

**Read This First**



**MTM300 Series  
MPEG Transport Monitor  
Version 2.1**

**071-0598-03**

This document applies to firmware version 2.1.

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



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# Read This First

*Read This First* contains release information about the Tektronix MTM300 Series MPEG Transport Monitor, Version 2.1. This document is organized as follows:

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## CD-ROM Directories

The following directories are provided on the Software Applications CD-ROM:

**Manuals** This directory contains the user manuals for the MTM300 Series MPEG Transport Monitor and the PQM300 Program QoS Monitor in Adobe Acrobat format (*MTM300 Series MPEG Transport Monitor User Manual.pdf* and *PQM300 Program QoS Monitor User Manual.pdf* respectively). You can read and print the manuals using Acrobat Reader. The installation file for the English version of Acrobat Reader is also included in this directory (rs405eng.exe).

The first time you start Acrobat Reader after installing it from the CD-ROM, you may see an error message indicating that the file you are trying to open cannot be found. Dismiss the message and display the Acrobat Reader licensing agreement (you may have to minimize windows on your desktop). Accept the terms and conditions, and thereafter Acrobat Reader will run correctly.

**Sp6a** This directory contains the Windows NT Service Pack 6a upgrade installation file (sp6i386.exe). Service Pack 6a is required for all MTM300 Series software installations and is standard on all MTM300 Series transport monitors. See *Appendix D: Software Installation and Repair* of the user manual for more information about installing this service pack.

**Drivers** This directory contains the drivers needed for MTM300 Series transport monitors. See *Appendix D: Software Installation and Repair* of the user manual for more information about installing or reinstalling these drivers.

**IE501 and Javavm** These two directories contain the executables needed to upgrade Internet Explorer to version 5.01. You can perform this upgrade by navigating to IE501/I386 and double-clicking Setup.exe. You do not need to upgrade Internet Explorer for the transport monitor.

**JRE** The Java Run-Time Environment (version 1.3) is required to use the Java clients that are included with this MTM300 software version 2.1 release. This directory (JRE) contains the executable file you use to install this run-time environment. The upgrade kit includes installation instructions.

**UpgradeWizard** This directory contains the MTM300 Series upgrade program file (UpgradeWiz.exe). The upgrade wizard can be used to identify an MTM300 Series Transport Monitor configuration and provide possible upgrade choices. It is recommended that you include the results of the upgrade wizard when you order an upgrade.

## Software Version Numbers

The version numbers for the MTM300 system applications supported by this manual are listed in a Readme.txt file located in the following two locations:

- In the root directory of the MTM300 application CD-ROM (063-3442-XX)
- In the C:\MTM300 directory on the hard drive of the MTM300 system

To verify an application version number, select **About** from the Help menu of the application.

## MTM300 Series Options

Table 1 lists the MTM300 Series MPEG Transport Monitor options.

**Table 1: MTM300 Series transport monitor options**

Option	Description
MTM300 <sup>1</sup>	Transport monitor with one analysis board
MTM301 <sup>2</sup>	Transport monitor with two analysis boards
Option AS	A two-input ASI/M2S I/O daughter board
Option SS	A two-input SSI (SMPTE310M) I/O daughter board
Option LC	LCD display, touchscreen, keypad, keyboard, and mouse
Option VK	External keyboard, monitor, and mouse

<sup>1</sup> **You must order one of the following: Option AS or Option SS**

<sup>2</sup> **You must order two of the following (any combination): Option AS or Option SS**

## MTM300 Series Upgrades

You can order the following upgrades to your MTM300 Series MPEG Transport Monitor (see your Tektronix sales representative to order these upgrades):

- Additional analysis board

This upgrade adds an analysis board (PIA+ board) with either an ASI/M2S input or an SMPTE310M input to transport monitors with only one analysis board. You can install a maximum of two analysis boards into a transport monitor. This upgrade applies only to MTM300 instruments. These upgrades are ordered using the following nomenclature:

- MTM3FPIA Option SS (SMPTE310M input)
- MTM3FPIA Option AS (ASI/M2S input)

- Additional I/O daughter boards

These upgrades add an I/O daughter board to PIA+ boards. Each PIA+ board can support up to two I/O daughter boards. You can order I/O boards for ASI/M2S or SMPTE310M inputs. These upgrades are ordered using the following nomenclature:

- MTM3FSS (SMPTE310M input)
- MTM3FAS (ASI/M2S input)

- Network Management Station (MTM3FMS)

This software upgrade enables you to monitor up to 40 transport streams at a time. The analyses are performed on remote MTM300 Series transport monitors.

