

# AUDIO/VIDEO CODEC ANALYZER

MEDIA FILE ANALYSIS SOLUTION



**The ultimate troubleshooting and analysis solution for any H.265/HEVC or H.264/AVC content from Standard Definition up to 4K Ultra High Definition.**

The digital TV market depends on increasingly complex codecs and next-generation standards that require knowledge acquisition and dedicated testing/verification tools. The Audio/Video Codec Analyzer is a file-based media analyzer. It offers decoding capabilities and high-end analysis of present and future generations of compressed audio/video. It covers the widely-deployed MPEG-2, H.264/AVC and VC-1 compressed video formats, and now supports the H.265/HEVC (High Efficiency Video Coding) standard.

The Audio/Video Codec Analyzer is the ideal software solution, providing support for technical teams and fast assessment, troubleshooting, compliance testing and interoperability verification capabilities. The tool accelerates product innovation, improves development cycles and facilitates technical assistance for satellite, cable, terrestrial, IPTV and OTT/WebTV systems.

The solution is perfect for digital TV enablers such as device manufacturers, systems integrators and service operators seeking easy-to-use, intuitive and comprehensive analysis tools.

## Advanced Analysis Features

In addition to its video analysis capabilities, the Audio/Video Codec Analyzer supports a wide range of compressed audio formats. The tool not only decodes MPEG Audio, Dolby® Digital (AC-3), Dolby® Digital Plus (E-AC3) and AAC, but also displays the main characteristics and waveforms, and crosslinks with the corresponding picture in the stream.

Besides audio and video streams, the analyzer also measures the loudness, decodes and examines teletext subtitles, DVB subtitles, closed captions and SCTE-35 cue tones used for digital program insertion (local program and ad insertion).

Picture by picture navigation, with subtitle analysis and display as well as splice point information, greatly simplifies troubleshooting by identifying and isolating potential problems.

The Audio/Video Codec Analyzer lets you capture live sessions to file with its dedicated IP traffic recorder included in the package and can then extract embedded transport stream or A/V raw byte data from the IP capture file for advanced analysis.

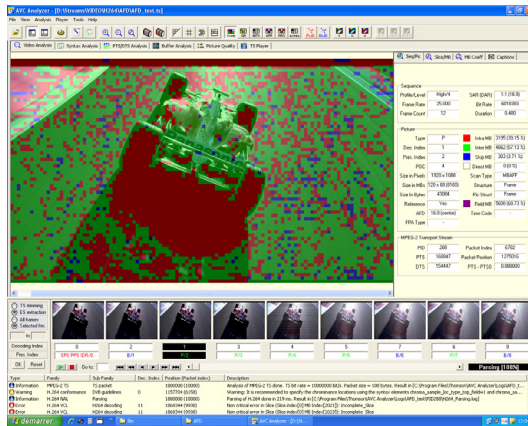
## HIGHLIGHTS

- Video analysis support
  - H.265/HEVC
  - H.264/AVC
  - MPEG-2
  - VC-1
- Audio analysis support
  - MPEG Audio
  - Dolby® Digital (AC3)
  - Dolby® Digital Plus (E-AC3)
  - AAC
- Quick forward/backward navigation via thumbnail banner
- Main A/V characteristics at a glance
- A/V conformance testing
- A/V synchronization
- Syntax analysis
- Dynamic buffer analysis
- Subtitle analysis (closed caption, teletext, DVB subtitles and WebVTT)
  - Audio loudness analysis
  - program loudness (ITU-R BS.1770-3)
  - loudness range (EBU R128)
  - max true peak level
- Digital Program Insertion (SCTE-35 cue tones)
- Live capture over IP and video extraction

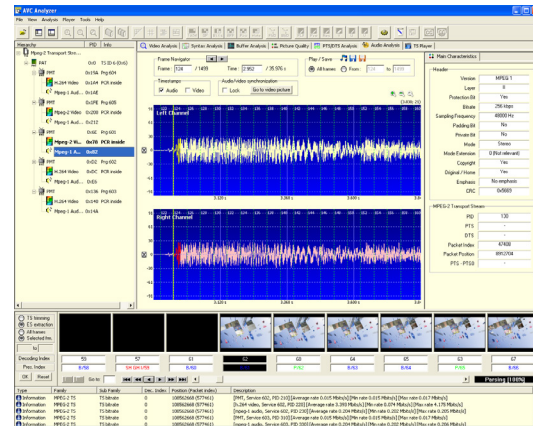
## World-Class Service and Support

Harmonic stands behind Audio/Video Codec Analyzer Platform with comprehensive service and support programs, including system design, service deployment, technical support and network maintenance. World-class service plans and a global network of flexible and responsive support professionals help ensure your ability to deliver outstanding “anytime, anywhere, any-device” customer experiences.

