madVR Envy

SONY OLED Setup Guide

www.madvrenvy.com

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Introduction

Welcome to the madVR Envy Setup Guide for Sony OLED displays. Although setting up the Envy itself is straight forward, it is important that your Sony OLED be set optimally for use in conjunction with the Envy. This guide covers the recommended set up for Sony OLED TV's when used with Envy. While this guide was primarily written for OLED models, much of the information found within can be applied to LCD models as well. Additionally, some of the information within this guide may vary slightly depending on the model year of the OLED being utilized with the Envy.

Please make all the menu changes with "Base Settings" selected in the Profile Bar (the bottom selection in each Envy menu) so the changes will be permanent. Otherwise, if you make changes when "Active Settings" is selected in the Profile Bar, the changes will only be temporary and later lost, unless you use the "Save to Base" option. For a better understanding of how settings in the Envy work, please see Introduction to Profiles guide at https://madvrenvy.com/#resources.

Sony Configuration

The following steps are recommended to best configure the Sony display for use with the Envy.

1. First, let's configure important settings in the Envy's Display Configuration menu. Press the button on the Envy remote with the three horizontal lines or gear icon depending on remote to access the Configuration menu. Then follow the steps below. An example of the completed settings is shown in the image on the next page.

    A. **Resolution setting**: Set the "Resolution" to **3840 x 2160**, which will likely be selected by default.

    B. **Peak Luminance:** Peak Luminance is a measure of the brightest image your display achieves for a specific system configuration. This will vary per model and model year as direct view displays tend to get brighter each year.

In order to measure the peak luminance of the display a colorimeter such as a Calibrite Display Pro, C6 HDR, Spyder, Jeti 1511, Klein K10A, or similar models will be needed. Using either calibration software or a display profiler which is usually provided with the colorimeter or downloaded from colorimeter manufactures website will be needed.

Display a 100% white pattern using third party calibration software or from the built-in test pattern within the Envy unit being installed by holding the Green flex key button. Position the

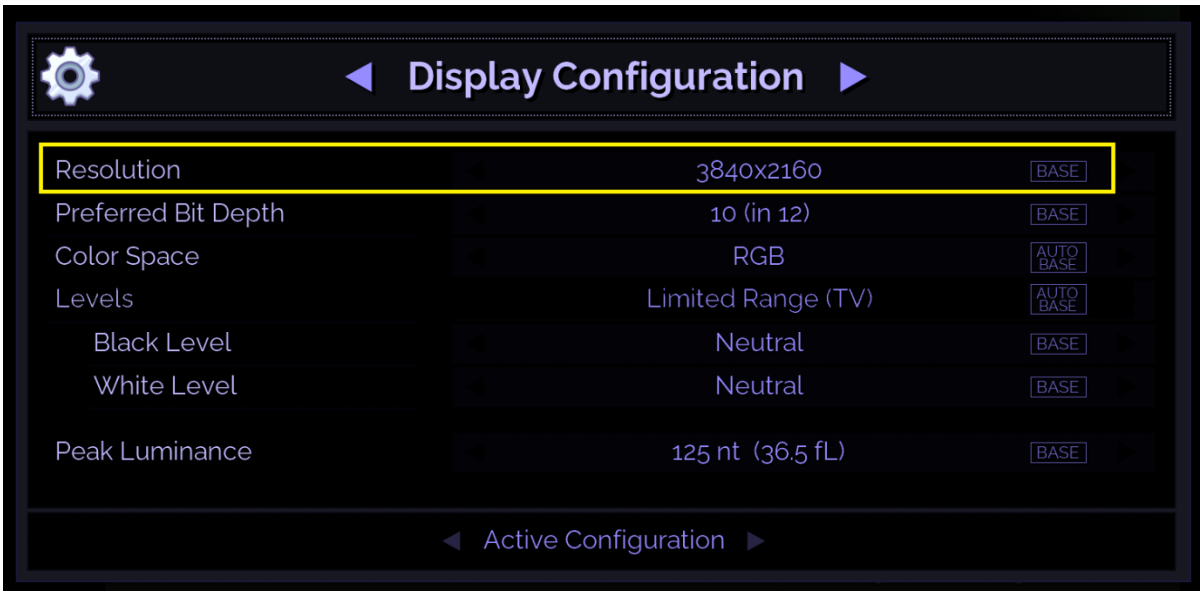
meter against the screen of the display and follow the instructions of software being utilized to take a measurement.

Due to the nature of emissive displays do not take the measurement if the screen has been sitting on an all-white screen for a long duration of time as emissive displays will dim over time as a precaution to mitigate burn in.

If meters and software are not available consider using information from trusted review sites and YouTube channels that perform measurements for Full Screen Peak SDR brightness.

