

# Instructions



## **MTM4UP FW Firmware Upgrade for MTM400 MPEG Transport Stream Monitor 075-0802-02**

### **Warning**

The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to all safety summaries prior to performing service.

**[www.tektronix.com](http://www.tektronix.com)**



075080202

Copyright ©Tektronix, Inc. All rights reserved. Licensed software products are owned by Tektronix or its suppliers and are protected by United States copyright laws and international treaty provisions.

Use, duplication, or disclosure by the Government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013, or subparagraphs (c)(1) and (2) of the Commercial Computer Software -- Restricted Rights clause at FAR 52.227-19, as applicable.

Tektronix products are covered by U.S. and foreign patents, issued and pending. Information in this publication supersedes that in all previously published material. Specifications and price change privileges reserved.

Tektronix, Inc., P.O. Box 500, Beaverton, OR 97077

TEKTRONIX and TEK are registered trademarks of Tektronix, Inc.

# General Safety Summary

Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it. To avoid potential hazards, use this product only as specified.

*Only qualified personnel should perform service procedures.*

## **To Avoid Fire or Personal Injury**

**Use Proper Power Cord.** Use only the power cord specified for this product and certified for the country of use.

**Ground the Product.** This product is grounded through the grounding conductor of the mainframe power cord. To avoid electric shock, the grounding conductor must be connected to earth ground. Before making connections to the input or output terminals of the product, ensure that the product is properly grounded.

**Ground Equipment Connected to the Product.** Ensure that any equipment connected to this product is grounded and at the same potential.

**Observe All Terminal Ratings.** To avoid fire or shock hazard, observe all ratings and markings on the product. Consult the manual for further ratings information before making connections to the product.

**Do Not Operate Without Covers.** Do not operate this product with covers or panels removed.

**Use Proper Fuse.** Use only the fuse type and rating specified for this product.

**Avoid Exposed Circuitry.** Do not touch exposed connections and components when power is present.

**Do Not Operate With Suspected Failures.** If you suspect there is damage to this product, have it inspected by qualified service personnel.

**Do Not Operate in Wet/Damp Conditions.**

**Do Not Operate in an Explosive Atmosphere.**

**Keep Product Surfaces Clean and Dry.**

**Provide Proper Ventilation.** Refer to the installation instructions for details on installing the product so it has proper ventilation.

---

## Symbols and Terms

**Terms in this Manual.** These terms may appear in this manual:



---

**WARNING.** *Warning statements identify conditions or practices that could result in injury or loss of life.*

---



---

**CAUTION.** *Caution statements identify conditions or practices that could result in damage to this product or other property.*

---

**Terms on the Product.** These terms may appear on the product:

DANGER indicates an injury hazard immediately accessible as you read the marking.

WARNING indicates an injury hazard not immediately accessible as you read the marking.

CAUTION indicates a hazard to property including the product.

**Symbols on the Product.** The following symbols may appear on the product:



# Contacting Tektronix

<b>Phone</b>	1-800-833-9200*
<b>Address</b>	Tektronix, Inc. Department or name (if known) 14200 SW Karl Braun Drive P.O. Box 500 Beaverton, OR 97077 USA
<b>Web site</b>	<a href="http://www.tektronix.com">www.tektronix.com</a>
<b>Sales support</b>	1-800-833-9200, select option 1*
<b>Service support</b>	1-800-833-9200, select option 2*
<b>Technical support</b>	<a href="http://www.tektronix.com/support">www.tektronix.com/support</a> 1-800-833-9200, select option 3* 6:00 a.m. -- 5:00 p.m. Pacific Standard Time

---

\* - This phone number is toll free in North America. After office hours, please leave a voice mail message.

Outside North America, contact a Tektronix sales office or distributor; see the Tektronix Web site for a list of offices.



# Kit Description

This document provides instructions for the MTM400 firmware upgrade kit. This document supports Tektronix modification: ECR30021.

The new MTM400 firmware incorporates more functionality than previous versions and almost completely fills the available RAM space. Depending on which BIOS version is installed in your instrument, it may be necessary to upgrade the BIOS before you can install the new MTM400 firmware. Instruments with version 2.03 of the BIOS (and earlier versions) must be updated. To complete the firmware upgrade, you will perform the following tasks:

- Identify the current BIOS and firmware versions
- Upgrade the MTM400 BIOS (if necessary)
- Upgrade the MTM400 firmware
- Upgrade the WebMSM application (if present)
- Upgrade the WebMSM Configuration Editor application (if present)

## Products

**MTM400 MPEG Transport Stream Monitor**  
**WebMSM**  
**WebMSM Configuration Editor**

### MTM400 Serial Number Variants

Two variants in the construction of the MTM400 are currently available. They are differentiated by the format of the Serial Number. The serial number of each unit is printed on a label attached to the unit.

