



Christie Griffyn 4K32-RGB

Frequently asked questions (FAQ)



Table of contents

- Frequently asked questions 3
 - Why did we create the Christie® Griffyn™ 4K32-RGB? 3
 - What markets / applications is it designed for? 3
 - What models / part numbers are in the Griffyn Series?..... 3
 - Does Griffyn replace another product? 3
 - Is Griffyn 3D and HFR 2D capable? 3
 - What is high frame rate? 3
 - How do the Mirage and Mirage options differ from the standard Griffyn 4K32-RGB?..... 4
 - What accessories are available? 4
 - What Christie projector lenses are compatible with Griffyn? 4
 - What does ‘all-in-one’ connectivity mean? 5
 - What is Terra® and SDVoE? 5
 - What is the difference between TruLife™ and TruLife+™?..... 5
 - What is digital convergence? 5
 - What is Rec.2020? And why is Griffyn’s ability to achieve Rec. 2020 an important differentiator?..... 6
 - How big is Griffyn? How does its size compare to competitors’ products? 7
 - Why is Griffyn’s 46dBA noise level so important?..... 7
 - What other Christie software / tools are compatible with this projector? 8
 - Is the light source field-replaceable? 8
 - What is the advantage of RGB pure laser projection compared to laser phosphor? 8
 - When is it available? 9

FAQ

Here are the most-asked questions about the Griffyn™ 4K32-RGB pure laser projector.

Why did we create the Griffyn 4K32-RGB?

We built Griffyn to meet the demanding needs of large-venue projection applications. Due to its compact size (no external chiller required) and low audible noise (46dBA) you can install this projector on the ground or in the air. Its omnidirectional installation capability allows you to position Griffyn in any direction or angle without any impact to performance, unlike its RGB pure laser competitors.

The biggest advantages designed to meet customer's needs are Griffyn's high-brightness 32,000 lumen output, RGB pure laser technology, and powerful, next generation TruLife+™ electronics that allow for all-in-one connectivity and eliminate the need for optional input cards. The standard model offers 4K at 60Hz operation, while 4K 120Hz operation and 3D at 60Hz per eye capabilities are possible with the Mirage option. With the Mirage Pro option, you get the same benefits as the Mirage option plus 240-480Hz high frame rate (HFR) processing at 2K resolution, as well as our Christie View feature (simultaneous multi-content viewer).

As we build a long-term RGB pure laser projection strategy, we will continue to create advanced capabilities and features that meet demanding customer needs and future-proof their projection investment.

What applications / markets is Griffyn designed for?

Powerful electronics, high-brightness, and high frame rate capabilities, expansive Rec. 2020 color palette, and high-contrast RGB pure laser illumination technology, results in detail-rich visualization performance, lifelike 3D experiences, and a new level of immersive storytelling in creative installations.

Below are ideal-fit applications:

- > Planetariums and domes
- > Theme parks and attractions
- > Rental and staging
- > Projection mapping
- > Large-scale events & large-screen venues
- > Large-screen venues
- > Sports venues

What models / part numbers are in the Griffyn Series?

Currently, there is 1 model available:

- > Griffyn 4K32-RGB (163-030104-XX): 60Hz at 4K resolution
- > **Mirage option (Firmware – 163-163101-01):** 120Hz at 4K resolution, 4K 3D content at 60Hz per eye
- > **Mirage Pro option (Firmware – 163-160108-01):** all the features of the Mirage option mentioned above plus 240-480Hz at 2K resolution and Christie View (simultaneous multi-content viewer)

Does Griffyn replace another product?

Yes, we designed Griffyn to replace our Boxer® Series projectors. All Boxer 2K and 4K lenses are compatible with the Griffyn 4K32-RGB projector.

Is Griffyn 3D and HFR 2D capable?

Yes, when upgraded to either the Mirage option or Mirage Pro option. The Mirage option delivers 4K 2D content at 120Hz and 4K 3D content at 60Hz per eye. The Mirage Pro option supports the same capabilities plus frame rates of 240-480Hz at 2K resolution.

What is high frame rate?

Any content that is created at 120 frames per second (fps) or a higher is considered high frame rate. Higher frame rates improve fast motion video and fast camera panning by reducing motion blur and judder, resulting in sharper dynamic imagery.

How do the Mirage and Mirage Pro options differ from the standard Griffyn 4K32-RGB?

The Mirage option offers 120Hz at 4K native resolution and 3D operation at 60Hz per eye. With the upgrade to the Mirage Pro option, the projector supports the same benefits of the Mirage option plus frame rates of 240-480Hz at 2K resolution and the Christie View simultaneous multi-content viewer feature. HFR 2D: 120Hz and higher frame rates reduce or eliminate the unwanted image blur and motion sickness that often accompanies high performance and immersive projection environments.