## New Applications and Features

This section describes the new application and features that were added for the version 2.1 release of the MTM300 software.

One major improvement provided with the version 2.1 release is support for ISDB-S/ARIB transport streams, which has been added to the existing support for MPEG-2, DVB, and ATSC standards. ARIB stands for the Association of Radio Industries and Business. The ISDB-S/ARIB standards define elements, which are carried in table structures, for managing ARIB-compliant transport streams. The following ARIB structures are analyzed by the MTM300 system:

- Broadcaster Information Table (BIT)
- Download Control Table (DCT)
- Download Table (DLT)
- Software Download Trigger Table (SDTT)

ISDB-S/ARIB transport streams are MPEG-2 compliant streams that conform to the ITU-R standard for ISDB-S (Integrated Service Digital Broadcasting, Satellite) multiplexing. An ISDB stream uses TMCC (Transmission and Multiplexing Configuration Control) data multiplexed in the first eight bytes of the 16 Reed-Solomon bytes of 204 byte MPEG-2 transport streams. TMCC information is used to manage the modulation parameters of the transponders in digital broadcast environments that include multiple broadcasters and types of services with different transmission requirements.

MTM300 version 2.1 software adds a Data Logging function that allows you to keep a record of specified transport stream events. Events are logged into tab-delimited text files that you can use for further analysis.

**Master Client** You will start the new TMCC Expert and TMCC Configuration Clients from the Port Manager Panel of the Master Client.

**Expert Client** When analyzing in ISDB transport stream, the Expert Client will display the ISDB specific tables BIT, DCT, DLT, and SDTT in addition to other tables common with the MPEG-2/DVB/ATSC standards. Section analysis, rate errors, and reports are displayed for ISDB transport streams as with other DVB tables.

**Configuration Client** The Configuration Client allows you to specify to which standard you are testing an input: MPEG-2, DVB, ATSC, or ISDB (new).

A new Data Logging configuration panel allows you to enable or disable the function, select the types of events that will be logged, and set the size and time-period of the data files.

### **TMCC Expert Client**

The new TMCC (Transmission and Multiplexing Configuration Control) Expert Client allows you to analyze the TMCC data of an ARIB-compliant transport stream input real time. You can also analyze an ARIB-compliant transport stream file stored on your local disk using the TMCC Deferred-Time Client.

The TMCC Expert client has the following characteristics:

- Indicates the presence of sync bytes (0x47 for TMCC basic streams and W1, W2, or W3 sync bytes for TMCC data streams)
- Displays the syntax of TMCC data
- Displays Slot, TSID, TS Name, and Modulation mode information
- Displays information, warning, and error messages
- Indicates the presence of TMCC alarm and update flags in the transport stream
- Displays the overall stream rate

### **TMCC Configuration Client**

The TMCC (Transmission Multiplexing Configuration Control) Configuration client is a new application included with this version of the MTM300 monitor. This client allows you to set the monitoring, analysis, and reporting parameters of the TMCC Analysis Servers.

The TMCC Configuration client has the following characteristics:

- Configures the TMCC Analysis Servers to operate in either TMCC basic or TMCC data stream modes
- Enables you to specify a transport stream ID to analyze using the MPEG-2 Analysis Server (only in the TMCC data stream mode)
- Sets parameters for the following TMCC probes:
  - Frame size
  - Super frame size
  - Modulation mode and slot consistency
  - TMCC syntax
  - TMCC update counter (only in TMCC data stream mode)

Using these real-time applications, you can continuously monitor an input bitstream for compliance with the MPEG-2, DVB, ATSC, and ISDB-S/ARIB digital television standards. You can monitor an array of stream parameters to ensure decodability, or you can concentrate on just a few parameters for closer examination.

