



madVR Envy

Envy Quick Start Guide

Revision 2.0

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1. Introduction

Congratulations on the purchase of your madVR Envy! The Envy is the result of nearly two decades of extensive R&D, feedback from our customers, and ongoing rapid innovation. It is the first and only video processor to provide patented and patent-pending AI and other advanced algorithms for real-time video, including patented dynamic tone mapping, delivering a picture quality unlike anything else. We hope you find watching movies with it as incredibly addicting as we and many others do.

Although Envy can work right out of the box, this guide will help you get the most out of it. For the best experience, please review it in full, before getting started.

Tip: For crucial setup and usage information [please see the madVR Envy Academy Online](#).

2. Initial Set Up

The following is an overview for getting up and running quickly.

- 2.1. **Unpack and connect the Envy:** Your shipment contains the Envy, remote control with batteries, remote control RF antenna dongle and a power cord. Please save the original box and packing materials in case your Envy needs services or upgrades in the future. Review the rear panel as shown in Appendix A. Connect your HDMI in and out, and power cord. Turn Envy on by pressing the button on the front panel.
- 2.2. **Proper ventilation:** All Envy models except the Envy Pro MK1 and Envy Extreme MK1 can be installed without leaving any rack space above and below the unit. That said, when possible, it is best not to rack the Envy Pro MK2/MK3 or Envy Extreme MK2/MK3 directly over a hot component, since these models have two intake fans underneath. For the Pro MK1 and Extreme MK1, racking these over a hot component will likely lead to overheating and is not recommended. It is recommended to have at least 4-6 inches of clearance behind the unit when possible, and mandatory to have 12 inches of clearance for the Pro MK1 and Extreme MK1.
- 2.3. **Remote control:** The Envy Pro and Extreme come with the RC2 backlit remote control. For information about this remote, see the [RC2 Remote Control User Guide](#) and skip the rest of this section.

2.4. The Envy Core comes with the RC1 remote control. Review Appendix A for an overview of the remote-control functions. The RC1 remote supports RF only out of the box. You can, however, [purchase a FLIRC USB device from a third party to add IR support](#).

To put the RC1 remote into RF mode (default): Press and hold the OK button, and while still holding it, press and hold the top left button (Power) for 3 seconds, until the LED light on the remote blinks 3 times. Your remote control is already set to RF mode by default. For proper operation **keep the RF dongle at 180 degrees** (please do not set it in the 45 or 90-degree position).

To put the remote into IR mode: Press and hold the OK button, and while still holding it, press and hold the top right button (Menu button) for 3 seconds, until the LED light on the remote blinks 3 times. Note: After changing batteries it will be necessary to set the remote back into IR mode.

You cannot use both RF and IR commands at the same time. For instance, you may want to learn the Envy IR commands into a universal remote, while also keeping the Envy remote around for greater convenience and range using RF. If learning the IR codes, first put the remote control into IR mode and learn the codes to your other remote. Then optionally you can switch it back to RF, and both your universal remote and the Envy remote will continue to function with the Envy.

We recommend using the Envy remote control in RF mode, since it does not require line of sight. If you use IR mode and need better line of sight, plug the IR dongle into a USB extension cable and route it under the unit to the front, where it can be easily hidden. To customize the functions of the remote buttons, click the top right button of the remote and press the right arrow until you reach the Remote Configuration Menu.

3. General Operation

This section covers general setup and operation of the Envy.

3.1. **Menus:** The Envy menus consist of several menu pages grouped by function. The menu pages are organized into “Configuration”, “Settings” and “Information” menus. The Configuration menu is where you setup options which typically you will not want to adjust on a regular basis. For example, your as your preferred output resolution, peak luminance, and preferred color space is not something you will regularly change.

The Settings menus, on the other hand, is typically where you will find options that you may want to change occasionally, to suit your mood, viewing conditions or tastes for a particular movie. Examples include your preferences for HDR processing, upscaling, artifact reduction, sharpening and more.

The Information menu shows information about your incoming and outgoing signal, the display device, and system information such as your model type and serial number. For security purposes, **never share your serial number**, except with your dealer or madVR Labs. There is also a Test Patterns menu and Profile menu.

