madVR Envy

Christie Setup Guide

M 4K15 RGB

www.madvrenvy.com

Revision 1.01

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Introduction

Welcome to the Envy / Christie Setup Guide. Although setting up the Envy itself is often as simple as plugging in the HDMI cables and entering the projector's peak brightness, it is important that your projector be set optimally for use in conjunction with the Envy. This guide covers the recommended set up for Christie M 4K15 RGB projectors when used with Envy.

Please make the Envy menu changes with "Base Settings" selected in the Profile Bar (at 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, unless you use the "Save to Base" option. For a better understanding of how settings in the Envy work, please see the Envy Academy Online lesson here: **https://madvrenvy.com/lesson/140**.

Once complete, please review the "Quick Sanity Check" section at the end of this document to confirm your configuration.

Configuration Steps

The following steps are required to best configure Christie projectors for use with the Envy.

1. First, we need to configure important settings in the Envy's Display Configuration menu. Press the top-right button on the Envy remote to access this menu, then select "Base Settings" from the bottom of the menu. Then follow the steps below. An example of the completed settings is shown in the image on the next page.

    A. **Resolution setting**: If not using a scope screen, set the "Resolution" to **3840 x 2160** and move ahead to the next step below. If using a scope screen with any of the Christie projectors, such as the 4K35, 4K50, or Eclipse, set the resolution to **4096 x 2160**, since these models use a 4096 x 2160 chip.

    B. **Peak Luminance:** Set the Peak Luminance here. 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 10% white pattern and measure it using 3rd party calibration software or a handheld lux meter. If measuring with calibration software, enter the "cd/m2" measurement as your nits value. If using a lux meter, you will need to convert the lux reading to nits or foot lamberts. If measuring with a 100% pattern, add 10% to the lux reading. If you have neither, the peak luminance can be roughly estimated.

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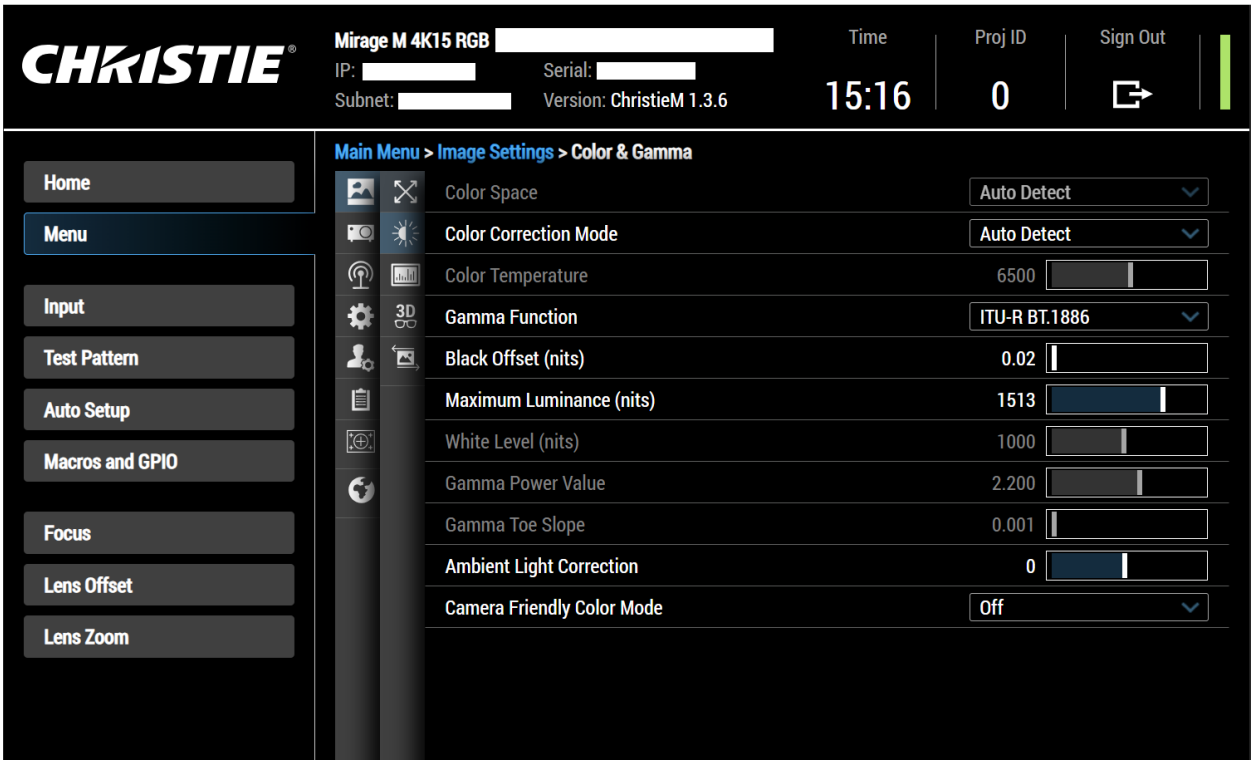
2. Using the Christie user menu or Web GUI select the following options, under Main Menu -> Image Settings -> Color & Gamma

