



madVR Envy

Barco Heimdall

Quick Start Setup Guide

www.madvrenvy.com

Rev 1.00

Envy Display Configuration

- Set Envy Output Resolution to **4096** with a scope screen and Heimdall CS, otherwise, use **3840** with a non-CS model or a 16:9 screen
- Set Envy Peak Luminance, Screen Boundaries, NLS, Geometry Control, MotionAI, Subtitle Management and other preferences if/as preferred.

Heimdall Configuration

Power

Set **Power** → **Standby Mode** to **Standby** (not Standby Eco).

This ensures the Envy can wake the unit, maintain network connectivity and switch profiles for HDR/SDR, if desired.

Optics

Optics → Optical Shift, Zoom & Focus, and Iris

Perform all available calibrations:

- Horizontal shift
- Vertical shift
- Zoom
- Focus
- Iris calibration

Set optical shift, zoom, and focus as needed.

Leave Iris position at **0** for now.

Connectors (HDMI)

Set **EDID** to **3840×1620 @ 120Hz**

For 4K120 (MotionAI or gaming), you may still need to install the Envy 40Gbps or 48Gbps EDID override.

HDCP Issues

If you see **HDCP not supported** warnings:

- Adjust **SDA Delay** from 20 up to 200+, in increments of 20, until stable
 - Requires Heimdall firmware 2.7.8 or later (from Barco)
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Image Settings

Scaling & Output Resolution (Heimdall)

Heimdall Output Resolution Options (subjective):

- **4096×1728** → sharper, more detailed image (madVR PSG recommended)
- **6144×2592** → slightly more "analog" look

Scaling Mode must match the selected Heimdall output resolution:

- If using 4096×1728 → set **Scaling Mode: 1:1**
- If using 6144×2592 → set **Scaling Mode: Fill Aspect**

Screen Size:

- **2.37** (Native) → 6144×2592

(Adjust accordingly for non-CS versions)

Picture Settings

- **Brightness:** Varies, may range from -0.50 to +0.01, or wider (set with test patterns)
 - **Contrast:** Typically 1 (set with test patterns)
 - **Saturation:** 1
 - **Sharpness:** 1
 - **Gamma:** Auto, 2.4
 - **Dynablack:** Medium (high levels will look better but may cause blooming in bright areas)
 - **Brilliant Color:** Film
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HDR

Leave all HDR settings at default.

The Envy will handle all tone mapping (Heimdall tone mapping is not used).

Geometry & Processing

- **Cropping Mode:** 2.37:1
 - **Threshold:** 44
 - **Non-linear Stretch:** Off (controlled by Envy)
 - **Warp:** Disabled (controlled by Envy)
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Envy Screen Configuration Setup

- Configure Envy screen boundaries

- Adjust projector zoom accordingly

Iris Adjustment (Maximize Contrast)

Subjective. Settings as recommended by madVR Labs Professional Services Group

1. Measure peak brightness
2. If ≤ 175 nits \rightarrow do not adjust iris
3. Adjust the iris (closes the lens)
4. Target: 175–300 nits (based on preference)

Typical guidance

- **Ideal iris range:** 30–35 to maximize contrast
- Some setups may require lower values (e.g., 0-15) to reach ≥ 175 nits

Hard limits

- **Do not exceed iris 35**
- If brightness exceeds 300 nits at iris 35 \rightarrow reduce laser power

Examples

- 250–300 nits at iris 30–35 \rightarrow ideal
- 200 nits at iris 30 \rightarrow still excellent
- If prioritizing brightness, you may open the iris, but this reduces contrast

Important

Adjusting iris significantly shifts grayscale.

Professional calibration is strongly recommended after any iris adjustment.

madVR Labs Professional Services Group or qualified third-party calibrators can assist.

SDR Brightness Adjustment

HDR brightness levels may be too high for SDR. Three approaches:

Option A (Simplest)

Adjust **Desired SDR Luminance** in Envy Display Configuration.

- No IP control required
- **Tradeoff:** reduces brightness without lowering black floor → less contrast

Option B (Recommended)

Use **Envy Device IP Control** to switch Heimdall Profiles (HDR vs SDR).

- Different lamp power and/or iris settings per Profile you create in the Heimdall
- Available on Envy Core (with Core Premium), Pro, and Extreme models

Option C

Use a control system to automatically trigger SDR/HDR Heimdall profiles.

Final Step: Linearization Calibration

After iris adjustments (or even if unchanged):

1. Go to **Illumination** → **Linearization**
2. Enable **Calibration Mode**
3. Select **Calibrate Linearization**
4. Disable **Calibration Mode**

For more information on Envy setup, including how to setup Profiles, Screen Boundaries, HDR tone mapping preferences, and how to best setup your sources for use with the Envy and Heimdall together, see the Envy Academy Online at <https://madvrenvy.com/academy-online>.