Christie Griffyn 4K50-RGB

Frequently asked questions (FAQ)

CHRISTIE®

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Here are the most-asked questions about the Christie® Griffyn™ 4K50-RGB pure laser projector.

Can you provide a quick overview of Griffyn 4K50-RGB?

The smallest, lightest 50,000-lumen projector on the market, Griffyn 4K50-RGB meets the demanding requirements of large-venue projection applications. Due to its compact, all-in-one design (no external chiller required), you can easily install the projector on the ground or in the air. The omnidirectional installation capability allows you to position Griffyn 4K50-RGB in any direction or angle, exactly where it needs to be, without impacting performance.

Key features include high brightness, native 4K resolution, Rec. 2020 color, RGB pure laser technology, and Electronic Color Convergence via remote control. Our latest TruLife+™ electronics platform provides all-in connectivity and eliminates 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. The Mirage Pro option provides the same benefits as Mirage plus 2K-resolution 2D content at 240-480Hz (scaled), 2K-resolution 3D content at 120Hz per eye, and Christie View (simultaneous multi-content viewer).

For which applications / markets is Griffyn 4K50-RGB designed?

Powerful electronics, high-brightness, high frame rate capabilities, an expansive Rec. 2020 color palette, and high-contrast RGB pure laser illumination technology, result in stunning nighttime spectaculars, detail-rich visualization performance, lifelike 3D experiences, and a new level of immersive storytelling in creative installations. Below are ideal-fit applications:

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

Is Griffyn 4K50-RGB TAA-compliant?

Yes. Refer to the next question for the TAA-compliant projector part number.

What are the models / part numbers for Griffyn 4K50-RGB?

Griffyn 4K50-RGB

- 163-050106-XX
- 163-047102-XX (TAA-compliant)

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 2K-resolution 2D content at 240-480Hz (scaled), 2K-resolution 3D content at 120Hz per eye, and Christie View (simultaneous multi-content viewer)

Does Griffyn 4K50-RGB replace other products?

Yes. It replaces our D4K40-RGB and Mirage 4K40-RGB projectors, with several advancements such as brightness, TruLife+ electronics Electronic Color Convergence, smaller size and lighter weight. All 4K40 Series lenses are compatible with Griffyn 4K50-RGB.

Is Griffyn 4K50-RGB 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 of the Mirage option plus 2K-resolution 2D content at 240-480Hz (scaled), 2K-resolution 3D content at 120Hz per eye, and Christie View (simultaneous multi-content viewer)

What is high frame rate?

Any content that is created at 120 frames per second (fps) or higher is considered high frame rate (HFR). Higher frame rates improve fast motion video and fast camera panning by reducing or eliminating motion blur and judder, resulting in sharper dynamic imagery and lessening motion sickness that may occur in some high-performance, immersive projection environments.

What is Christie View simultaneous multi-content viewer?

With the Christie® View feature (available with the Mirage Pro upgrade), 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 high-frame-rate active 3D glasses. Content should ideally be around the same brightness level. Christie View supports 4 mono (2D) views at 60Hz per user or 2 stereo (3D) views at 60Hz per eye. All Christie View sources must be frame locked.

What accessories are available?

Rigging handles (long)

163-125109-XX

Rigging handles (short)

163-162100-XX

Rigging (stacking) couplers
(4 to a set)

163-128102-XX

What Christie projector lenses are compatible with Griffyn 4K50-RGB?

All Boxer® Series and all 4K40 Series lenses are compatible with Griffyn™ 4K50-RGB, including ultra-high contrast (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 Risk Group 3 projectors.

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 connectivity' mean?

All-in connectivity means we have built in all the connectivity options as standard. This eliminates the need for optional input cards. The following inputs are available with Griffyn™ Series:

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

Audio
- Audio Out (x1)

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

What is the difference between TruLife and TruLife+?

Our TruLife™ electronics platforms form the basis for all our 3DLP® projectors to 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 enables native 4K resolution at 120Hz or 240-480Hz at 2K resolution. With TruLife's floating-point processing Christie projectors achieve an equivalent of 25 bits of fixed-point, allowing the preservation of a higher range of bit depth to deliver superior image processing.

In addition to all the functionality that TruLife offers, 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 connectivity makes it easy to change inputs wherever and whenever you want. Griffyn 4K32-RGB and Griffyn 4K50-RGB are the first projectors with TruLife+ electronics. Advancements in TruLife+ technology allow for more efficient processing, lower noise levels, and compact projector sizes.

What is Electronic Color Convergence?

Our Electronic Color Convergence (ECC) feature gives you the ability to select red, green or blue individually and converge via remote control from the screen, or event floor if the projector is rigged from the ceiling or truss mounted. With ECC, you never have to climb a ladder to adjust color convergence again.

What is Rec. 2020?

