MTS4EAB Elementary Stream Analyzer
Compressed Video and Audio Analysis Software Data Sheet

Features & Benefits
- Video and Audio Decode and Analysis
- Verification of the Stream’s Compliance with the Encoding Standard
- Extraction of Elementary Streams from Containers
- Comprehensive Stream Navigation and Tracking to Follow All Aspects of the Decoding Process
- Multiple Displays and Overlays of Codec Information
- Synchronized Video, Audio, and Data Views for Instant Cross Reference
- Wide Range of Frame and Macroblock Statistics, Syntax Traces – Bitstream, Interpret, Alerts, Frame, Macroblock, Transform, Pixel Level, Fidelity Traces
- Buffer Analysis with Graphical Plots – Spatial Bits/MB, MV Histogram, Quantization, DCT Frequency, MB Coded Frequency, Intra-coding Frequency
- Video Differencing and Fidelity Analysis
- Bitstream Editor for Making Changes, Reanalyzing the Stream, then Saving
- Exports Data for Detailed Graphical Analysis (requires Microsoft Excel®)
- Comprehensive Batch Mode for Automated Regression Testing with Log Reports
- YUV Decoded Video Output for Baseband Video Analysis
- Audio Compression Analysis (Option)
- AV Delay Measurement (Option)
- Built-in Help and Tutorials

Intended Users and Applications
- Equipment Manufacturers
  - Video Codec Software and Hardware Developers
  - Semiconductor Device Designers and Manufacturers
  - STB, PVR, DVD Consumer Electronics Developers for Cable, Satellite, Terrestrial, and IP
  - Video Conferencing and Communications Equipment Developers
  - Mobile Video Infrastructure and Handset Developers
- Video Content Transmission and Distribution
  - CODEC and Equipment Evaluation and Comparison in Cable, Satellite, Terrestrial, and IP Applications
  - Network Operators and Network Equipment Providers
  - Application and Service Providers and Streaming Media Applications
  - Broadcasters for Checking AV Delay
Elementary Stream Analysis

MTS4EAB Elementary Stream Analyzer is a powerful PC-based software package for the deferred time analysis of encoded audio and video elementary streams. Supported video standards include H.264/AVC, VC-1, MPEG-2, MPEG-4 part 2, and H.263. Supported audio standards include MPEG-2 audio, AAC, and AC-3.

MTS4EAB is available for stand-alone or networked PCs, and for Tektronix MTS4000 MPEG Test Systems.

Video compression standards are complex and involve many elements which are vitally important to the efficiency and interoperability of compressed video in different applications. MTS4EAB provides verification of the compliance of the stream against the compression standard, detailed analysis and statistics of the video and audio streams, tools for editing and debugging the stream, fidelity comparison against the original uncompressed stream, and checking for any video and audio delay. Analysis of intermediate H.264/AVC transform values is included, as well as ARIB TR-B14 compliance verification. It enables equipment and systems developers to test and bring new designs rapidly to market, and video users to test compliance, interoperability, and performance of compression products. Streams can be outputted for use with the Tektronix PQA600 Picture Quality Analyzer.

Standards Supported

Video
- H.264/AVC/MPEG-4 Part 10 – Baseline, Extended, Main, High 10, High 4:2:2, and High 4:4:4 profiles all levels 1 to 5:1
- H.264/AVC Intra profiles, High10, High422, High444, and CALVC at levels 1 to 5:1
- H.264/AVC Scalable Video Coding (SVC) Extensions – Baseline, High, and High Intra profiles at levels 1 to 5.1
- MPEG-2 – Main Profile at Main, High, and High 1440 levels, 4:2:2 Profile at Main and High levels
- VC-1 – All profiles at all levels
- MPEG-4 Part 2 – Simple Profile at levels 0 to 5 and Advanced Simple Profile at levels 0 to 5
- H.263 Baseline
- Uncompressed YUV, RGB, or Grayscale Color Models, 8 to 16 bit Sample Depth, various Chroma Subsampling Formats

Audio
- MPEG-1 Part 3 Layers I and II
- MPEG-2 Part 3 Layers I and II
- MPEG-2 Part 7 (AAC ) Main (Excludes LC and SSR)
- MPEG-4 Part 3 (HE-AAC) AAC Main, AAC LC (Low Complexity, AAC LTP (Long-term Prediction), SBR (Spectral Band Replication))
- Dolby Digital (AC-3) Baseline Standard, Annex D: Extended/Alternate Bit Stream (Playback and Waveform only)

System Layer

Elementary Streams contained within:
- MPEG-2 Transport/Program Streams
- MP4 Parts 1, 12, and 15
- ASF
- 3GPP
- DVD VOB
- Quicktime MOV
Stream HexView and Edit

Audio channels

**System Requirements**

- Windows XP or 7
- Processor Speed > 1.5 GHz (2.5 GHz recommended)
- 512 MB or greater RAM
- 400 MB hard disk space

Audio Compression Analysis

Audio Video Delay Measurement
# Ordering Information

**Single-User Local License Version**  

MTS4EAB – Base software including: MPEG-2 Main Profile (Main, High, and High 1440 Levels) and 4:2:2 Profile at High Level, MPEG-4 Simple Profile, H.263, and TS Extraction.  

**Includes:** English manual and CD.

**Floating License Version**  

MTS4EAF – Base software including: MPEG-2 Main Profile (Main, High, and High 1440 Levels) and 4:2:2 Profile at High Level, MPEG-4 Simple Profile, H.263, TS Extraction, Floating License.  

**Includes:** English manual and CD. This includes one license; for additional licenses, please order multiple copies.

## Product Options

<table>
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<tr>
<th>Option</th>
<th>Description</th>
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<tbody>
<tr>
<td>Opt. M4SP</td>
<td>MPEG-4 Advanced Simple Profile (Levels 0 to 5)</td>
</tr>
<tr>
<td>Opt. AVC</td>
<td>H.264/AVC Baseline, Extended, Main, and High Profiles with FRExt (10 bit, 4:2:2, 4:4:4), plus Intra and SVC Profiles</td>
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<tr>
<td>Opt. VC1</td>
<td>VC-1 (All Profiles, All Levels) and ASF Extraction</td>
</tr>
<tr>
<td>Opt. AUD</td>
<td>Audio Decode and Analysis (including MPEG-2 Layer 1 and 2, AAC, HE AAC), also includes AC-3 Decode</td>
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<tr>
<td>Opt. AVDM</td>
<td>AV Delay Measurement</td>
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## Dongle Options

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<tr>
<td>Opt. PPD</td>
<td>Parallel Port Dongle</td>
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<tr>
<td>Opt. USB</td>
<td>USB Dongle</td>
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<tr>
<td>Opt. LUD</td>
<td>Installation on a pre-existing MTS4000 dongle</td>
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</tbody>
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Tektronix is registered to ISO 9001 and ISO 14001 by SRI Quality System Registrar.
Data Sheet

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For Further Information. Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit www.tektronix.com

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