



8239 Release Notes

Operational Code Version 2.3 09/07/99

These release notes contain information related to the 8239 Token-Ring Stackable Hub. The major sections are:

- Enhancements
- Fixes
- Known Problems
- Current MIB Information
- Where to Go for Information
- Questions
- Using the Terminal Interface
- Operating Considerations
- Updating 8239 Operational Code
- Documentation Changes

For the latest product and documentation updates, check our website at <http://www.networking.ibm.com/support>.

Enhancements

- 8239 User's Guide has been updated with:
 - corrections

Fixes

Fixes from Operational Code Version 1.0

Updating Operational Code

When 8239 Model 1 code is updated using the LOAD OPERATIONAL_CODE or REPLICATE OPERATIONAL_CODE terminal interface command and there are three or more Model 1s in the stack, the Model 1 initiating the update resets. This problem has been corrected in code version 1.1. For more information about updating V1.0 operational code in a stack with three or more Model 1s, see "Loading New 8239 Operational Code" on page 8.

Private Traps

Some 8239-specific traps contained an incorrect trap type or specific trap type. This problem has been corrected in code version 1.1.

Changing the Default Gateway

When the default gateway is set up or changed (using the SET IP terminal interface command or via BOOTP), a message is displayed on the terminal interface giving the IP address of the router that was added or deleted. At the end of this message, spurious text enclosed in parentheses appears. This problem has been corrected in code version 1.1.

Fixes from Operational Code Version 1.1

Sending MIB II Traps via SNMP

In order to send MIB II traps to a trap receiver via SNMP, the community name for the trap receiver must be `traps`. To set the community name, enter the following terminal command: **set trap_community rmon/mib2 traps ip_address**. This problem has been corrected in code version 1.7.

Reset when IP Address or Default Gateway is not in the Correct Subnet

When an 8239 Model 1 has been configured with an invalid combination of IP information and V1.1 operational code is loaded, the hub may:

1. immediately reset and erase any configuration data not saved including the IP information; or
2. be placed into a state where it performs continuous resets.

This problem has been corrected in code version 1.7.

Beacon Recovery Errors

- Beacon wrapped LED's remain on after the beacon condition has been removed.
- Despite a station request to wrap the port, the **Data In** wrap point was incorrectly unwrapped during beacon recovery.
- Intermittently, the beacon recovery process hangs up in the port fault detection routine. **Data In/Out** goes into beacon wrapped state and never recovers.

These problems have been corrected in code version 1.7.

Reset when DISPLAY RMON Commands Issued

When the **Display RMON host_data all_by_creation_order** command is issued and the `host_data` table contains more than 4000 entries, a hub reset will occur. Also, when the **Display RMON matrix_data involving** command is issued for large matrix tables, a hub reset will occur. These problems have been corrected in code version 1.7.

REM Trap Problems

The **remPreWeightExceeded** REM trap is not displayed correctly. Also, the **remWeightExceeded** receiver trap and the **remErrorRateDecaying** receiver trap are not sent. These problems have been corrected in code version 1.7.

Fixes from Operational Code Versions 1.7 and 2.0

8239 Resets Unexpectedly in Banyan VINES Environments

A machine reset occurs when trying to process protocols not supported by the 8239. Four additional Banyan VINES ipc protocols have been implemented, i.e. vipc-error, vipc-disconnect, vipc-probe, and vipc-ack. This problem has been corrected in code version 2.2.

Miscellaneous Changes to RMON/RMON2 Code

RMON2 doesn't work properly

After the *Disable RMON All* and *Enable RMON All* commands are executed, RMON2 does not work properly. This problem has been corrected in code version 2.2.

8239 Control/Data In LEDs and Wrap_Point status incorrect

After recovery from a beacon wrapped state, the Control_In and Data_In status still showed these points to be beacon wrapped and the yellow DI/CI status LEDs remained ON. This problem has been corrected in code version 2.2.

Intermittent Machine Reset

Occurs only when the RMON2 function is enabled. An invalid memory pointer was passed when RMON2 requested additional memory. This problem has been corrected in code version 2.2.

