

8239 Token-Ring Stackable Hub



Command Reference

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Command Reference

Note

Before using this document, read the general information under "Notices" on page vii.

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Contents

Notices	vii
Trademarks	vii
Preface	ix
Related Publications	ix
Visit Our Web Site	ix
Chapter 1. Introduction	1-1
Using Syntax Diagrams	1-1
Sequential Parameters	1-1
Parameter Choice	1-1
Fragment	1-2
Explanation of Usage Notes	1-2
Using the Command Interface	1-2
Command Interface Conventions	1-2
Examples	1-3
Chapter 2. 8239 Commands	2-1
BOOTP	2-1
CLEAR ACCESS_CONTROL_LIST	2-1
CLEAR ARP_CACHE	2-2
CLEAR BOOTP_RESULT	2-2
CLEAR COMMUNITY	2-3
CLEAR COUNTER	2-3
CLEAR EVENT_SCRIPT	2-4
CLEAR GROUP NAME	2-5
CLEAR GROUP PORT	2-5
CLEAR LOGIN	2-6
CLEAR RMON	2-7
CLEAR SCHEDULE	2-8
CLEAR SECURITY_INTRUDER_LIST	2-8
CLEAR SECURITY_PORT	2-9
CLEAR TR_SURROGATE_REM_SOFT_ERROR	2-10
CLEAR TRAP_COMMUNITY	2-10
CLEAR TRAP_LOG	2-11
DISPLAY ACCESS_CONTROL_LIST	2-11
DISPLAY BOOTP	2-12
DISPLAY CLOCK	2-12
DISPLAY COMMUNITY	2-13
DISPLAY COUNTER	2-13
DISPLAY EVENT_SCRIPT	2-14
DISPLAY GROUP	2-15
DISPLAY HUB	2-15
DISPLAY INVENTORY	2-16
DISPLAY IP	2-16
DISPLAY LOGIN	2-17
DISPLAY MANAGEMENT_INTERFACE	2-17
DISPLAY NETWORK_MAP	2-18
DISPLAY PORT	2-19
DISPLAY RING_IO	2-20

DISPLAY RMON ALARM_DATA	2-20
DISPLAY RMON CONTROL	2-21
DISPLAY RMON EVENT_DATA	2-21
DISPLAY RMON GROUP_STATUS	2-22
DISPLAY RMON HISTORY_ML_DATA	2-23
DISPLAY RMON HISTORY_P_DATA	2-23
DISPLAY RMON HOST_DATA	2-24
DISPLAY RMON LOG_DATA	2-25
DISPLAY RMON MATRIX_DATA	2-25
DISPLAY RMON RINGSTATION_DATA	2-26
DISPLAY RMON STATISTICS_DATA	2-26
DISPLAY RMON TOPN_HOSTS_DATA	2-27
DISPLAY SCHEDULE	2-28
DISPLAY SCRIPTS	2-28
DISPLAY SECURITY INTRUDER_LIST	2-29
DISPLAY SECURITY PORT	2-29
DISPLAY STACK	2-30
DISPLAY TERMINAL	2-30
DISPLAY TR_SURROGATE CRS_STATION	2-31
DISPLAY TR_SURROGATE CRS_STATUS	2-31
DISPLAY TR_SURROGATE REM_ERROR_MAC_FRAME	2-32
DISPLAY TR_SURROGATE REM_ISOLATING	2-32
DISPLAY TR_SURROGATE REM_LAST_BEACON	2-33
DISPLAY TR_SURROGATE REM_LAST_SOFT_ERROR	2-34
DISPLAY TR_SURROGATE REM_NONISO_THRESHOLD_EXCD	2-34
DISPLAY TR_SURROGATE REM_STATUS	2-35
DISPLAY TR_SURROGATE REM_TOTAL_NONISO_SOFT_ERROR	2-35
DISPLAY TR_SURROGATE RPS_STATUS	2-36
DISPLAY TR_SURROGATE SURR_STATUS	2-36
DISPLAY TRAP_LOG	2-37
DISPLAY TRAP_SETTINGS	2-38
DISPLAY WRAP_POINTS	2-38
ENABLE/DISABLE BOOTP	2-39
ENABLE/DISABLE GROUP	2-39
ENABLE/DISABLE PORT	2-40
ENABLE/DISABLE PORT_SETTING	2-40
ENABLE/DISABLE PURGE_ON_INSERT	2-41
ENABLE/DISABLE RING_IO	2-42
ENABLE/DISABLE RMON	2-42
ENABLE/DISABLE SCHEDULE	2-43
ENABLE/DISABLE SECURITY_PORT	2-44
ENABLE/DISABLE TR_SURROGATE CRS_TRAPS	2-45
ENABLE/DISABLE TR_SURROGATE REM_STATUS	2-45
ENABLE/DISABLE TR_SURROGATE RPS_TRAPS	2-48
ENABLE/DISABLE TR_SURROGATE SURR_STATUS	2-49
ENABLE/DISABLE TRAP_SETTING	2-49
LOAD	2-51
LOGOUT	2-52
PING	2-53
REPLICATE CLOCK	2-53
REPLICATE LOGIN	2-54
REPLICATE OPERATIONAL_CODE	2-54
RESET_HUB	2-55
RESTORE_TO_FACTORY_DEFAULT	2-55

RETRIEVE	2-56
SAVE	2-57
SCRIPT	2-57
SET ACCESS_CONTROL_LIST	2-59
SET BOOTP_SERVER	2-59
SET CLOCK	2-60
SET COMMUNITY	2-61
SET EVENT_SCRIPT	2-62
SET GROUP NAME	2-62
SET GROUP PORT	2-63
SET HUB BEACON_THRESHOLD	2-64
SET HUB CHANGE_HUB_ID	2-65
SET HUB RENUMBER_HUB_IDS	2-65
SET HUB RING_SPEED	2-66
SET HUB SPEED_THRESHOLD	2-66
SET IP	2-67
SET LOGIN	2-68
SET MANAGEMENT_INTERFACE 802.5_GROUP	2-69
SET MANAGEMENT_INTERFACE ACTIVE_MONITOR_PARTICIPATION	2-69
SET MANAGEMENT_INTERFACE ADMINISTRATIVE_MODE	2-70
SET MANAGEMENT_INTERFACE ARP_RESOLVE_METHOD	2-70
SET MANAGEMENT_INTERFACE DIAGNOSTICS_WRAP	2-71
SET MANAGEMENT_INTERFACE EARLY_TOKEN_RELEASE	2-72
SET MANAGEMENT_INTERFACE LOCALLY_ADMIN_ADDRESS	2-72
SET MANAGEMENT_INTERFACE MAC_ADDRESS_TYPE	2-73
SET MANAGEMENT_INTERFACE RMON2_MODE	2-74
SET MANAGEMENT_INTERFACE RPS_TRAPS	2-74
SET MANAGEMENT_INTERFACE SURROGATE_GROUP	2-75
SET MANAGEMENT_INTERFACE SYSTEM_CONTACT	2-75
SET MANAGEMENT_INTERFACE SYSTEM_LOCATION	2-76
SET MANAGEMENT_INTERFACE SYSTEM_NAME	2-76
SET RMON ALARM	2-77
SET RMON EVENT	2-79
SET RMON HISTORY_CONTROL	2-80
SET RMON TOPN_HOSTS	2-81
SET SCHEDULE	2-82
SET SECURITY_PORT ACTION_ON_INTRUSION	2-83
SET SECURITY_PORT CAPTURE	2-84
SET SECURITY_PORT MAC_ADDRESS	2-84
SET TERMINAL BAUD	2-85
SET TERMINAL PROMPT	2-86
SET TERMINAL TIMEOUT	2-87
SET TR_SURROGATE CRS_STATION	2-87
SET TR_SURROGATE SEGMENT_NUMBER	2-88
SET TRAP_COMMUNITY	2-89
WRAP UNWRAP	2-90
Glossary	X-1
Index	X-5

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Preface

This manual describes the commands used to manage the 8239 Token-Ring Stackable Hub (8239) and to monitor the network. Use this guide to find specific information about management commands.

The commands are listed alphabetically. Each description includes:

- A definition of the command
- Command syntax
- Parameter options
- An example
- Related commands

Related Publications

The following publications are shipped with the product in displayable softcopy form on the 8239 Token-Ring Stackable Hub Softcopy Library CD-ROM (08L3308):

- *8239 Token-Ring Stackable Hub Setup and User's Guide*, GA27-4209
- *8239 Token-Ring Stackable Hub Command Reference*, GA27-4208

This CD-ROM is shipped with initial orders for the 8239.

These additional publications are shipped in hard copy:

- *8239 Token-Ring Stackable Hub Quick Reference*, GX27-4047
- *CAUTION: Safety Information - Read This First*, SD21-0030
- *License Agreement for Machine Code*, Z125-5468

Retrieve the latest 8239 MIB or 8239 operational code from our web site at:

<http://www.networking.ibm.com/support/8239>

For general information about token-ring architecture, see *Token-Ring Network Architecture*, SC30-3374.

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This IBM web page provides product information:

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Chapter 1. Introduction

This chapter provides information about using:

- Syntax diagrams
- Command interface.

Using Syntax Diagrams

This section provides examples to describe the use of the syntax diagrams that appear in this manual. The examples include parameters that require selecting them in a specific sequence, those that require making a choice from a list, and those that are fragmented and require a different subset of parameters. In these examples, notice the use of **bold** and *italicized* words. Although **bold** type is used throughout the manual, in the cases of the examples below and also the ones provided with each command in Chapter 2, the **bold** type represents input from the keyboard. The *italicized* words below and throughout the manual represent variables that must be provided by you, such as a *hub_id*.

Sequential Parameters

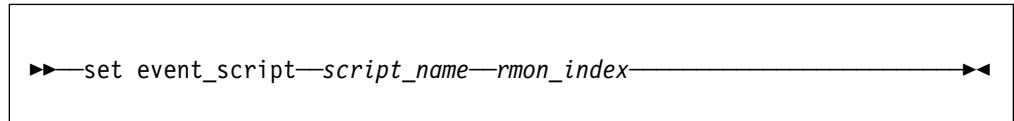


Figure 1-1. Sequential Parameters

In Figure 1-1, **set event_script** is the command. The variables *script_name* and *rmon_index* are required, or sequential, parameters.

For example, use the following command to assign the script called “script_1” to run when RMON event 5 occurs:

```
set event_script script_1 5
```

Parameter Choice

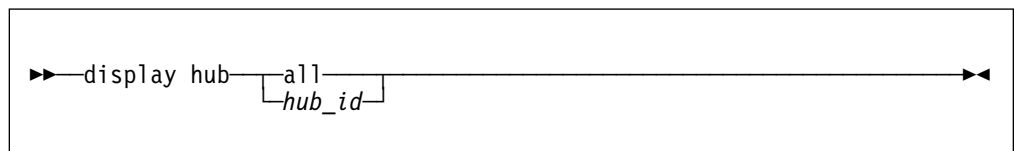


Figure 1-2. Parameter Choice

In Figure 1-2, a choice of one of the parameters **all** and *hub_id* is required. **all** is a keyword and *hub_id* is to be substituted with the number that is the *hub_id*.

For example, use the following command to display the hub information for hub 3:

```
display hub 3
```

Fragment

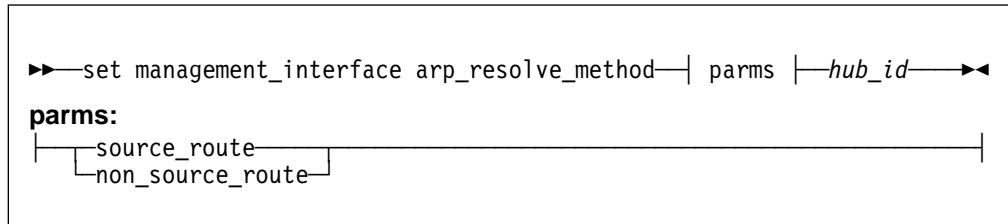


Figure 1-3. Fragment

The command represented in Figure 1-3 contained too many items to fit in one diagram, so a section of the command, **parms**, is specified in a separate fragment.

For example, use the following command to set hub 1 to not include the source routing bit in ARP requests:

```
set management_interface arp_resolve_method non_source_route 1
```

Explanation of Usage Notes

Usage notes appear in each command description. This section provides a more complete explanation of the meaning of these notes:

8239 Model 1 command only: The command can be issued only when you are connected to an 8239 Model 1.

8239 Model 1 or 8239 Model 2 command: The command can be issued when you are connected to either an 8239 Model 1 or 8239 Model 2.

Administrator command only: The command can be issued only if you have administrator access.

Administrator or user command: The command can be issued with administrator or user access.

Can be issued at the local 8239 to take action on the local 8239: The command is executed only on the 8239 that issued the command; other hubs in the stack are not affected.

Using the Command Interface

This section is a guide to using the terminal interface. This section shows the menu that you will see when you login, plus some tips to make it easier to navigate through the commands and through parameter selection.

Command Interface Conventions

The main panel of the command interface for a Model 1 is shown below.

```
8239 Login Prompt
Login:admin
Password:mypassword
```

Main Menu - Accepted inputs:

1) bootp	10) replicate
2) clear	11) reset_hub
3) disable	12) restore_to_factory_default
4) display	13) retrieve
5) enable	14) save
6) help	15) set
7) load	16) script
8) logout	17) unwrap
9) ping	18) wrap

Type 'help' for information

```
?=Help>
```

Note: When the password is null (the default value), the line that prompts for password may not appear.

Once you have logged on to the 8239, manage the stack using the command interface. Use these guidelines, special keys, and short cuts:

- Pressing **Esc** returns you to the terminal prompt.
- Pressing **shift** and **?** displays a list of the values that you can enter for a particular command.
- Default values or current settings are shown in brackets.
- Pressing **Enter** accepts the value shown in brackets.
- Commands are not case sensitive.
- Commands can be issued by:
 - Typing the entire command.
 - Typing part of the command and pressing the space bar.
 - Typing the number shown next to the command. The numbers representing a command are not the same on the 8239 8239 Model 1 and the 8239 Model 2.
- Pressing **Tab** selects the first command that matches what you typed. Repeatedly pressing **Tab** cycles through the possible commands that match what you typed.
- Entering **help** at the terminal prompt displays hints about performing routine tasks.

Examples

The following table describes how to perform some common management tasks using the terminal interface. The examples assume this stack configuration:

- The stack consists of one 8239 Model 1 and two 8239 Model 2s.
- The 8239 Model 1's hub ID is 1; the hub IDs of the 8239 Model 2s are 2 and 3.
- Hub 1 contains the RI/RO Module.
- IP is to be configured on hub 1. The IP address is 9.197.4.67, the subnet mask is 255.255.255.0, and the default gateway is 9.197.4.1.
- The ASCII terminal is connected to the 8239 8239 Model 1s (hub 1) EIA-232 port.

Task	Action
Remove an external device and its ports from the stack data ring	Type wrap ring_io both 1 and press Enter .
Insert an external device and its ports into the stack data ring	Type unwrap ring_io both 1 and press Enter .
Remove hub 2 from the stack data ring	Type wrap data_io both 2 and press Enter .
Insert hub 2 into the stack data ring	Type unwrap data_io both 2 and press Enter .
Set up IP on hub 1	Type set ip 1 and press Enter . When prompted, enter the following information, pressing Enter after each value: IP address: Type 9.197.4.67 Subnet mask: Type 255.255.255.0 Default gateway: Type 9.197.4.1
Get status for the stack	Type display stack and press Enter .
Get status for hub 2	Type display hub 2 and press Enter .
Get status for port 4 on hub 2	Type display port 2.4 and press Enter .
Enable all ports on hub 1	Type enable port 1.all and press Enter .
Disable port 4 on hub 2	Type disable port 2.4 and press Enter .

Chapter 2. 8239 Commands

This section describes the terminal interface commands valid for the 8239 Model 1 and 8239 Model 2. Each command is shown in syntax diagram format with required and variable text. Along with the syntax are usage notes or restrictions for the command, descriptions of the parameters, an example of the command, and related commands, when applicable.

BOOTP

Use the BOOTP command to download a configuration to an 8239 Model 1 from the bootptab file on a BOOTP server. BOOTP is a UDP/IP-based protocol that allows a device to configure itself dynamically without user intervention.

Usage Notes

- 8239 Model 1 command only
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

►—bootp—◄

Related Commands

CLEAR BOOTP_RESULT
DISPLAY BOOTP
ENABLE/DISABLE BOOTP
SET BOOTP_SERVER

CLEAR ACCESS_CONTROL_LIST

Use this command to remove an entry from the access control list. Use DISPLAY ACCESS_CONTROL_LIST to find the index number of the entry you wish to remove.

Usage Notes

- 8239 Model 1 command only
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

►—clear access_control_list—*index*—◄

index Identifies the index number of the access control list to be cleared. Use the DISPLAY ACCESS_CONTROL_LIST command to display entry numbers.

Example

The following command deletes entry 1 in the access control list:

```
clear access_control_list 1
```

Related Commands

DISPLAY ACCESS_CONTROL_LIST

SET ACCESS_CONTROL_LIST

CLEAR ARP_CACHE

Use this command to clear the Address Resolution Protocol (ARP) Table cache.

Usage Notes

- 8239 Model 1 command only
- Administrator command only

```
►—clear arp_cache—hub_id—◄
```

hub_id Identifies the hub for this operation, where *hub_id* is a value from 1 to 8. The hub ID is displayed on the front panel of each 8239.

Example

The following command clears the arp cache on hub 1:

```
clear arp_cache 1
```

Related Command

DISPLAY IP ARP_CACHE

CLEAR BOOTP_RESULT

Use this command to clear the current BOOTP result. For information about the BOOTP result, see "DISPLAY BOOTP" on page 2-12.

Usage Notes

- 8239 Model 1 command only
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

```
►—clear bootp_result—◄
```

Example

The following command clears BOOTP settings from the hub:

```
clear bootp_result
```

Related Commands

BOOTP
DISPLAY BOOTP
ENABLE/DISABLE BOOTP
SET BOOTP_SERVER

CLEAR COMMUNITY

Use this command to clear an entry from the community table. Community tables establish groups of stations that can exchange information with the 8239 Model 1's SNMP agent.

Usage Notes

- 8239 Model 1 command only
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

► clear community all
index ◄

all Clears all community table entries.

index Identifies the community table entry to clear. *index* is the community table entry number. Use the DISPLAY COMMUNITY command to display entry numbers.

