madVR Envy

Sony Setup Guide

VPL-XW5000ES, VPL-XW6000ES, VPL-XW7000ES

Bravia Projector 8 (VPL-XW6100ES)

Bravia Projector 9 (VPL-XW8100ES)

VPL-GTZ380

www.madvyenvy.com

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Introduction

Welcome to the madVR Envy Setup Guide for the Sony XW5000, XW6000, XW7000, Bravia Projector 8 (XW6100ES), Bravia Projector 9 (XW8100ES), and GTZ380 projectors. Although setting up the Envy itself is rather straight forward, it is important that your Sony projector be set optimally for use in conjunction with the Envy. This guide covers the recommended set up for Sony projectors when used with 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 more information on how to setup and best use the Envy, see the Envy Academy Online.
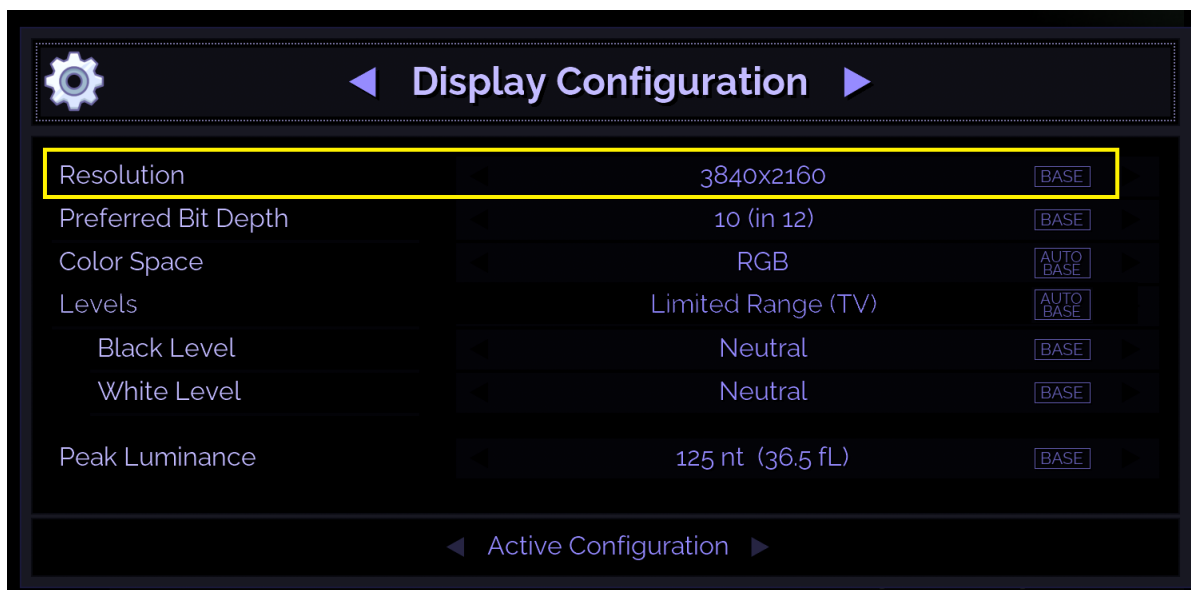
Sony Configuration

The following steps are recommended to best configure the Sony 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 to access the Envy **Display 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**: For the **Sony 5000, 6000, 7000**, **Bravia Projector 8 and 9,** set this to **3840 x 2160**, if not already set automatically. Note that although the Sony can accept a 4096 x 2160 signal, these models have a native 3840 x 2160 panel, so there is no benefit to outputting a 4096 signal. Doing so can result in slight image degradation and is only recommended when using the Envy with a display that has a native 4096 x 2160 panel and using a scope screen. The Sony **GTZ380**, on the other hand, does have a native **4096 x 2160** panel. Therefore, if you have a scope screen (aspect ratio wider than 16:9), choose 4096 x 2160 for this model instead of 3840 x 2160. If you have a 16:9 screen, use 3840 x 2160.

   B. **Peak Luminance:** Peak Luminance is a measure of the brightest image your display achieves for a specific system configuration. This depends on several factors, including your display's lumens, lens position, iris position, lamp/laser power mode, calibration settings, throw distance, and your screen size and gain.

   The best way to determine your peak luminance is to display a 100% white pattern at 10% or 20% window size and measure it using 3rd party calibration software or a handheld lux meter. If measuring with calibration software, enter

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the "cd/m2" measurement as your nits value. If using a lux meter, multiply the lux reading by the screen gain and divide by 3.14 to get this value. If you are using a full window pattern on a projector, instead of 10% or 20% window size, we recommend adding 10% to the calculated value. The Envy Academy Online, mentioned earlier, explains this further.

⚙	◀ **Display Configuration** ▶	
Resolution	3840x2160	BASE
Preferred Bit Depth	10 (in 12)	BASE
Color Space	RGB	AUTO BASE
Levels	Limited Range (TV)	AUTO BASE
Black Level	Neutral	BASE
White Level	Neutral	BASE
Peak Luminance	125 nt (36.5 fL)	BASE
	◀ Active Configuration ▶	

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. Note, however, that the Sony gamma usually runs lower than the presets. Therefore, we recommend setting the Gamma Correction value to 2.6 in the Sony, which typically measures closer to a 2.4 effective gamma. And setting the Envy Transfer function to **2.4**. You can access the Gamma Correction setting in the Sony from the main "Picture" menu by selecting "Expert Setting". For the best results, we recommend calibrating the projector using Calman or ColourSpace.

