

# Release Notes



## **MTM400** **MPEG Transport Stream Monitor** **071-1564-06**

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# Release Notes

This document describes enhancements and known issues of the MTM400 MPEG Transport Stream Monitor (Version 2.6.1). It also describes how to upgrade the MTM400 firmware using files downloaded from the Tektronix Web site.

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**NOTE.** *If you have downloaded the latest firmware for the MTM400 from the Tektronix Web site, refer to the Firmware Installation instructions on page 6.*

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## Enhancements

The following enhancements have been added to this release:

- Support for displaying MPEG-2 I-frames (thumbnails)
- Facility for sending traps to a different destination port
- Traps added indicating polling status, polled, about to poll and in acquisition time end
- OID added to report polling status, idle, polled, acquisition or about to poll
- Option key format in the Device application info screen reformatted

## Issues Resolved

The following issues have been resolved:

- Memory leak (and eventual reboot) in the presence of very many individual PIDs with multiple errors on each PID
- Difficulty in changing settings on interface cards
- GigE interface card reporting spurious CRC errors when the number of PIDs equalled a PID in an MPTS
- Hovering over a PID bar in the UI sometimes caused an unhandled exception in the RUI
- RUI could consume all the CPU time on the host PC

## Known Issues

### Upgrade Issues

The MTM400 instrument firmware will interrogate and determine the software installed on an interface card. If the software is incompatible with the firmware in the MTM400, the software will be automatically upgraded; this may take up to 30 minutes. When this process starts and finishes, entries are added to the device log.



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**CAUTION.** *During the software upgrade, the interface card will not respond. Do not cycle the power to the MTM400. In rare instances, this can damage the interface card firmware.*

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If you believe that the interface card has failed or is being upgraded, check the device application log screen, which will show if the card is being programmed.

If a GigE interface card is being installed as an option, ensure that the MTM400 is upgraded to Version 2.6.1 before installing the card.

If an interface card is being upgraded (an RF or GigE card from v2.3.8 to v2.6.1), the configuration should be saved before the upgrade and restored afterward. The structure of the configuration information for the GigE card has changed, so existing GigE configurations cannot be restored.



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**CAUTION.** *Do not install a GigE card in an MTM400 with a software version earlier than Version 2.3.8. The card will not be recognized.*

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Upgrading the MTM400 to Version 2.3.8 will recover the unit, but there is a small chance of damaging the firmware in the interface card by cycling power to the instrument while it is upgrading. This applies to COFDM, 8VSB, GigE, 8PSK and QAM B2 interface cards. L-Band, QAM A, QAM C, and QAM B1 cards are unaffected.

## Gigabit Ethernet Interface Card

The following are known issues with the Gigabit Ethernet (GigE) interface card:

- The card cannot ping itself, for example, a ping to 127.0.0.1 will time out.
- The card should typically be set in Auto 10/100/1000 Copper or Optical mode for most applications. When in 10/100 Forced mode, the network switch must also be in the link forced mode. If the switch is in Auto Negotiate mode on the network side, the link may resolve to half duplex.

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**NOTE.** *The GigE cards can recover streams up to the full ASI bitrate and output these for analysis. However, the MTM400 is rated to 155 Mbps, so, in some cases very fast streams from the GigE card will cause the MTM400 to reboot.*

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**CAUTION.** *High power optical SFPs (for example, 1550 nm) must not be looped back without optical attenuation. This could damage the receiver.*

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## RF Interface Cards

In some instances, loading a v2.0.7 configuration file will prevent a user from changing parameters on the new interface cards. Selecting the factory default will clear this condition.

If an interface card is removed, at the next boot the unit will erroneously report that it is using the ASI input. If this happens, select another interface and then switch back to ASI.

## User Interface

The user interface Java components allocate some memory to allow flicker-free screen displays. Flicker can still be present on large displays. The traffic browser screen for the GigE card is the first affected, however other screens like the pie chart on the summary page can also be affected.

Typically, screen flicker can be fixed by making the window size smaller; in some cases, the Internet Explorer must be restarted. The same effect has been seen when using one instance of Internet Explorer to control a number of MTM400 units.

