Studio Media Encoding Systems

StreamZ™
StreamZHD™

StreamZ™ and **StreamZHD™** are the most versatile professional encoding systems on the market, delivering high-performance, multi-format video ingest, encoding, transcoding and live streaming in comprehensive solutions that integrate easily into any professional environment. Combining the performance and quality advantages of hardware-based preprocessing with the flexibility of software codecs and a powerful yet easy-to-use user interface, StreamZ and StreamZHD encoders are ideal for creating and transforming content for today's vast array of multi-screen distribution opportunities and file-based production workflows. From real-time encoding and streaming from live sources or decks to faster-than-real-time transcoding from existing media files, StreamZ and StreamZHD can dramatically increase your productivity and output media quality easily and cost-effectively.

digital rapids®

Connecting Content to Opportunity

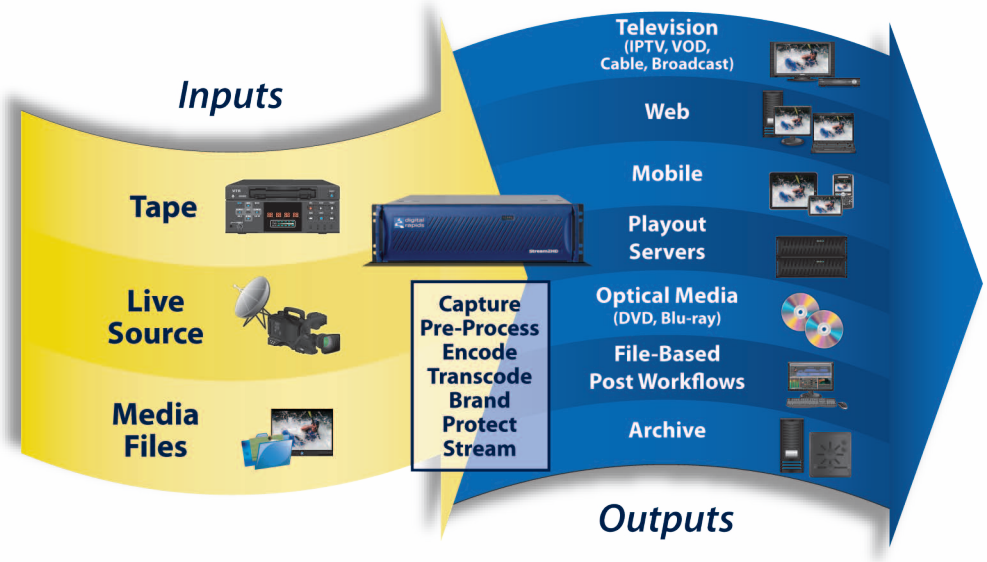
www.digitalrapids.com

Highlights

- High-quality, multi-format video/audio ingest, encoding, transcoding and streaming
- Unmatched versatility – encode to files or live streams from live sources or decks; transcode from existing media files
- Simultaneous output to multiple formats, resolutions and bitrates lets you optimize for each target audience or application
- Broad, expandable compression and file format support including adaptive bit rate delivery technologies
- Hardware-based preprocessing for optimal quality and bandwidth usage
- Comprehensive analog and digital input options
- Flexible software with extensive integration, automation and customization features

Encoding for Everything

Multi-screen content distribution and efficient multi-format workflows are necessities for content owners and producers striving to stay ahead in today's competitive media environment. Maximizing the value and reach of your content means dealing with an ever-increasing array of formats to support the network-enabled platforms and devices that have changed how audiences consume video. From encoding file-based deliverables to live streaming, Digital Rapids StreamZ and StreamZHD studio media encoding systems give you the power to efficiently repurpose your media at top quality in any format for any audience, anywhere.



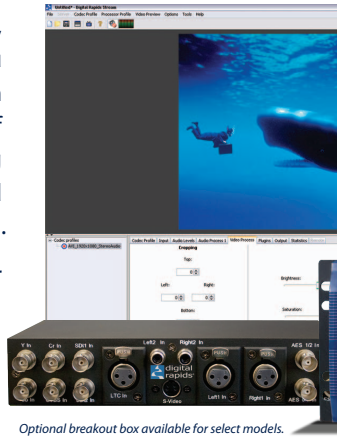
StreamZ encoding systems feature a comprehensive range of input options for standard definition video sources, while the format-agile StreamZHD expands the powerful and flexible features of StreamZ into the high definition domain. StreamZHD can capture HD (1080i, 1080p and 720p) or SD video in its native format, or format convert it during ingest from HD to SD, SD to HD, or between HD resolutions. Real-time down-conversion of dual-link and 3G-SDI inputs allows easy repurposing without the workflow inconvenience and expense of external format converters. StreamZHD also provides a future-proof upgrade path to emerging applications empowered by 3G-SDI.