#### Serial number formats

GB400-xxxx (Example: GB400-1234)

Bxxxxxx (Example: B010100)

---

**NOTE.** *These instructions do not apply to units carrying the GB\* serial number. If your unit carries this form of serial number, you will be advised on the correct procedure when you order your upgrade.*

---

## Minimum Tool and Equipment List

There are no tools or equipment required for this upgrade.

## Kit Parts List

Quantity	Part number	Description
1 EA	063-3719-01	FIRMWARE PKG; MPEG TEST STREAMS, CD, V2.0.7; MTM400
1 EA	071-1224-02	MANUAL, TECH; USER; MTM400 MPEG TRANSPORTATION STREAM MONITOR
1 EA	075-0802-02	KIT INSTRUCTION; MTM4UP FIRMWARE UPGRADE; MTM400



# Installation Instructions

The following software activities require access to the MTM400, using either the Remote User Interface or a WebMSM interface. (Refer to the *MTM400 User Manual*, Tektronix part number: 071-1224-xx.)

## Identify the Current BIOS and Firmware Versions

Before proceeding, identify the current BIOS and firmware versions. It is assumed that power and networking are available; a signal source is not required.

1. Power up the MTM400 unit and wait for initialization to complete.
2. From a client PC, open the MTM400 remote user interface.
  - a. At a networked PC, launch Microsoft Internet Explorer.
  - b. In the browser address bar, enter the network identity or IP address of the MTM400 unit;  
for example, <http://TSMonitor01> or <http://192.123.234.345>.

When the Enter key is pressed, a Java applet is downloaded from the MTM400 unit and launched. The file size is approximately 1.5 MB; the download time will depend on the network speed and traffic.

The MTM400 user interface can also be accessed via the Web Monitoring Systems Manager (WebMSM). This is described in the WebMSM User Manual.

The MTM400 splash screen is displayed, overlaid shortly thereafter by the **Login Details** dialog:

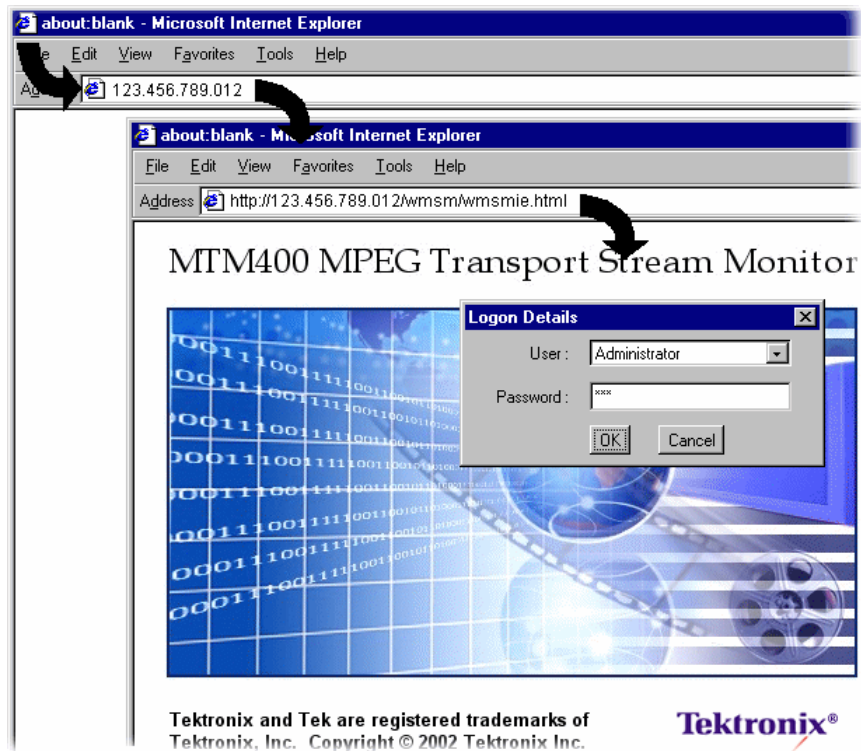


Figure 1: Logging On

3. Select the User name (Administrator) and enter the password.

---

**NOTE.** The upgrade can only be done by logging on as an administrator; the default password is 'tek'.

---

Select **OK** to accept the details. Select **Cancel** to close the dialog.

(To redisplay the **Login Details** dialog, either reenter the network identity of the MTM400 or select the **Refresh** button in the browser.)

- The Hotspot view is displayed.



Figure 2: Hotspot View

- Select **Device**.
- In the Device View, select **Info** to display the Device Information screen.

The Device Information view details the software and hardware build state of the MTM400. (The values shown in Figure 3 will differ from the values shown on your display.)