Christie View simultaneous multi-content viewer feature

With the Christie View feature, multiple inputs from a single projector can be displayed simultaneously, overlaid on top of each other. This enables a single projection canvas to show different content simultaneously, allowing experiences to be tailored for different viewers. To the naked eye, the display looks jumbled, but each input can be viewed individually using off-the-shelf active 3D glasses paired with the desired projected output. Christie View works with any content that is 2K/HD at 60Hz or content that is 2K at 120Hz for 3D viewing. Content should ideally be around the same brightness level. The content can be output through a single PC or up to four separate sources.

What accessories are available?

Rigging handles (long) – run the length of the projector

- > 163-125109-XX
- > 165-103105-XX
- > 144-134-109-XX
- > 168-104106-XX

Rigging handles (short) – run the width of the projector

- > 136-162100-XX

Stacking couplers - 4 to a set

- > 163-128102-XX

What Christie projector lenses are compatible with Griffyn?

All Boxer Series and all D4K40 Series lenses are compatible including UHC lenses that provide true sequential contrast of 5000:1. Most of the older Christie 4K/2K lenses are also compatible with a lens upgrade kit. Lenses longer than 5.43:1 are not safety compliant in North America with class 1 RG3.

4K lenses	High-brightness	Ultra-high contrast
0.37:1 (UST)	144-136101-XX	-
0.72:1 (Fixed)	144-110103-XX	163-116109-XX
0.9:1 (Fixed)	144-111014-XX	163-117100-XX
1.13-1.31:1 (Fixed)	144-103105-XX	-
1.13-1.66:1 (Fixed)	144-129103-XX	163-118101-XX
1.31-1.63:1 (Zoom)	144-104106-XX	-
1.45-2.17:1 (Zoom)	144-130105-XX	163-119102-XX
1.63-2.17:1 (Zoom)	144-105107-XX	-
1.95-3.26:1 (Zoom)	144-131106-XX	163-120103-XX
1.99-2.71:1 (Zoom)	144-106108-XX	-
2.71-3.89:1 (Zoom)	144-107109-XX	163-121105-XX
3.89-5.43:1 (Zoom)	144-108100-XX	163-122106-XX

What does 'all-in-one connectivity' mean?

All-in-one connectivity means we have now built in all the connectivity options as standard, including Terra® SDVoE connectivity, eliminating the need for optional input cards. The following inputs are available with the Griffyn 4K32-RGB projector:

Video

- HDMI 2.0 (x2)
- Micro BNC (12G-SDI) (x4)
- DisplayPort (DP) 1.2 (x2)
- Christie Link (1x Input, 1x Output)
- SDVoE (x1)
- HDBaseT (x1)

Audio

- Audio Out (x1)

Control

- Wired keypad (x1)
- Ethernet (x1)
- RS232 (x1)
- SDVoE (x1)
- HDBaseT (x1)
- USB-C (x1)
- USB Type A (x1)
- 3D Sync In and Out (x1)

What is Christie Terra and SDVoE?

Terra® is our Software Defined Video over Ethernet (SDVoE) solution. As a founding member of the SDVoE Alliance, we are committed to the design and manufacture of SDVoE-compliant products and solutions engineered to enable complete AV-over-IP network environments. We built Terra connectivity right into Griffyn 4K32-RGB pure laser projectors, eliminating the need for an external Terra or SDVoE receiver at the projector end.

SDVoE

SDVoE (Software Defined Video Over Ethernet) is the most widely adopted standardized technology for distributing and managing AV signals in an off-the-shelf Ethernet network.

Terra SDVoE solutions

Comprising of an expanding line-up of transmitters, receivers, processing and control hardware and software, [Terra solutions](#) include everything required to design and integrate complete AV-over-IP systems—for applications that demand the ultimate performance and quality. Built on standardized SDVoE technology, Terra provides unprecedented performance capabilities that include the delivery of uncompressed, zero-frame latency, artifact-free 4K@60Hz video over readily available and affordable 10G Ethernet components.

What is the difference between TruLife and TruLife+?

Our TruLife™ electronics platform forms the basis for our latest generation of projectors that deliver ultra-high resolution and high frame rate video with unprecedented image fidelity. Leveraging the latest in field-programmable gate array integrated circuits and a proprietary floating-point architecture, the TruLife platform supports a video-processing pipeline of up to 1.2 Gigapixels per second (GPix/s) and enables native 120Hz at 4K resolution or 240-480Hz at 2K.

TruLife+ makes the hassle of removable input cards a thing of the past. All the inputs you need are built in. TruLife+'s all-in-one connectivity makes it easy to change inputs wherever and whenever you want. Griffyn™ 4K32-RGB is our first projector with TruLife+ electronics. Advancements in TruLife+ technology allow for more efficient processing, lower noise levels, and compact projector sizes.

