



# IBM 8250 Token Ring Management Module Release Note for Version v4.04

IBM Corporation • IBM Part Number 03N0399 • September 1999

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This release note applies to the IBM 8250 Token Ring Management Module (TRMM) software Versions v4.04 for the following TRMM models:

- TRMM Basic (Feature Code 3823)
- TRMM Advanced (Feature Code 3884)

Add this release note to the binder containing your *8250 Token Ring Management Module Installation and User's Guide* (Document Number SA33-0213).

This release note contains the following sections:

- Software Upgrade Procedure
- Requirements for Upgrading to Version v4.04
- New Module Support in Version v4.04
- New Features in Version v4.04
- New Commands in Version v4.04
- Corrected Problems
- Operating Considerations
- Known Problems.

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## Software Upgrade Procedure

Before you update the TRMM Flash EPROM, ensure that the TRMM meets the following requirements:

**Caution:** Version v4.00 and higher requires this new multi-step download process that you must follow to ensure proper operation.

See Chapter 8 of the 8250 Token Ring Management Module Installation and User's Guide for more information.

Perform these steps if the TRMMs are remote or are difficult to access through the serial port.

1. Disable RMON probe mode:

**>set module <TRMM slot> probe\_mode disable**

2. Disable beacon recovery:

**>set device beacon\_recovery disable**

3. Disable diagnostics:

**>set device diagnostics disable**

4. Show alerts:

**>show alerts**

5. Disable each alert category set:

**>set alert <alert category> disable**

6. Disable bootp:

**>set bootp power\_up\_mode disable**

7. Save all changes.

**>save all**

8. Reset the TRMM:

**>reset device**

9. When TRMM restarts, ensure the tftp server is reachable by logging in and entering the command:

10. **>ping <server IP\_address>**

11. If you have an EMM in the same concentrator as the TRMM, ensure that the TRMM has a higher mastership priority than the EMM before you start the download.
  - If you have already attempted the download and the EMM assumed mastership of the concentrator:
    - Lower the EMM mastership priority using the SET MODULE <slot> MASTERSHIP\_PRIORITY 1 command
    - Save using the SAVE ALL command
    - Issue the RESET MASTERSHIP command.
  - If this procedure fails, remove the EMM from the concentrator until the TRMM download successfully completes.

The following procedure checks for the minimum software version level and downloads Version v4.04 software:

1. If you are not running Version v3.30 or later software, the TRMM must have the following:
  - 2-MB SIMM installed
  - Boot EPROM Version v3.01 or later. Version v3.03 code is recommended.
  - Flash EPROM Version v2.10 or later software
2. Download Version v3.03 TRMM boot code from the TRMBV303.bin file.
3. Download the D version v4.04 flash code from the TRMFD404.bin file.
4. Download Version v4.04 flashcode from the TRMFV404.bin file.
5. Review step 1 through step 6 on page 2. Enable any previously disabled functions and return the Token Ring Management Module to operation.
6. Enter the SAVE all command to save all changes.

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## New Module Support in Version v4.04

No new module support has been added to TRMM software version v4.04. But the following new module support was added in TRMM Version v4.01:

- 8250 24-Port RJ-45 10BASE-T Module (Feature Code 3248)
- 8250 Ethernet RMON Probe Module (Feature Code 5894)

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## New Features in Version v4.04

TRMM Version v4.04 provides the following new features:

- Token Ring RMON Support. TRMM Version v4.04 supports the following RMON groups:
  - Statistics
  - Host
  - Matrix
  - Event
  - Alarm
  - Host TopN
  - Ringstation
  - Ringstation Order
  - Ringstation Configuration
  - Source Routing
  - RMON probe mode
- Up to 4 incoming TELNET sessions.
- Host Naming. The SET HOST command allows you to define 20 host names and assign these names to IP addresses used in your system.
- 15 Trap Log. Provides messages for system failures.
- Improved TRMM redundancy. When you save the master TRMM module and port configuration, the module and port configurations are automatically saved to the redundant slave TRMM modules.
- New Multiple Login Capability. Provides login support for user, administrator, and super user access.

See the *8250 Token Ring Management Module Installation and User's Guide* (Document Number SA33-0213) for more information.

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## New Commands in v4.04

The SHOW MIB command has been added to TRMM Version v4.04 to assist with connectivity problem debugging.

- SHOW MIB ARP\_CACHE
- SHOW MIB IP\_ADDRESS\_TABLE
- SHOW MIB ROUTING\_TABLE
- SHOW MIB TCP\_CONNECTION\_TABLE
- SHOW MIB UDP\_LISTENER\_TABLE

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## Corrected Problems

The following problems have been corrected in TRMM Version v4.04:

- The TRMM no longer resets or hangs when it receives a large IPX frame.
- A Land Attack occurs when one station sends a SYN to another station that has the IP source and destination set to the recipient's IP address. This caused legacy TCP stacks to loop while processing this packet.