   Color Space = Auto Detect

   Color Correction Mode = Auto Detect

   Gamma Function = ITU-R BT.1886



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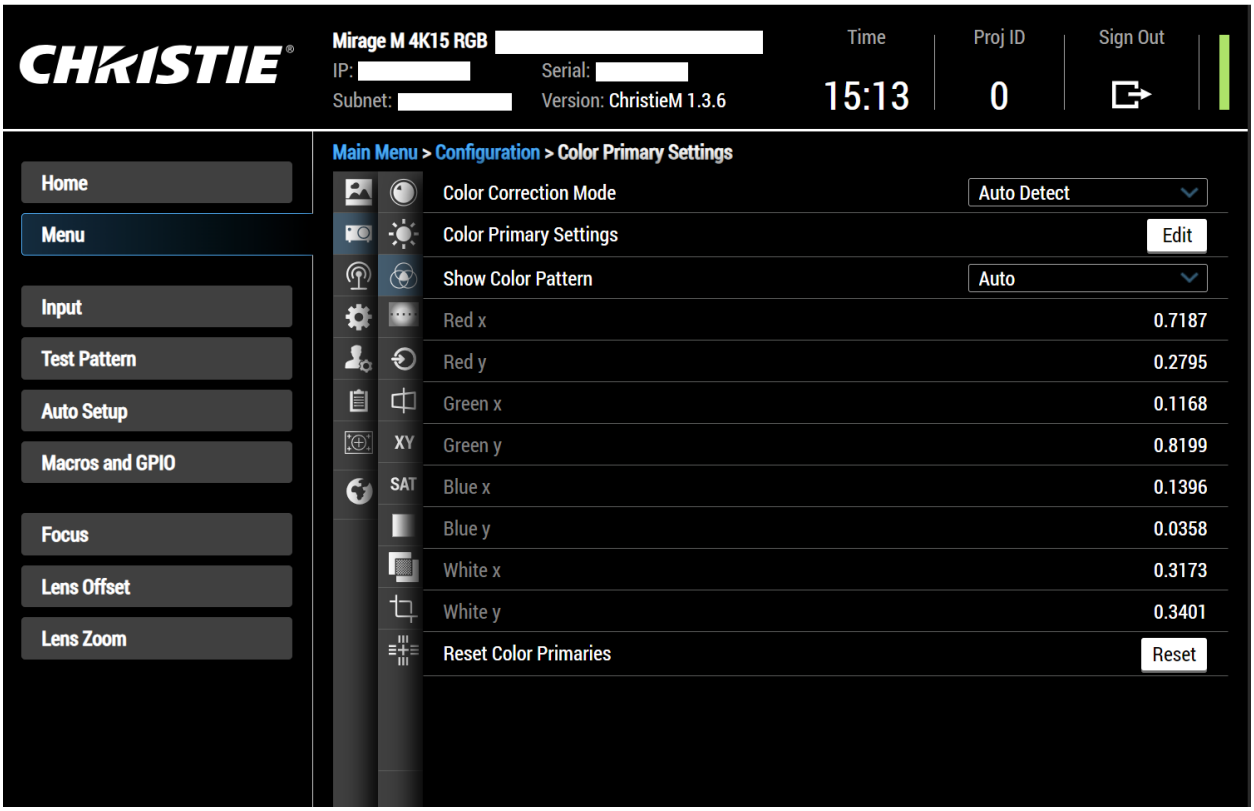
3. Next, we need to set some important values in the Envy Display Calibration menu. To access this menu, press the top-right button on the Envy remote, then press the right arrow once, then select “Base Settings” from the bottom of the menu. Note: This step can be skipped if you will perform a 3D LUT calibration – see Step 8 for more information.