Fixes from Operational Code Version 2.2

Leap Day is not Handled Correctly

If the 8239 Model 1 power goes down, for any reason, on or after 2/29/2000, the date data displayed by the 8239 will not be correct. This same problem will reoccur during each leap year. This problem has been corrected in code version 2.3.

False RI/RO Failure during POST Diagnostic

Some 8239 Model 1 units will intermittently display a false RI/RO card failure indication during the POST or bringup tests. A return code of 4096 (hex'1000') will be displayed on the chart showing the test results and a "J" will be displayed in the LCD. This problem has been corrected in code version 2.3. Potentially, this same defect could cause false failure indications during the backplane and port expansion tests in both the Model 1 and Model 2 units. In this case, either an "H" or an "M" will be displayed in the LCD or LED. A fix for this potential problem has also been provided in code version 2.3.

Known Problems

Loading the MIB

For information about problems loading the MIB, see "MIB Fails to Load" on page 4 under "Current MIB Information" on page 4.

Current MIB Information

IBM Private MIBs Supported by the 8239

The latest IBM 8239 MIB may be obtained from our website at <http://www.networking.ibm.com/support>. Select **8239** from the product list followed by **Downloads**.

MIB Fails to Load

The 8239 V1.0 MIB file (`mib/ibm8239.mib`) on the CD-ROM dated June, 1998, cannot be loaded by some MIB browsers. **Action:** Download the current 8239 MIB from our website: <http://www.networking.ibm.com/support>. Select **8239** from the product list followed by **Downloads**.

MIB Version

Be sure you use the 8239 MIB V2.0 with operational code V2.3.

Where to Go for Information

Use this section for information about where to find:

- Code updates
- Product information
- Network management applications

Code Updates

The latest 8239 operational code may be obtained using either of these methods:

- Retrieve it from our website at <http://www.networking.ibm.com/support>. Select **8239** from the product list followed by **Downloads**.
- If the 8239 is under warranty, contact your reseller or call IBM. In the United States, call IBM at **1-800-772-2227**; in Canada, call IBM at **1-800-IBM-SERV (1-800-426-7378)**.
If the 8239 is not under warranty, call IBM at **1-800-IBM-SERV (1-800-426-7378)**.

Product Information

The latest versions of the following documentation may be obtained from our website at <http://www.networking.ibm.com/support>. Select **8239** from the product list followed by **Technical Documentation**.

- *8239 Token-Ring Stackable Hub Setup and User's Guide*
- *8239 Token-Ring Stackable Hub Command Reference*
- *8239 Token-Ring Stackable Hub Quick Reference*
- *8239 Release Notes* (this document)

Network Management Applications

Network management for the 8239 is provided by the following Nways Network Management products:

For graphical device (element) management

- IBM Nways Workgroup Manager for Windows NT Version 1.1.2 or later
- IBM Nways Manager for AIX Version 1.2.2 or later - Campus Manager LAN component
- IBM Nways Manager for HP-UX Version 1.2 or later - Element Manager component

For remote network monitoring (RMON/RMON2/ECAM)

- IBM Nways Workgroup Remote Monitor for Windows NT Version 1.1 or later
- IBM Nways Manager for AIX Version 1.2 or later - Remote Monitor and Traffic Monitor components
- IBM Nways Manager for HP-UX Version 1.2 or later - Remote Monitor component

For media management using the IBM Token Ring Surrogate MIB

- IBM Nways Manager for AIX Version 1.2.2 or later - Campus Manager LAN component

The 8239 fully supports RMON, RMON 2 and ECAM. However, the versions of remote network monitoring applications mentioned above have varying levels of RMON, RMON 2, or ECAM support.

The latest information about these products can be obtained from our website at <http://www.networking.ibm.com/netmgt>.

Questions

To report problems or ask questions:

- If the 8239 is under warranty, contact your reseller or call IBM. In the United States, call IBM at **1-800-772-2227**; in Canada, call IBM at **1-800-IBM-SERV (1-800-426-7378)**.
- For warranty upgrade or post-warranty maintenance service, call IBM at **1-800-IBM-SERV (1-800-426-7378)**.

