LAMPLESS PROJECTION

illumination

differences between these new systems.

BRIEF

Over the last few years, interest in laser projectors has been increasing within the benefits over lamp-based projectors, however, it's important to understand some of the



Ideal for tight spaces, comes in standard HD

▲ Christie Captiva Series

Shining light on laser phosphor

ProAV industry. Touted as a major technological development that could eventually replace traditional lamp-based systems, manufacturers are bringing various laserbased projectors to market and describing them using terms such as pure laser, laser phosphor, or laser phosphor hybrid. For customers, laser-illumination provides several

Christie GS Series Available in three resolutions, and provides brightness levels up to 5,400 lumens, a full suite of lenses and 20,000 hours of low-cost operation.

Pure laser, also known as 3-Primary (3P) or RGB laser, generates light directly from three individual red, green and blue lasers. The primary benefit of a RGB laser system is light output while also achieving higher performance in other standard image quality parameters such as color gamut, contrast ratio and dynamic range when compared to standard lampbased systems. As such, RGB laser is ideal for largescale applications and giant screen cinema.

Laser phosphor illumination, such as what's used in the Christie[®] GS Series, Captiva Series and HS Series, uses a blue laser diode as the light source instead of a high intensity discharge (HID) lamp.

To generate the three primary colors, the laser diode shines laser light onto a phosphor wheel to create yellow light, while blue laser light passes through an opening in the phosphor wheel. The projector then sends the yellow light through a color wheel to generate red and green, while the blue laser light passes through a diffusion window. and ultra-wide aspect ratios, and offers multiple mounting positions, interactivity capabilities and a host of easy-to-use features. These red, green and blue colors are then directed onto an imaging surface, such as a DLP[®] chip which directs the light through a lens

and onto the projection screen. The advantage of a laser phosphor projector is the long life of the illumination system before it reaches 50% brightness. As a lampless system, laser phosphor also eliminates the need for lamp and filter replacements, reducing the downtime, maintenance and costs associated with lamp-based projectors. The long-life and low maintenance of laser phosphor projectors make them ideal for high-use settings like boardrooms, classrooms and location-based entertainment.

A laser phosphor hybrid projector is similar to a laser phosphor system, but with the addition of a second or third light source (usually LED) to boost the amount of red color being produced.

Christie HS Series Available in WUXGA and HD resolutions, with up to 12,000 lumens, Christie BoldColor Technology, a compact design and super-quiet operation.

Certain manufacturers claim laser phosphor projectors provide "maintenance free" operation. Although it is true that laser phosphor illumination systems are solid state and do not require any maintenance throughout their lifecycle, this only applies to the light engine. Laser-based projectors are still subject to regular maintenance such as cleaning fans and lenses to maximize efficiency and performance.

With increased brightness, performance capabilities and long-life, customers will be able to reap the benefits of these new systems.

For the most current specification information, please visit www.christiedigital.com

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