

# LIGHTNING WUXGA 3D Pro Series II

LIGHTNING 38-WUXGA 3D • LIGHTNING 45-WUXGA 3D • LIGHTNING 38-WUXGA 3D Ultra Contrast



## PERFORMANCE SPECIFICATIONS

### Brightness (±10%)

38-WUXGA 3D:	20,000 Lumens
45-WUXGA 3D:	30,000 Lumens
38-WUXGA 3D Ultra Contrast:	10,000 Lumens

### Contrast Ratio (±10%)

38-WUXGA 3D:	2000:1
45-WUXGA 3D:	2000:1
38-WUXGA 3D Ultra Contrast:	4000:1

### Display Type

3 x Darkchip WUXGA DMD™ with Fast Transit Pixels for smooth greyscale and improved contrast

### DMD Specification

1920 x 1200 pixels native, 12° tilt angle

### Fill Factor

90%

### Sealed Optics at DMD™ Interface

Protects DMD's™ from optical contamination

### Source Compatibility

- Composite, s-video, and color difference video standards
- RGB graphics standards up to 1920 x 1200
- DVI standards with HDCP compliance
- High definition RGB and color difference standards
- High definition / standard definition serial digital formats (SD/HD-SDI)
- High bandwidth - Dual DVI, and Dual-Twin DVI

### Video Processing

- Enhanced 7 point color correction
- Dual Flash Processing™ increases 60 Hz inputs to 120 Hz displayed output
- FastFrame™ Motion Blur Reduction
- Class leading Video de-interlacing/processing of SD and HD sources using auto 3:2 and 2:2 extraction, ruggedized for editing discontinuities
- Pixel-based motion adaptive interpolation
- User selectable preset, parametric de-gamma and user downloadable de-gamma
- Frame Delay: as low as 1 frame, source dependant
- Auto mode selection - plug and play setup

### High Bandwidth Input

- 3D capable
- Pixel Mapped - with low latency
- FastFrame™ Motion Blur Reduction
- 120 Hz with no frame doubling

### 3D Sync

Sync In - External lock  
Sync Out - Shutter glass control

### Network Connection

LAN via RJ 45, Wireless 802.11b, full protocol feature set

### Lamp Type

Proprietary xenon arc, bubble. Hyper-cooled lamp module with directional-flow reflector mask and radial heat exchanger. Digital hour meter.

### Lamp Life (typical)<sup>1</sup>

38-WUXGA 3D:	500 hours
45-WUXGA 3D:	750 hours
38-WUXGA 3D Ultra Contrast:	750 hours

### Lens Mount

Zoom: Motorized horizontal and vertical lens shift, zoom & focus  
Fixed: Manual Focus  
Intelligent Lens Memory with 10 user-definable preset positions

### Lens Shift (maximum)

Zoom Lenses and 1.12:1 Fixed:  
Vert: +0.5, -375 frame  
Hor: ±0.125 frame  
0.67 Fixed lens:  
Vert: ±0.175 frame; Hor: ±0.06 frame

### Lens Options

- 0.67 :1 fixed
- 1.12 :1 fixed (1.2-2.0m throw)
- 1.12 :1 fixed (3-15m throw)
- 1.39-1.87 :1 zoom
- 1.87-2.56 :1 zoom
- 2.56-4.16 :1 zoom
- 4.16-6.96 :1 zoom
- 6.92-10.36 :1 zoom
- 1.12:1 Lenses include manual aperture
- High-contrast lenses available for 0.67:1 and all zoom lenses

### Mechanical Mounting

- Front or rear table; Front or rear ceiling (ceiling mount optional)
- Rugged, staging tolerant chassis with integrated handles
- RapidRig™ frame with integrated pitch, roll and yaw adjustments

### Orientation

360° front to back, ±15° left to right

### Weight (chassis only)

249 lbs (113 kg)

## Overview

Digital Projection International (DPI), Texas Instruments' first DLP™ partner and the original innovator of the 3-chip DLP™ projector, proudly introduces the LIGHTNING WUXGA 3D family.