Using the Terminal Interface

This section contains information about logging on to the terminal interface and about configuration settings for the terminal emulation sessions. For more information, see the *8239 Setup and User's Guide*.

Login Name and Password

To use the terminal interface via Telnet or the EIA-232 port, you must enter a login name and password. The default administrator access login name is "admin" with no password. You should change the 8239 login password to a more secure password. If you forget your passwords associated with login names that have administrator access, contact IBM using the telephone numbers listed in "Questions."

Using the 8239 EIA-232 Port

To connect a workstation directly to the 8239's EIA-232 port, a null-modem cable is required. To connect a modem to the 8239's EIA-232 port, use a standard EIA-232 cable. Configure your terminal emulation application with:

- 9600 bps
- No parity
- 8 data bits
- 1 stop bit
- No flow control
- VT100 emulation
- The communications port (e.g. COM1, etc.)

Operating Considerations

This section contains information about these topics:

- Address-to-Port Mapping
- Configuration Report Server
- Ring In/Ring Out
- Stack In/Stack Out
- Soft Errors

Address-to-Port Mapping

When known external stations are not appearing in the `network_map` (for example, in the `DISPLAY NETWORK_MAP ALL_STATIONS` command), the 8239's RMON ring station table may be full. To clear the RMON ring station table, issue the `CLEAR RMON RINGSTATION_ALL` terminal interface command to the 8239 Model 1. Once the Token Ring Neighbor Notification Process completes successfully, subsequent displays of the `network_map` will include all currently active stations.

Configuration Report Server

When the Configuration Report Server (CRS) surrogate agent on the 8239 Model 1 is active, it sends CRS Request MAC frames to all stations participating in the token-ring Neighbor Notification Process every 10 minutes and after NAUN changes occur. If a station does not respond to the CRS Request frame, the 8239 sends out the CRS Request MAC frames every minute; if this situation occurs, the `DISPLAY TR_SURROGATE CRS_STATION ALL` command identifies the MAC address that did not respond so that you can take further action.

Ring In/Ring Out

Be sure that both ends of the RI/RO cables are connected before enabling the RI and RO interfaces. Any of these interfaces that are not going to be used should be administratively disabled. The default administrative mode value for RI/RO is disabled.

Stack In/Stack Out

If the 8239 is to be used as a standalone device and not as part of a stack, then use the Stack IO cable shipped with the unit (or an equivalent cable) to connect the Stack In port to the Stack Out port on the 8239. An alternative is to use the WRAP command to wrap the Data I/O and Control I/O ports.

Soft Errors

The 8239 automatically detects and isolates faults that result in hard errors (beaconing) on the network. The 8239 cannot automatically resolve soft errors (such as ring purges, burst errors, and token errors) on the network. When configured, you can use the 8239 network management features like RMON or REM to detect or identify the occurrence of soft errors on the data network. Refer to the *Token-Ring Problem Determination Guide* (SX27-3710) for information about isolating soft errors.

Some faults in the Stack In/Out cable can cause soft errors on the control ring, resulting in connectivity problems between the hubs and unexpected Hub Up/Down traps. If you are experiencing unexpected Hub Up/Down traps, consider replacing the SI/SO cable.

Updating 8239 Operational Code

This section contains the following information:

- Obtaining 8239 operational code
- Loading 8239 operational code using XMODEM or TFTP
- Updating 8239 V1.0 to a later version with three or more Model 1s in the stack
- Updating 8239 V1.1 to a later version when continuous hub resets are occurring
- Updating 8239 Model 1 to V2.3 operational code

Obtaining New 8239 Operational Code

The 8239 operational code is contained in a binary file. The files used for the 8239 Model 1 and the 8239 Model 2 are unique files. The Model 1 and Model 2 filenames have a format of m1r x vy.opr and m2r x vy.opr, respectively, where x is the release number and y is the version number.

The Model 1 operational code file, which contains both the Model 1 and Model 2 operational code, is loaded on a Model 1; all of the Model 1s and Model 2s in the stack will be updated with the code. The Model 2 operational code file, which contains only the Model 2 operational code, is loaded on a Model 2; all of the Model 2s in the stack will be updated with the code. All 8239s in the same stack should run the same code level.