Example

The following command clears community table entry 5:

```
clear community 5
```

Related Commands

DISPLAY COMMUNITY
SET COMMUNITY

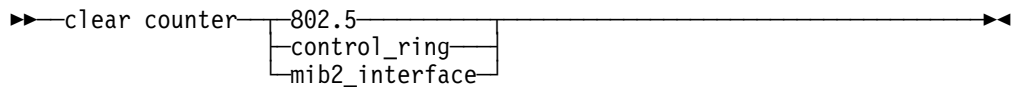
CLEAR COUNTER

Use this command to reset the specified counters to zero. When this command is issued, the counters are reset to zero when displaying them using the terminal interface (DISPLAY COUNTER or DISPLAY RMON STATISTICS_DATA). This command has no effect on the values of the counters obtained through SNMP.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command

- Can only be issued at the local 8239 to take action on the local 8239



802.5 Identifies 802.5 statistics counters for the Management Interface

control_ring Identifies control ring counters

mib2_interface

Identifies MIB II interface counters for the Management Interface

Example

The following command clears the 802.5 counters:

```
clear counter 802.5
```

Related Commands

- DISPLAY COUNTER
- SET MANAGEMENT_INTERFACE 802.5_GROUP ENABLE/DISABLE

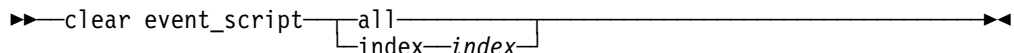
CLEAR EVENT_SCRIPT

Use this command to clear script-to-event assignments.

You can assign a script to run when a specific RMON event occurs. This command clears these assignments.

Usage Notes

- 8239 Model 1 command only
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239



all Clears all script-to-event assignments.

index *index* Index number of the RMON event that triggers the script. Use the DISPLAY RMON EVENT_DATA ALL command to view events listed by index number.

Example

The following command clears the assignment of the script associated with RMON event 3:

```
clear event_script index 3
```

Related Commands

- CLEAR RMON EVENT
- CLEAR SCRIPT

- DISPLAY EVENT_SCRIPT
- DISPLAY RMON EVENT
- DISPLAY SCRIPT

CLEAR GROUP NAME

Use this command to clear a previously-entered group name and all of its ports.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command

► clear group name all group_name ◀

all Removes all group names and all ports from the group list.

group_name Removes name and all ports associated with the specified group name.

Example

The following command removes the group name *dept.36* from the list of names:

```
clear group name dept.36
```

Related Commands

- DISPLAY GROUP
- SET GROUP NAME

CLEAR GROUP PORT

Use this command to clear previously-entered port group assignments.

You can configure port groups so that you can perform operations on groups of ports instead of performing operations on each port individually.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command

► clear group port all group_name hub_port all hub.all hub.port non_existent ◀

all Removes the specified ports from all groups associated with a stack unit.

group_name Removes the specified ports from the specified group.

hub_port	Removes the specified port.
non_existent	Removes all non-existent ports. Non-existent ports are ports that are not present.
all	Identifies this operation to be for all ports on all hubs in the specified group.
<i>hub.all</i>	Identifies all of the ports on the specified hub, where <i>hub</i> is a number from 1 to 8.
<i>hub.port</i>	Identifies the port for this operation, where <i>hub</i> is a number from 1 to 8 and <i>port</i> is a number from 1 to 32.

Example

The following command clears all ports from group4:

```
clear group port group4 hub_port all
```

Example

Hub ids 1 and 2 are in the stack. The command DISPLAY GROUP BLDG2 results in displaying 1.all and 3.all. The following command clears all of the ports on hub 3 from group BLDG2:

```
clear group port BLDG2 non_existent
```

Related Commands

- CLEAR GROUP NAME
- DISPLAY GROUP
- ENABLE/DISABLE GROUP
- SET GROUP NAME
- SET GROUP PORT

CLEAR LOGIN

Use this command to remove previously-entered login names.

The 8239 lets you store up to 10 user names and passwords. The names and passwords provide access to the management software.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

```
► clear login all index ◄
```

all Removes all login names.

index Removes only the entry you specify. *index* can have values from 1 to 10. Use the DISPLAY LOGIN command to display a list of numbered entries.

Example

The following command clears the second login entry:

```
clear login 2
```

Related Commands

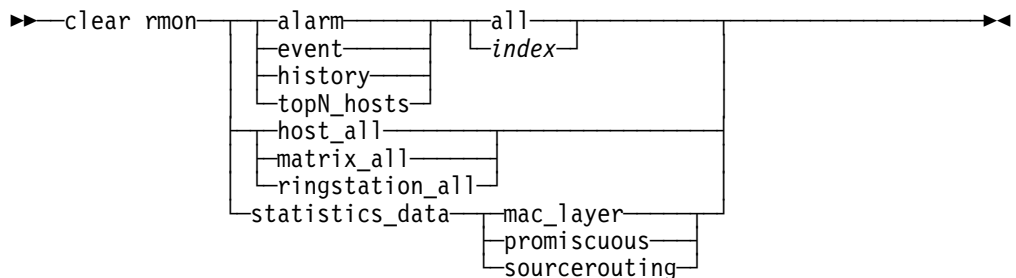
- DISPLAY LOGIN
- REPLICATE LOGIN
- SET LOGIN

CLEAR RMON

Use this command to clear entries from RMON tables.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239



- alarm** Specifies an RMON table.
- event** Specifies an RMON table.
- history** Specifies an RMON table.
- topN_hosts** Specifies an RMON table.
- host_all** Specifies an RMON table.
- matrix_all** Specifies an RMON table.
- ringstation_all** Specifies an RMON table.
- statistics_data** Specifies an RMON counter.
- mac_layer** Identifies the specific RMON statistic counter for this operation
- promiscuous** Identifies the specific RMON statistic counter for this operation
- sourcerouting** Identifies the specific RMON statistic counter for this operation
- all** Clears all entries from the specified RMON table.

index Is the RMON table entry. Use one of the DISPLAY RMON commands (ALARM_DATA, EVENT_DATA, CONTROL HISTORY, or CONTROL TOPN_HOSTS) to view table entry numbers.

Example

The following command clears all alarms from the RMON alarm table:

```
clear rmon alarm all
```

Related Commands

- CLEAR RMON COUNTER
- DISPLAY RMON commands
- ENABLE/DISABLE RMON commands
- SET RMON commands

CLEAR SCHEDULE

Use this command to remove a schedule entry from the schedule table.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

```
► clear schedule [all | index] ◀
```

all Removes all schedule entries from the schedule table.

index Removes the schedule entry you specify. *index* has a value from 1 to 20. Use DISPLAY SCHEDULE to display the current schedule table.

Example

The following command clears schedule entry 3 from the schedule table:

```
clear schedule 3
```

Related Commands

- DISPLAY SCHEDULE
- SET SCHEDULE

CLEAR SECURITY INTRUDER_LIST

Use this command to clear the security intruder list. The intruder list maintains information describing the 20 most recent security intrusions for the entire stack.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command

- Administrator or user command

▶—clear security intruder_list—◀

Example

The following command clears the intruder list:

```
clear security intruder_list
```

Related Commands

- DISPLAY SECURITY INTRUDER_LIST
- SET SECURITY commands

CLEAR SECURITY PORT

Use this command to remove a MAC address from the Secure MAC Address Table for a port.

The security feature lets you authorize specific MAC addresses for a port in the 8239 stack. The 8239 allows only stations using authorized MAC addresses to communicate through the port.

Removing an authorized MAC address does not automatically disable security mode. If you remove the authorized MAC addresses for a port but do not disable security mode, the 8239 prevents all stations from communicating through the port. Use ENABLE/DISABLE SECURITY to enable or disable port security.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command

▶—clear security port—
└─all─┘
└─mac_address─┘
└─all─┘
└─hub_id.all─┘
└─hub_id.port─┘
 —▶

- | | |
|--------------------|--|
| all | Removes all MAC addresses for the identified port. |
| <i>mac_address</i> | Specifies the MAC address for the identified port. Enter the address as a series of six hexadecimal bytes separated by colons. |
| all | Identifies all ports on all hubs. |
| <i>hub_id.all</i> | Removes the specified MAC address for all ports in the identified hub. |
| <i>hub_id.port</i> | Identifies the port for this operation, where <i>hub_id</i> is a number from 1 to 8 and <i>port</i> is a number from 1 to 32. |

Example

The following command clears the MAC address: 10:00:5a:77:0e:a2 for all ports on the hub with hub ID 7

```
clear security port 10:00:5a:77:0e:a2 7.all
```

Related Commands

- DISPLAY SECURITY PORT
- ENABLE/DISABLE SECURITY_PORT
- SET SECURITY commands

CLEAR TR_SURROGATE_REM_SOFT_ERROR

Use this command to clear token-ring surrogate information.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

▶—clear tr_surrogate_rem_soft_error————▶

Example

The following command clears the token-ring surrogate REM total non-isolating soft error information:

```
clear tr_surrogate_rem_soft_error
```

Related Commands

- DISPLAY TR_SURROGATE REM_TOTAL_NONISO_SOFT_ERROR
- DISPLAY TR_SURROGATE SURR_STATUS

CLEAR TRAP_COMMUNITY

Use this command to clear an entry from the trap community table.

Usage Notes

- 8239 Model 1 command only
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

▶—clear trap_community—all
index————▶

all Removes all trap community table entries.

index Identifies the community table entry to clear. Use the DISPLAY COMMUNITY command to display the entry numbers.

Example

The following command clears trap community table entry number 5:

```
clear trap_community 5
```

Related Commands

- DISPLAY COMMUNITY
- SET TRAP_COMMUNITY

CLEAR TRAP_LOG

Use this command to erase the information in the trap log.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

▶—clear trap_log—————▶

Example

The following command clears the trap log:

```
clear trap_log
```

Related Command

- DISPLAY TRAP_LOG

DISPLAY ACCESS_CONTROL_LIST

Use this command to list which IP address can access the 8239 with a particular community.

Usage Notes

- 8239 Model 1 command only
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

▶—display access_control_list—————▶

Example

The following command displays the access control list for community:

```
display access_control_list
```

Related Commands

```
CLEAR ACCESS_CONTROL_LIST  
SET ACCESS_CONTROL_LIST
```

DISPLAY BOOTP

Use this command to list the current BOOTP settings.

Usage Notes

- 8239 Model 1 command only
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

▶—display bootp—◀

Example

The following command displays current BOOTP settings:

```
display bootp
```

Related Commands

BOOTP
CLEAR BOOTP
ENABLE/DISABLE BOOTP
SET BOOTP_SERVER

DISPLAY CLOCK

Use this command to display the current setting of the 8239's internal clock.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

▶—display clock—◀

Example

The following command displays current clock settings:

```
display clock
```

Related Commands

REPLICATE CLOCK
SET CLOCK

DISPLAY COMMUNITY

Use this command to list the current community settings for both the community table and the community trap table.

For RMON entries, only the entries added using the 8239 MIB or the SET TRAP_COMMUNITY RMON command are displayed. Entries set using the RMON 2 MIB are not displayed.

Usage Notes

- 8239 Model 1 command only
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

►—display community—◄

Example

The following command displays current community settings:

```
display community
```

Related Commands

```
CLEAR COMMUNITY  
CLEAR TRAP_COMMUNITY  
SET COMMUNITY  
SET TRAP_COMMUNITY
```

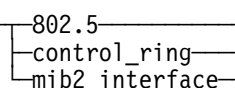
DISPLAY COUNTER

Use this command to report statistics for a segment to which a MAC address is assigned. All counters are displayed since the last clear or reset. The 802.5 and MIB-II interface counters are also cleared when the management interface mode is changed.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command.
- Can only be issued at the local 8239 to take action on the local 8239

►—display counter—◄



802.5 Displays the 802.5 Interface Table and Statistics Table for the Management Interface. For the statistics counters to increment, 802.5_GROUP must be enabled for the Management Interface.

control_ring Displays the error counters for the local hub's control ring interface.

mib2_interface Displays the MIB-II Interface Group counters for the Management Interface.

Example

The following command displays token-ring statistics for the Management Interface:

```
display counter 802.5
```

Related Commands

CLEAR COUNTER

DISPLAY MANAGEMENT_INTERFACE

SET MANAGEMENT_INTERFACE 802.5_GROUP

DISPLAY EVENT_SCRIPT

Use this command to show the assignments for scripts to run when a specified RMON event occurs.

Usage Notes

- 8239 Model 1 command only
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

```
▶—display event_script—[all]————▶  
                          └─index—index—┘
```

all Shows all script-to-event assignments.

index *index* Is the index number of the RMON event that triggers the script. Use DISPLAY RMON EVENT_DATA to view events listed by index number.

Example

The following command lists all script-to-event assignments:

```
display event_script all
```

Related Commands

CLEAR EVENT_SCRIPT

CLEAR SCRIPT

DISPLAY RMON EVENT_DATA

DISPLAY SCRIPT

DISPLAY GROUP

Use this command to display the ports associated with a specific port group or to display all port groups.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

► display group all _____ ◄

└─ group_name ─┘

all Displays ports belonging to all groups.

group_name Displays ports belonging to a specified group.

Example

The following command displays all of the ports associated with all groups:

```
display group all
```

Related Commands

CLEAR GROUP NAME
CLEAR GROUP PORT
ENABLE/DISABLE GROUP
SET GROUP NAME
SET GROUP PORT

DISPLAY HUB

Use this command to display configuration and status information about an 8239.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command

► display hub all _____ ◄

└─ hub_id ─┘

all Displays information for all the 8239s in the stack.

hub id Identifies the hub for this operation, where *hub id* is a number from 1 to 8. The hub ID is displayed on the front panel of each 8239.

Example

The following command displays detailed information about hub 1:

`display hub 1`

Related Command

DISPLAY STACK

DISPLAY INVENTORY

Use this command to display inventory information about an 8239. Inventory information includes such things as MAC address, manufacturing site, system board part number, features installed, and so on.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command

► `display inventory` all hub_id ◄

all Displays information for all the 8239s in the stack.

hub_id Identifies the hub for this operation, where *hub_id* is a number from 1 to 8. The hub ID is displayed on the front panel of each 8239.

Example

The following command displays inventory information for hub 1:

`display inventory 1`

Related Command

None

DISPLAY IP

Use this command to display Internet Protocol information for the networks configured in the stack.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command

► `display ip` address arp_cache hub_id all ◄

address Displays the IP address, subnet mask, and gateway.

arp_cache Displays the 8239's current ARP cache.

hub_id Identifies the hub for this operation, where *hub id* is a number from 1 to 8. The hub ID is displayed on the front panel of each 8239.

all Displays IP parameters for all the 8239 Model 1s in the stack.

Example

The following command displays IP information about the 8239 network interfaces:

```
display ip address
```

Related Commands

CLEAR ARP_CACHE

SET IP

DISPLAY LOGIN

Use this command to display the login table.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

```
▶—display login—▶
```

Example

The following command displays the login table:

```
display login
```

Related Commands

CLEAR LOGIN

REPLICATE LOGIN

SET LOGIN

DISPLAY MANAGEMENT_INTERFACE

Use this command to display configuration and status information about an 8239's Management Interface.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command

```
▶—display management_interface all hub_id—▶
```

all Displays information for all the 8239 Model 1s in the stack.

hub_id Identifies the hub for this operation, where *hub_id* is a number from 1 to 8. The hub ID is displayed on the front panel of each 8239.

Example

The following command displays information about the management interface in hub 1:

```
display management_interface 1
```

Related Commands

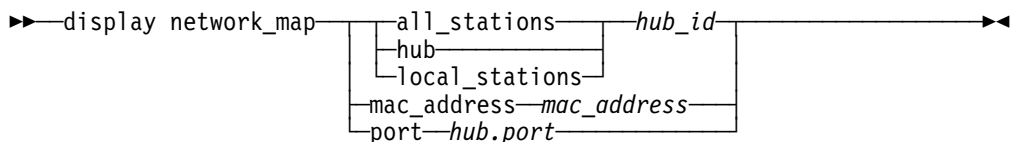
SET MANAGEMENT_INTERFACE commands

DISPLAY NETWORK_MAP

Use this command to display the MAC addresses of the specified stations on the token-ring network. Addresses for those devices without a MAC address are shown as "MAC-less Device".

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command



all_stations Displays all local and external attached stations inserted on the data segment of the specified hub. The stations are listed in order of token flow. Externally-attached stations and stations attached to a port that already has eight MAC addresses assigned are listed as "External" in place of the *hub.port*. To get "External" stations displayed, the RMON ring station group must be enabled for the Management Interface. **all_stations** is an 8239 Model 1 command only.

hub Displays only stations inserted in the ports of the specified hub in order of token flow.

local_stations Displays the stations directly attached to hubs on the data segment of the specified hub. No potential stations connected to a RI/RO Module are included on any of the 8239 Model 1s in the segment. A maximum of 8 stations per port are displayed.

hub_id Identifies the hub for this operation, where *hub_id* is a number from 1 to 8. The hub ID is displayed on the front panel of each 8239.

mac_address Displays the port number of the specified MAC address.

mac_address Is a series of six hexadecimal bytes separated by colons.

port Displays the MAC address of the specified *hub.port*.

hub.port Identifies the hub ID, a number from 1 to 8. *port* is the port number and represents a number from 1 to 32.

Example

The following command displays all the stations on the same segment as hub 3:

```
display network_map all_stations 3
```

The following command displays all the stations attached to the ports of the hubs in the same stack as hub 3 and on the same data segment as hub 3:

```
display network_map local_stations 3
```

Related Commands

DISPLAY RMON GROUP_STATUS

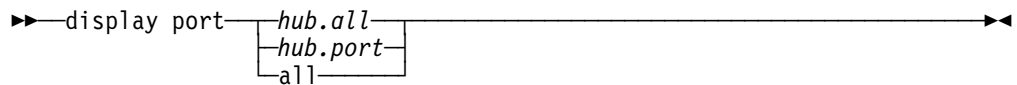
ENABLE/DISABLE RMON RINGSTATION

DISPLAY PORT

Use this command to display the mode and status of all ports or a specified port.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command



hub.all Displays all of the ports on the specified hub, where *hub* is a number from 1 to 8.

hub.port Identifies the port for this operation, where *hub* is a number from 1 to 8 and *port* is a number from 1 to 32.

all Displays information for all ports on all of the hubs in the stack.

