

# Studio Media Encoding Systems

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StreamZ™

StreamZHD™

The StreamZ family of studio media encoding servers delivers high-performance, multi-format video ingest, encoding, transcoding and live streaming in comprehensive turnkey 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 expanding array of network-based distribution platforms and file-based production workflows. From real-time live 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.



Ingest • Encode • Transcode • Stream • Protect • Deliver



*Connecting Content to Opportunity*

[www.digital-rapids.com](http://www.digital-rapids.com)

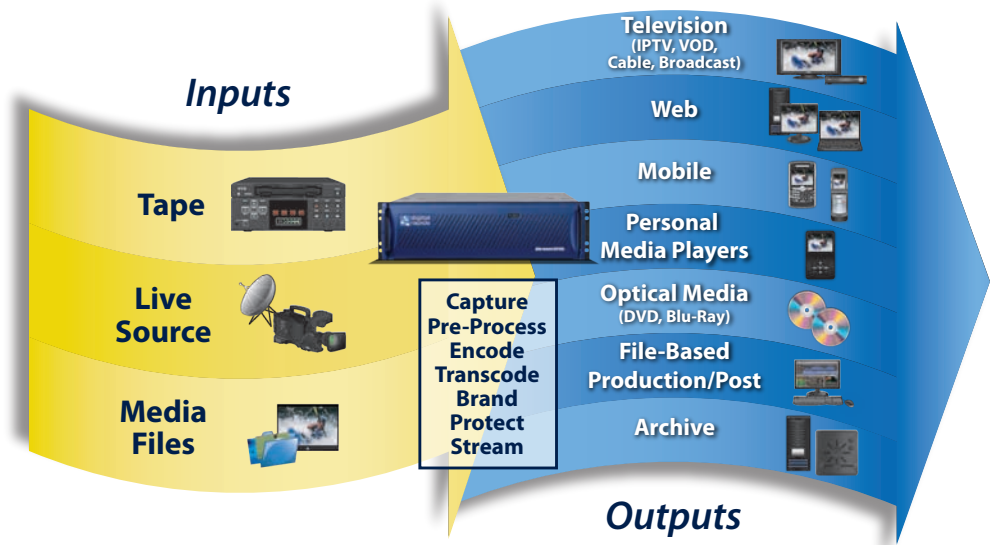
## Highlights

- High-performance, multi-format video/audio ingest, encoding, transcoding and streaming
- Encode from live sources or decks; transcode from existing media files
- Broad, expandable compression and file format support
- Simultaneous output to multiple formats, resolutions and bitrates lets you optimize for each target distribution channel
- Hardware-based preprocessing for optimal quality and bandwidth usage
- Flexible software with extensive integration, automation and customization features
- Integrated HD/SD up, down and cross-conversion (StreamZHD only)



## Encoding for Everything

Multi-platform content delivery and digital media distribution has evolved from "promise and potential" to a necessity for content and rights owners 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 are defining the future of digital video. From storage encoding of 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 HD/SD StreamZHD expands the powerful and flexible features of StreamZ into the high definition domain.

## Multiple Formats, One Easy Workflow

The StreamZ family supports standard and optional compression and container formats including AVC (H.264, MPEG-4 Part 10), VC-1 (Silverlight, Windows Media), Adobe® Flash® (H.264 or On2 VP6), MPEG-2, Avid DNxHD®, Dolby® Digital and Digital Plus, QuickTime®, MXF, GXF, LXF, Omneon and many more, with a flexible architecture ensuring easy expandability to support future formats. Strict output stream compliance ensures broad compatibility with devices from PCs to set-top boxes.

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 with individually optimized outputs. The number of simultaneous real time streams is limited only by the CPU horsepower needed for each chosen format.

StreamZHD can capture HD or SD video in its native format, or format convert it on-the-fly from HD to SD, SD to HD, or between HD resolutions and frame rates. StreamZHD can capture to uncompressed files or encode directly to select formats at up to 1920x1080 in real time.

Batch Encoding mode captures any input format to an uncompressed media file in real time and automatically transcodes it to multiple formats without user intervention, enabling easy encoding to even the most complex combinations of formats. Existing media files from differing resolutions, frame rates and sources can be transcoded to any other output format and concatenated if desired.



