Flux™

Capture cards for encoding & streaming

Superior Hardware and Software for Encoding Excellence

Creating high-quality live and on-demand media for today's advanced viewing platforms, devices and workflows requires more than just a basic capture card. Optimal, efficient media encoding and streaming needs a solution designed specifically for the task. The **Flux™** family of PCIe® video and audio capture cards combine with the powerful and feature-rich Stream software to deliver unrivaled encoding and streaming quality, performance, reliability and flexibility.

The Flux hardware builds on the advanced video processing technology that earned Digital Rapids' solutions their reputation for the industry's highest encoding quality. Hardware-based, real-time video pre-processing features including motion adaptive de-interlacing with pixel-level analysis 'groom' the input signal to be more 'compression-friendly'. The result is superior visual quality and the most efficient use of bandwidth in the compressed output, while leaving the host system's CPU free to encode more simultaneous multi-format outputs. Additional hardware features including video adjustments, scaling, color space conversion and graphic overlay enable refinement of incoming sources and the addition of branding such as logos.

Flux capture and pre-processing cards are available in multiple models offering a comprehensive choice of input connectivity and source format support.

The all-digital Flux-6510 features SDI, HD-SDI, dual-link HD-SDI and 3G-SDI (also known as 3Gb/s SDI) video input support with SDI embedded audio. Flux-6550 offers the same inputs plus analog video (composite, S-Video and HD/SD component), analog audio and AES digital audio. Real-time down-conversion of dual-link and 3G-SDI inputs leverages new facility infrastructures and allows easy repurposing of dual-link and 3G-SDI sources without the workflow inconvenience and expense of external format converters. Flux HD boards also provide a future-proof upgrade path to emerging applications empowered by 3G-SDI, such as 1080p/60 and 1080p/50 distribution, advanced JPEG2000 mastering and 3D production.

The SDI-only Flux-3510 and SDI-plus-analog Flux-3550 offer the power of the Flux hardware for applications requiring only standard-definition video input.

Multiple Formats, One Easy Workflow

The tightly integrated **Stream LE™** software combines interactive control of Flux's hardware capabilities with the flexibility of software codecs and a robust feature set. Stream LE lets you encode from live input sources or transcode from existing media files to over two dozen standard or optional codecs and container formats, all from a single interface. Video and audio can be encoded to files, live streams or both in multiple formats, resolutions and bit rates simultaneously in real time, giving you exceptional productivity while targeting multiple distribution channels or workflows with media optimized for each application. You can perform as many simultaneous real-time encodes as your system's CPU horsepower will allow.

Stream LE's step-by-step interface is easy enough for novices, yet fully configurable for expert users. Stream LE lets you adjust compression settings as precisely as you want, from production-tested presets to in-depth manual controls. The parameters associated with each encoding session can be saved in whole or in part for easy reuse. For even more software power, you can add the optional **Stream FE™** software upgrade, with expanded workflow automation and integration capabilities.

Flux capture and pre-processing cards with the Stream software – the ideal hardware and software combination for today's demanding multi-format media encoding needs.

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Features and Specifications

standard o optional

Inputs and Encoding Channels

	Flux-3510	Flux-3550	Flux-6510	Flux-6550
Video encoding channels	1	1	1	1
SDI inputs (3G/HD/SD; combine for dual-link HD-SDI)			2	2
SDI Inputs (SD)	1	1		
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)		1		1
Video/audio connectivity	Direct SDI connections to board	Breakout cable standard / Rack-mountable breakout box optional	Direct SDI connections to board	Breakout cable standard / Rack-mountable breakout box optional

Inputs Format Support

	Flux-3510	Flux-3550	Flux-6510	Flux-6550
Supported input video resolutions and frame rates	486i @ 29.97 Fps (NTSC), 576i @ 25 Fps (PAL)		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 486i @ 29.97 Fps (NTSC), 576i @ 25 Fps (PAL) 1080p @ 60, 59.94, 50 Fps *(upcoming software release)*	
VBI capture with Closed Caption support	•	•	•	•
SDI ancillary data capture (608/708 Closed Captioning, time code)	•	•	•	•

Hardware Video Processing

Motion adaptive de-interlacing	•
Format conversion with cadence detection (including Inverse Telecine)	•
601/709 color space conversion (HD models)	•
8-bit de-banding, dithering (random or ordered)	•
Cropping, scaling	•
Proc amp controls, gamma correction	•
Graphic overlay	•

Flux-6550 with optional breakout box

Additional Hardware Features

System interface	PCIe x4
RSS-422 interface	9-pin D female

Stream LE Software Features

Capture/encode to files from live inputs or decks (manual deck control)	•
Capture/encode to files from deck with RS-422 control	o
Transcode from existing media files	•
Live streaming	•
Archive to files during live streaming	•
Easy-to-use interface with unlimited customizable, reusable encoding profiles	•
Simultaneous output to multiple codecs, resolutions and bitrates	•

Encoding formats (codecs and containers)

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), QuickTime®, AVI, RealVideo and more. (Apple® ProRes import available with third-party QuickTime filters).

Optional: AVC (H.264, MPEG-4 Part 10), MPEG-2, MPEG-1, 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® H.264 with integrated segmenting, Avid DNxHD®, 3GPP, MXF, GXF, LXF, DVCPro, XDCAM HD, RED (import) and more.

Optional Stream FE Software Upgrade

RS-422 deck control for batch capture and logging	o
Batch Encoding (real-time capture with auto transcode)	o
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	o
E-mail notifications and automated FTP distribution	o
Watch Folder support and Batch Transcoding (clip lists) for media file transcoding	o
Automated template-based publishing	o
Forensic watermarking for content protection (Nexguard by Civolution) and tracking/monitoring (Teletrax)	o
SCTE 35 insertion (Cueing Messages for ad insertion)	o
Integration with Digital Rapids Broadcast Manager® (sold separately)	o

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