Example

The following command displays port status for port 1.2:

```
display port 1.2
```

Related Commands

ENABLE/DISABLE PORT

ENABLE/DISABLE PORT_SETTING

DISPLAY RING_IO

Use this command to display the status of ring in/ring out connections.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command

► display ring_io hub_id all ◀

hub_id Identifies the hub for this operation, where *hub id* is a number from 1 to 8. The hub ID is displayed on the front panel of each 8239.

all Shows information for all 8239 Model 1s in the stack.

Example

The following command displays detailed ring in/ring out information for hub 1:

```
display ring_io 1
```

Related Commands

ENABLE/DISABLE RING_IO

WRAP/UNWRAP RING_IO

DISPLAY RMON ALARM_DATA

Use this command to display data for the RMON Alarm group.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

► display rmon alarm_data index all ◀

index Specifies the alarm to be displayed.

all Displays all alarms.

Example

The following command displays RMON alarm entry 1:

```
display rmon alarm_data 1
```

Related Commands

CLEAR RMON ALARM

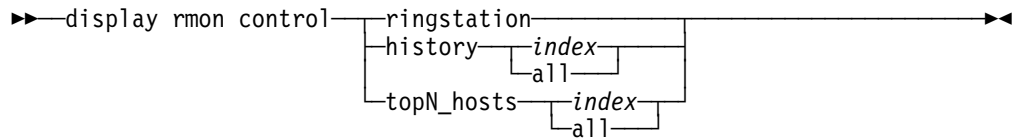
ENABLE/DISABLE RMON ALARM

DISPLAY RMON CONTROL

Use this command to display data from the RMON control tables.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239



ringstation	Specifies an RMON group.
history	Specifies an RMON group.
topN_hosts	Specifies an RMON group.
<i>index</i>	Specifies an entry in the RMON control table, where <i>index</i> is an integer specifying a control table entry.
all	Displays all entries in the RMON control table.

Example

The following command displays the ringstation control table:

```
display rmon control ringstation
```

Related Commands

- CLEAR RMON commands
- DISPLAY RMON commands
- ENABLE/DISABLE RMON commands
- SET RMON commands

DISPLAY RMON EVENT_DATA

Use this command to display data for the RMON Event group.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

►—display rmon event_data—index
all—◀◀

index Specifies the event to be displayed.

all Specifies a list of all events.

Example

The following command displays RMON event entry 1:

```
display rmon event_data 1
```

Related Commands

- CLEAR RMON ALARM
- CLEAR RMON EVENT
- ENABLE/DISABLE RMON ALARM
- ENABLE/DISABLE RMON EVENT
- SET RMON ALARM
- SET RMON EVENT

DISPLAY RMON GROUP_STATUS

Use this command to display the RMON group status.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

►—display rmon group_status—◀◀

Example

The following command displays RMON group status on the local 8239:

```
display rmon group_status
```

Related Commands

- DISPLAY MANAGEMENT_INTERFACE
- ENABLE/DISABLE RMON
- SET MANAGEMENT_INTERFACE RMON2_MODE

DISPLAY RMON HISTORY_ML_DATA

Use this command to display MAC layer statistics collected for the RMON history group.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

►—display rmon history_ml_data—*control_index*—*sample_index*—►
 └──all──┘

control_index Is an index into the RMON history control table for the history you want to view.

sample_index Specifies the history sample to display, where *sample_index* is the number specifying a history sample. The range depends on how many samples have been collected.

all Displays all history samples.

Example

The following command displays all stored samples of RMON history group MAC layer statistics for hub 1:

```
display rmon history_ml_data 1 all
```

Related Commands

CLEAR RMON HISTORY
ENABLE/DISABLE RMON
SET RMON HISTORY_CONTROL

DISPLAY RMON HISTORY_P_DATA

Use this command to display promiscuous network statistics collected for the RMON history group.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

►—display rmon history_p_data—*control_index*—*sample_index*—►
 └──all──┘

control_index Is the index from the RMON History control table for the history you want to view.

- sample_index* Specifies the history sample to display, where *sample_index* is a number specifying a history sample. The range depends on how many samples have been collected.
- all** Specifies all history samples.

Example

The following command displays sample 4 of the RMON history group promiscuous network statistics for control index 1:

```
display rmon history_p_data 1 4
```

Related Commands

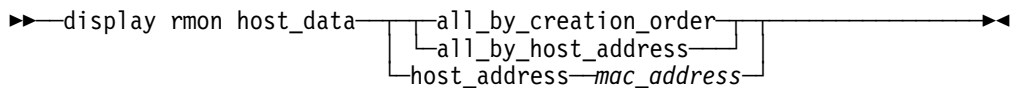
- CLEAR RMON HISTORY
- ENABLE/DISABLE RMON
- SET RMON HISTORY_CONTROL

DISPLAY RMON HOST_DATA

Use this command to display data from the RMON host table.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239



all_by_creation_order

Lists hosts in the order in which the RMON agent detected them.

all_by_host_address

Lists host data for all MAC addresses.

host_address

Lists host data for the specified MAC address.

mac_address

Identifies the MAC address, a series of six hexadecimal bytes separated by colons.

Example

The following command displays RMON host statistics for one MAC address:

```
display rmon host_data host_address 00:00:1a:24:00:01
```

Related Commands

- CLEAR RMON commands
- ENABLE/DISABLE RMON commands

DISPLAY RMON LOG_DATA

Use this command to display entries from the RMON event log.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

► display rmon log_data index
all ◀

index Is the index number from the RMON event table, where *index* is a number greater than or equal to 1.

all Displays the entire RMON event log.

Example

The following command displays all entries in the RMON event log:

```
display rmon log_data all
```

Related Commands

CLEAR RMON commands

ENABLE RMON

SET RMON commands

DISPLAY RMON MATRIX_DATA

Use this command to display data for the RMON matrix group.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

► display rmon matrix_data by_destination_address
by_source_address
involving mac_address ◀

by_destination_address

Lists matrix entries ordered numerically by destination MAC address.

by_source_address

Lists matrix entries ordered numerically by source MAC address.

involving

Lists all matrix entries containing the specified MAC address as either the source or destination address.

mac_address Is a series of six hexadecimal bytes separated by colons.

Example

The following command displays RMON matrix entries ordered numerically by destination MAC address:

```
display rmon matrix_data by_destination_address
```

Related Command

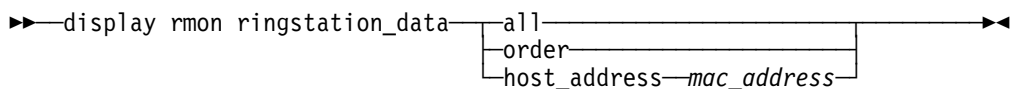
ENABLE/DISABLE RMON MATRIX

DISPLAY RMON RINGSTATION_DATA

Use this command to display data from the RMON token-ring ringstation group.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239



all Lists all ring stations.

order Lists ring stations in token-passing order.

host_address Lists ring station data for the specified MAC address.

mac_address Is a series of six hexadecimal bytes separated by colons.

Example

The following command displays RMON token-ring ring station statistics for one MAC address:

```
display rmon ringstation_data host_address 00:00:00:10:40:AC
```

Related Commands

CLEAR RMON COUNTER

ENABLE RMON RINGSTATION

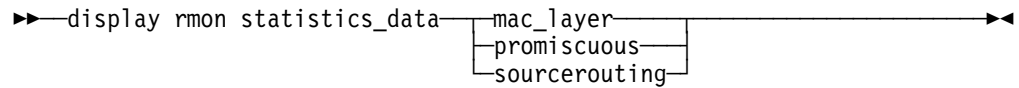
DISPLAY RMON STATISTICS_DATA

Use this command to display data from the RMON statistics group.

For source routing statistics to be accurate, the 8239 Model 1 must know the segment of the ring being monitored. Refer to “Configuring the Model 1 to Support RMON” in *Setup and User’s Guide* for more information.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239



mac_layer Displays MAC layer group statistics.

promiscuous Displays promiscuous group statistics.

sourcerouting Displays source routing group statistics.

Example

The following command displays source routing group statistics:

```
display rmon statistics_data sourcerouting
```

Related Commands

CLEAR RMON

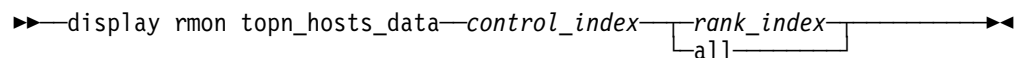
ENABLE RMON STATISTICS

DISPLAY RMON TOPN_HOSTS_DATA

Use this command to display entries from the RMON host Top N group.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239



control_index Specifies an entry from the host Top N group control table, where *control_index* is the control table entry. Use DISPLAY RMON CONTROL to view control table entries.

rank_index Specifies the rank of the host for which you want to view data, where *rank_index* is a number from 1 to 10.

all Specifies all hosts.

Example

The following command displays data for control entry 3 for all 10 hosts:

```
display rmon topn_hosts_data 3 all
```

Related Commands

ENABLE RMON TOPN_HOSTS

DISPLAY SCHEDULE

Use this command to display schedule information for all schedules or for a specific schedule. Schedules are used to specify when to run a script

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

► display schedule all item schedule ◄

all Displays information about all schedules.

item *schedule* Displays information about the specified schedule, where *schedule* is a number from 1 to 20. Use DISPLAY SCHEDULE ALL to display a numbered list of schedules.

Example

The following command displays all current schedule information:

```
display schedule all
```

Related Commands

DISPLAY SCRIPTS

SET SCHEDULE

DISPLAY SCRIPTS

Use this command to show the assignments for scripts to run.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command
- Can only be issued to the local 8239 to take action on the local 8239

► display scripts ◄

Example

The following command lists all script assignments:

```
display scripts
```

Related Commands

SCRIPT commands

DISPLAY SECURITY INTRUDER_LIST

Use this command to display information about the twenty most recent security intrusions. The intruder list is common among all hubs (that is, all hubs display the same intruder list).

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command

▶—display security intruder_list—▶

Example

The following command displays the intruder list:

```
display security intruder_list
```

Related Commands

CLEAR SECURITY INTRUDER_LIST
SET SECURITY commands

DISPLAY SECURITY PORT

Use this command to display the security mode, MAC addresses, and intrusion action for a specific port or ports.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command

▶—display security port *hub.port*
all—▶

hub.port Identifies the port for this operation, where *hub* is a number from 1 to 8 and *port* is a number from 1 to 32, or **all**.

all Identifies all the ports on all the hubs in the stack.

Example

The following command displays security information for all ports on hub 3:

```
display security port 3.all
```

Related Commands

SET SECURITY commands

DISPLAY STACK

Use this command to display the hub ID, model number, code version, base MAC address, system up time, and code load status for each hub in a stack.

This command is used to determine what hubs are connected. When stack cables are connected or disconnected, the hubs may temporarily lose connectivity. Generally, it takes approximately 20 seconds for a hub to detect a disconnected state. When DISPLAY STACK is issued during this transient state, the following errors may occur:

- Command hangs for 10 to 15 seconds, meaning that the TCP/IP connection between hubs is not ready.
- “System Up Time” column reports *NO SERVER*, meaning that hubs are in the stack, but are not ready to communicate.
- Command hangs for 10 to 15 seconds, then fails, meaning that the target hub left the stack.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command

▶—display stack—▶

Example

The following command displays the vital information for this stack:

display stack

Related Command

DISPLAY HUB

DISPLAY TERMINAL

Use this command to display the terminal parameter values for the EIA-232 port and TELNET sessions.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

▶—display terminal—▶

Example

The following command displays terminal settings for the EIA-232 port:

display terminal

Related Commands

SET TERMINAL commands

DISPLAY TR_SURROGATE CRS_STATION

Use this command to display station information obtained by CRS.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

```
►—display tr_surrogate crs_station—all—————►  
                                  └─mac_address—mac_address—┘
```

all Shows CRS information for all of the stations monitored by CRS.

mac_address *mac_address*
Shows CRS information for the indicated MAC address.

Example

The following command displays CRS station information for MAC address 08:00:8e:d0:00:c9:

```
display tr_surrogate crs_station mac_address 08:00:8e:d0:00:c9
```

Related Commands

ENABLE/DISABLE TR_SURROGATE CRS_TRAPS
ENABLE/DISABLE TR_SURROGATE SURR_STATUS CRS_ADMIN
ENABLE/DISABLE TR_SURROGATE SURR_STATUS SURR_ADMIN
SET TR_SURROGATE CRS_STATION

DISPLAY TR_SURROGATE CRS_STATUS

Use this command to display CRS status information.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

```
►—display tr_surrogate crs_status—————►
```

Example

The following command displays the CRS status:

```
display tr_surrogate crs_status
```

Related Commands

```
ENABLE/DISABLE TR_SURROGATE CRS_TRAPS  
ENABLE/DISABLE TR_SURROGATE SURR_STATUS CRS_ADMIN  
ENABLE/DISABLE TR_SURROGATE SURR_STATUS SURR_ADMIN
```

DISPLAY TR_SURROGATE REM_ERROR_MAC_FRAME

Use this command to show information about the most recently received Error MAC frame.

The REM Error MAC frame table displays information used to build a trap that describes the Neighbor Notification and Active Monitor Error portions of the Forward MAC Frame Error trap. If REM_TRAPS is enabled, the agent builds the trap and forwards it to the appropriate IP address specified in the trap_community table.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

```
▶—display tr_surrogate rem_error_mac_frame—————▶◀
```

Example

The following command displays the most recently received REM error MAC frame:
`display tr_surrogate rem_error_mac_frame`

Related Commands

```
DISPLAY TR_SURROGATE REM_STATUS  
ENABLE/DISABLE TR_SURROGATE REM_STATUS REM_TRAPS  
ENABLE/DISABLE TR_SURROGATE SURR_STATUS REM_ADMIN  
ENABLE/DISABLE TR_SURROGATE SURR_STATUS SURR_ADMIN  
SET TRAP_COMMUNITY TR_SURROGATE
```

DISPLAY TR_SURROGATE REM_ISOLATING

Use this command to display the REM Isolating Table information.

The REM Isolating Table lists information for the downstream station of a fault domain. The data in this table is valid only if a station sent a soft-error report MAC frame specifying a non-zero value for at least one isolating counter.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command

- Can only be issued at the local 8239 to take action on the local 8239

```
►► display tr_surrogate rem_isolating table_index ◀◀  
                                          all
```

table_index Displays the indicated entry from the REM Isolating Table.

all Displays all REM isolating information.

Example

The following command displays all REM Isolating Table information:

```
display tr_surrogate rem_isolating all
```

Related Commands

ENABLE/DISABLE TR_SURROGATE SURR_STATUS REM_ADMIN

ENABLE/DISABLE TR_SURROGATE SURR_STATUS SURR_ADMIN

DISPLAY TR_SURROGATE REM_LAST_BEACON

Use this command to display information about the last beacon frame that was received.

The REM Beacon Data Trap Table displays information used to build a trap that describes the beacon type, physical location, and fault domain of a beaconing station. Use this command to display information about the last-detected beacon condition on the ring. The trap will be issued only if REM_TRAPS is enabled.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

```
►► display tr_surrogate rem_last_beacon ◀◀
```

Example

The following command displays the last beacon received:

```
display tr_surrogate rem_last_beacon
```

Related Commands

ENABLE/DISABLE TR_SURROGATE REM_STATUS REM_TRAPS

ENABLE/DISABLE TR_SURROGATE SURR_STATUS REM_ADMIN

ENABLE/DISABLE TR_SURROGATE SURR_STATUS SURR_ADMIN

SET TRAP_COMMUNITY TR_SURROGATE

DISPLAY TR_SURROGATE REM_LAST_SOFT_ERROR

Use this command to display the contents of the REM Last Received Soft Error Table.

The REM Last Received Soft Error Table primarily provides information to SNMP network managers. Because the information is designed to create a particular trap, it contains only the state of the stations at the time the REM received the Soft Error Report MAC frame.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

▶—display tr_surrogate rem_last_soft_error—————▶

Example

The following command displays the REM last soft error received data:

```
display tr_surrogate rem_last_soft_error
```

Related Commands

```
ENABLE/DISABLE TR_SURROGATE SURR_STATUS REM_ADMIN  
ENABLE/DISABLE TR_SURROGATE SURR_STATUS SURR_ADMIN
```

DISPLAY TR_SURROGATE REM_NONISO_THRESHOLD_EXCD

Use this command to display information about the most recently detected threshold-exceeded condition for non-isolating errors.

The REM Non-Isolating Threshold Exceeded Table displays information used to build a trap that describes the soft error counter that has been exceeded.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

▶—display tr_surrogate rem_noniso_threshold_excd—————▶

Example

The following command displays information about the most recently detected threshold-exceeded condition:

```
display tr_surrogate rem_noniso_threshold_excd
```

Related Commands

```
ENABLE/DISABLE TR_SURROGATE REM_STATUS
NONISO_THRESHOLD_EXCD_TRAPS
ENABLE/DISABLE TR_SURROGATE REM_STATUS REM_TRAPS
ENABLE/DISABLE TR_SURROGATE SURR_STATUS REM_ADMIN
ENABLE/DISABLE TR_SURROGATE SURR_STATUS SURR_ADMIN
SET TRAP_COMMUNITY TR_SURROGATE
```

DISPLAY TR_SURROGATE REM_STATUS

Use this command to display which REM flags are enabled.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

```
▶—display tr_surrogate rem_status—————▶
```

Example

The following command displays the current REM Status Table:

```
display tr_surrogate rem_status
```

Related Commands

```
ENABLE/DISABLE TR_SURROGATE REM_STATUS
ENABLE/DISABLE TR_SURROGATE SURR_STATUS REM_ADMIN
ENABLE/DISABLE TR_SURROGATE SURR_STATUS SURR_ADMIN
```

DISPLAY TR_SURROGATE REM_TOTAL_NONISO_SOFT_ERROR

Use this command to display a count of REM non-isolating soft error data.

