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The Perfect Experience / —

4K2K D-ILA Projector

DLA-SH4K

4K2K D-ILA Projector delivering Ultra High Definition*
four times sharper than Native HD has arrived.



“Ultra High Resolution Image* & Real Black”

*The resolution of about 10 million pixels (4900x 2400) is achieved on the market projector. As of November 19, 2007. Our examination.

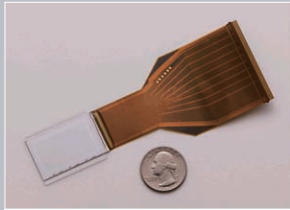
D-ILA[®]

DLA-SH4K

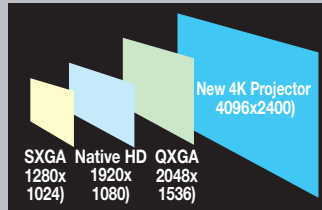
Ultra-high-definition^{*1}, high-contrast, high-grade projector

Mounts newly-developed miniature ultra-high definition^{*1} 4K2K D-ILA device

Adoption of a new construction and production process results in a 6.8μm pixel pitch and a 0.25μm gap between pixels for a high aperture ratio of at least 93%. Moreover, a 1.27-inch miniature 4K2K D-ILA device delivers high-definition display images of 9,830,400 pixels (4096 x 2400 pixels). Besides compatibility with 4K digital cinema, the projector also offers Native HD four display outputs and 4x enlarged WUXGA images for high-end design and CAD applications.



1.27-inch 4K2K D-ILA device

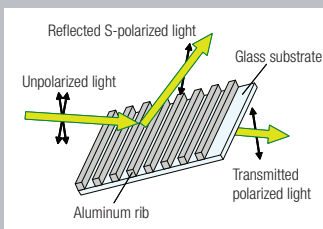


4096 x 2400 pixels—more than four times the pixel count of Full-HD

*1: As a commercial projector, it has achieved a resolution about ten megapixels (4096 x 2400 pixels) (Recorded November 19, 2007 during in-house research).

True black quality with high contrast ratio of 10,000:1

The new Wire Grid adopted in the optical engine is an organic light reflection polarizing plate made from arrays of aluminum ribs with a width of a few tens of nanometers, aligned with a pitch of over hundred nanometers on the surface of a glass substrate. It has lower angle dependency for polarized light, effectively minimizing any leakage of light to the lens when the image is black. Besides, technology to reduce variations in orientation, applying new liquid crystals, and new orientation technologies achieve a 20,000:1 device contrast ratio. The combination of the new engine and new devices delivers 10,000:1 high-contrast native images.



Wire grid reflection polarizing plate

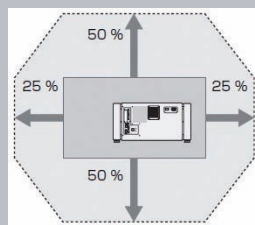
3500 lumen light output

A new optical design featuring a 825 W Xenon lamp generates 3500 lumens power, and delivers excellent color rendering. Lamp power is adjustable in eight steps over the range from 825 to 660 W.

Flexible installation

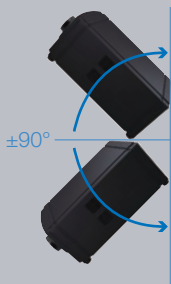
Vertical/horizontal lens shift

Horizontal lens shift (±25%) as well as vertical shift (±50%) permits more flexible layout.



Moving range of projected images achieved by lens shift

Inclined installation



The main body can be inclined up to a ±90-degree tilt angle. Projection screen can be freely designed.



Small, lightweight, and stackable design

The new device achieves approximately a 65% reduction in area compared to a conventional projector of the same class, and weighs 59 kg (lens included). Moreover, the stackable design means greater installation efficiency for applications such as stack and 3D.

Compatible with AC100 V power source

The device operates with a general AC100 V power supply, and achieves power-savings of less than 1.5 kW rating.

4K Projector supports a wide range

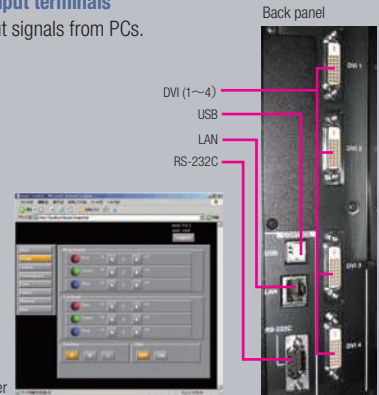
User-friendly interface and excellent operability

Incorporates DVI(Dual-Link) x 4 input terminals

The device supports an array of input signals from PCs.

Network available

Besides a conventional RS-232C interface, Ethernet interfaces make adjustment and installation from web browsers on PCs possible. Moreover, networking allows multiple projectors to be operated with a single PC. An e-mail function also sends out error messages and lamp replacement reminders.