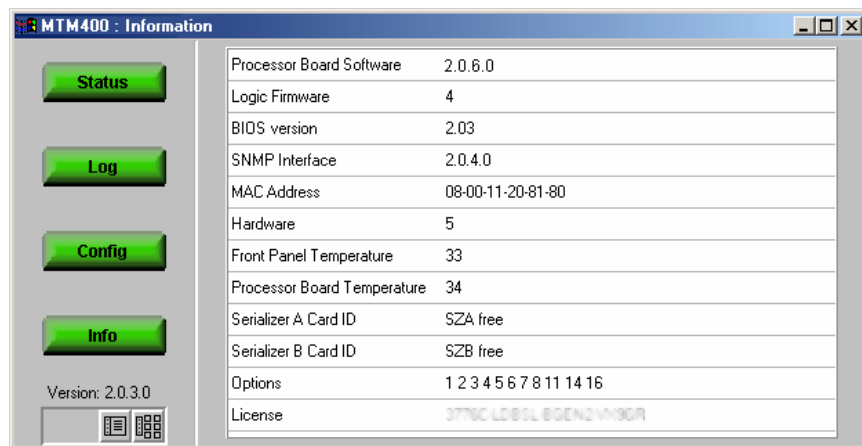


Figure 3: Device View - Information

- Note the Processor Board Software and BIOS version values.
- Refer to Figure 4 and identify the actions required.

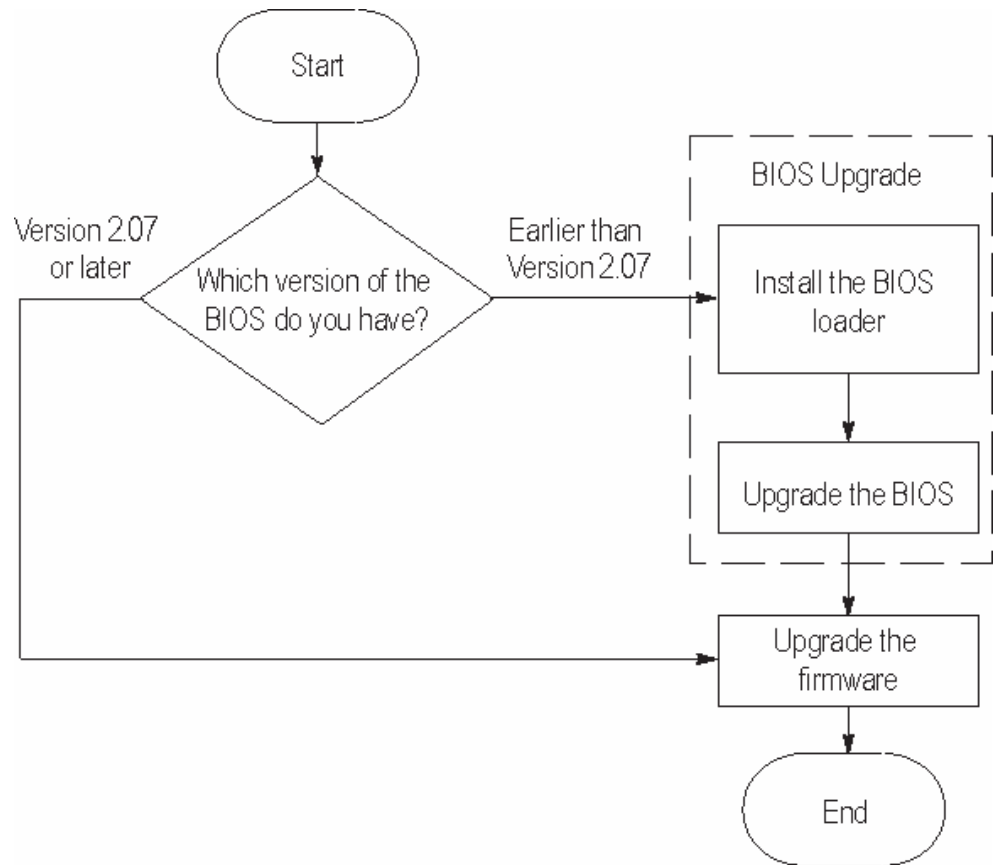


Figure 4: Upgrade Path

## Upgrade Files

The upgrade files can be found on the CD-ROM accompanying the kit.

MTM400 <bios loader version> BIOSLDR <bios version>.hex  
For example: MTM400 v2.0.6.1 BIOSLDR v2.07.hex

MTM400 <Processor Board Software version>.hex  
For example: MTM400 v2.0.7.hex

For the update to be successful, the files must be copied from the CD-ROM to a writable location; for example, the local hard drive.

