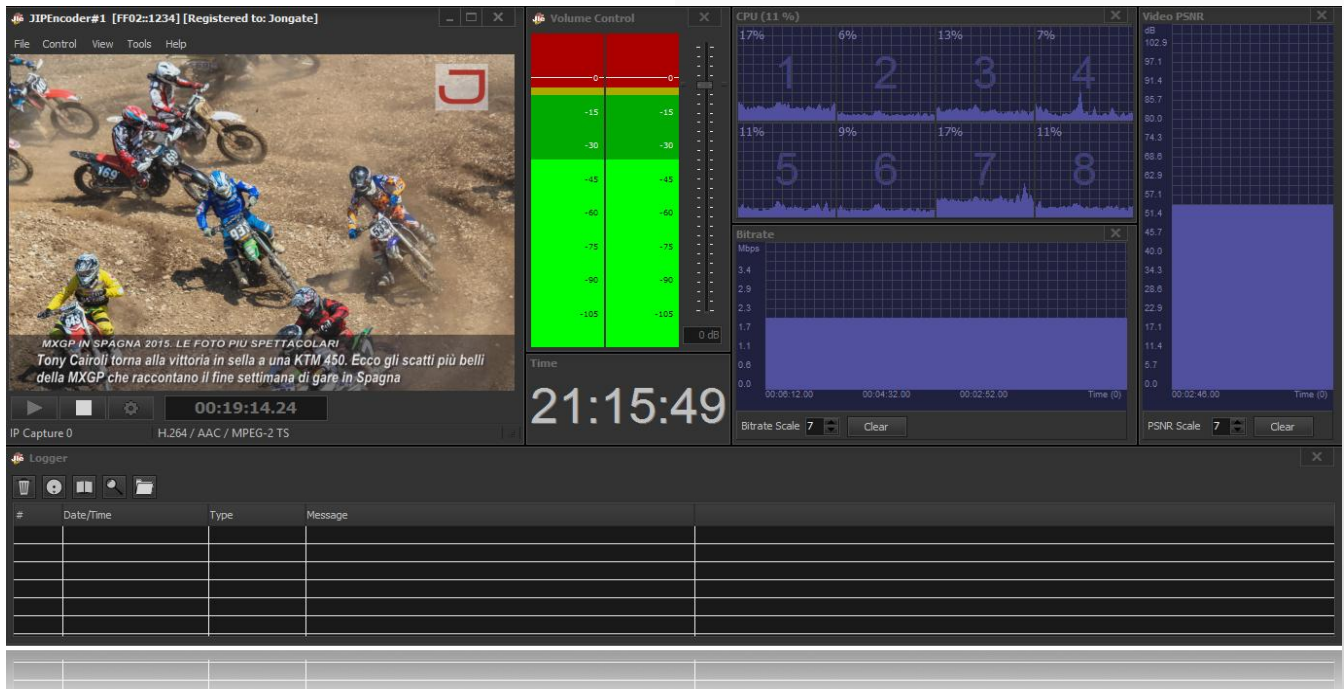


JIPEncoder



SD/HD SDI, 4K, Composite, Component and HDMI encoding and IP streaming



OVERVIEW

JIPEncoder is an advanced SD / HD SDI, 4K encoding and streaming solution. It accepts SDI, HDMI, Component Composite, UDP, RTP, HLS, DASH and NDI™. HEVC/H.265, AVC/H.264 and MPEG-2 video encoding, AAC and MPEG audio encoding, MPEG Transport and Program Stream, MXF and MP4 multiplex are supported. UDP, RTP, HLS (HTTP Live Streaming), DASH and NDI™ are the supported output network protocols for live streaming. The Bitrate monitor provides the current output multiplex bit rate. Multi-channel audio volume monitoring and control is also available. The product is suitable for automation through the scheduler module. The CPU monitor provides a system processing load overview.

