any software stored there.

To activate the new ATM boot microcode, enter the BOOT command. To see what software version is stored in the flash EEPROM, enter the SHOW FLASH command (page 111).

```
DOWNLOAD OUT_OF_BAND OPERATIONAL|BOOT [area]
```

operational Downloads operational code to flash EEPROM.

boot Downloads boot code to flash EEPROM.

area 1 or 2.

Applies only if you entered `operational` and is intended only for IBM service engineers.

If you enter DOWNLOAD OUT_OF_BAND OPERATIONAL without the `area` parameter, the new software is downloaded in the part of the flash EEPROM that does not contain the normally used program. This is the normal use of the command.

If you enter DOWNLOAD OUT_OF_BAND OPERATIONAL with a value for `area`, you indicate the area in EEPROM where the new software is to be stored. `1` represents one part of EEPROM; `2` represents the other part.

The operational code you download to area `1` or `2` is the code that is activated when you quit Maintenance mode.

Example: The following example shows how the console prompt is redisplayed after the command is successfully run:

```
>> download out_of_band operational        [ENTER]
>>
```

The following example shows how an error message is displayed when the command is not successfully run:

```
>> download out_of_band operational        [ENTER]

Download failed: 00 00 00 05
>>
```

When a download out-of-band operation fails, one of the following codes (eight hexadecimal digits) is displayed:

00 00 00 03	Link broken during download
00 00 00 05	Ten consecutive errors or timeouts before receiving a good packet
00 00 00 0D	Transfer canceled by the sender
00 00 10 00	Error in the download program
00 00 1r rr	The flash area for the new operational program could not be cleared; rrr is returned by flash support
00 02 00 00 to 00 02 00 07	Bad file header
00 03 00 01 to 00 03 00 07	Bad file contents
00 03 2r rr	Writing a part of the new operational program in flash memory failed; rrr is returned by flash support
00 04 00 04	Unexpected end of file
00 04 00 08	Checksum of the received data is not the module checksum
00 04 20 01 to 00 04 20 07	Bad file contents
00 04 3r rr	Writing the end of the new operational program in flash memory failed; rrr is returned by flash support
00 04 4r rr	Checking the new operational program in flash memory failed; rrr is returned by flash support
00 04 5r rr	Writing the new boot program in flash memory failed; rrr is returned by flash support

Use the return code from flash support, rrr, to diagnose a problem only after a flash memory is returned.

DUMP TRS

You can run this command only if you logged on with the Administrator password.

Use this command to take a dump of internal control blocks from the Topology Route and Service (TRS) protocol. The TRS allows each ATM Control Point to receive changes in the topology of the network.

```
DUMP TRS
```

Example:

```
ATMPROMPT> dump trs       [ENTER]

ATMPROMPT>
```

LOGOUT

Use this command to end your ATM Control Point session (local or remote).

If you are logged on remotely to an ATM Control Point and enter the LOGOUT command, the console connection to the remote device is ended and you are reconnected to a local ATM Control Point session. If a modem is connected to the console and if you have enabled the Hangup function using the SET TERMINAL command, the modem is disconnected.

If you make configuration changes and log off without specifying the `force` parameter, the LOGOUT command will be rejected. In order to log off, you must then either permanently save your changes (with the SAVE command) or restore them (with the REVERT command). The `force` parameter allows you to log off and keep your changes until you reboot or reset the A-CPSW module or ATM Workgroup Switch.

```
LOGOUT [FORCE]
```

force Allows you to log off and keep the configuration changes you have made. The changes are used (but not permanently saved) in each session you start until you reboot or reset the A-CPSW or ATM Workgroup Switch module. If you do not save your changes, they are lost the next time you reboot or reset.

Example: The following is an example of how to log off from a **local** ATM Control Point session and the returned reply:

```
ATMPROMPT> logout       [ENTER]

Bye
```

To log on again, you must redisplay the password prompt by pressing Enter.

```
Password:
```

The following is an example of how to log off from a **remote** session and the returned reply:

```
ATM2> logout        [ENTER]

Bye
Remote session completed.
```

MAINTAIN

You can run this command only if you logged on with the administrator password from a local ATM Control Point session via the RS-232 Console port. You cannot enter the MAINTAIN command from a remote session started with the TELNET command.

Use this command to activate Maintenance mode. From this mode you can:

- Display a summary of the microcode stored in the flash memory using the SHOW FLASH command.
- Download new A-CPSW or ATM Workgroup Switch software using the DOWNLOAD OUT_OF_BAND command.
- Activate the new software stored in the flash EEPROM using the BOOT command, quit Maintenance mode, and start a new ATM Control Point session.
- Erase the customization of an A-CPSW module using the CLEAR CONFIGURATION command, before moving the module to another hub.

Before entering Maintenance mode, you are prompted to confirm that this is what you want to do. This is because activating Maintenance mode interrupts ATM traffic and statistics, and resets the ATM Control Point. Therefore, you should stop all ATM traffic in the hub or workgroup switch before you enter the MAINTAIN command.

When Maintenance mode is active, the MAINT LED (on 8260) switches on (yellow), and the ATM prompt appears as: >>.

You quit Maintenance mode by entering the BOOT command. This resets the ATM subsystem. The MAINT LED (on 8260) switches OFF.

You also quit Maintenance mode after entering the DOWNLOAD OUT_OF_BAND BOOT command. This operation loads the new boot program and executes it immediately.

If you make configuration changes in your current ATM Control Point session and want to save your changes before activating Maintenance mode, enter the SAVE command.

If you enter the MAINTAIN command with the `force` parameter after making configuration changes, you log off **and** lose your changes.

```
MAINTAIN [FORCE]
```

force Allows you to activate Maintenance mode and lose any configuration changes made during your current session. To save the changes, you must enter the SAVE command before entering MAINTAIN.

Example:

```
ATMPROMPT> maintain           [ENTER]

You are about to reset the ATM subsystem for maintenance.
Are you sure ? (Y/N) Y        [ENTER]

>>
```

PING

Use this command to verify if an IP device is active and reachable. The target device may be reachable over a LAN Emulation network or a Classical IP over ATM network.

If the target device is reachable via a Classical IP over ATM subnetwork as defined in RFC1577 (either directly attached or attached behind a router), the ATM Control Point must be configured with the ATM address of the ARP server (using the SET DEVICE ARP_SERVER command, page 51).

In addition, if the target device is reachable via a router, the ATM Control Point must be configured with the IP address of the default gateway (using the SET DEVICE DEFAULT_GATEWAY command)

The command sends packets to the device to be "pinged" and requests the device to send back the same packets. PING loops continuously until the CTRL-C keys are pressed.

```
PING ip_address
```

ip_address IP address in the format *n.n.n.n*, where *n* is 0-255.

Example:

```
ATMPROMPT> ping 9.100.86.131       [ENTER]

Starting ping (hit CTRL-C to stop) ...
Ping 9.100.86.131: 1 packets sent, 1 received
Ping 9.100.86.131: 2 packets sent, 2 received
Ping 9.100.86.131: 3 packets sent, 3 received        [CTRL-C]

ATMPROMPT>
```

RESET ATM_SUBSYSTEM

You can run this command only if you logged on with the Administrator password.

Use this command to reset the A-CPSW module or ATM Workgroup Switch and all ATM media modules in the hub or workgroup switch. The contents of the Main TRS Trace file and dumps are lost. The error log is not erased.

All ATM traffic on the hub or workgroup switch is stopped and all ATM hardware (A-CPSW or ATM Workgroup Switch and ATM media) is reset. A-CPSW or ATM Workgroup Switch software is rebooted with the operational code in the flash EEPROM.

If you use the RESET ATM_SUBSYSTEM command with the `force` parameter, any configuration changes made in your current session that have not been saved will be lost. To permanently save these changes, use the SAVE or REVERT commands before you enter RESET ATM_SUBSYSTEM.

Using the `force` parameter, has the same result as pressing the ATM Reset button on the A-CPSW module or ATM Workgroup Switch.

```
RESET ATM_SUBSYSTEM [FORCE]
```

force Allows you to reset ATM hardware and lose any configuration changes made during your current session. To save the changes, you must enter the SAVE command.

After all ATM modules are reset, press Enter to redisplay the Password prompt. Then enter your password to continue.

Example:

```
ATMPROMPT> reset atm_subsystem       [ENTER]

This will reset the ATM subsystem. Are you sure ? (Y/N) Y      [ENTER]

                                     [ENTER]
Password:
```

RESET HUB

This command is only for use with the 8260 A-CPSW.

You can run this command only if you logged on with the Administrator password.

Note: If a DMM module is installed, this command will not be effected. Enter the command from the DMM console.

Use this command to reset all hardware and software in the hub. The hub is reset to its most recently saved configuration.

```
RESET HUB
```

Example:

```
ATMPROMPT> reset hub       [ENTER]

Reset hub requested.
ATMPROMPT>
```

RESET MODULE

This command is only for use with the 8260 A-CPSW.

You can run this command only if you logged on with the Administrator password.

Use this command you to perform a hardware reset of a module, or if present, the standby controller (RCTL).

The RESET MODULE command the same result as pressing the ATM Reset button on the ATM media module. The module is reset to its currently configured settings. The configuration parameters are loaded from the A-CPSW module.

```
RESET MODULE slot
```

slot Slot number where the module is installed (1-19, except 9, 10, and 11), or (1-17, except 9,10, and 11 when a DMM module is present).

To reset the A-CPSW module in slots 9, 10, or 11, you must use the RESET ATM_SUBSYSTEM command.

To reset the active RCTL module (slot 18 or 19), you must use the RESET HUB command.

Example:

```
ATMPROMPT> reset module 2       [ENTER]

Reset started.
ATMPROMPT>
```

REVERT

You can run this command only if you logged on with the Administrator password.

Use this command to cancel any configuration changes made in your current session, retaining the last saved settings.

The REVERT DEVICE command does not reset the ATM subsystem.

```
REVERT group
```

group One of the following groups of configuration settings:

- alert
- all
- community
- device
- module_port
- lan_emul
- static_route
- terminal
- tftp

To revert all configuration settings, enter `REVERT ALL`.

Note: The REVERT LAN_EMUL command cancels the LAN emulation server configuration provided the corresponding server has been stopped before entering the command.

Example:

```
ATMPROMPT> revert static_route       [ENTER]

Revert complete.
ATMPROMPT>
```

SAVE

You can run this command only if you logged on with the Administrator password.

Use this command to permanently store any configuration changes made in your current session with the SET command. These changes are saved in nonvolatile memory (NVRAM) and are reloaded at the next RESET or REVERT.

Note: The configuration changes you make using SET commands are put into effect immediately, but are not permanently saved. If you do not enter the SAVE command, the changes are lost the next time the A-CPSW module or ATM Workgroup Switch is rebooted or reset.

```
SAVE [group]
```

group One of the following groups of configuration settings:

- alert
- all
- community
- device
- module_port
- lan_emul
- static_route
- terminal
- tftp

To save all ATM configuration settings, enter `SAVE ALL`.

To save logical link settings, enter `SAVE MODULE_PORT`.

Example:

```
ATMPROMPT> save static_route       [ENTER]

ATMPROMPT>
```

SET ALERT

You can run this command only if you logged on with the Administrator password.

Use this command to enable and disable the sending of alert messages from the ATM Control Point to the configured trap receiver (for example, an SNMP workstation).

The `setting` parameter allows you to specify if you want the alerts sent or not. The default setting for all three types of alert is `Notrap` (do not send).

The `terminal` parameter allows you to specify if you want the alerts to be displayed on the ATM Control Point console screen. The default setting for all three types of alert is `Nodisplay`. Note that you can separately set the options for sending an SNMP trap to the console and for displaying the alert on the console screen.

```
SET ALERT alert_type setting [terminal]
```

alert_type `Authentication`, `Change`, or `Hello`

setting `Trap` (send trap), `Notrap`, or `=` (keep current setting)

terminal `Display`, `Nodisplay` (default), or `=` (keep current setting).

Examples: The following is an example of the command you might enter after installing a new A-CPSW in the hub, or resetting an existing module. It leaves the `terminal` parameter unchanged as `DISPLAY`.

```
ATMPROMPT> set alert hello notrap =          [ENTER]

Alert set
ATMPROMPT>
```

The following example configures alerts to be displayed on the console when any configuration changes are made to the ATM subsystem. The `setting` parameter is left unchanged as `TRAP`.

```
ATMPROMPT> set alert change = display        [ENTER]

Alert set
ATMPROMPT>
```

Types of Alerts: There are three types of alerts (system events) that can be sent:

- Hello
- Authentication
- Change.

A **Hello** alert is sent when:

- The ATM subsystem is reset in one of the following ways:
  - Entering the BOOT command
  - Pressing the ATM Reset button
  - Entering the RESET command
  - Powering OFF and powering ON the hub or ATM Workgroup Switch.
- A LAN Emulation Client becomes active.
- One of the following parameters is changed:
  - An agent's IP address (using the SET DEVICE IP_ADDRESS or SET DEVICE LAN_EMULATION_CLIENT command)
  - An agent's subnetwork mask (using the SET DEVICE IP_ADDRESS or SET DEVICE LAN_EMULATION_CLIENT command)
  - ATM address of the ARP server (using the SET DEVICE ARP_SERVER command)
  - IP address of the default gateway (using the SET DEVICE DEFAULT_GATEWAY command).

A Hello alert is sent either once a minute until an SNMP request is received or once a minute for up to 4 hours and 15 minutes. It then shuts OFF and no Hello alert is sent for 6 hours. After 6 hours have passed, Hello alerts are sent again for up to 4 hours and 15 minutes.

The following is an example of a Hello alert:

```
****************************************
Hello trap :
IBM 8260 ATM Switch Module Model MOD. Hardware Version : PARTNUM
ECLEVL MANU. Software Version : v1.0
****************************************
```

An **Authentication** alert is sent when an unauthorized user tries to access the ATM Control Point and the IP address or community name is not valid for the attempted read or write operation.

```
****************************************
Authentication failure trap :
  Address = 9.100.48.48
****************************************
```

A **Change** alert is sent when any of the following changes are made:

- An ATM media module is isolated or reconnected.
- An ATM media port is enabled or disabled.
- Time and date used on the ATM subsystem are reconfigured.
- Name, location, or service contact for the A-CPSW module or ATM Workgroup Switch are reset.

The following examples show different types of Change alerts:

```
****************************************
Change trap on port 1.01
****************************************
```

```
****************************************
Change trap on module 1
****************************************
```

```
****************************************
Change trap on system
****************************************
```

SET ATM_ESI

You can run this command only if you logged on with the Administrator password.

When workstations that do not support ILMI address registration connect to a UNI port, there is a need to locally know the workstations end system identifiers (ESIs) which are normally provided during the ILMI address registration process.