3. Next, change the Gamut in this same Envy menu to **BT2020**. Otherwise, when using RGB output to the Sony (highly recommended), the image will be undersaturated.

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**. Setting this on will cause problems with HDR images, unless you know exactly why you are turning on this flag, which is for advance use only and typically serves no purpose for use with Sony projectors.

   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. If using a scope screen (a screen that has an aspect ratio of 1.85 or greater, such as 2.35 or 2.40 aspect ratio), go to the Envy **Screen Configuration** menu, and under **Screen Boundaries**, click **Run Assistant**. Then follow the on-screen instructions. The Envy Academy Online also covers setting Screen Boundaries in great detail. This is a critical step to ensure the Envy menus are properly positioned and that content is displayed properly regardless of its aspect ratio. Generally speaking, all other settings in the various Envy Configuration Menus should be left on AUTO, unless you have a specific reason to change it.

6. In the Sony "Picture" menu, we recommend turning Reality Creation Off. Or, using it lightly, such as Resolution at 15 or lower, Noise Filtering – Off or no higher than 10, D Focus Optimizer - Off. Although Sharpness of 15 is generally optimal, you may prefer much higher settings. The Envy also offers its own Sharpening options which you may prefer in the Envy Settings menu.

7. **Basic Picture** settings should use the following values:

    Picture mode: Cinema Film 2

    Contrast: 97 - Max*
    Brightness: 50 - 52**
    Color: 50
    Hue: 50
    Color Temp: D65 (for best results, a calibration is recommended).

      * If calibrating, use Max. Otherwise 97, as higher values can cause a color shift.

    ** Set based on test patterns and careful evaluation of content.

8. In the Sony Cinema Black Pro menu, we recommend Dynamic Control set to Limited (but it is OK to use Full or Off, but this can be set to taste). For Laser Light Output we recommend setting this to 100, especially for larger screens. This will, however, result in more fan noise from the Sony.

9. Dynamic HDR Enhancer – Off (the Envy will handle all HDR functions).

10. Please follow these three steps to ensure the Sony switches color spaces properly based on whether the incoming signal is using the BT709 or BT2020 color space. These settings are found in the "Picture" menu, under "Expert Setting":

    A. Change the "HDR" option from Auto to Off.

    B. If a calibration is *not* going to be performed, or a calibration in the Envy will be done with only a 1D LUT - change the Color Space setting to **BT2020**. If, however, a calibration will be done with a 3D LUT, set the Color Space to **Color Space 2**.

11. For the highest quality motion handling we recommend turning Motionflow to Off and using the Envy MotionAI feature found exclusively in the Envy Extreme. If using an Envy Pro, turn Motionflow to Off, or use True Cinema. Note that Motionflow should always be Off when performing a calibration.

12. In the Sony "Setup" menu, set Network Management On. This is important for the built-in integration that enables the Envy to control the Sony directly.

13. Sony HDMI Configuration:

    A. Under the Sony "Function" menu, set the Dynamic Range for the HDMI ports to "Limited", to be sure the Sony picks the proper levels (Auto will usually pick Limited, but sometimes this can cause a level mismatch, causing black levels to be elevated or crushed).

    B. Change the HDMI Type from Standard (9 Gbps ports) to Enhanced (18 Gbps ports or 48 Gbps ports). Note that this setting requires certified full bandwidth 18 Gbps HDMI cables, or Ultra High Speed 48 Gbps HDMI 2.1 cables. For cables over 30 feet this usually means an active fiber HDMI cable. If you have HDMI dropouts or handshaking issues after changing this setting, set the Envy HDMI Output EDID Override (on the Envy HDMI Configuration menu) to 9 Gbps, from the default of 18 Gbps. This can slightly degrade the quality of 4K60 content but is a suitable workaround until the cable can be replaced.

14. Under the Sony Expert menu:

    A. We recommend everything be set to Off. The one exception being Smooth Gradation which can be utilized at Low if desired. This setting should be Off, however, during calibration.

    B. Set the HDR mode to Off for everyday use. However, using Auto is a viable option for comparing the Envy tone mapping to that of the Sony.

        Note if using Auto: When Envy receives HDR, it intentionally sends SDR to the Sony. If you bypass Envy's tone mapping using the the Envy remote, then the Envy will output HDR (for HDR sources), and the Sony will use the Auto selection in its HDR menu to change to its HDR picture modes and perform its own tone mapping. Please be aware that in some cases, the Sony may not switch to tone mapping the image and may appear washed out and desaturated. Should that happen, you can manually change this setting from Auto to HDR10. This is only meant for demo purposes. The best way to compare the tone mapping is to run a separate HDMI cable from the Envy "Pass" port to Input 2 on the Sony, and simply switch between Input 1 and Input 2 on the Sony for your comparisons.

15. Installation Menu:

    A. The **Anamorphic** option can be set to either 1.24X or 1.32X, since this setting is ignored unless the aspect is changed in the Screen > Aspect menu, which will not be used, even if you have an anamorphic lens.

    B. Aspect should be set to **Normal**, even if you have an anamorphic lens. In which case select this option and appropriate Stretch Factor in the Envy Screen Configuration menu.

Quick Sanity Check

After completing the setup of the Envy with your Sony projector, 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, check the Sony menu to confirm the projector is using the correct, corresponding color space (revisit steps 10).

Additional Resources

This concludes the Sony setup instructions. We recommend also reviewing the Envy Academy Online, Envy Introduction to Profiles guide, and the setups guides for source devices such as Kaleidescape and Apple TV. This and other such resources are available at http://www.madvrenvy.com/#resources. Thank you and please enjoy your Envy with your Sony!