## Signal Source



---

**CAUTION.** *Disconnect all transport stream inputs and outputs from the MTM400 before attempting the following procedure.*

---

## Upgrading the MTM400 BIOS

The BIOS is upgraded by installing a program (BIOS Loader) which, when activated, automatically installs the new BIOS.



**CAUTION.** *The BIOS upgrade is a critical process.*

*If, for any reason, the BIOS upgrade procedure fails there is potential risk that the unit will need to be returned to Tektronix service for reprogramming.*

*It is therefore recommended that this procedure is only carried out during a period of time where monitoring is not required or where alternative arrangements can be made for system monitoring.*



**CAUTION.** *Do not remove power or manually reboot the MTM400 during the following procedures, unless instructed to do so.*

### Install the BIOS Uploader



**CAUTION.** *You must clear the Device Log immediately before uploading the firmware.*

1. In the Device View, select **Log** to display the Device Log screen. Select **Clear Log** to clear the device log.

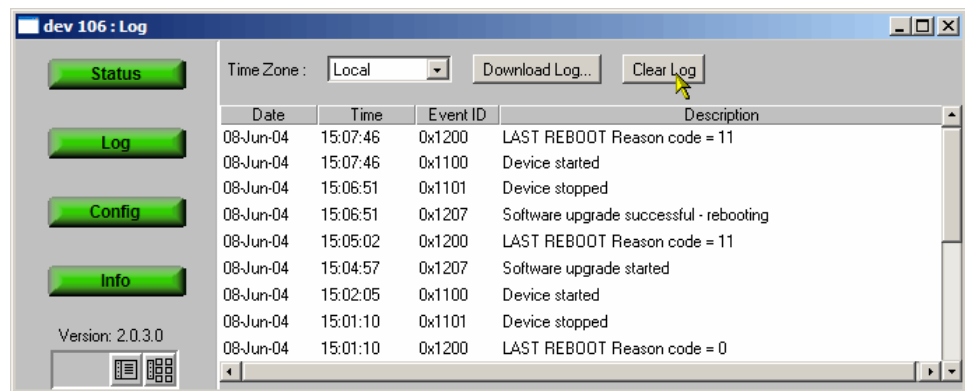


Figure 5: Device View - Log

A message is displayed in the Device Log view confirming that the log has been cleared.

- In the Device View, select **Config** to display the Configuration screen.

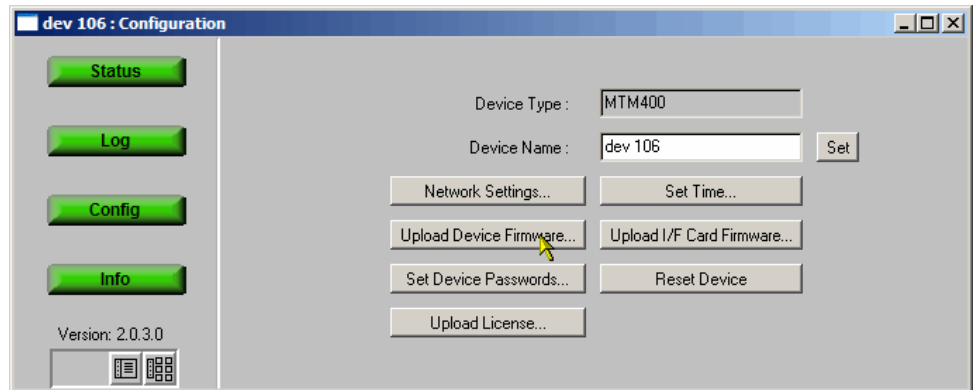
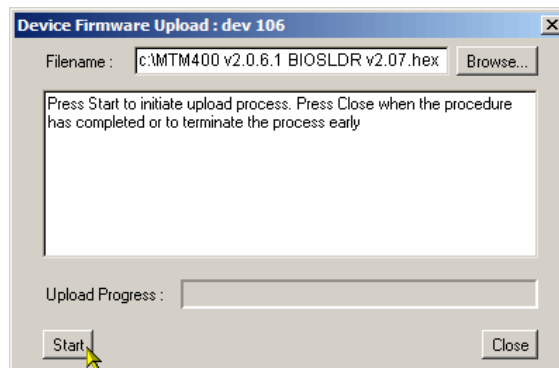


Figure 6: Device View - Configuration

- To upload the BIOS loader, select **Upload Device Firmware**.