PRODUCT FEATURES

- Vast variety of output format resolutions and frame rates, from SD and Full HD up to 4K, including 3D
- Input interfaces: SD-SDI, HD-SDI, 6G-SDI, 12G-SDI, HDMI, Composite, Component, IP, HTTP, UDP, RTP, NDI
- Output: IP UDP, RTP, HLS, DASH and NDI™
- Audio volume metering and control
- Intel QSV AVC/H.264 hardware acceleration
- Video Black and Freeze frame detection
- Audio Silence and Noise detection
- Bitrate preview module
- CPU load preview module
- Video encoding PSNR preview module
- Automation: single daily and weekly encoding through a schedule
- Manual encoding mode
- Timer

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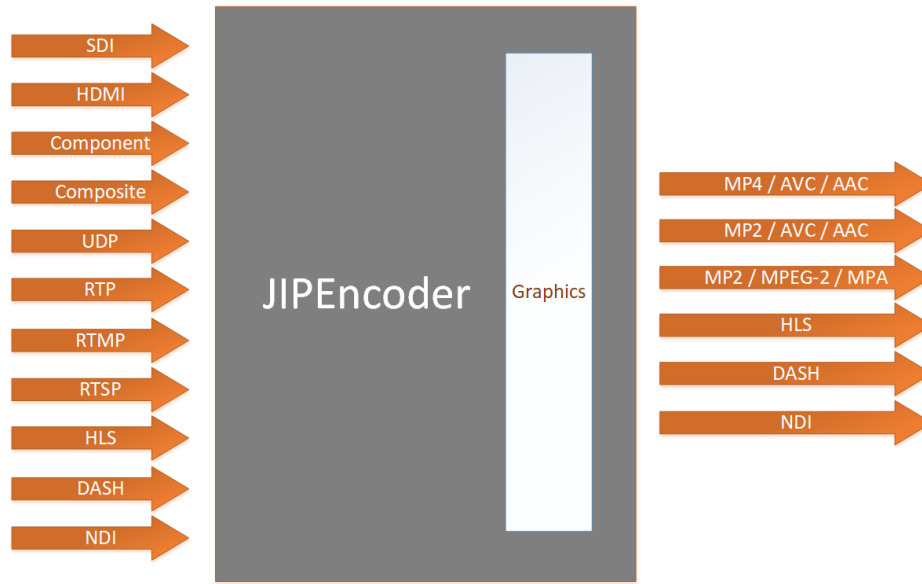
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INPUTS & OUTPUTS



NATIVELY SUPPORTED MEDIA FORMATS

| MULTIPLEX | VIDEO | AUDIO | PROTOCOL |
|-------------------------|------------|----------------------|--|
| MPEG-2 Transport Stream | HEVC/H.265 | AAC Audio | UDP |
| MP4/QuickTime | AVC/H.264 | MPEG Audio Layer I | RTP |
| | MPEG-1/2 | MPEG Audio Layer II | HLS (HTTP Live Streaming) |
| | | MPEG Audio Layer III | MPEG-DASH (Dynamic Adaptive Streaming over HTTP) |

SUPPORTED INPUT & OUTPUT FORMATS

| Input & Output Formats | Supported Formats |
|------------------------|--|
| | <ul style="list-style-type: none"> • PAL 720x576 @ 50i 4:3/16:9 • NTSC 720x486 @ 59.94i 4:3/16:9 • HD720 50p, 59.94p, 60p • HD1080 23.98p, 24p, 25p, 29.97p, 30p, 50i, 50p, 59.94.i, 59.94p, 60i, 60p • 2K Resolution 2048x1556 23.97, 24, 25 • 4K Resolution 3840x20160 23.97, 24, 25 • 3D Full SbS 720 50p, 59.94p, 60p • 3D Full SbS 1080 23.98p, 24p, 25p, 29.97p, 30p, 50i, 59.94i, 60i • 3D Full TnB 720 50p, 59.94p, 60p • 3D Full TnB 1080 23.98p, 24p, 25p, 29.97p, 30p, 50i, 59.94i, 60i • 3D SbS 720 50p, 59.94p, 60p • 3D SbS 1080 23.98p, 24p, 25p, 29.97p, 30p, 50i, 50p, 59.94i, 59.94p, 60i, 60p • 3D TnB 720 50p, 59.94p, 60p • 3D TnB 1080 23.98p, 24p, 25p, 29.97p, 30p, 50p, 59.94p, 60p |