The SET ATM_ESI command enables you to add an entry in the 50-entry end system identifiers table and assign it to a UNI port. A unique identifier (Id) is allocated to every entry created in the ESI table. The entry you create is known as a *static* entry.

```
SET ATM_ESI slot.port esi
```

slot Slot number of the ATM Media module.

8260: in the range [1-8] on A10 models, or [1-8, 12-17] on A17 models.
8285: Slot 1 or in the range [1-4] if an expansion unit is installed.

port Port number of the ATM port

esi The 6-byte end system identifier of the workstation to connect to slot.port.

Example:

```
ATMPROMPT> set atm_esi 3.3        [ENTER]
Enter End System Identifier : 00.20.EA.00.07.EA        [ENTER]

Entry set.

ATMPROMPT> show atm_esi 3.3       [ENTER]
Port   ATM_ESI                   Type
-------------------------------------------------------------------------------
 3.03 00.20.EA.00.07.EA static (id=  1)

ATMPROMPT>
```

SET CLOCK

You can run this command only if you logged on with the Administrator password.

Use this command to set the time for the internal clock of the ATM Control Point. You need to set the time only once, when you install the module in the hub, or the workgroup switch. The clock has its own battery and will continue to operate even in case of a power failure in the hub or workgroup switch.

The time you enter with SET CLOCK is automatically saved and used as the starting time for the ATM Control Point. It is not necessary to save the setting with SAVE.

```
SET CLOCK time date
```

time Hour and minute (hh:mm)

date Year, month, and day (yyyy/mm/dd).

Example:

```
ATMPROMPT> set clock 08:30 1996/02/25       [ENTER]

Clock set.
ATMPROMPT>
```

SET COMMUNITY

You can run this command only if you logged on with the Administrator password.

The SET COMMUNITY command enables you to configure a management station to:

- View and update ATM MIB variables for the ATM Control Point
- Receive traps from the A-CPSW module or ATM Workgroup Switch.

Management stations communicate with the ATM Control Point via the SNMP protocol. Stations may be reached via a Classical IP over ATM subnetwork.

When a management station is reachable via a Classical IP over ATM subnetwork, the ATM address of the ARP server must be configured using SET DEVICE ARP_SERVER.

In addition, if the management device is reachable via a router, the ATM Control Point must be configured with the IP address of the default gateway (using SET DEVICE DEFAULT_GATEWAY).

You can assign any of the following access rights:

Access	Meaning
trap	ATM Control Point alerts will be sent to the station whose IP address you specify.
read_write	ATM Control Point configuration parameters can be displayed and modified by the station you specify.
read_trap	ATM Control Point configuration parameters can be displayed and alerts will be set to the station you specify.
read_only	ATM Control Point configuration parameters can be displayed by the station you specify.
all	Read-write access and trap receiver status is assigned to the station you specify.

This command creates entries in the Community table. Use the SHOW COMMUNITY command to view the currently assigned community names. Use the CLEAR COMMUNITY command to delete an entry.

```
SET COMMUNITY com_name ip_address access
```

com_name Name of a community (up to 15 alphanumeric characters, case-sensitive)

ip_address IP address of the management station in the format *n.n.n.n*, where *n* is a number between 0 and 255.

To assign the same access rights to all SNMP management stations, enter `all`.

access `trap, read_write, read_trap, read_only, all`.

If you enter `all` for `ip_address`, the only values that you can enter for `access` are `read_write` and `read_only`.

Example: The following example creates a community called `Admin` for the specified ATM Control Point management station and assigns read-write access and trap receiver status to the station.

```
ATMPROMPT> set community Admin 2.13.34.24 all       [ENTER]

Entry set.
ATMPROMPT>
```

SET DEVICE ARP_SERVER

You can run this command only if you logged on with the Administrator password.

The SET DEVICE ARP_SERVER command defines the ATM address of an ARP (Address Resolution Protocol) server. The ARP server is used in a classical IP over ATM network to map IP addresses to ATM addresses.

To save the value you enter, use the SAVE DEVICE command. To display the current ATM address, use the SHOW DEVICE command.

```
SET DEVICE ARP_SERVER atm_address
```

For information on the individual parameters in an ATM address, see the appropriate *8260/8285 Installation and User's Guide*.

Example:

```
ATMPROMPT> set device arp_server 39.11.FF.22.99.99.99.00.00.00.00.01.49.11.11.11.
11.11.11.49        [ENTER]

Device arp_server changed.
ATMPROMPT>
```

SET DEVICE ATM_ADDRESS

You can run this command only if you logged on with the Administrator password.

Important: Running the SET DEVICE ATM_ADDRESS command performs a reset of the ATM Control Point, the same as running the RESET ATM_SUBSYSTEM command (see page 39).

The SET DEVICE ATM_ADDRESS command defines the ATM address for an A-CPSW module or ATM Workgroup Switch. The ATM address is used to:

- To establish connections with the ATM Control Point
- Provide the NSAP prefix (first thirteen bytes of ATM address) to all ATM workstations and servers in the ATM subsystem attached to this ATM Control Point.

The ATM address is included in the first Hello trap sent when the ATM Control Point starts.

IBM sets each ATM Control Point with a default ATM address. Using this command, you can change the default value for each ATM Control Point in your network. Each ATM address you assign must be unique.

The ATM address you assign is automatically saved (as when entering the SAVE command) and the A-CPSW module or ATM Workgroup Switch is reset (as when entering the RESET ATM_SUBSYSTEM command). To display the currently assigned ATM address for an ATM Control Point, enter the SHOW DEVICE command.

```
SET DEVICE ATM_ADDRESS atm_address
```

For information on the individual parameters in an ATM address, see the appropriate *8260/8285 Installation and User's Guide*.

Example:

```
ATMPROMPT> set device atm_address       [ENTER]
         39.11.FF.22.99.99.99.00.00.00.00.01.49.11.11.11.11.11.11.49        [ENTER]

This will reset the ATM subsystem. Are you sure ? (Y/N) Y        [ENTER]
```

The prompt is not redisplayed, as there is an immediate reset.

ATM Addressing Scheme: An ATM Control Point-based ATM system uses the **Area field**, the two lower bytes of the network prefix in the ATM address, to perform call routing. This field consists of two parameters:

- ATM cluster number (ACN)
  Valid values: 1-255
- Hub Number (HN)
  Valid values: 1-255.

The individual fields contained in the network prefix are described in the appropriate *8260/8285 Installation and User's Guide*.

An ATM cluster is a set of 8260 hubs interconnected by switch-to-switch interface (SSI) trunks. Each 8260 ATM hub or 8285 ATM Workgroup Switch in an ATM cluster:

- Uses the same leftmost 12 bytes in the network prefix, including the ATM cluster number (ACN).
- Is assigned a unique hub number (HN), the rightmost byte in the network prefix.

Each ATM cluster in an ATM subnetwork uses the same leftmost 11 bytes in the network prefix and is identified by a unique ACN number (the leftmost twelfth byte or the rightmost second byte in the network prefix; the hub number is the leftmost thirteenth byte or the rightmost byte in the network prefix).

SET DEVICE CONTACT

You can run this command only if you logged on with the Administrator password.

Use this command to enter information on qualified service personnel, such as name, location, company, and telephone number. This information can then be later displayed (with the SHOW DEVICE command) if required.

You are prompted to enter up to 78 alphanumeric characters. To permanently save your entries, use the SAVE DEVICE command. To display the current contact information, use the SHOW DEVICE command.

```
SET DEVICE CONTACT
```

Example: The following is an example of the command and its returned reply:

```
ATMPROMPT> set device contact       [ENTER]

Enter text:
Network Manager, IBM Engineering Support, tel: 692-4444      [ENTER]
ATMPROMPT>
```

SET DEVICE DEFAULT_GATEWAY

You can run this command only if you logged on with the Administrator password.

The SET DEVICE DEFAULT_GATEWAY command enables you to set the IP address of the router that will be used to receive IP packets from, and forward IP packets to, stations that are not connected to the same network as the ATM Control Point.

To permanently save the value you enter, use the SAVE DEVICE command. To display the current default gateway, use the SHOW DEVICE command.

```
SET DEVICE DEFAULT_GATEWAY ip_address
```

ip_address IP address of the router in the format *n.n.n.n*, where *n* is a number between 0 and 255.

To assign the same access to all IP addresses, enter `all`.

Example: The following example shows how to set an IP address for the default gateway:

```
ATMPROMPT> set device default_gateway 195.44.45.26       [ENTER]

Default gateway set.
ATMPROMPT>
```

SET DEVICE DIAGNOSTICS

You can run this command only if you logged on with the Administrator password.

Use this command to enable and disable diagnostics each time the ATM Control Point starts up or is reset. ATM diagnostics are enabled by default so that they will run the first time you power ON the 8260 hub or workgroup switch.

By disabling ATM diagnostics, you reduce the time it takes for the ATM Control Point to reboot. However, when diagnostics are disabled, you do not receive a confirmation message that the ATM Control Point is operational.

```
SET DEVICE DIAGNOSTICS setting
```

setting Disable or enable.

Example:

```
ATMPROMPT> set device diagnostics disable       [ENTER]

ATMPROMPT>
```

SET DEVICE IP_ADDRESS

You can run this command only if you logged on with the administrator password.

You cannot change the IP address of the ATM Control Point using SNMP.

Use this command to assign an Internet Protocol (IP) address to the ATM Control Point and define the subnetwork mask used for your class of Internet devices. A unique IP address by supported network (Classical IP or LAN emulation) must be defined for each ATM Control Point.

If the ATM Control Point is accessed via a router by a Classical IP over ATM subnetwork, the module must be configured with the ATM address of the ARP server (using SET DEVICE ARP_SERVER).

The subnetwork mask (defined by `mask`) is the group of common characters used by all network nodes on the left side of the IP address (Network ID); for example, `123.32.044` in the IP address `123.32.044.165`. The unique host address is the group of characters on the right side (host ID); for example, `165` in the IP address `123.32.044.165`.

If an ATM Control Point is accessed via a bridge or router by a LAN emulation subnetwork, the switch IP address and subnetwork mask must be configured via the SET DEVICE LAN_EMULATION CLIENT command.

To permanently save the values you enter, use the SAVE DEVICE command. Depending on the configuration of your ATM subnetwork, the IP address you set may not be immediately active.

To display the current IP address or subnetwork mask, use the SHOW DEVICE command.

```
SET DEVICE IP_ADDRESS ATM ip_address mask
```

ATM Assigns the IP address of the ATM Control Point to a Classical IP over ATM network.

ip_address IP address of the ATM Control Point in the format *n.n.n.n*, where *n* is a number between 0 and 255 except for 10 in the leftmost digit, and represents a class A, B, or C Internet Protocol address.

Important: The IP addresses in the format 10.*n.n.n* are reserved and must not be used.

mask 4 bytes in hexadecimal.

Example:

```
ATMPROMPT> set device ip_address atm  195.44.45.48  FF.FF.FF.00       [ENTER]

IP address and subnet mask set.
ATMPROMPT>
```

SET DEVICE LAN_EMULATION_CLIENT

You can run this command only if you logged on with the Administrator password.

Use this command to configure the required parameters for the LAN Emulation Client (LEC), assign an Internet Protocol (IP) address to the ATM Control Point, and define the subnetwork mask used for your class of Internet devices. This allows the ATM Control Point to register itself as part of the LAN emulation subnetwork and set up ATM connections using its MAC address and ATM address.

```
SET DEVICE LAN_EMULATION_CLIENT ETH IP_ADDRESS ip_address SUBNET_MASK subnet_mask
           LES_ATM_ADDRESS les_atm_address MAC_ADDRESS mac_address
```

ETH This parameter must be specified, to signify that the type of network is Ethernet.

IP_ADDRESS This keyword is followed by the actual IP address (`ip_address`).

SUBNET_MASK This keyword is followed by the actual subnet mask (`subnet_mask`). used by the ATM Control Point in the LE subnetwork (configured with the SET DEVICE LAN_EMULATION CLIENT command).

LES_ATM_ADDRESS This keyword is followed by the associated LES ATM address (`les_atm_address`). This is the address of an LES monitoring the 802.3/Ethernet V2 emulated LAN. The LES must be a LE Forum compliant LAN connected to the 8260 or 8285.

MAC_ADDRESS n This keyword is followed by the individual MAC address (n). (`mac_address`). The address must be in 802.3 format (locally and universally administered addresses are supported).

Note: Changing the MAC_ADDRESS will prompt a reset of the hub or workgroup switch.

The first time the SET DEVICE LAN_EMULATION_CLIENT command is used, you must enter all parameters before saving the configuration settings (no default values are provided). Once the settings have been saved, it is possible to change individual parameters, by specifying the keyword of the value to be changed, and the new value.

Note: When entering the command, you do not have to enter all the parameters at once. Providing a keyword is entered, you will be prompted for the value.

Example: The following example changes the LES ATM address of the LEC:

```
ATMPROMPT>set device lan_emulation_client eth les_atm_address        [ENTER]

Enter ATM address : 39.99.99.99.99.99.99.00.00.99.99.01.50.50.50.50.50.50.50.02
[ENTER]

Client starting.
ATMPROMPT>
```

SET DEVICE LOCATION

You can run this command only if you logged on with the Administrator password.

Use this command to record details of the physical location of the 8260 hub in which the A-CPSW module is installed, or the 8285.

You are prompted to enter up to 78 alphanumeric characters. To permanently save your entries, use the SAVE DEVICE command. To display the current location information, use the SHOW DEVICE command.

```
SET DEVICE LOCATION
```

Example:

```
ATMPROMPT> set device location       [ENTER]

Enter text:
Building M4, ground floor, patch panel 1, hub number 4      [ENTER]

ATMPROMPT>
```

SET DEVICE NAME

You can run this command only if you logged on with the Administrator password.

Use this command to assign a name to the ATM Control Point that can be used in addition to its IP address to uniquely identify the module or workgroup switch to IP devices. IBM recommends that you assign the same name to the ATM Control Point console prompt that you use for the ATM Control Point. To modify the console prompt, use the SET TERMINAL PROMPT command.

To permanently save your entries, use the SAVE DEVICE command. To display the current device name, use the SHOW DEVICE command.

```
SET DEVICE NAME name
```

name Up to 31 alphanumeric characters (case sensitive).
Initial value: 8260ATM or 8285.

Example:

```
ATMPROMPT> set device name 8260atm       [ENTER]

Device name set.
ATMPROMPT>
```

SET DEVICE PASSWORD

You can run this command only if you logged on with the Administrator password.

Use this command to create or change the ATM Control Point Administrator and User passwords. These passwords ensure security for accessing ATM commands and information. You can enter up to 15 alphanumeric characters for each password.

The **administrator** password gives you read and write access to all ATM commands. The factory defaults for the 8260 and 8285 are **8260** and **8285** respectively.

The **user** password gives you read only access to a subset of ATM commands that allow you to view ATM Control Point status, get help, clear counters, and log off. The factory default is a null string.

To permanently save a new password, use the SAVE DEVICE command.

