Release Notes

Tektronix

MTS4EA
Compressed Video ES Analyzer

071-1787-03

This document supports software version 5.0.2.2

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Release Notes

In this document, you will find the following information:

■ Enhancements in the current version of the MTS4EA software

■ Known issues that you might encounter while using the MTS4EA software

■ Platforms on which the MTS4EA software has been verified

■ Changes that were implemented in previous versions of the MTS4EA software

Related User Documentation

The following user documentation supports MTS4EA software version 5.0:

■ *MTS4EA Compressed Video ES Analyzer User Manual* (English)
Tektronix part number 020-2621-03
(includes MTS4EA software CD)

■ *MTS4EA Compressed Video ES Analyzer Tutorials*
Tektronix part number 001-1414-00
(available in the online help and from the Tektronix Web site, www.tek.com/
manuals)

Minor Enhancements

The minor changes listed below are implemented in software version 5.0.2.2.

■ H.264/AVC:

■ JM code base updated to version 12.0.

■ SEI message parsing added to the Stream Structure view.

■ New checks added for the VUI when an SPS is repeated.

■ Decode speed improved.

■ "Aborting slice decode" problems with some streams fixed.

■ "Too many macroblocks per second' alert updated to account for the change in the 2005 edition of the H.264/AVC standard.

- MPEG-4:

    - Support added for Simple profile Levels 4a and 5.

- GUI:

    - A number of issues with the image inspector have been resolved.

    - Non-appearance of syntax elements in the bit stream editor for some streams fixed.

- Other:

    - Memory usage for large transport streams improved.

Known Issues

Listed below are the known software problems and behaviors that you may encounter while using the MTS4EA software:

Toolbar Positions in Project Files

The window position of toolbars (including Macroblock and Summary tooltips) is not stored in MTS4EA project files.

H.264/AVC Issues

- Incorrect warning about a repeated SPS (sequence parameter set), if it has been changed in a new coded video sequence.

- The prev_intra8x8_pred_mode_flag and rem_intra8x8_pred_mode syntax elements are being wrongly traced as their 4x4 counterparts.

- MTS4EA software supports only 8-bit I_PCM blocks. Other size blocks may cause incorrect decode errors and visual artefacts.

- Frame timings shown in the summary tooltip for streams with HRD information may be incorrect. This does not affect the HRD calculations.

- There is an artificial limit of 396 slices that may be present in a picture.

Verified Platforms

The MTS4EA software has been verified with the platforms listed in Table 1.

Table 1: Verified operating systems for the MTS4EA software

Operating system	Service packs
Microsoft Windows XP Home	Service Pack 2
Microsoft Windows XP Pro	Service Pack 2
Microsoft Windows 2000 Pro	Service Pack 2

Previous Enhancements

Previous enhancements are listed in the following paragraphs.

Version 5.0.1.0

Minor Enhancements.

- In H.264/AVC:

    - HRD calculations modified to avoid spurious alerts caused by rounding errors.

    - Decode speed improved.

    - Misinterpretation of hypothetical field rate as a frame rate corrected.

    - Incorrect errors for out of range values of mb_qp_delta removed.

    - Incorrect parsing of pan-scan rectangle SEI message fixed.

- In MPEG-2:

    - Problems dealing with videos that try to switch between CBR and VBR buffer models corrected.

    - Transport Stream parser that refused to recognize streams on PID 17 fixed.

    - Timing issues for streams using repeated frames or fields corrected.

- In MPEG-4:

    - Corrections to VBV analysis.

    - Video packet overlay view fixed.

- In AC-3:

  - Allows decoding of streams that do not start with a sync word.

- In VC-1:

  - Allows decoding of streams that do not start at the beginning.

- In the GUI:

  - Eliminated occasional application crash when context clicking in the Alert view.

- Other:

  - Provides new DESkey drivers, which allow multiple instances to be run on a machine while only using one floating licence.

  - Improved stream auto detection algorithms to reduce false matches.

Version 5.0.0.1

Major Enhancements.

- Full stream analysis added for audio streams of the following standards:

  - MPEG-1 part 3

  - MPEG-2 part 3

  - MPEG-2 part 7 (AAC)

  - MPEG-4 part 3 (AAC, HE-AAC)

  Analysis consists of several trace options, bitstream editing, histograms, and graphs relevant to each standard, together with alerts for violations of the standards.

  Analysis of Dolby AC-3 streams is not yet supported.

- Support added for playback and audio waveform view for Dolby AC-3 streams.

- Bits per frame analysis added, including a graphical view of bit usage and picture type.

- User interface improvements:

  - Video view can be closed without closing the stream.

  - Audio and video toolbar buttons rearranged.

- Some menu reorganisation due to new audio features.

- Skip forward and skip backward icons redrawn.

- The position of a highlighed macroblock can now be locked and unlocked using a left mouse click.

- Improved handling of multiple similar alerts.

- The alert log can be saved as XML.

- "Goto view" functionality added to the H.264/AVC stream structure view.

- Buttons that generate a new view can be used to toggle that view.

- A/V Delay measurement.
  This option allows the measurement of the delay between the Audio ES and Video ES, providing a complete solution for measuring AV delay in an encoding system. The option comes with a collection of predefined clapperboard test streams in various formats, allowing users to select and encode an appropriate test stream with their encoding system. The encoded stream can then be analyzed using the MTS4EA software, which will measure the delay between audio and video in the encoded stream and report it to the user as a time value to an accuracy of ± 1 ms. The variation between the video and audio elementary streams is also presented as a graph.

Minor Enhancements.

- In H.264/AVC:

  - Small correction to HRD conformance checking, which could alter results for some streams with buffering messages that change the cpb_removal_delay_offsets.

  - Skipping of AUD NAL units that occur at the start of the stream removed.

  - Correction for decoding unpaired fields in successive IDR slices.

  - Correction for incorrect error message for negative values of quantization parameters.

  - Correction for parsing time_offset syntax element in the pic_timing SEI message.

  - Fix for parsing of full_frame_freeze SEI message.

  - Fix for incorrect warning about filler payloads in SEI messages when the payload > 255 bytes.

- Fix for parsing of scene_info_present_flag in scene_info SEI messages.

- Fix where Intra 8x8 blocks were being shown as Intra 4x4 blocks in the user interface if they appeared in non-I slices.

- Fix for checks dependent upon cpbBrNalFactor and cpbBrVclFactor in FRExt.

- Fix to the frame cropping calculation that is passed to the user interface.

- In VC-1:

  - Correction for motion vectors in 4MV blocks, both in the user interface and in the trace views.

- In MPEG-2:

  - Added support for transport streams with four bytes of non transport stream data between transport stream packets.

  - Improved parsing of transport stream SI/PSI content.

  - Improved labelling of field and frame coded picture types in summary tooltip.

  - Improved accuracy of VBV analysis for some CBR (constant bit rate) streams.

- DESkey driver updated.

- In MPEG-4:

  - Correction to value of interlaced top-field motion vector in macroblock tooltip.

- In the GUI:

  - Fix for image inspector when viewing interlaced streams.

  - Number of bits reported in trace view now always matches the Summary Tooltip.

■■ **End of document** ■■