The TRMM now flags this condition and displays the following console message:

```
>Land Attack from MAC: xx-xx-xx-xx-xx-xx
```

- You can now use Cisco routers as default gateways even if there is an SR bridge between the TRMM and the router.
- The TRMM now uses a more rigorous verification for valid subnet masks for the IP class of the IP address. The class A, class B, or class C subnet mask cannot be lower than the class of IP address.
  - Example one, the class B address 150.1.1.3 cannot have a subnet mask less than 255.255.255.0
  - Example two, the class C address 202.1.1.3 cannot have a subnet mask less than 255.255.255.0.
- The TRMM no longer changes the default gateway to 0.0.0.0.  
If the default gateway is not reachable, the TRMM now attempts to reach the secondary gateway.
- The Manager now displays the correct information for the 5202B (8250 TR Bridge).
- The SHOW COUNTER and MONITOR commands now work for ports 17 through 20.
- The MIB variable, olModOccupiedSlots, is reported for all modules that support it.

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## Operating Considerations

The following operating considerations apply to TRMM Version v4.04:

- Bootp power-up can cause connectivity problems that are difficult to diagnose. If you do not use Bootp, disable it using the following commands:  

```
set bootp power_up_mode disabled  
save bootp
```
- The bootp process does not save changes to the device, tftp, and script groups.  
When you use the bootp process to download ASCII files, the download script takes up one of the eight storage locations that are reserved for TRMM scripts. Each time that you enter a BOOTP command, the download script takes up an additional slot. (The command does not overwrite existing scripts.) When all available slots are used, bootp fails due to insufficient DRAM.  
Use the CLEAR SCRIPT or the REVERT SCRIPT command to reclaim the storage locations use by the download scripts.
- TRMM Version v4.04 has the following RMON system requirements:
  - TRMM Advanced daughter card (Feature Code 3884) must be installed.
- RMON probe mode must be enabled.
- TRMM Version v4.04 RMON requires that you enable all RMON groups on the TRMM to perform LAN ReMON network statistics analysis.
- You must disable RMON probe mode to perform any of the following functions:
  - Threshold feature
  - MONITOR and SHOW COUNTER traffic commands
  - SNMP manager traffic statistics (for example, oITRTrafTopN statistics).

- The following limitations apply when connecting fan-out devices to lobe ports on the same ring as the TRMM:
  - MAC address to port mapping does not resolve correctly.
  - Security does not function properly (because ports do not map correctly).
  - Per-port statistics are invalid.
- When connecting an 8250 Token Ring MAU Module to 8260 Token Ring trunks, set the beacon trunk retry count to 255.
- Do not perform simultaneous downloads to two TRMMs from a single host. TFTP download errors may occur. If you perform two downloads simultaneously, the following may occur:
  - Download LED stays on even after the reboot.
  - TRMM memory becomes corrupted, requiring an out-of-band download.
- Do not enable the copper trunks on the 8250 Token Ring Fiber Repeater Module (Model 3822TR) without cables connected to the trunks. If you enable the copper trunks on the 3822TR module when no cables are attached to the trunks, and Cable Monitor Mode is disabled, beaconing may occur.  
 Beaconing occurs when you remove and re-install the 3822TR module into the hub. The beaconing condition causes the TRMM to disable the 3822TR copper trunks.
- When you use the BOOTP command to download ASCII files, the download script takes up one of the eight storage locations reserved for TRMM scripts. Each time you issue a BOOTP command, the download script takes up an additional slot. (The command will not overwrite existing scripts.) When all available slots are used, the BOOTP command fails due to insufficient DRAM. Use the CLEAR SCRIPT command to reclaim the storage locations used by the download scripts.
- When you create a script file, or add a command into a script file, you must enter the command exactly as if you were entering it from a terminal interface. That is, if a command requires two lines, you must enter the command on one line and then create an additional line to enter the command parameters.  
 For example, when you enter the SET TFTP FILE\_NAME command into a script file, you must:
  - a. Enter the SET TFTP FILE\_NAME command on one line.
  - b. Press Enter to advance to a new line.
  - c. Enter the TFTP file name on the new line.
 The SET TFTP FILE\_NAME command in a script file appears as follows:
 

```
set tftp file_name
filename
```
- A slave TRMM opening onto a ring cannot resolve a beaconing condition.

- When SET DEVICE DIP\_CONFIGURATION is enabled and you use the RESET CONCENTRATOR command, the 8250 Token Ring Media Module (Model 3821T) connects to the backplane network assigned by the management module (instead of displaying as isolated).
- When the 8250 Token Ring MAU Module (Model 3820T) is connected to an 8250 Token Ring Fiber Repeater Module (Model 3822TR) and the 3820T module beacons, the TRMM may not resolve the beaconing condition properly.