Note that, for security reasons, passwords are not shown on the screen when you type them. After you set a new password, the password is immediately active. You will not need to enter it until the next time you log on.

If you assign the same password to the administrator and to a user, the user will have the same access rights as the administrator; namely, access to all ATM commands.

```
SET DEVICE PASSWORD USER|ADMINISTRATOR
```

Example: The following is an example of how to enter an administrator password:

```
ATMPROMPT> set device password administrator       [ENTER]

Enter current administrator password:    {old password}

New password:                            {new password}
Re-enter new password:                   {new password}

Password changed.
ATMPROMPT>
```

The following is an example of how to enter a user password:

```
ATMPROMPT> set device password user       [ENTER]

Enter current administrator password:    {admin password}

New password:                            {new user password}
Re-enter new password:                   {new user password}

Password changed.
ATMPROMPT>
```

SET DEVICE ROLE

This command is only for use with the 8260 A-CPSW.

You can run this command only if you logged on with the Administrator password.

Use this command to control the selection of the active A-CPSW in a redundant ATM subsystem. When you set the role of one A-CPSW, the second A-CPSW will automatically assume the opposite role (for example, if the active A-CPSW is set to `secondary`, the standby will be set to `primary`). When the ATM subsystem elects which A-CPSW is to be active, (at power-on for example), whichever A-CPSW has been set as `primary` will become chosen.

```
SET DEVICE ROLE PRIMARY|SECONDARY
```

Example:

```
ATMPROMPT>set device role secondary        [ENTER]

ATMPROMPT>
```

SET DRAM

This command is only for use with the 8260 A-CPSW.

You can run this command only from Maintenance mode. To start Maintenance Mode, enter the MAINTAIN command.

This command should not be used in normal circumstances. It is described in the installation instructions that are part of the Miscellaneous Equipment Shipment that requires this command for its installation.

SET HUB_NUMBER_OF_SLOTS

This command is only for use with the 8260 A-CPSW

You can run this command only if you logged on with the Administrator password.

Use this command to specify the number of payload slots (10 or 17) of your 8260 hub.

For a 10-slot 8260 it is recommended to use this command to set the number of payload slots to 10.

If you enter SET HUB_NUMBER_OF_SLOTS 10 for a 17-slot 8260:

- Slots 11 to 17 will no longer be seen by the A-CPSW
- All commands addressing these slots will be rejected with a wrong slot value indication.
- If ATM media modules were active (connected and enabled) in slots 12 to 17 prior to the SET HUB_NUMBER_OF_SLOTS 10 command, the modules will remain operational.

```
SET HUB_NUMBER_OF_SLOTS 10|17
```

Example:

```
ATMPROMPT> set hub_number_of_slots 10       [ENTER]

ATMPROMPT>
```

SET LAN_EMUL CONFIGURATION_SERVER

You can run this command only if you logged on with the Administrator password.

Use this command to add an entry to the 5-entry LAN emulation configuration server (LECS) address table.

```
SET LAN_EMUL CONFIGURATION_SERVER ACTIVE_WKA|INACTIVE WKA atm_address
```

ACTIVE_WKA The LECS address table is to contain an ATM address to be substituted to the well known address (WKA). There can be only one ACTIVE_WKA entry in the LECS address table. The ATM address you specify will be the one selected to be substituted to the WKA (WKA active). If an ACTIVE_WKA entry already exists in the LECS address table, it will no longer be used as the WKA substitution address. If the ACTIVE_WKA option is used, the latest LECS address entry configured with ACTIVE_WKA is used to route the LECS setup to the LECS WKA.

INACTIVE_WKA The LECS adress table is to contain an ATM address which must not be substituted for the well known address.

atm_address ATM address of an ATM forum compliant LAN emulation configuration server.

Example: Notice in the following example the effect of specifying ACTIVE_WKA and INACTIVE_WKA when defining a LECS address table entry.

```
ATMPROMPT> set lan_emul configuration_server active_wka         [ENTER]
Enter ATM address : 39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.05.A9.92.9F.00
[ENTER]

Entry set.
ATMPROMPT> show lan_emul configuration_server                   [ENTER]
Index            ATM address
--------------------------------------------------------------------------------
  1 WKA active 39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.05.A9.92.9F.00
ATMPROMPT>
ATMPROMPT> set lan_emul configuration_server inactive_wka       [ENTER]
Enter ATM address : 39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.A5.A9.90.9C.00

Entry set.
ATMPROMPT>
```

```
ATMPROMPT> show lan_emul configuration_server       [ENTER]
Index            ATM address
--------------------------------------------------------------------------------
  1 WKA active 39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.05.A9.92.9F.00
  2            39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.A5.A9.90.9C.00
ATMPROMPT> set lan_emul configuration_server inactive_wka       [ENTER]
Enter ATM address : 39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.A5.A9.90.9D.00

Entry set.
ATMPROMPT> show lan_emul configuration_server       [ENTER]
Index            ATM address
--------------------------------------------------------------------------------
  1 WKA active 39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.05.A9.92.9F.00
  2            39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.A5.A9.90.9C.00
  3            39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.A5.A9.90.9D.00

ATMPROMPT> set lan_emul configuration_server active_wka       [ENTER]
Enter ATM address : 39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.A5.A9.90.94.00
Entry set.
ATMPROMPT> show lan_emul configuration_server       [ENTER]
Index            ATM address
--------------------------------------------------------------------------------
  1            39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.05.A9.92.9F.00
  2            39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.A5.A9.90.9C.00
  3            39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.A5.A9.90.9D.00
  4 WKA active 39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.A5.A9.90.94.00

ATMPROMPT> set lan_emul configuration_server active_wka       [ENTER]
Enter ATM address : 39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.A5.A9.90.95.00
Entry set.
ATMPROMPT> show lan_emul configuration_server       [ENTER]
Index            ATM address
--------------------------------------------------------------------------------
  1            39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.05.A9.92.9F.00
  2            39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.A5.A9.90.9C.00
  3            39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.A5.A9.90.9D.00
  4            39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.A5.A9.90.94.00
  5 WKA active 39.99.99.99.99.99.99.00.00.99.99.01.02.00.80.A5.A9.90.95.00

ATMPROMPT>
```

SET LAN_EMUL SERVER

This command is only for use with the 8285 ATM Workgroup Switch.

You can run this command only if you logged on with the Administrator password.

The SET LAN_EMUL SERVER command enables you to configure and start (or stop) the ATM Workgroup Switch integrated LAN emulation servers (LES and BUS). LES and BUS servers provide MAC to ATM address resolution and broadcast and multicast services to LAN emulation clients (LECs). Each LES/BUS defines an emulated LAN, and up to two emulated LANs may be configured in the ATM Workgroup Switch.

All workstations attached to the LAN Emulation subnetwork and the ATM Workgroup Switch must be registered with the LAN Emulation server before they can exchange packets.

```
SET LAN_EMUL SERVER 1|2 STOP|[START ETH|TR max_nb_clients max_sdu_size elan_name
```

start/stop Starts or stops the designated server.

1 or 2 Selects which server is to be started or stopped. To verify which server you wish to select, use the SHOW LAN_EMUL SERVERS command.

ETH Signifies Ethernet LAN type

TR Signifies Token-Ring LAN type

max_nb_clients The sum of both emulated LANs cannot exceed 128.

max_sdu_size The maximum SDU size supported on the emulated LAN. Possible values are 1516, 4544, 9234, 18190 (default: 1516).

elan_name Character string (case-sensitive) identifying the emulated LAN (default: IBM_lantype_LANn, with lantype set to ETHERNET or TOKEN_RING, and n set to 1 or 2).

Example:

```
ATMPROMPT>set lan_emul server 1 start tr 100 18190        [ENTER]
Enter emulated LAN name:
token_ring_lan1        [ENTER]

Starting server.
ATMPROMPT>Set lan_emul server 1 stop                      [ENTER]

Halting server.
ATMPROMPT>
```

SET LOGICAL_LINK

You can run this command only if you logged on with the Administrator password.

Use this command define the ATM trunk connection between two ATM subnetworks or clusters over a Virtual Path service provider.

Enter the SET LOGICAL_LINK command on the boundary hub of each subnetwork or cluster to configure the ATM port used in the connection. The values you specify with the command define ATM trunk characteristics.

You can create more than one logical link for each ATM port by specifying a different ACN for each link. Up to 50 logical links can be defined per switch. The number of free entries appears when displaying the logical links. You can define a logical link only for ATM ports configured with a network-to-network interface (NNI).

To permanently save your changes, enter the SAVE MODULE_PORT or the SAVE ALL command.

To display the currently configured logical links, enter the SHOW LOGICAL_LINK command. To delete a logical link, use the CLEAR LOGICAL_LINK command.

```
SET LOGICAL_LINK slot.port vpi acn role uni_version traffic_type bandwidth
```

slot Slot number of the ATM media module:

8260: Slots in the range [1-8] for A10 models or [1-8, 12-17], for A17 models.
8285: Slot 1 only, or in the range [1-4] if an expansion unit installed.

port Port number of the ATM port.

vpi Virtual path identifier (VPI) used to identify the logical link [0-15].

You must assign the same VPI to the ports at each end of a logical link. If you configure more than one logical link for a port, you must assign a different VPI for each logical link.

acn When connecting two ATM subnetworks, this is the ATM cluster number (ACN) of the logical hub associated with the remote subnetwork and configured with the SET STATIC_ROUTE command (01-FF).

When connecting two ATM clusters in the same subnetwork, this is the ACN of the remote boundary hub.

role `network_side` or `user_side`.

This parameter defines the Q.2931 role. `network_side` means that the hub assigns ATM labels for this logical link. `user_side` means that the hub does not assign labels.

You can assign `network_side` to only one port in a logical link. The other port must be configured as `user_side`.

uni_version `3.0` or `3.1`.

This parameter defines the version of UNI signalling protocol for this logical link.

traffic_type Specifies the type of traffic to be dedicated to this logical link:

- `NON_RESERVED_BANDWIDTH`
- `RESERVED_BANDWIDTH`
- `ANY` (both types are allowed)

bandwidth Maximum bandwidth allocation in kilobits per second to be reserved for this logical link. This is required if you specified `RESERVED_BANDWIDTH` or `ANY` as dedicated traffic type. in a logical link.

Example: The following example creates a logical link for port 1 on the ATM media module in slot 1 having: VPI 9 to ACN 2, a network_side role, using UNI version 3.1, and dedicated to reserved bandwidth traffic with a 500 Kbps bandwidth.

```
ATMPROMPT> set logical_link 1.1 9 2 network_side 3.1 reserved_bandwidth 500       [ENTER]

Logical link set.
ATMPROMPT>
```

SET MODULE

You can run this command only if you logged on with the Administrator password.

The SET MODULE command enables you to:

- Isolate an ATM media module (but not the A-CPSW module or ATM Workgroup Switch) from the ATM backplane network.
- Reconnect an isolated ATM media module to the ATM network and enable or disable its ports.

When an ATM media module is isolated, it remains in reset mode and no network activity takes place on it. This allows you to protect your ATM network from unauthorized access and module disfunction.

The current configuration settings of an isolated ATM media module cannot be accessed by the network. The status of its ports appears as `Unknown` in the SHOW MODULE VERBOSE screen display.

The factory default settings for ATM media modules are `Isolated` and `Disabled`. This means that ATM media modules do not start up as part of the ATM subsystem when you power ON the hub.

When you install an ATM media module in a slot previously used by another ATM media module, it is initialized with the SET MODULE parameters that were last saved. To display the currently configured settings, use the SHOW MODULE command.

```
SET MODULE slot1 [slot2 [slot3...[slotn]]] network [mode]
```

slot Slot number of ATM media module:

8260: Slots in the range [1-8] for A10 models or [1-8, 12-17], for A17 models.
8285: Slot 1 only, or in the range [1-4] if an expansion unit installed.

network `isolated` or `connected`.

You cannot isolate slot 1 of the 8285.

mode `enable` or `disable`.

If you entered `connected` for `network`, you can specify whether **all** ATM ports on the module are to be enabled or disabled.

To enable all ATM ports, enter `enable`; to disable all ATM ports, enter `disable`.

To keep the current setting (enabled or disabled) for each ATM port, do not enter any value for `mode`. This is the default.

Example: The following is an example of how to isolate an ATM media module from the ATM network:

```
ATMPROMPT> set module 2 isolated              [ENTER]

Module set.
ATMPROMPT>
```

The following example shows how to reconnect the module to the ATM network and enable all of its ports:

```
ATMPROMPT> set module 2 connected enable      [ENTER]

Module set
ATMPROMPT>
```

SET PORT

You can run this command only if you logged on with the Administrator password.

Note: To configure a 155 Mbps port, refer to "SET PORT (for A2-MB155)" on page 78 .

Use this command to define, enable, and disable ATM ports, and configure their interfaces.

To display a port's current configuration settings, use the SHOW PORT command.

```
SET PORT slot.port [port port..] mode type bandwidth flow_control ilmi
```

slot Slot number of the ATM media module:

8260: Slots in the range [1-8] for A10 models or [1-8, 12-17], for A17 models.
8285: Slot 1 only, or in the range [1-4] if an expansion unit installed.

port ATM port number(s). Multiple port numbers for the same slot may be entered in sequence.

mode `enable` or `disable`

type Type of interface used:

- `NNI` (network-to-network interface)
- `SSI` (switch-to-switch interface)
- `UNI` (user-to-network interface).

Default: Last value entered.

bandwidth Specifies the bandwidth allocation for a SSI port in Kbps. The specified value must be greater than 51 and will be rounded by the system to the next upper multiple of 10 Kbps. Both ends of the trunk must have the same bandwidth.

Default: Maximum bandwidth supported on the media.

flow_control Used to activate or deactivate the ILMI flow control for 100 Mbps UNI ports:

- `FLOW_CONTROL_ENABLED`: activate ILMI flow control (XON/XOFF)
- `FLOW_CONTROL_DISABLED`: deactivate ILMI flow control.

Default: Last value entered.

ilmi Specifies the ILMI characteristics for this 100 Mbps UNI port:

- NORMAL_ILMI: ILMI active with automatic detection of the signalling protocol version (UNI 3.0 or UNI 3.1). ILMI address registration is normally performed.
- ILMI_FORCED_SIGN_3.0: UNI 3.0 signalling is forced, and ILMI address registration is active.
- ILMI_FORCED_SIGN_3.1: UNI 3.1 signalling is forced, and ILMI address registration is active.
- NO_ILMI_SIGN_3.0: UNI 3.0 signalling is forced, and ILMI address registration is inactive.
- NO_ILMI_SIGN_3.1: UNI 3.1 signalling is forced, and ILMI address registration is inactive.

Default: Last value entered.

For more information on ATM interfaces, see the appropriate *8260/8285 Installation and User's Guide*.