The REM Soft Error Statistics table provides a cumulative count of non-isolating soft error counters.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

```
▶—display tr_surrogate rem_total_noniso_soft_error—————▶
```

Example

The following command displays the REM soft error data:

```
display tr_surrogate rem_total_noniso_soft_error
```

Related Commands

```
ENABLE/DISABLE TR_SURROGATE SURR_STATUS REM_ADMIN  
ENABLE/DISABLE TR_SURROGATE SURR_STATUS SURR_ADMIN
```

DISPLAY TR_SURROGATE RPS_STATUS

Use this command to display RPS status. Status includes the configuration value of RPS_TRAPS and information on the last station to insert in the network.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

```
▶▶—display tr_surrogate rps_status—————▶▶
```

Example

The following command displays the RPS Status Group:

```
display tr_surrogate rps_status
```

Related Commands

```
ENABLE/DISABLE TR_SURROGATE RPS_TRAPS  
ENABLE/DISABLE TR_SURROGATE SURR_STATUS RPS_ADMIN  
ENABLE/DISABLE TR_SURROGATE SURR_STATUS SURR_ADMIN  
SET TRAP_COMMUNITY TR_SURROGATE
```

DISPLAY TR_SURROGATE SURR_STATUS

Use this command to obtain the following information for the 8239:

- Administrative and operational state for the surrogate function and the CRS, REM, and RPS groups
- MAC address of the surrogate agent
- Ring segment number
- Ring utilization

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

```
▶▶—display tr_surrogate surr_status—————▶▶
```

Example

The following command displays the current surrogate status:

```
display tr_surrogate surr_status
```

Related Commands

```
ENABLE/DISABLE TR_SURROGATE SURR_STATUS  
SET TR_SURROGATE
```

DISPLAY TRAP_LOG

Use this command to display the information in the trap log.

The trap log contains recent trap messages received by the 8239. The 8239 stores the traps on a first-in, first-out (FIFO) basis; once the trap log is full, the oldest traps are deleted. The trap log contains a maximum of 64 entries.

The trap log contains only those traps that the 8239 is configured to generate. Any traps that cannot be disabled (for example, HUB DOWN TRAP) are automatically in the trap log. The most recent traps are displayed first.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

▶—display trap_log—————▶

Example

The following command displays the trap log:

```
display trap_log
```

Related Commands

```
CLEAR TRAP_LOG  
DISPLAY TRAP_SETTINGS  
ENABLE/DISABLE TR_SURROGATE CRS_TRAPS  
ENABLE/DISABLE TR_SURROGATE REM_STATUS REM_TRAPS  
ENABLE/DISABLE TR_SURROGATE RPS_TRAPS  
ENABLE/DISABLE TRAP_SETTING  
SET SECURITY_PORT ACTION_ON_INTRUSION
```

DISPLAY TRAP_SETTINGS

Use this command to list the current trap settings. The trap settings identify which traps will be displayed on the terminal interface and which traps will be sent to a trap receiver defined in the trap community table.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator command only except for console display which a user can issue
- Can only be issued at the local 8239 to take action on the local 8239

▶—display trap_settings—◀

Example

The following command displays current trap settings:

```
display trap_settings
```

Related Commands

DISPLAY COMMUNITY
ENABLE/DISABLE TRAP_SETTING
SET TRAP_COMMUNITY

DISPLAY WRAP_POINTS

Use this command to display the status of various wrap points within the hub. These wrap points affect how user data and stack control data flow through the stack.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command

▶—display wrap_points—*hub_id*
all—◀

hub_id Identifies the hub, where *hub_id* is a value from 1 to 8. The hub ID is displayed on the front panel of each 8239.

all Identifies all the hubs for this operation.

Example

The following command displays wrap point information for hub 1:

```
display wrap_points 1
```

Related Command

WRAP/UNWRAP

ENABLE/DISABLE BOOTP

Use this command to define whether a hub issues a BOOTP request at power-up time.

The default value of BOOTP is enabled.

Usage Notes

- 8239 Model 1 command only
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

► `enable` `bootp` ◄
 └─┬─┘
 └─┘
 `disable`

Example

The following command enables BOOTP for the local hub:

```
enable bootp
```

Related Commands

BOOTP
CLEAR BOOTP_RESULT
SET BOOTP_SERVER

ENABLE/DISABLE GROUP

Use this command to enable or disable all the ports in a port group.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command

► `enable` `group` `group_name` ◄
 └─┬─┘
 └─┘
 `disable`

group_name Specifies the group associated with the ports to be enabled or disabled.

Example

The following command disables the ports in group4:

```
disable group group4
```

Related Commands

CLEAR GROUP NAME
CLEAR GROUP PORT

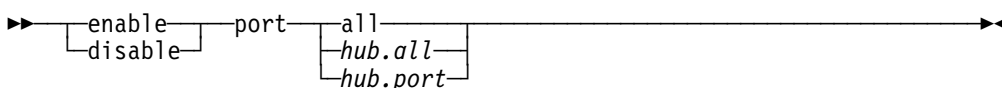
DISPLAY GROUP
SET GROUP NAME
SET GROUP PORT

ENABLE/DISABLE PORT

Use this command to enable or disable a particular mode in a port.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command



all Identifies this operation to be for all ports on all hubs in this stack.

hub.all Identifies all of the ports on the specified hub, where *hub* is a number from 1 to 8.

hub.port Identifies the port for this operation, where *hub* is a number from 1 to 8 and *port* is a number from 1 to 32.

Example

The following command prevents a station from being inserted on port 2 of hub 4:

```
disable port mode 4.2
```

Related Commands

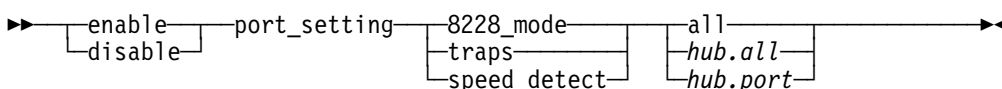
DISPLAY HUB
DISPLAY PORT

ENABLE/DISABLE PORT_SETTING

Use this command to enable or disable a particular setting on a port.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command



8228_mode Defines the specified port for connection to the RI port on the IBM 8228. The 8228_mode device should be attached to the port prior to enabling this mode or network disruptions may occur. Only a single port should be specified at a time. **enable** turns on this function and **disable** turns it off. The default is disabled.

traps	Controls port up/down trap generation for a specific port. Use this command in conjunction with ENABLE TRAP_SETTING PORT_UP_DOWN; you can issue these two commands in either order. enable turns on this function and disable turns it off. The default is enabled.
speed_detect	Controls whether the hub will perform speed detection on a port. For more information about the speed detect function, see SET HUB SPEED_THRESHOLD. enable turns on this function and disable turns it off. The default is enabled.
all	Identifies this operation to be for all ports on all hubs in this stack.
<i>hub.all</i>	Identifies all of the ports on the specified hub, where <i>hub</i> is a number from 1 to 8.
<i>hub.port</i>	Identifies the port for this operation, where <i>hub</i> is a number from 1 to 8 and <i>port</i> is a number from 1 to 32.

Example

The following command prevents the 8239 from checking for valid ring speed prior to inserting the specified port:

```
disable port_setting speed_detect 4.2
```

Related Commands

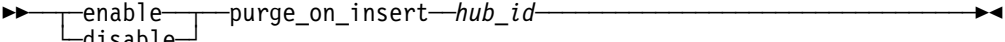
DISPLAY HUB
DISPLAY PORT

ENABLE/DISABLE PURGE_ON_INSERT

Use this command to enable or disable forcing a purge during port insertion. The default is enabled. If there is an 8239 Model 1 on the segment with its Ring Parameter Server enabled, PURGE_ON_INSERT can be disabled.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator command only

► `enable` `purge_on_insert` `hub_id` 

hub_id Indicates the hub ID, where *hub_id* is a number from 1 to 8, or all. The hub ID is displayed on the front panel of each 8239.

Example

The following command enables `purge_on_insert` on hub 3:

```
enable purge_on_insert 3
```

Related Commands

DISPLAY HUB
DISPLAY TR_SURROGATE

```
SET TR_SURROGATE SEGMENT_NUMBER
SET TR_SURROGATE SURR_STATUS RPS_ADMIN
SET TR_SURROGATE SURR_STATUS SURR_ADMIN
```

ENABLE/DISABLE RING_IO

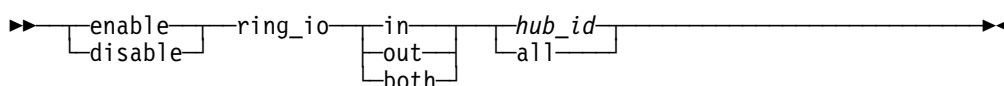
Use this command to allow the Ring In and Ring Out ports to open to the stack ring.

ENABLE connects the RI/RO ports to the stack ring. DISABLE isolates the RI/RO ports from the stack ring. The default setting is disabled.

This command is equivalent to WRAP/UNWRAP RING_IO.

Usage Notes

- 8239 Model 1 command only
- Administrator command only



in	Identifies Ring In for this operation.
out	Identifies Ring Out for this operation.
both	Identifies both Ring In and Ring Out for this operation.
<i>hub_id</i>	Identifies the hub ID for this operation, where <i>hub_id</i> is a number from 1 to 8. The hub ID is displayed on the front panel of each 8239.
all	Identifies that this operation is for all 8239 Model 1s in the stack.

Example

The following command unwraps ring_in and ring_out for hub 1:

```
enable ring_io both 1
```

Related Commands

```
DISPLAY RING_IO
WRAP/UNWRAP RING_IO
```

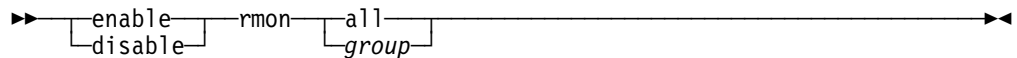
ENABLE/DISABLE RMON

Use this command to enable or disable a specific RMON group or all RMON monitoring.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command

- Can only be issued at the local 8239 to take action on the local 8239



all Enables or disables all RMON monitoring.

group Identifies the RMON group to enable or disable, where *group* can be one of these values:

- alarm
- event
- history
- host
- matrix
- ringstation
- statistics_mac_layer
- statistics_promiscuous
- statistics_sourcerouting
- topN_hosts

Example

The following command disables all RMON alarm function until ENABLE RMON ALARM is issued:

```
disable rmon alarm
```

Related Commands

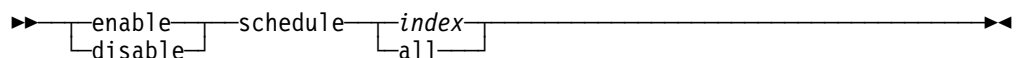
- CLEAR RMON commands
- DISPLAY MANAGEMENT_INTERFACE
- DISPLAY RMON commands
- SET RMON commands

ENABLE/DISABLE SCHEDULE

Use this command to enable or disable a specific schedule.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239



<i>index</i>	Identifies the schedule to be enabled or disabled, where <i>index</i> is a number from 1 to 20.
all	Enables or disables all schedules.

Example

The following command enables all schedules on the local 8239:

```
enable schedule all
```

Related Commands

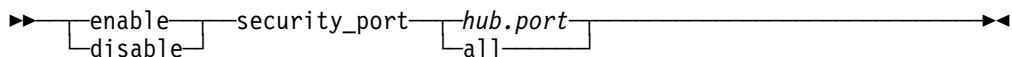
DISPLAY SCHEDULE
SET SCHEDULE

ENABLE/DISABLE SECURITY_PORT

Use this command to enable or disable the security function for a specific port or ports. When enabled for a specific port, a security intrusion occurs whenever a MAC address is detected that is not in the port's Secure MAC Address Table. See "SET SECURITY_PORT ACTION_ON_INTRUSION" on page 2-83 for details of the Secure MAC Address Table.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command



<i>hub</i>	Identifies the hub for this operation, where <i>hub</i> is a number from 1 to 8, or all if it applies to all hubs in the stack.
<i>port</i>	Identifies the port for this operation, where <i>port</i> is a number from 1 to 32, or all .
all	Specifies all ports on all hubs.

Example

The following command specifies that security will be enabled for port 3 on hub 1:

```
enable security_port 1.3
```

Related Commands

DISPLAY SECURITY
SAVE

ENABLE/DISABLE TR_SURROGATE CRS_TRAPS

Use this command to enable or disable the generate traps option for CRS. When enabled, this command instructs the CRS function to report NAUN configuration change traps. The default is enabled.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

► `enable` `tr_surrogate crs_traps` ◄
`disable`

Example

The following command enables CRS traps:

```
enable tr_surrogate crs_traps
```

Related Commands

```
DISPLAY COMMUNITY  
DISPLAY TR_SURROGATE CRS_STATUS  
ENABLE/DISABLE TR_SURROGATE SURR_STATUS CRS_ADMIN  
ENABLE/DISABLE TR_SURROGATE SURR_STATUS SURR_ADMIN  
SET TRAP_COMMUNITY TR_SURROGATE
```

ENABLE/DISABLE TR_SURROGATE REM_STATUS

Use this command to enable or disable a hub's REM features.

Note: Enabling any of the ring-intensive flags (those with the prefix **ring_**) may generate excessive soft error traps. Enable these flags only if you want to be informed each time a Soft Error MAC frame has a value greater than zero for the associated counter.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

► `enable` `tr_surrogate rem_status` `option` ◄
`disable`

Where *option* is:

all_flags Identifies this operation for all items.

- rem_traps** Determines if REM generates traps. This flag must be enabled for any REM trap to be generated. The default is enabled.
- weight_excded_traps** Determines if REM generates weight exceeded traps. These traps indicate that a soft-error threshold has been exceeded for a particular fault domain. The default is disabled.
- preweight_excded_traps** Determines if REM generates pre-weight exceeded traps. These traps indicate that an impending soft-error threshold has been exceeded by a station. The default is disabled.
- rcvr_congestion_traps** Determines if REM generates receiver congestion traps. These traps indicate that a station's receive buffer has been overloaded by incoming traffic. The default is disabled.
- noniso_threshold_excd_traps** Determines if REM generates Non-Isolating Threshold Exceeded traps. These traps indicate that one of the non-isolating error counters being monitored has exceeded its threshold. The default is disabled.
- forward_frames_traps** Determines if REM forwards information in the Report Neighbor Notification MAC frames and Report Monitor Error MAC frames to a LAN manager on the segment. The default is disabled.
- ring_line_error_data** Determines if REM includes line error data in the ring-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.
- ring_internal_error_data** Determines if REM includes internal error data in the ring-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.
- ring_burst_error** Determines if REM includes burst error data in the ring-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.
- ring_ac_error_data** Determines if REM includes A/C error data in the ring-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.
- ring_abortxmt_error_data** Determines if REM includes abort transmit error data in the ring-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.
- ring_lostframes_error_data** Determines if REM includes lost frames error data in the ring-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.
- ring_rcvrcngst_error_data** Determines if REM includes receiver congestion error data in the ring-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.

ring_framecopy_error_data

Determines if REM includes frame copied error data in the ring-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.

ring_frequency_error_data

Determines if REM includes frequency error data in the ring-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.

ring_token_error_data

Determines if REM includes token error data in the ring-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.

auto_line_error_data

Determines if REM includes line error data in the auto-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.

auto_internal_error_data

Determines if REM includes internal error data in the auto-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.

auto_burst_error_data

Determines if REM includes burst error data in the auto-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.

auto_ac_error_data

Determines if REM includes A/C error data in the auto-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.

auto_abortxmt_error_data

Determines if REM includes abort transmit error data in the auto-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.

auto_lostframes_error_data

Determines if REM includes lost frames error data in the auto-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.

auto_rcvrcngst_error_data

Determines if REM includes receiver congestion error data in the auto-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.

auto_framecopy_error_data

Determines if REM includes frame copied error data in the auto-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.

auto_frequency_error_data

Determines if REM includes frequency error data in the auto-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.

auto_token_error_data

Determines if REM includes token error data in the auto-intensive REM Forward Soft Error MAC Frame trap. The default is disabled.

reset

Resets all REM options.

Example

The following command includes token error data in the auto-intensive REM forward soft error MAC frame from hub 1:

```
enable tr_surrogate rem_status auto_token_error_data
```

Related Commands

```
DISPLAY TR_SURROGATE REM_STATUS  
ENABLE/DISABLE TR_SURROGATE SURR_STATUS REM_ADMIN  
ENABLE/DISABLE TR_SURROGATE SURR_STATUS SURR_ADMIN  
SET TRAP_COMMUNITY TR_SURROGATE
```

ENABLE/DISABLE TR_SURROGATE RPS_TRAPS

Use this command to enable or disable the generate traps option for RPS. When enabled, this command instructs the RPS function to report when a station inserts into the ring. The default is enabled.

This command is equivalent to SET MANAGEMENT_INTERFACE RPS_TRAPS except that the SET MANAGEMENT_INTERFACE command is not restricted to the local 8239.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

► enable tr_surrogate rps_traps ◀
 └─ disable ─┘

Example

The following command enables RPS traps:

```
enable tr_surrogate rps_traps
```

Related Commands

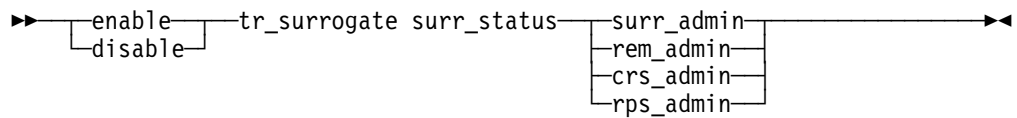
```
DISPLAY TR_SURROGATE RPS_STATUS  
ENABLE/DISABLE TR_SURROGATE SURR_STATUS RPS_ADMIN  
ENABLE/DISABLE TR_SURROGATE SURR_STATUS SURR_ADMIN  
SET MANAGEMENT_INTERFACE RPS_TRAPS ENABLE/DISABLE
```

ENABLE/DISABLE TR_SURROGATE SURR_STATUS

Use this command to enable or disable a hub's surrogate function or the REM, CRS, and RPS features. This command is equivalent to SET MANAGEMENT_INTERFACE SURROGATE_MODE except that SET MANAGEMENT_INTERFACE is not restricted to the local 8239.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239



- surr_admin** Enables or disables the token-ring surrogate functions (REM, CRS, and RPS) for the local hub. If you do not use the surrogate information, you should disable this parameter to conserve system resources. The default value is disabled.
- rem_admin** Enables or disables the REM feature. To activate REM, **surr_admin** must also be enabled. The default value is disabled.
- crs_admin** Enables or disables the CRS feature. To activate CRS, **surr_admin** must also be enabled. The default value is disabled.
- rps_admin** Enables or disables RPS. To activate RPS, **surr_admin** must also be enabled and the surrogate segment number must be non-zero. The default value is disabled.

