Eco Capture HDMI 4K Plus M.2 Technical Specifications

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Input Features

- 594MHz HDMI receiver, max input video: 4096x2160 4:4:4 60fps
- Max input audio: 8-Channel, 24-bit HDMI embedded audio, 192kHz sample rate
- Support input RGB/YUV 4:4:4 8-bit, YUV 4:2:2 12-bit, or RGB/YUV 4:4:4 10/12-bit signals up to 594MHz pixel clock
- Support up to 8-channel IEC60958/IEC61937 audio streams via SDK
- Support HDR10
- HDMI input interface: LVDS 0.5PH 20-Pin to DVI-D 1.0, HDMI 2.0

Process and Capture Features

- ~2400MB/s per channel DMA bandwidth in PCIe 3.x system
- ~1600MB/s per channel DMA bandwidth in PCIe 2.x system
- ~800MB/s per channel DMA bandwidth in PCIe 1.x system
- Video processing pipelines with ~360Mpixels/s processing bandwidth
- Capture videos up to 4096x2160, frame rates up to 240fps. Typical outputs include (actual capture frame rate can be limited by the PCIe bandwidth and internal working frequency.):
  - 4096x2160p 5/10/15/25/29.97/30/50/60
  - 3840x2160p 5/10/15/25/29.97/30/50/60
  - 1920x1080p 5/10/15/25/29.97/30/50/60/120
  - 1280x720p 5/10/15/25/29.97/30/50/60/120 etc.
- Output NV12/I420/YUYV/UYVY/RGB24/RGB32 videos
- Support custom output formats using Magewell Capture SDK
- Support custom EDID, video scaling, de-interlacing, color format conversion and frame rate conversion
- Support multiple replicated capture streams, and unlimited capture streams for any one input channel with the same format
- Support 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
- Support firmware upgrade

SDK & APIs

- The MWCapture SDK provides functions including signal status extraction, capture configuration and real-time audio & video capture, etc
- Windows DirectShow/DirectKS/Wave API/DirectSound/WASAPI
- Linux V4L2/ALSA

Supported OS

- Windows 10/11/Server 2016/Server 2019/Server 2022/Server 2025 (x86 & x64) and above
- Linux (x86, x64 & ARM architecture)

Input Interfaces

- LVDS 0.5PH 20-Pin (Part number: 11580)
  - DVI-D 1.0
  - HDMI 2.0

Host Interfaces

- M.2 2280 Type M (PCIe Gen3 x4)

Supported Softwares

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

LED Indicator

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

Form Factor

- M.2 2280 standard size (22 mm x 80 mm)

Accessories

- **LVDS 0.5PH 20-Pin** cable (Part number: 11580)
- **LVDS 0.5PH 20-Pin** to **HDMI** adapter (Part number: 11580) (20.5cm)

Power Consumption

- Max current at 3.3V: ~ 2 A
- Max power consumption: ~ 6.6 W

Working Environment

- Operating temperature: 0 to 60deg C
- Storage temperature: –20 to 70 deg C
- Relative Humidity: 5% to 90% non-condensing