Example: The following configures an SSI port on slot 1 with a 128 Kbps bandwidth. Notice the rounded value (130 Kbps) in the output of the SHOW PORT command.

```
ATMPROMPT> set port 1.2 enable ssi 128       [ENTER]

ATMPROMPT> show port 1.2 verbose             [ENTER]

      Type  Mode      Status
-------------------------------------------------------------------------------
 1.02:SSI enabled  UP-OKAY

SSI Bandwidth        : 130 kbps
Connector            : MIC
Media                : fiber
Port speed           : MIC
Remote device is active
IX status            : IX OK

ATMPROMPT>
```

SET PORT (for A2-MB155)

You can run this command only if you logged on with the Administrator password.

Use this command to define, enable, and disable ATM ports of an A2-MB155 module, and configure the interface.

To display a port's current configuration settings, use the SHOW PORT command.

```
SET PORT slot.port [port port..] mode type bandwidth flow_control ilmi clocking network
```

slot Slot number of the ATM media module:

8260 Slots in the range [1-8] for A10 models or [1-8, 12-17], for A17 models.
8285: Slot 1 only, or in the range [1-4] if an expansion unit installed.

port ATM port number(s). Multiple port numbers for the same slot may be entered in sequence.

mode `enable` or `disable`

type Type of interface used:

- `NNI` (network-to-network interface)
- `SSI` (switch-to-switch interface)
- `UNI` (user-to-network interface).

Default: Last value entered.

bandwidth Specifies the bandwidth allocation for a SSI port in Kbps. The specified value must be greater than 51 and will be rounded by the system to the next upper multiple of 10 Kbps. Both ends of the trunk must have the same bandwidth.

Default: Maximum bandwidth supported on the media.

flow_control Used to activate or deactivate the ILMI flow control for this UNI port:

- `FLOW_CONTROL_ENABLED`: activate ILMI flow control (GFC field of the cell header)
- `FLOW_CONTROL_DISABLED`: deactivate ILMI flow control.

Default: Last value entered.

ilmi Specifies the ILMI characteristics for this UNI port:

- NORMAL_ILMI: ILMI active with automatic detection of the signalling protocol version (UNI 3.0 or UNI 3.1). ILMI address registration is normally performed.
- ILMI_FORCED_SIGN_3.0: UNI 3.0 signalling is forced, and ILMI address registration is active.
- ILMI_FORCED_SIGN_3.1: UNI 3.1 signalling is forced, and ILMI address registration is active.
- NO_ILMI_SIGN_3.0: UNI 3.0 signalling is forced, and ILMI address registration is inactive.
- NO_ILMI_SIGN_3.1: UNI 3.1 signalling is forced, and ILMI address registration is inactive.

Default: Last value entered.

clocking Specifies the mode used by the SONET lite clock for this UNI or NNI port:

- INTERNAL_CLOCK: The transmit clock is provided by the ATMflex module.
- EXTERNAL_CLOCK: The transmit clock is provided by the network or the attached device.

  Default: Previous value, or INTERNAL_CLOCK if no previous value.

network Specifies the type of network this UNI or NNI port is connected to :

- SDH_STM_1 Synchronous digital hierarchy (SDH), synchronous transfer module 1 (STM-1) at 155.520 Mbps line rate.
- SONET_STS_3C Synchronous optical network (SONET), synchronous transport signal 3 (STS-3C) at 155.520 Mbps line rate.

Default: Last value entered.

For more information on ATM interfaces, see the appropriate *8260/8285 Installation and User's Guide*.

Example: The following configures a UNI port on an A2-MB155 module without ILMI address registration.

```
ATMPROMPT> set port 1.1 enable uni no_ilmi_sig_3_0       [ENTER]

ATMPROMPT> Port set.
ATMPROMPT> show port 1.1 verbose                         [ENTER]

      Type  Mode      Status
-------------------------------------------------------------------------------
 1.01:UNI enabled  UP-OKAY

Signalling Version   : 3.0 without ILMI
Flow Control         : On
Frame Format         : SONET-STS-3C
Connector            : SC duplex
Media                : multimode fiber
Port speed           : 155000 kbps
IX status            : IX OK
Scrambling mode      : frame and cell
Clock mode           : internal clock

ATMPROMPT>
```

SET POWER MODE

This command is only for use with the 8260 A-CPSW.

You can run this command only if you logged on with the Administrator password..

Note: If a DMM module is installed, this command will not be effected. Enter the command from the DMM console.

Use this command to choose between normal and fault-tolerant power supply operation.

For example, when 295 watt power supplies are used:

- Each power supply provides approximately 200 watts at +5 volts.
- You have three power supplies available (~600 watts).

In this scenario, non-fault tolerant mode allows you to use ~600 watts. Fault-tolerant mode allows you to use ~400 watts, reserving ~200 watts for use in the event of a failure.

Regardless of the power mode setting, the power load being used is shared across all installed power supplies.

```
SET POWER MODE fault_tolerant|non_fault_tolerant
```

fault_tolerant The power required to operate a power supply is kept in reserve, to be used in the event of a failure. To use fault tolerant mode, you must have one more power supply than is required to power all modules in the hub.

non_fault_tolerant The entire power supply capacity of all installed power supplies is used.

Example: The following example attempts to set the power mode to fault tolerant:

```
ATMPROMPT> set power mode fault_tolerant        [ENTER]

Set power mode to FAULT_TOLERANT requested.
ATMPROMPT>
```

The command is not immediately effected because the installed power is insufficient to support fault tolerant mode. Fault tolerant mode is automatically enabled when sufficient power becomes available (when another power supply is added).

SET PVC (for Virtual Channel Connections)

You can run this command only if you logged on with the Administrator password..

Use this command to define Permanent Virtual Connections (PVCs) for Virtual Channel Connections (VCCs). The maximum number of PVCs that can be defined for an ATM Control Point is 100.

```
SET PVC local_slot.port pvc_id remote_slot.port remote_hub_number CHANNEL local_vci
        remote_vci bw_alloc bandwidth
```

local_slot.port The identification of the local ATM port for which the PVC local end point is defined. This identification is composed of the slot number of the ATM media module and its port number (slot.port).

pvc_id Allows you to uniquely identify the PVCs you define for the same local ATM port (slot.port). Use a number in the range 1-999.

remote_slot.port The identification of the remote ATM port for which the PVC remote end point is defined. This identification is composed of the slot number of the remote ATM media module and its port number (slot.port).

remote_hub_number The 2 hexadecimal-digit hub number (HN) in this ATM cluster, on which the PVC remote end point is located.

CHANNEL Specifies the virtual channel connection PVC type.

local_vci The virtual channel identifier of the local end point in the range [17, 32-1023]. If you enter '*', it means that you let the system select the vci of the PVC in the range 32-1023. If you want to specify the vci value, it is recommended that you start with the highest vpi in the range.

remote_vci The virtual channel identifier of the remote end point in the range [17, 32-1023]. If you enter '*', it means that you let the system select the vci of the PVC in the range 32-1023. If you want to specify the vci value, it is recommended that you start with the highest vpi in the range.

bw_alloc Specifies the bandwidth allocation algorithm:

- BEST_EFFORT
- RESERVED_BANDWIDTH

bandwidth Selected bandwidth in Kbps. This applies only if you specified RESERVED_BANDWIDTH as the bandwidth allocation algorithm (bw_alloc).

Example:

```
ATMPROMPT> set pvc 1.2 1 4.4 2 channel * * best_effort                [ENTER]

PVC set and started.
ATMPROMPT> set pvc 1.2 2 4.4 2 channel * * reserved_bandwidth 50      [ENTER]
PVC set and started
ATMPROMPT>
ATMPROMPT> show pvc all       [ENTER]

       Local end point       ! Remote end point  !
------------------------------------------------
 Port   id   type   Vpi/Vci  ! Port Vpi/Vci   HNb!   role  !QOS! Status
-------------------------------------------------------------------------------
 1.02     1 PTP-PVP   0/32   ! 4.04   0/44      2! Primary ! BE!Active
 1.02     2 PTP-PVP   1/124  ! 4.04   1/98      2! Primary ! RB!Active
ATMPROMPT>
```

SET PVC (for Virtual Path Connections)

You can run this command only if you logged on with the Administrator password..

This SET PVC command lets you define Permanent Virtual Connections (PVCs) for Virtual Path Connections (VCCs). The maximum number of PVCs that can be defined for an ATM Control Point module is 100.

```
SET PVC local_slot.port pvc_id remote_slot.port remote_hub_number PATH
        local_vpi remote_vpi bw_alloc bandwidth
```

local_slot.port The identification of the local ATM port for which the PVC local end point is defined. This identification is composed of the slot number of the ATM media module and its port number (slot.port).

pvc_id Allows you to uniquely identify the PVCs you define for the same local ATM port (slot.port). Use a number in the range 1-999.

remote_slot.port The identification of the remote ATM port for which the PVC remote end point is defined. This identification is composed of the slot number of the remote ATM media module and its port number (slot.port).

remote_hub_number The 2 hexadecimal-digit hub number (HN) in this ATM cluster, on which the PVC remote end point is located.

PATH Specifies the virtual path connection PVC type.

local_vpi The virtual path identifier of the local end point. If you enter an asterisk (*), it means that you let the system select the vpi of the PVC in the range 0-15. If you want to specify the vpi value, it is recommended that you start with the highest vpi in the range.

remote_vpi The virtual path identifier of the remote end point. If you enter '*', it means that you let the system select the vpi of the PVC in the range 0-15. If you want to specify the vpi value, it is recommended that you start with the highest vpi in the range.

bw_alloc Specifies the bandwidth allocation algorithm:

- `BEST_EFFORT`
- `RESERVED_BANDWIDTH`

bandwidth Selected bandwidth in Kbps. This applies only if you specified `RESERVED_BANDWIDTH` as the bandwidth allocation algorithm (`bw_alloc`).

Example:

```
ATMPROMPT> set pvc 1.2 1 4.4 2 path * * best_effort       [ENTER]

PVC set and started.
ATMPROMPT> set pvc 1.2 2 4.4 2 channel * * reserved_bandwidth 50       [ENTER]

PVC set and started.
ATMPROMPT> show pvc all       [ENTER]

       Local end point       ! Remote end point  !
-------------------------------------------------
 Port   id   type   Vpi/Vci  ! Port Vpi/Vci   HNb!   role  !QOS! Status
-------------------------------------------------------------------------------
 1.02     1 PTP-PVP   0/*    ! 4.04   0/*       2! Primary ! BE!Active
 1.02     2 PTP-PVP   1/*    ! 4.04   1/*       2! Primary ! RB!Active

ATMPROMPT> show pvc all verbose                    [ENTER]

       Local end point       ! Remote end point  !
-------------------------------------------------
 Port   id   type   Vpi/Vci  ! Port Vpi/Vci   HNb!   role  !QOS! Status
-------------------------------------------------------------------------------
 1.02     1 PTP-PVP   0/*    ! 4.04   0/*       2! Primary ! BE!Active
Remote address : 39.99.99.99.99.99.99.00.00.99.88.02.02
Quality of Service : Best Effort.
Last Active Date : 12:38:58: 22 Nov 95
       Local end point       ! Remote end point  !
-------------------------------------------------
 Port   id   type   Vpi/Vci  ! Port Vpi/Vci   HNb!   role  !QOS! Status
-------------------------------------------------------------------------------
 1.02     1 PTP-PVP   1/*    ! 4.04   1/*       2! Primary ! RB!Active
Remote address : 39.99.99.99.99.99.99.00.00.99.88.02.02
Quality of Service : Reserved Bandwidth (20 kbit/s).
Last Active Date : 12:38:58: 22 Nov 95
ATMPROMPT>
```

SET ROLE

This command is only for use with the 8260 A-CPSW.

You can run this command only from Maintenance mode. To start Maintenance Mode, enter the MAINTAIN command.

Use this command to enable the automatic selection of the active A-CPSW in a redundant ATM subsystem. When a redundant ATM subsystem elects its active A-CPSW (at power on, for example), if one has been defined as 'primary' and the other 'secondary', the 'primary' one becomes active and the 'secondary' one operates in standby mode. If both A-CPSWs have been defined as 'primary' or 'secondary', the choice is based upon their position, with the A-CPSW installed in slot 9 being selected as primary.

```
SET ROLE PRIMARY|SECONDARY
```

Example:

```
>>00BA>> set role secondary        [ENTER]

>>
```

SET STATIC_ROUTE

You can run this command only if you logged on with the administrator password.

Use this command when you interconnect two ATM subnetworks. ATM subnetworks do not use the same 11-byte network prefix. This command lets you associate a logical ATM cluster number (ACN) with a static route. The ACN you configure is later used in the SET LOGICAL_LINK command to define the ATM trunk between two subnetworks.

To permanently save your changes, use the SAVE STATIC_ROUTE or SAVE ALL command. The static route settings you configure are stored as an entry in the 50-entry static route table. To view existing static table entries, enter the SHOW STATIC_ROUTE command.

```
SET STATIC_ROUTE static_route acn
```

static_route Varying length (up to 19 bytes) ATM network address that identifies a set of ATM addresses in the destination ATM subnetwork.

acn ATM cluster number (01-FF) of a logical hub used in the SET LOGICAL_LINK command. Each ACN you assign to identify a logical hub must be unique.

Example: The following example of the command associates a 12-byte static route (399999999999990000060601) to the ACN of a logical cluster 11 (hexadecimal B).

```
ATMPROMPT> set static_route 399999999999990000060601 B       [ENTER]

Static route entry set
ATMPROMPT>
```

SET TERMINAL BAUD

You can run this command only if you logged on with the administrator password. You cannot change the terminal baud for the A-CPSW module or ATM Workgroup Switch using SNMP.

Use this command to configure the ATM Control Point to the same data transmission rate used by the attached console or modem in order to communicate.

```
SET TERMINAL BAUD rate
```

rate 300, 1200, 2400, 4800, 9600, or 19200

To configure the ATM Control Point to communicate with a console or modem that has a baud rate **other than 9600**, follow these steps:

1. Connect a console that uses a 9600 baud rate, then press Enter to access the ATM Control Point.
2. Enter the SET TERMINAL BAUD command with the lower baud rate value. After you enter the command, the connection to the ATM Control Point is lost.
3. Disconnect the console and connect the second console that uses the baud rate configured in Step 2.
4. Press Enter. Your connection to the ATM Control Point is re-established.
5. Enter the SAVE TERMINAL command to permanently save the new baud rate.

Example:

```
ATMPROMPT> set terminal baud 2400       [ENTER]

ATMPROMPT>
```

SET TERMINAL CONSOLE_PORT_PROTOCOL

You can run this command only if you logged on with the administrator password.

Use this command to specify the operating mode of the ATM Control Point console port.

```
SET TERMINAL CONSOLE_PORT_PROTOCOL NORMAL|SLIP
```

NORMAL This is the default operating mode. When in this operating mode the ATM Control Point local console operates as an ASCII-type terminal.