Additionally, the desired SDR luminance value can be used to target a specific luminance level for SDR content, **but only if you find SDR to be overly bright.** Note that rather than using this setting to adjust the SDR luminance a different picture mode can be utilized for SDR content, while keeping Desired SDR Luminance set to Auto. If that is inconvenient, the **Desired SDR Luminance** can be used as a substitute.

IMPORTANT: *One option for advanced configuration for Sony OLEDs to gain more peak brightness out of the display is to change the Video Signal HDR Mode to HLG and enable Brightness Preferred for HDR Tone Mapping. This can be done by going to Picture Settings > Video Signal > HDR Mode and changing setting from Auto to HLG. After this while still in Picture Settings Menu go to Brightness > HDR Tone Mapping and select Brightness Preferred. This will allow for a higher peak brightness than what is normally available when using SDR picture modes.* ***This is only recommended for users who are very familiar with Sony OLEDs and emissive displays and understand the how this would need to be configured, how it will impact other sources, and the long-term impact from running the OLED in such a way.***



2. Next, go to the Envy **Display Calibration** menu (shown below). To access this menu, press the Configuration Menu button, then press the right arrow button once. Here we will focus on the **Transfer Function** and **Gamut** settings.

   It is important that the Envy Transfer Function value reflects the gamma correction being used in the Sony. Therefore, we recommend setting the Gamma to -2 (as covered in the upcoming steps), which is 2.4 effective gamma for Sony OLEDs. And setting the Envy Transfer function to **2.4**. You can access the Gamma setting in the Sony from Picture Settings > Brightness > Gamma (SDR).

3. Next, change the Gamut in the Display Configuration Envy menu to **DCI-P3**.

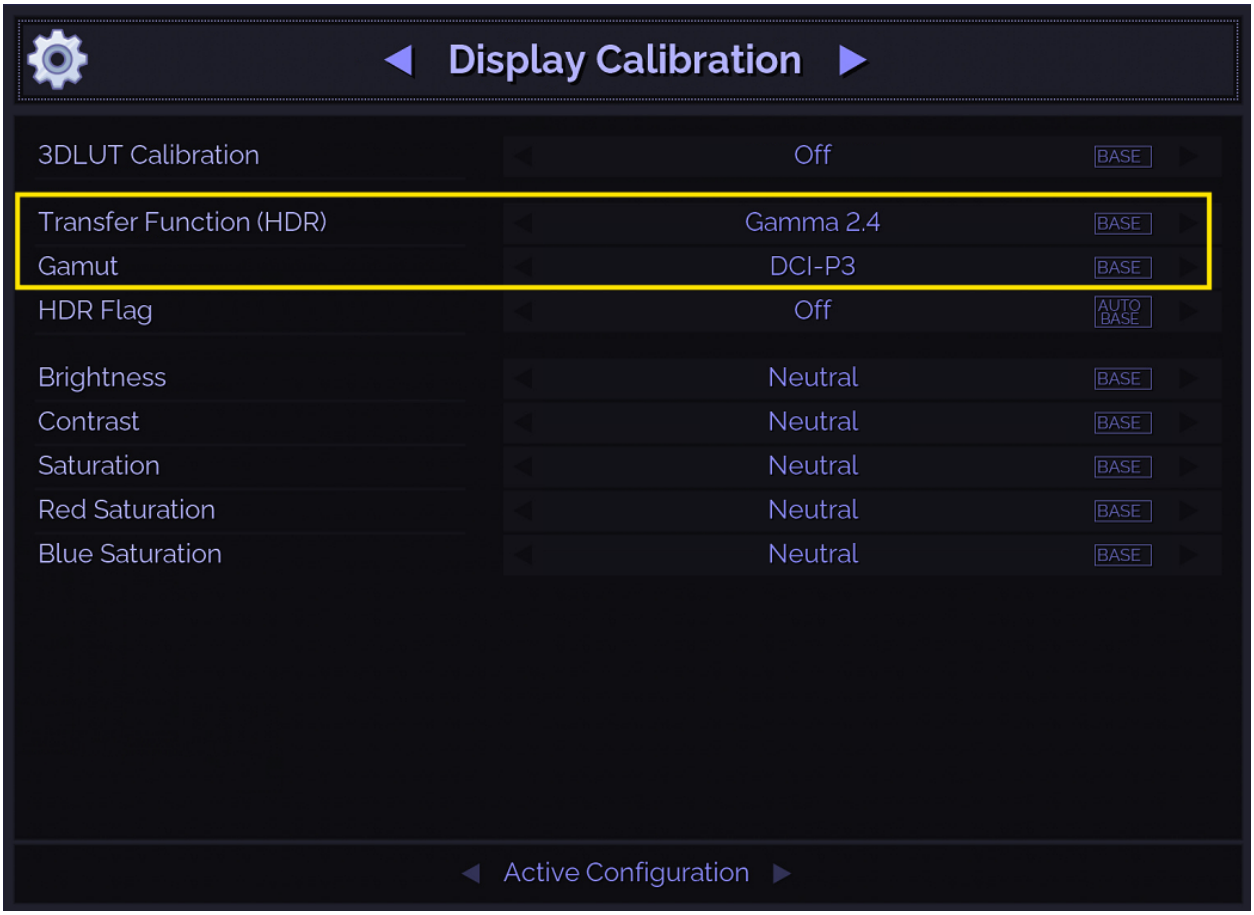
   Note that when using a 3D LUT, the Transfer Function and Gamut options are not available in the menu, because in that case, the LUT fully manages the Transfer Function and Gamut.

