

CaIMAN Setup Guide

HDfury Integral 4K60

Rev. 1.4

Introduction

When the HDFury Integral 4K60 is placed in the HDMI signal path between a non-HDR test pattern source and an HDR TV, the Integral can add HDR metadata to the standard test pattern source. This makes the test pattern source appear as an HDR video signal to the TV under test, switching the TV into HDR mode.

CalMAN simplifies control of both the non-HDR test pattern source and the Integral 4K60 with direct connection to both devices. CalMAN directly controls the Integral 4K60 to enable its HDR output metadata.

Or, if the Integral 4K60 has been supplemented with the optional AVTOPcontroller software, CalMAN can automatically control the Integral 4K60 through the AVTOPcontroller interface.

This setup guide assists you in setting up and using the HDFury Integral 4K60 and a non-HDR test pattern source with CalMAN to test and calibrate UHD TVs in their HDR modes.

CalMAN Required Version

- CalMAN 2017 v5.8.2.24 to support direct CalMAN control

CalMAN Supported Workflows

- All workflows that support an external hardware pattern generator

Integral 4K60 Required Firmware Version

- Current version; download from:
 - <https://www.hdfury.com/product/integral-4k60-444-600mhz/>

Integral 4K60 Control Port

- USB

Integral 4K60 Computer Connection

1. Install the Integral 4K60 device driver. Download the driver from:
<https://www.hdfury.com/product/integral-4k60-444-600mhz/>
2. Connect the Integral 4K60 to the CalMAN computer with a USB cable.

If the device driver is properly installed, the Integral 4K60 will be listed in Windows Device Manager under *Universal Serial Bus Controllers* as "USBXpress Device." If it is not listed that way, the driver is not yet properly installed.

Integral 4K60 Required USB GUI

- Current version; download from:
 - <https://www.hdfury.com/product/integral-4k60-444-600mhz/>

AVTOPcontroller Software Required Version (if used)

- Version 1.08 or newer

Integral 4K60 Initial Setup

3. Connect your standard test pattern source to one of the HDMI inputs of the Integral 4K60.
4. Connect the HDMI output of the Integral 4K60 to the HDR TV under test.
5. Install the USB driver for the Integral 4K60 on a Windows PC (can be your CalMAN calibration computer).
6. Install the Integral USB GUI on the Windows PC.
7. Connect the Integral 4K60, via USB, to the Windows PC.
8. Open the Integral USB GUI software (Figure 1).
9. Under the “HDR / IF” tab:
 - Check the “FORCE HDR ALWAYS ACTIVE” option box.
 - Select the “Full HDR mode” radio button.
 - Check the “REPLACE AVI” option box.
10. Close the Integral USB GUI software.
11. On the Integral 4K60 unit, set the *Audio Settings* slide switch to the [Audio Replaced] position.