SLIP This option can only be selected from a local console; it cannot be selected via TELNET. When in this operating mode, the ATM Control Point local console is a workstation having an active IP stack, and connected from its serial port to the ATM Control Point console port. Communications between the workstation IP stack and the ATM Control Point IP stack use the serial line IP (SLIP) protocol.

If there is no activity for a period of 20 minutes, the console is automatically returned to normal mode.

Example:

```
ATMPROMPT> set terminal console_port_protocol slip        [ENTER]

ATMPROMPT>
```

SET TERMINAL DATA_BITS

You can run this command only if you logged on with the Administrator password.

Use this command to configure the ATM Control Point to use the same number of data bits used by the attached console, in order to communicate.

```
SET TERMINAL DATA_BITS bits
```

bits 7 or 8

To configure the ATM Control Point to communicate with a console or modem that has a data bit level of 7, follow these steps:

1. Connect a console that uses 8 data bits. Then press Enter to access the ATM Control Point.
2. Enter the SET TERMINAL DATA_BITS command with the data bit set to 7. After you reset the data bit, the connection to the ATM Control Pointis lost.
3. Disconnect the console and connect the second console that uses 7 data bits.
4. Press Enter. Your connection to the ATM Control Point is re-established.
5. Enter the SAVE TERMINAL command to permanently save the new data bit setting.

Example:

```
ATMPROMPT> set terminal data_bits 7       [ENTER]

ATMPROMPT>
```

SET TERMINAL HANGUP

You can run this command only if you logged on with the Administrator password.

The SET TERMINAL HANGUP command provides a security measure that prevents unauthorized users from working in your ATM Control Point modem session.

If you **enable** SET TERMINAL HANGUP, the modem automatically disconnects when you log off. The modem connection is also automatically disconnected if you enable this command and make no keyboard entries from the console for a time period greater than the value set with the SET TERMINAL TIMEOUT command.

If you **disable** SET TERMINAL HANGUP, the modem is disconnected only when you manually hang up the modem.

To permanently save the new setting, enter the SAVE TERMINAL command.

```
SET TERMINAL HANGUP setting
```

setting `enable` or `disable`

Example:

```
ATMPROMPT> set terminal hangup disable       [ENTER]

ATMPROMPT>
```

SET TERMINAL PARITY

You can run this command only if you logged on with the Administrator password.

Use this command to configure the ATM Control Point to the same parity used by the attached console, in order to communicate.

```
SET TERMINAL PARITY setting
```

setting `even`, `odd`, or `none`

To configure the ATM Control Point to communicate with a console or modem that has a parity setting other than `None`, follow these steps:

1. Connect a console that has its parity set to `None`. Then press Enter to access the ATM Control Point.
2. Enter the SET TERMINAL PARITY command and set the parity to the new value (even or odd). After you reset this value, the connection to the ATM Control Point is lost.
3. Disconnect the console and connect the second console that uses the parity setting configured in the preceding step.
4. Press Enter. Your connection to the ATM Control Point is re-established.
5. Enter the SAVE TERMINAL command to permanently save the parity setting.

Example:

```
ATMPROMPT> set terminal parity even       [ENTER]

ATMPROMPT>
```

SET TERMINAL PROMPT

You can run this command only if you logged on with the Administrator password.

Use this command to customize the ATM prompt that appears on the console screen. You can enter up to 15 alphanumeric characters, including the prompt symbol (>).

The system automatically adds a blank space to the prompt you enter. In this way, all commands entered from the console are separated by a blank space from the prompt, making them easier to read.

IBM recommends that you set the prompt to the device name you specify with SET DEVICE NAME. This allows you to recognize the ATM Control Point to which you are connected when you work in remote sessions.

To permanently save your changes, enter the SAVE TERMINAL command.

```
SET TERMINAL PROMPT prompt
```

prompt Up to 15 alphanumeric characters (case sensitive).
Default: 8260ATM> or 8285>

Example:

```
ATMPROMPT> set terminal prompt ATM1000:       [ENTER]

ATM1000:
```

SET TERMINAL SLIP_ADDRESSES

You can run this command only if you logged on with the Administrator password at the local console.

Use this command to specify the IP addresses to be used by the serial line (SLIP) in its point-to-point communications between the IP stack of the ATM Control Point, and the IP stack of the workstation connected to the ATM Control Point console port.

Note: A network mask is not required for SLIP.

```
SET TERMINAL SLIP_ADDRESSES local_IP_address remote_IP_address
```

local_IP_address Specifies the IP address to be used on the ATM Control Point side for the SLIP point-to-point communications between the workstation and the ATM Control Point.

remote_IP_address Specifies the IP address to be used on the workstation side for the SLIP point-to-point communications between the workstation and the ATM Control Point.

Example:

```
ATMPROMPT> set terminal slip_addresses       [ENTER]
Enter local ip address : 9.100.86.139        [ENTER]
Enter remote ip address : 9.100.86.138       [ENTER]

Configuring SLIP ...
ATMPROMPT>
```

SET TERMINAL STOP_BITS

You can run this command only if you logged on with the Administrator password.

Use this command to configure the ATM Control Point to the number of stop bits used by the attached console or modem. This command sets the number of bits used to signal the end of the character being sent and to reset the line to an idle state.

The ATM Control Point registers the end of each character sent from the ATM Control Point console or attached modem as soon as one stop bit is received. The ATM Control Point must be set to the same stop bit count as the console or modem in order to communicate.

To permanently save your changes, enter the SAVE TERMINAL command.

```
SET TERMINAL STOP_BITS bits
```

bits 1 or 2

To configure the ATM Control Point to communicate with a console or modem that has a stop bit count of 2, follow these steps:

1. Connect a console that uses 1 stop bit. Then press Enter to access the ATM Control Point.
2. Enter the SET TERMINAL STOP_BITS command and set the stop bit level to 2. After you reset this value, the connection to the ATM Control Point is lost.
3. Disconnect the console and connect the second console that uses the 2 stop bits.
4. Press Enter. Your connection to the ATM Control Point is re-established.
5. Enter the SAVE TERMINAL command to permanently save the new stop bit setting.

Example:

```
ATMPROMPT> set terminal stop_bits 2       [ENTER]

ATMPROMPT>
```

SET TERMINAL TIMEOUT

You can run this command only if you logged on with the Administrator password.

Use this command to set the number of minutes that you can remain logged on to an ATM Control Point session without making a keyboard entry. When this time period has elapsed, you are automatically logged off and your session is terminated. If you enable the SET TERMINAL HANGUP command and have a modem attached to the console, the modem connection is also terminated.

This is a security measure that prevents unauthorized users from accessing and working in an open ATM Control Point session when the console is left unattended. To permanently save the timeout value you set, enter the SAVE TERMINAL command.

If the system automatically logs you off, any unsaved changes remain active. These changes are lost if you reset the ATM Control Point. To permanently save these changes, you must log back on to the ATM Control Point and enter the SAVE command.

```
SET TERMINAL TIMEOUT minutes
```

minutes 1 to 30 or 0 (for no automatic logoff).

Example: The following command automatically logs you off the ATM Control Point console if no keystrokes are entered for more than two minutes:

```
ATMPROMPT> set terminal timeout 2       [ENTER]
```

The console beeps once. The following message is displayed if you do not save the configuration changes before the timeout expires:

```
Parser timed out
Warning: unsaved changes.

Bye
```

Unsaved changes remain configured but not permanently saved. They will be lost at the next reset. To save them, you must re-establish connection to the ATM Control Point and enter the SAVE command.

SET TFTP FILE_NAME

You can run this command only if you logged on with the Administrator password.

Use this command to specify the path name of the file that is to be transferred via the TFTP protocol with the DOWNLOAD or UPLOAD commands. This file is stored on the server specified with SET TFTP SERVER_IP_ADDRESS.

After entering the command, you are prompted to enter a full path name of up to 128 alphanumeric characters (case-sensitive). To permanently save the path name you enter, use the SAVE TFTP command. To display the currently configured name, use the SHOW TFTP command.

```
SET TFTP FILE_NAME
```

Example: The following example shows how to set a full path name for a PS/2 host:

```
ATMPROMPT> set tftp file_name              [ENTER]
Enter file name:  c:\atmsoft\v1.0-B        [ENTER]

File name set.
ATMPROMPT>
```

The following example shows how to set a full path name for an AIX host:

```
ATMPROMPT> set tftp file_name           [ENTER]
Enter file name:  /tmp/module.up        [ENTER]

File name set.
ATMPROMPT>
```

On the upload to the AIX host, the datagram is transmitted via the UDP socket 69 to the user ID, `nobody`.

SET TFTP FILE_TYPE

You can run this command only if you logged on with the Administrator password.

UYse this command to specify the type of file to be used with the DOWNLOAD and UPLOAD commands. This file is stored on the TFTP server specified with SET TFTP SERVER_IP_ADDRESS. It has the name specified with the SET TFTP FILE_NAME command.

```
SET TFTP FILE_TYPE type
```

The different file types that you can configure are as follows:

operational Replaces the inactive operational load module in the ATM Control Point flash EEPROM when you enter the DOWNLOAD commands.

boot Replaces the inactive boot load module in the ATM Control Point flash EEPROM when you enter the DOWNLOAD commands.

configuration When used in combination with the UPLOAD command, it allows you to save the complete ATM Control Point configuration in a file stored on the TFTP server. When used with the DOWNLOAD command, it allows you to restore a ATM Control Point configuration.

error_log Sends the error log file from the ATM Control Point when you enter the UPLOAD INBAND command.

main_trace Sends the trace file from the ATM Control Point when you enter the UPLOAD INBAND command. (To have traces recorded in the main trace file, you must enter the SET TRACE command.)

trs_dump Sends the contents of the TRS dump from the ATM Control Point when you enter the UPLOAD INBAND command. (To perform a TRS dump, you must enter the DUMP command.)

trs_trace Sends the TRS trace file from the ATM Control Point when you enter the UPLOAD INBAND command. (To have TRS traces recorded, you must enter the SET TRACE TRS command.)

fpga Sends or replaces the hardware picocode for an A-CPSW, ATM Workgroup Switch, or ATM media module. The procedure to load hardware picocode takes from 10 to 20 minutes.

To permanently save the file type change, enter the SAVE TFTP command. To display the currently configured setting, enter the SHOW TFTP command.

Example:

```
ATMPROMPT> set tftp file_type operational       [ENTER]

File type set.
ATMPROMPT>
```

SET TFTP SERVER_IP_ADDRESS

You can run this command only if you logged on with the Administrator password.

Use this command to configure the IP address of the server where the file used for inband downloads and uploads is stored. Use the SET TFTP FILE_NAME and SET TFTP FILE_TYPE commands to configure the path name and type of the file.

If the TFTP server is reachable via a Classical IP over ATM subnetwork as defined in RFC1577 (either directly attached or attached behind a router), or reachable via a LAN emulation network, the ATM Control Point must be configured with the ATM address of the ARP server (using SET DEVICE ARP_SERVER).

If the server is an IP workstation connected to the ATM Control Point console port operating in SLIP mode, use the remote IP address that has been set up using the SET TERMINAL SLIP_ADDRESSES command as the TFTP server IP address.

In addition, if the server is reachable via a router, the ATM Control Point must be configured with the IP address of the default gateway (using SET DEVICE DEFAULT_GATEWAY).

To permanently save the server address you enter, use the SAVE TFTP command. To display the currently configured server, enter the SHOW TFTP command.

```
SET TFTP SERVER_IP_ADDRESS ip_address
```

ip_address IP address of the server in the format *n.n.n.n*, where *n* is a number between 0 and 255.

Example: The following command configures the server at the given IP address for all inband download and upload operations.

```
ATMPROMPT> set tftp server_ip_address 125.36.58.117       [ENTER]

TFTP server set.
ATMPROMPT>
```

SET TFTP TARGET_MODULE

You can run this command only if you logged on with the Administrator password.

Use this command to specify the ATM Control Point or ATM media module to be used in the next download operation of ATM hardware picocode using the DOWNLOAD command.

Note: You must enter the SET TFTP FILE_TYPE FPGA command before entering the SET TFTP TARGET_MODULE command.

To permanently save the target module change, enter the SAVE TFTP command. To display the currently configured setting, enter SHOW TFTP.

```
SET TFTP TARGET_MODULE slot
```

slot Slot number in the hub or workgroup switch where the target module is installed:

- 9 (or 11 in A17 models) for an A-CPSW module in the 8260 hub. 1 to 17 except for 9, 10, and 11 for an ATM media module in the 8260 hub.
- 1 in the 8285 workgroup switch, or 1 to 4, if an expansion unit fitted.

Example:

```
ATMPROMPT> set tftp target_module 1       [ENTER]

Target module set.
ATMPROMPT>
```

SET TRACE

You can run this command only if you logged on with the Administrator password.

Use this command to enable and disable the recording of general or TRS-specific (Topology Route and Service) traces in the ATM Control Point trace log. The trace log is configured with the SET TFTP FILE_TYPE command and is sent to a host by entering the UPLOAD INBAND command.

```
SET TRACE MAIN_TRACE|TRS_TRACE ON|OFF DETAILED|PARTIAL
```

Main_trace Specifies that the recording of general trace and signalling data is to be enabled or disabled.

TRS_trace Specifies that TRS trace recording is to be enabled or disabled.

On Starts the trace recording.

Off Stops the trace recording.

Detailed Provides comprehensive information to be recorded.

Partial Provides summary information to be recorded.

Example:

```
ATMPROMPT> set trace main_trace enable       [ENTER]

Trace set.
ATMPROMPT>
```

SHOW ALERT

Use this command to display the current alert settings configured for the ATM Control Point with the SET ALERT command.

```
SHOW ALERT
```

Example:

```
ATMPROMPT> show alert       [ENTER]

Alert AUTHENTICATION  set to NOTRAP NODISPLAY
Alert CHANGE          set to TRAP   NODISPLAY
Alert HELLO           set to NOTRAP NODISPLAY

ATMPROMPT>
```

SHOW ATM_ESI

Use this command to display the entries of the end system identifiers table per ATM port, per type, or the complete contents of the table.

```
SHOW ATM_ESI slot.port|ALL [DYNAMIC|STATIC]
```

slot.port Use this parameter to select the entries of the end system identifier table that relate to an ATM port. The ATM port is identified by the slot number and port number of the ATM media module. The slot number can be:

8260: Slots in the range [1-8] for A10 models or [1-8, 12-17], for A17 models.
8285: Slot 1 only, or in the range [1-4] if an expansion unit installed.

ALL Enter this parameter to select all the entries in the system identifier table.

DYNAMIC Among the entries selected using the above criteria, display entries of end system identifiers that have been dynamically learned during an ILMI dialog.

STATIC Among the entries selected using the above criteria, display entries of end system identifiers that have been created in the ESI table using the SET ATM_ESI command. Every static entry is displayed with a unique identifier (Id=) that may be used in the CLEAR ATM_ESI command (page 22) to determine which entry should be cleared.

