DATAPATH
EXCELLENCE BY DESIGN

TRIPLE CHANNEL
CAPTURE & ENCODING
Advanced Capture & Compression Technology

✚ HIGH PERFORMANCE ENCODING

Capturing and encoding video for digital streaming or storage is a key requirement for the professional AV market. Users need to capture video and not only send the data to the screen but transport compressed video to online resources such as storage locations for remote access or later retrieval. The Datapath VisionHD2-SQX is an advanced video capture card with SQX technology that allows captured video to be additionally encoded into H.264.

Featuring three independent capture channels, the VisionHD2-SQX allows users to capture two High Definition 1920x1200p video feeds and directly encode them into H.264 using the dedicated SQX processor. Each encoded video can be configured by the SQX media server for distribution over a network. In addition, raw video can be captured rapidly transferred to graphics hardware or system buffers for viewing or further processing.

✚ DATAPATH SQX TECHNOLOGIES

Datapath's SQX encoding technology uses the global H.264 standard for video compression. Multiple streams of captured video can be simultaneously encoded and streamed to different locations. The VisionHD2-SQX can capture two 1920x1200 channels, the encoding engine can encode one channel at 60 fps or both at 30fps, allowing one stream to be broadcast over the internet and another to be stored to disk.

A single stream can be distributed to any number of

network locations all configured through a media server. VisionHD2-SQX provides all features of the Vision capture card including No Signal and Mode Change support. Both features help provide a seamless stream of data to the end point. When a video signal is disconnected, No Signal frames are generated and encoded at the current requested resolution, upon a Mode Change, input frames are scaled up and down to the original resolution requested by the user.

SQX
Streaming Technology
By
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+ RGBEᴀꜱʏ SDK

The RGBEasy SDK allows users to manage both the Vision capture engine and on-board encoding processor.

The RGBEasy SDK, when used with the VisionHD2-SQX ,includes example code to achieve the following:

- Save input captures as H.264 video to disk
- Connect to Unicast & Multicast RTSP URIs for streaming H.264 video across a network

Using the SDK, users are able to specify encoding parameters such as H.264 level, profile, bit-rate and key frame interval. Full details are available at www.datapath.co.uk.

+ MODELS AVAILABLE

Order Code: VisionHD2-SQX
Triple channel encoding and decoding card

All products are shipped with the latest software available, unless stated otherwise.

+ SPECIFICATION

Board Format	PCIe x8 plug-in card
Connectors	Three channel input: 2 x DVI-I, 1 x RCA (female)
HDMI Capture	Support HDMI 1.3 to 225MHz HDMI, PCM audio capture. TMDS equalizer for 20m cable support
DVI Capture	Supports DVI 1.0 RGB 24bit capture to 165Mhz. TMDS equalizer for 20m cable support
VGA / YPbPr Capture	
	Triple ADCs sampling up to 170Msps. Full 4:4:4 sampling, 8 bits per colour 5-wire, 4-wire or sync-on-green signal formats
Composite Video Capture	
	CCIR601 sampling. PAL, NTSC, SECAM formats with auto detection
Audio Capture	Stereo Line-In / Stereo Balanced inputs with programmable gain (+/- 12dB) 16 bit sampling at 44.1/48/96kHz. Digital audio can be captured from both HDMI channels analog stereo line-out for direct pass-through of selected input at up to 64kHz sampling, sourced from analog input or HDMI channeL

+ SPECIFICATIONS ᴄᴏɴᴛ'ᴅ

Video Capture Memory	
	512MB high bandwidth frame buffer supports triple buffering of HD and SD video. Local storage of complex scatter-gather tables for DMA engine
Video Processing	
	Polyphase FIR scaling engine (3x3) for hardware down-scaling and up-scaling. Colour space conversion allows captured data to be transferred in any format RGB: 16bit (5-5-5, 5-6-5, 24bit (8-8-8) or 32bit (8-8-8-alpha) YUV: 16bit (4:2:2) Mono: 8bit
Encoder	H.264. Single channel compression, 1920x1200 60fps.Dual channel compression 1920x1200 30fps
H.264 Profiles	Baseline Profile (BP) / Main Profile (MP) / High Profile (HiP)
H.264 Levels	Level 4.1 / Level 4.2
Max video coding bit rate	
	BP/MP 50,000kbps / HiP 62,500kbps
DMA Engine	Direct DMA to physical or virtual memory buffers with full scatter-gather support. DMA bandwidth: up to 800MB/s 16 independent DMA streams per HD channel including any mix of HD and SD sources, olour space, cropping and scaling parameters
OS Support	Windows Vista / 7 / 8 / 8.1/10 Windows Server 2003 / 2008 / 2012
Power requirements	
	Max power ≈ 18W
Operating Temp	0 to 35 °C / 32 to 96 °F
Storage Temp	-20 to 70 °C (-4 to 158 °F)
Relative Humidity	5% to 90% non-condensing
Warranty	3 years

We are continuously developing the technology used within our product ranges delivering outstanding innovative solutions, therefore the specification may change from time to time.

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