Tip: The Envy menu system uses a very flexible and intuitive profile system that makes it easy to save and apply different settings for different purposes (settings management). A discussion of the profile system is beyond the scope of this guide. An understanding of how profiles work is especially important prior to using your Envy. Therefore, we highly recommend you read the [Introduction to Profiles Guide](#) to make the most out of using your Envy.

- 3.2. **Front-panel:** On all models except the Envy Pro and Extreme MK1, the LED lights white when the unit is on and slowly pulsates when in standby. For the Pro and Extreme MK1, the LED lights blue when the unit is on, lights red to indicate disk activity, slowly pulsates between blue and off when in standby. On the Pro and Extreme MK2/MK3, you can toggle the power LED off with a switch under the chassis. The brightness, however, cannot be dimmed. With the Core it is not possible to turn the light off or dim it.

For the Pro and Extreme MK1 you can control the brightness of the LED (or turn it off) using the wheel at the bottom edge of the front panel. To find the wheel, place your finger on the LED and move it down to the bottom edge of the case. To turn the unit on and off, press the power button (or use the remote). Should you ever wish to unplug the Envy, first press the power button, and wait a few seconds until the LED turns off. Never turn off your Envy by pulling the power plug while it is still on or by turning off the power supply switch on the rear of the unit.

- 3.3. **Check output resolution:** Some projectors and displays do not report their native resolution properly. For instance, JVC e-shift 4K projectors report a native resolution of 1080p instead of 3840x2160. And some native 4096x2160 projectors may report 3840x2160. To override this if necessary, press the top right button on the remote to quickly access the Display Configuration menu, and change to the desired resolution.

- 3.4. **Set your peak luminance:** For optimal results, the Envy needs to know your peak luminance. This is set in the Display Configuration menu. If using a scoped screen with the lens zoom method (no A-lens) set the “Peak luminance (scoped)” value to the peak nits when zoomed out for scoped movies. If you use lens zoom to change between 16:9 and scoped zoom, please use profiles (see Section 3.1) to set the

different peak brightness for each setup. To get your peak luminance, use a calibration software product to read your cd/m² value off the screen when displaying a full field 100% white pattern. Or measure your lux with a light meter and convert to cd/m². If unsure, please contact your dealer for assistance.

- 3.5. **Anamorphic lens setup:** If using an A-lens, press the top right button on the remote and press the right arrow to reach the Screen Configuration Menu. Enter your anamorphic stretch factor (e.g., 1.25x for a Panamorph DCR lens) if using an A-lens and be sure to turn off anamorphic stretch if already enabled in your projector. If not using an A-lens you can safely ignore this section.
- 3.6. **Scope screen setup:** Scoped screens are screens that have an aspect ratio wider than 16:9. For instance 2.0:1 or 2.35:1. If you have a scoped screen and are not using an anamorphic, you need to “teach” Envy about your screen so that it can manage all black bars and place subtitles for you where you can see them (otherwise they will be off the screen). Please see the [Scope Screen Setup Guide](#) and follow the instructions. If you wish to use non-linear stretch to better fit movies on 16:9 screens or better fit sports and 16:9 content on scope screens, see the [NLS+ Setup Guide](#).
- 3.7. **Audio delay adjustment:** If your AVR/AVP is set up for auto lip sync adjustment, Envy should automatically adjust the audio delay as needed. If you should find that you still need small adjustment despite using auto lip sync, your AVR/AVP should enable you to add a manual offset to the auto lipsync delay.

If you are not using auto-lip sync, you will need to adjust your AVR/AVP accordingly. In which case note that the video processing in Envy adds roughly 220ms delay to the audio. Therefore, please adjust the audio delay in your audio processor accordingly (only if not using auto lip sync). If you have an AVP that adds its own processing delay, such as a Trinnov or Storm Audio, subtract its audio delay from the 175ms (for instance if your AVP has an audio delay of 50ms, set you’re the audio delay to $175 - 50 = 125$ ms). If you have the movie Ready Player One, a great clip to adjust audio delay is the car race scene around the 10-minute mark of the movie. A flare that is launched in an arch-like fashion, with a whistling sound as it nears the ground, and then explodes like a firework. Likewise, many test discs have lip sync patterns. You may find it necessary to adjust the lipsync on a per HDMI input basis within your AVR/AVP. See information below on Gaming Mode as it applies to latency.

