CHRISTIE MATRIX StIM™

The most advanced simulation and training projection system in the world

The Christie Matrix StIM™ is a revolutionary new solution for the simulation industry. It's the first to provide independent control over both the visible and infrared spectrum. It's the first intelligent projection system to enable real-time balancing of color and brightness, as well as black levels. And it's the first simulation system designed with solid state illumination – there are no consumables for a virtually maintenance-free system.

The Christie Matrix StIM™ is a scalable environment display system that provides the unique capabilities of achieving eye-limiting resolution while stimulating Night Vision Goggles. Designed and engineered with Christie expertise, it features extraordinarily long life, quality and ease of service. It's virtually maintenance free.

Built on an inherently stable long-life platform that doesn't fade over time, Christie offers a unique lamp-less illumination system for unprecedented stability and reliability. With no consumables, the Christie Matrix StIM™ provides years of continuous operation. Very low power consumption directly translates to lower operating heat, less cooling requirements and cost savings in electricity. Combined with lower maintenance costs and no spares or replacement lamps, sustainment costs are dramatically reduced.

StIMulation for simulation™.

Daytime

Nighttime

Night vision – shown utilizing real NVGs

CHRISTIE®

TECHNICAL SPECIFICATIONS

		Christie Matrix StIM™
Image	brightness	600 lumens ±10%
	contrast	• 100,000:1 full white/full black contrast ratio • 10,000:1 dynamic contrast (optimized in real-time based on scene content) • Image is capable to go all black with no light output (same as CRT) * No mechanical iris required
	uniformity	>95% brightness and color uniformity after electronic adjustment
Display	type	Revolutionary solid state projector using a single TI Darkchip 3™ DMD with a solid state illumination engine (no color wheel) and sealed optics
	native resolution	Native 1920 x 1200 (WUXGA)
Lenses*	fixed	0.64:1
	zoom	1.2-1.6:1, 1.45-2.0:1
	offsets	• 0.64:1 lens has no horizontal or vertical offset • 1.2-1.6:1 lens features ±75% X (horizontal) and ±150% Y (vertical) when mounted in landscape orientation** • 1.45-2.0:1 lens features ±50% X (horizontal) and ±110% Y (vertical) when mounted in landscape orientation**
Optical system	lens mount	• Mechanical, horizontal and vertical lens shift • Tool-less lens insertion system • 3 point 60 degree bore sight adjustment • No shutter required • No iris required – user programmable illumination parameters (eliminates the need for a mechanical shutter)
	Illumination	• Full Spectrum InfraRGB™ (RGB + IR) • Illumination package has a MTBF of 50,000 hrs • Light module can be changed in less than 15 minutes and is self-calibrating in real-time to the projector array
	ArrayLOC™	Manages the brightness, color space and black levels of all projectors within an array to a common level, in real-time with no additional latency
Input	signals	Up to 1920 x 1200 native WUXGA
	pixel clock	300Mhz max input
	scan rates	• Horizontal: 15 KHz to 120KHz • Vertical: 23.97 Hz to 120 Hz
Inputs, control and networking		• Dual link DVI-D standard • On-board Ethernet control capabilities (ChristieNET™ functionality) • Additional Ethernet connections for ArrayLOC™ network • IR/wired remote control as part of optional user kit • 2 – RS-232 ports and 1 RS-422 port • Optional: Analog input card • Optional: HDSDI input card
Accessories	standard	Line cord
	optional	• Input modules: Analog RGBHV, DVI-D, HDSDI, video • Remote IR sensor • User kit (includes manual, IR remote) • Rugged motion platform user kit (purpose-built)
Enhanced feature sets		• Minimum Processing Latency (MPL™) • Twist II – Advanced warping/edge-blending hardware technology integrated directly into the projector, includes warping/blending software • Auto set-up, power up • Menus in 5 languages • AccuFrame™ adjustable to <6ms • Multiple channel memories (for recall memory storage) • ArrayLOC™ – automatic, continuous management of brightness, color space and black levels of all projectors in the array to a common level, in real-time • InfraScene™ – unique capability of processing and displaying infrared content for true-to-life night vision goggle stimulation
Power requirements	operating voltage	100-240 VAC @ 50/60 Hz
	operating current	Estimated max – 5.6A @ 100 VAC, 2.8A @ 200 VAC
	power	400W maximum (variable, dependant on content)
	dissipation	1364 BTU/hr
Dimensions	size	• Projector head module + light module (no lens): (LxWxH): 8.7 x 18.4 x 11.0" (220 x 467 x 287mm) • Electronics module: (LxWxH): 16.5 x 5.5 x 6.7" (420 x 140 x 170mm)
	volume	• Projector head module + light module (no lens): 1,761in^3 (29,486cm^3) • Electronics module: 608.0in^3 (9,963.3cm^3)
	weight	• Projector head module + light module (no lens): 30lb (13.6kg) • Electronics module: 10lb (4.5kg)
	shipping weight	72lb (32.7kg)
Operating environment		• Temperature: 40-95° F (5-35° C) • Humidity: 20 – 80% non-condensing • Noise: Less than 30dB estimated
Regulatory approvals		• UL/CSa/IEC 60950-1 • EMC-emissions: FCC part 15 and EN55022 (CISPR22) Class A • EMC-immunity: EN55024 • RoHS compliant
Limited warranty		• 2 years parts and labor • Contact an authorized Christie representative for full details of our limited warranty

Performance specifications are typical and are subject to change without notice.
*Additional lenses planned for production 2009.
**Note: Each offset is specified with the other at zero. Simultaneous horizontal and vertical offsets may limit the adjustment range of each.

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ISO 9001 ISO 14001

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

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