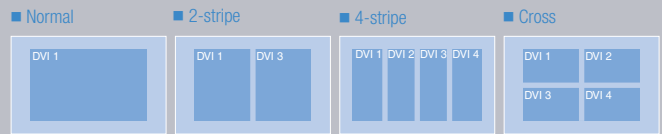
Test patterns incorporated

Six test patterns are incorporated—Color Bars, Color Cross, Hatch, Cross Hatch, Staircase, Ramp, and Flat.

Wide range of display options

Multi-screen (single-, two-, and four-screen modes)

Up to four screens with full-HD images and images with WUXGA resolution can be displayed simultaneously.



Connections in two/four screen mode^{*2}

In two- or four-screen mode, signals from two or four PCs can be displayed simultaneously.

PC1, PC2				
Resolution	Channel	Link status	Output state	
2048×1200	1ch	Single	Normal	2048×1200
2048×1080	1ch	Single	Normal	2048×1080
1920×1200	1ch	Single	Normal	1920×1200
1920×1080	1ch	Single	Normal	1920×1080
1600×1200	1ch	Single	Normal	1600×1200
1280×1024	1ch	Single	Normal	1280×1024
1024×768	1ch	Single	Normal	1024×768
800×600	1ch	Single	Normal	800×600
640×480	1ch	Single	Normal	640×480

Notice: The frame rate is converted to 60 Hz regardless of synchronizing frequencies at the PC side.

Connections in single-screen mode^{*2}

In single-screen mode, up to four signals from a single PC are displayed as a single image.

PC					Displayed image from the projector
Resolution	Channel	Link status	Output state		
4096×2400	2ch	Dual	2-stripe	2048×2400	4096×2400
	4ch	Single	Cross	2048×1200	
4096×2160	2ch	Dual	4-stripe	1024×2400	4096×2160
	4ch	Single	2-stripe	1024×2160	
3840×2400	2ch	Dual	Cross	2040×1080	3840×2400
	4ch	Single	4-stripe	1024×2160	
3840×2160	2ch	Dual	Cross	1920×1200	3840×2160
	4ch	Single	4-stripe	960×2400	
2048×1200	2ch	Dual	2-stripe	1920×2160	4096×2400
	4ch	Single	Cross	1920×1080	
2048×1080	1ch	Single	Normal	2048×1080	4096×2160
1920×1200	1ch	Single	Normal	1920×1200	3840×2400
1920×1080	1ch	Single	Normal	1920×1080	3840×2160
1600×1200	1ch	Single	Normal	1600×1200	3200×2400
1280×1024	1ch	Single	Normal	1280×1024	2560×2048
1024×768	1ch	Single	Normal	1024×768	2048×1536
800×600	1ch	Single	Normal	800×600	1600×1200
640×480	1ch	Single	Normal	640×480	1280×960

Notice: The frame rate is converted to 60 Hz regardless of synchronizing frequencies at the PC side.

*2 A change of display settings might be required depending on your graphics board.

Three types of gamma table incorporated

Tone expression can be set in accordance with images.

Convergence adjustment function incorporated

Color aberration in an optical system can be adjusted with 1/4 and 1/10 accuracy.