The most recent 8239 operational code can be obtained by either of these methods.

- Retrieving it from our website at <http://www.networking.ibm.com/support>.
- If the 8239 is under warranty, contact your reseller or call IBM. In the United States, call IBM at **1-800-772-2227**; in Canada, call IBM at **1-800-IBM-SERV (1-800-426-7378)**.

For warranty upgrade or post-warranty maintenance service, call IBM at **1-800-IBM-SERV (1-800-426-7378)**.

If you have a Model 1 in the stack, obtain the Model 1 operational code file; this file contains both the Model 1 and Model 2 operational code. If you have only Model 2s in the stack, obtain the Model 2 operational code file.

Loading New 8239 Operational Code

The Model 1 will update all Model 1s and Model 2s in the stack. The Model 1 operational code file is loaded on the Model 1 using either XMODEM or TFTP. After the code is loaded, the appropriate code is automatically copied to all of the other 8239 Model 1s and Model 2s in the stack. To start executing the new code, all of the 8239s in the stack must be reset.

The Model 2 will update only Model 2s in the stack. Load the Model 2 operational code file on the Model 2 using XMODEM. After the code is loaded, the code is automatically copied to all of the other 8239 Model 2s in the stack. To start executing the new code, all of the 8239 Model 2s in the stack must be reset.

Updating Using XMODEM

To load new code onto your Model 1 or Model 2 using XMODEM:

1. Put the file containing the new code on the workstation that connects to the 8239 EIA-232 port.
2. If necessary, UNZIP the file to recover the m1r`xvy`.opr and/or m2r`xvy`.opr files.
3. Log onto the 8239 using your terminal emulation software.
4. If your terminal baud rate has not been changed from the default value of 9600 bits per second, you may want to configure both the 8239 and the terminal emulation software for a higher baud rate so that the file transfer goes faster.
5. Issue the LOAD OPERATIONAL_CODE XMODEM command.
6. When the message *Ready to RECEIVE File in binary mode* appears, indicate to your terminal emulation software that the file transfer should start. Specify:
 - XMODEM or 1K-XMODEM for the protocol. 1K-XMODEM causes the file transfer to occur faster.
 - The filename of the file to be transferred.
7. After the file transfer is completed, the 8239 will automatically update the code on the appropriate hubs in the stack. Once the message *Code load complete* appears, the hubs can be reset at any time to execute the new code; for example, you can issue the RESET_HUB ALL command.

Updating Using TFTP

Code can be updated using TFTP on Model 1s only. The code transfer can be triggered through a terminal interface command or SNMP. Only the instructions for updating code using the terminal interface are described here.

1. Put the file containing the new code on your TFTP server. Make sure that the permission code for the file allows read-access for "others". For example, on AIX or UNIX systems, specify `chmod o+r FILE`, where `FILE` is the name of the file to be transferred.
2. If necessary, UNZIP the file to recover the m1r`xvy`.opr and m2r`xvy`.opr files.
3. Log onto the 8239 using either your terminal emulation software or Telnet.
4. Issue the LOAD OPERATIONAL_CODE TFTP command, specifying the TFTP server's IP address and the filename of the file to be transferred.
5. After the file transfer is done, the 8239 will automatically update the code on all other hubs in the stack. Once the message *Code load complete* appears, the hubs can be reset at any time to execute the new code; for example, you can issue the RESET_HUB ALL command.

Updating 8239 V1.0 with Three or More Model 1s in the Stack

When there are three or more 8239 Model 1s in a stack running V1.0 operational code and a code update is performed, the Model 1 initiating the update may reset. This problem does not exist in V1.1, or later, operational code. To update the Model 1 from V1.0 to a later version, follow these steps:

1. Load the V1.1 or later code onto one of the Model 1s running V1.0.
2. If the Model 1 resets, issue the REPLICATE OPERATIONAL_CODE command on the Model 1 after it becomes operational; the rest of the Model 1s will then be updated with the new code.