- 3.8. The Envy features a Gaming Mode setting, which is automatically detected by the Envy Core MK2, Pro MK3 and Extreme MK3, by recognizing the Auto Low Latency

Mode (ALLM) feature of HDMI 2.1. Gaming Mode is available on all Envy models, however. Gaming Mode dramatically cuts the latency for an experience that feels like there is no latency. Therefore your AVR input used for gaming should have a much lower lipsync setting. No specific latency measure is available, as it depends on a number of factors including your Envy model, whether VRR is active, and the incoming signal details.

For models prior to those mentioned above, you will need to set Gaming Mode to On and Off manually. This can be done manually or by using profiles, which can be activated manually or automatically based on the AVR HDMI input for supported AVRs (requires the Envy Core Premium package if using the Envy Core). Note it is not recommended to watch movies with Gaming Mode on.

3.9. Pass-thru port: Envy features a zero latency pass-thru port. You can run an HDMI cable from this port directly to another input on your display. Or alternatively if you wish to have just one cable run to your display - you can use an HDMI switch and run a short cable from each Envy HDMI output (regular and pass-thru) to the switch and then run the single main HDMI cable from your display to the switch.

3.10. Popular Envy Tweaks: The default settings in the Envy deliver an outstanding image. However, you may wish to change the settings to taste and to enable certain features, like how you want subtitles handled. Please play around in Settings to see what you like best. Note that the settings will be temporary until you save them to your Base Settings or to a profile – for more information see the note about profiles in Section 3.1. Popular tweaks include:

HDR Settings (first page in the Permanent and Temporary Settings menu): Highlight Recovery (try at “Insane”), Contrast Recovery (try at High), Shadow Detail Recovery (generally recommended Off but depends on your display’s native contrast). Brightness Preference is recommended at Neutral unless you have a setup with under about 80 nits. For low nit setups, try a value of +5. This makes the overall picture brighter but leaves less room for HDR highlights.

Upscaling and Sharpening The Envy can add very tasteful, artifact-free and ringing-free sharpening, even to 4K sources? You can experiment with adding some Edge Crispening, Edge Enhancement and Detail Enhancement. Be conservative with the controls which can otherwise lead to some image noise.

Subtitle and OSD handling: Subtitles and On-Screen Display (OSD) elements from your source devices are problematic for users with scoped screens. Especially since the black bar areas where subtitles and OSD elements are often

displayed is normally zoomed off the screen by your lens setting. Envy will bring your black bars back, temporarily as needed, for you to see the subtitles and OSD. There are lots of options such as how long you want the black bar area to stick around after subtitles disappear, and more. See the Black Bar Configuration menu in your Envy for more information.

- 3.11. **Show off your Envy!** What fun would the Envy be without the ability to show yourself and others just why you bought the world's most advance video processor in the first place? We are so proud of the power of the Envy and the huge benefit it provides that we added features exactly for this purpose. Here's how to use a few of them:

Dynamic Tone Mapping: With HDR content, toggle the Envy's DTM on and off. When toggled off, the Envy will turn off its DTM and output the content as HDR to your display, which will then turn on its own HDR tone mapping, so you can easily compare the difference. Be prepared for what you are about to see – behold the magic power of the Envy.

Highlight Recovery: With HDR content, toggle Highlight Recovery on and off. This comparison is best done with content paused on your screen. The differences will not be visible in all scenes and with all content, so you may have to play around to find the right scene to do the comparison with. Look for content that has bright highlights with texture detail and view that with this feature on and off. One example of a great scene to compare this is the bright yellow flower on the Spears and Munsil HDR Benchmark 4K Blu-ray demo disc.

Contrast Recovery: With HDR content, toggle Contrast Recovery on and off. You will find that with this feature on, the content has a considerable amount of added depth and perceived contrast. And with this feature off the image looks a bit murky, with a thin milky-like layer. Try this with Contrast Recovery set to High as well.

- 3.12. **Auto-updates:** Your Envy makes it very easy to install new versions of the Envy firmware with a simple click of your remote using the Firmware Configuration menu. To access the auto-update options, click the top-right button on your remote and press the left-arrow. The following describes the menu items in detail:

Current Firmware Version: This displays the firmware version currently in use. This information can also be found on the System Information menu.

