
# MSight

File Based Media Analyzer

MiraVid

Working with compressed video is challenging enough. There are huge amounts of data, the standards are complex, and the products have to be interoperable, so why not work with tools that give you the advantage?

**For Organizations**

- Test new workflow components and software upgrades to ensure conformance before going live in the production environment.
- Reduce workflow down time by quickly finding problems and testing potential fixes.
- Troubleshoot HD content with ease
- Detect macroblock artifact caused by bitstream errors.

**Technical Highlights**

- Supports H.264, MPEG-2, MPEG-4 v2, and VC-1.
- Support for TS, PS, VOB, MOV, AVI, ASF, GXF and more.
- Easy to use and fully optimized for performance.

## The Business Challenge

The transition of the video industry to file based workflows has created a need for specialized tools that can be used to help troubleshoot and maintain such workflows. When problems occur as the result of integrating new components or because of software updates, how can companies identify these problems and fix them? Technicians must be able to inspect the media files that result from each stage in the workflow and confirm through an independent tool such as MSight that the files are error-free and that the media has the expected configuration. There is no guarantee that different components in the workflow are interoperable which is why a bitstream conformance tool is necessary to determine which component isn't performing to specification.

## MSight Media Analyzer

MSight Analyzer represents a new generation of MPEG analysis tools that offers organizations powerful, responsive and user-friendly analysis to enrich the quality of compressed video.

MSight will help all media users quickly identify problems in any supported video stream and accelerate refinement of compression algorithms to improve video quality. The key features of the MSight analyzer deliver measurable productivity and performance benefits to organizations that develop or deliver MPEG content.

MSight Analyzer is intended for professionals with knowledge of video compression standards. MSight exposes stream statistics that give compression professionals valuable insight and knowledge into the behaviour of the encoding algorithms. Experts can observe the effects of algorithm adjustments on bitrate and video quality by looking at these stream statistics. By running multiple instances of MSight, different streams can be compared to investigate why one is more effective than the other.

## MSight Solution

- Real-time decoding and analysis for streams up to HD resolution with CC, V-Chip and CGMS-A support
- Powerful seeking engine provides fast and accurate frame/field navigation for any supported stream
- Instantly jumps to problem areas identified in any compliance test, even up to the specific macroblock
- Comprehensive conformance tests at system, video, and audio layers with unparalleled speed

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Video Progetti feeling for technology.

## MSight Specifications

**Minimum System Requirements**

- 500Mhz Pentium 3 (Recommend 2.0GHz Pentium 4 or higher)
- 256MB memory (Recommend 512MB)
- Windows 2000, Windows XP, Vista

**Supported Audio (playback and level monitoring)**

- AAC
- HE-AAC
- MPEG-1 (layer 1, 2, 3), MPEG-2 LSF
- SMPTE-302M

### VC-1

- Support for all Profiles (Simple, Main, Advanced) with all Levels
- Support for high definition (HD) resolutions
- Input Formats:
  - Transport Stream
  - Program Stream
  - ASF(WMV3, WVC1)
  - RCV
  - VC-1 Elementary Streams
- Faster than real-time VC-1 conformance testing
- HRD buffer model conformance testing
- Transport stream System Target Decoder (T-STD) model conformance testing with graphical modeling of TBn, MBn, EBn/Bn , and transport rate for TS input
- Program stream System Target Decoder (P-STD) model conformance testing for PS input
- PTS/DTS check against expected values for TS and PS input
- View ASF file structures, stream properties, and descriptions
- Header information: Sequence, Entry, Picture, Slice
- Macroblock information:
  - Modes
  - Motion Vectors
  - Coded Block Pattern
  - Motion comp partition
  - Variable size transform partition
  - Detailed coding size information
- Block information:
  - Inspect each block's transform size
  - Transformed and inverse-transformed data
- Stream structures and bitrate graph
- Graphical overlay of MV, Field MB, MB size, MB quant, MB type, slice map,variable transform partition.