Updating 8239 Model 1 V1.1 When Continuous Hub Resets are Occurring

When an 8239 Model 1 has been configured with an invalid combination of IP information and Version 1.1 operational code is loaded, the hub may be placed into a state where it performs continuous resets. This makes it impossible to load new code by the methods described above. This problem exists only when Version 1.1 operational code is installed. There is a procedure to perform this code update. To obtain the information needed to update a Model 1 hub, that is in this state, from V1.1 to a later code version, please call IBM using the telephone numbers listed in "Questions."

Updating 8239 Model 1 to V2.3 Operational Code

After the V2.3 operational code is loaded on the 8239 Model 1, it must be activated by resetting the unit or by powering the unit off and on. Once this code is activated, a SET CLOCK command must be issued to synchronize the hardware clock with the new code.

Documentation Changes

This section contains additions and changes to the latest versions of the 8239 publications, GA27-4209-01 and GA27-4208-01. The latest versions of these publications may be obtained from our website at <http://www.networking.ibm.com/support>. Select **8239** from the product list followed by **Technical Documentation**.

Documentation Corrections

8239 Setup and User's Guide

Related Publications, p. xix: Under "Related Publications", the part number for the 8239 Token-Ring Stackable Hub Softcopy Library CD-ROM should be 30L7570.

Stack Unit Cabling, p. 1-5: Under "Attention", add the statement "If the stack consists of only one 8239, be sure to connect a stack IO cable between the Stack In and the Stack Out connectors of the unit."

Cabling a Stack, p. 2-5: Under "Note:", add the statement "If the stack is to consist of only one 8239, then use the stack IO cable to connect Stack-In to Stack-Out on the 8239."

Connecting an ASCII Terminal or Modem to the EIA-232 Port, p. 2-6: Under "Modem", change **Note** to read

- asynchronous mode
- disable modem responses (for example, ATQ1)
- disable flow control in both directions (for example, AT\Q0\R0)
- disable echo (for example, ATE0)

- auto-answer mode on second ring (for example, ATSO=2)

Settings for Specific Modems, p. 2-9: Under "IBM 7855", change the command string to read

```
ATE Q1&D \Q \R &S S =1&Wn<carriage return>
```

Under "IBM 7858", change the command string to read

```
ATE Q1&D &K &U #P1S =1&Wn<carriage return>
```

SNMP Access, p. 4-6: Under item 2, change SET ACCESS ACCESS_CONTROL_LIST to SET ACCESS_CONTROL_LIST.

RI/RO Status, p. 5-7: In Table 5-7, add the following Cause/Action: Incompatible Ring Speed / Make sure the ring speed of the 8239 and remote device is the same.

Stack-In Status, p. 5-9: In Table 5-8, in the Off/On/On section, add the following Cause/Action: Different Ring Speeds/Hubs in stack have different ring speed set. Make sure ring speed is set the same for each hub.

User Station Unable to Insert into the Network, p. 5-19: Under 3.b. change "the port's status will not be "PHANTOM"" to "the port's status will not be "INSERTED"".

Additional Procedures, p. 5-24: Under "General Information about the 8239", add the following bullet to the list: * DISPLAY RING_IO

Also add the sentence: Also, determine the status of the LED lights (on/off/blinking) on the Base Unit, RI/RO adapter, Port Expansion adapter, and Stack In/Stack Out connectors.

Isolate the Management Interface, p 5-27: Change the last sentence to read: Be aware that once this command is issued, in-band connectivity is lost and SET MANAGEMENT_INTERFACE ADMINISTRATIVE_MODE ENABLE and any other 8239 commands must be issued using the EIA-232 interface.

Check Port Status, p. 5-40: In the table under the Port Status = No Phantom entry, change the Action section to read as follows: If the device connected to the 8239 does not present phantom voltage, then the port must be configured for 8228 mode in order to insert the device. Issue DISPLAY PORT to view the current value and issue ENABLE PORT_SETTING 8228_MODE to enable the flag. If the flag....

Inserting/Deinserting a Station, p. 6-4: Under **Note**, change the first sentence in the second bullet to read: There is an RPS on the ring and the RPS sends the response to the Request Initialization MAC Frame express-buffered.

