

madVR Envy - Model Comparison and Specifications⁴

Features by model ⁴	Core	Core w/ Premium Pack	Pro MK2	Extreme MK2
HDR Dynamic Tone Mapping (DTM)				
Frame by frame 4K HDR dynamic tone mapping	✓	✓	✓	✓
Preset HDR "Looks" to choose from, based on your preferences	✓	✓	✓	✓
Easily adjustable Highlight and Global Saturation for HDR	✓	✓	✓	✓
Contrast Recovery (maximizes contrast based on HDR histogram)	✓	✓	✓	✓
Highlight Recovery (maximizes fine detail in bright image areas)	✓	✓	✓	✓
Shadow Detail Recovery (maximizes shadow detail)	✓	✓	✓	✓
Motion Handling & Scaling				
Ring-free & artifact-free chroma upscaling	✓	✓	✓	✓
Sharp & ring-free high quality downscaling	✓	✓	✓	✓
AI-based Upscaling	✓	✓	✓	✓
AI-based Upscaling to 5K24/50/60, 8K24/60, and any custom resolution up to 8K60 ¹	-	-	-	✓
MotionAI™ (per-pixel, AI-based motion interpolation)	-	-	-	✓
Aspect Ratios Management				
Bi-directional non-linear stretch for scope screens (remove or reduce side bars)	✓	✓	✓	✓
Bi-directional non-linear stretch for 16:9 screens (remove or reduce top/bottom bars)	✓	✓	✓	✓
Define and fit content to any aspect ratio screen, including custom ARs	✓	✓	✓	✓
Image shift for CIW projection (shift black bars on 16:9 screens to top or bottom)	✓	✓	✓	✓
Convergence Correction	✓	✓	✓	✓
Automatic, truly instant aspect ratio and black bar detection, including IMAX format	✓	✓	✓	✓
AI-based anamorphic stretch upscaling	✓	✓	✓	✓
Subtitle Management (fit subtitles by dynamically resizing the image) ¹¹	✓	✓	✓	✓
Dynamic Subtitle Overlay (reposition subtitles without resizing the image) ^{10,11}	-	✓	✓	✓
Automatic activation of JVC & Sony lens memories (via IP control) ¹⁰	-	✓	✓	✓
Geometry Correction (for a-lens barrel distortion, curved screens, off-axis PJ installs)	-	-	-	✓
Artifact Reduction and Edge/Texture Enhancement				
Sharpening and edge enhancement	✓	✓	✓	✓
Texture detail enhancement	✓	✓	✓	✓
AI-based compression artifact reduction	-	✓	✓	✓
AI-based grain and noise reduction	-	✓	✓	✓
Banding reduction	-	✓	✓	✓
Ringing reduction	-	✓	✓	✓

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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	✓	✓	✓	✓
Advanced 3D LUT calibration ³	✓	✓	✓	✓
Massive 3D and 1D LUTs (up to 256^3 3D and 4,096 point 1D, 12 bit precision)	✓	✓	✓	✓
Free access to the Envy Academy Online course (50 lessons)	✓	✓	✓	✓
Firmware update notices, with one-touch download & installation from Envy menu	✓	✓	✓	✓
Remote technical assistance from authorized dealers ("madAssist")	✓	✓	✓	✓
Highly intuitive user interface, true plug-and-play installation in minutes	✓	✓	✓	✓
Frame packed 1080p24 3D support	✓	✓	✓	✓
IP control (Crestron, Crestron Home, Control4, Savant, RTI, others)	✓	✓	✓	✓
Direct AV gear integration (AVRs, displays, masking) - no control system needed ^{5,10}	-	✓	✓	✓
SmartMenus (instantly return to previous menu option)	-	✓	✓	✓
3D Luminance Boost (up to 4x brighter to compensate for active shutter glasses)	-	-	✓	✓
Desired SDR Luminance option (to limit SDR brightness)	-	-	✓	✓
Maximum number of profiles	50	Unlimited	Unlimited	Unlimited
Built-in test patterns	Standard	Advanced	Advanced	Advanced
Fan curves for cooling and noise reduction	Silent, Balanced, Rack	Silent, Balanced, Rack, Custom	Silent, Balanced, Rack, Custom	Silent, Balanced, Rack, Custom
Remote control included	RC1 Standard Remote (RF)	RC1 Standard Remote (RF)	RC2 Backlit Remote (RF + IR)	RC2 Backlit Remote (RF + IR)
Supported max output resolutions and frame rates ¹	All up to 4K120	All up to 4K120	All up to 4K120	All up to 4K120, 5K60 and 8K60
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			
Product Roadmap^{2,4}				
AI-based 4K HDR dynamic tone mapping processing	✓	✓	✓	✓
Gaming Mode (lower latency processing)	✓	✓	✓	✓
AI-based motion adaptive deinterlacing	✓	✓	✓	✓
Additional undisclosed basic algorithms and features	✓	✓	✓	✓
Multi-zone Convergence Correction	-	✓	✓	✓
Advanced native gamut calibration	-	✓	✓	✓
Additional undisclosed advanced algorithms and features	-	✓	✓	✓
Additional undisclosed basic AI-based algorithms and features	-	-	✓	✓
Additional undisclosed advanced AI-based algorithms and features	-	-	-	✓
AI-based motion compensated video deinterlacing	-	-	-	✓
AI-based motion compensated multi frame noise/grain reduction	-	-	-	✓
AI-based grain agnostic sharpening	-	-	-	✓
ChromaAI (next-generation chroma upscaling)	-	-	-	✓