What is digital convergence?

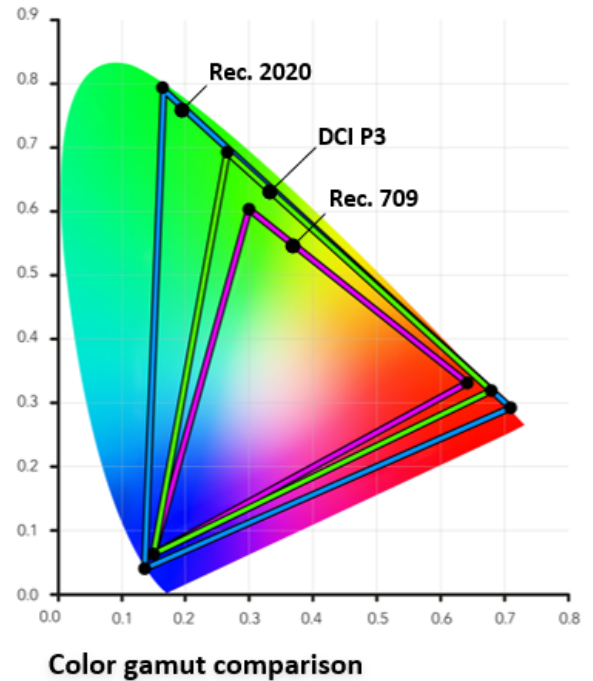
Digital convergence gives users the ability to independently select Red, Green, or Blue lasers and adjust each using the projector remote control, eliminating the need for a ladder or lift when the projector is rigged or installed in a ceiling. You can digitally converge the image on the screen, fix lateral color dispersion (from the lens), and fix any lens artifacts for simple, perfect image alignment!

What is Rec. 2020? And why is Griffyn's ability to achieve Rec. 2020 an important differentiator?

Color spaces refer to maximum achievable gamut of real surface color that establish widely respected standards for color reproduction. Visually, the CIE 1931 color space represents all the colors we can see in the natural world. **RGB pure laser is the only projection technology able to achieve the Rec. 2020 gamut, which gives content creators the freedom to reproduce more than twice as many real-world colors as Rec. 709 on-screen, and 50% more colors than the DCI-P3 color gamut.**

Color comparison

Color Gamut	Illumination Type	Benefits
Rec. 2020	RGB pure laser The only projection technology to support Rec. 2020	<p>Reproduces real world colors and achieves precise color matches</p> <p>Provides freedom to create colors on screen previously not possible with Rec. 709 and DCI P3</p> <p>Provides intense color saturation making it look significantly brighter than all other light sources</p>
DCI P3 (Digital Cinema Initiative)	Xenon lamps Some laser phosphor	More color palette than Rec. 709 means slightly more realistic and lifelike colors
Rec. 709 (HDTV)	Mercury lamps Some laser phosphor	Aligns perfectly with the HDTV standard



How big is Griffyn? How does its size compare to competitors' products?

	Weight	Size (L x W x H)	Light source	Volume (cubic feet)
	170lbs (77.3kg)	36.3 x 25 x 15" (922 x 635 x 380mm)	RGB pure laser	7.8ft³ (0.2m³)
	440lbs (200kg)	29.3 x 56.9 x 27.8" (744 x 1445 x 706mm) *250lbs chiller required	RGB pure laser	26.8ft ³ (0.75m ³)
	202lbs (92kg)	25.98 x 32.67 x 13.77" (660 x 830 x 350mm)	Laser phosphor	6.76ft ³ (0.19m ³)
	209lbs (95kg)	38.2 x 25.6 x 15.6" (969.3 x 650 x 397.3mm)	Laser phosphor	8.8ft ³ (0.25m ³)
	372lbs (169kg)	46.5 x 27.4 x 17.9" (1180 x 697 x 455mm)	Laser phosphor	13.1ft ³ (0.37m ³)
	151.2lbs (68.6kg)	23.5 x 13.9 x 30.72 (598 x 353 x 780mm)	Laser phosphor	6.18ft ³ (0.17m ³)
	140.7lbs (63.8kg)	31.1 x 28 x 11.4" (790 x 710 x 290mm)	Laser phosphor	5.7ft ³ (0.16m ³)
	172.5lbs (78.2kg)	37.7 x 25 x 11.9" (957 x 635 x 302mm)	Laser phosphor	6.4ft³ (0.18m³)

Why is Griffyn's 46dBA noise level so important?