Breakout box standard with StreamZHD; optional for StreamZ.

## Hardware-Powered Quality...

To keep your audience engaged, looks really *can* be everything. StreamZ and StreamZHD are renowned for their exceptional output quality, powered by the advanced preprocessing capabilities of our DRC-Stream™ hardware cards. Running in hardware in real time, video preprocessing features include motion adaptive de-interlacing with pixel-level analysis, scaling, filtering and motion adaptive 3D noise reduction, ensuring optimum quality and the most efficient use of bandwidth in the compressed result. This preprocessing also reduces the amount of work the compression engine needs to do, letting you create more outputs simultaneously. Hardware-based graphic overlay and video proc amp controls let you brand and refine your video, while standard-definition StreamZ systems also include hardware-based audio preprocessing such as 7-band parametric EQ and dynamic range compression/expansion.

## ...Driven By Superior Software

Encoding is more than just compression. StreamZ and StreamZHD servers include 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, VBI capture with Closed Caption support, GPI triggers, scheduled recording, standalone logging, e-mail notification, automated FTP delivery and DVD image creation help you automate and organize your workflow. Watch folder support can be combined with powerful template-based publishing to empower your content creators, enabling them to automatically encode and publish to your web site, intranet or FTP server by simply dropping their finished content into your watch folder.

Optional Civolution CompoTrack and Thomson NexGuard forensic watermarking modules provide advanced content protection, while the Civolution Teletrax option embeds watermarks for content tracking and monitoring.

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 the Stream FE software tightly into your custom applications.



StreamZ and StreamZHD integrate seamlessly with other Digital Rapids solutions. StreamZ and StreamZHD can submit jobs to the Digital Rapids Transcode Manager® enterprise-level transcoding software (sold separately), freeing the systems quickly for further ingest. For live streaming, the optional Digital Rapids Broadcast Manager® software provides centralized control, management and failover of multiple StreamZ systems.

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

Want to add the power of StreamZ to an existing Windows workstation?

**DRC-Stream** board-and-software bundles combine the same powerful PCI hardware with the Stream LE™ software in a “do-it yourself” configuration

Need portable live streaming?

**TouchStream™** appliances feature our acclaimed streaming quality in a fully self-contained form factor with an intuitive touch-screen interface.

## Features and Specifications

• standard ○ optional

Inputs and Encoding Channels	StreamZ-1000xs	StreamZ-1600xs	StreamZ-2000xs	StreamZ-2600xs	StreamZHD
Encoding channels	1	1	2	2	1
Component analog video inputs (3 BNC)	2	2 <sup>1</sup>	2	2 <sup>1</sup>	
Y/C (S-Video) video inputs (Mini-Din)	2	2 <sup>1</sup>	2	2 <sup>1</sup>	
Composite video inputs (BNC)	4	4 <sup>1</sup>	4	4 <sup>1</sup>	
Balanced analog audio inputs (XLR)	4	4 <sup>1</sup>	4	4 <sup>1</sup>	
Unbalanced analog audio inputs (RCA)	4	4 <sup>1</sup>	4	4 <sup>1</sup>	
SDI (supports embedded audio)		1		2	1 HD/SD
AES/EBU stereo audio (XLR)		2 <sup>1</sup>		2 <sup>1</sup>	4
DV via host system IEEE-1394 port <sup>2</sup>		1		1	

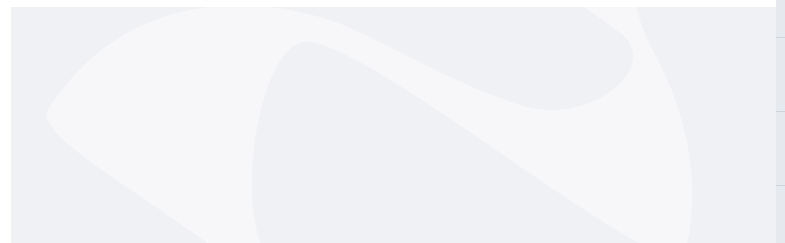
Configurations	StreamZ	StreamZHD
Turnkey configuration <sup>3</sup>	1RU, 2RU or 3RU chassis System drive Multi-core Intel processor(s) Digital Rapids SD capture board	3RU chassis System drive plus video storage array Multi-core Intel processor(s) Digital Rapids DRC-5650 capture board
Video/audio input connectivity	Breakout cable (1000xs/2000xs) or SDI connectivity (1600xs/2600xs) standard; 1RU breakout box optional	1RU breakout box standard Also supports direct SDI connections to board

