Release Notes

Tektronix

MTS400 Series
MPEG Test Systems

071-1726-03

This document applies to software version 1.2.

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Release Notes

These release notes provide the following information:

- Descriptions of the features of this software version.
- Document part numbers supporting this software release.
- Descriptions of installation and operational problems or behaviors that you might encounter while using the instrument and explanations of how you can minimize or eliminate the impact on instrument operation.

Introduction

Tektronix has redefined the MPEG analyzer with its ground-breaking MTS400 Series MPEG Test Systems. Increased productivity is provided through its many new technical features. The MTS430 is well suited for applications in research, development, and manufacturing test. The MTS400 is equally well suited for applications in broadcasting and network operations. The MTS4SA provides the MTS400 Series software applications for standalone use on PCs.

A wide variety of applications simplify the complex tasks of creating transport streams for set top box design and manufacturing, as well as triggering and recording intermittent errors during live broadcasts.

The following information provides an overview of the features of the MTS400 Series system:

- **IP Connectivity** – Acquires transport streams from the network interface for analysis and recording of streams over IP (internet protocol).
- **CaptureVu™** – Simplifies the task of triggering, recording, and analyzing events.
- **High Performance Engine** – Measurement throughput up to 400 Mbps.
- **Intuitive GUI** – A simple, yet powerful GUI (graphic user interface) provides real time analysis and recording, as well as deferred time analysis.
- **Languages** – Windows Unicode fonts provide regional language support.
- **Hardware/Interfaces** – 144 GB of storage, ASI up to 214 Mbps, fast Intel P4 processor, integrated XGA display and dual Ethernet ports for LAN support and GigE transport analysis.

- **Application Packages** – Analysis of Audio and Video Elementary Streams, Packetized Elementary Streams, Transport Streams, and Data Broadcasting Streams, as well as Multiplexing Audio, Video and Data Broadcasting Streams.
- **International Standards** – Support for MPEG-2, ATSC, DVB, and ISDB.

Related User Documentation

The following user documentation supports firmware version 1.2:

- *MTS400 Series Getting Started Manual* (English)
  Tektronix part number 020-2654-04
  (includes user documentation CD-ROM)
- *MTS400 Series Getting Started Manual* (Japanese)
  Tektronix part number 020-2655-02
  (includes user documentation CD-ROM)
- *MTS400 Series User Manual* (English)
  Tektronix part number 071-1507-01
- *MTS400 Series Specifications and Performance Verification Technical Reference* (English)
  Tektronix part number 071-1724-01
- *MTS400 Series Programmer Manual* (English)
  Tektronix part number 071-1725-00

Enhancements

- **Video Thumbnail View**
  A “Now Playing” view has been added to the TSCA to enable you to view video thumbnail samples (I frames) from each program within the transport stream. This provides you with a confidence check that the content within the stream is the right content. In addition to displaying a video thumbnail, the video format parameters from within PES headers are also displayed and can be checked for consistency with transport stream layer signaling of video parameters. This cross-check enables you to ensure that the format of the content in the stream matches the format that you signaled. An inconsistency could prevent the STB (set top box) from decoding video and cause the viewer to lose their pictures.

- **ISDB-T Single Segment Broadcast Support**
  The TSCA’s ISDB-T mode has been enhanced to provide support for ISDB-T Single Segment broadcast for mobile reception, where no PAT is present in the Transport Stream.

- **ISDB-T Enhancements**
  The TSCA’s ISDB-T mode has been enhanced to add DSMCC testing for ISDB-T data broadcasting.

- **Filtered SI View**
  The TSCA Packets tab now provides the ability to filter on an SI/PSI table, enabling you to view only packets belonging to that SI/PSI PID and to display complete sections that occupy more than one packet. This is in addition to the previously available PID filtering that displays only those packets belonging to a user specified PID.

- **User Interface Enhancements**
  The user interface has been enhanced in many ways. For example, you can now customize the color schemes used for graphing views.