VIDEO CODECS & FEATURES

| | |
|------------------------|--|
| MPEG Video | <ul style="list-style-type: none"> • MPEG-2 (ISO/IEC 13818-2), MPEG-1 (ISO/IEC 11172-2) and ATSC streams • Profiles: Simple, Main, High, 422 and Multi-View • Levels: Low, Main, High 1440 and High • Chroma Formats: 4:2:0 and 4:2:2 • Bitrate: Up to 300 Mbps • SubFormats: MPEG-1, MPEG-1 VideoCD, MPEG-1 DVD, MPEG-2, MPEG-2 SVCD, MPEG-2 DVD, MPEG-2 DVB, MPEG-2 MicroMV, MPEG-1/2 DVHS, Cablelabs MPEG-2, MPEG-2 HD DVD, MPEG-2 HDV HD1, MPEG-2 HDV HD2, BluRay Disk, MPEG-2 ATSC, MPEG D10-25, MPEG D10-30, MPEG D10-40, MPEG D10-50, XDCAM IMX, XDCAM IMX MPEG-2 4:2:2P @ ML (25 MBit), XDCAM IMX MPEG-2 4:2:2P @ ML (30 MBit), XDCAM IMX MPEG-2 4:2:2P @ ML (40 MBit), XDCAM IMX MPEG-2 4:2:2P @ ML (50 MBit), XDCAM HD, XDCAM HD MP@H-14 4:2:0 1440x1080 (25 Mbit CBR), XDCAM HD MP@HL 4:2:0 1440x1080 (17.5 Mbit VBR), XDCAM HD MP@HL 4:2:0 1440x1080 (17.5 Mbit VBR), XDCAM HD MP@HL 4:2:0 1440x1080 (35 Mbit VBR), XDCAM HD MP@H-14 4:2:0 1440x540 (12.5 Mbit CBR), XDCAM HD MP@HL 4:2:0 1440x540 (8.75 Mbit VBR), XDCAM HD MP@HL 4:2:0 1440x540 (17.5 Mbit VBR), XDCAM HD MP@HL 4:2:0 1280x720 (35 Mbit VBR), XDCAM HD 422P@HL 4:2:2 1920x1080 (50 Mbit CBR), XDCAM HD 422P@HL 4:2:2 1280x720 (50 Mbit CBR), XDCAM EX, XDCAM EX MP@HL 4:2:0 1920x1080 (35 Mbit VBR), XDCAM EX MP@H-14 4:2:0 1440x1080 (25 Mbit CBR), XDCAM EX MP@HL 4:2:0 1280x720 (35 Mbit VBR) |
| AVC/H.264 Video | <ul style="list-style-type: none"> • H.264/AVC Decoding, compliant with ISO/IEC 14496 part 10 AVC / ITU-T H.264 • Profiles: Baseline, Main, High, High 422 and 444 • Chroma: 4:2:0, 4:2:2, 4:4:4 • AVC Intra: AVC-Intra Class 50, Class 100 and Class 200/AVC-Ultra(AVC-I 200), XAVC Intra • Bit support: 8-, 10- and 12-bit • 4k decoding offering support for AVC Ultra, AVC-Intra, XAVC and 4k 4:4:4 streams • CABAC/CAVLC • I, P and B slices • Weighted prediction • Low Delay flag • Field pictures • Assembler (SIMD) optimizations • SubFormats: SVCD, D1, High, DVD, BluRay SD, BluRay HD, Sony PSP, Apple iPod, AVCHD, AVCHD 2.0, OneSeg, 3GP, Silverlight, UltraViolet Portable Definition, UltraViolet Standard Definition, UltraViolet High Definition, DASH 264, Panasonic AVC-LongG 4:2:2 Classes G50 (50 Mbps), Panasonic AVC-LongG 4:2:2 Classes G25 (25 Mbps), Panasonic AVC-LongG 4:2:0 Classes G12 (12 Mbps), Panasonic AVC-LongG 4:2:0 Classes G6 (6 Mbps), H.264 intra frame coding (Class 200), SONY XAVC Long GOP 4K Profile for M4 and XD Style, SONY XAVC Long GOP HD Profile for M4 Style, SONY XAVC Long GOP HD Profile for XD Style, SONY XAVC HD Intra VBR Profile for M4 Style, SONY XAVC HD Intra CBG Profile Class 50 for XD Style, SONY XAVC HD Intra CBG Profile Class 100 for XD Style, SONY XAVC HD Intra CBG Profile Class 200 for XD Style, SONY XAVC 4K Intra CBG Class 100 for XD Style, SONY XAVC 4K Intra CBG Class 300 for XD Style, SONY XAVC 4K Intra CBG Class 480 for XD Style, SONY XAVC 4K Intra VBR Class 100 for XD Style, SONY XAVC 4K Intra VBR Class 300 for XD Style, SONY XAVC 4K Intra VBR Class 480 for XD Style |