Multiple Formats, One Easy Workflow

The StreamZ family supports standard and optional compression and container formats including AVC/H.264 (including Adobe® Flash®, Microsoft® Silverlight®, Transport Streams and Elementary Streams), VC-1 (Windows Media), MPEG-2, XDCAM HD, Avid DNxHD®, DVCPro, AVC-Intra (Panasonic P2), JPEG2000, Dolby® Digital and Digital Plus, QuickTime®, MXF, GXF, LXF, Omneon and many more, with a flexible architecture for easy future format expansion. Strict output compliance ensures broad compatibility with devices from PCs to set-top boxes. Stereoscopic 3D content can be encoded in H.264 with the optional Digital Rapids Studio AVC Encoder for frame-compatible (side-by-side or top-bottom) 3D delivery.

Source video can be encoded to files or streamed in multiple formats, resolutions and bit rates simultaneously in real time, giving you exceptional productivity while targeting multiple distribution channels or adaptive bit rate delivery. For complex combinations of output formats exceeding real-time performance, Batch Encoding mode can capture to an uncompressed media file in real time and automatically transcode it to multiple formats without user intervention.

StreamZ and StreamZHD also offer the industry's highest quality for live and on-demand adaptive streaming technologies including HTTP Dynamic Streaming (HDS) with Adobe® Flash® Media Server; Apple® iPhone® and iPad™ HTTP Live Streaming (HLS); and Microsoft IIS Smooth Streaming.



Optional breakout box available for select models.

Hardware-Powered Quality…

To keep your audience engaged, looks really *can* be everything. The StreamZ family is renowned for its exceptional output quality, powered by the advanced video preprocessing capabilities of our **Flux™** hardware technology. Hardware-based preprocessing features (such as motion adaptive de-interlacing with pixel-level analysis) 'groom' the input signal to be more 'compression-friendly', resulting in superior visual quality and the most efficient use of bandwidth in the compressed output. Preprocessing in hardware also leaves greater CPU power available to encode more multi-format outputs simultaneously. Robust handling of irregularities or disruptions in incoming source signals ensures superior reliability. An incoming SDI signal on StreamZHD can even be switched between HD and SD sources without interrupting in-progress encoding and streaming. Additional hardware features such as graphic overlay and video controls let you brand and refine your video.

…Driven By Superior Software

Encoding is more than just compression. StreamZ and StreamZHD systems feature the powerful and flexible **Stream FE™** software, providing you with a simple, consistent interface with a streamlined workflow from ingest through delivery. The Stream FE software lets you adjust compression settings and hardware pre-processing options as precisely as you want, with production-tested presets and a robust set of manual controls. Video and audio processing plug-ins such as graphic overlay, adaptive inverse telecine, color space conversion and audio mix-down can be applied, and output can be directed to a variety of options including archive files and live streams. The parameters associated with each encoding session can be saved in whole or in part, letting you recreate an entire project with a single click or reuse portions within other jobs. Productivity is increased, effort is reduced, and the cost of training is minimized.

Easy Workflow Integration

StreamZ and StreamZHD include a comprehensive set of tools for automation and easy integration into any environment. Features such as RS422 deck control, GPI triggers, standalone logging, e-mail notification and automated FTP delivery help you automate and organize your workflow. Watch folder support can be combined with powerful template-based publishing to streamline your workflows, enabling automated encoding and publishing to websites, archives, FTP servers and more by simply dropping source content into a specified folder. Script commands and cue points can be inserted into ASF and Flash outputs to trigger downstream events such as advertising insertion or replacement. For ingest automation and live streaming management, the optional **Digital Rapids Broadcast Manager®** software provides centralized control, scheduling, management and failover for multiple StreamZ systems.

Optional Nexguard forensic watermarking by Civolution provides advanced content protection, while the Civolution Teletrax option embeds watermarks for content tracking and monitoring. YouTube Content ID and Vobile VideoDNA support generates 'fingerprints' to enable automatic identification of clips on the Web, enabling content owners and publishers to more effectively monitor, protect, manage and monetize their media online. Support for content access technologies such as Microsoft PlayReady ensures that high-value content is used only as specified by the content owner and only by authorized users. Closed Caption support bolsters content accessibility and enables regulatory compliance.

External scripting and XML-based project files let you extend StreamZ functionality and customize how it works in your environment. For more advanced requirements, multiple levels of SDK – including a robust Web Services API – are available for integrating StreamZ and StreamZHD tightly into your custom applications.

The StreamZ family has it all – quality, versatility, performance and reliability. StreamZ and StreamZHD – the ideal encoders for today's multi-screen media opportunities.

Need automated file-to-file transcoding for high-volume workflows?

The **Digital Rapids Transcode Manager®** software combines superior quality, intelligent automation, rich format support and outstanding performance with seamless scalability.

