VEGA Media Analyzers

Compliance Verification
In-depth Encoding Visibility
Comprehensive Formats Support
Transport Stream Analysis
Compliance Checks
AV Sync Checks
Interoperability Assurance

VEGA H264
Audio Video Analysis

VEGA TSA
MPEG-2 Transport Analysis

De facto Standard for Media Analysis

interra systems
The Interra Difference
Enterprise Class Solutions • Production Proven • Superior Customer Support
Interra’s Vega H264 is an industry leading Audio/Video analyzer for assurance of standards compliance and interoperability.

Vega H264 provides the most accurate and in-depth video analysis with navigation down to the deepest levels of an encoded stream. Debug information includes frame by frame analysis, summary of the encoded stream, and detailed error reports. This significantly reduces R&D and QA time in delivering standards compliant media content.

Vega advantages includes the most comprehensive audio and video format support including AVS, MVC, SVC, VP8, WebM, MPEG-2 Transport stream and high efficiency tools such as Video Comparator and Batch Mode Analyzer.

Vega has been widely adopted by codec developers, broadcasters, semiconductor companies, video headends, video equipment manufacturers and other media professionals to:

- Deliver and distribute standards compliant media content
- Check interoperability issues
- Optimize a stream’s buffer requirements
- Evaluate and compare the performance and quality of video compression/decompression tools
- Automate regression tests

Vega H264 Advantages

- Most Accurate, In-depth Video Analysis
  - Frame by frame decode
  - Macroblock statistics
  - Buffer data graphs

- Assured Compliance & Interoperability
  - Trusted expertise and Wide adoption
  - High-efficiency tools for Encoding comparison, Encoding regression tests, Set top Box compatibility, and more

- Most Comprehensive Formats Support
  - H.264, MVC, SVC, VP8, MPEG-2, WebM, Dolby, and more

Vega H264 Features

- Powerful debug capabilities to analyze frame by frame
- Quick forward/backward navigation; also, vertical navigation down to macroblock level
- Detailed display of coded information along with quick-to-capture summary information: average MB size, quantizer, and frame statistics
- Extraction of individual SVC layers and Quality comparison between two SVC layers
- Enhanced analysis of MVC streams - Frame statistics and thumbnails for all views, Side by side comparison of two views, Stereo video player, Multi-core support
- Customized trace output to find out syntax-by-syntax data values
- Messages in XML format for ease of distribution
- Facility to store analyzed data for future reference
- Fast analysis and Partial analysis mode for large streams
- Interactive buffer analysis capabilities
- Powerful YUV Diff utility to evaluate video quality
- Video Comparator utility to assess the performance of encoders
- Batch Mode for advanced batch mode analysis and automation of regression tests
Perfecting MPEG-2 Delivery

Interoperability, reliability, and efficiency distinguish quality MPEG systems used in the broadcast industry.

Interra’s Vega TSA is a debug platform for development of interoperable, efficient, and reliable MPEG delivery systems. Based on ATSC, DVB, ISDB, TR101 290, CableLabs VoD, and MPEG standards, Vega TSA provides a microscopic view into MPEG-2 Transport streams from structural hierarchy down to encoded bits.

Vega TSA precisely pinpoints standards violation in a Transport stream and provides graphical representation of details, such as stream occupancy, bandwidth utilization, timing inaccuracy, and more. In addition, Vega TSA analyzes MXF files from top level headers down to structures, descriptors, KLV elements, and more. Its comprehensive debug information and stream statistics help to significantly reduce R&D and QA time.

Vega TSA is based on the debug platform of industry-leading Vega H264 Analyzer. Apart from Transport stream analysis, Vega TSA also supports analysis of all elementary streams that are part of the MPEG-2 Transport stream.

Vega TSA Advantages

- Comprehensive analysis for efficient validation and debug of Transport streams
- Integrated with Vega H264 for in-depth analysis of elementary streams
- Easy to use, cost-effective PC-based software

Vega TSA Features

- Comprehensive analysis of MPEG-2 Transport stream
  - Profile, Level, Resolution, Bit rate, and more
  - Stream occupancy and packet distribution statistics
- Bandwidth statistics of all programs
- Packet header, PES Header, SI, PSI, PSIP and more
- PCR/PTS inaccuracy and intervals, PCR jitter and drift rate, PCR frequency offset, PTS/DTS analysis
- DVB subtitles, Teletext, DSM-CC analysis
- PCAP and RTP file, ETV and EBIF stream analysis
- TR101 290 Priority and CableLabs checks
- T-STD buffer analysis
- EPG view
- Comprehensive analysis of MXF files
  - Partitions and their top level contents
  - MXF structures, descriptors, all KLV elements
  - Source Package tracks
- Detailed error messages along with standard violated
- Messages in XML format for ease of distribution
- Facility to store analyzed data for future reference

Vega TSA - Comprehensive Debug Information
Vega has been adopted worldwide as the de facto standard for media analysis.
350 plus licences in production use.

### Vega H264 Standards Support

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<th>Category</th>
<th>Standards</th>
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<tr>
<td><strong>Video</strong></td>
<td>H.264, H.264 SVC, H.264 MVC, H.263, H.263+, MPEG-4, MPEG-2, MPEG-1, AVS, VP8</td>
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<tr>
<td><strong>Audio</strong></td>
<td>AAC, Dolby AC-3, Dolby Digital Plus, Dolby-E, AMR, MP3, PCM, LPCM, MPEG-1/MPEG-2 Audio, Ogg Vorbis Audio, DTS Audio</td>
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<tr>
<td><strong>System Streams</strong></td>
<td>MPEG-2 Transport, MPEG-2 Program/DVD VOB, QuickTime, MPEG-1 Systems, MP4, 3GPP/3GPP2, AVC, AVI, HDV, IVF, WebM</td>
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<tr>
<td><strong>Broadcast Standards</strong></td>
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<td><strong>Geospatial Standards</strong></td>
<td>MISB KLV 0601.4, 0604.1</td>
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<tr>
<td><strong>Other formats</strong></td>
<td>JPEG, JPEG 2000, Teletext, DVB-Subtitle, XDS, CC608, CC708</td>
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### Vega TSA Standards Support

- MPEG-2 Systems
- ATSC 
- DVB 
- DVB-H 
- DVB Subtitles
- ISDB: ARIB, TR101 290, CableLabs VoD, DSM-CC, PCAP, Teletext, MXF

With Dolby certified AC3, DD Plus, Dolby-E analysis