Built Type: This option sets the minimum type of firmware you wish to be notified about. Options are: Stable Builds only, Release Candidates, Beta Builds, and Test Builds. For instance, if you select Beta Builds you will be notified about all firmware except Test Builds. With all the ongoing development we recommend Beta Builds for most users. Test Builds should be considered highly experimental. When deemed by madVR Labs to be more stable, they are promoted to Beta Builds, and so forth up to Stable Builds.

Notification Type: When an update is available, a popup notification will be displayed according to your preferences. Options are Always, If Menu Is Open, and Never.

Install Firmware: To install a firmware version, move to the “Install Firmware” line and use the left/right arrows to select any version, then select OK, and Install. You can select any version, including past versions. This makes it easy to experiment with Test Builds or Beta Builds, for example, since you can always rollback the update just as easily. All updates are self-contained, so for instance if you are on 2.0.1.4 you can install 2.0.1.9 directly, without installing versions in between. Some updates may require that your Envy be powered off and then back on – if so, you will be prompted to do so.

Changelog: The changelog provides details about what new features, fixes and enhancements are included in the update selected in the Install Firmware line. You can browse through each versions changelog simply by highlight it in the Install Firmware selection.

- 3.13. **3D LUT Calibration:** The madVR Envy uniquely supports massive 1D LUTs up to 4,096 points and massive 3D LUTs up to 16.7M interpolated points and is compatible with Calman and ColourSpace. See the [Calibration](#) section of our website for more information.

4. Troubleshooting

- 4.1. **Remote does not work:** Did you insert batteries? If wanting to use RF, make sure the black RF antenna dongle is installed in a USB port on the rear panel. If RF is still not working, see Section 2.3 to ensure it is in RF mode. If so, try removing the antenna for 2 seconds and plug it right back into the same spot. If using IR with the Pro/Extreme (or Core with separately purchased FLIRC USB device), make sure the remote is in IR mode, and that the IR dongle in the *rear* of the unit has line of sight

to your remote, or use an extension cable as described in Section 2.3. If neither of these helps, see item 4.2 below.

- 4.2. **Envy appears to be doing nothing:** Make sure you inserted the HDMI input into the the INPUT of the Envy and not the Pass-thru port. If you installed it into the Pass-thru port the Envy will not apply any processing and will not display any menus, which can give the appearance that the remote is not working.
- 4.3. **Envy is outputting 1080p instead of 4K:** Make sure you did not inadvertently press and hold the red button on the remote for several seconds – doing so forces the Envy to output 1080p in a “rescue mode”, which is useful in the event you ask it to output a resolution which your display does not support.
- 4.4. **Envy does not power on:** Check the power supply switch and make sure the PSU toggle is in the On position. Not that you cannot wake the Envy up from a powered off state by using the remote control but instead need to use a control system or send a Wake-On-Lan packet, or use Standby mode instead of Power Off.
- 4.5. **Green flashes:** You may notice a full screen green flash or two during HDMI signal changes / handshaking in some situations. In the Display Output mode use RGB if using YUV. Or if using YUV, choose Slow and Clean Handshakes in the Envy HDMI Configuration menu.
- 4.6. **Audio delay:** Envy adds audio delay as part of its processing. Please see Section 3.7 for information about setting the audio delay.
- 4.7. **Something else?** Please contact your authorized Envy dealer for assistance.

We hope you enjoy your Envy as much as we enjoyed making it for you! Thank you.

Appendix A – Remote Control Guide

Remote Button	Quick press	Press & hold
Power (button 1)	Standby (F1)	Restart (SHIFT-F1)
Menu (button 2)	Configuration Menu (F2)	Test Patterns (SHIFT-F2)
Virtual Inputs (button 3)	16:9 AR (F8)	Scoped AR (SHIFT-F8)
Settings (button 4)	Temporary Settings (F9)	Default Settings (SHIFT-F9)
"OK" (with no menus on screen)	Signal Information (F5)	Close Current Menu (ESC)
Red	Hotplug HDMI Input (F10)	Force 1080p60 Out (SHIFT-F10)
Green	Envy Tone Mapping On/Off (F11)	HDR Histogram On/Off (SHIFT-F11)
Blue	Highlight Recovery On/Off (F12)	Reset Debug Counters (SHIFT-F12)
Yellow	Contrast Recovery On/Off (W)	Show/Hide Debug Info (SHIFT-W)

