Christie Laser Phosphor Technology Overview

Q. What is laser phosphor?

A. Laser phosphor projectors are commonly referred to as simply 'laser projectors' however there is another platform of laser projector commonly referred to as RGB laser which processes the light very differently and both offer a variety of benefits to the end user. Laser phosphor is a solid state lampless projection illumination platform that provides much longer operational life over lamp based projection technology.

1DLP® Technology

1DLP® projectors use blue laser diodes as the primary light source to generate the three primary colors – red, blue, green – the blue light from the laser diodes shines onto a spinning wheel that is coated in a phosphor compound emitting yellow light. The yellow light is separated using dichroic filters to create red and green light while the blue light component directly passes through a clear diffusion segment of the phosphor wheel. The red, green, and blue colors passes onto the imaging surface of the DLP® chip, which then sends the light through a lens and onto the projection screen.

3LCD Technology

3LCD projectors use white laser diodes as the primary light source to generate the three primary colors using dichroic filters separating each color which then pass the individual red, green and blue light through three transmissive LCD imaging panels after which the light is recombined to create an image through the lens onto a projection surface.

Q. Why choose laser phosphor?

A. When it comes to projection, laser projectors eliminate the need for ongoing lamp replacements over the lifetime of ownership reducing consumables (lamps and filters) and waste, maintenance and downtime plus they can operate 24/7 for demanding applications. The reduced cost of ownership makes laser phosphor projectors the ideal choice for high-use applications such as corporate spaces, educational institutions, retail, entertainment venues and government facilities.

Additionally, some Christie® 1DLP® projectors offer our BoldColor Technology to enhance color performance.

Q. What is Christie BoldColor Technology?

A. Christie BoldColor Technology creates the color balance needed to accurately reproduce colorful visuals without sacrificing brightness.
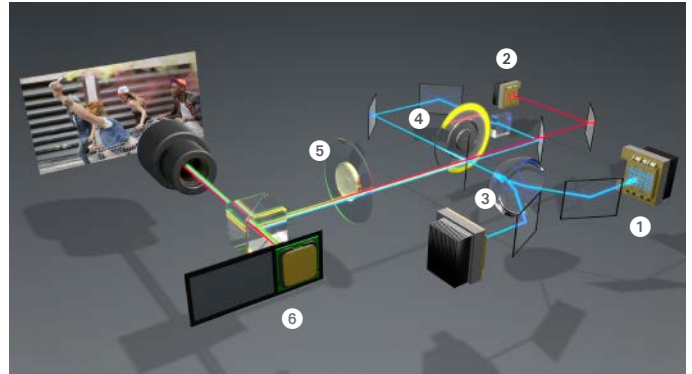
1. Blue and red laser diode banks
2. Red laser (BoldColor diode banks)
3. Focus lens
4. Phosphor wheel
5. Colour wheel
6. DLP® chip

BoldColor achieves this with blue and red laser diodes, a optical chamber, and specialized saturation software that produces enhanced color and saturation compared to typical laser phosphor projectors. BoldColor eliminates the perception that manufacturers of 1DLP® laser phosphor projectors have to choose between accurate color and high brightness. Through finely tuned color algorithms, BoldColor accurately reproduces lifelike colors with stunning brilliance and full brightness.

Unlike other products in the market, there's no need to oversaturate, boost greens, crush whites or blacks or play with gamma tables. Now that we can achieve even contribution from the primary colors, we are able to produce accurate colors and high brightness simultaneously; creating a comfortable, well–lit space for business meetings and presentations. Christie BoldColor also accurately replicates brand colors in environments that require full brightness mode, meeting the most stringent requirements.

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

DLP® TEXAS INSTRUMENTS

CERTIFIED ISO 9001 QUALITY SYSTEM

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