Installation Issues (MTS400 and MTS430)

The following issues affect the installation of the MTS400 Series instruments and/or software:

Using the Correct Software Recovery Media

Due to a circuit board change, the serial number range assigned to the MTS400 Series instruments changed from B01xxxx to B02xxxx, and the software version changed from v1.0 to v1.1. The software number change was required only because of the hardware change; there were no changes to the software functionality.

However, the software versions are not compatible between the two serial number ranges of the instrument. This issue does not affect the MTS400 Series standalone software.

CAUTION. *To prevent software problems on your MTS400 Series instrument, use the v1.0 recovery media only on instruments with a serial number of B01xxxx, and use the v1.1 recovery media only on instruments with a serial number of B02xxxx.*

For instruments with serial numbers B01xxxx, if you know or suspect that hardware changes have been made, look at the rear panel of the instrument for upgrade information labels. If a label states that the instrument has been upgraded to B02xxxx hardware, use the v1.1 recovery media to restore the software on that instrument.

Internal Error Dialog Box

After the files have been copied during installation, a dialog box may appear with a message indicating that there was an internal error. Clicking OK will close the dialog box, and the installation will complete successfully.

Uninstalling the MTS400

When uninstalling the MTS400, a dialog box lists a number of DLLs that cannot be unregistered. Clicking OK will close the dialog box, and the uninstall will complete successfully.

License Agreement Acceptance Follow-up

When the instrument is powered up for the first time, you must complete the Windows XP license and registration process, after which the instrument will automatically restart.

If the Found New Hardware Wizard opens after the system has restarted (see Figure 1), you must complete the wizard before the instrument will operate properly.

Perform the following steps to complete the Found New Hardware Wizard:

1. In the Found New Hardware Wizard window (see Figure 1), enable the **No, not this time** option.
2. Click **Next** to continue.

Figure 1: Found New Hardware Wizard page 1

3. On the second page of the wizard (see Figure 2), verify that **Install the software automatically (Recommended)** is selected. No installation CD or floppy disk is required.
4. Click **Next** to continue.
5. The wizard will search for the required drivers, as shown in Figure 3. When the drivers are found, the Next button will be enabled.
6. When the Next button is enabled, click **Next** to proceed.