### H.264/AVC

- Support for all profiles with all levels including Baseline, Main, Extended, High, High 10, High 4:2:2, & High 4:4:4
- Support for all bit-depths from 8-bit to 12-bit and all chroma formats
- Support for Flexible Macroblock Order (FMO), Arbitrary Slice Order (ASO), Data Partitioning, Transform Bypass, Residual Color Transform, 8x8 Transform, Custom Quant Matrix, etc
- Support for High Definition resolutions
- Input Formats:
  - Transport Stream
  - Program Stream
  - MP4/3GP
  - QuickTime(MOV)
  - H.264 Annex B
- Faster than real-time H.264 conformance testing
- HRD buffer model conformance testing
- T-STD & P-STD buffer model conformance testing. Graphical modeling of TBn, MBn, EBn/Bn, & transport rate for T-STD.
- PTS/DTS check against expected values for TS and PS input
- View MP4 file structures, atoms/boxes as well as different descriptors for MP4/MOV input
- Detailed SPS, SPS Extension, & PPS information
- Supplemental Enhancement Information (SEI)
- Detailed Decoded Picture Buffer (DPB) and reference picture list information
- Slice header information
- Macroblock information:
  - Intra/Inter Modes and Partitions
  - Reference Index and Motion Vectors
  - Coded Block Pattern
  - Coding size for MV, mode, quant and residual
- Block information:
  - Transformed and quantized coefficients
  - Dequantized and Inverse transformed coefficients
  - Intra/Inter prediction results (reference data)
- Stream structures and bitrate graph
- Graphical overlay of MV, Field MB, MB size, MB quant, MB type, slice map, slice group

## MPEG-4/H.263

- Support for Simple Profile and Advanced Simple Profile
- Support for Core, Main, & Advanced Coding Efficiency Profiles that only use the following visual tools:
  - I, P, and B-VOP
  - AC and DC Prediction
  - 4-MV and Unrestricted MV
  - Slice Resynchronization
  - Data Partitioning
  - Reversible VLC
  - Short Header
  - Method 1 and Method 2 Quantization
  - Interlace
  - Global Motion Compensations
  - Quarter-pel Motion Compensation
- H.263 baseline support
- Support for high definition resolutions
- Input Formats:
  - Transport Stream
  - Program Stream
  - MP4/3GP
  - Video Elementary Streams
- Faster than real-time MPEG-4 video conformance testing
- Video Buffer Verifier conformance testing
- T-STD & P-STD buffer model conformance testing. Graphical modeling of TBn, MBn, EBn/Bn, & transport rate for T-STD.
- PTS/DTS check against expected values for TS and PS input
- View MP4 file structures, atoms/boxes as well as different descriptors for MP4/3GP input
- Detailed configuration information
  - Visual Object Sequence
  - Visual Objects
  - Video Object Layer
- Header information:
  - GOV
  - VOP
  - VP
- Macroblock information:
  - Modes
  - Motion Vectors
  - Coded Block Pattern
  - Detailed coding size
- Block information – Inspect each block's DCT or IDCT data
- Stream structures and bitrate graph
- Graphical overlay of MV, Field MB, MB size, MB quant, and MB type

## MPEG-2/MPEG-1

- MPEG-2
  - Low Profile with all Levels
  - Main Profile with all Levels
  - 4:2:2-Studio Profile with all Levels
- Support for High Definition resolutions
- Input Formats:
  - Transport Stream
  - Program Stream for MPEG-2 and System Stream for MPEG-1
  - Video Elementary Stream
- Faster than real-time MPEG-1/2 video conformance testing
- Video Buffer Verifier (VBV) conformance testing including instant bitrate (Rn) check
- T-STD & P-STD buffer model conformance testing. Graphical modeling of TBn, MBn, EBn/Bn, & transport rate for T-STD.
- PTS/DTS check against expected values for TS and PS input
- 3:2 pulldown support in VBV testing and bitrate graph/statistics
- Header information:
  - Sequence
  - GOP
  - Picture (with detailed coding size)
  - Slice
  - Extensions and User Data
- Macroblock information:
  - Modes
  - Motion Vectors
  - Coded Block Pattern
  - Detailed coding size
- Block information – Inspect each block's DCT or IDCT data
- View quant matrix and quant matrix extensions (QME)
- Stream structures and bitrate graph
- Graphical overlay of MV, Field MB, MB size, MB quant, and MB type