

Eco Capture 12G SDI 4K Plus M.2 Technical Specifications

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Input Features

- Max input at 4096x2160 60fps 4:2:2 10-bit
- Input single SD/HD/3G/6G/12G SDI, dual 6G-SDI to 12G-SDI, or quad 3G-SDI to 12G-SDI
- SD (ST 259)/HD (ST 292)/3Ga (ST 425)/3Gb-DL (ST 425)/3Gb-DS (ST 425)/6G (ST 2081) /12G (ST 2082) standard
- Support for 4K (4096x2160) mode
- Up to 8-channel 48KHz embedded audio
- Input SDI signals transmitted up to 75m for 12G-SDI, 80m for 6G-SDI, 200m for 3G-SDI, 430m for SD signal
- Support for Closed Caption via SDK

Process and Capture Features

- Video processing pipelines with ~700Mpixels/s processing bandwidth
- ~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
- 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, up/down scaling, de-interlacing, color space conversion and frame rate conversion
- Multiple capture streams, unlimited capture streams for any one input channel
- 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 extraction of SMPTE timecode using SDK
- Support extracting ANC metadata for custom DID/SDID
- 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

- 2 x SD/HD/3G-SDI
- 2 x SD/HD/3G/6G/12G-SDI

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/AVCaptureSession based encoding or 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 x 80 mm)

Accessories

- 2 x 3G BNC (Part number: ELE00018)
- 2 x 3G H.FL75-2LPG-084N2-A-140 (14cm) (Part number: ELE00019)
- 2 x 12G DFL75-2LPP-084N9D-A-140 (14cm) (Part number: ACC10020)
- 2 x 12G BNC (Part number: ACC10021)

Power Consumption

- Max current at 3.3V: ~ 1.96 A
- Max power consumption: ~ 6.5 W

Working Environment

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