Format Support	StreamZ	StreamZHD
Input video frame formats	480i (NTSC), 576i (PAL)	HD: 1080i, 1080p, 1080PsF, 720p SD: 480/486i (NTSC), 576i (PAL)
Input video frame rates	59.94, 50 fields/second	60, 59.94, 50, 30, 29.97, 25, 24, 23.976Hz
Format conversion (HD to SD, SD to HD, HD to HD)		•
VBI capture with Closed Caption support	•	•
Uncompressed capture	8-bit	10-bit and 8-bit
Encoding formats	<i>Standard:</i> VC-1/WMV/Silverlight, MPEG-2/1, QuickTime® (inc. MPEG-4 and H.264), AVI, MP3 and more. <i>Optional:</i> Advanced H.264 (AVC, MPEG-4 Part 10), Adobe Flash (H.264 or On2 VP6), Dolby® Digital and Digital Plus, Avid DNxHD®, MXF, GXF, LXF, Omneon, DVCPRO, 3GPP and more. Codec support is evolving constantly. Please see our web site for the latest format support information.	

General Features	StreamZ		StreamZHD		Stream FE Software Features	StreamZ		StreamZHD	
	•	•	•	•		•	•	•	•
Capture/encode to files from live inputs	•	•	•	•	Easy-to-use interface with single-click encoding	•	•	•	•
Capture/encode to files from deck with RS-422 control	•	•	•	•	Simultaneous output to multiple codecs, resolutions and bitrates	•	•	•	•
Transcode from source media files	•	•	•	•	Interactive control of hardware preprocessing capabilities	•	•	•	•
Live streaming	•	•	•	•	Programmable event triggers (GPI <sup>4</sup> , duration, custom keys)	•	•	•	•
Archive to files during live streaming	•	•	•	•	Batch Encoding (real-time capture with auto transcode)	•	•	•	•
<b>Hardware Processing (SDI, AES and analog inputs)</b>					Video and audio processing plug-ins (graphic and video overlay, adaptive inverse telecine, color space conversion, audio track mix-down and more) with support for third-party DirectShow and DMO plug-ins	•	•	•	•
Motion adaptive de-interlacing	•	•	•	•	E-mail notifications and automated FTP distribution	•	•	•	•
Noise reduction (2D)	•	•	•	•	Watch Folder support for media file transcoding	•	•	•	•
Noise reduction (motive adaptive 3D)	•	•	•	•	Automated template-based publishing	•	•	•	•
Aspect ratio conversion, cropping, scaling, filtering	•	•	•	•	Integration with Digital Rapids Transcode Manager and Digital Rapids Broadcast Manager (each sold separately)	•	•	•	•
Proc amp controls, gamma correction	•	•	•	•	Forensic watermarking for content protection (Civolution CompoTrack, Thomson Nexguard) and tracking/monitoring (Civolution Teletrax)	○	○	○	○
Graphic overlay	•	•	•	•					
Audio processing (7-band parametric EQ per channel, dynamic range compression/expansion, base/treble)	•	•	•	•					
Audio sample rate conversion, volume control	•	•	•	•					

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

- Optional breakout cable or breakout box required for analog and AES/EBU inputs with StreamZ-1600xs and StreamZ-2600xs (SDI connectivity standard).
- Hardware-based pre-processing not available on host-based inputs.
- Turnkey configurations may change as computer specifications evolve, and may vary internationally. Please contact your Digital Rapids representative for the latest configurations.
- GPI inputs/outputs included on StreamZHD breakout box. Separate GPI cable (not included) required for StreamZ systems.



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