Specifications

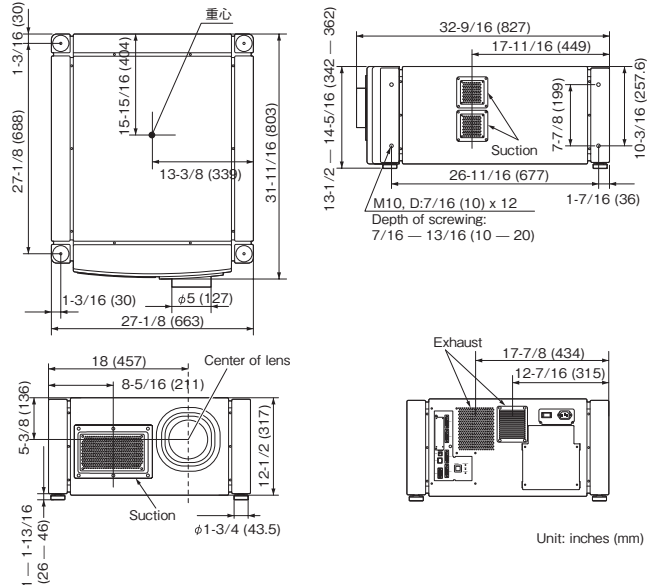
Model name	4K2K D-ILA projector			
Display panel	Type	D-ILA analog drive x 3		
	Aspect ratio	17:10 (approx.)		
	Display size (diagonal)	1.27"		
	Pixel pitch	6.8 μm		
	Pixel gap	0.25 μm		
Light-source lamp	Effective resolution	4096 x 2400		
	Type	Xenon		
	Manufacture	PKI		
	Power adjustment	660 W — 825 W (80% — 100%), 8 steps		
	Qty	1		
Projection lens	Lightning method	DC		
	Warning	1500H		
	Accumulated lamp time counter	Yes		
	Type	Zoom lens		
	Lens interchangeable	Yes		
	Conversion lens	N/A		
	Focus	Electrical		
	Zoom	Electrical		
	Zoom ratio	1.50 — 1.84 (1.22x)		
	Horizontal shift	Electrical		
Optical system	Horizontal shift range	±30% (@4096 x 2160)		
	Vertical shift	Electrical		
	Vertical shift range	±50%		
	Projection picture size	80 — 300		
	F number	3.2		
	Lighting system	Flyeye integrator + polarization converter PBS array		
	Light combination system	WG+X prism Polarizing direction: SPS		
	Max light output	3500 lm (@825 W)		
	ON/OFF contrast	10,000: 1 (typical)		
	ANSI contrast	300:1 (typical)		
Electric system	Reference color temperature	5800 K (typical)		
	Peripheral brightness	More than 90%		
I/O terminals	Digital video input format	4096 x 2400, 4096 x 2160 3840 x 2400, 3840 x 2160 2048 x 1200, 2400 x 1080, 1920 x 1080, 1920 x 1200, 1600 x 1200, 1280 x 1024, 1024 x 768, 800 x 600, 640 x 480		
	Display mode	Dual (left/right), Quad (left/right/top/bottom)		
	Information	Software version		
		Temperature		
		Fan status		
		Signal status		
		Lens shift status		
		Light power		
		Current time		
		System time		
		Lamp sum time		
		DVI input	DVI-D x 4 (12bit expanded input capable)	
		Ethernet	RJ45 x 1	
		USB	Type B (slave) x 1	
		RS-232C	D-sub 9-pin male x 1	
SERVICE USB		Type A (master) x 2		
SERVICE RS-232C	RS-232C x 1			
SERVICE SW	Piano-type switch 4-pin			
Power	Input voltage range	AC 100 — 240 V (single-phase)		
	Input frequency	50/60 Hz		
	Max current	15 A		
	Power consumption	1,500 W		
Connector type	3-pin inlet			
Dimensions	600 (W) x 827 (D) x 340-390 (H) mm			
Weight	176.35 lbs. (50 kg)			
Operation Temperature	41° — 95°F (+5° — +35°C)			
environment Humidity	Less than 90% (no condensation)			
Storage temperature	27°F — 140°F (-5° — +60°C)			

Projection Distance Chart

Projection picture size (diagonal) Aspect ratio 17:10	Image width	Projection distance	
		Tele	Wide
80 (approx. 2.03 m)	1.75 m	3.19 m	2.58 m
90 (approx. 2.29 m)	1.97 m	3.60 m	2.91 m
100 (approx. 2.54 m)	2.19 m	4.01 m	3.25 m
110 (approx. 2.79 m)	2.41 m	4.42 m	3.58 m
120 (approx. 3.05 m)	2.63 m	4.83 m	3.91 m
130 (approx. 3.30 m)	2.85 m	5.24 m	4.25 m
140 (approx. 3.56 m)	3.07 m	5.65 m	4.58 m
150 (approx. 3.81 m)	3.29 m	6.06 m	4.91 m
160 (approx. 4.06 m)	3.51 m	6.46 m	5.25 m
170 (approx. 4.32 m)	3.73 m	6.87 m	5.58 m
180 (approx. 4.57 m)	3.94 m	7.28 m	5.91 m
190 (approx. 4.83 m)	4.16 m	7.69 m	6.24 m
200 (approx. 5.08 m)	4.38 m	8.10 m	6.58 m
210 (approx. 5.33 m)	4.60 m	8.51 m	6.91 m
220 (approx. 5.59 m)	4.82 m	8.92 m	7.24 m
230 (approx. 5.84 m)	5.04 m	9.33 m	7.58 m
240 (approx. 6.10 m)	5.26 m	9.74 m	7.91 m
250 (approx. 6.35 m)	5.48 m	10.15 m	8.24 m
260 (approx. 6.60 m)	5.70 m	10.55 m	8.58 m
270 (approx. 6.86 m)	5.92 m	10.96 m	8.91 m
280 (approx. 7.11 m)	6.14 m	11.37 m	9.24 m
290 (approx. 7.37 m)	6.36 m	11.78 m	9.57 m
300 (approx. 7.62 m)	6.57 m	12.19 m	9.91 m

*Projection distances are design specification, so there is ±5% variation.

Dimensions



Unit: inches (mm)

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