Rec. 2020 is a wider color space than Rec. 709, the current standard for HDTV, or DCI-P3, the standard for cinema.
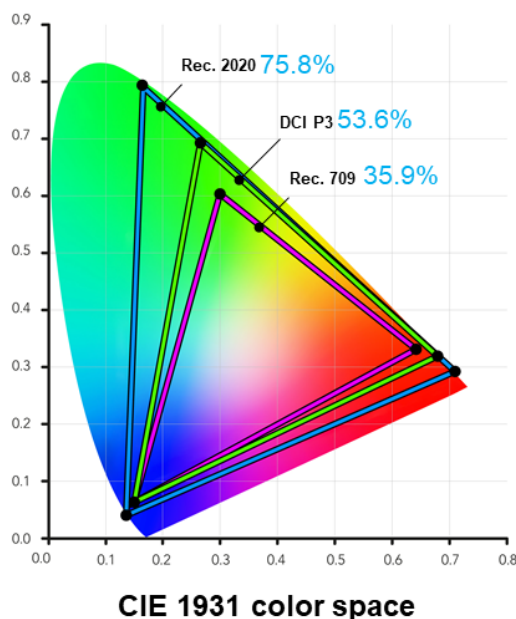
Rec. 2020 is the standard for ultra-high-definition television (UHDTV). It covers various image parameters, including definitions for resolution, frame rates, bit depths, and color space. The expanded color gamut of Rec. 2020 helped capture real-world colors in a 3-primary system. The standards committee for Rec. 2020 chose color primary coordinates at the extreme edge of the visible color space, achievable with RGB pure laser-illuminated projection technologies.

Why is Griffyn 4K50-RGB's ability to achieve Rec. 2020 an important differentiator?

RGB pure laser is the only projection technology able to achieve the Rec. 2020 gamut. The projectors' red, green and blue lasers have wavelengths chosen to optimize the delivery of Rec. 2020 color primaries to achieve this expansive color gamut.

How does Rec. 2020 compare to Rec. 709 and DCI-P3?

Visually, the CIE 1931 color space represents all the colors we can see in the natural world. Rec. 2020 covers 75.8% of the CIE spectrum. DCI-P3 covers 53.6% and Rec. 709 covers 35.9%. In other words, Rec. 2020 offers more than twice the color of Rec. 709 and 41% more than DCI-P3.

CIE 1931 color space

What does this mean for content creators and audiences?

The expansive Rec. 2020 color gamut has a big impact on the visual experience. Content mastered in Rec. 2020 is more vibrant, and the perception is that the content is brighter. More lifelike colors make the audience experience more immersive—everything looks more realistic and feels more believable. With this wider color palette, content creators have greater freedom to tell their stories and bring their visions to life. And having more colors, means it's possible to reproduce exact brand or IP character colors. That means you see superheroes in precisely the right shades, accurate displayed logo colors and the real-world colors that exist in nature.

How big is Griffyn 4K50-RGB? How does it compare to competitors' products?

PROJECTOR	Weight	Size (L x W x H)	Light source	Volume (cubic feet)
Christie Griffyn 4K50-RGB 50,000 lumens	**197lbs (89.3kg)** Excluding lens	**36.3 x 25 x 15"** **(922 x 635 x 380mm)** Excluding lens	**RGB pure laser**	**7.8ft³ (0.2m³)**
Barco XDL-4K60 66,600 lumens	520lbs (235kg) Plus: 2x 250lb (114kg) chillers required	56.9 x 29.3 x 27.8" (1445 x 744 x 706mm) Including feet, excluding chillers	RGB pure laser	26.8ft³ (0.76m³) Excluding chillers
Barco XDX-4K40 40,000 lumens	342lbs (155kg) Excluding frame	57.9 x 29.9 x 24.1" (1470 x 760 x 612mm) Including feet, excluding frame	RGB pure laser	24.14ft³ (0.68m³)
Panasonic PT-RQ50KU 50,000 lumens	267lbs (121kg) Excluding frame	42.1 x 28.3 x 17.5" (1070 x 720 x 445) Excluding frame, feet and lens	Laser diodes	12.1ft³ (0.34m³)

What is Griffyn 4K50-RGB's sound level?

Griffyn 4K50-RGB operates as low as ≈46 dBA at full brightness in quiet fan mode in an ambient temperature of up to 23°C. A sound level of 40-50 decibels is comparable to the hum of a quiet refrigerator or quiet library sounds.

What other Christie software tools are compatible with Griffyn 4K50-RGB?

Griffyn 4K50-RGB works seamlessly with many proprietary Christie® software solutions:

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. The software is a free download.

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. Conductor is available to download at no additional cost.

Working in conjunction with Twist, Christie® Mystique™ automates warping and blending. At 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 1500 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™ 4K50-RGB's light source is field-replaceable.

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

Color reproduction

Griffyn 4K50-RGB reproduces an exceptionally wide color gamut, achieving 98% of the Rec. 2020 color space, more than twice the color of Rec. 709 that most laser phosphor projectors produce. Additionally, RGB pure projection technology significantly improves the performance of Rec. 709 content, displaying richer, more vibrant, more realistic visuals.

Color and brightness stability

Content looks as good throughout the projector's operational life as it does on day-one thanks to Christie LiteLOC™ white-point tracking capabilities. Factory-calibrated in Griffyn projectors, LiteLOC automatically maintains color balance and brightness over time regardless of fluctuations in ambient temperature, for years of stable, virtually maintenance-free operation.

Illumination performance

RGB pure laser technology provides long-term stability and reliability. It also has longer optimal illumination performance than laser phosphor. Griffyn 4K50-RGB operates for 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 resolution

With RGB pure laser technology's wider Rec. 2020 color gamut, you get more vibrant content and significantly higher perceived brightness. Ultra-high contrast lenses deliver a 5000:1 contrast ratio which increases the perceived resolution. The resulting image quality is unmatched by any other projection technology on the market today.

When is Griffyn 4K50-RGB available?

We launched the Griffyn 4K50-RGB in June 2022. It will start shipping worldwide in August 2022.