

# matrox X.264io

## SDI I/O card with onboard H.264 encoder

The X.264io card is supported by the Matrox DSX Software Development Kit. Please refer to the Matrox DSX Developer Products datasheet for information on file I/O, software codecs, GPU effects, and CPU effects. Contact your Matrox Sales Engineer for configuration and ordering details.

### Key features

- Single-slot PCIe x4 card
- Onboard H.264 hardware encoder for HD and SD
- H.264 software decoder for HD and SD
- HD/SD SDI input and output
- 3 Gbps (Level A) SDI support for 1080p at 50, 59.94 and 60 fps
- 8 embedded audio I/O channels per SDI stream
- RP188 and VBI support
- Analog blackburst reference input (tri-level or bi-level)
- Resolution detection of input format
- Onboard scaler



### System Interface

Single-slot PCIe x4 bus interface

- ¾ length PCIe card fits in x4, x8, or x16 slot
- One bracket for video and audio connections
- Baseboard bracket – digital video and analog audio connections
  - One BNC for SDI input
  - One BNC for SDI output
  - One BNC for Genlock reference Input
  - One breakout cable for one stereo audio input and one stereo audio output, 3.5 mm female mini-jacks
- One onboard H.264 codec
- Power consumption of the card is less than 25W
- RoHS compliant

### 3G/HD/SD SDI input and output

- 3 Gbps SDI (Level A) in accordance with SMPTE 424M and 425M for 1080p at 50, 59.94 and 60 fps
- Single-link SDI 4:2:2 video in accordance with SMPTE 259M (SD) and SMPTE 292 (HD)
- YUV 4:2:2 8-bit
- Auto-detection of input presence

### Additional video input/output features

- VBI and RP188 support

### Genlock

- Analog blackburst reference input (tri-level or bi-level) or SDI input as reference
- Guaranteed audio/video sync
- Genlock formats supported
  - SDI
    - 1920x1080i at 25, 29.97 and 30 fps
    - 1920x1080p/PsF at 25, 29.97, and 30 fps
    - 720p at 50, 59.94, and 60 fps
    - NTSC and PAL

### Embedded audio inputs and outputs

- Supports up to 8 channels of embedded audio per SDI video stream in accordance with SMPTE 272M A,B, and C (SD) and SMPTE 299M (HD)
- Sampling rate at 48 kHz
- 16-, 20-, and 24-bit audio streams are supported

### Stereo Audio input and output

- 3.5 mm mini jacks
- 24-bit audio at 48KHz sampling rate
- AAC or PCM audio

### Onboard H.264 encoder

- Main profile at level 4.1 with data rate for video up to 50 Mbps
- Supports encoding 1 stream of H.264 at a time
- Support for software based H.264 decoder
- HD and SD video resolutions
- CABAC entropy coding and decoding
- VBR and CBR support
- Bi-directional interpolation
- Native MOV and MP4 support

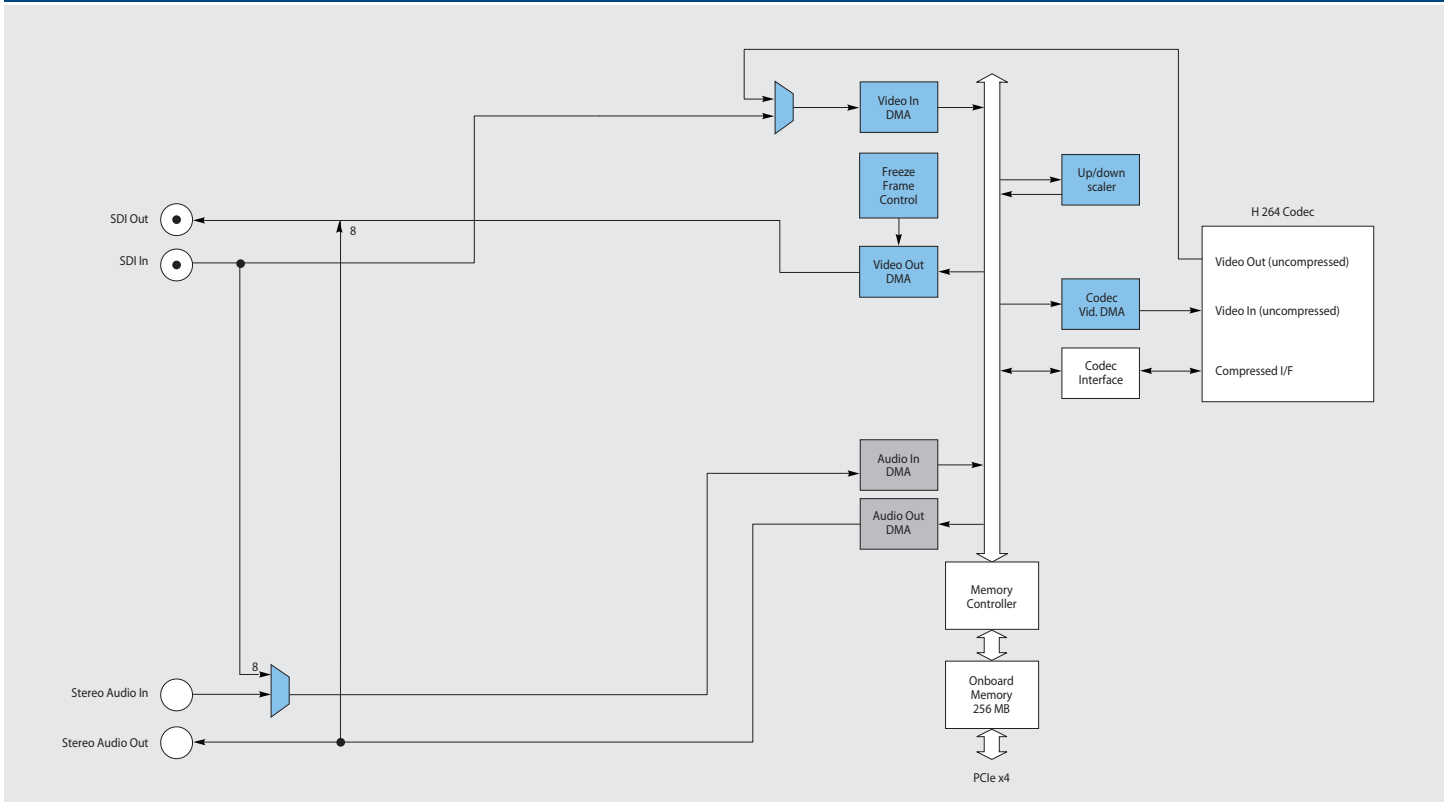
#### Onboard scaler

- YUV 4:2:2 8-bit HD and SD video
- Up to 166 Mpixel/sec. processing power for downscaling
  - Up to two layers of HD downscaling
  - Multiple layers of SD downscaling
- Independent horizontal and vertical scaling
  - Horizontal upscaling up to 4x
  - Vertical upscaling up to 8x
- Handles colorimetric conversion between HD and SD

#### Software codecs (optional)

- CPU power used to encode and decode video in real time
- SD codecs
  - DV, DVCAM, DVCPRO, and DVCPRO50
  - D10
  - MPEG-2 I-frame YUV 4:2:2 and YUVA 4:2:2:4
  - MPEG-2 IBP
- HD codecs
  - DVCPRO HD
  - HDV
  - MPEG-2 I-frame YUV 4:2:2 and YUVA 4:2:2:4
  - MPEG-2 IBP
  - AVC-Intra
- VFW software codecs

Matrox X.264io diagram



[www.matrox.com/video](http://www.matrox.com/video)

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