Note: Omitting the DYNAMIC and STATIC parameters will result in both dynamic and static entries being displayed.

Example:

```
ATMPROMPT> show atm_esi all       [ENTER]
Port   ATM_ESI           Type
-------------------------------------------------------------------------------
 1.01 00.80.05.A9.92.8A dynamic
 1.03 00.80.05.A8.92.9F static (id=  1)

ATMPROMPT> show atm_esi 1.3       [ENTER]
 1.03 00.80.05.A8.92.9F static (id=  1)

ATMPROMPT>
```

SHOW CLOCK

Use this command to display the current date and time. The original starting time for the ATM Control Point was configured with the SET CLOCK command.

```
SHOW CLOCK
```

Example:

```
ATMPROMPT> show clock       [ENTER]

Clock is set to 09:01 Friday 23 Sep 94.

ATMPROMPT>
```

SHOW COMMUNITY

Use this command to display the current community settings configured for the ATM Control Point with the SET COMMUNITY command.

```
SHOW COMMUNITY
```

Example: The following example shows a community name (user2) set by entering `all` for `ip_address`:

```
ATMPROMPT> show community       [ENTER]

Index   Community Name   IP Address         Access
-----   --------------   ---------------    ---------
  1     user1            139.24.387.54      Read-only
  2     admin            24.137.24.25       Read-Write-Trap
  3     man              35.27.135.40       Read-Write-Trap
  4     user2            ***.***.***.***    Read-only

6 entries empty.
ATMPROMPT>
```

SHOW DEVICE

Use this command to display configuration information about the ATM Control Point.

```
SHOW DEVICE
```

Example: The information displayed in the reply is described in Table 2 on page 108.

```
ATMPROMPT> show device       [ENTER]

ATM Control Point and Switch Module
(c) Copyright IBM Corp. 1994, 1996. All rights reserved.
Name: 8285ATM
Location :
Building T6, floor 2, Wiring closet W23
For assistance contact :
Network Admin, IBM Engineering Support

Manufacture id: VIME
Part Number: 58G9605 EC level: C38846
Serial Number: LAG050
Boot EEPROM Version: x.1.0.0
Flash EEPROM Version: x.1.0.0
Flash EEPROM backup version:
Last Restart : 11:26:35 Thu 14 Dec 95 (Restart Count: 22)

----------------------------------------
 ATM address: 39.99.99.99.99.99.99.00.00.99.99.01.01.40.00.82.85.00.01.00
 > Subnet atm: Up
 IP address: 9.100.87.49 Subnet mask: FF.FF.FF.00
 > Subnet lan emulation ethernet: Up
    Name :"IBM_ETHERNET_LAN1"
    MAC Address: 10005A00000B
    IP address : 9.100.93.199 Subnet mask: FF.FF.FF.00
    ATM address    :39.99.99.99.99.99.99.00.00.99.99.01.01.40.00.82.85.00.01.00
    LES ATM address:39.99.99.99.99.99.99.00.00.99.99.01.01.40.00.82.85.00.01.02
    BUS ATM address:39.99.99.99.99.99.99.00.00.99.99.01.01.40.00.82.85.00.01.02
    LEC Indentifier: 2. Maximum Transmission Unit: 1492
Default Gateway: OK
----------------------------------------
 IP address: 9.100.109.10

ARP Server:
----------------------------------------
 ATM address: 39.99.99.99.99.99.99.00.00.99.99.01.02.40.00.03.90.01.29.00

Dynamic RAM size: 8 MB

Diagnostics: ENABLED

Role: PRIMARY
ATMPROMPT>
```

Table 2 (Page 1 of 2). ATM Control Point Information	
ATM Control Point Information	**Description**
Name	Name assigned to ATM Control Point using SET DEVICE NAME.
Location	Physical location of ATM Control Point entered with SET DEVICE LOCATION.
For assistance contact	Service contact information entered using SET DEVICE CONTACT.
Boot EEPROM Version	Software version number of boot load module.
Flash EEPROM Version	Software version number of flash load module.
Last Restart	Time of the last restart of an ATM Control Point. The number of restarts is shown by the Restart Count.
ATM address	ATM address of the ATM Control Point (configured with SET DEVICE ATM_ADDRESS).
Subnet atm	Status of the Classical IP over ATM subnetwork.
IP address	IP address of the ATM Control Point on the Classical IP over ATM subnetwork (configured with SET DEVICE IP_ADDRESS).
Subnet mask	Subnet mask used by the ATM Control Point on the Classical IP over ATM subnetwork (configured with SET DEVICE SUBNET_MASK).
Subnet lan emulation ethernet	Status of the lan emulation ethernet subnetwork
Name	Emulated LAN name
MAC address	MAC address of the ATM Control Point LEC in the LE subnetwork (configured with the SET DEVICE LAN_EMULATION_CLIENT command).
IP address	IP address of the ATM Control Point in the LE subnetwork (configured with the SET DEVICE LAN_EMULATION_CLIENT command).
Subnet mask	subnet mask used by the ATM Control Point in the LE subnetwork (configured with the SET DEVICE LAN_EMULATION_CLIENT command).
ATM address	ATM address of the ATM Control Point LEC in the LE subnetwork.
LES ATM address	ATM address of the 802.3/Ethernet V2.0 LES to which the ATM Control Point LEC is connected.
BUS ATM address	ATM address of the 802.3/Ethernet V2.0 BUS to which the ATM Control Point LEC is connected (assigned by the LES).
LEC Identifier	identifier of the ATM Control Point LEC in its 802.3 emulated LAN (assigned by the LES).
Maximum Transmission Unit	Maximum IP datagram size supported by the ATM Control Point LEC (computed by the LEC according to the maximum SDU size supported on its emulated LAN).
Default gateway IP address	IP address of the router that is used when the ATM Control Point cannot find an IP address on a local IP network (configured with SET DEVICE DEFAULT_GATEWAY).
ARP server ATM address	ATM address of the ARP server, (for Classical IP only, configured with SET DEVICE ARP_SERVER).

Table 2 (Page 2 of 2). ATM Control Point Information

ATM Control Point Information	Description
Dynamic RAM size	The amount of Random Access Memory (RAM) currently plugged and identified on the A-CPSW.
Diagnostics	Indicates if full memory diagnostics are run when the hub is powered ON or when the A-CPSW module or ATM Workgroup Switch reboots (configured with SET DEVICE DIAGNOSTICS). All other diagnostics take a limited time and are run independently of this parameter.
Role	The role of the A-CPSW in a redundant ATM subsystem, as set by the SET DEVICE ROLE or SET ROLE command.

SHOW ERRORS

You can run this command only from Maintenance mode. To start Maintenance mode, enter the MAINTAIN command.

Use this command to display the errors recorded during the last execution of the DOWNLOAD OUT_OF_BAND command since Maintenance mode was entered. If no error was recorded, nothing is displayed at the ATM Control Point console.

```
SHOW ERRORS
```

Examples: This example shows the result of the SHOW ERRORS command after a successful DOWNLOAD OUT_OF_BAND command:

```
>> show errors        [ENTER]

>>
```

This example shows the result of the SHOW ERRORS command after an unsuccessful DOWNLOAD OUT_OF_BAND command:

```
>> show errors        [ENTER]
FF FF 0002 0007
>>
```

SHOW FLASH

You can run this command only from Maintenance mode. To start Maintenance mode, enter the MAINTAIN command.

Use this command to display information on the microcode currently stored in the flash EEPROM.

```
SHOW FLASH
```

Example: This example shows the result of the SHOW FLASH command after a successful DOWNLOAD OUT_OF_BAND command:

```
>> show flash        [ENTER]

Boot:
Good checksum.
Map of Jan 10 08:12:34 1996
v.2.1.0
Oper 1 of 2: ACTIVE
Good checksum
Map of Jan 11 09:23:45 1996
v.1.2.3
Oper 2 of 2:
Good checksum
Map of Dec 12 10:34:56 1995
v.1.2.0.
>>
```

SHOW HUB

This command is only for use with the 8260 A-CPSW.

Use this command to display information about the hub.

Note: If a DMM module is installed, this command will not be effected. Enter the command from the DMM console.

```
SHOW HUB
```

Example:

```
ATMPROMPT> show hub       [ENTER]
 Hub Information:
     Hub Type: 8260_A17
 Backplane Information:
     Backplane Type                                          Revision
     --------------                                          --------
     Load-Sharing Power Distribution Board                    0
     Enhanced Trichannel Backplane                            0
     RingChannel Backplane                                    0
     SwitchChannel Backplane                                  0

 Power Supply Information:
     Power Supply   Status               Model Number
     ------------   ------               ------------
      1             OKAY                 8260PS
      2             OKAY                 8260PS
      3             OKAY                 8260PS
      4             NOT_INSTALLED

 Temperature Information
     Probe          Location             Temperature
     ------------   ------               -----------
      1             FAN_1                27 Degrees Celsius
      2             FAN_2                27 Degrees Celsius
      3             FAN_3                25 Degrees Celsius

 Fan Information
     Fan            Status
     ---            ------
      1             OKAY
      2             OKAY
      3             OKAY
```

SHOW INVENTORY

This command is only for use with the 8260 A-CPSW.

Use this command to list inventory information about the hub. This list includes the hub, all modules and submodules, the controller module, and includes software versions.

Note: If a DMM module is installed, this command will not be effected. Enter the command from the DMM console.

```
SHOW INVENTORY VERBOSE|NO_VERBOSE
```

Examples: This example shows what is displayed when the `no_verbose` parameter is used:

```
ATMPROMPT> show inventory no_verbose        [ENTER]

 Hub/                  Hardware
 Slot  Module          Version  Serial #        Vendor         Date
 ----- --------------  -------- ---------------------- -------------- ------
 HUB   8260_A17        A        7854                   IBM            940412
 05.01 53-58G9471FC5004 C38844   LAGXXXXXXXXXXXXXXXXXXX IBM            950207
 09.01 53-58G9377FC5000 C38846   lag57                  IBM            950218
 18.01 8000-RCTL       C        1065628                IBM            940411

ATMPROMPT>
```

This example shows what is displayed when the verbose parameter is used:

```
ATMPROMPT> show inventory verbose        [ENTER]

 Hub/                    Hardware
 Slot  Module            Version  Serial #         Vendor          Date
 ----- ---------------   -------- ----------------------- -------------- ------
 HUB   8260_A17          A        7854                    IBM            940412

       Note Pad:

 05.01 53-58G9471FC5004 C38844   LAGXXXXXXXXXXXXXXXXXXX IBM            950207

       Note Pad: High Speed
       Operational Version: N/A                Boot Version: N/A

 09.01 53-58G9377FC5000 C38846   lag57                   IBM            950218

       Note Pad: Switch
       Operational Version: x1.00.4            Boot Version: d9.00.1

 18.01 8000-RCTL         C        1065628                 IBM            940411

       Note Pad:
       Operational Version: v1.01              Boot Version: v1.01

ATMPROMPT>
```

SHOW LAN_EMUL CONFIGURATION_SERVER

Use this command to display the entries in the LAN emulation configuration servers (LECS) address table. The entry containing the ATM address that will be substituted for the LECS well known address is identified as being WKA active.

```
SHOW LAN_EMUL CONFIGURATION_SERVER
```

Example:

```
ATMPROMPT> show lan_emul configuration_server       [ENTER]
Index           ATM address
--------------------------------------------------------------------------------
 1            39.99.99.99.99.99.00.00.99.99.01.02.00.80.05.A9.92.9F.00.00
 2 WKA active 39.99.99.99.99.99.00.00.99.99.01.02.00.80.05.A7.90.92.00.00

ATMPROMPT>
```

SHOW LAN_EMUL SERVERS

This command is only for use with the 8285 ATM Workgroup Switch.

Use this command to display the configuration parameters entered with the SET LAN_EMUL SERVER command, the LES ATM address to help LEC configuration), and LES/BUS status.

```
SHOW LAN_EMUL SERVERS
```

Example:

```
ATMPROMPT> show lan_emul servers       [ENTER]
--------------------------------------------------------------------------------
--------------------------- LAN Emulation Server 1 ----------------------------
Status                 : Running.
LAN type               : Ethernet.
Actual LAN name        : "IBM_ETHERNET_LAN1".
Desired LAN name       : "".
Actual max frame size : 1516.
Desired max frame size: 1516.
ATM address : 39.99.99.99.99.99.99.00.00.99.99.01.50.50.50.50.50.50.50.02
Max number of clients : 124.
Current number of
operational clients    : 10.
--------------------------------------------------------------------------------
--------------------------- LAN Emulation Server 2 ----------------------------
Status                 : Running.
LAN type               : Token Ring.
Actual LAN name        : "IBM_TOKEN_RING_LAN2".
Desired LAN name       : "".
Actual max frame size : 4544.
Desired max frame size: 4544.
ATM address : 39.99.99.99.99.99.99.00.00.99.99.01.50.50.50.50.50.50.50.03
Max number of clients : 4.
Current number of
operational clients    : 4.

ATMPROMPT>
```

SHOW LOGICAL_LINK

Use this command to display one or all entries in the Logical Links table. Each logical link defines information on an ATM virtual path in the ATM subnetwork and was configured with the SET LOGICAL_LINK command.

```
SHOW LOGICAL_LINK [slot[.port[vpi]]]
```

slot Slot number of the ATM media module:

8260: Slot number where the module is installed (1-17, except 9, 10, and 11).
8285: Slot 1 only, or in the range [1-4] if an expansion unit installed.

To display logical link information about all ATM media modules, enter `ALL` for `slot`.

Default: `ALL`.

port Number of a port on the ATM media module.

To display logical link information about all ports on a module, enter `ALL` for `port`.

Default: `ALL`.

vpi Virtual path identifier (0-15) of a logical link.

Example: The following is an example of the command that displays all entries in the Logical Links table:

```
ATMPROMPT> show logical_link       [ENTER]

 Port Vpi Acn Side Mode Sig Traf  Bwidth Status         Index
-------------------------------------------------------------------------
 1.01   0  01 netw enab 3.0  RB      400          UP      1
 1.02   0  02 netw enab 3.1  ANY     300          UP      2

48 entries empty.
ATMPROMPT>
```

SHOW MODULE

Use this command to display configuration information on the hardware and software settings of A-CPSW, ATM Workgroup Switch and ATM media modules.

Configuration information is displayed only for ATM media modules that are **connected**. Information about **isolated** modules is not available. See "SET MODULE" on page 74 for more information.

```
SHOW MODULE slot|ALL [VERBOSE|NO_VERBOSE]
```

slot Slot number of A-CPSW, ATM Workgroup Switch, or ATM media module:

- **8260:** Slots in the range [1-8] for A10 models or [1-8, 12-17], for A17 models. Slots 18 and 19 (controller slots) may also be displayed when a DMM module is present.
- **8285:** Slot 1 only, or in the range [1-4] if an expansion unit installed.

all All ATM modules and controller modules in in the hub or workgroup switch.

verbose Displays more detailed port configuration information.

no_verbose Does not display port configuration information (default).