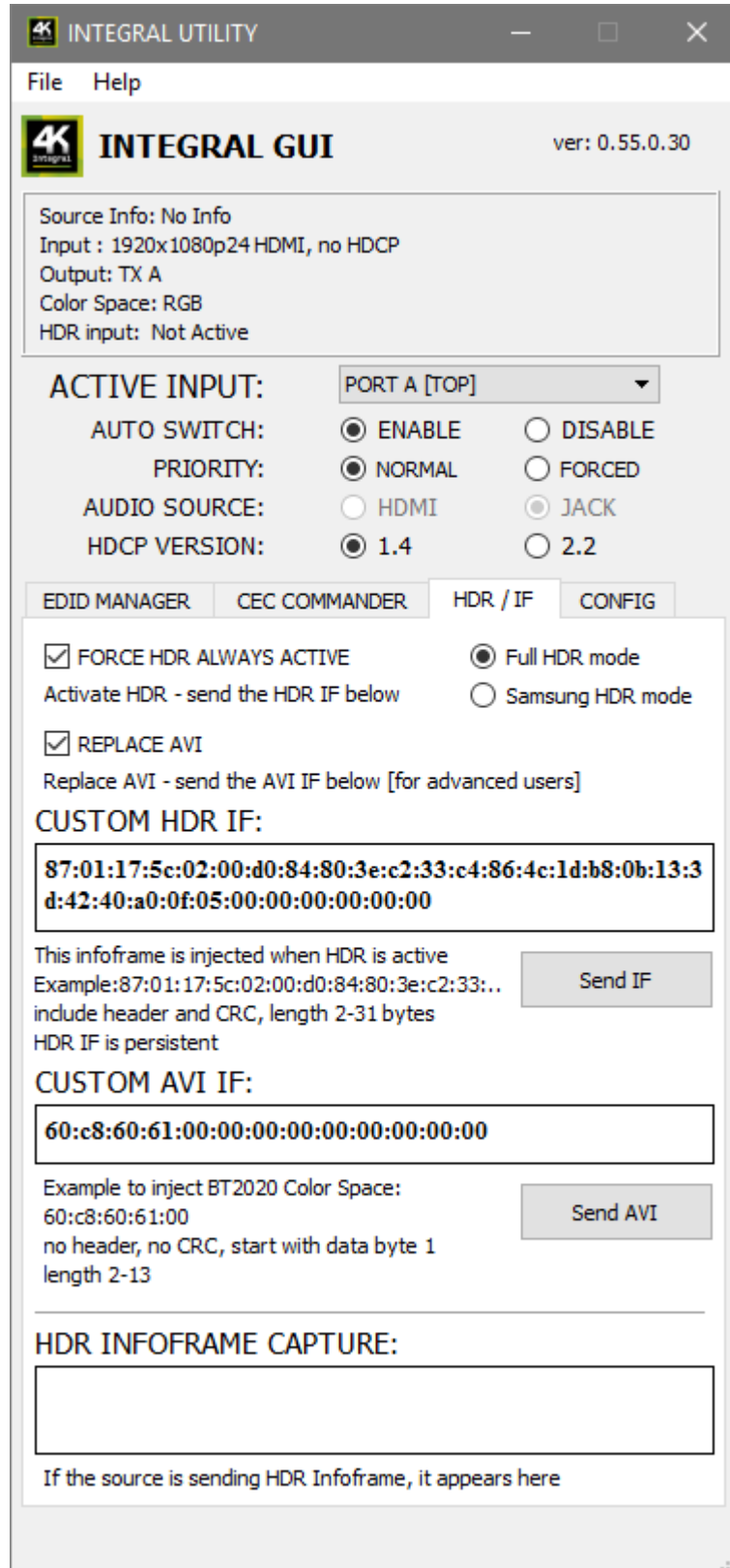


Figure 1. Integral USB GUI software.

CalMAN Direct Control of HDfury Integral

CalMAN can directly control the HDfury Integral, to switch the Integral into the desired HDR mode. The Integral will then add the appropriate HDR metadata to the HDMI video signal being applied to the TV under test.

CalMAN Find Source

1. Open the CalMAN software.
2. On the CalMAN *Source* tab, click the *Find Source* button.
3. On the *Find Source* dialog (Figure 2), under *Manufacturer*, select “HDfury.”
4. Under *Model*, select “HDfury – Integral 4K60 4:4:4.”
5. Click *Connect*.

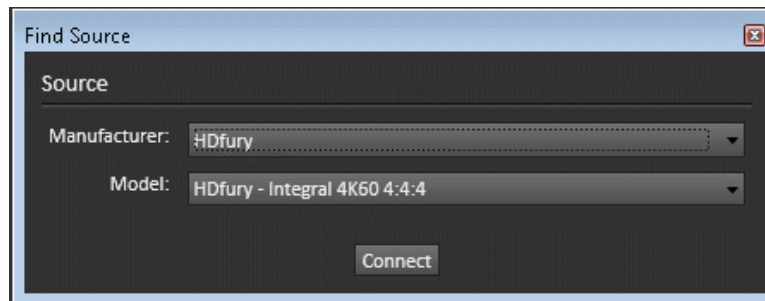


Figure 2. CalMAN Find Source dialog.

CalMAN Source Settings

HDR10 Metadata

To add HDR10 metadata to the HDMI output of your standard test pattern source, to switch the TV under test into its HDR10 mode, do the following:

1. On the CalMAN *Source Settings* tab (Figure 3), in the *HDR* drop down box, select “HDR10.”

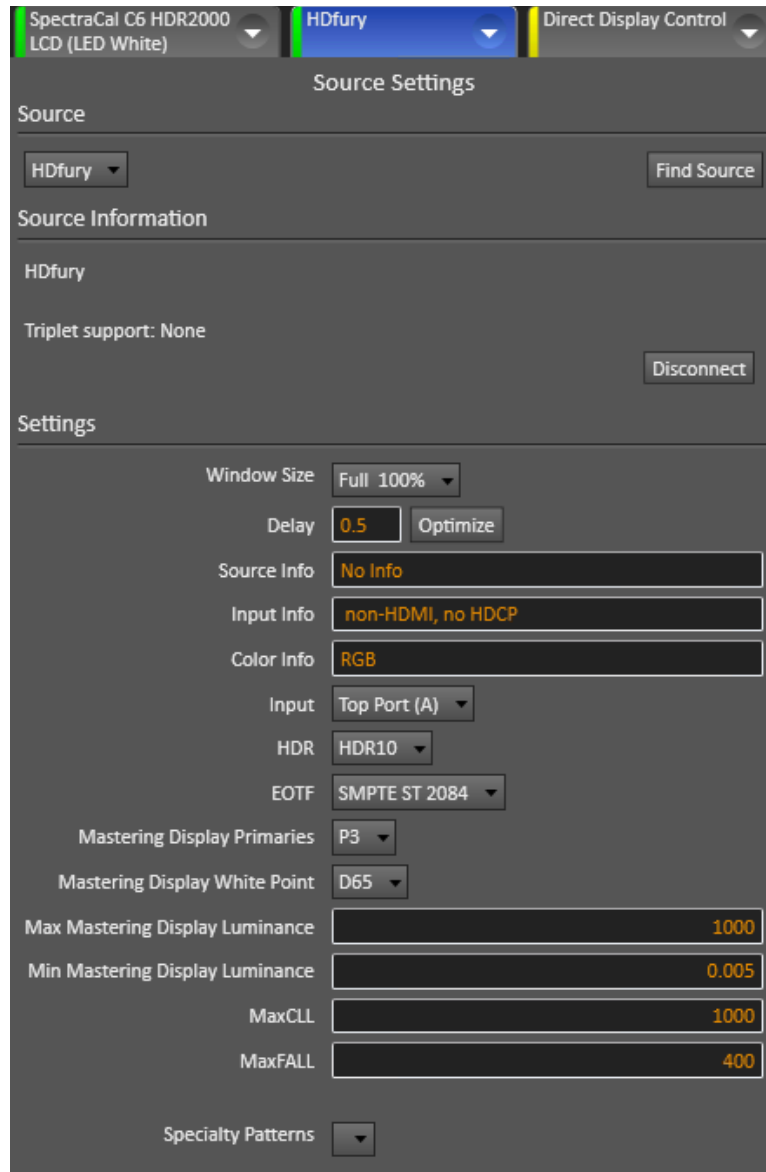


Figure 3. CalMAN Source Settings tab to switch HDFury Integral to HDR10 mode.

2. On the *Source Settings* tab, click the *Find Source* button to connect CalMAN to your standard test pattern source in the normal manner. CalMAN will now control two source devices, your standard test pattern source and the HDFury Integral.
3. Open the CalMAN *HDR10 Calibration* workflow and advance through the workflow to test and/or calibrate the TV in its HDR10 mode.

Dolby Vision Metadata

To add Dolby Vision metadata to the HDMI output of your CalMAN computer, when calibrating a 2017 LG OLED TV, to switch the LG TV under test into its Dolby Vision mode, do the following:

1. Connect the HDMI output of your CalMAN computer to the HDMI input of the Integral 4K60.
2. Extend (not Mirror) the Windows desktop to the TV screen under test.
3. On the CalMAN *Source Settings* tab (Figure 4), in the *HDR* drop down box, select “Dolby Vision VSIF.”