Example

The following command enables REM:

```
enable tr_surrogate surr_status rem_admin
```

Related Commands

```
DISPLAY TR_SURROGATE SURR_STATUS
```

```
SET MANAGEMENT_INTERFACE SURROGATE_GROUP ENABLE/DISABLE
```

```
SET TR_SURROGATE SEGMENT_NUMBER
```

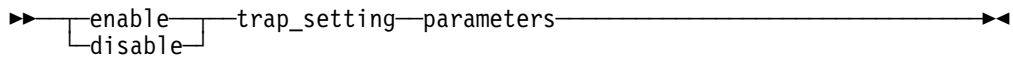
ENABLE/DISABLE TRAP_SETTING

Use this command to configure an 8239 to take action when certain events occur. These actions include

- Sending traps (alerts) to a designated trap receiver (8239 Model 1 only)
You must configure the trap receiver through the community table so that the hub knows where to send traps; use SET TRAP_COMMUNITY.
- Displaying trap messages on the display of a locally connected terminal

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator command only except console display which a user can issue



Where the **parameters** are:

authentication Enables or disables authentication traps. The 8239 Model 1 issues an authentication trap when an SNMP manager attempts to read from or write to the 8239 Model 1 and the user's community name is not valid for the attempted operation. The default setting is enabled. This parameter can be used by an 8239 Model 1 only.

console_display

Enables or disables trap displays to the local terminal. Certain traps are displayed on the screen even if console display is disabled. The default setting is enabled. This parameter can be used by an 8239 Model 1 or an 8239 Model 2.

control_io_status_up_down

Enables or disables traps that indicate when the Control In or Control Out connections are wrapped or unwrapped. The default setting is enabled. This parameter can be used by an 8239 Model 1 or an 8239 Model 2.

data_io_status_up_down

Enables or disables traps that indicate when the Data In or Data Out connections are wrapped or unwrapped. The default setting is enabled. This parameter can be used by an 8239 Model 1 or an 8239 Model 2.

multiple_users

Enables or disables traps that indicate when multiple users have logged in through either the EIA-232 port or a Telnet session. Up to 5 Telnet sessions and 1 EIA-232 session can be active at any one time. The default setting is enabled. This parameter can be used by an 8239 Model 1 only.

port_up_down

Enables or disables port_up_down traps. The hub sends a port_up_down trap whenever a port starts operating (up) or stops operating (down). The default setting is enabled. This parameter can be used by an 8239 Model 1 or an 8239 Model 2.

ring_io_status_up_down

Enables or disables traps that indicate when the Ring In or Ring Out connections are wrapped or unwrapped. The default setting is enabled. This parameter can be used by an 8239 Model 1 only.

rmon

Specifies that RMON traps be displayed on the console. The default setting is disabled. This parameter can be used by an 8239 Model 1 only.

Note: RMON traps are always sent to a trap receiver if a valid community table entry exists in the RMON 2 trap table independent of this trap_setting.

script Enables or disables the sending of script messages when a scheduled script is executed. The default setting is enabled. This parameter can be used by an 8239 Model 1 only.

security_intruder Enables or disables a port security intruder trap. The default setting is enabled. This parameter can be used by an 8239 Model 1 or an 8239 Model 2.

Example

The following command tells the hub not to issue a trap when it executes a scheduled script:

```
disable trap_setting script
```

Example

The following command disables the hub from sending a trap whenever a port inserts into or deinserts from the ring:

```
disable trap_setting port_up_down
```

Related Commands

- DISPLAY COMMUNITY
- DISPLAY TRAP_SETTINGS
- SET TRAP_COMMUNITY

LOAD

Use this command to transfer operational code, configuration files, or script files to the 8239. The files can be transferred using TFTP or XMODEM. The XMODEM file transfer can be initiated only from the EIA-232 port. If TFTP is requested, the 8239 prompts for the TFTP filename and the TFTP server address.

When LOAD OPERATIONAL_CODE is issued to an 8239 Model 2, the operational code is loaded in only the Model 2s in the stack. If, on the other hand, the command is issued to an 8239 Model 1, all the hubs in that stack are updated, regardless of model. The operational code is stored in FLASH memory. To run the new operational code, the 8239 must be reset.

The Model 1 and Model 2 operational code files are different. The file naming convention is *MmRrVv.opr*, where:

m= 1 for Model 1
2 for Model 2
r = release number
v = version number

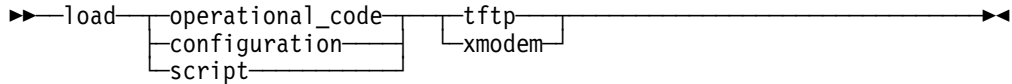
The Model 1 operational code file contains operational code for both the Model 1 and Model 2.

When a configuration file is loaded, the configuration commands execute immediately after the file transfer is complete.

When a script file is loaded, the commands are stored in DRAM. The script must be invoked to execute commands. SAVE must be issued in order to save the script in FLASH memory.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator command only



operational_code

Specifies that operational code is to be downloaded.

configuration Specifies that a configuration file is to be loaded.

script Specifies that a script file is to be loaded.

tftp Specifies loading using TFTP.

xmodem Specifies loading using XMODEM.

Example

The following command, when issued at an 8239 Model 1, loads operational code on all 8239s in a stack using TFTP:

```
load operational_code tftp
```

Related Commands

REPLICATE OPERATIONAL_CODE

RESET_HUB

RETRIEVE

SAVE

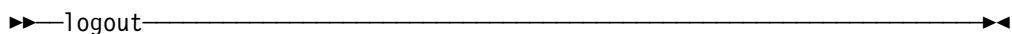
LOGOUT

Use this command to log out from the EIA-232 port or Telnet session.

When you log out from an EIA-232 session, a new login prompt is displayed; a modem, if present, is not hung up.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239



Example

The following command logs you out from a local session:

logout

PING

Use this command to verify that a device can be reached on the network.

PING sends 10 Internet Control Message Protocol (ICMP) request packets to the specified device. If the device is active, it responds to each request packet it receives. If the device responds to less than 100 per cent of the request packets, the network may be dropping packets.

If you have trouble pinging a remote device, make sure:

- The device is on the same network (segment), or bridged or routed to that segment
- The management interface `administrative_mode` is enabled and the adapter status is OPENED
- The hub's IP information has been configured.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

► `ping ip_address` ◀

ip_address Specifies the IP address of the device to be tested, where *ip_address* is a series of 4 decimal bytes separated by periods, such as 192.122.19.4.

Example

The following command sends 10 PING request to IP address 155.104.14.23:

```
ping 155.104.14.23
```

Related Commands

DISPLAY IP

DISPLAY MANAGEMENT_INTERFACE

SET IP

SET MANAGEMENT_INTERFACE ADMINISTRATIVE_MODE

REPLICATE CLOCK

Use this command to set the clock on all 8239 Model 1s to the clock time shown by the local 8239.

Usage Notes

- 8239 Model 1 command only
- Administrator command only

▶—replicate clock————▶

Example

The following command sets the clock on all 8239 Model 1s in the stack to the time shown by the local hub:

```
replicate clock
```

Related Commands

DISPLAY CLOCK
SET CLOCK

REPLICATE LOGIN

Use this command to copy login information from the local hub to all the other 8239s (8239 Model 1s and 8239 Model 2s) in the stack.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator command only

▶—replicate login————▶

Example:

```
replicate login
```

Related Commands

CLEAR LOGIN
DISPLAY LOGIN
SET LOGIN

REPLICATE OPERATIONAL_CODE

Use this command to copy operational code from the local hub to all the other 8239s (8239 Model 1s and 8239 Model 2s) in the stack.

Usage Notes

- 8239 Model 1 command only
- Administrator command only

▶—replicate operational_code————▶

Example:

```
replicate operational_code
```

Related Command

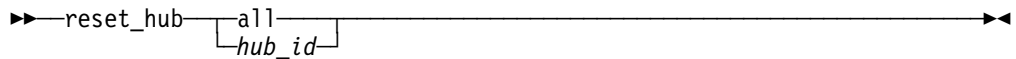
LOAD OPERATIONAL_CODE

RESET_HUB

Use this command to reset one hub in a stack or the whole stack. Any configuration changes that have not been saved in FLASH memory are lost.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator command only



all Resets the whole stack.

hub_id Identifies the hub for this operation, where *hub_id* is a number from 1 to 8. The hub ID is displayed on the front panel of each 8239.

Example

The following command resets the 8239 with hub ID 6:

```
reset_hub 6
```

Related Command

SAVE

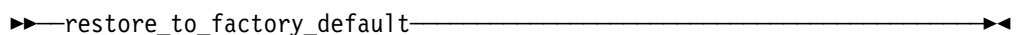
RESTORE_TO_FACTORY_DEFAULT

Use this command to restore the hub configuration in FLASH memory to the default settings. All hubs in the stack are restored to the default settings. Because the default takes effect only after the hub is reset, be sure **not** to issue the SAVE command before resetting the stack; if you save first, the hub will reboot with the current configuration. For a list of the parameters and default settings, see “Configuration Parameters” in the *Setup and User’s Guide*.

Warning: When this command is executed, all customer configuration, including hub IDs, is lost.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator command only



Example

The following command restores the configuration to the default settings:

```
restore_to_factory_default
```

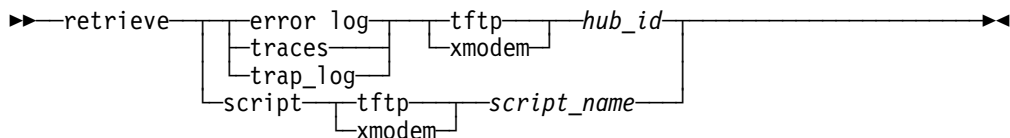
RETRIEVE

Use this command to get script files, error logs, trap logs, and traces from the 8239. The script files contain terminal interface commands that get executed when the script runs. The error logs (binary files) and traces (ASCII files) are used by service representatives to debug field problems. The trap log contains recent trap messages received by the 8239; see “DISPLAY TRAP_LOG” on page 2-37 for details about the trap information.

When TFTP is selected, the command prompts you for information such as IP address. The XMODEM file transfer can only be initiated from a terminal attached to the EIA-232 port.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator command only



error_log	Indicates that an error log is to be retrieved.
traces	Indicates that a trace record is to be retrieved. Trace information can be displayed on the terminal interface by selecting TFTP and pressing Enter when prompted for a filename.
trap_log	Indicates that a trap log is to be retrieved.
script	Indicates that a script is to be retrieved.
tftp	Specifies retrieval using TFTP.
xmodem	Specifies retrieval using XMODEM.
<i>hub_id</i>	Identifies the hub for this operation, where <i>hub_id</i> is a number from 1 to 8. The hub ID is displayed on the front panel of each 8239.
<i>script_name</i>	Identifies the script file that is to be retrieved.

Example

The following command uses TFTP to retrieve the error log `/tmp/error_log.dmp` from hub 1 with an IP address of 200.0.0.150:

```
retrieve error_log tftp 1 200.0.0.150 /tmp/error_log.dmp
```

Related Command

None

SAVE

Use this command to save the current configuration settings established by the ENABLE/DISABLE commands and the SET commands.

Parameter values established by the ENABLE/DISABLE and SET commands are effective immediately, but are not saved in FLASH memory. Use SAVE to save these values in FLASH memory. When the 8239 is reset, due to a user command or power cycling, it reinitializes using values in FLASH memory.

SAVE saves configuration for all hubs in a stack.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator command only

► save ◀

Example

The following command saves current configuration settings:

```
save
```

Related Command

None

SCRIPT

Use this command to list, create, change, or delete a specified script file.

Note: If you refer to a script by its index number, you must follow the number by pressing <Enter>. When initially defining or naming a script, you must select the number of the script and press <Enter> before proceeding with the naming of the script.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

► script *n* ◀

list
add
clear
run
edit <i>k</i>
delete <i>k</i>
copy_to <i>m</i>
insert <i>k cmd</i>
replace <i>k cmd</i>
name <i>name</i>

script ? or script <Enter>

Lists the names of the currently-defined scripts. The user must press <Esc> to return to the command line prompt.

n Identifies the script number and can be a number from 1 to 10. After selecting any script by its number, you must press <Enter> before proceeding.

list Provides a detailed listing of script *n*.

add Starts adding commands to the end of script *n*. This is the recommended way of initially defining a script.

clear Clears script *n*.

run Runs script *n*. Because of the presence of the “replace” command, you must at least type “ru” for the “run” command.

Note: Once **run** is initiated, all I/O and keyboard entries are ignored until the script has run to completion.

edit k Allows you to edit line *k* of script number *n*, where *k* can be a number from 1 to 20.

delete k Deletes line *k* of script *n*, where *k* can be a number from 1 to 20.

copy_to m Makes a copy (of commands) of script number *n* into script number *m*.

insert k cmd In script *n*, inserts *cmd* so that it will be line *k*. Previous command on line *k* as well as all other commands are renumbered to *k+1*, where *k* can be a number from 1 to 20.

replace k cmd In script *n*, replaces the command on line *k* with *cmd*. No other lines are affected. *k* can be a number from 1 to 20.

name name Allows you to name a script, where *name* can be up to 15 characters.

Examples

- The following command removes the script called “enable_all_ports” from the script table:

```
script enable_all_ports clear
```

- The following command copies the script called “enable_rem_flags” to script number 3:

```
script enable_rem_flags copy_to 3
```

- The following command runs the script called “enable_all_ports”:

```
script enable_all_ports run
```

Related Command

- DISPLAY SCRIPTS

SET ACCESS_CONTROL_LIST

Use this command to designate which IP addresses can access the 8239 with a particular community. The access control table contains 20 entries.

Usage Notes

- 8239 Model 1 command only
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

▶—set access_control_list—*community*—*ipaddress*—*ipmask*—▶

<i>community</i>	Is the string for which you wish to set the access list, where <i>community</i> is from 1 to 128 characters.
<i>ipaddress</i>	Is the IP address from which this device will accept SNMP packets with the associated community. The requesting entity's IP address is ANDed with the <i>ipmask</i> before being compared to the <i>ipaddress</i> . Note that if <i>ipmask</i> is set to 0.0.0.0, an <i>ipaddress</i> of 0.0.0.0 matches all IP addresses. An example of an IP address format is 200.0.0.2.
<i>ipmask</i>	Is to be ANDed with the requesting entity's IP address before comparing it with the <i>ipaddress</i> in our table. If the result matches with the <i>ipaddress</i> in our table, then the address is authenticated. The default value is 255.255.255.255.

Example

The following command sets an entry in the access control list for community "admin" on the local 8239. This designates an IP address that can access administrator level information provided they also are using the "admin" community name:

```
set access_control_list admin 200.0.0.100 255.255.255.255
```

Related Commands

CLEAR ACCESS_CONTROL_LIST
DISPLAY ACCESS_CONTROL_LIST

SET BOOTP_SERVER

Use this command to define the BOOTP server IP address to which a hub sends BOOTP requests. If you do not specify an IP address, the hub sends the BOOTP request to a broadcast address.

Usage Notes

- 8239 Model 1 only command
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

►—set bootp_server—*ip address*—◄

ip address Is the IP address of the BOOTP server, where *ip address* is a series of 4 decimal bytes separated by periods, such as 192.122.19.4. The default setting is 255.255.255.255, which is the broadcast address.

Example

The following command instructs a hub to send BOOTP requests to IP address 127.3.6.58:

```
set bootp_server 127.3.6.58
```

Related Commands

BOOTP
CLEAR BOOTP
ENABLE BOOTP

SET CLOCK

Use this command to set the time and date on the hub's internal clock. Set the internal clock during installation and then for time changes due to daylight saving time (in the USA) and leap years. The clock has its own battery and keeps time even if power fails.

The hub saves the clock information automatically when you set it. You do not need to use SAVE.

Usage Notes

- 8239 Model 1 only command
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

►—set clock—◄

Example

The following command sets the internal clock to 05:53 on March 6, 1998:

```
set clock 1998 3 6 5 53
```

Related Commands

DISPLAY CLOCK
REPLICATE CLOCK

SET COMMUNITY

Use this command to create entries in the SNMP community table.

The SNMP community table defines access privileges for SNMP managers. The community table contains a maximum of 20 entries. A community entry name cannot exceed 127 characters. Community names are case-sensitive; for example, **Worf** and **worf** are different community names.

Usage Notes

- 8239 Model 1 only command
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

```
► set community [ user | administrator ] | parms |
```

parms:

```
| community_name ip_address subnet_mask |
```

user Specifies that the community can issue any user-level commands.

administrator Specifies that the community can issue any administrator-level commands.

community_name

Specifies the name (case sensitive) of the community to which this operation applies.

ip_address

AN IP address (or portion thereof) from which this device will accept SNMP packets with the associated community. The requesting entity's IP address is ANDed with the specified *subnet_mask* before being compared to the specified *ip_address*. Note that if *subnet_mask* is set to 0.0.0.0, an *ip_address* of 0.0.0.0 matches all IP addresses. The format of *ip_address* is a series of 4 decimal bytes separated by periods, for example, 0.67.75.3. The default value is 0.0.0.0.

subnet_mask

A mask to be ANDed with the requesting entity's IP address before comparison with *ip_address* in the community table. If the result matches the *ip_address* in the community table, then the address is authenticated. The format is a series of 4 decimal bytes separated by periods, for example, 255.255.255.255. The default value is 0.0.0.0.

Example

The following command creates a community named "Admin":

```
set community administrator Admin
```

Related Commands

CLEAR COMMUNITY

DISPLAY COMMUNITY

SET EVENT_SCRIPT

Use this command to assign a script to run when a specified RMON event occurs.

Note: Only 50 events can be attached. When the event_script table is full, the User must clear space by using the CLEAR EVENT command.

Event numbers must be unique. Any particular event number is listed only once in the table and duplicates are deleted. In other words, although several different events may trigger the same script, a single event cannot trigger several scripts. When run, the script output is only displayed on a console connected to the EIA-232 port.

Usage Notes

- 8239 Model 1 command only
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

▶—set event_script—*script_name*—*rmon_index*—————▶

script_name Is the script to run when the RMON event occurs, where *script_name* is one of 10 user-assigned names. Use DISPLAY SCRIPT to display script names.

rmon_index Is the RMON event that triggers the script, where *rmon_index* is the number of the RMON event. Use DISPLAY RMON EVENT_DATA to view events listed by index number.