### Advanced HD video analysis



### A/V synchronization analysis



## SPECIFICATIONS

Input File	<p>Container: MPEG-2 TS, HTTP Live Streaming (HLS), TTS, ASF, Flash FLV, MP4, fragmented MP4 (e.g., Microsoft smooth streaming), QuickTime, 3GP, and PCAP files</p> <p>Raw byte: H.265, H.264, MPEG-2 video, VC-1, MPEG audio, AAC, Dolby® Digital (AC3), and Dolby® Digital Plus (E-AC3)</p>
Video Analysis	<p>H.265/HEVC: Main, Main10 and Main Still</p> <p>H.264/AVC: Baseline, Main, Extended, and High 4:2:0 8-bit profiles at all levels</p> <p>MPEG-2 video: Simple, Main, High, and 4:2:2 profiles at all levels</p> <p>VC-1: Simple, Main and Advanced profiles at all levels</p>
Video Analysis (cont.)	<p>SD, HD and Ultra HD</p> <p>Stream summary and picture/slice information</p> <p>Syntax display (VPS, SPS, PPS and Slice headers)</p> <p>Conformance checking</p> <p>Coded tree unit data display</p> <p>Slice/tile and block boundaries, type, bit size, quantizers and motion vector overlay</p> <p>Dynamic buffer analysis on H.264 and H.265</p> <p>Display of residual, transform, and dequantized coefficients</p>
Audio Analysis	<p>MPEG-1 and MPEG-2 at Layer I, II, and III</p> <p>Dolby® Digital (AC3) and Dolby® Digital Plus (E-AC3) – all channels up to 5.1</p> <p>AAC, HE-AACv1, and HE-AACv2</p> <p>Main characteristics at a glance</p> <p>Audio waveform</p> <p>A/V synchronization</p> <p>ITU-R BS.1770-3 and EBU R128: loudness analysis, loudness range, max true peak level</p>
Container Analysis	<p>Container Analysis</p> <p>TS trimming and ES extraction</p> <p>TR 101 290 analysis</p> <p>Built-in MPEG-2 TS player</p> <p>Container structure overview</p> <p>PTS/DTS graphical analysis</p> <p>HLS manifest analysis</p>
Additional Features	<p>Exportable logs</p> <p>DVB subtitle and EBU teletext subtitle analysis and decoding</p> <p>Closed caption analysis and decoding (CEA-608, CEA-708, and SCTE-20)</p> <p>WebVTT subtitles analysis and decoding</p> <p>Digital Program Insertion analysis including avail location and SCTE-35 cue tone display</p> <p>Live capture of IP traffic and video extraction</p>
System Requirements	<p>3 GB RAM</p> <p>Windows XP/7/8</p> <p>Windows 2003/2008 server</p>

## ORDERING INFORMATION

### BASE PRODUCT

Part Number	Description
AVCANL-SW-BASE	A/V codec analyzer base

### VIDEO ANALYSIS OPTIONS

Part Number	Description
AVCANL-LIC-VID-HEVC	H.265/HEVC video analysis
AVCANL-LIC-VID-MP4	H.264/AVC video analysis
AVCANL-LIC-VID-MP2	MPEG-2 video analysis
AVCANL-LIC-VID-VC1	VC-1 video analysis

### AUDIO ANALYSIS OPTIONS

Part Number	Description
AVCANL-LIC-AUD-MP1L3	MPEG audio analysis
AVCANL-LIC-AUD-DD	AC3 and E-AC3 audio analysis
AVCANL-LIC-AUD-AAC	AAC audio analysis

### ADDITIONAL ANALYSIS OPTIONS

Part Number	Description
AVCANL-LIC-AUD-LOUDNESS	Audio loudness analysis
AVCANL-LIC-SYNCHRO	Advanced PTS/DTS analysis
AVCANL-LIC-SUB	DVB subtitle and EBU teletext subtitle analysis
AVCANL-LIC-CC	Closed caption analysis (CEA-608, CEA-708, and SCTE-20)
AVCANL-LIC-DPI	Digital Program Insertion analysis (SCTE-35)
AVCANL-LIC-OTT	HTTP Live Streaming analysis