

Radiance Tech Tip 19

Radiance Installation Notes

Introduction

This is a practical guide to installing the Lumagen Radiance video processor. This guide has installation tips for of all models of the Radiance video processor.

How to connect the Radiance outputs

For correct operation, it is important to connect your receiver and display to the correct outputs on the Radiance. This will allow the Radiance to pass-back the correct audio and video EDID to the video sources.

1. Connect the Radiance Output 1 to your receiver and Output 2 to your display. By default the Radiance passes back the audio EDID from Output 1 and the video EDID from Output 2.

Note: The RadianceMini only has one HDMI output.

2. If you are only using one output on the Radiance, connect Output 2 to the display.
3. If you have a receiver connected to the HDMI Output 1 of the Radiance, you can turn off video on Output 1. The Radiance will output audio with 1080i blank 2D video on Output 1. To turn off video on HDMI Output 1, press "Menu 0985" (added in SW Rev 090412). Then save the new setting by pressing "Menu, Save, Ok, Ok, Ok". See Figure 1.

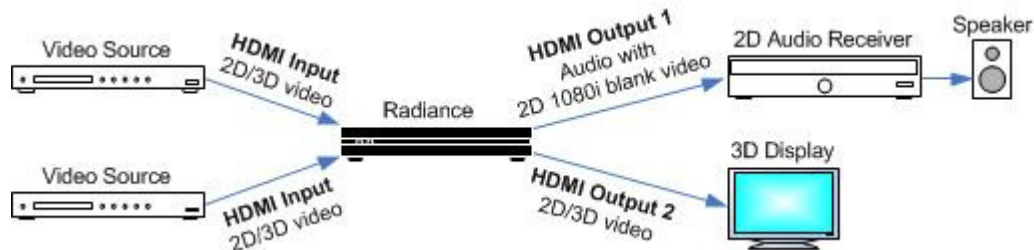


Figure 1: Shows a receiver connected to HDMI Output 1 and video turned off.

How to reset the Radiance to factory default settings

Please follow these instructions when you install a used Radiance or if you want to reset your unit to the factory default settings.

1. Go to the Lumagen website and download the latest software for your unit.
<http://www.lumagen.com/testindex.php?module=updates>
2. See "Tech Tip 6 – Updating the Radiance" for instructions on installing new software.
<http://www.lumagen.com/testindex.php?module=manuals>
3. Do a factory reset by pressing "Menu 0999".

4. Save the new factory default settings by pressing "Menu, Save, Ok, Ok, Ok"..
5. You can download the latest manual and technical tips from the Lumagen website.
<http://www.lumagen.com/testindex.php?module=manuals>

Output settings

The Radiance output is set, by default, so that it will produce an image on all digital displays that have a DVI or a HDMI input. There are two settings that you can change, if you have a display with a HDMI input.

1. We recommend that you change the output of the Radiance from "RGB" to "YCbCr 422". Press "Menu, Output, Styles, stylex, HDMI Format, Type, Ok, YcbCr 422, Ok". Save the new setting by pressing "Menu, Save, Ok, Ok, Ok".
2. Most displays can display video signals that are an even 24.0Hz, 30.0Hz, and 60.0Hz instead of the normal 24.97Hz, 29.97Hz, and 59.96Hz.

You can change the Radiance "Ratematch" setting to "On" which allows the Radiance to match the rate of the input to the output for an occasional video that might have an even rate. Press "Menu, Output,

Use the right HDMI cables

HDMI cables continue to be the source of many problems, such as a snowy image due to the loss of the HDCP connection to the display.

Short HDMI cables that are 1 meter (3 feet) long can cause problems. Most HDMI transmitter chips have a built in equalizer circuit that boosts the signal level to compensate for losses in the cable. A cable that is too short, can deliver a signal that is too strong, and overwhelm the input of the HDMI receiver chip. If you have short HDMI cables and are experiencing intermittent problems, a longer cable can make a more reliable connection. It's a good practice to use good quality generic HDMI cables that are a minimum length of 2 meters (6 foot) long.

For HDMI cables that are 12 meter (40 foot) to 30 meters (100 foot) a Lumagen VidExt (Video Extender) might be required to clean up the signal going to the display. The Lumagen VidExt buffers all the signals, including the control signals, to provide a better signal to the display. There is also a rotary switch to set the optimum cable equalization length. Most other HDMI cable extenders lack this useful feature.

For installations that require a video cable up to 60 meter (200 feet), a Lumagen CatExt (CAT6 Extender) can be used to transmit the HDMI signal. The Lumagen CatExt uses two Cat6 wires to transmit a HDMI signal up to 60 meter (200 feet).

Note: It is a good idea to install two spare Cat5 or Cat6 cables when you install a HDMI cable to a projector. This gives you an alternate method of providing video, to the projector, if the HDMI cable doesn't provide a good signal.

HDMI to DVI Adapters

Some HDMI to DVI Adaptors degrade the video signal. Price is no guarantee of quality. Sometimes the most expensive HDMI to DVI Adaptors degrade the signal the most. We recommend using a good quality generic HDMI to DVI Cable for better signal integrity.

HDMI Splitters

We have received reports that some HDMI Splitters, advertised to support 3D, don't work correctly in real world 3D installations. When a HDMI splitter is required for the installation, we recommend doing a system test before taking the components to the installation site to insure proper functionality.

Receivers and Video Artifacts

Lumagen recommends using the Radiance for video switching to avoid having to pass video through an Audio Video Receiver (AVR). The issue to be aware of with an AVR, in the video path, is that it can cause artifacts, even if the AVR is in "bypass" mode. Many receivers add "enhancements" to the video signal, which can add artifacts to the video.

If your are using an AVR to switch video to a RadianceMini-3D, when possible, turn off "scaling" and all video "enhancements" in the AVR.

Eliminate Possible Ground Loops

Lumagen recommends if possible that the Radiance, projector, and all equipment be plugged into the same AC power circuit. This will reduce the possibility of introducing a ground loop.

Ground loops are a common problem, but much less apparent when you use digital signals for audio and video. In the past, ground loops were apparent because they would cause an audible 50Hz/60Hz hum on the audio system or visible "hum bars" on the analog display.

Note: Power conditioners don't eliminate ground loops, because the electrical safety regulations require the AC power ground to be connected through the power conditioner.

4K Video Signals

The Radiance 2041 and 2042 offer support for 4K video signals on HDMI Output 2. The Geometry and Lines test patterns have been updated to display single pixel wide 4K patterns.

The latest 4K video requires more bandwidth than a similar 1080p signal. You might find that a HDMI cable that worked for 1080p, no longer works when you use it for a 4K video signal. A Lumagen VidExt (Video Extender) can help a marginal HDMI cable transmit a 4K signal.

It is recommended that you test all HDMI cables and equipment to verify that they support a 4K video signal.

Lumagen Support

Please call or email Lumagen if you have any questions about our products or need help with your installation.

Phone: 503-574-2211 x104
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