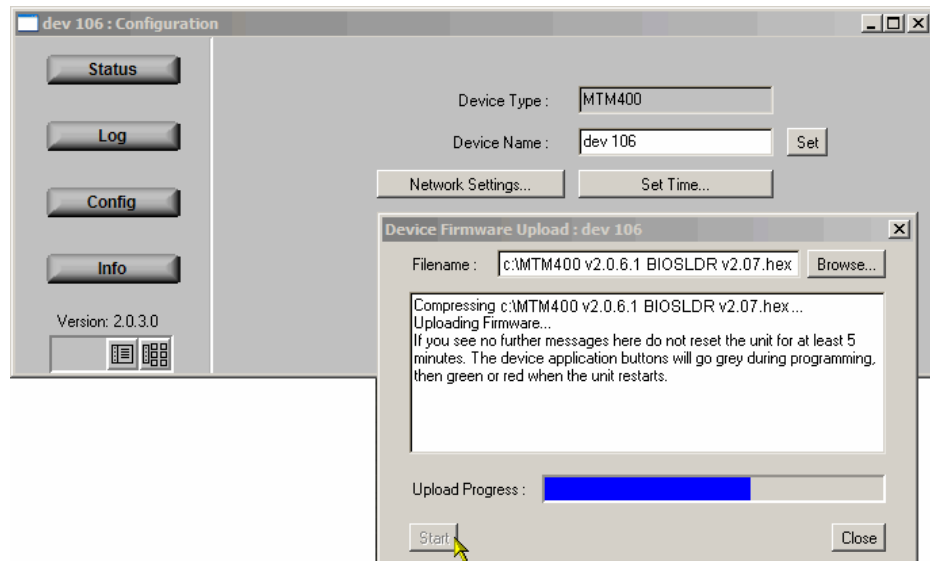
- Browse to the location on the local drive where the upgrade files have been placed.
- Select the BIOS loader file.  
For example, MTM400 v2.0.6.1 BIOSLDR v2.07.hex.

---

**NOTE.** Remember that for the update to be successful, the file must be copied from the CD-ROM to a writable location; for example, the local hard drive.

---

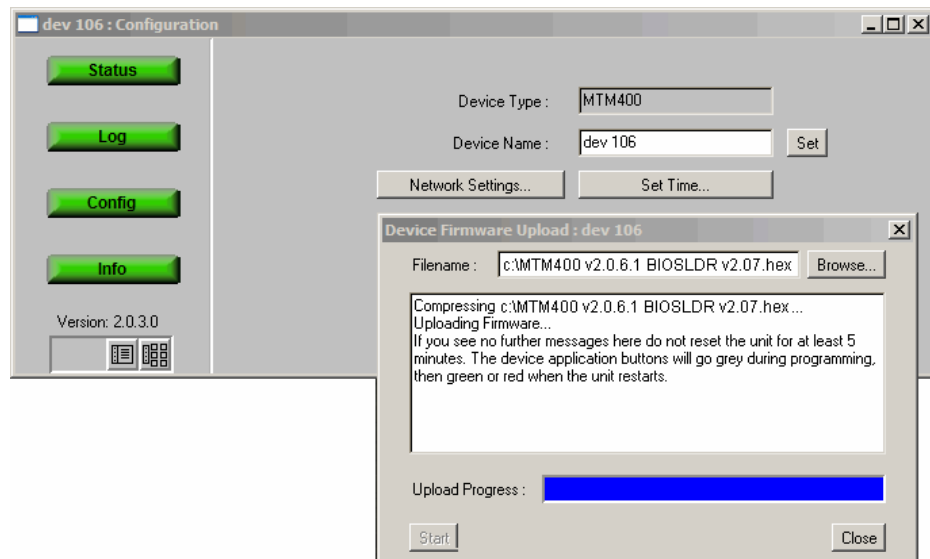
6. Select **Start**. While the process completes, the four buttons in the Device view will remain grayed out as shown below. The process may take a few minutes since the MTM400 is automatically restarted.



7. When all four buttons in the Device view have been active for longer than 20 seconds and the progress bar in the Device Firmware Upload dialog is full as shown below, the BIOS Loader is successfully loaded.



**CAUTION.** Do not proceed until **all** four buttons in the Device view have been active (either red, green or yellow) for longer than 20 seconds.



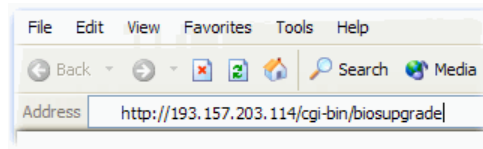


## Upgrade the BIOS

With the BIOS Loader successfully loaded, the BIOS can now be upgraded.

8. From the client PC, launch a second instance of Microsoft Internet Explorer.
9. In the browser address bar, enter the following command and press the Enter key:

<IP address>/cgi-bin/biosupgrade



where : <IP address> is the IP address of the MTM400 unit.

This begins the BIOS upgrade. The process should take no longer than 15 seconds. The MTM400 will be rebooted automatically at the end of the process.

10. On successful completion, a message is displayed in the browser and the buttons in the Device view are active.



---

**CAUTION.** Do not proceed until **all** four buttons in the Device view have been active (either red, green or yellow) for longer than 20 seconds.