Each new LIGHTNING 3D model employs the latest in dark chip, 3-chip DLP™ technology, and include DPI's exceptional RapidRig™ staging and stacking hardware with integrated pitch, roll and yaw adjustments. When considered along with their 10,000 - 30,000 ANSI lumen brightness and contrast performance up to 4000:1, the LIGHTNING 3D models are the perfect imaging solutions for the most demanding large screen immersive applications, including: military simulation, scientific visualization, medical, chemical and geological research, product engineering, commercial cinema and theme park attractions.

In addition to the active 3D capability, the LIGHTNING 3D models also include DP's new FastFrame™ technology, a revolutionary combination of hardware and firmware that vastly reduces the artifacts and image blur typically associated with rapidly moving displayed content. The benefits of FastFrame™ are especially important for simulation environments such as commercial and military flight training, and other applications where maintaining the visual integrity of high-speed imagery is vital.

The LIGHTNING WUXGA 3D projectors also incorporate DPI's Hyper-Cooled lamp module, one of our CoolTek™ innovations. Engineered with a proprietary, directional-flow reflector mask and radial heat exchanger, the Hyper-Cooled module dramatically improves projector thermal characteristics and extends reflector life and lumen maintenance. In turn, these operating benefits provide a significant reduction to the long-term cost of ownership, while also enhancing component reliability.

Other key benefits of the LIGHTNING WUXGA 3D products include:

- High Bandwidth input >120Hz active stereoscopic DVI with no need for frame doubling. This capability extends the dynamic range up to 16 bit for improved contrast and color gamut. Both single-pipe and dual-pipe 3D sources are supported.
- Dual Flash Processing™ (DFP) - Supports users wishing to distribute 3D content via more traditional, 60 Hz formats with the option to frame-double their sources within the projector, via DFP. When this option is selected, the input signal, having been processed and if necessary re-sized to map to the native resolution of the projector, will also be frame-doubled to 120 Hz, and the doubled frames interleaved. This produces imagery with the low flicker characteristics of a native 120 Hz source, but without the infrastructure costs associated with distributing and switching ultra-high bandwidth signals.
- Projector electronics which provide an interface to drive an infrared transmitter to synchronize switching glasses with active displayed frames. The user can elect either to pass through an external synch pulse, or to use the reference generated internally by the projector. Adjustments are provided to accommodate the phase and dead time characteristics of different switching glasses.
- FastFrame™ technology, a revolutionary combination of hardware and firmware that provides user adjustments to vastly reduce the artifacts and image blur typically associated with rapidly moving display content.
- DP's NextGen electronics with class leading video de-interlacing. SD and HD sources are processed using auto 3:2 and 2:2 extraction.
- Minimal video delay from input to screen - as low as 1 frame, depending on source.
- Eight user-selectable inputs including HDCP compliant DVI, plus SD/HD-SDI as standard.
- High bandwidth DVI inputs offer Single, Twin, Dual & Dual Twin DVI connectivity.
- ColorMax calibration capabilities, including enhanced seven-point color correction for broader color space and accurate color alignment.
- DP's CoolTek™ engineering, which delivers the highest lumen performance with the lowest thermal (BTU) and noise level (dB) output.
- MultiBlend™ - an advanced soft-edge capability for seamlessly meshing arrays of projectors to create displays with ultra-high resolution or unusual aspect ratios.
- Intelligent Lens Mount (ILM) - provides the ability for the user to program up to 10 distinct presets for lens zoom, focus and shift. The ILM presets can be assigned and automatically recalled, by source and input.

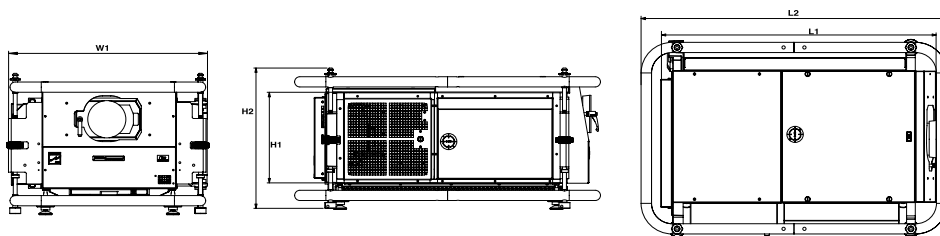
LIGHTNING WUXGA 3D Pro Series II projectors - ultra-powerful display systems for major 3D events and Immersive large screen applications - bringing the precision of Digital Projection to every venue.