## ASI Input

If an ASI input is removed for several hours, the stream may not be detected when it is reconnected. If this occurs, reboot the instrument.

- MTM400 Network Interface** The MTM400 supports 10/100 full or half duplex. However, it is important to use automatic negotiation. Where you have configured switches to force full duplex or on older hubs that only support half duplex and do not negotiate, network responses can be slowed by a number of corrupted packets on the network.
- BIOS** This software requires that the MTM400 have BIOS version 2.07. The upgrade hex file is on the firmware CD and instructions about how to perform the upgrade are on the customer documentation CD.
- MLM1000 Integration** If you require an upgrade, contact Tektronix Support.
- Java Virtual Machine** The downloaded RUI application uses the Microsoft Java Virtual Machine. You can verify the MS Java installation by typing “jview” at the command prompt - the version should be at least 5.00.3809.
- If the version is incorrect, the installation file is available from the Tektronix Web site. Search for “MTM400 Microsoft Virtual Machine” and follow the instructions included with the download.
- The Sun virtual machine disables the MS virtual machine by default. The MS virtual machine can be reenabled by clearing the Internet Explorer checkbox in the browser tab (or the advanced tab, applet item depending on version) of the Sun Java control panel.
- Applying Defaults** MTM400 units ship from the factory in DVB mode and will apply DVB default limits for tests. When setting up in other regions, the factory default button on the Stream Configuration screen should be selected to apply the correct default for the region in use.
- Templates Status** Services and PIDs can have the constraint “MustBePresent” applied to them. If an element was present previously, but is no longer present, the appropriate state is set correctly. However, the other states associated with the service or PID are remembered from their last recorded values. The correct behavior should be for these other states to be specified as Unknown.
- Chinese Template Matching** The template service name matching function will not work when the unit is used in implied GB2312 encoding mode.
- Template Resets** After a “reset all”, only the root and leaf nodes return to a green state.
- Service Log** On some units, the service log may display the wrong time and date.

<b>Service Log Timing</b>	The Service log runs as a low-priority background test; the accuracy of the sample periods is $\pm 1$ second. No data is lost as the next sample point contains the data from the missing sample. The output file contains the actual length of the sample period so that accurate measurements are still possible.
<b>WebMSM</b>	This version of the firmware should be used with version 2.6.1 of the WebMSM Web Monitoring System Manager.
<b>Firmware Upload</b>	Very infrequently, the MTM400 may lock up after downloading the new firmware. The lock up can be remedied by cycling power on the instrument. However, to prevent instrument damage, you must be absolutely sure to allow 30 minutes from the start of the firmware download before removing power from the instrument (as stated in the Firmware upgrade instructions, Tektronix part number 075-0802-xx).
<b>QAM Annex B (Option QB2) BER</b>	<p>In some circumstances, the QAM Annex B (Option QB2) BER indicated is pessimistic.</p> <p>The RF LEDs on the rear panel equate to the FEC lock on the Input Card screen.</p>
<b>L-Band Interface (QPSK, Option QP)</b>	If new firmware is uploaded, the L-Band interface may not be selected on startup. If this occurs, select another interface, and then reselect the L-Band interface.
<b>Configuration File Validation</b>	When validating a configuration file using the “config.xsd” file, Disabled PID Events may be rejected.
<b>Channel Polling</b>	The mechanisms that channel polling employs to prevent false error reporting mean that in noisy environments there can be a delay before a channel lock is obtained. In some circumstances, the QAM-B interface card is unable to achieve a satisfactory and stable lock on some channel polls. All observed instances have corrected themselves on the next poll of that channel.

**Thumbnails** The Thumbnail screen will continue to be updated as long as decodable pictures are being received. Once the stream of pictures stops, the thumbnail display pauses on the last decoded picture. For example, in encrypted channels that broadcast unencrypted taster sessions, the last decoded frame of the taster session will remain on the display.