    a. If you will not use a 3D LUT, you must set the Envy Transfer Function value to 2.4.

    b. The M 4K15 RGB supports 98% of the BT2020 color space, due to this the gamut should be set to BT2020. Note: If you are performing a calibration with a 3D LUT, these settings will not be used, as the LUT will control the gamut automatically.

    Please keep all other settings at their defaults, including the HDR Flag set to Off (this must be off, but do not worry, the Christie will still display HDR content).

4. If not using a 3D LUT, select **Main Menu -> Configuration -> Color Primary Settings** and ensure Color Correction Mode is set to **Auto Detect**



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5. Optional: For improved color accuracy, it is recommended to perform an internal calibration of the projector's native color space values. To perform this, proceed to **Main Menu -> Configuration -> Color Primary Settings** and measure the Color Primaries using the internal patterns. Once this is complete perform the necessary adjustments in **Main Menu -> Configuration -> Color Correction by x,y** For more information, contact your Christie representative.

6. Optional: For the most accurate color, grayscale, and gamma tracking we recommend performing a 1D and 3D LUT. If you do so, please skip step 3 (Envy ignores those settings when a 3D LUT is active).

    a. If a 1D and 3D LUT are going to be performed this should be done using Max Drives selected in the Color Space, and Color Correction Mode.

7. If a calibration is going to be performed it is recommended to perform the calibration in either 24hz or 60hz framerate. Specifically, we do not recommend calibrating with the Christie receiving a 48hz, or 96hz signal, even if you plan to use this frame rate with MotionAI (see Advanced Settings below). Otherwise, you will receive verification errors during your calibration.

Quick Sanity Check

After completing the setup of the Envy with your Christie 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, or press "i" on the Envy backlit remote) 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 to make sure the "Transfer Function" on the Envy **Incoming** Signal 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. While on the Envy Incoming Signal menu, press the right arrow once to access the **Outgoing** Signal Information. If not using MotionAI, make sure that the "Framerate" shown here matches the "Framerate" from the Incoming Signal Information menu (in this example, both should show 23.976). If using MotionAI, the Framerate should show as 60hz.

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D. On the **Outgoing** Signal Information menu, make sure the Outgoing Transfer function shows "SDR" (note, on the other hand, that the Incoming signal should show HDR). This should always be the case with the Envy, even for HDR. This is because the Envy does the HDR processing and then outputs its signal as SDR (but still delivering an HDR image). Otherwise, if the Envy outputs the signal with the HDR flag, then the Christie projector will apply its own tone mapping on top of the Envy's tone mapping, which will look bad due to double tone mapping. If this **Outgoing** "Transfer function" does show "HDR", make sure the Envy HDR Flag is set to Off (see step 3).

Additional Resources

This concludes the Christie setup instructions. We recommend also reviewing the **Envy Academy Online** lessons for more information on setting up profiles, MotionAI guide, non-linear stretch and more, and the setup guides for source devices such as Kaleidescape and Apple TV. This and other such resources are available at www.madvrenvy.com/#resources. Thank you and enjoy your Envy!

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