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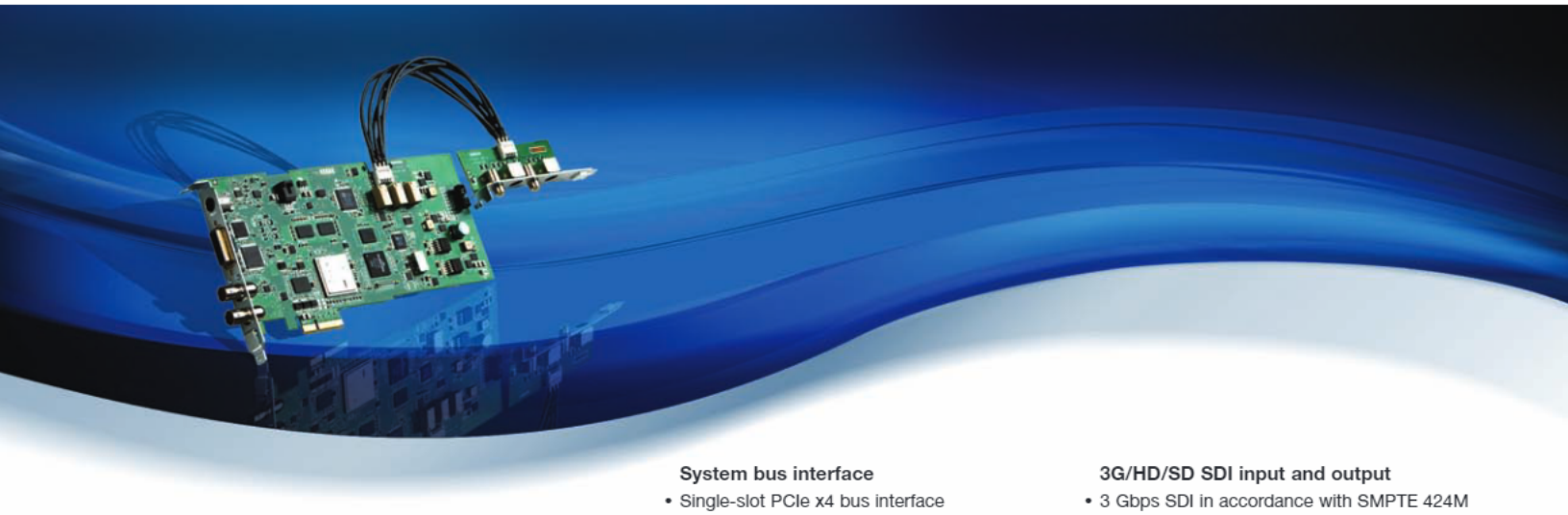
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Find the *Matrox X.AVCio* at our website: *Click HERE*

Matrox X.AVCio

DVI, SDI, and analog I/O card with hardware H.264 codec

The X.AVCio 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 codec for HD and SD
- DVI input and output for 1080p at 50, 59.94 and 60 fps
- HD/SD SDI input and output
- 3 Gbps SDI support for 1080p at 50, 59.94 and 60 fps
- Resolution detection of input format
- S-video and composite input and output
- Power off bypass for analog input and output
- Watch dog bypass for DVI, SDI, and analog input and output
- Onboard scaler
- Onboard blender
- Ideal for medical and surveillance video servers

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System bus interface

- Single-slot PCIe x4 bus interface
- ¾ length PCIe card fits in x4, x8, or x16 slot
- Two brackets for video and audio connections
  - Baseboard bracket – digital video and analog audio connections
    - One DMS59 high density connector with retention connects to a breakout cable with one DVI input and one DVI output
    - One BNC for SDI input
    - One BNC for SDI output
    - One breakout cable for one stereo audio input and one stereo audio output, 3.5 mm female mini-jacks
  - Separate bracket – analog video connections with breakout cable
    - One S-video and one composite input (RCA)
    - One S-video and one composite output (RCA)
  - Internal 12-pin to 12-pin extension cable used to connect the second bracket and the base board
- One microphone connector (one channel) on the PCB
- One onboard H.264 codec
- Power consumption of the card is less than 25W
- RoHS compliant

DVI input and output

- Single-link DVI-D or DVI-I (digital) in accordance with DDWG DVI 1.0 specification
- DVI input to DVI output with watchdog bypass
- Auto-detection of input presence
- DVI resolutions supported
  - Single link DVI up to 165 Mpixel/sec
  - 1080p at 50, 59.94 and 60 fps
- Downscaling at DVI input during capture
- Upscaling at DVI output during playback

3G/HD/SD SDI input and output

- 3 Gbps SDI 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
- SDI input to SDI output with watchdog bypass
- Auto-detection of input presence

Analog video input and output

- NTSC (SMPTE 170M) and PAL (ITU-R BT.470) compliant
- YUV 4:2:2, 8-bit
- S-video input to S-video output with power off bypass
- Composite input to composite output with power off bypass
- S-video input to S-video output with watchdog bypass
- Composite input to composite output with watchdog bypass
- Auto-detection of input presence