Where a stream is unrecoverable, the thumbnail display will attempt to display a blue cross if the stream is an unsupported encoding type, or a red cross with a padlock if it is encrypted. However there are a number of ways for stream decoding to fail that can cause the MTM400 to get this wrong, and display the wrong reason for the lack of a picture, but you can use the rest of the MTM400 UI to determine the true cause of failure.

## Specific Test Issues

The following specific test issues are known:

- ISDB-T LDT Tables are not tested
- Continuity count errors may sometimes be reported incorrectly in tables that have been involved in previous sync loss events
- VCT maximum section repetition interval: there is no parameter to alter the behavior of this test
- For GigE cards, some PCR tests are disabled because they do not apply; however, the PCR graph screen will still show these items in red, as if they were failing a test
- Disabling incorrect table ID on DIT and SIT reserved PIDs is intermittent; if this becomes an issue, please contact Tektronix Technical Support

## Firmware Installation

If you have received an upgrade package with hardware and a CD, specific installation instructions are included in the package documentation. However, if you have downloaded the latest firmware for the MTM400 from the Tektronix Web site, the following instructions will guide you through the process of installing the new firmware.

1. Extract the contents of the downloaded zip file to a directory on your hard drive.
2. Start the Internet Explorer. In the address bar, enter the IP address or system name of the MTM400 to be upgraded. Allow the MTM400 RUI to start.
3. The Hot Spot screen displays two buttons: Device and Stream. Select the Device button.

4. In the resulting Device view, select the Info button to display the Device Information screen.
5. In the Device information screen, note the BIOS Version. If this is less than 2.07, you need to upgrade the BIOS; the BIOS upgrade process is described in the *Signal Interface Hardware Upgrade Instructions*, Tektronix part number 075-0768-06.
6. Now you must prepare the MTM400 for the upgrade. If the unit is under active control of a management system, for example, to scan multiple channels, disable the system. If the unit is just being monitored by a management system, it need not be disabled. However, you should follow the maintenance procedure for your management system to avoid false alarms.
7. Disconnect the input to the MTM400. If you are operating the unit remotely, you can do this by selecting the Config button in the Stream view and changing the Interface to SMPTE (or, if you are already monitoring SMPTE, change to ASI).
8. Select the Log button in the Device view.
9. In the Log view, select the Clear Log option to clear the device log.
10. Select the Config button in the Device view.
11. In the Configuration view, select Upload Device Firmware... and in the Device Firmware Upload screen, use the browse button to locate the firmware files extracted in step 1.
12. Select the latest hex file (do not select MTM400 v2.0.6.1 BIOSLDR v2.07.hex; this is used for the BIOS upgrade process only). Note that the hex file name is now in the Device Firmware Upload screen.
13. Select the Start button. Depending on line speed, preparing the firmware file can take between five seconds and five minutes. When the progress bar reaches the right side, you must wait about three minutes for the code to be unpacked, tested, and loaded into the permanent memory of the MTM400. During this time, the four Device view buttons will turn gray. When all four buttons have returned to green, yellow, or red, the upgrade is complete.
14. Close all instances of the Internet Explorer; this will also close the MTM400 RUI.
15. Start the Internet Explorer. In the address bar, enter the IP address or system name of the MTM400. Allow the MTM400 RUI to start. If a security warning appears, accept it.
16. In the Device view, select the Log button. In the Log view, note the upgrade messages. Checkpoint 11 indicates that the upgrade was successful. Other

issues have self-explanatory error messages. If there was an error, please repeat the upgrade procedure before contacting Tektronix Technical Support.

17. Depending on the installed interface card and the version before the firmware upgrade, the card firmware may need to be upgraded; this will happen automatically. A message is displayed in the device log, indicating the start of the card firmware upgrade. The upgrade process can take up to 30 minutes. If the upgrade fails, the MTM400 will reboot and start the upgrade process again. During the upgrade, the interface card is not available to or visible in the Stream view.

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**NOTE.** *Do not cycle power to the MTM400 while it is programming the interface card unless instructed to do so by Tektronix Technical Support.*

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18. The upgrade processes are now complete. The MTM400 inputs can now be reconnected. Any remote management applications can now be restored.

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