MAGEWELL

Pro Capture Hexa CVBS Technical Specifications

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Supported OS

- Windows
  - Windows 7/8/8.1/10/11/Server 2008/Server 2008 R2/Server 2012/Server 2016 (x86 & x64) and above
- Linux (support x86, x64 & ARM architecture)
  - Ubuntu 12.04/14.04/16.04/17.04/17.10/18.04 (x86 & x64)
  - CentOS 6.5/7 (x86 & x64)
  - Fedora 25/26/27 (x86 & x64)
  - Red hat 6.5 and above (x86 & x64)
  - Other Linux OS with kernel version 2.6.35 and above

Recommended OS (tested)

- Windows
  - Windows 7 Ultimate/8.1 Enterprise/10 Enterprise/Server 2008 R2 DataCenter/Server 2012 R2 DataCenter/Server 2016 R2 DataCenter (x86 & x64)
- Linux
  - Ubuntu 12.04/14.04/16.04 (x86 & x64)
  - Ubuntu 17.04/17.10/18.04 (x64)
  - CentOS 6.5/7.2 (x86 & x64)
  - Fedora 25/26 (x64)
  - Red hat 6.5 (x86 & x64)

Supported APIs

- Windows
  - DirectShow
  - DirectKS
  - Wave API/DirectSound/WASAPI
- Linux
  - V4L2
  - ALSA

Supported Software

- VLC
- VirtualDub
- OBS
- XSplit
- vMix
- VidBlaster
- Wirecast
- Microsoft Media Encoder
- Adobe Flash Media Encoder
- Any other DirectShow/V4L2 encoding/streaming software

Input Interfaces

- DB25
  - Composite video x6
  - Analog audio (L+R) x6

Host Interface

- PCIe Gen2 x1

Input Features

- Support for input video resolutions up to 720x576 pixels

Composite Specific Features

- Support for NTSC, PAL and SECAM standards
- Auto detection of video input standard

Video Capture Formats

- Support for capture image resolutions up to 720x576 pixels
- Support for capture frame rates up to 30fps
- Support for 4:2:0 8-bit capture formats: NV12, I420, YV12
- Support for 4:2:2 8-bit capture formats: YUY2, YUYV, UYVY
- Support for 4:4:4 8-bit capture formats: V308, IYU2, V408, BGR24, BGR32
- More capture formats are supported via SDK

Video Processing Features

- Two video processing pipelines with ~180Mpixels/s processing bandwidth for each one
- Video cropping
- Video scaling
- Video de-interlacing
  - Weave
  - Blend top & bottom field
  - Top field only
  - Bottom field only
- Video aspect ratio conversion
  - Auto or manual selection of input aspect ratio
  - Auto or manual selection of capture aspect ratio
  - Three aspect ratio conversion modes: Ignore (Anamorphic), Cropping or Padding (Letterbox or Pillarbox)
- Video color format conversion
  - Auto or manual selection of input color format & quantization range
  - Auto or manual selection of capture color format, quantization range & saturation range
  - Support for RGB, YCbCr 601, YCbCr 709 color formats
  - Support for Limited or Full quantization range
  - Support for Limited, Full & 'Extended gamut' saturation range
- Video frame rate conversion
- Video OSD composition
  - Support for PNG OSD image (up to 720x576)
  - Support for dynamic loading of RGBA OSD image via SDK

Multiple Cards per System

- Support for multiple cards plugged to one system
- On-board rotary switch to set card number, with 16 positions from 0 to F
- System hardware device tree will display "01: Pro Capture Hexa CVBS" when rotary switch is set to 1, and so on
- The video and audio device names displayed in your software will include the card number (set by the rotary switch)

Multiple Capture Streams

- Unlimited capture streams for any one input channel
- Independent cropping, aspect ratio, color format, resolution, frame rate, de-interlacing and color adjustment settings for each individual stream

Ultra Low Latency Support

- Latency of 64 video lines
- Partial notification mode in SDK

Timestamp & A/V Synchronization

- Hardware based 100ns high resolution clock
- Audio frames (192 audio samples) & video frames are stamped with hardware clock
- Hardware clock can be synchronized across cards (via SDK)

Video Capture SG-DMA

- ~400MB/s per channel DMA bandwidth in PCIe 2.x system
- ~200MB/s per channel DMA bandwidth in PCIe 1.x system
- Support for auto detection of Intel tiled GPU surface
- Support for DirectGMA for AMD video adapter chipsets
- Support for GPUDirect for Nvidia video adapter chipsets

SDK

- Magewell Capture SDK for DirectShow for easy integration (Windows)
- Magewell Capture SDK for DirectKS for maximum flexibility & performance (Windows)

Windows Driver Tweaks

- All options can be controlled by three levels of registry key: global level, product level and device level
- Video, Audio, Crossbar filter names can be customized via registry keys

Firmware Upgrade

- Multiple cards in one system can be upgraded simultaneously
- Cards can be upgraded without a system power shutdown (In most cases, even a reboot is not needed)
- Safe upgrade. If power off or system break down occur when the firmware is being upgraded, it will automatically restore to the initial version.

LED Indicator

- Status LEDs indicate the working state of each channel:
    - Pulsing slowly: idle
    - On: input signal locked
    - Off: input signal unlocked
    - Double blinks: memory failed or FPGA configuration failed

Form Factor

- Low profile PCIe x1 Add-on Card
- 118.16mm x 68.88mm (without PCI bracket)

Accessories

- **DB25** to **Composite + Analog Audio** breakout
- **Low Profile** bracket

Power Consumption

- Max current at 12V: ~ 0.48 A
- Max current at 3.3V: ~ 0.11 A
- Max power consumption: ~ 6.12 W

Working Environment

- Operating temperature: 0 to 40 deg C
- Storage temperature: –20 to 70 deg C
- Relative Humidity: 5% to 90% non-condensing