

Read This First



**MTM300 Series
MPEG Transport Monitor,
Version 1.2**

071-0598-01

This document applies to firmware version 1.2.

www.tektronix.com



071059801

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 supercedes 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.

Read This First

Read This First contains release information about the Tektronix MTM300 Series MPEG Transport Monitor, Version 1.2.

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.

Software Program Versions

The MTM300 Series software version 1.2 application versions are listed in Table 1. This table is organized by MTM300 Series installation type. To determine your application version, select About from the application Help menu.

Table 1: MTM 300 Series software program versions

Icon name	Program file	Version	Executable date (MM/DD/YY)
Transport Monitor			
Hardware Diagnostic	Self Test.exe	1.01.07	9/13/00
Master Client	Master.exe	1.6.0.0	9/14/00
Private Syntax Interpreter	OpenTable.exe	1.0.0.2	10/11/99
Router	Router.exe	1.0.0.0	12/10/99
Server Manager	ServerManagerV2.exe	1.6.0.0	9/14/00
Analysis Server	Analysis Server.exe	1.6.0.0	9/9/00
Configuration Client	Configuration Client.exe	1.6.0.0	9/14/00
Expert Client	Expert Client.exe	1.6.0.0	9/14/00
Network Management Software			
Hardware Diagnostic	Self Test.exe	1.01.07	9/13/00
Master Client	Master.exe	1.6.0.0	9/14/00
License Manager	protek.exe	1.00.02	10/7/99
Private Syntax Interpreter	OpenTable.exe	1.0.0.2	10/11/99
Router	Router.exe	1.0.0.0	12/10/99
Server Manager	ServerManagerV2.exe	1.6.0.0	9/14/00
Remote Shutdown	Shutgui.exe	1.0.0.1	7/28/98
Analysis Server	Analysis Server.exe	1.6.0.0	9/9/00
Configuration Client	Configuration Client.exe	1.6.0.0	9/14/00
Expert Client	Expert Client.exe	1.6.0.0	9/14/00
Remote Desktop			
Master Client	Master.exe	1.6.0.0	9/14/00
Configuration Client	Configuration Client.exe	1.6.0.0	9/14/00
Expert Client	Expert Client.exe	1.6.0.0	9/14/00
HP OpenView plug-in			
HP OV Master Client	OpenView Master Client.exe	1.2.0.0	11/29/99

MTM300 Series Options

Table 2 lists the MTM300 Series MPEG Transport Monitor options.

Table 2: MTM300 Series transport monitor options

Option	Description
MTM300 ¹	Transport monitor with one analysis board
MTM301 ²	Transport monitor with two analysis boards
Option 1A	A two-input, ASI/M2S I/O daughter board
Option 1S	A two-input, SMPTE310M I/O daughter board
Option 2A	Two ASI/M2S I/O daughter boards (four input channels total)
Option 2S	Two SMPTE310M I/O daughter boards (four input channels total)
Option AS	One ASI I/O daughter board and one SMPTE310 I/O daughter board (four input channels total)
Option LC	LCD display, touchscreen, keypad, keyboard, and mouse
Option VK	External monitor, keyboard, and mouse
MTM3FMS	MTM300 Series Network Management Station Software

¹ **You must order at least one of the following: Option 1A or Option 1S**

² **You must order at least one of the following: Option 2A, Option 2S, or Option AS**

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 (MTM3FPPIA)**

This upgrade adds an analysis board (PIA+ board) 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.

- **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:

- **MTM2S. SMPTE310M input**
- **MTM2A. 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.

Applications and Features

The Tektronix MTM300 Series MPEG Transport Monitor is a rack-mounted, MPEG-2 protocol monitor used to monitor single and multiple program transport streams in MPEG-2, DVB, and ATSC environments. The MTM300 Series software is based on client server architecture and includes the client modules described in this section. The MTM300 Series software also supports integration into SNMPv1 and SNMPv2 network management environments and HP OpenView Network Node Manager environments.

Master Client

The Master client provides an intuitive interface for monitoring the status of transport stream inputs. The Master client characteristics are shown in the following list:

- The Bouquet panel displays icons for the bouquets (groups of inputs) that you have defined for the workspace.
- The Multiplex panel displays icons for the inputs that you have defined for a bouquet (if enabled).
- The Services panel displays icons for the services (also called programs) encoded in the transport stream.
- The Details panel displays icons indicating the type, status, and severity of errors on a transport stream or service.
- Both the Expert and Configuration clients can be started from the Master client.
- PQM300 Program QoS probe results can be monitored from the Master client.

Expert Client

The Expert client analyzes a single stream in greater detail. You will use the Expert client to help troubleshoot errors in your digital transmission system.

The Expert client characteristics are shown in the following list:

- Graphical displays that show the structure (hierarchy) of the input transport stream and display characteristics of each component of the input stream (for example: PID and type allocation, section rate analyses, and timing analyses).
- Report views that indicate the types of errors recorded by the Analysis Server and the characteristics of the input stream.
- Error views that show specific errors recorded for the various components of the transport stream; for instance, PMT section rate errors and ETR290 errors.

The Expert client displays the results of only one Analysis Server (input) at a time.

Configuration Client

The Configuration client allows you to specify which transport stream parameters you want monitored, and how you want errors in your system to be reported. The Configuration client configures parameters for one Analysis Server at a time. Analysis Server results are displayed by both the Master and Expert clients.

The Configuration client allows you to perform the following tasks:

- Specify the standard to which you are testing an input: MPEG-2, DVB, or ATSC.
- Set, remove, or modify the probes that test transport streams for valid syntax and semantics and rates.
- Specify the way in which errors are reported in both the Expert and Master clients. You can configure each probe to report an error as Critical, Major, Minor, Warning, or as information only.
- Stop and restart an Analysis Servers running on a transport monitor.
- Set passwords on specific inputs that prevent others from changing the Analysis Server configuration for that input.
- Set parameters for capturing part of an input transport stream.

SNMP Capabilities

The MTM300 Series MPEG Transport Monitor includes two Simple Network Management Protocol (SNMP) management information bases (MIB). The Tektronix MIBs are textual descriptions of the Analysis Server objects (functions and parameters) that can be monitored and controlled by the network management station using SNMP controls. The MIB text files are installed with each MTM300 Series MPEG Transport Monitor installation (on both the transport monitor and a computer with the network management software installed) at the following location:

C:\Mib\, where C is the letter designator of the local hard drive.

The two MIBs located in this directory, RTAv1.mib and RTAv2.mib, are used for SNMP version 1 and SNMP version 2 systems respectively.

HP OpenView Network Node Manager Plug-in

An HP OpenView Master client plug-in is provided that allows you to integrate the transport monitor into HP OpenView Network Node Manager network monitoring systems.

Release Issues

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

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 MTM300, 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.

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:



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

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.

**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.