Example

The following command assigns the script called “disable_port_6” to run when RMON event 5 occurs:

```
set event_script disable_port_6 5
```

Related Commands

CLEAR EVENT_SCRIPT
CLEAR SCRIPT
DISPLAY RMON
DISPLAY SCRIPT

SET GROUP NAME

Use this command to assign a name to a port group. Once you assign a group name, you must identify a group using this name rather than the group number; for example, if you rename **Group1** to **Eng1**, you must refer to the group as **Eng1** in future management commands.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command

- Can only be issued at the local 8239 to take action on the local 8239

► set group name *old_group_name* *new_group_name* ◀

old_group_name

Specifies the group to be renamed.

new_group_name

Specifies the new name for the group, where the name can be up to 15 characters and can be either upper or lower case (group names are not case sensitive). "all" is a reserved group name and cannot be used.

Example

The following command renames "[Empty]" to "Eng2":

```
set group name [Empty] Eng2
```

Related Commands

CLEAR GROUP NAME

CLEAR GROUP PORT

DISPLAY GROUP

ENABLE/DISABLE GROUP commands

SET GROUP PORT

SET GROUP PORT

Use this command to assign ports to a port group. Once the ports are established, you can use ENABLE/DISABLE GROUP to enable or disable all of the ports in a port group.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

► set group port *group*

all
<i>hub.all</i>
<i>hub.port</i>

 ◀

group

Specifies the group to which the ports will be assigned.

all

Specifies that all possible hubs and ports be added to the group.

hub.all

Identifies all ports on a specified hub to be added to the specified group, where *hub* is a number from 1 to 8.

hub.port

Identifies a specific *hub.port* to be added to the specified group, where *hub* is a number from 1 to 8 and *port* is a number from 1 to 32.

Example

The following command assigns all ports on all hubs to group “floor2”:

```
set group port floor2 all
```

Related Commands

CLEAR GROUP NAME
CLEAR GROUP PORT
DISPLAY GROUP
ENABLE/DISABLE GROUP commands
SET GROUP NAME

SET HUB BEACON_THRESHOLD

Use this command to set the number of times that a port or management interface (Model 1 only) is allowed to re-enter the ring after being wrapped due to beaconing.

The 8239 implements beacon recovery by wrapping ports as needed. A hub automatically unwraps a port when the hub detects a transition of phantom on the port.

The beacon threshold is the number of times that a phantom transition is allowed to cause a port to unwrap. When the threshold is exceeded, the port remains wrapped, with a status of BCN THRES EXCEEDED, until you re-enable the port. The port’s BCN FAULT counter is reset whenever a port successfully inserts into the ring or when the module is reset.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator command only

```
► set hub beacon_threshold hub_id threshold ◄
```

hub_id
all

<i>hub_id</i>	Identifies the hub for this operation, where <i>hub_id</i> is a number from 1 to 8. The hub ID is displayed on the front panel of each 8239.
all	Specifies that this command is issued to all hub units within this stack.
<i>threshold</i>	Is the number of phantom transitions allowed after beaconing before the hub shuts down the port, where <i>threshold</i> is a number from 0 to 255. A value of 0 allows an infinite number of retries. The default setting is 8.

Example

The following command sets the beacon threshold to 2 on hub 1:

```
set hub beacon_threshold 1 2
```


Related Commands

DISPLAY HUB
DISPLAY PORT

SET HUB CHANGE_HUB_ID

Use this command to change the hub ID of a hub in the stack.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator command only

▶—set hub change_hub_id—*hub_id*—*new_hub_id*————▶

hub_id Identifies the hub for this operation, where *hub_id* is a number from 1 to 8. The hub ID is displayed on the front panel of each 8239.

new_hub_id Identifies the new hub ID, where *new_hub_id* is a number from 1 to 8.

Example

The following command changes the hub ID of hub 1 to a new hub ID of 2:

```
set hub change_hub_id 1 2
```

Related Commands

DISPLAY HUB
SET HUB RENUMBER_HUB_IDS

SET HUB RENUMBER_HUB_IDS

Use this command to renumber all hub IDs in the stack in token-passing order. Specifically, this command:

1. Assigns hub ID 1 to the local hub
2. Assigns hub ID 2 to the hub connected to Stack Out on hub 1
3. Assigns hub ID 3 to the hub connected to Stack Out on hub 2
4. Continues to assign hub IDs based on the order of stack connections

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator command only

▶—set hub renumber_hub_ids————▶

Example

The following command renumbers hub IDs:

```
set hub renumber_hub_ids
```

Related Commands

DISPLAY HUB

SET HUB CHANGE_HUB_ID

SET HUB RING_SPEED

Use this command to set the hub to run at a ring speed of 4 Mbps or 16 Mbps. The default setting is 16 Mbps.

When this command is issued, there is no verification that other hubs on the same segment as this hub are operating at the same speed. There also is no verification that any ports attached to the hub are disabled.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator command only

```
▶ set hub ring_speed hub_id ring_speed ▶
```

hub_id
all

hub_id Identifies the hub for this operation, where *hub_id* is a number from 1 to 8. The hub ID is displayed on the front panel of each 8239.

all Sets the ring speed for all hub units within the stack.

ring_speed Enter 4 for 4 Mbps or 16 for 16 Mbps.

Example

The following command sets hub 5 to a ring speed of 16 Mbps:

```
set hub ring_speed 5 16
```

Related Commands

DISPLAY HUB

SAVE

SET HUB SPEED_THRESHOLD

Use this command to set the number of times that a port may attempt to insert into the ring at the wrong speed.

When the threshold is exceeded, the port remains wrapped, with a status of SPEED THRES EXCEEDED, until you re-enable the port. The port's speed mismatch counter is reset whenever the port successfully inserts into the ring or when the hub is reset.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator command only

```
▶—set hub speed_threshold hub_id threshold—▶
```

└──┬──┘

all

hub_id Identifies the hub for this operation, where *hub_id* is a number from 1 to 8. The hub ID is displayed on the front panel of each 8239.

all Sets the speed threshold for all hub units within the stack.

threshold Is the number of incorrect speed insertion attempts to make before the hub shuts down the port, where *threshold* is a number from 0 to 255. A value of 0 allows an infinite number of retries. The default setting is 8.

Example

The following command sets the speed threshold to 2 on hub 1:

```
set hub speed_threshold 1 2
```

Related Command

DISPLAY HUB

SET IP

Use this command to set the Internet Protocol (IP) address, subnet mask, and default gateway for a hub. The hub must have an IP address if you plan in-band management of the stack. The default IP address is 0.0.0.0.

SET IP asks the user to enter the IP address, subnet mask, and default gateway. All three parameters are changed at the same time and are active immediately after the command completes. The IP addresses are entered using a dotted decimal notation.

Usage Notes

- 8239 Model 1 command only
- Administrator command only

```
▶—set ip—▶
```

Example

The following command configures hub 2 with an IP address of 9.67.210.10, a subnet mask of 255.255.255.224, and a default gateway of 9.67.210.12:

```
set ip 2 9.67.210.10 255.255.255.224 9.67.210.12
```

Related Command

DISPLAY IP ADDRESS

SET LOGIN

Use this command to add users to and change passwords for the 8239 command interface.

The user access privilege authorizes you to use a subset of the commands. These commands are identified as user commands under the “Usage Notes” section of each command.

The Administrator access privilege authorizes you to use all commands.

The 8239 supports up to 10 login names, so that you can authorize several users with differing privileges. You must be logged in as an administrator to create new login names. Also, you must issue SAVE to permanently save the new login names.

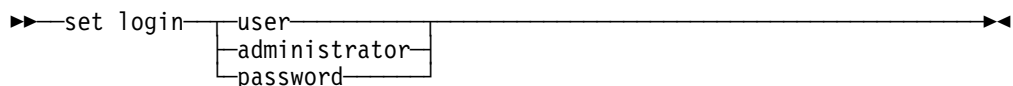
Passwords are case sensitive. New passwords are effective immediately.

If a User forgets a password, an Administrator can use CLEAR LOGIN and SET LOGIN to remove and then recreate the user login name. If an Administrator password is forgotten, contact your IBM Service Representative.

The default setting is a single user account with the user name **admin** and no password.

Usage Notes

- 8239 Model 1 command only
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239



user Creates a User login and password.

administrator Creates an Administrator login and password.

password Changes the password of the current user.

Example

The following command allows an administrator to establish a new user name and password:

```
set login user
```

Example

The following command changes the password of the user currently logged in:

```
set login password
```

Related Command

DISPLAY LOGIN

SAVE

SET MANAGEMENT_INTERFACE 802.5_GROUP

Use this command to enable or disable collecting statistics for the IEEE 802.5 MIB Statistics Table. The default setting is disabled.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command

```
►—set management_interface 802.5_group—enable|disable—hub_id—►
```

hub_id Identifies the hub for this operation, where *hub_id* is a value from 1 to 8. The hub ID is displayed on the front panel of each 8239.

Example

The following command enables 802.5 on hub 1:

```
set management_interface 802.5_group enable 1
```

Related Command

DISPLAY MANAGEMENT_INTERFACE

SET MANAGEMENT_INTERFACE ACTIVE_MONITOR_PARTICIPATION

Use this command to specify whether the management interface participates in active monitor contention if the opportunity arises. The default setting is disabled.

If the need to determine a new active monitor arises, the management interface detects and initiates the process regardless of this setting.

Usage Notes

- 8239 Model 1 command only
- Administrator command only

```
►—set management_interface active_monitor_participation—| parms |—►
```

parms:

```
|—enable—|hub_id—|  
|—disable—|
```

hub_id Identifies the hub for this operation, where *hub_id* is a number from 1 to 8. The hub ID is displayed on the front panel of each 8239.

Example

The following command disables active monitor contention:

```
set management_interface active_monitor_participation disable 1
```

Related Command

DISPLAY MANAGEMENT_INTERFACE

SET MANAGEMENT_INTERFACE ADMINISTRATIVE_MODE

Use this command to enable or disable the management interface on the 8239 Model 1.

Enabling the interface allows the management interface to be inserted onto the stack ring. Disabling the interface causes the management interface to be removed from the stack ring.

Attention: In-band connectivity to the Model 1 is lost when Administrative_Mode is disabled. Once disabled, the only way to enable Administrative_Mode is by using the EIA-232 port.

Usage Notes

- 8239 Model 1 command only
- Administrator command only

►—set management_interface administrative_mode—enable|disable—hub_id—◄◄

hub_id Identifies the hub for this operation, where *hub_id* is a value from 1 to 8. The hub ID is displayed on the front panel of each 8239.

Example

The following command disables the management interface on hub 4:

```
set management_interface administrative_mode disable 4
```

Related Command

DISPLAY MANAGEMENT_INTERFACE

SET MANAGEMENT_INTERFACE ARP_RESOLVE_METHOD

Use this command to configure the 8239 with how to set the source routing bit in Address Resolution Protocol (ARP) Requests that it sends.

The management interface normally sets the source routing bit in ARP Requests. Clearing the source routing bit in ARP requests is necessary if the stack is connected to the same IP subnetwork as devices that do not support source routing.

Usage Notes

- 8239 Model 1 command only
- Administrator command only

► set management_interface arp_resolve_method | parms | hub_id ◄

parms:

| source_route |
| non_source_route |

source_route Sets the source routing bit in ARP Requests. This value is the default setting.

non_source_route Clears the source routing bit in ARP Requests.

hub_id Identifies the hub for this operation, where *hub_id* is a number from 1 to 8. The hub ID is displayed on the front panel of each 8239.

Example

The following command sets hub 1 to clear the source routing bit in ARP Requests:

```
set management_interface arp_resolve_method non_source_route 1
```

Related Command

DISPLAY MANAGEMENT_INTERFACE

SET MANAGEMENT_INTERFACE DIAGNOSTICS_WRAP

Use this command to specify whether or not a diagnostic wrap is needed on the Management Interface. Use this command only for problem determination purposes when the Management Interface is not able to insert into the ring successfully (that is, have an adapter status of OPENED). Whenever the Management Interface is in external- or internal- wrap mode, the Management Interface Administrative_Mode should be disabled.

Usage Notes

- 8239 Model 1 only command
- Administrator command only

► set management_interface diagnostics_wrap wrap_type hub_id ◄

wrap_type Is the type of wrap to perform. Valid values are **external** (lobe wrap), **internal** (MAC wrap), or **none** (no wrap), which is the default.

hub_id Identifies the hub for this operation. *hub_id* is a value from 1 to 8. The hub ID is displayed on the front panel of each 8239.

Example

The following command specifies that an internal wrap of the Management Interface on hub 7 should be done:

```
set management_interface diagnostics_wrap internal 7
```

Related Commands

- DISPLAY MANAGEMENT_INTERFACE
- SET MANAGEMENT_INTERFACE ADMINISTRATIVE_MODE

SET MANAGEMENT_INTERFACE EARLY_TOKEN_RELEASE

Use this command to enable or disable early token release. Early token release allows the Management Interface to release a new token as soon as it has completed frame transmission, whether or not the frame header has returned. This option is valid for 16 Mbps Token Ring networks only. The default setting is enabled.

Usage Notes

- 8239 Model 1 command only
- Administrator command only

►—set management_interface early_token_release—enable|disable—hub_id—◄◀

hub_id Identifies the hub for this operation, where *hub_id* is a value from 1 to 8. The hub ID is displayed on the front panel of each 8239.

Example

The following command disables early token release on hub 1:

```
set management_interface early_token_release disable 1
```

Related Commands

DISPLAY HUB
DISPLAY MANAGEMENT_INTERFACE

SET MANAGEMENT_INTERFACE LOCALLY_ADMIN_ADDRESS

Use this command to specify a locally-administered MAC address for the management interface. You must issue SET MANAGEMENT_INTERFACE MAC_ADDR_TYPE to activate the locally administered address.

If the locally administered address is actively being used and it is being changed, connectivity to other stations may be lost until the old MAC address is cleared from everyone's ARP cache.

Usage Notes

- 8239 Model 1 command only
- Administrator command only

►—set management_interface locally_admin_address—hub_id—mac_address—◄◀

hub_id Identifies the hub for this operation, where *hub_id* is a value from 1 to 8. The hub ID is displayed on the front panel of each 8239.

SET MANAGEMENT_INTERFACE RMON2_MODE

Use this command to select a version of RMON2. ECAM is a proprietary version of RMON2, which was implemented prior to RMON2 standardization; some versions of LAN ReMon only work with ECAM as an option that can be downloaded. RMON2 is, on the other hand, the standard RMON2 version. ECAM and RMON2 are mutually exclusive choices.

For this command to take effect, the hub's configuration must be saved and the hub reset.

Usage Notes

- 8239 Model 1 command only
- Administrator command only

```
►—set management_interface rmon2_mode 

|       |
|-------|
| ecam  |
| rmon2 |
| none  |

 hub_id —►
```

ecam Allows the ECAM statistic collection.

rmon2 Allows the standard RMON2 statistic collection. This value is the default.

none Specifies that no RMON2 statistic collection is allowed.

hub_id Identifies the hub for this operation, where *hub_id* is a number from 1 to 8. The hub ID is displayed on the front panel of each 8239.

Example

The following command specifies that hub 7 use ECAM:

```
set management_interface rmon2_mode ecam 7
```

Related Commands

DISPLAY MANAGEMENT_INTERFACE

RESET_HUB

SAVE

SET MANAGEMENT_INTERFACE RPS_TRAPS

Use this command to enable or disable the generate traps option for RPS. When enabled, this command instructs the RPS function to report when a station inserts into the ring. The default is enabled.

This command is equivalent to ENABLE/DISABLE TR_SURROGATE RPS_TRAPS except that the Management_Interface command is not restricted to the local 8239.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command

```
►►—set management_interface rps_traps—enable—hub_id—►►  
                                          └─disable─┘
```

hub_id Identifies the hub for this operation, where *hub_id* is a value from 1 to 8. The hub ID is displayed on the front panel of each 8239.

Example

The following command enables RPS traps on hub 1:

```
set management_interface rps_traps enable 1
```

Related Command

```
DISPLAY MANAGEMENT_INTERFACE
```

SET MANAGEMENT_INTERFACE SURROGATE_GROUP

Use this command to enable or disable the surrogate group. ENABLE/DISABLE TR_SURROGATE SURR_STATUS SURR_ADMIN can also be used.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command

```
►►—set management_interface surrogate_group—enable—hub_id—►►  
                                          └─disable─┘
```

hub_id Identifies the hub for this operation, where *hub_id* is a value from 1 to 8. The hub ID is displayed on the front panel of each 8239.

Example

The following command enables the surrogate group:

```
set management_interface surrogate_group enable 1
```

Related Commands

```
DISPLAY MANAGEMENT_INTERFACE
```

```
ENABLE/DISABLE TR_SURROGATE SURR_STATUS SURR_ADMIN
```

SET MANAGEMENT_INTERFACE SYSTEM_CONTACT

Use this command to store information such as a person's name, location, company, and telephone number. You can enter one line of up to 127 characters.

Usage Notes

- 8239 Model 1 command only
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

►►—set management_interface system_contact—*hub_id*—*contact*————►►

hub_id Identifies the hub for this operation, where *hub_id* is a value from 1 to 8. The hub ID is displayed on the front panel of each 8239.

contact Enter up to 127 characters to identify the system contact.

Example

The following command allows a system contact to be defined for hub 1:

```
set management_interface system_contact 1 Susan Wu, 696-522-1219
```

Related Command

DISPLAY MANAGEMENT_INTERFACE

SET MANAGEMENT_INTERFACE SYSTEM_LOCATION

Use this command to describe the location of the 8239. You can enter one line of up to 127 characters.

Usage Notes

- 8239 Model 1 command only
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

►►—set management_interface system_location—*hub_id*—*location*————►►

hub_id Identifies the hub for this operation, where *hub_id* is a value from 1 to 8. The hub ID is displayed on the front panel of each 8239.

location Enter up to 127 characters to identify the location.

Example

The following command allows a location to be defined for hub 1:

```
set management_interface system_location 1 Lisbon, Building 1, Floor 3
```

Related Command

DISPLAY MANAGEMENT_INTERFACE

SET MANAGEMENT_INTERFACE SYSTEM_NAME

Use this command to enter a system name for the 8239. You can enter one line of up to 127 characters.

Usage Notes

- 8239 Model 1 command only
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239

► set management_interface system_name—hub_id—name ◀

hub_id Identifies the hub for this operation, where *hub_id* is a value from 1 to 8. The hub ID is displayed on the front panel of each 8239.

name Enter up to 127 characters to identify the system name.