Features and Specifications

• standard o optional

Inputs and Encoding Channels	StreamZ-D	StreamZ-D Dual	StreamZ-AD	StreamZHD-D	StreamZHD-D Dual	StreamZHD-AD
Video encoding channels (simultaneous inputs)	1	2	1	1	2	1
SDI inputs (3G/HD/SD; combine for dual-link HD-SDI)				2	2	2
SDI inputs (SD)	2	2	2			
Component analog video inputs (3 BNC)			1 (SD)			1 (HD/SD)
Y/C (S-Video) analog video inputs (Mini-Din)			1			1
Composite analog video inputs (BNC)			1			1
SDI embedded audio (8 stereo pairs)	•	•	•	•	•	•
AES/EBU stereo audio inputs (BNC)			4			4
Balanced analog audio inputs (XLR)			2			2
Unbalanced analog audio inputs (RCA)			2			2
LTC input (XLR)			•			•
DV via host system IEEE-1394 port[1]	•	•	•	•	•	•
VBI capture with Closed Caption support	•	•	•	•	•	•
SDI ancillary data capture (608/708 Closed Captioning, time code, raw)	•	•	•	•	•	•
AC-3 (Dolby Digital) audio pass-through (SDI inputs)	•	•	•	•	•	•

Configurations	StreamZ	StreamZHD
System configuration	1RU or 3RU rackmount chassis Standard or Premium processing power	1RU or 3RU rackmount chassis Standard or Premium processing power High-performance video storage array
Video/audio input connectivity	*Digital-only (-D) models:* direct SDI connectivity *Digital+Analog (-AD) models:* breakout cable standard; 1RU breakout box optional	

Format Support		
Supported input video resolutions and frame rates	480i (NTSC, 512-line capture) @ 29.97 Fps 576i (PAL, 608-line capture) @ 25 Fps	1080i @ 25, 29.97, 30 Fps 1080p/1080PsF @ 23.98, 24, 25, 29.97, 30 Fps 720p @ 23.98, 24, 25, 30, 50, 59.94, 60 Fps 480i (NTSC, 512-line capture) @ 29.97 Fps 576i (PAL, 608-line capture) @ 25 Fps 1080p @ 60, 59.94, 50 Fps[2]
Supported SDI video input standards	SMPTE-259M (SD)	SMPTE-259M (SD), SMPTE-292M (HD), SMPTE-372M (dual-link)[2], SMPTE-425M-A/B (3G)[2]
Encoding formats *Codec support is evolving constantly. Please see our web site for the latest format support information.*	***Standard:*** VC-1 (Microsoft® Silverlight® incl. IIS Smooth Streaming; Windows Media WMV), MPEG-2/1, QuickTime® (inc. MPEG-4, H.264, AAC), AVI, MP3 and more. (Apple ProRes import available with third-party QuickTime filters). ***Optional:*** Advanced H.264 (AVC, MPEG-4 Part 10), H.264 for Web (Adobe® Flash® incl. Dynamic Streaming; Microsoft IIS Smooth Streaming), On2 VP6 Dolby® Digital and Digital Plus, Dolby Pulse (AAC), JPEG2000, iPhone®/iPad™ H.264 with integrated segmenting, AVC-Intra (Panasonic P2) XDCAM HD, Avid DNxHD®, MXF (inc. AS02), GXF, LXF, Omneon, DVCPRO, 3GPP, RED (import only) and more.	

Stream FE Software Features

Easy-to-use interface with unlimited customizable, reusable encoding profiles	•
Simultaneous output to multiple codecs, resolutions and bitrates	•
Batch Encoding (real-time capture with auto transcode)	•
Closed Caption support[3]	•
Video and audio processing plug-ins (adaptive Inverse Telecine, Closed-to-Open Captions, audio track mix-down and many more) with support for third-party plug-ins	•
E-mail notifications and automated FTP distribution	•
Watch Folder support and Batch Transcoding (clip lists) for automated media file transcoding	•
Automated template-based publishing	•
Integration with Digital Rapids Transcode Manager and Digital Rapids Broadcast Manager (each sold separately)	•
Frame-compatible 3D encoding (H.264) – side-by-side, top/bottom	o
Forensic watermarking for content protection (Nexguard by Civolution) and tracking/monitoring (Teletrax)	o
YouTube Content ID reference file (fingerprint) generation	o
Vobile VideoDNA fingerprint generation	•
Script command (ASF) and cue point (Adobe Flash) insertion into outputs for downstream triggering	•
SCTE 35/104 support (Cueing Messages for ad insertion)	o

Please see our website for additional details. For more software features, please see the separate Stream Software Comparison.

1. Hardware-based pre-processing not available on host-based inputs
2. Upcoming software release
3. Closed Captioning supported in select encoding formats

One year Software Maintenance and Standard Support included. Additional years (annual renewal) and premium service plans available for purchase.

General Features

Capture/encode to files from live inputs	•
Capture/encode to files from deck with RS-422 control	•
Transcode from source media files	•
Live streaming	•
Archive to files during live streaming	•

Hardware Video Processing (SDI and analog inputs)

Capture/encode to files from live inputs	•
Motion adaptive de-interlacing	•
Format conversion with cadence detection (including Inverse Telecine)	•
601/709 color space conversion (StreamZHD)	•
8-bit de-banding, dithering (random or ordered)	•
Cropping, scaling	•
Proc amp controls, gamma correction	•
Graphic overlay	•

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