Genlock

- Output video and audio are genlocked to the same type of video input
- Guarantee audio/video sync
- Genlock formats supported
  - DVI 1920x1080p at 50, 59.94 and 60 fps
  - Analog NTSC and PAL
  - 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

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Stero Audio input and output

- 3.5 mm mini jacks
- 24-bit audio at 48KHz sampling rate
- Line or microphone mono input for recording
- AAC or PCM audio

Onboard H.264 codec

- Main profile at level 4.1 with data rate for video up to 25 Mbps
- One encoder or one decoder supported at a time
- HD and SD video resolutions
- CABAC entropy coding and decoding
- VBR and CBR support
- Bi-directional interpolation
- Native MOV and MP4 support

Onboard video blender/keyer

- Graphics overlay on live video input for display on DVI, SDI, s-video or composite video output
- YUVA 4:2:2:4 text, graphics, or animation
- Resolutions up to 1080p at 1080p 50, 59.94 and 60 fps supported
- Fade-in and fade-out control on the overlay
- Vertical size and position can be adjusted

Onboard frame buffer for still image capture

- Frame-accurate freeze and unfreeze of selected image
- Frame buffer resolutions up to 1080p at 1080p 50, 59.94 and 60 fps supported
- Selected still image can be sent to host for uncompressed capture
- Still image capture (uncompressed) and live video capture (compressed with H.264) at the same time
- Text or graphics overlay on the still image supported with onboard video blender

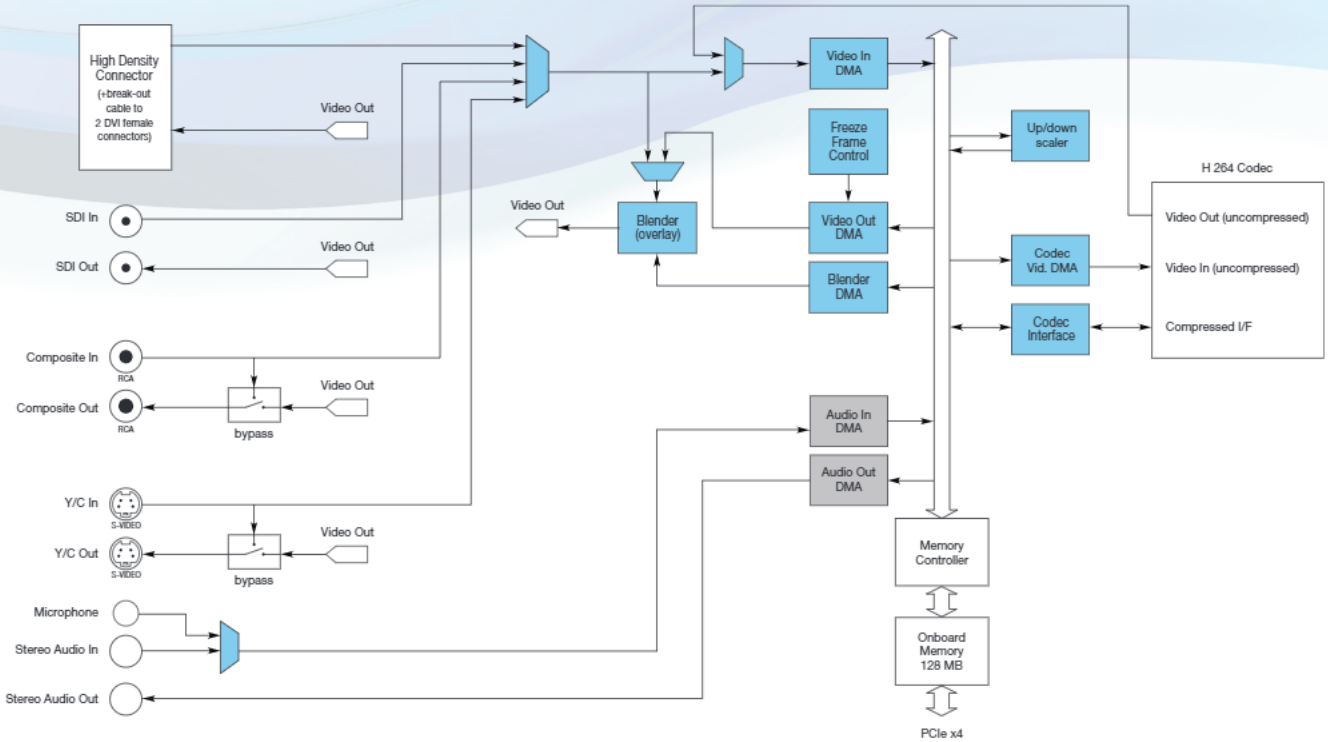
Onboard scaler

- 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)

- HD and SD
- DV25, DV50, DVCPRO HD
- MPEG-2 I-frame and IBP
- HDV
- Software codecs can be used simultaneously with the H.264 hardware codec. i.e. capture HD video in H.264 format with the hardware codec and capture HD or scaled SD video in any of the available software codec formats

Matrox X.AVCio block diagram



matrox
Digital Video Solutions

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