---

11. Close the Internet Explorer.
12. Close the Device Firmware Upload dialog.

If, for any reason, the upgrade is unsuccessful, the original BIOS will be reinstated, if possible, and the MTM400 automatically restarted.

- Using the Device view Information screen, check that the BIOS version matches the BIOS uploader.

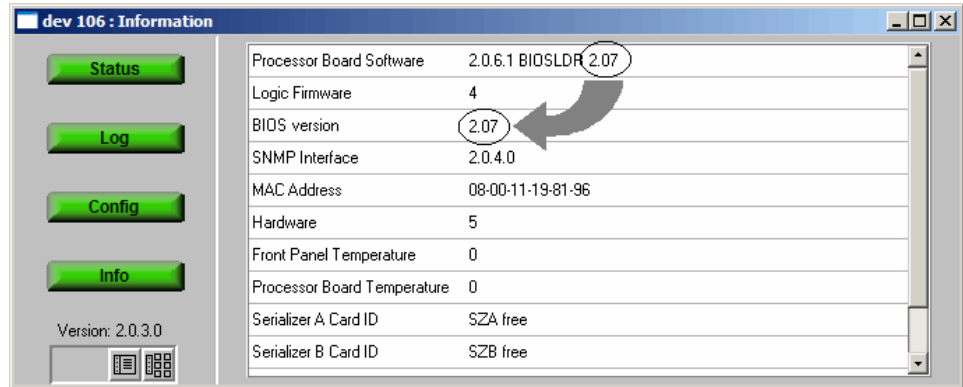


Figure 7: Device View - Information

## Upgrading the MTM400 Firmware



**CAUTION.** You must clear the Device Log immediately before uploading the firmware.

1. In the Device view, select **Log** to display the Device Log screen. Select **Clear Log** to clear the device log.

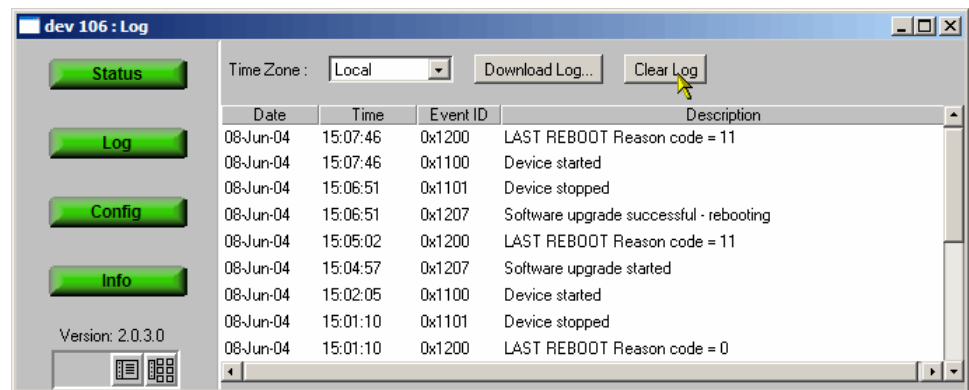


Figure 8: Device View - Log

2. In the Device view, select **Config** to display the Device Configuration screen.

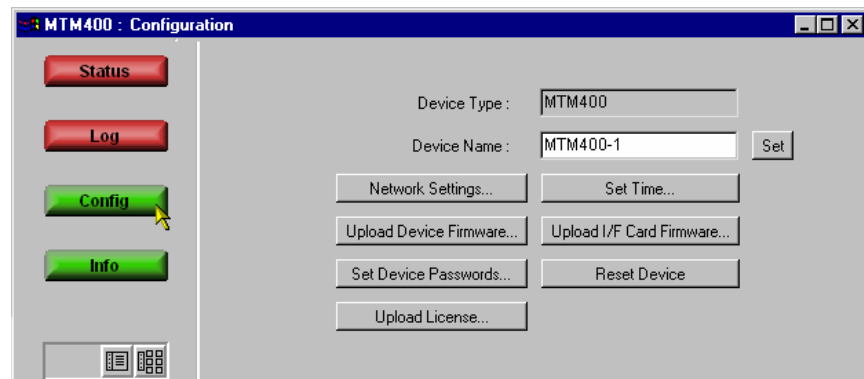
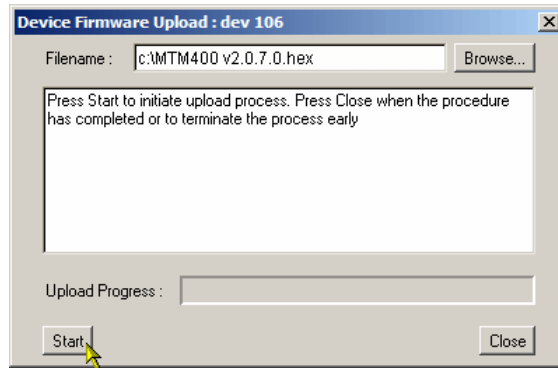


Figure 9: Device View - Configuration

3. To upload the device firmware, select **Upload Device Firmware...**.
4. Identify the firmware file either by entering the path and filename or by using **Browse...**.