Examples:

```
ATMPROMPT> show module all       [ENTER]

Slot  Install  Connect  Operation  General Information
-------------------------------------------------------------------
 1       Y        n         n      -
 2       n        n         n      -
 3       n        n         n      -
 4       Y        Y         Y      8260 ATM 100 Mbps Module
 5       n        n         n      -
 6       n        n         n      -
 7       n        n         n      -
 8       n        n         n      -
 9       Y        Y         Y      8260 ATM Switch/Control Point
10       Y        n         n      -
11       n        n         n      -
12       Y        n         n      -
13       Y        Y         Y      8260 ATM 100 Mbps Module
14       Y        n         n      -
15       Y        n         n      -
16       n        n         n      -
17       n        n         n      -
ATMPROMPT>
```

In the preceding example, the following information is displayed about each module:

Slot Slot number

Install Module is plugged into the hub or workgroup switch (`Y`= Yes, `n`= No).

Connect ATM traffic is allowed on the module (`Y`= Yes, `n`= No, `p`= Pending).

Pending means that any module that is inserted in the slot will be automatically connected.

To prevent ATM traffic on an ATM media module, you can isolate the module by using the SET MODULE command.

Operation Module is installed, connected, and functioning properly. No error condition is detected (Y).

The following example shows the output of a SHOW MODULE n VERBOSE for an A4-FB100 module and an A2-MB155 module.

```
ATMPROMPT> show module 4 verbose       [ENTER]

Slot Install Connect Operation General Information
--------------------------------------------------
  4     Y       Y        Y     8260 ATM 100 Mbps Module

status: connected / hardware OK
        enable / normal

P/N: 58G9611  EC level: C38844 Manufacture: VIME
Operational FPGA version : 7
     Backup FPGA version : 7


     Type  Mode      Status
-------------------------------------------------------------------------------
 4.01:UNI enabled  UP-OKAY
 4.02:UNI enabled  UP-OKAY
 4.03:SSI enabled  UP-OKAY
 4.04:UNI enabled  UP-NO ACTIVITY

ATMPROMPT> show module 2 verbose       [ENTER]

Slot Install Connect Operation General Information
--------------------------------------------------
  2     Y       Y        Y     8260 ATM 2 Ports 155 Mbps Module

status: connected / hardware OK
        enable / normal

P/N: 58G9878  EC level: D55931 Manufacture: VIME
Operational FPGA version : 6
     Backup FPGA version : 6


     Type  Mode      Status
-------------------------------------------------------------------------------
 2.01:NNI enabled  UP-OKAY
 2.02:UNI enabled  UP-NO ACTIVITY

ATMPROMPT>
```

When you use the `verbose` parameter, the following information about an A-CPSW or ATM Workgroup Switch or ATM media module is displayed next to `status:`

Type of Status	Meaning
Connection	Status of connection to the A-CPSW module or ATM Workgroup Switch. Possible values: `connected`, `not connected`, or `pending`.
Hardware	Condition of A-CPSW, ATM Workgroup Switch, or ATM media hardware. Possible values: `okay` (functioning properly) or `K0` (a hardware problem has been detected). In case of a hardware problem with an ATM media module, refer to the module's documentation.
Port	Mode of ports on module. Possible values: `enable` (at least one port is enabled) or `disable` (all ports are disabled).
Error	Status of error condition. Possible values: `normal` (no problem detected), `under recovery` (source of problem has been determined; recovery is being attempted), or `permanent failure` (no recovery is possible; the module is inoperational). In case of a permanent failure, refer to the module's documentation.

The meaning of each type of port status is as follows:

Status	Meaning
Unknown	ATM media module is not accessible; for example, the module is isolated, in an error condition, or being reset.
Error	Hardware problem. Port mode cannot be set to enabled or disabled.
No Activity	There is no physical layer activity (either no fiber/cable is attached or there is no signal on the fiber/cable).
Not In Service	Applies only to SSI and UNI ports. Physical layer activity is detected but the remote device is not responding to ILMI or IX polling. This is equivalent to the Not In Service state for an UNI port defined by the ATM Forum in *User-Network Interface Specification - Version 3.0*.
Okay	ATM port is functioning properly. This is equivalent to the In Service state for an UNI port defined by the ATM Forum in *User-Network Interface Specification - Version 3.0*.
Okay PVC-only	Applies only to UNI ports. ATM port is functioning properly but the ATM address registration has failed. Only PVC connections may be established in the network.

If the value for `Port status` indicates that an ATM port is inoperational or not functioning properly (for example, `NOT IN SERVICE` or `NO ACTIVITY`), refer to the appropriate *8260/8285 Installation and User's Guide*.

This example shows how to display configuration information about the controller in slot 18 of an 8260 hub:

```
ATMPROMPT> show module 18.all verbose       [ENTER]

Slot  Module          Version Network       General Information
----- --------------- ------- ------------- -------------------
18.01 8000-RCTL       v1.01   N/A           Active Controller Module

8000-RCTL: Redundant Controller Module

Boot Version:                             v1.01
On-Board Clock Status                     OKAY
A/D Converter Status                      OKAY
ATMPROMPT>
```

SHOW PORT

The SHOW PORT command enables you to display configuration information for an ATM media port or for all ATM ports in the 8260 hub or workgroup switch.

Port information is displayed only for **connected** modules. Information about ports on **isolated** modules is not available. See “SET MODULE” on page 74 for more information.

```
SHOW PORT slot.port [VERBOSE|NO_VERBOSE]
```

slot Slot number of ATM media module:

8260: Slots in the range [1-8] for A10 models or [1-8, 12-17], for A17 models.
8285: Slot 1 only, or in the range [1-4] if an expansion unit installed.

To display port information about all ATM media modules, enter `ALL` for `slot`.

port Number of a port on the ATM media module.

To display information about all ports on a module, enter `ALL` for `port`.

verbose Displays more detailed port configuration information.

no_verbose Does not display port configuration information (default).

Examples: In the examples in this section, the following information is displayed about each port:

Port Number of the port on the ATM media module.

Type Type of ATM interface used: network-to-network (NNI), switch-to-switch (SSI), or user-to-network (UNI).

Mode Whether the port has been enabled or disabled using the SET PORT command.

Status Operational status of the port.

Possible values: UP or DOWN with Unknown, Error, No Activity, Not In Service, Okay or Okay PVC-only.

The meaning of each type of port status is as follows:

Status	Meaning
Unknown	ATM media module is not accessible; for example, the module is isolated, in an error condition, or being reset.
Error	Hardware problem. Port mode cannot be set to enabled or disabled.
No Activity	There is no physical layer activity (either no fiber/cable is attached or there is no signal the fiber/cable).
Not In Service	Applies only to SSI and UNI ports. Physical layer activity is detected but the remote device is not responding to ILMI or XI polling. This is equivalent to the Not In Service state for an UNI port defined by the ATM Forum in *User-Network Interface Specification - Version 3.0*.
Okay	ATM port is functioning properly. This is equivalent to the In Service state for an UNI port defined by the ATM Forum in *User-Network Interface Specification - Version 3.0*.
Okay PVC-only	Applies only to UNI ports. ATM port is functioning properly but the ATM address registration has failed. Only PVC connections may be established in the network.

If the value for Port status indicates that an ATM port is inoperational or not functioning properly (for example, NOT IN SERVICE or NO ACTIVITY), refer to the appropriate *8260/8285 Installation and User's Guide*.

The following example shows how to display configuration information about all ATM ports in an 8260 hub:

```
ATMPROMPT> show port all       [ENTER]

Port display for module 8260 ATM 100 Mbps Module

Port   Type   Mode      Status
-------------------------------------
4.01   UNI    disabled  UP-OKAY
4.02   NNI    enabled   UP-OKAY
4.03   UNI    disabled  UP-NO ACTIVITY
4.04   UNI    disabled  UP-OKAY

----- more -----

Port display for module 8260 ATM 100 Mbps Module

Port   Type   Mode      Status
-------------------------------------
12.01  NNI    enabled   UP-OKAY
12.02  UNI    enabled   UP-NOT IN SERVICE
12.03  SSI    disabled  UP-NO ACTIVITY
12.04  SSI    disabled  UP-OKAY

ATMPROMPT>
```

If the value for `Status` indicates that an ATM port is inoperational or not functioning properly (for example, `NOT IN SERVICE` or `NO ACTIVITY`), refer to the appropriate *8260/8285 Installation and User's Guide*.

The following example shows how to display more information about a single ATM port using the `verbose` parameter:

```
ATMPROMPT> show port 4.2 verbose       [ENTER]

Port display for module 8260 ATM 100 Mbps Module

Port   Type   Mode      Status
-------------------------------------
4.02   NNI    enabled   OKAY

Connector            : MIC
Media                : fiber
Port speed           : 100000 Kbps
Remote device is active
IX status            : IX KO
Logical links indexes: 2 - 1
ATMPROMPT>
```

The following additional information is displayed:

Connector Type of connector that can be attached to the port.

Possible values:

- `Daughter card not installed`
- `SC Duplex.`
- `RJ45.`

Media Type of cable that is attached to the port.

Possible values:

- `No media installed`
- `Multimode fiber.`
- `Twisted pair (UTP/STP).`
- `Monomode fiber.`

Port speed Transmission speed of port.

Remote device Whether the remote device is `active` or `inactive`.

IX status Possible values: `OK`, `KO`, `ACN mismatch`, or `Misconfigured`.

`OK` means that physical activity is detected on the SSI or UNI port and that the remote device is responding to the polling. (This status is equivalent to the In Service state for an UNI port defined by the ATM Forum in *User-Network Interface Specification - Version 3.0*.)

`KO` means that the remote device attached to an SSI or UNI port is not responding to the polling. (This status is equivalent to the Not In Service state for an UNI port defined by the ATM Forum in *User-Network Interface Specification - Version 3.0*.)

`ACN mismatch` applies only to SSI ports. It means that the SSI port is attached to a hub that does not belong to the same ATM cluster.

`Misconfigured` applies only to SSI ports. It means that the SSI port is not attached to another SSI port.

Logical link indexes

Numbers (starting from 1) identifying each logical link defined for the port using the SET LOGICAL_LINK command.

SHOW POWER

This command is only for use with the 8260 A-CPSW.

Use this command to display power budget, power modes, and power information on a per-slot basis. It also enables you to display the power settings for the hub, including the amount of power available and the amount of power consumed.

Note: If a DMM module is installed, this command will not be effected. Enter the command from the DMM console.

```
SHOW POWER ALL|BUDGET|MODE|[REQUIREMENT  HUB|MODULE slot.subslot]
```

Examples:

```
ATMPROMPT> show power mode            [ENTER]

               Power Management Information
               ----------------------------
Hub Power Modes
        Fault_Tolerant_Mode:       NON_FAULT_TOLERANT
        Fault_Tolerant_Status:     NON_FAULT_TOLERANT
        Overheat Power Down Mode:  DISABLE

ATMPROMPT> show power slot all        [ENTER]

               Power Management Information
               ----------------------------
Slot Power Information
 Slot     Class     Admin Status     Operating State
 -----    -----     ------------     ---------------
 5        6         ENABLE           ENABLED
 9        8         ENABLE           ENABLED

ATMPROMPT> show power slot 17         [ENTER]

Slot 17 is empty.
ATMPROMPT>
```

```
ATMPROMPT> show power budget        [ENTER]

                Power Management Information
                ----------------------------
Hub Power Budget:
 Voltage Type Voltage Level Watts Capacity Watts Available Watts Consumed
 ------------ ------------- -------------- --------------- --------------
 +5V             5.196        204.00          60.00          144.00
 -5V            -5.056         15.00          13.75            1.25
 +12V           12.039         48.00          17.50           30.50
 -12V          -12.150         18.00          17.25            0.75
 +2V             2.120          8.40           4.30            4.10

ATMPROMPT> show power all        [ENTER]

                Power Management Information
                ----------------------------
Hub Power Modes:
        Fault_Tolerant_Mode:       NON_FAULT_TOLERANT
        Fault_Tolerant_Status:     NON_FAULT_TOLERANT
        Overheat Power Down Mode:  DISABLE

Slot Power Information:
 Slot     Class     Admin Status     Operating State
 -----    -----     ------------     ---------------
 5        6         ENABLE           ENABLED
 9        8         ENABLE           ENABLED

Hub Power Budget:
 Voltage Type Voltage Level Watts Capacity Watts Available Watts Consumed
 ------------ ------------- -------------- --------------- --------------
 +5V             5.196        204.00          60.00          144.00
 -5V            -5.056         15.00          13.75            1.25
 +12V           12.039         48.00          17.50           30.50
 -12V          -12.150         18.00          17.25            0.75
 +2V             2.120          8.40           4.30            4.10

ATMPROMPT> show power requirement 2.2        [ENTER]

   +2V power requirement in units of .1 watts:  40
   +5V power requirement in units of 1.0 watts:  1
   -5V power requirement in units of .25 watts:  0
  +12V power requirement in units of .5 watts:  36
  -12V power requirement in units of .25 watts:  0
ATMPROMPT>
```

SHOW PVC (for ATM Media Module, Hub or Workgroup Switch)

Use this command you to display the definitions of all PVCs for an ATM media module, hub, or workgroup switch.

```
SHOW PVC slot.ALL|ALL VERBOSE|NO_VERBOSE
```

ALL Use this parameter to select all PVCs defined in this ATM hub or workgroup switch.

slot.ALL Use this parameter to select all PVCs defined for an ATM media module installed in this slot:

8260: Slots in the range [1-8] for A10 models or [1-8, 12-17], for A17 models.
8285: Slot 1 only, or in the range [1-4] if an expansion unit installed.

VERBOSE Display detailed PVC information.

NO_VERBOSE Display summary PVC information. This is the default option.

Example: In this example, two PVCs have been created between port 4.4 of a remote hub, and port 15.2 of the local hub. The first SHOW PVC ALL command shows how the active PVCs are seen at the remote hub. The second SHOW PVC ALL command shows how the active PVCs are seen at the local hub. Notice how the PVC identifications are built at the remote hub: 1001 for PVC id 1 created at the local hub.

```
ATMPROMPT> show pvc all       [ENTER]

       Local end point       ! Remote end point  !
-------------------------------------------------
 Port   id   type   Vpi/Vci  ! Port Vpi/Vci   HNb!   role  !QOS! Status
-------------------------------------------------------------------------------
 4.04  1001 PTP-PVP   3/*    !15.02   3/*       2!Secondary! RB!Active
 4.04  1002 PTP-PVP   4/*    !15.02   4/*       2!Secondary! BE!Active

ATMPROMPT> logout
Bye
Connection closed by remote host.
ATMPROMPT> show pvc all       [ENTER]

       Local end point       ! Remote end point  !
-------------------------------------------------
 Port   id   type   Vpi/Vci  ! Port Vpi/Vci   HNb!   role  !QOS! Status
-------------------------------------------------------------------------------
15.02     4 PTP-PVP   0/*    ! 4.04   4/*       2! Primary ! BE!Active
15.02     3 PTP-PVP   0/*    ! 4.04   3/*       2! Primary ! RB!Active

ATMPROMPT>
```

SHOW PVC (for ATM port)

Use this command you to display the definitions of PVCs for an ATM port. You may display all PVCs for this ATM port or a specific PVC.

```
SHOW PVC slot.port pvc_id|ALL VERBOSE|NO_VERBOSE
```

slot.port Use this parameter to identify the ATM port of an ATM media module, where `slot` is in the range:

8260: Slots in the range [1-8] for A10 models or [1-8, 12-17], for A17 models.
8285: Slot 1 only, or in the range [1-4] if an expansion unit installed.

pvc_id Display the PVC having this identification.