4. Note: Please leave the **HDR Flag** set to **Off**. Turning this on will cause problems with HDR images.

   Before continuing, make certain that you save these changes to the Base Configuration. Otherwise, the changes you make here will revert on the next signal change. To save these changes to the **Base Configuration**, highlight either of the values that shows an orange TEMP tag and press the Green button on the Envy remote. If you have made the changes with Base Configuration already selected at the bottom of the menu, then this step is not necessary.

5. **Screen Boundaries** should be set to None (16:9).
   ALL other settings in the various Envy Configuration Menus should be left on AUTO, unless you have a particularly good and specific reason to change it. Often people change these settings without understanding the full impact. Note that changing the "Configuration" items should not be confused with the changing the Envy Settings Menu (the Envy remote control button with the 3 sliders on it) – those are there for you to change the image to suit your tastes.

6. In the Picture Mode settings select Professional (or Custom depending on model) as starting point.



7. Use the following values for a good starting baseline to an accurate picture.

Brightness (SDR): Max
Contrast (SDR): default value
Gamma (SDR): -2
Black Level: 0
Black Adjust: Off
Adv. Contrast Enhancer: Off
Peak Luminance: High

Color
Live Color: Off

Clarity
Reality Creation: Off
Random Noise, Digital Noise Reduction, & Smooth Gradation: Off

Motion

MotionFlow: Off
CineMotion: Low

Video Signal
Color Space: Auto

8. For the highest quality motion handling with **MotionFlow** set to **Off** Please use **MotionAI** exclusively in the Envy Extreme. See the MotionAI User Guide for more information. If using an Envy Pro or Core set MotionFlow to Custom and adjust to taste.

   Note: Frame Interpolation should always be Off when performing a calibration.

9. **Settings > Channels & Inputs > External Inputs > HDMI signal format/VRR**:

   A. The HDMI input that is connected to the Envy must have **Enhanced Format** enabled. On newer models Sony with VRR support, which is generally supported on HDMI inputs 3 and 4, **Enhanced Format (Advanced)** must be enabled to support 4K/120 and VRR from the Envy. However, if this is not stable or does not display the picture correctly, please utilize Enhanced Format.

10. **Settings > System > Power & Energy > Power Saving**:

    A. **Power Saving** should be set to **Off**.

Quick Sanity Check

After completing the setup of the Envy with your SONY display, we recommend reviewing the following checklist as a final "sanity check" to help ensure everything is set up optimally:

A. Play any 4K HDR movie (except Gemini Man or Billy Lynn). Check the Envy Incoming Signal Menu (press OK on the Envy remote when no Envy menu is active) and make sure that the "Framerate" shows 23.976. If instead it shows 59.94, and you are using an Apple TV or Kaleidescape, then your source device(s) are not set up for proper playback – check our setup Apple TV and Kaleidescape guides on our website for more information. Or if you are using a different source device, check its settings and make sure it outputs in a "native" or "direct" mode.

B. While playing the 4K HDR movie, check the Envy Incoming Signal Information to make sure the "Transfer Function" shows "HDR". If not, Envy is not receiving HDR from the

source player. This could be caused by a “rogue” device in the HDMI chain, or if using an AVR like the Denon/Marantz, make sure it is set to use “Enhanced” HDMI, so that it outputs the full 18 Gbps bandwidth and is not restricted to 9 Gbps.

C. If the colors look undersaturated or oversaturated, please check the SONY Expert Settings menu to confirm the display is using the color space with its Normal setting. (revisit step 3).

Additional Resources

We highly recommend reviewing the Envy Academy Online video course or reviewing the Envy Introduction to Profiles guide, MotionAI guide, and the setups guides for source devices such as Kaleidescape and Apple TV. This and other such resources are available at www.madvrenvy.com/#resources. You may also wish to seek out calibration services from third parties or from the madVR Labs Professional Services Group. Email psg@madvr.com for more information.

Thank you and enjoy your Envy!