## Release Issues

This section describes known issues at the time of the MTM300 Series MPEG Transport Monitor release.

### Thomcast Name Change

Thomcast, Inc. has changed its name to Thales, Inc. The software was completed before the name change was announced. Some of the opening screens for the different applications still refer to Thomcast, Inc.

### Overall Load Limitation

Depending on the complexity of the transport stream being analyzed, the number of probes set for analysis, and the number of applications running, the analysis capability of an MTM300 Transport Monitor with four or more inputs may be overloaded due to the overall complexity of the monitoring load. When an overloading condition exists, the system may experience problems such as slow response, inability to perform measurements on time, or the analysis server will use too high (40% or higher) of a percentage of the total CPU capacity. To correct an overload monitoring condition, you can perform the following:

- Reduce the number of open applications
- Remove probes that are not required for your monitoring needs
- Restart the transport monitor

### ATSC Corrigendum

The MTM300 Series MPEG Transport Monitor is compliant to the *Corrigendum for Program and System Information Protocol for Terrestrial Broadcast and Cable (A65)*. The corrigendum is an amendment to the A65 standard that replaces the 2-bit zero field taking the value 00 with the reserved field taking the value 11 in all PSIP tables. Disregard syntax errors reported in the Expert client related to this field because the transport stream being analyzed may not be compliant to the corrigendum.

### PID Bit Rate Limitation

The maximum bit rate supported by the MTM300 Series MPEG Transport Monitor is 180 Mbps. Each PID of the stream is also limited to a bit rate of 98 566 144 bits/s. The bit rates of any PID with bit rates over this limit will be reported by subtracting 98 566 144 bits/s from the actual value. Therefore, a Null packet rate of 150 Mbps is reported in the Expert client as 51 433 856 bits/s.

**HP Openview Plug-in Installation**

If you reinstall the HP OpenView plug-in, the installation script may be interrupted unless all the HP Openview applications are closed. Before attempting to reinstall the HP OpenView plug-in, perform the following steps:

1. Close all HP Openview applications.
2. Select **NNM services - stop** from the HP Openview program group Start menu.
3. Close the NNM services - stop application window.

**Rackmount Installation Kit**

The kit instructions included with the rackmount kit for the transport monitor indicates that the kit is for RFA300 instruments. The rackmount kit is correct for all instruments using the mainframe common to a number of Tektronix instruments, including the MTS300, RFA300, and PQM300.

**Analysis Server**

Some MPEG2 and ATSC compliant transport streams use packets with PID 16 to carry video elementary streams. Do not try to analyze transport streams with video in packets with PID 16 while in the DVB mode. In the DVB mode, the analysis server expects packets with PID 16 to be NIT sections, complying with the DVB standard.

**Master Client**

While analyzing ATSC transport streams, the service\_name is not displayed in the Services panel; only the service\_id is displayed.

**Operating System CD-ROM**

The correct part number for the MTM300 Series MPEG Transport Monitor Operating System Recovery disc is 063-3386-xx. Some of the MTM300 Series documentation indicated that the part number for this CD-ROM as 063-3442-xx.

**PQM300 Remote Client**

To view PQM300 probe measurement results, ensure that you have installed the MTM300 Series MPEG Transport Monitor, Version 1.2 software before you install the PQM300 Remote Client.

**MTM3FPIA**

For transport monitors with serial numbers B0100000 through B0199999, change the BIOS setting for IRQ3 and IRQ4 from Available to Reserved. Making these changes avoids potential conflicts between the touch panel and the RS232 port. Use the following procedure to make these changes on MTM300 MPEG Transport Monitors:



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**CAUTION.** *Do not perform this procedure unless you are an Windows NT administrator.*

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1. Power on the transport monitor, and press **F2** to display the configuration menu.
2. Press **F8** to display the PNP Exclusions setup screen.
3. Press **Enter** to access the setup menu, and then use the down arrow key to move the cursor to IRQ3.
4. With IRQ3 the active parameter, press the right or left arrow key to change the value from Available to Reserved.
5. Press the down arrow key to make IRQ4 the active parameter, and then use the right or left arrow key to change the value from Available to Reserved.
6. Save the configuration setting changes and reboot the transport monitor.