VERBOSE Display detailed PVC information.

NO_VERBOSE Display summary PVC information. This is the default option.

Example:

```
ATMPROMPT> show pvc 15.2 1 no_verbose       [ENTER]

       Local end point       ! Remote end point  !
-------------------------------------------------
 Port   id   type   Vpi/Vci  ! Port Vpi/Vci   HNb!   role  !QOS! Status
-------------------------------------------------------------------------------
15.02     1 PTP-PVP   4/*    ! 4.04   4/*       2! Primary ! BE!Active

ATMPROMPT> show pvc 15.2 1 verbose          [ENTER]

       Local end point       ! Remote end point  !
-------------------------------------------------
 Port   id   type   Vpi/Vci  ! Port Vpi/Vci   HNb!   role  !QOS! Status
-------------------------------------------------------------------------------
15.02     1 PTP-PVP   4/*    ! 4.04   4/*       2! Primary ! BE!Active
Remote address : 39.99.99.99.99.99.99.00.00.99.88.02.02
Quality of Service : Best Effort.
Last Active Date : 12:38:58 22 Nov 95

ATMPROMPT>
```

SHOW RAM

This command is only for use with the 8260 A-CPSW.

You can run this command only from Maintenance mode. To start Maintenance Mode, enter the MAINTAIN command.

This command enables you to display the amount of Random Access Memory (RAM) installed. It is expected to be used in exceptional circumstances only, and is not described here.

SHOW ROLE

This command is only for use with the 8260 A-CPSW.

You can run this command only from Maintenance mode. To start Maintenance Mode, enter the MAINTAIN command.

Use this command to display the role (primary or secondary) played by the A-CPSW in a redundant ATM subsystem when the active A-CPSW has to be selected.

```
SHOW ROLE
```

Example:

```
>>00BA>> show role        [ENTER]
>>PRIMARY

>>
```

SHOW STATIC_ROUTE

Use this command to display all entries in the static route table. Each entry associates a logical ATM cluster number (ACN) with a static route represented by an ATM network address prefix.

To delete an entry in the static route table, use the CLEAR STATIC_ROUTE command.

```
SHOW STATIC_ROUTE
```

Example:

```
ATMPROMPT> show static_route       [ENTER]

Index Acn Static route
--------------------------------------
   1    B 399999999999990000060601
   2    5 39999999999990000005555
   4    9 39999999999990000009999

46 empty entries.
ATMPROMPT>
```

SHOW TERMINAL

Use this command to display configuration settings for the console or modem attached to the ATM Control Point. This includes the terminal parameters and the serial line IP (SLIP) settings. For a description of how to configure each parameter, see the appropriate SET TERMINAL command.

```
SHOW TERMINAL
```

Example:

```
ATMPROMPT> show terminal       [ENTER]

Terminal Parameters:

Baud                9600
Data bits           8
Hangup              DISABLE
Parity              NONE
Stop bits           1
Timeout time        0
Protocol            Normal
SLIP local address  9.100.86.139
SLIP remote address 9.100.86.138
SLIP resource is configured.
ATMPROMPT>
```

SHOW TFTP

Use this command to display the parameters configured for inband download and upload operations. For a description of how to configure each parameter, see the appropriate SET TFTP command in this chapter.

Note: If you enter the SHOW TFTP command and receive the message

```
Target blade mismatch
```

, it indicates a mismatch between the file to be downloaded and the type of the destination module.

```
SHOW TFTP
```

Example:

```
ATMPROMPT> show tftp       [ENTER]

TFTP Parameters:
Server IP Address    : 9.100.86.130
File Name            : /usr/binatm/atm132.cfg
File Type            : Configuration.
Last Transfer Date   : 14 Nov 95.
Last Transfer Result : This file has not been transferred yet.

ATMPROMPT>
```

The TFTP information configured for an inband download or upload operation is described in Table 3 on page 139.

An error or information code may also be displayed for each upload or download operation to indicate if the operation was successfully run or not. For an explanation of what each code means, see the appropriate *8260/8285 Installation and User's Guide*.

Table 3. TFTP Configuration	
TFTP Parameter	**Description**
TFTP server IP address	IP address of the server where the file used for the download or upload operation is stored.
TFTP file name	Name of the file downloaded to the ATM Control Point or uploaded to the server.
TFTP file type	TFTP file type. See “SET TFTP FILE_TYPE” on page 98 for possible values. code or boot file.
TFTP target module	Slot number of the ATM module for which the next upload or download operation of FPGA will be done. (This value appears only if the TFTP file is FPGA).
Last transfer date	Date when last inband upload or download took place.
Last transfer result	Status of the last TFTP transfer.

SHOW TRACE

You can run this command only if you logged on with the Administrator password.

Use this command to display the settings currently configured for the SET TRACE command:

- If main traces or TRS traces are to be recorded.
- If the trace recording is enabled or disabled.
- If the trace is to record detailed or partial information.

```
SHOW TRACE
```

Example:

```
ATMPROMPT> show trace       [ENTER]

Normal trace is ON and detailed.
TRS trace is ON.
ATMPROMPT>
```

SWAP ACTIVE

You can run this command only from Maintenance mode. To start Maintenance mode, enter the MAINTAIN command.

Use this command to activate the backup flash EEPROM of the ATM Control Point. This command offers you the same function as the SWAP MICROCODE command, without provoking an immediate reset of the ATM Control Point.

Use the SHOW FLASH command to verify which of the two flash EEPROMs is the active one (oper 1 of 2, or oper 2 of 2), and which versions of the ATM Control Point operational microcode are present.

```
SWAP ACTIVE
```

Example:

```
>> swap active      [ENTER]
Changed.
>>
```

SWAP FPGA_PICOCODE

You can run this command only if you logged on with the Administrator password.

Use this command to change the version of hardware picocode in the FPGA of a list of ATM media modules. For every ATM module in the order of the list, the backup and operational FPGA versions are swapped and the module is reset.

```
SWAP FPGA_PICOCODE slot1 [slot2 [slot3...[slotn]]]
```

slot1..slotn Slot number of the ATM media module, in the range:

8260: Slots in the range [1-8] for A10 models or [1-8, 12-17], for A17 models. or slot number of the A-CPSW (9 or 11).

8285: Slot 1 only, or in the range [1-4] if an expansion unit installed.

If the ATM Control Point FPGA version is to be swapped, it is recommended to specify its slot at the very end of the list.

Example:

```
ATMPROMPT> swap_fpga_picocode 14 16       [ENTER]

You are about to change operational FPGA version...
Are you sure ? (Y/N) Y                    [ENTER]
Processing slot 14 ... Swap completed
Processing slot 16 ... Swap completed

ATMPROMPT>
```

SWAP MICROCODE

You can run this command only if you logged on with the Administrator password.

You must use this command to activate a version of the ATM Control Point operational microcode (flash EEPROM).

This command causes the checksum of the inactive version of the microcode (flash EEPROM) to be computed. If the checksum is valid, the mircocode version is activated and the ATM subsystem reset.

```
SWAP MICROCODE
```

Example:

```
ATMPROMPT> swap microcode       [ENTER]

You are about to change operational microcode version and reset the hub
The saved hub configuration may be lost...
Are you sure ? (Y/N) Y          [ENTER]
ATMPROMPT>
```

TELNET

Use this command to log on to any ATM Control Point in the network and manage it from a remote ATM Control Point console. To log on to a remote ATM Control Point, you must enter its IP address (configured with the SET DEVICE IP_ADDRESS or SET DEVICE LAN_EMULATION_CLIENT command).

You can remotely log on to **only** one ATM Control Point at a time. If you have already started a remote session and want to connect to another remote ATM Control Point, you must first log off the active remote session.

Once you log on to the remote ATM Control Point, you are prompted to enter the correct password. Afterwards, all the ATM Control Point commands that you enter locally affect the remote module.

Before connecting to a remote ATM Control Point, make sure that the module is on the same IP subnetwork as the ATM Control Point to which you are locally logged on, or that it is bridged or routed to the same IP subnetwork.

To interrupt a remote connection to an ATM Control Point and return to your local ATM Control Point session, enter the LOGOUT command or press the CTRL-D keys.

Note: Remote login from an ATM Control Point console is not supported on an ATM device that is attached to the network and that supports the TELNET protocol. You may only remotely log on to other A-CPSW modules.

```
TELNET ip_address
```

ip_address IP address of an ATM Control Point in the format *n.n.n.n*, where *n* is a number between 0 and 255.

Example: The following example shows how to remotely log on to an ATM Control Point by entering its IP address.

```
ATMPROMPT> telnet 127.36.58.7       [ENTER]

ATMPROMPT>
```

UPLOAD

You can run this command only if you logged on with the Administrator password.

Use this command to send the contents of the error log, trace logs, and dumps to a host. The host must run the Trivial File Transfer Program (TFTP) daemon and must be correctly configured to support TFTP communication. For more information on the TFTP daemon, refer to the documentation supplied with your host.

UPLOAD sends the contents of the log file (error or trace) that was previously set with the SET TFTP FILE_TYPE command. The error log sent contains all errors logged at the time you run UPLOAD INBAND. The trace log sent contains all traces (errors and main traces). Note that the trace log file is continuously updated in the ATM Control Point even when UPLOAD INBAND is being run.

UPLOAD uses the path and file name previously set with the SET TFTP FILE_NAME command. If the file already exists, its contents are overwritten.

Error or trace log entries are sent to the host server at the IP address specified with the SET TFTP SERVER_IP_ADDRESS command.

Note: If you are uploading the TFTP file to a host server that runs AIX, you must first configure AIX for the TFTP file transfer. This procedure is described in the appropriate *8260/8285 Installation and User's Guide*.

```
UPLOAD [INBAND]
```

Only one UPLOAD command can be run at a time from the ATM Control Point console. Another can be run via ATM network management facilities.

A message is displayed on your console screen if you run UPLOAD in any of the following situations:

- From a remote TELNET session
- From another ATM Control Point local console
- While another upload or download operation is in progress on the network management station.

A sample message is shown here:

```
Upload Resource Already In Use
```

Example:

```
ATMPROMPT> upload inband       [ENTER]

Upload Successful.
ATMPROMPT>
```

USE BAUD

You can run this command only from Maintenance mode. To start Maintenance Mode, enter the MAINTAIN command.

Use this command to alter the baud rate used to communicate with the device from which commands and download files are received. This new baud rate is not saved as part of the configuration, and is in effect only as long as you run Maintenance mode.

```
USE BAUD 9600|19200
```

Example: This example is entered from a device at 9600 bps:

```
>> use baud 19200       [ENTER]
         y      (any strange character, because the CPSW or workgroup switch now
                operates at 19200. Set the device to communicate at 19200 bps,
                then press ENTER).
>>
```

When the prompt is displayed, you can download a file at twice the initial speed. After you complete the download(s), and either execute BOOT or reset the CPSW, hub, or workgroup switch, set the device back to its original rate of 9600 bps if you intend to leave it connected for normal control.

WRAP

You can run this command only if you logged on with the Administrator password.

Use this command to diagnose problems that arise on ATM ports. Before running the WRAP command to test the port, you must first disable the port and then connect a wrap device to it.

The WRAP command sets up an internal connection between the ATM Control Point and the ATM port being tested. ATM cells are sent from the ATM Control Point or ATM media module to the ATM port over the connection. If the same number of cells are sent back, the test is successful.

```
WRAP slot.port|ALL EXTERNAL|INTERNAL|[REPLYMODE DISABLE|ENABLE]
```

slot Slot number of the ATM media module:

8260: Slots in the range [1-8] for A10 models or [1-8, 12-17], for A17 models.
8285: Slot 1 only, or in the range [1-4] if an expansion unit installed.

port Port number of the ATM port.

ALL All slots in the hub or workgroup switch.

EXTERNAL Required for 25 Mbps, 100 Mbps, and 155 Mbps ports.

INTERNAL Required for 155 Mbps ports only.

REPLYMODE Required for 155 Mbps ports only.

Example:

```
ATMPROMPT> wrap external 14.2       [ENTER]

Test successful.
ATMPROMPT>
```

Bibliography

For supplementary information on the functions and technology in the 8260 Nways Multiprotocol Switching Hub ATM Control Point and Switch module, and 8285 Nways ATM Workgroup Switch please refer to the following documents:

- *IBM 8260 Nways Multiprotocol Switching Hub, ATM Control Point and Switch Module, Installation and User's Guide*, SA33-0326.
- *IBM 8260 Multiprotocol Intelligent Switching Hub, Product Description*, GA33-0315.
- *IBM 8260 Multiprotocol Intelligent Switching Hub, Installation Guide*, SA33-0251.
- *IBM 8250 Multiprotocol Hub, IBM 8260 Multiprotocol Intelligent Switching Hub, IBM 8285 Nways ATM Workgroup Switch, Planning and Site Preparation Guide*, GA33-0285.
- *IBM 8285 Nways ATM Workgroup Switch, Installation and User's Guide*, SA33-0381.
- *IBM 8281 ATM LAN Bridge Module, Installation and Operation Guide*, SA33-0361.
- *IBM 8260 Multiprotocol Intelligent Switching Hub, IBM ATM 4-Port Fiber 100 Mbps, Installation and User's Guide*, SA33-0324.
- *IBM 8260 Nways Multiprotocol Switching Hub, 155 Mbps Flexible Concentration Module, Installation and User's Guide*, SA33-0358.
- *IBM 8260 Multiprotocol Intelligent Switching Hub, Distributed Management Module Commands Guide* , SA33-0275.

the following publications contain supplementary information about ATM:

- De Prycker, M., *Asynchronous Transfer Mode – Solution for Broadband ISDN*, New York:Ellis Horwood, 1991.
- Handel, R. and Huber, M.N., *Integrated Broadband Networks – An Introduction to ATM-Based Networks*, England: Addison-Wesley, 1991.
- Onvural, R., *Asynchronous Transfer Mode Networks: Performance Issues*, Norwood MA:Artech House, 1994.

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IBM 8285 Nways ATM Workgroup Switch
ATM Command Reference Guide

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