

# Radiance Pro™ 4k60 Video Processor Family

*See what the producer intended™*



The Radiance Pro™ series improves on the award-winning Radiance video processor family by adding support for 4k60 inputs, and outputs, including HDCP 2.2, HDR10, and HLG. Winner of a *Home Cinema Choice™ Best of 2021* award, and a *Best Video Product* award in Australia in 2021, the Radiance Pro is not standing still. Lumagen is adding to its 20-year legacy of video processor development by continuing to enhance features and algorithms.

The Radiance Pro family offers up to ten inputs, four outputs, and a multitude of processing, setup, and calibration features. Much more than an HDMI switcher, the Radiance Pro has a host of features to improve the image on your screen. It is considered by many experts to be an essential part of any quality home theater.

Optimizing HDR content has perhaps become the most important video processing feature. The Radiance Pro Dynamic Tone Mapping (DTM) analyzes every frame of content for multiple regions of each frame, detects scene changes, and optimizes the “transfer function” for each frame of content. Jon Thompson, a movie producer who is responsible for post-production image quality at a major studio, recently evaluated the Radiance Pro DTM versus the other DTM options. He said that “the other DTM options are not even in the same league as the Radiance Pro.”

Scaling quality again comes to the forefront with the advent of 4k projectors and televisions. Lumagen’s NoRing™ scaling provides the best quality scaling for 1080, 720, and SD, sources for 4k projectors and TVs. Scaling is also essential for aspect-ratio control, especially when using an anamorphic lens. In addition, the Radiance Pro has a edge-sharpening feature that helps restore detail lost during compression of the digital content.

Minimizing signal jitter is an extremely important criteria for HDMI. The current 18 GHz 4XXX HDMI output card has a measured data jitter of about 80 pS. This is well below HDMI requirement of  $\leq 102$  pS for 18 GHz, and dramatically lower than competitive devices which have been measured at up to 450 pS of data jitter. The Radiance Pro 5348 further reduces data-jitter to about 45 pS. More importantly for audio, the HDMI output clock jitter has been measured at about 10 pS. This is an ideal clock to send to the audio processor to minimize jitter at the DACs. Lumagen has many reports of the 5348 significantly improving audio due to this ultra-low jitter HDMI clock.

Reference quality colorimetry is often overlooked as part of a high-end home theater. The Radiance Pro can provide automated video equalization, using third party calibration software, with more accuracy than calibration without a 3D LUT. Using the Radiance Pro’s Color Management System, you can *See what the director intended™*.

Other features include anamorphic screen support for HD, 3D, and 4k UHD and HDR sources, with or without an anamorphic lens. Image based auto-aspect selection, plus precise geometry adjustments including size, and masking, are available. The Radiance Pro’s Non-Linear-Stretch (NLS) feature allows the user to stretch 16:9 content to fill an anamorphic screen using their preferred settings. For 16:9 screens and TVs, an anamorphic image can be placed anywhere in the active screen area, or with some zoom, and/or cropping, can fill a larger portion of the screen. Multiple configuration memories allow for multiple independent configurations, such as day, night, sports, and black-and-white. For 4XXX models, dual-port I/O cards can be upgraded from 9 GHz to 18 GHz in the field. The Radiance Pro 5348 has a fixed I/O configuration.

The adaptability of the Radiance Pro is second to none. Using Field Programmable Gate Array (FPGA) technology, the Radiance Pro can add hardware image processing and setup features long after installation. The Radiance Pro is adding new features over time. One example is HDR video, which did not even exist at introduction. DTM was added four years after product introduction and is available to all Radiance Pro owners by simply updating to the latest release. Your Radiance Pro’s feature-set and performance are “only as old as its most recent software release.”

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## Radiance Pro Models:

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|-----------|--|-----------|--|
| 4242++:   | In: 4 - 18G. Out: 2 - 9G                             | 4242-18G: | In: 4 - 18G. Out: 1 - 18G, 1 - Audio                 |
| 4244+:    | In: 4 - 18G, 2 - 9G. Out: 2 - 9G                     | 4244++:   | In: 6 - 18G. Out: 2 - 9G                             |
| 4244-18G: | In: 6 - 18G. Out: 1 - 18G, 1 - Audio                 | 4246+:    | In: 6 - 18G, 2 - 9G. Out: 2 - 9G                     |
| 4246++:   | In: 8 - 18G. Out: 2 - 9G                             | 4246-18G: | In: 8 - 18G. Out: 1 - 18G, 1 - Audio                 |
| 4444+:    | In: 4 - 18G, 2 - 9G. Out: 2 - 9G, 1 - 18G, 1 - Audio | 4444++:   | In: 6 - 18G. Out: 2 - 9G, 1 - 18G, 1 - Audio         |
| 4444-18G: | In: 6 - 18G. Out: 2 - 18G, 2 - Audio                 | 4446+:    | In: 6 - 18G, 2 - 9G. Out: 2 - 9G, 1 - 18G, 1 - Audio |
| 4446++:   | In: 8 - 18G. Out: 2 - 9G, 1 - 18G, 1 - Audio         | 4446-18G: | In: 8 - 18G. Out: 2 - 18G, 2 - Audio                 |
| 5244:     | In: 6 - 18G, Out: 1 - 18G, 1 - Audio                 | 5348:     | In: 10 - 18G, Out: 2 - 18G, 1 - Audio                |

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Radiance Pro 5348



Radiance Pro 4446



Radiance Pro 4242

### Key Features

- Proprietary Lumagen NoRing™ scaling
- HDR10, and HLG, Dynamic Tone Mapping
- Tone-map HDR to an HDR, or non-HDR, TV/projector
- Supports Rec 2020 content using a Rec 709 TV/projector
- Anamorphic screen support for up to 4k sources with, or without, an anamorphic lens
- Programmable output aspect, size, and masking
- Image based Auto Aspect selection
- Darbee™ Digital Visual Presence (DVP™) enhancement technology for up to 1080p60 sources
- Inputs and outputs support HDCP 1.X and HDCP 2.2
- Supports processing of 2D and 3D sources
- Up to ten 4k60 inputs, at up to 18 GHz. Varies with model
- Two (4242), to four (444X), outputs (same source)
- Optionally up to one (424X), or two (444X), 18 GHz outputs. 5348 video outputs are 18 GHz
- FPGA design allows for software upgrades with new video features and algorithms
- All models have the same processing quality and features (except PiP/PoP will be in 444X only)
- PiP/PoP for 444X models (future update)
- Per-pixel SD/HD deinterlacing
- 4913-point (17x17x17) 3D LUT based CMS
- 21-point Parametric Grayscale calibration
- Compact case version available for 4242 models
- Rack-mountable (except compact models)
- High reliability external universal power supply
- One-year Limited Warranty.

Here is what customers and reviewers are saying about the Lumagen Radiance Pro video processors:

*"The feature-set, level of picture control, and overall performance put this video processor in a class of its own."* Dylan Seeger, hometheaterreview.com

*"What you get from the 5348 is a more aesthetically pleasing interpretation of the HDR picture – if you have a projector of any merit, you should really aim to partner it with the 5348. HCC verdict: Best in class ★★☆☆☆"* Jon Thompson, Home Cinema Choice

*"The Lumagen 4\*\*\* series "still" provides exceptional results.....IMO better than any other current Video Processor option (and I have used/owned all options) .....only bested by Lumagen's own 5348."* Woofer, AV Forums

*"Just upgraded my Radiance Pro 4446+ to the new 5348. There is magic in this new box!"* Kristen on AVS Forum

*"In the 8 months I've been using my Lumagen [Radiance] Pro it has truly been an amazing performer - wow! With a few little steps, the image quality is nothing short of breathtaking."* Dan M.

*"I finally got around to updating my Pro with the latest firmware and tried dynamic tone mapping. I am not sure what kind of voodoo you guys have out there in Oregon, but wow..... :-)." John B.*

*"As for the Radiance Pro, all I regret is not buying it earlier. It has made every picture better. Old and new, it's night and day, worth every penny."* gadgetfreaky, AVS Forum

*"Lumagen makes me feel, after every major update, that I get a new projector every time, from IM to the DTM a day and night change. It's a game changer and it's a must."* Ahmed, Bahrain

*"I can't imagine having a serious projector-based setup without a Radiance Pro."* Karl M, AVS Forum

*"Fantastic product for getting the best out of your system and for simplifying use of the system."* Mike G., AVS Forum

*"The improvements I have seen in this product since I bought it are incredible."* Audioguy, AVS Forum

*"What fantastic customer service. Lumagen is in a class by itself."* Clark B, AVS Forum

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