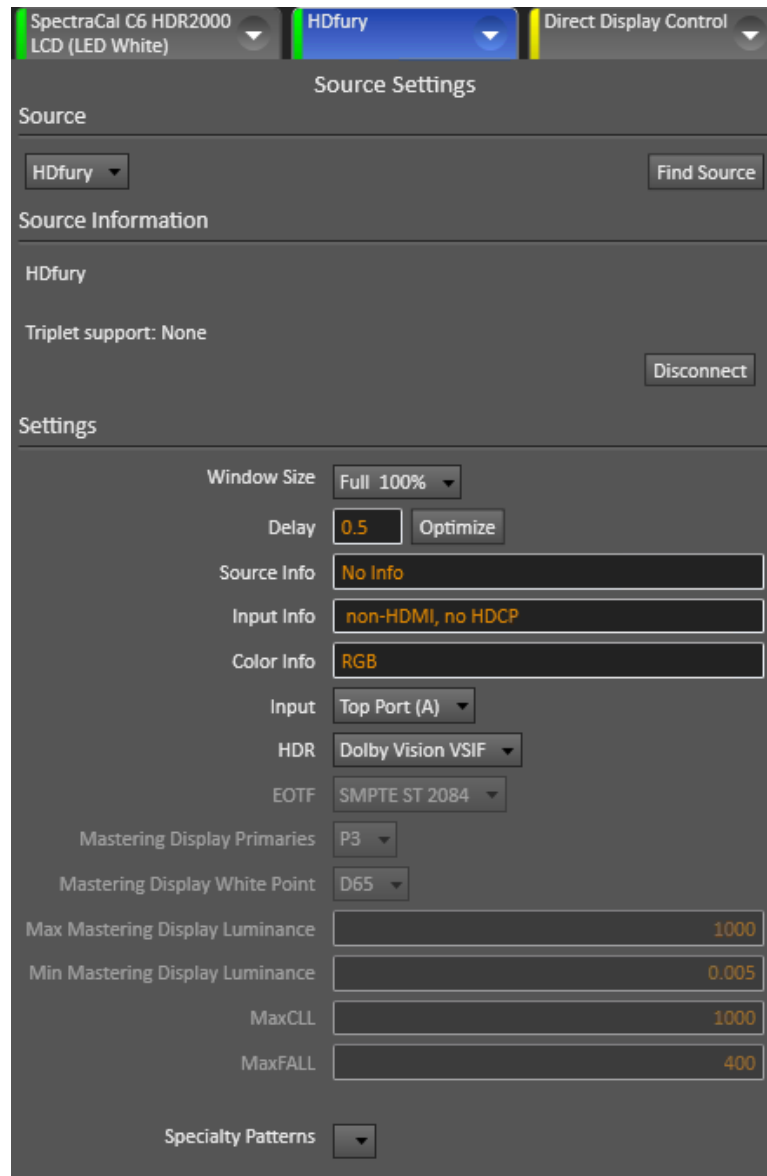


Figure 4. CalMAN Source Settings tab to switch HDfury Integral to Dolby Vision mode.

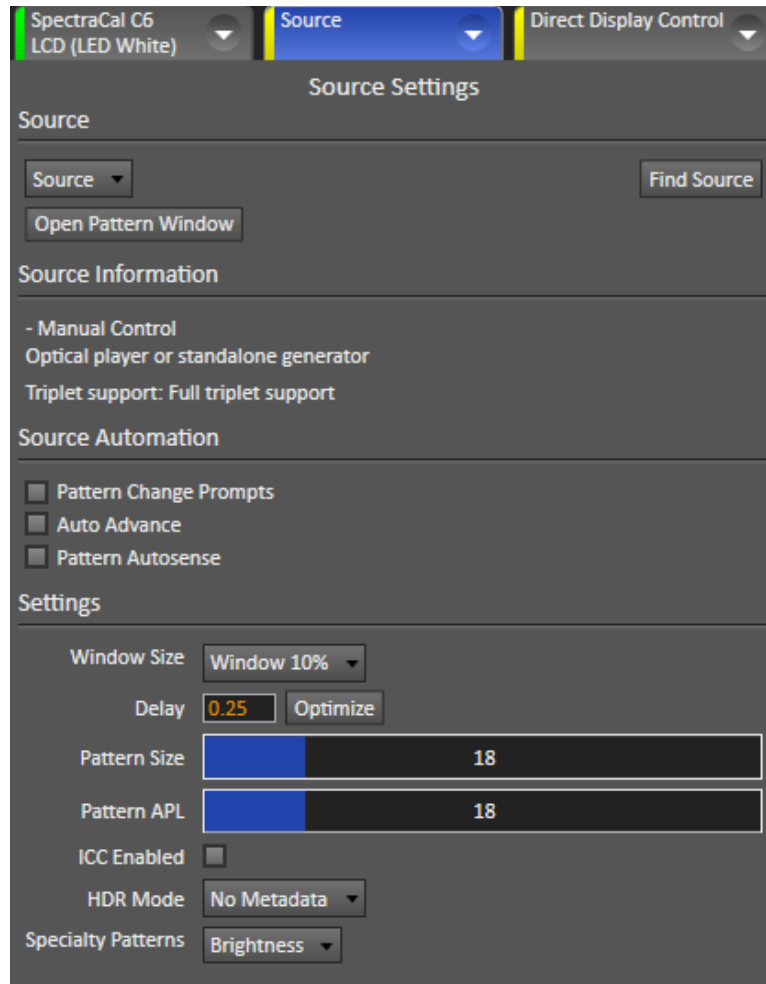


Figure 5. CalMAN Source Setting tab to select CalMAN Pattern Window.

4. On the CalMAN Source Settings tab, in the Source drop down box, select "Source" (Figure 5).
5. On the Source Settings tab, click the *Open Pattern Window* button.
6. Move the pattern window to the LG TV screen under test.
7. Open the CalMAN *Dolby Vision Custom* workflow and advance through the workflow to test and/or calibrate the LG OLED TV in its Dolby Vision mode.

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About

Portrait Displays, Inc., since 1993, is a leading application software provider (ASP) for PC, smartphone, and tablet displays. The Portrait Displays team now includes **SpectraCal**, the world's leading provider of video display calibration software. The combined companies offer value-added, feature-rich solutions to both OEM display manufacturers and end users seeking improved accuracy and manageability of their displays.

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Contact Us

SpectraCal

Submit a Technical Support Request:

<http://calman.spectracal.com/techsupport.html>

spectracal.com

sales@spectracal.com

+1-925-227-2700

**PORTRAIT
DISPLAYS**

Portrait Displays, Inc.
6663 Owens Drive
Pleasanton, CA 94588 USA

portrait.com