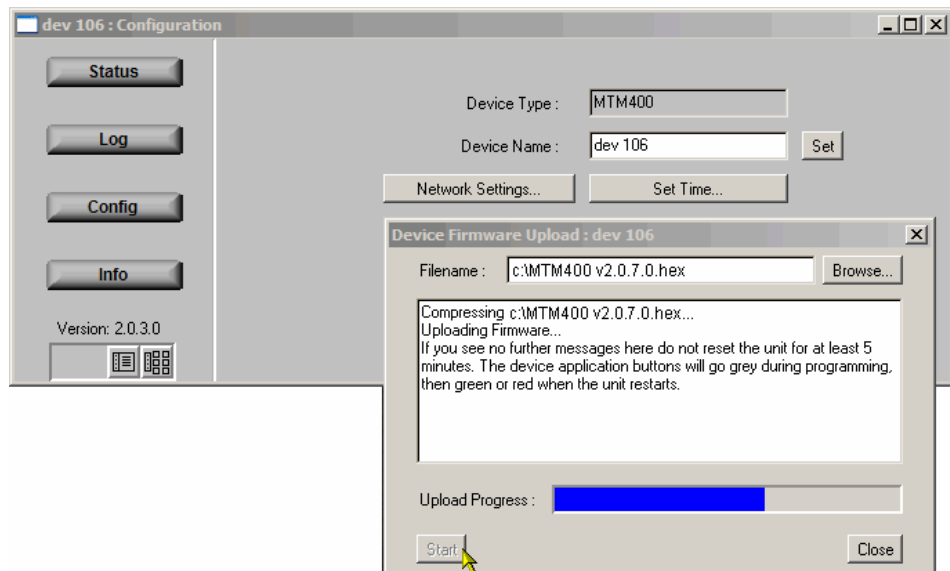
The firmware file is located on the MTM400 FW CD-ROM supplied with the kit. The firmware filename format is \*.hex.

---

**NOTE.** Remember that for the update to be successful, the file must be copied from the CD-ROM to a writable location; for example, the local hard drive.

---

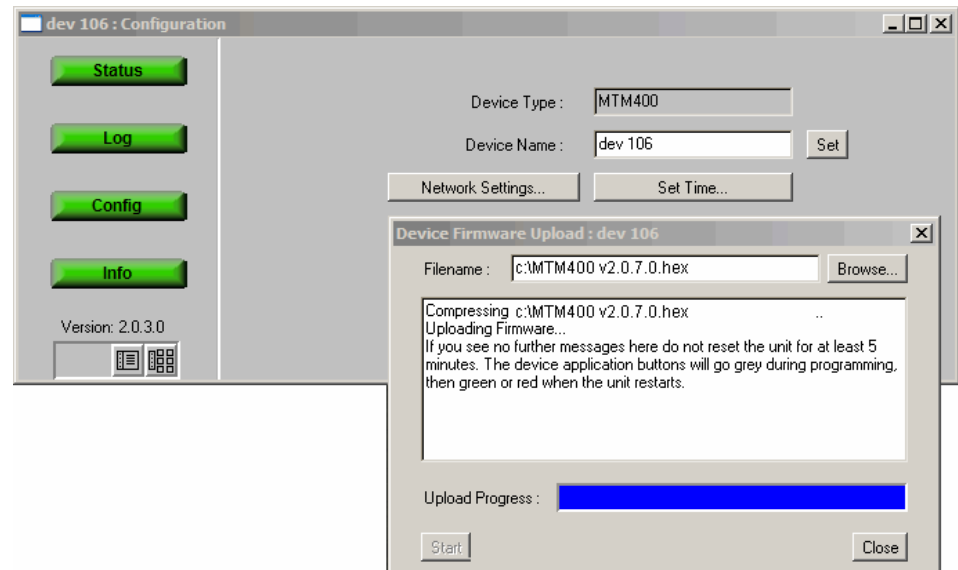
5. Select **Start** to upload the firmware. While the process completes, the four buttons in the Device view will remain grayed out as shown below. The process may take a few minutes since the MTM400 is automatically restarted.



- When all four buttons in the Device view have been active for longer than 20 seconds and the progress bar in the Device Firmware Upload dialog is full as shown below, the firmware is successfully loaded.



**CAUTION.** Do not proceed until *all* four buttons in the Device view have been active (either red, green or yellow) for longer than 20 seconds.