Because of timing issues between the 3820T and the 3822TR modules, the TRMM may disable a port on the 3820T module before the 3822TR module is able to wrap the trunks.

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## Known Problems

This section lists known problems and important information you need to know prior to installing the TRMM:

- If an SR bridge is eliminated due to an external topology change, the TRMM renders any nodes on that segment as unreachable until the SR cache is flushed. There is no explicit aging of the SR.
- The following message appears if an error occurs in the TCP/IP stack:  
**FILE=DB PNA.CC.LINE=996,TCODE=20531 (0x5033)**
  - Enter the following commands and save the results:
    - SHOW MIB ROUTING\_TABLE
    - SHOW DEVICE
    - SHOW MODULES ALL
  - The route entry for 0.0.0.0 must match that of the active gateway, which is indicated with an \* in the SHOW DEVICE display. If they fail to match, complete the following procedure:
    - a. Change the TRMM network's primary or secondary default gateway.
    - b. Restore the changed gateway to the original value.
    - c. Confirm that the route entry for 0.0.0.0 is the same as the active gateway.
- The TRMM does not respond to SNMP frames when you use the Pause, Scroll Lock, or Ctrl-S keys to freeze a terminal display for an extended period of time *and* large numbers of messages are being sent to the screen (for example, when you enable all ports on a 24-port module). This situation occurs because the messages are buffered and resources become unavailable for the SNMP response. Once scrolling resumes, the SNMP response continues.
- If a TELNET session terminates abnormally, the TRMM does not close the login session. If this occurs when you are logged in as super user, issue the SET LOGIN ACCESS SUPER\_USER command to regain super user access.



- If you change the TRMM network assignment during an active TELNET session, it may take up to 4 minutes to re-establish a new TELNET session into the TRMM.
- If you enable multiple ports on a module with only one active station, and that station is beaoning, the TRMM disables all ports on the module.
- Thresholds defined on ports do not execute if the port does not receive or transmit at least one good packet.
- You can encounter problems under the following conditions:
  - a. You use cables other than those sold by IBM.
  - b. The cables cause Cable Monitor Mode to be disabled.
  - c. You then remove and replace copper trunk connections on the TRMM and the 8250 Token Ring Fiber Repeater Module (Model 3822TR).

The trunks do not re-establish the link automatically. To re-establish the link, you must disable the trunks and then re-enable them.

- If a TRMM is in an 8260 hub and you update the TRMM boot code or upgrade the TRMM SIMM, the TRMM operates with the new boot code or SIMM, but does not reflect the changes in a SHOW DEVICE display.
 

To have the TRMM reflect the changes in a SHOW DEVICE display:

  - a. Install the TRMM in an 8250 Multiprotocol Intelligent Hub.
  - b. Allow the TRMM to reset.
  - c. Once the reset occurs, you may re-install the TRMM into the 8260 hub.
- Do not connect a BOOTP server to the TRMM through a bridge located in the same hub as the TRMM. If you configure a BOOTP server that is connected to a TRMM through a bridge, the TRMM executes the BOOTP request before the bridge resets completely and is functioning in the ring.
- If an unmanaged ring is installed in the same hub as a TRMM, the TRMM may produce an invalid logical map when beaoning occurs in the unmanaged ring. To prevent this, create only managed rings.
 

To resolve an invalid logical map, perform a ring purge by physically removing and re-installing the device from the ring that has the invalid logical map.
- For all media modules, if one port on a module is configured as MAC\_not\_present and beaoning occurs, all ports on the module that were configured as MAC\_not\_present become disabled.

- When the TRMM logically maps two 8250 Token Ring Fiber Repeater Modules (Model 3822TR) that have ports configured as MAC\_present and MAC\_not\_present, and beaconing occurs on a port configured to MAC\_not\_present, the TRMM disables all four ports. To prevent the TRMM from disabling all four ports, configure both ports on the same 3822TR module as either:
  - MAC\_present
  - MAC\_not\_present.Do not use both the MAC\_present and MAC\_not\_present settings for ports on the same 3822TR module.
- When an 8250 Token Ring Fiber Repeater Modules (Model 3822TR) configured for fiber redundancy beacons, the TRMM disables the redundant trunks and removes the redundant configuration. Issuing the RESET DEVICE command *does not* restore the redundant configuration.

To restore the redundant configuration, perform *one* of the following actions:

  - Reconfigure redundancy using management commands.
  - Remove one of the 3822TR modules in the redundant configuration and re-install it.
  - Issue the RESET MODULE command for the module that beacons.
- The BOOTP server IP address cannot be set to broadcast (255.255.255.255) through SNMP. You must use the TRMM command SET BOOTP SERVER\_IP\_ADDRESS.
- In DMM Version v2.10 and earlier, a slave TRMM incorrectly identifies an 8260 Hub.