

# madVR Envoy - Model Comparison<sup>a</sup>

## Features by model<sup>a</sup>

Pro

Extreme

### HDR Dynamic Tone Mapping (DTM)

Frame by frame DTM, no metadata required

✓

✓

Advanced dual-algorithm scene change detection

✓

✓

Contrast Recovery (off, low, medium, high)

All

All

Shadow Detail Recovery (off, low, medium, high, very high, insane)

All except "insane"

All

Highlight Recovery up to 4K24 (off, low, medium, high, very high, insane)

All except "insane"

All

Highlight Recovery at 4K60 (off, low, medium, high, very high, insane)

-

All

DTM with 1080p60 HDR

★★★★★

★★★★★

DTM with 4K24 HDR

★★★★★

★★★★★

DTM with 4K60 HDR

★★★★★

★★★★★

### Scaling

AI-based ring-free & artifact-free chroma upscaling

✓

✓

AI-based ring-free & artifact-free image upscaling

✓

✓

Upscaling can be switched to either optimize high or low quality sources

✓

✓

Upscaling to 4K24

★★★★★

★★★★★

Upscaling to 4K60

★★★★★

★★★★★

Upscaling to 5K24 and 8K24<sup>1</sup>

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★★★★★

Upscaling to 5K50/60, and any custom resolution up to 8K60<sup>1</sup>

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★★★★★

Sharp & ring-free high quality downscaling

★★★★★

★★★★★

### Aspect Ratios & Front Projection

Automatic and instant aspect ratio and black bar detection

✓

✓

Automatic and instant IMAX aspect ratio changes

✓

✓

Masking for projection screens

✓

✓

Image shift for CIW projection

✓

✓

Advanced convergence correction

✓

✓

Automatic activation of JVC & Sony lens memories (via IP control)

✓

✓

Non-linear Stretch (NLS+)

✓

✓

Advanced geometry correction (fix a-lens barrel distortion, fit curved screens, off-axis PJ installs)

-

✓

AI-based anamorphic stretch upscaling for 1080p projectors

★★★★★

★★★★★

AI-based anamorphic stretch upscaling for 4K projectors

★★★★★

★★★★★

AI-based anamorphic stretch upscaling for 5K/8K projectors

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★★★★★

### Artifact Reduction and Edge/Texture Enhancement

AI-based algorithm to reduce compression artifacts

★★★★★

★★★★★

Algorithm to reduce banding artifacts

★★★★★

★★★★★

Edge enhancement (aka sharpening)

★★★★★

★★★★★

Texture detail enhancement

★★★★★

★★★★★

### Planned Future Algorithms<sup>2,4</sup> (added via software updates)

AI-based motion interpolation

-

★★★★★

AI-based motion compensated video deinterlacing

-

★★★★★

AI-based motion compensated multi frame noise/grain reduction

-

★★★★★

AI-based grain agnostic sharpening

-

★★★★★

AI-based 4K HDR dynamic tone mapping processing

-

★★★★★

Additional undisclosed AI-based algorithms and features

-

★★★★★

General		
96bit per pixel floating point using 4:4:4 for all algorithms	★★★★★	★★★★★
Extreme quality dithering algorithm	★★★★★	★★★★★
Smooth motion algorithm for displays with no (or poor) 24 FPS support	★★★★★	★★★★★
Automatic optimization of algorithm quality levels	✓	✓
3D LUT calibration using CalMAN, LightSpace, DisplayCAL, and more <sup>3</sup>	✓	✓
Massive 3D and 1D LUTs (3D LUT 65^3 or 256^3, 1D front/back LUTs 4,096 points, 12 bit precision)	✓	✓
Software updates easily installable via Envy menu	✓	✓
Remote technical assistance from authorized dealers ("madAssist")	✓	✓
Highly intuitive user interface, true plug-and-play installation in 1 minute <sup>5</sup>	✓	✓
IP control (Crestron, Control4, Savant, RTI, others)	✓	✓
Frame packed 1080p24 3D support	✓	✓
Remote control included	Dual band IR + RF	Dual band IR + RF
Supported max input formats	60 Hz: 4096x2160 in 12 bit 4:2:0, 4:2:2 or 8 bit 4:4:4, RGB 30 Hz: 4096x2160 in 12 bit 4:2:0, 4:2:2 or 12 bit 4:4:4, RGB	
Supported max output resolutions <sup>1</sup>	All up to 4K60	All up to 8K60
Hardware and Miscellaneous		
Warranty on parts and labor	24 Months	36 Months
General CPU processing power (cores / threads) <sup>7</sup>	4 / 4	6 / 12
General graphics processing power (GFLOPS) <sup>7</sup>	4,300	25,000
Specialized AI graphics processing power (Tensor core GFLOPS) <sup>7</sup>	-	200,000
Quality when running multiple demanding algorithms simultaneously <sup>6</sup>	★★★★★	★★★★★
HDMI 2.0b HDCP 2.2 18.0 Gbps input ports	1	1
HDMI 2.1 HDCP 2.3 48.0 Gbps output ports	1	1
HDMI 2.0b HDCP 2.2 18.0 Gbps zero-latency pass-thru	1	1
Optional (paid) hardware upgrades to keep Envy up-to-date in the future <sup>2</sup>	-	✓
Power consumption	60W - 205W	60W - 350W
AC power input	110V - 240V	110V - 240V
AC power frequency	50Hz - 60Hz	50Hz - 60Hz
Dimensions and Weight		
Unit dimensions with feet (W x D x H)	17.32 x 17.13 x 6.89" 440 x 435 x 175 mm	17.32 x 17.13 x 6.89" 440 x 435 x 175 mm
Shipping dimensions (W x D x H)	25 x 25 x 15" 635 x 635 x 381 mm	25 x 25 x 15" 635 x 635 x 381 mm
Shipping weight	30 lbs (13.6 Kg)	32 lbs (14.5 Kg)
Rack mount kit available <sup>8</sup>	✓	✓
Rack units <sup>9</sup>	5 RU	5 RU

<sup>1</sup> Using HDMI 2.1 output.

<sup>2</sup> Date of availability TBD.

<sup>3</sup> Supports ColourSpace, LightSpace, Calman, DisplayCAL & ArgyllCMS, ChromaPure and HCFR.

<sup>4</sup> Subject to change without notice.

<sup>5</sup> Insert HDMI cables. Done. No configuration needed.

<sup>6</sup> For example, running upscaling & motion interpolation together.

<sup>7</sup> Or better.

<sup>8</sup> Custom rack shelf with form-fit face plate available through Middle Atlantic in lieu of using rack mount kit. 5 RU in this configuration, 4 RU otherwise.

<sup>9</sup> Please allow for 1 RU clearance above and below unit for proper cooling.