## INPUT CAPABILITIES

Type	Connector	Quantity
Composite	BNC	1
S-Video	4-pin mini DIN	1
Component		
Interlaced/Std def Y, Cr/Pr, Cb/Pb, S	BNCx4	1
Graphics		
Progressive RGB/Progressive Interlaced Hi def Y, Cr/Pr, Cb/PB	BNCx5	1
RGBHV (Progressive)	D sub (15-pin)	1
Digital RGB	DVI	1
Serial Digital		
SD/HD-SDI (SMPTE 259M/292M)	BNC	1
DVI - High bandwidth		
Dual - main	DVI	1
Dual - sub	DVI	1

\*The main & sub dual DVI inputs can be used in parallel to support dual-pipe 3D connectivity

# LIGHTNING WUXGA 3D Pro Series II



## Projector Dimensions

Without Frame	With Frame
Projector dimensions (in)	Projector dimensions (in)
L1 40.5 W1 28.5 H1 19.5	L2 43.4 W2 28.1 H2 20.5
Projector dimensions (mm)	Projector dimensions (mm)
L1 1028 W1 728 H1 495	L2 1116 W2 714 H2 522



LIGHTNING 38 WUXGA 3D Back Panel

## ADVANCED TECHNICAL SPECIFICATIONS

### PARAMETERS



Native Color Temperature	6,000°K ±500°K; white balance-adjustment: 3,000°K to 10,000°K
HDTV Formats Supported	1080i (50Hz, 60Hz), 1080p (24Hz, 25Hz, 30Hz, 50Hz, 60Hz), 1080 24sf, 720p (50, 60Hz), 480i, 480p
Scan Rates Supported	Inputs 1-7: Horizontal: 15kHz to 100kHz / Vertical: 24Hz to 85Hz - Input 8: 3D progressive 576p up to 1080p @ 120Hz
Remote Control	Addressable IR remote control, wireless and wired with loop-through / On board invertable keypad
Automation Control	LAN connection via RJ45 / RS232 9-pin D type
Operating/Storage Temperature	Operating: 0 to 35°C / Storage: -10 to 50°C /
Operating Humidity	20 to 80% non-condensing
Thermal Dissipation	15,695 BTU/hour maximum
Fan Noise	Less than 59dBA
Power Requirements	208-240 VAC, 50/60Hz single phase
Power Consumption	4600 watts maximum

### Projectors

LIGHTNING 38-WUXGA 3D  
LIGHTNING 45-WUXGA 3D  
LIGHTNING 45-WUXGA 3D Ultra Contrast

### Part #

109-679  
109-674  
109-675

### Accessories

LIGHTNING Pro Series Hypercooled Lamp & Housing  
Hypercooled Refurb Lamp & Housing  
LIGHTNING Ultra Contrast Hypercooled Lamp & Housing  
Ultra Contrast Hypercooled Refurb Lamp & Housing  
Lamp Exchange  
Infrared Remote (Replacement)

### Part #

103-238  
103-238R  
104-578  
104-578R  
103-238E  
105-023

### Lenses

0.67:1  
1.12:1  
1.12:1 (short)  
1.16-1.49:1  
1.39 - 1.87:1  
1.87 - 2.56:1  
2.56 - 4.16:1  
4.16 - 6.96:1  
6.92-10.36:1

### HB Part #

105-607  
105-608  
105-609  
109-236  
105-610  
105-611  
105-612  
105-613  
109-235

1 Based on 4-6 hour/day operational profile. Venue and application conditions may impact actual lamp life.  
See Digital Projection's Product Warranty Statement for details on lamp warranty.  
Installations requiring horizontal or vertical tilt orientations greater than 15 degrees may reduce the actual operational hours of one of the two lamps.



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