VIDEO CODECS & FEATURES

| | |
|--|---|
| HEVC/H.265 Video Decoding | <ul style="list-style-type: none"> • H.265/HEVC Decoding, compliant with ISO/IEC 23008-2 / ITU-T H.265 • Main (8-bit) and Main 10 (10-bit) Profile support (HM 14.x compliant) • DivX HEVC decoding support up to 4K • Switchable Wavefront Parallel Processing (WPP) • Sample Adaptive Offset (SAO) • Deblocking filter • Tiles & Slices support • PCM Coding • CABAC optimizations • I, P and B frames • Weighted prediction • Support for HEVC streams that use Scaling Matrices / Lists • Coding unit up to 64x64 • Transform unit up to 32x32 • Transquant Bypass • Multi-core & multi-threading support • Assembler (SIMD) optimizations |
|--|---|

AUDIO CODECS & FEATURES

| | |
|------------------------------------|--|
| AAC Audio Decoding | <ul style="list-style-type: none"> • MPEG-2 (ISO/IEC 13818-7) and MPEG-4 (ISO/IEC 14496-3) AAC audio • Main, Low Complexity and SBR audio object types • CBR and VBR • Bitrate: 6 Kbps - 1024 Kbps |
| MPEG Audio Decoding | <ul style="list-style-type: none"> • MPEG-1, MPEG-2, MPEG-2.5, LPCM, AES3 • Layer I, II and III • Bitrate: 64 Kbps - 384 Kbps |

MULTIPLEX & FEATURES

| | |
|---------------|---|
| MPEG-2 | <ul style="list-style-type: none"> • MPEG-2 Transport Streams (ISO/IEC 13818-1) • DVB • ATSC-T • ATSC-C |
| MP4 | MPEG-DASH |



SUPPORTED HARDWARE

| | | |
|-----------------------------------|---|--|
| Supported hardware devices | <ul style="list-style-type: none">• Intensity Pro 4K• Intensity Shuttle• DeckLink 4K Extreme• DeckLink 4K Pro• DeckLink Studio 4K• DeckLink SDI 4K• DeckLink Mini Recorder 4K | <ul style="list-style-type: none">• DeckLink Duo 2• DeckLink Quad 2• DeckLink Mini Recorder• DeckLink HD Extreme• DeckLink Duo• Multibridge Eclipse• UltraStudio Pro |
|-----------------------------------|---|--|

SYSTEM REQUIREMENTS

| | |
|------------------------------------|---|
| System requirements | <ul style="list-style-type: none">• OS: Microsoft Windows XP SP3, Vista, 7, 8, 8.1, 10• CPU: Intel i7 (for HD video), i3, Quad or Duo (for SD video)• RAM: DDR3 4GB or more• Video card: DirectX 9 compatible• Motherboard: Gigabyte GA-Z77X-UD5H motherboard or similar• Hard drive: 250 GB SSD or RAID |
| Minimum system requirements | <ul style="list-style-type: none">• OS: Microsoft Windows XP SP3, Vista, 7, 8, 8.1, 10• CPU: Pentium 3 class CPU• RAM: 512 MB• Video card: DirectX 9 compatible• Hard drive: 500 MB |

TECHNOLOGY PARTNERS