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Hardware and Miscellaneous				
Paid option for future hardware upgrades	-	-	-	✓
Warranty on parts and labor	2 Years	4 Years	5 Years	5 Years
CPU processing power (cores / threads) ⁷	4 / 8	4 / 8	6 / 12	6 / 12
RAM ⁶	Standard, Single Channel	Standard, Single Channel	ECC, Dual Channel	ECC, Dual Channel
General graphics processing power (GFLOPS) ⁷	11,200	11,200	11,200	43,000
Specialized AI graphics processing power (Tensor core GFLOPS) ⁷	60,500 - 121,000	60,500 - 121,000	60,500 - 121,000	172,000 - 344,000
HDMI 2.0b HDCP 2.2 18.0 Gbps input ports	1	1	1	1
HDMI 2.1 HDCP 2.3 48.0 Gbps output ports	1	1	1	1
HDMI 2.0b HDCP 2.2 18.0 Gbps zero-latency pass-thru	1	1	1	1
Additional outputs via DisplayPort 1.4a, HDCP 2.3, 32.4 Gbps (future expansion) ^{2,4,8}	1	1	3	3
Power consumption	60W - 205W	60W - 205W	60W - 205W	60W - 400W
AC power input	100V - 240V	100V - 240V	100V - 240V	100V - 240V
AC power frequency	50Hz - 60Hz	50Hz - 60Hz	50Hz - 60Hz	50Hz - 60Hz
Dimensions and Weight				
Rack mount ears and screws included	✓	✓	✓	✓
Rack units ⁹	2U	2U	4U	4U
Unit dimensions with feet (W x D x H)	17.25 x 13.5 x 4.1" 438 x 343 x 104 mm	17.25 x 13.5 x 4.1" 438 x 343 x 104 mm	17.31 x 17.44 x 7.56" 440 x 443 x 192 mm	17.31 x 17.44 x 7.56" 440 x 443 x 192 mm
Shipping dimensions (W x D x H)	23 x 18 x 9" 594 x 467 x 235 mm	23 x 18 x 9" 594 x 467 x 235 mm	23 x 26 x 14" 583 x 660 x 356 mm	23 x 26 x 14" 583 x 660 x 356 mm
Shipping weight	23 lbs (10.5 Kg)	23 lbs (10.5 Kg)	46 lbs (20.9.6 Kg)	48 lbs (21.8 Kg)

¹ Using HDMI 2.1 output.

² TBD or estimated.

³ Supports Calman and ColourSpace with Envy calibration engine V2.

⁴ Subject to change without notice.

⁵ For devices connected to the same local network as the Envy.

⁶ ECC RAM self-corrects errors, enhancing stability; usually only found in professional workstations.

⁷ Or better.

⁸ Not yet available; under consideration for technical feasibility and use cases.

⁹ Ideally racked above a component that does not generate a lot of heat.

¹⁰ Coming soon.

¹¹ Supports both Subtitles and Closed Captioning.