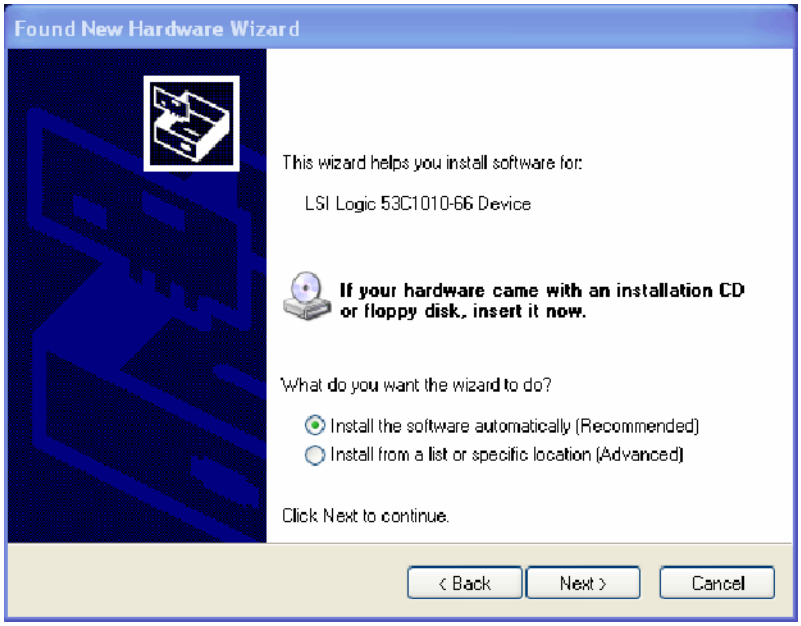

Figure 2: Found New Hardware Wizard page 2

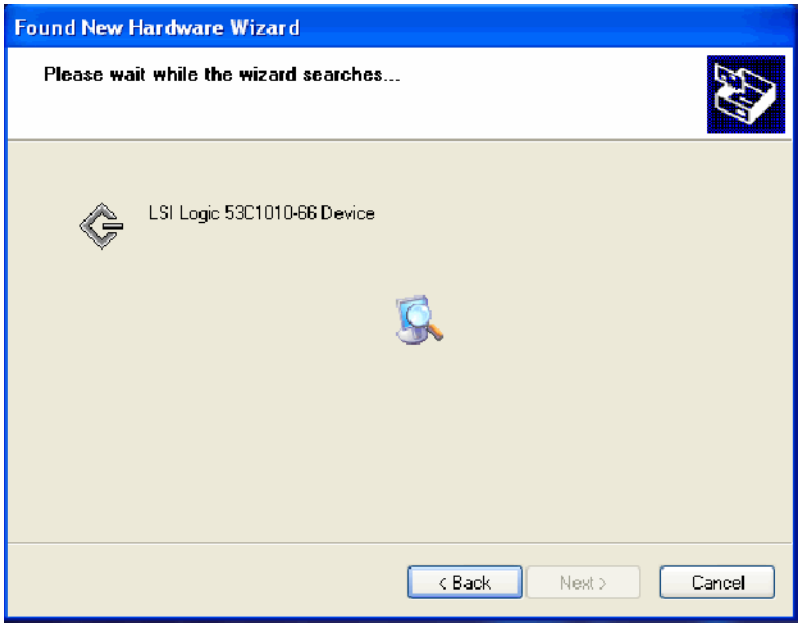

Figure 3: Wizard searching for drivers

7. When the wizard dialog box shown in Figure 4 is displayed, click **Finish**.

8. Select **Restart** from the Start menu to reboot the MTS400 Series system. The Windows XP registration and hardware setup will now be complete.

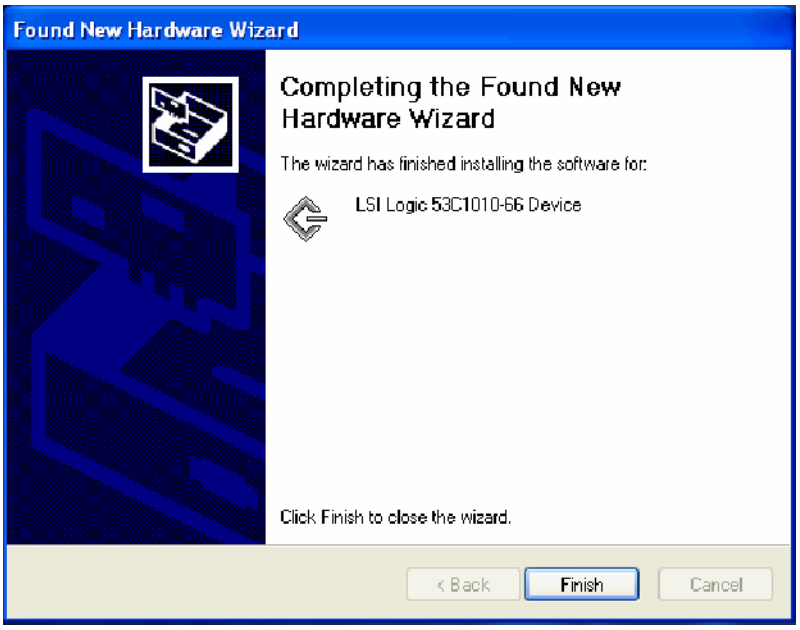

Figure 4: Completing the wizard

Restoring the MTS400 and MTS430

To restore the MTS400 Series System, use the following steps. This restore process is effective only if the hard drive is still good. The process will restore the operating system and the application software. The process should take less than 30 minutes.