A frequent pain point for integrators, staging production companies and end users alike is projector sound level. Noise coming from a projector can detract from the audience experience. Griffyn's reduced sound is a result of our highly efficient proprietary LOS (laser optical system) with integrated cooling and in addition we have made significant engineering advancements in thermal management resulting in a highly efficient unit that operates at just 46dBA at full brightness, making the Griffyn 4K32-RGB the quietest product in its

brightness class. This is key for projector installations that are close to the audience; running this projector at full power won't disrupt your audience's experience regardless of event or venue.

What other Christie software / tools are compatible with Griffyn?

Griffyn 4K32-RGB projector is compatible with many proprietary Christie software solutions:

Mirage option (an additional cost)

Supports frame rates of 120Hz at 4K resolution, and 4K 3D content at up to 60Hz per eye.

Mirage Pro option (an additional cost)

All the benefits of the Mirage option plus frame rates of 240-480Hz at 2K resolution, and support for Christie View simultaneous multi-content viewer

Built-in warping & blending

Griffyn has built-in [Christie Twist™](#) that you can use to seamlessly edge-blend and stack up to 6 projected images on any 2D or 3D surface. Precisely control the geometry of single or multiple projectors through an easy-to-use grid-point / mesh interface.

Griffyn also has built-in [Terra®](#) connectivity so it's ready to connect with Terra hardware and software solutions (not included) for uncompressed, zero-frame latency, artifact-free 4K@60Hz video.

Optional software solutions

With [Christie Conductor](#) advanced monitoring and control software you can monitor and control up to 256 projectors on the same network from your laptop. This allows users to perform a wide range of tasks remotely including auto power on/off, access to interrogator logs, diagnosing and resolving issues in real time, performing firmware updates and a variety of health checks. Exclusive to Christie 3DLP® projectors (projectors compatible with Conductor: Christie Boxer® 4K30, Boxer 2K30, Crimson Series, D4K40-RGB, Griffyn™ 4K32-RGB, Mirage SST and Christie Eclipse), Conductor is available to download at no additional cost.

Working in conjunction with Twist, [Christie Mystique™](#) automates warping and blending. With the click of a mouse, the camera-based software automatically aligns, stacks, and blends multi-projector systems in minutes, with unsurpassed accuracy. For simple 2D setups using up to 3 projectors in a single horizontal array on a flat screen or surface, download [Mystique Lite \(at no additional cost\)](#) and purchase an inexpensive supported webcam to get started. For more complex applications, choose the [Mystique edition](#) that suits your project requirements.

[Christie Guardian](#), a powerful optional feature of [Mystique Essentials](#) and [Mystique Pro Venue](#) editions, monitors blended projection systems for any misalignment, and automatically calibrates the image in real-time, quickly, invisibly, and without interruption, even while content is playing.

[Twist Premium and Pro](#) are optional upgrades to Twist. Twist Premium supports up to 16 projectors and gives users the ability to set up to 87 grid control points, including 6 arbitrary points. Twist Pro supports an unlimited number of projectors and up to 1,500 arbitrary or grid control points and accommodates automatic blending on flat or slightly curved projector arrays as well as complex curved screens or domes.

Is the light source field-replaceable?

Yes, Griffyn's light source is field-replaceable.

What is the advantage of RGB pure laser projection compared to laser phosphor?

Color reproduction

Griffyn 4K32-RGB reproduces an exceptionally wide color gamut, achieving >96% of the Rec. 2020 color space, more than twice the color of Rec. 709 that laser phosphor projectors produce. Additionally, Christie's all-in-one pure RGB projection technology significantly improves the performance of Rec. 709 content, giving RGB pure laser projection the ability to display visuals in a rich, vibrant and true-to-life way that brings all content to life.

Color stability

RGB pure laser projection technology provides long-term stability and reliability. Content look as good as it does on day-one thanks to Christie LiteLOC™ white-point tracking capabilities. Factory-calibrated, LiteLOC automatically maintains color balance throughout the projector's operational life for years of stable, virtually maintenance-free operation.

Illumination performance

RGB pure laser technology has a longer illumination performance than laser phosphor. Griffyn 4K32-RGB operates up to 25,000 hours (to 50% brightness) at full power, while laser phosphor projectors can last as long as 20,000 hours (to 50% brightness).

Higher perceived brightness and contrast

RGB pure laser technology combines an exceptionally wide color gamut, with high brightness performance and a 5000:1 On/Off contrast ratio, resulting in an image quality that is unmatched by any other projection technology on the market today. The wider color gamut actually increases the perceived brightness significantly and higher the contrast, also increases the perceived resolution –outperforming similar brightness competitors using laser phosphor as their illumination source.

When is Griffyn available?

We launched the Griffyn 4K32-RGB in June 2020 and started shipping worldwide in November 2020.