Example

The following command allows a system name to be defined for hub 1:

```
set management_interface system_name 1 bldg 2 hub
```

Related Command

DISPLAY MANAGEMENT_INTERFACE

SET RMON ALARM

Use this command to set up an alarm that triggers an event based on the parameters you specify.

Each sample is compared with two thresholds: a rising threshold and falling threshold. Each sample can be either an absolute value or a delta value; the delta value is the difference between the current value and the value from the previous sample. If the value crosses the threshold, an event associated with that threshold may be generated. The threshold is not re-armed until the opposite threshold is crossed (rising or falling), preventing the generation of multiple events as a sample crosses just above and below a specific threshold.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

► set rmon alarm—mlstats—mlstat—pstats—pstat—| parms1 | parms2 | parms3 ◀

parms1:

| rising—falling—both |

parms2:

| delta_type—absolute_type |

parms3:

| threshold—event—mm:ss |

mlstats Selects the MAC Layer RMON statistics group for this operation.

mlstat Specifies the statistic for this operation, where *mlstat* can be:

- Drop_Events
- Octets

- Packets
- Ring_Purge_Events
- Ring_Purge_Packets
- Beacon_Events
- Beacon_Time
- Beacon_Packets
- Claim-Token_Events
- Claim-Token_Packets
- NAUN_Change
- Line_Errors
- Internal_Errors
- Burst_Errors
- AC_Errors
- Abort_Errors
- Lost_Frame_Errors
- Congestion_Errors
- Frame_Copied_Errors
- Frequency_Errors
- Token_Errors
- Soft_Error_Reports
- Ring_Poll_Events

pstats Selects the Promiscuous RMON statistics group for this operation.

pstat Specifies the statistic for this operation, where *pstat* can be:

- Drop_Events
- Octets
- Packets
- Broadcast_Packets
- Multicast_Packets

rising thresh Specifies that the statistic value rising above the threshold triggers the event.

event Is the index number of the RMON event triggered by the rising threshold. Use SET RMON EVENT to create events and DISPLAY RMON EVENT_DATA to view event index number.

falling thresh Specifies that the statistic value falling below the threshold triggers the event.

event Is the index number of the RMON event triggered by the falling threshold. Use SET RMON EVENT to create events and DISPLAY RMON EVENT_DATA to view event index numbers.

mm:ss Is the time between samples, where *mm* is 0 to 59 minutes and *ss* is 0 to 59 seconds.

both Sets a rising and falling threshold. After selecting **both**, you will be prompted to enter a rising threshold and event, then a falling threshold and event.

Example

The following command sets thresholds that trigger an alarm when there are more than five BeaconEvents over a 1 minute period for event 2 for the RMON agent on the local 8239:

```
set rmon alarm m1stat beacon_events rising delta_type 5 2 01:00
```

Note: The associated event needs to be created prior to issuing this command and the associated event index must be known before entering this command.

Related Commands

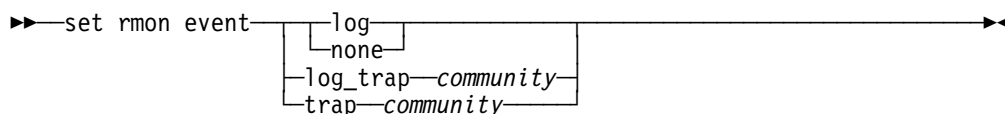
CLEAR RMON
 DISPLAY RMON
 ENABLE RMON EVENT

SET RMON EVENT

Use this command to enable events that are triggered by alarms created using SET RMON ALARM.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239



log Writes an entry in the event log.

none Takes no action.

log_trap Writes an entry in the event log and sends a trap to the specified community.

trap Sends a trap to the specified community in the RMON2 or ASPEN MIB Trap Table.

community Is the SNMP community name for trap receivers. Use SHOW COMMUNITY for a list of communities. Use LAN ReMon to view RMON2 or ASPEN Trap Table.

Note: If you set an RMON or all type trap community in the 8239 trap table, a community by that name will be set in the RMON2/ASPEN MIB Trap Table

also. If an alarm were set up to use this event, when the alarm triggered, an SNMP trap would be sent to the trap community.

Example

The following command enables a trap message to be sent to the community name **traps_community**:

```
set rmon event trap traps_community
```

Related Commands

CLEAR RMON
DISPLAY COMMUNITY
DISPLAY RMON
ENABLE RMON ALARM
ENABLE RMON EVENT
SET RMON ALARM
SET TRAP_COMMUNITY

SET RMON HISTORY_CONTROL

Use this command to set up a collection of MAC layer and promiscuous statistics history.

The RMON agent in the 8239 Model 1 collects MAC layer network statistics and promiscuous statistics for sample intervals known as *buckets*. For user-created control table entries, the RMON agent stores 50 buckets. Once the agent has stored 50 buckets, it deletes the oldest bucket each time it stores a new bucket.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

```
▶—set rmon history_control mm:ss—————▶
```

mm:ss Is the time interval for RMON collection in minutes and seconds, where *mm* is a number from 0 to 59 and *ss* is a number from 0 to 59.

Example

The following command enables history monitoring by the RMON agent at a sample interval of 10 minutes:

```
set rmon history_control 10:00
```

Related Commands

CLEAR RMON
DISPLAY RMON CONTROL HISTORY

DISPLAY RMON HISTORY_ML_DATA
DISPLAY RMON HISTORY_P_DATA
ENABLE RMON HISTORY

SET RMON TOPN_HOSTS

Use this command to enable the collection of RMON Host Top N group statistics by the RMON probe.

The collection of Host Top N group statistics works in this way:

1. Create a control table entry specifying the duration of the test interval and the statistic to monitor during the interval.
2. The RMON probe monitors the statistic for the specified interval. During this time, the data is not available for viewing.
3. When the interval is complete, the RMON probe ranks the top 10 hosts based on the monitored statistic. Use DISPLAY RMON TOPN_HOSTS to view the data.

The RMON probe collects no more data for this control table entry.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

►—set rmon topn_hosts—*statistic*—*mm:ss*—◄

statistic Is the statistic by which to rank hosts, where *statistic* has one of these values:

- in_octets
- in_packets
- out_bcasts
- out_errors
- out_mcasts
- out_octets
- out_packets

mm:ss Is the time interval for RMON collection, in minutes and seconds, where *mm* is a number from 0 to 59 and *ss* is a number from 0 to 59.

Example

The following command enables Hosts Top N monitoring to rank hosts based on the number of packets sent by each host during a 30-minute interval:

```
set rmon topn_hosts out_packets 30:00
```

Related Commands

CLEAR RMON
DISPLAY RMON CONTROL TOPN_HOSTS
DISPLAY RMON TOPN_HOSTS_DATA

SET SCHEDULE

Use this command to schedule a script to be periodically executed.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

```
▶▶ set schedule script—script_name—sched_index—interval—sched_index—i_time—month_periodic—sched_index—day_of_month—time—day_periodic—sched_index—day—time—date—sched_index—date—time▶▶
```

<i>script_name</i>	Identifies the script to be modified, where <i>script_name</i> is 1 of 10 user assigned unique names. Use DISPLAY SCRIPT for a list of scripts.
<i>sched_index</i>	Identifies the schedule index to be created or modified, where <i>sched_index</i> is a number from 1 to 20. Use DISPLAY SCHEDULE with the all option for a list of existing indices.
<i>i_time</i>	Represents a time interval in hh:mm format.
<i>day_of_month</i>	Represents a day of month from 1 to 31. 30 and 31 are not valid for February, and if entered, the day will automatically be converted to March 1 or March 2, respectively.
<i>time</i>	Represents hours, with minutes optional. Both hours and minutes can be 1 or 2 digits.
<i>day</i>	Indicates named days of the week or groups of days. Enter one of the following values: Mon, Tue, Wed, Thr, Fri, Sat, Sun, Weekdays, Weekends, or Everyday.
<i>date</i>	Represents <i>mm/dd</i> format, where <i>mm</i> is a number from 1 to 12 and <i>dd</i> is a number from 1 to 31. No check is done for an invalid date.

Example

The following command runs script 3 on Mondays:

```
set schedule day_periodic 3 mon 00:00
```

Example

The following command runs a script on a specific day (script 7 has been previously set):

```
set schedule date 7 7/25 17:00
```

Example

The following command runs script 8 every two hours:

```
set schedule interval 8 2:00
```

Related Commands

DISPLAY SCHEDULE
DISPLAY SCRIPT
ENABLE/DISABLE SCHEDULE

SET SECURITY_PORT ACTION_ON_INTRUSION

Use this command to define the action the 8239 takes when a security intrusion occurs.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command

```
► set security_port action_on_intrusion | parameters | all | hub.all | hub.port | ◀
```

parameters:

```
| disable_and_trap | _____ |  
| disable_only |  
| no_action |  
| trap_only |
```

disable_and_trap

Disables the port and sends traps as defined in the community table.

disable_only

Disables the port.

no_action

Requires that the hub take no action.

trap_only

Sends traps as defined in the community table.

all

Identifies this operation to be for all ports on all hubs in this stack.

hub.all

Identifies all of the ports on the specified hub, where *hub* is a number from 1 to 8.

hub.port

Identifies the port for this operation, where *hub* is a number from 1 to 8, and *port* is a number from 1 to 32.

Example

The following command specifies that the hub should disable the port if an intrusion occurs on port 1, hub 3:

```
set security_port action_on_intrusion disable_only 3.1
```

Related Commands

DISPLAY SECURITY commands
SAVE
SET SECURITY_PORT

SET SECURITY_PORT CAPTURE

Use this command to copy all MAC addresses currently active on a given port into the Secure MAC Address Table. The Secure MAC Address Table contains a maximum of 16 MAC addresses for each port in the stack.

If a MAC-less device is attached to a port, the MAC address is displayed as "MAC-less Device" in the Secure MAC Address Table.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command

```
▶ set security_port capture 

|          |
|----------|
| all      |
| hub.all  |
| hub.port |

 ▶
```

all Identifies this operation to be for all ports on all hubs in this stack.

hub.all Identifies all of the ports on the specified hub, where *hub* is a number from 1 to 8.

hub.port Identifies the port for this operation, where *hub* is a number from 1 to 8, and *port* is a number from 1 to 32.

Example

The following command copies all MAC addresses on hub 4 to the Secure MAC Address Table:

```
set security_port capture 4.all
```

Related Commands

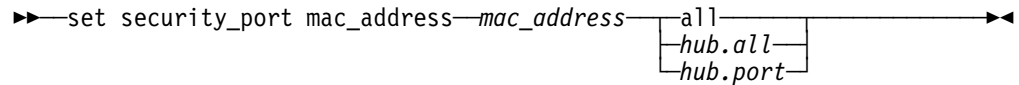
DISPLAY SECURITY commands
SAVE

SET SECURITY_PORT MAC_ADDRESS

Use this command to enter a MAC address into the Secure MAC Address Table. The Secure MAC Address Table contains a maximum of 16 MAC addresses for each port in the stack. The addresses contained in the Secure MAC Address Table will not produce security "intrusions" if they are detected on the port. The security function must be enabled on a port before security "intrusions" can occur.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command



mac_address Is the MAC address to be entered into the Secure MAC Address Table, where *mac address* is a series of six hexadecimal bytes separated by colons. If adding a MAC-less device, use 00:00:00:00:00:00.

all Identifies this operation to be for all ports on all hubs in this stack.

hub.all Identifies all of the ports on the specified hub, where *hub* is a number from 1 to 8.

hub.port Identifies the port for this operation. *hub* is a number from 1 to 8. *port* is a number from 1 to 32.

Example

The following command enters MAC address 08:00:5A:00:88:12 in the Secure MAC Address Table for port 2, hub 4:

```
set security_port mac_address 08:00:5A:00:88:12 4.2
```

Related Commands

DISPLAY SECURITY commands

SAVE

SET TERMINAL BAUD

Use this command to set the baud rate for the EIA-232 port. The baud rate of this port and the connected device must match.

To attach a device that is set to a different baud rate from the EIA-232 port, change the EIA-232 port baud rate to the baud rate used by the device:

1. Set a terminal to 9600 baud (the default 8239 setting) and press **Enter** to access the hub.
2. Issue SET TERMINAL BAUD to set the baud rate to your specifications. Once you set the new rate, you lose your connection to the hub.
3. Remove the terminal connection and attach the device that has the different baud rate to resume your connection on the hub.
4. Issue SAVE to save the new terminal setting.

During the running of the diagnostics, the baud rate is set to 9600. The SET TERMINAL BAUD command affects the baud rate *after* the diagnostic tests are finished. Should you experience a diagnostics failure, be sure the terminal baud rate is set to 9600 baud before trying to determine the cause of the problem.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

►—set terminal baud—*rate*—◄

rate Selects the baud rate, where *rate* is equal to:

- 4800
- 9600
- 19200
- 38400
- 57600
- 115200

The default setting is 9600.

Example

The following command sets the baud rate to 4800:

```
set terminal baud 4800
```

Related Commands

DISPLAY TERMINAL

SET TERMINAL commands

SET TERMINAL PROMPT

Use this command to customize the prompt that is displayed on your terminal during a terminal session.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

►—set terminal prompt—*new_prompt*—◄

new_prompt Represents the prompt that appears during a terminal session, where **new_prompt** can be up to 15 characters. The default setting is `?=Help>`.

Example

The following command sets the prompt to “my_hub>”:

```
set terminal prompt my_hub>
```

Related Commands

DISPLAY TERMINAL

SET TERMINAL commands

SET TERMINAL TIMEOUT

Use this command to configure an 8239 to automatically log you out if you have not typed anything for a specific number of minutes. The timeout only affects Telnet sessions; an EIA-232 port session is not timed.

Note: You lose any changes you have made if the 8239 is reset before you log back in and save them.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

► set terminal timeout ◀

timeout Represents the length of the timeout interval in minutes, where **timeout** is a number from 1 to 60 with 0 disabling the timeout function. The default setting is 15.

Example

The following command logs you out of the 8239 after 10 minutes of inactivity:

```
set terminal timeout 10
```

Related Commands

DISPLAY TERMINAL

SET TERMINAL commands

SET TR_SURROGATE CRS_STATION

Use this command to set a station's features.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

► set tr_surrogate crs_station | parms ◀

parms:

| allow_acc_pri mac_address new_value |
| enb_fun_class |
| phys_loc |
| remove_sta mac_address |

allow_acc_pri Specifies the maximum token access priority that the station with the indicated MAC address is allowed to transmit. Valid values are 0 to 3.

enb_fun_class	Specifies the function classes the station with the indicated MAC address is allowed to transmit. Valid values are 0 to X'FFFFX'.
phys_loc	Sets the physical location subvector that is transmitted as part of Report Ring Station Addresses MAC frames sent by the station with the indicated MAC address.
remove_sta	Sends a Remove Station MAC frame to the station with the indicated MAC address.
<i>mac_address</i>	Identifies the MAC address of the station for which you are setting this parameter.
<i>new_value</i>	Identifies the new value for the allow_acc_pri , enb_fun_class , or phys_loc parameter. The new value is in hex.

Example

The following command causes a Remove Station MAC frame to be sent to the specified MAC address:

```
set tr_surrogate crs_station remove_sta 00:04:e4:40:00:c0
```

Related Commands

DISPLAY TR_SURROGATE commands
 ENABLE TR_SURROGATE SURR_STATUS CRS_ADMIN
 ENABLE TR_SURROGATE SURR_STATUS SURR_ADMIN

SET TR_SURROGATE SEGMENT_NUMBER

Use this command to configure the ring segment number associated with the segment that the management interface is monitoring. This ring segment number should be the same value used by any bridges or other devices that are doing source routing.

Usage Notes

- 8239 Model 1 command only
- Administrator or user command
- Can only be issued at the local 8239 to take action on the local 8239

▶—set tr_surrogate segment_number—*segment_value*—▶

segment_value Is the ring segment number associated with this segment, where *seg_value* is a hex value from 0 to FFF.

Example

The following command sets the segment number to 42:

```
set tr_surrogate segment_number 42
```

Related Command

DISPLAY TR_SURROGATE SURR_STATUS

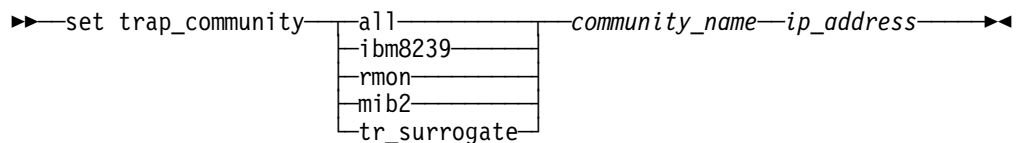
SET TRAP_COMMUNITY

Use this command to create entries in the SNMP trap community table. The SNMP trap community table defines the IP addresses to which traps will be sent.

The community table contains a maximum of 10 entries. A community entry name cannot exceed 15 characters. Community names are case-sensitive; for example **Worf** and **worf** are different community names.

Usage Notes

- 8239 Model 1 command only
- Administrator command only
- Can only be issued at the local 8239 to take action on the local 8239



all Associates all traps (for example, RMON, 8239 traps, MIB-II traps, TR Surrogate traps) with the specified community name. An entry is also added to the RMON2 trap table or ASPEN MIB trap table.

ibm8239 Associates all IBM 8239 MIB traps with the specified community name.

rmon Associates all RMON events with the specified community name. An entry is also added to the RMON2 trap table or ASPEN MIB trap table.

mib2 Associates all MIB II traps with the specified community name.

tr_surrogate Associates all IBM Token-Ring Surrogate MIB traps with the specified community name.

community_name

Specifies the name of the community to which this operation applies. This parameter is case-sensitive. Enter the community name or enter **all** to specify all communities.

ip_address

Is a specific IP address to be added to the specified community. Enter an IP address as a series of four decimal bytes separated by periods.