SI/SO Configuration Options, p. 6-11: Add the following after the second sentence of the first paragraph: To avoid an error indication, the SI/SO ports should be connected to the SI/SO ports of another 8239 unit or to themselves using the Stack IO cable shipped with the 8239s.

RMON Alarms, p. 7-18: Add the following at the end of the first paragraph: The factory default setting is to not generate RMON traps.

RMON Protocols, p. 8-10: Under "Predefined Protocols:", Table 8-1 (Page 3 of 3), p.8-13 add the following table entries:

```
vipc-error --- Banyon VINES service failure indication
vipc-disc  --- Banyon VINES request for disconnection
vipc-probe --- Banyon VINES request to resend packets
vipc-ack   --- Banyon VINES acknowledgment for last data packet
```

Under “Predefined Protocols:”, Table 8-2 (Page 5 of 5), p.8-17 add the following table entries:

v v* v	vip.vipc.vipc-error
v v* v	vip.vipc.vipc-disc
v v* v	vip.vipc.vipc-probe
v v* v	vip.vipc.vipc-ack

Under “User-Defined Protocols:”, p.8-18 remove “vipc” from the bullet that says that vipc is not extensible.

Under “User-Defined Protocols:”, Table 8-3, p.8-18 add the following table entry:

vipc 8 6 2

Ring Error Monitor (REM), p8-25: Add the following trap to the list of individual traps:
remErrorRateDecaying

8239 Command Reference

CLEAR RMON, p.2-8: Under Related Commands, remove the first bullet item.

DISPLAY ACCESS_CONTROL_LIST, p.2-11: Change the first sentence to read: Use this command to list which IP addresses can access the 8239 from within a particular community.

DISPLAY INVENTORY, p.2-16: Change the second sentence to read: Inventory information includes such things as MAC address, manufacturing site, Box FRU part number, features installed, and so on.

DISPLAY RMON HOST_DATA, p.2-24: Change the *all_by_creation_order* description to read: Lists host data for all hosts in the order in which the RMON agent detected them.
Change the *all_by_host_address* description to read: Lists host data for all MAC addresses in MAC address order.

DISPLAY TRAP_LOG, p.2-37: Change the first sentence in the second paragraph to read: The trap log contains recent trap messages received or generated by the 8239.

ENABLE/DISABLE PORT, p.2-40: Change the first sentence to read: Use this command to enable or disable a particular port from inserting into the stack ring. It will also reset the port threshold counters.

ENABLE/DISABLE RING_IO, p.2-42: Use this command to allow the Ring In and Ring Out ports to be opened to (enable) or to be isolated from (disable) the stack ring.

LOAD, p.2-52: Add the following sentences to the *configuration* description: This file is loaded, executed automatically, and then discarded. It does not have the line and characters/line limitations of a normal script file.

Add the following sentence to the *script* description: The script file does not require a script header in the first line.

REPLICATE CLOCK, p.2-53: Change the first sentence to read: Use this command to set the clock on all 8239 Model 1's in the stack to the clock time shown by the local 8239.

RETRIEVE, p.2-56: Under the *Example* section, change the first sentence to read: The following command uses TFTP to retrieve the error log */tmp/error_log.dmp* from hub 1 and sends it to a TFTP server with an IP address of 200.0.0.150:

SET ACCESS_CONTROL_LIST, p.2-59: Change the first sentence to read: Use this command to designate which IP addresses within a particular community can access the 8239.

SET HUB BEACON_THRESHOLD, p.2-64: Change the last sentence in the third paragraph to read: The port's BCN FAULT counter is reset when the port successfully inserts into the ring, when the port is re-enabled, or when the hub is reset.

SET HUB SPEED_THRESHOLD, p.2-66: Change the last sentence in the second paragraph to read: The port's speed mismatch counter is reset when the port successfully inserts into the ring, when the port is re-enabled, or when the hub is reset.

SET MANAGEMENT_INTERFACE ADMINISTRATIVE_MODE, p.2-70: Add the following sentence to the second paragraph: The default setting is enabled.

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