CAUTION. *To prevent data loss, back up your hard drive before you restore the MTS400 Series System. All data on the hard drive will be destroyed during the system restore process.*

1. Power on the MPEG Test System with the MTS400 Series System Recovery CD-ROM (Disk 1) in the CD-ROM drive. The system will autostart the recovery application.
2. Press the “1” key to begin the system restore process. The Acquiring Device... dialog box will appear briefly and display a progress bar.
3. When prompted, insert recovery disk 2 in the CD-ROM drive, and then press the “1” key.
4. When prompted, insert recovery disk 3 in the CD-ROM drive, and then press the “1” key.
5. When the system restore is complete, remove disk 3 from the CD-ROM drive, and then press the “4” key.
6. When prompted, press the “Y” key to reboot the instrument.
7. On startup, the system will prompt you to set up Windows XP. Follow the on-screen procedure, accepting defaults where necessary.
8. Allow the system to restart when prompted.

NOTE*. The two SCSI drives (E and F) have not been imported as part of the restore process. They will not be recognized by the system until you reinstate the SCSI srives using the procedure in the* MTS400 Series Getting Started Manual.

Installation Issues (MTS4SA)

The following issue affects the installation of the MTS4SA software:

Multiplexer

If the latest Multiplexer software is installed from the MTS4SA application CD-ROM, previously installed versions of the Multiplexer will no longer work.

MPEG Player Issues (MTS400 and MTS430)

Administrator Rights for Recording

The MPEG Player application allows you to record to RAM. You need local administrator rights on the machine to make a recording.

MPEG Player and TSCA Application Interaction

If the MPEG Player application is playing a stream near its maximum bit rate limit (214 Mbps simplex or 107 Mbps duplex), starting the TSCA application may result a dialog box being displayed with the message “Mega FIFO empty error” and the player application stopping. Once the TSCA has started, it will be possible to start playing the stream again.

A workaround is to ensure that the TSCA is started before playing a stream at high bit rates.

Transport Stream Compliance Analyzer Issues (MTS400, MTS430 and MTS4SA)

Program Tree Does not Always Update Correctly

After deferred analysis has completed, occasionally the program tree might not display the program names although they do appear in the Summary View. If you switch from the Program tab to another tab then back again, the program names will appear.

Administrator Rights for IP Analysis

To perform real time IP analysis, you need local administrator rights.

Lost Packets During Recording on IP Analysis on Low Specification PCs

On some low specification PCs (with old network cards and slower hardware), packets might be lost while recording a stream being analyzed over IP. This is because of the hardware dropping Ethernet frames.

Continuity Count LED might be in incorrect state at the end of Deferred Analysis

For PIDs with low bit rates, the 1.4 Continuity Count LEDs might be in the incorrect state (that is, white when they should be green, or green when they should be yellow or red) at the end of a Deferred Analysis. However, the log is populated with the correct failure entries, and features such as Triggered Recording and CaptureVu still operate correctly when Continuity Count errors are detected.

Thumbnails cause FFMPEG Crash under WindowsNT

Thumbnails are displayed using an application called FFMPEG. This crashes when running under WindowsNT. You should disable the thumbnails through the Preferences dialog box when running the TSCA under WindowsNT.

ES Analyzer Issues (MTS400, MTS430 and MTS4SA)

Only Partially Decodes 4:2:2 Profile@HighLevel File

4:2:2 Profile@HighLevel files are only partially supported by the ES Analyzer. It fails to correctly recognize the 0x82 Profile/Level type.

Presentation Order is Incorrect

Sometimes the Presentation Order chart does not present field encoded material in the correct order.

Make Seamless Wizard Issues (MTS400, MTS430 and MTS4SA)

When running the Make Seamless Wizard under WindowsNT, the browse file buttons do not open the Browse dialog box. The filenames can still be entered in the appropriate locations.

Security Patches (MTS400, MTS430 and MTS4SA)

The software has been verified with the following Microsoft Security Patches.

Microsoft Window NT 4.0 (Service Pack 6.0a High Encryption)	KB823181 KB824141 KB824146 KB828035 Q823980 Q828750 IE6 SP1
Microsoft Windows 2000 (Service Pack 4)	No patches.
Microsoft Windows XP Pro (Service Pack 2)	KB834707 KB873339 KB885835 KB885836 KB886185 KB888302 KB890047 KB887472 KB885250 KB891781 KB867282 KB888113 KB890830

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