Example

The following command creates a trap community entry named RMON. It adds the IP address 2.13.34.24 to this community so that all RMON events specifying this community are sent to the specified IP address.

```
set trap_community rmon RMON 2.13.34.24
```

Related Commands

CLEAR TRAP_COMMUNITY

DISPLAY COMMUNITY

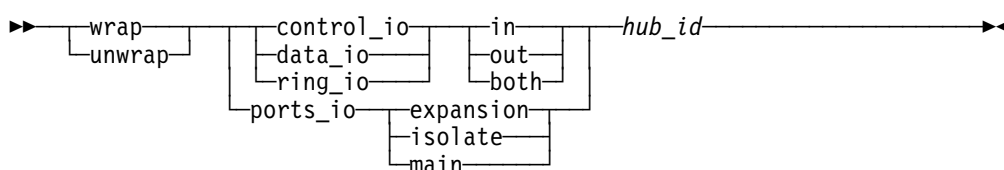
WRAP|UNWRAP

Use this command to wrap or unwrap the ports, ring in/out, or data in/out from the stack ring, or to wrap or unwrap the control ring in/out from the intrastack control ring. Use of this command with parameters other than `data_io` is intended for problem isolation, not for normal operations. Use this command with the `data_io` parameter to perform data-ring segmentation.

Attention: Issuing this command may affect your ability to manage the stack or affect the data path of the stack ring.

Usage Notes

- 8239 Model 1 or 8239 Model 2 command
- Administrator command only



in	Identifies ring_in, data_in, or control_in for this operation.
out	Identifies ring_out, data_out, or control_out for this operation.
both	Identifies both in and out for this operation.
expansion	Identifies the expansion ports for this operation (ports 17 to 32).
isolate	Identifies the port isolate wrap point for this operation.
main	Identifies the main ports for this operation (ports 1 to 16).
<i>hub_id</i>	Identifies the hub for this operation, where <i>hub_id</i> is a value from 1 to 8. The hub ID is displayed on the front panel of each 8239.

Example

The following command wraps ports 1 through 16 on hub 1 from the stack ring (that is, disconnects ports 1 through 16 on this hub from the stack ring):

```
wrap ports_io main 1
```

Related Commands

- DISPLAY RING_IO
- DISPLAY WRAP_POINTS
- ENABLE/DISABLE RING_IO

Glossary

This glossary includes terms and definitions from:

- The *American National Standard Dictionary for Information Systems*, ANSI X3.172-1990, copyright 1990 by the American National Standards Institute (ANSI). Copies may be purchased from the American National Standards Institute, 11 West 42nd Street, New York, New York 10036. Definitions are identified by the symbol (A) after the definition.
- The ANSI/EIA Standard—440-A, *Fiber Optic Terminology* Copies may be purchased from the Electronic Industries Association, 2001 Pennsylvania Avenue, N.W., Washington, DC 20006. Definitions are identified by the symbol (E) after the definition.
- The *Information Technology Vocabulary* developed by Subcommittee 1, Joint Technical Committee 1, of the International Organization for Standardization and the International Electrotechnical Commission (ISO/IEC JTC1/SC1). Definitions of published parts of this vocabulary are identified by the symbol (I) after the definition; definitions taken from draft international standards, committee drafts, and working papers being developed by ISO/IEC JTC1/SC1 are identified by the symbol (T) after the definition, indicating that final agreement has not yet been reached among the participating National Bodies of SC1.
- The *IBM Dictionary of Computing*, New York: McGraw-Hill, 1994.
- Internet Request for Comments: 1208, *Glossary of Networking Terms*
- Internet Request for Comments: 1392, *Internet Users' Glossary*
- The *Object-Oriented Interface Design: IBM Common User Access Guidelines*, Carmel, Indiana: Que, 1992.

The following cross-references are used in this glossary:

Contrast with: This refers to a term that has an opposed or substantively different meaning.

Synonym for: This indicates that the term has the same meaning as a preferred term, which is defined in its proper place in the glossary.

Synonymous with: This is a backward reference from a defined term to all other terms that have the same meaning.

See: This refers the reader to multiple-word terms that have the same last word.

See also: This refers the reader to terms that have a related, but not synonymous, meaning.

A

address. In data communication, the unique code assigned to each device, workstation, or user connected to a network.

address mask. For internet subnetworking, a 32-bit mask used to identify the subnetwork address bits in the host portion of an IP address. Synonymous with *subnet mask* and *subnetwork mask*.

Address Resolution Protocol (ARP). In the internet suite of protocols, the protocol that dynamically maps an IP address to an address used by a supporting LAN, such as Ethernet or token ring.

alert. A message sent to a management services focal point in a network to identify a problem or an impending problem.

American National Standards Institute (ANSI). An organization consisting of producers, consumers, and general interest groups, that establishes the procedures by which accredited organizations create and maintain voluntary industry standards in the United States. (A)

B

bootstrap. (1) A sequence of instructions whose execution causes additional instructions to be loaded and executed until the complete computer program is in storage. (T) (2) A technique or device designed to bring itself into a desired state by means of its own action, for example, a machine routine whose first few instructions are sufficient to bring the rest of itself into the computer from an input device. (A)

C

client. (1) A functional unit that receives shared services from a server. (T) (2) A user.

client/server. In communications, the model of interaction in distributed data processing in which a program at one site sends a request to a program at another site and awaits a response. The requesting program is called a client; the answering program is called a server.

community. In the Simple Network Management Protocol (SNMP), an administrative relationship between entities.

community name. In the Simple Network Management Protocol (SNMP), a string of octets identifying a community.

Configuration Report Server. A function of the token-ring manager that accepts commands to get station information, set station parameters, and remove stations on its ring. It also collects and forwards configuration reports generated by station on its ring to the LAN manager.

CRS. Configuration Report Server.

D

default. Pertaining to an attribute, condition, value, or option that is assumed when none is explicitly specified. (I)

E

EIA 232. In data communication, a specification of the Electronic Industries Association (EIA) that defines the interface between data terminal equipment (DTE) and data circuit-terminating equipment (DCE), using serial binary data interchange.

Electronic Industries Association (EIA). An organization of electronics manufacturers that advances the technological growth of the industry, represents the views of its members, and develops industry standards.

H

HyperText Markup Language (HTML). A markup language that is specified by an SGML document type definition (DTD) and that is understood by all World Wide Web servers.

I

internet. A collection of networks interconnected by a set of routers that allow them to function as a single, large network. See also *Internet*.

Internet. The internet administered by the Internet Architecture Board (IAB), consisting of large national backbone networks and many regional and campus networks all over the world. The Internet uses the Internet suite of protocols.

Internet address. See *IP address*.

Internet Protocol (IP). A connectionless protocol that routes data through a network or interconnected networks. IP acts as an intermediary between the higher protocol layers and the physical network. However, this protocol does not provide error recovery and flow control and does not guarantee the reliability of the physical network.

IP address. The 32-bit address defined by the Internet Protocol, standard 5, Request for Comments (RFC) 791. It is usually represented in dotted decimal notation.

L

link-attached. (1) Pertaining to devices that are connected to a controlling unit by a data link. (2) Synonymous with *remote*.

local. (1) Pertaining to a device accessed directly without use of a telecommunication line. (2) Contrast with *remote*.

M

Management Information Base (MIB). (1) A collection of objects that can be accessed by means of a network management protocol. (2) A definition for management information that specifies the information available from a host or gateway and the operations allowed. (3) In OSI, the conceptual repository of management information within an open system.

management station. In Internet communications, the system responsible for managing all, or a portion of, a network. The management station communicates with network management agents that reside in the managed node by means of a network management protocol, such as the Simple Network Management Protocol (SNMP).

markup language. An application-oriented language designed to transform raw text into structured documents by inserting procedural and descriptive markup into the raw text. Examples of markup languages are HTML, DCF, PAGE, SCRIBE, SCRIPT, and SGML.

mask. (1) A pattern of characters used to control retention or elimination of portions of another pattern of characters. (I) (A) (2) To use a pattern of characters to control retention or elimination of portions of another pattern of characters. (I) (A)

modem (modulator/demodulator). (1) A functional unit that modulates and demodulates signals. One of the functions of a modem is to enable digital data to be transmitted over analog transmission facilities. (T) (A) (2) A device that converts digital data from a computer to an analog signal that can be transmitted on a

telecommunication line, and converts the analog signal received to data for the computer.

P

packet internet groper (PING). A program used in TCP/IP networks to test the ability to reach destinations by sending the destinations an Internet Control Message Protocol (ICMP) echo request and waiting for a reply.

phantom voltage. A DC voltage superimposed on a Token-Ring signal; it is used to signal a Token-Ring concentrator that a station is ready to be inserted into the ring.

R

REM. Ring Error Monitor.

remote. (1) Pertaining to a system, program, or device that is accessed through a telecommunication line. (2) Synonym for *link-attached*. (3) Contrast with *local*.

ring error monitor (REM). A function of the token-ring manager that observes, collects, and analyzes recoverable and irrecoverable error reports sent by token-ring stations on a single token-ring network and assists in fault isolation and correction.

Ring Parameter Server (RPS). This function resides on each ring for which operational parameters are being managed. It sends initialization information to new stations attaching to the ring, makes sure that stations on the ring have consistent values for operational parameters, and forwards registration information to LAN managers from stations attaching to the ring.

RPS. Ring Parameter Server.

S

server. A functional unit that provides shared services to workstations over a network; for example, a file server, a print server, a mail server. (T)

Simple Network Management Protocol (SNMP). In the Internet suite of protocols, a network management protocol that is used to monitor routers and attached networks. SNMP is an application layer protocol. Information on devices managed is defined and stored in the application's Management Information Base (MIB).

subnet. (1) In TCP/IP, a part of a network that is identified by a portion of the IP address. (2) Synonym for *subnetwork*.

subnet address. In Internet communications, an extension to the basic IP addressing scheme where a portion of the host address is interpreted as the local network address.

subnet mask. Synonym for *address mask*.

subnetwork. (1) Any group of nodes that have a set of common characteristics, such as the same network ID. (2) Synonymous with *subnet*.

subnetwork mask. Synonym for *address mask*.

T

Telnet. In the Internet suite of protocols, a protocol that provides remote terminal connection service. It allows users of one host to log on to a remote host and interact as directly attached terminal users of that host.

Transmission Control Protocol (TCP). A communications protocol used in the Internet and in any network that follows the U.S. Department of Defense standards for internetwork protocol. TCP provides a reliable host-to-host protocol between hosts in packet-switched communications networks and in interconnected systems of such networks. It uses the Internet Protocol (IP) as the underlying protocol.

Transmission Control Protocol/Internet Protocol (TCP/IP). A set of communications protocols that support peer-to-peer connectivity functions for both local and wide area networks.

trap. In the Simple Network Management Protocol (SNMP), a message sent by a managed node (agent function) to a management station to report an exception condition.

Trivial File Transfer Protocol (TFTP). A protocol that transfers files between hosts using minimal protocol.

U

uniform resource locator (URL). For HTML documents and for the World Wide Web, a sequence of characters that represent information resources. This sequence of characters includes (a) the abbreviated name of the protocol used to access the information resource and (b) the information used by the protocol to locate the information resource.

User Datagram Protocol (UDP). (1) In TCP/IP, a packet-level protocol built directly on the Internet Protocol layer. UDP is used for application-to-application programs between TCP/IP host systems. (2) The Internet Protocol that enables an application programmer on one machine or process to send a datagram to an application program on another

machine or process. UDP uses the internet protocol (IP) to deliver datagrams.

W

web browser. A client program that allows a user to navigate the Internet World Wide Web via hypertext links. These links, called uniform resource locators (URLs), specify the protocol, location, and file name of each document. The documents can be text, graphics, video, or audio.

World Wide Web (WWW). (1) A global, interactive, dynamic, cross-platform, distributed graphical hypertext information system that runs over the Internet. (2) An international, virtual-network-based information service composed of internet host computers that provide online information in a specific hypertext format. (A)

Index

Numerics

802.5
clear counter 2-3
display counter 2-13

A

add a script 2-57

B

BOOTP 2-1
clear, bootp_result 2-2
display 2-12

C

CLEAR
ACCESS_CONTROL_LIST 2-1
ARP_CACHE 2-2
BOOTP_RESULT 2-2
COMMUNITY 2-3
COUNTER 2-3
EVENT_SCRIPT 2-4
GROUP
NAME 2-5
PORT 2-5
LOGIN 2-6
RMON 2-7
SCHEDULE 2-8
SECURITY
INTRUDER_LIST 2-8
PORT 2-9
TR_SURROGATE_REM_SOFT_ERROR 2-10
TRAP_COMMUNITY 2-10
TRAP_LOG 2-11
clear a script 2-57
clock
replicate 2-53
set 2-60
commands 2-1
community
clear 2-3
display 2-13
set 2-61
configuration, load 2-51
control_io, wrap/unwrap 2-90
copy a script 2-57

D

data_io, wrap/unwrap 2-90
delete a script 2-57
DISABLE
BOOTP 2-39
GROUP 2-39
PORT 2-40
PORT_SETTING 2-40
PURGE_ON_INSERT 2-41
RING_IO 2-42
RMON 2-42
SCHEDULE 2-43
SECURITY_PORT 2-44
TR_SURROGATE
CRS_TRAPS 2-45
REM_STATUS 2-45
RPS_TRAPS 2-48
SURR_STATUS 2-49
TRAP_SETTING 2-49
DISPLAY
ACCESS_CONTROL_LIST 2-11
BOOTP 2-12
CLOCK 2-12
COMMUNITY 2-13
COUNTER 2-13
EVENT_SCRIPT 2-14
GROUP 2-15
HUB 2-15
INVENTORY 2-16
IP 2-16
LOGIN 2-17
MANAGEMENT_INTERFACE 2-17
NETWORK_MAP 2-18
PORT 2-19
RING_IO 2-20
RMON
ALARM_DATA 2-20
CONTROL 2-21
EVENT_DATA 2-21
GROUP_STATUS 2-22
HISTORY_ML_DATA 2-23
HISTORY_P_DATA 2-23
HOST_DATA 2-24
LOG_DATA 2-25
MATRIX_DATA 2-25
RINGSTATION_DATA 2-26
STATISTICS_DATA 2-26
TOPN_HOSTS_DATA 2-27
SCHEDULE 2-28
SCRIPTS 2-28
SECURITY
INTRUDER_LIST 2-29

DISPLAY *(continued)*
 SECURITY *(continued)*
 PORT 2-29
 STACK 2-30
 TERMINAL 2-30
 TR_SURROGATE
 CRS_STATION 2-31
 CRS_STATUS 2-31
 REM_ERROR_MAC_FRAME 2-32
 REM_ISOLATING 2-32
 REM_LAST_BEACON 2-33
 REM_LAST_SOFT_ERROR 2-34
 REM_NONISO_THRESHOLD_EXCD 2-34
 REM_STATUS 2-35
 REM_TOTAL_NONISO_SOFT_ERROR 2-35
 RPS_STATUS 2-36
 SURR_STATUS 2-36
 TRAP_LOG 2-37
 TRAP_SETTINGS 2-38
 WRAP_POINT 2-38

E

edit a script 2-57
 ENABLE
 BOOTP 2-39
 GROUP 2-39
 PORT 2-40
 PORT_SETTING 2-40
 PURGE_ON_INSERT 2-41
 RING_IO 2-42
 RMON 2-42
 SCHEDULE 2-43
 SECURITY_PORT 2-44
 TR_SURROGATE
 CRS_TRAPS 2-45
 REM_STATUS 2-45
 RPS_TRAPS 2-48
 SURR_STATUS 2-49
 TRAP_SETTING 2-49

F

fragment, example of 1-2

H

hub, display 2-15

I

insert a script 2-57
 ip
 display 2-16
 set 2-67

L

list a script 2-57
 LOAD 2-51
 login
 clear 2-6
 display 2-17
 replicate 2-54
 set 2-68
 LOGOUT 2-52

M

mib2_interface
 clear counter 2-3
 display counter 2-13

N

name
 clear group 2-5
 set group 2-62
 name a script 2-57
 network_map
 display 2-18

O

operational_code
 load 2-51
 replicate 2-54

P

parameter choice, example of 1-1
 PING 2-53
 port
 clear group 2-5
 set group 2-63
 port, display 2-19
 ports_io, wrap/unwrap 2-90

R

replace a script 2-57
 REPLICATE
 CLOCK 2-53
 LOGIN 2-54
 OPERATIONAL_CODE 2-54
 RESET_HUB 2-55
 RESTORE_TO_FACTORY_DEFAULT 2-55
 RETRIEVE 2-56
 ring_io
 display 2-20
 enable/disable 2-42
 wrap/unwrap 2-90

run a script 2-57

S

SAVE 2-57

schedule

clear 2-8

display 2-28

set 2-82

SCRIPT 2-57

sequential parameters, example of 1-1

SET

ACCESS_CONTROL_LIST 2-59

BOOTP_SERVER 2-59

CLOCK 2-60

COMMUNITY 2-61

EVENT_SCRIPT 2-62

GROUP

NAME 2-62

PORT 2-63

HUB

BEACON_THRESHOLD 2-64

CHANGE_HUB_ID 2-65

RENUMBER_HUB_IDS 2-65

RING_SPEED 2-66

SPEED_THRESHOLD 2-66

IP 2-67

LOGIN 2-68

MANAGEMENT_INTERFACE

802.5_GROUP 2-69

ACTIVE_MONITOR_PARTICIPATION 2-69

ADMINISTRATIVE_MODE 2-70

ARP_RESOLVE_METHOD 2-70

DIAGNOSTICS_WRAP 2-71

EARLY_TOKEN_RELEASE 2-72

LOCALLY_ADMIN_ADDRESS 2-72

MAC_ADDRESS_TYPE 2-73

RMON2_MODE 2-74

RPS_TRAPS 2-74

SURROGATE_GROUP 2-75

SYSTEM_CONTACT 2-75

SYSTEM_LOCATION 2-76

SYSTEM_NAME 2-76

RMON

ALARM 2-77

EVENT 2-79

HISTORY_CONTROL 2-80

TOPN_HOSTS 2-81

SCHEDULE 2-82

SECURITY_PORT

ACTION_ON_INTRUSION 2-83

CAPTURE 2-84

MAC_ADDRESS 2-84

TERMINAL

BAUD 2-85

PROMPT 2-86

TIMEOUT 2-87

SET (*continued*)

TR_SURROGATE

CRS_STATION 2-87

SEGMENT_NUMBER 2-88

TRAP_COMMUNITY 2-89

speed_detect

enable|disable port_setting 2-40

syntax diagrams, using 1-1

U

UNWRAP 2-90

using syntax diagrams 1-1

W

WRAP 2-90

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Easy to understand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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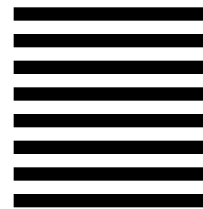
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