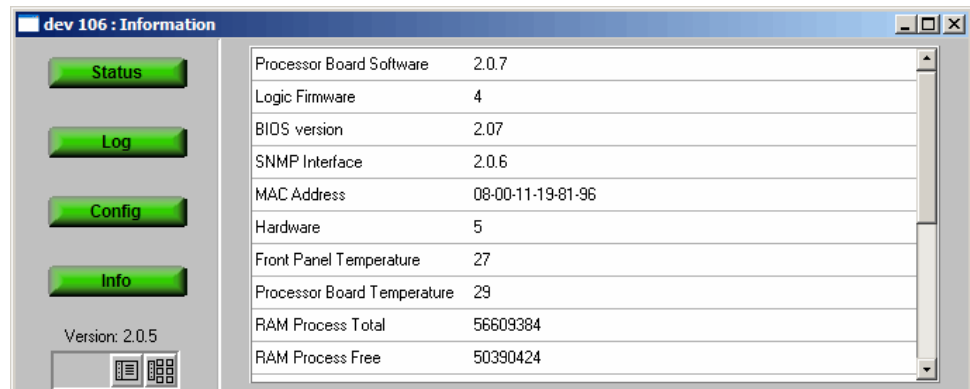
- Select **Close** when the process has completed or to terminate the process.

## Verifying the Upgrade

To verify the upgrade, the values displayed in the Device Information view must be checked. Before this can be done the MTM400 user interface (including the browser) must be closed and restarted.

1. Open the MTM400 user interface and log on (see *Identify the Current BIOS and Firmware Versions*, page 7).
2. In the Device View, select **Info** to display the Device Information screen.

The view details the software and hardware build state of the MTM400. (The values shown in this example screenshot will differ from the values shown on your display.)



**Figure 10: Device View - Information**

Note that the following items have changed:

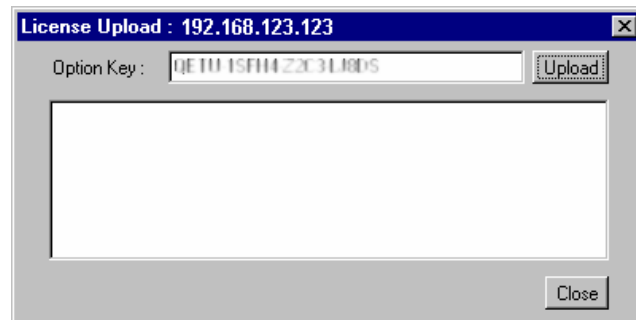
- Processor Board Software
- BIOS Version
- MTM400 version (displayed below the buttons)

The BIOS Version displayed should not be less than 2.07. Earlier versions are not able to decompress new Processor Board Software uploads correctly.

## Enter and Upload New License Key

A license key is applied to the RTM device to enable functionality. When new or upgraded functions are added, for example as part of a field upgrade, you may receive a new license key with the upgrade kit. Use the **License Upload** dialog to apply the new license key.

1. Select **Upload License** from the Device Configuration screen.



2. Enter the new License Key. Select **Upload**. A progress message will be displayed.

The license key will be stored on the RTM device.

Licensing is specific to a single RTM device.





# WebMSM Installation Instructions

The WebMSM applications require a license to enable them. If the applications were not previously installed, you can ignore the following instructions.

If you own the WebMSM software, you must reinstall WebMSM and the WebMSM Configuration Editor as part of this upgrade. The necessary files are available on the Tektronix Web site, [www.tektronix.com](http://www.tektronix.com).

The following steps are required:

- Locate and download the WebMSM software from the Tektronix Web site.
- Uninstall WebMSM and WebMSM Configuration Editor
- Install WebMSM and WebMSM Configuration Editor

All configuration files and enabled options will be retained.

## Uninstalling WebMSM

1. At the computer containing WebMSM, run Setup for the WebMSM application.
2. Follow the onscreen instructions and remove the WebMSM application.

## Uninstalling WebMSM Configuration Editor

1. At the computer containing the WebMSM Configuration Editor, run Setup for the WebMSM Configuration Editor.
2. Follow the onscreen instructions and remove the WebMSM Configuration Editor.

## Installing WebMSM

1. Run Setup for the WebMSM application.
2. Follow the onscreen instructions and install the WebMSM application.

## Installing WebMSM Configuration Editor

1. Run Setup for the WebMSM Configuration Editor.
2. Follow the onscreen instructions and install the WebMSM Configuration Editor.

If you require further information regarding either WebMSM or the WebMSM Configuration Editor, refer to the *Web Monitoring System Manager User Manual* (Tektronix part number 071-1239-xx).

### Technical Support

If the upgrade is unsuccessful, please contact Tektronix Technical Support.

■ End of document ■