



Ultra high resolution projection

DLA-SH4K D-ILA 4K2K Projector

DLA-SH7NL D-ILA 4K2K Projector

JVC
The Perfect Experience / —

Ultra-high resolution. Real black. Flexible mounting and display options. Welcome to professional projectors, redefined.

In applications requiring the highest possible resolution and imaging quality, our professional 4k projectors really stand out. Much lighter and quieter than other high-resolution projectors, the DLA-SH4K and DLA-SH7NL deliver four times the resolution of full HD, along with a 10,000:1 contrast ratio for real blacks and excellent colour rendering.

Such groundbreaking performance is made possible by a new wire grid optical engine and a JVC-developed D-ILA device, which packs 10 megapixels on its 1.27 inch surface. It also supports 8- to 12-bit processing. A pixel pitch of 6.8 microns makes the D-ILA chip the world's highest density microdisplay projection device, providing a 30% increase in total resolution while measuring some 43% smaller than JVC's previous 4K chip.

What's more, both the DLA-SH4K and DLA-SH7NL projectors are refreshingly easy to install and operate, with a flexible range of mounting options, comprehensive connectivity, full network support and a simple user-interface.

Key projector features

- 4096 x 2400 pixels (11% more vertical resolution and pixels than competing 4K devices)
- Aspect ratio of approx. 17:10
- Three active matrix D-ILA devices (1.27")
- Contrast ratio > 10,000:1 (typical)
- Light output of 5000 lumens (SH7NL) or 3500 lumens (SH4K)
- 825W Xenon Lamp (SH4K)
- Reduced running costs, extended usage and secure operation due to ultra high pressure dual-lit mercury lamp system (SH7NL)
- 4 x input for RGB (4 x DVI-D, Dual Link)
- Weight (body only) of only 50.0kg
- RGB convergence in 1/10 pixel increments



A full array of functions and modes supports many applications

Planetariums



Aircraft and car simulators



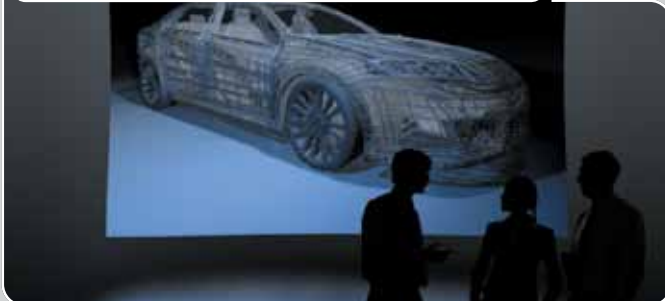
Broadcasting stations and image production companies



Presentations rooms



Design, R&D departments



Art galleries and museums



Medical institutions



Monitoring centres



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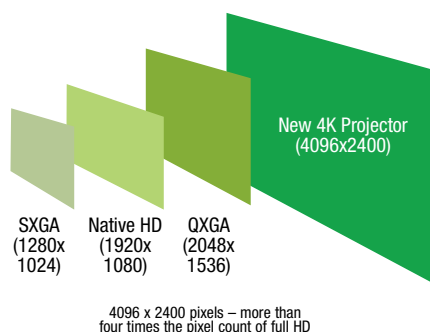
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4K projection

Ultra-high resolution and high-contrast for a real black

■ Mounts newly developed miniature ultra definition 4K2K D-ILA device

Adoption of a new construction and production process allows a 6.8 μm pixel pitch and 0.25 μm pixel gap with a high aperture ratio of more than 93%. Moreover, a 1.27-inch miniature 4K2K D-ILA device delivers high-definition display images of 10 mega pixels (4096 x 2400 pixels). Besides compatibility with 4K digital cinema, both projectors also offer full HD, four multi screen window display and 4x enlarged WUXGA images for high-end design and CAD applications.



■ 10,000:1 high contrast ratio provides real black

The new Wire Grid polarizers adopted in the optical engine are an inorganic 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 of the surface of a glass substrate. They have lower angle dependency for polarized light, effectively minimizing any leakage of light to the lens when the image is black. Technology to reduce variations in orientation, applying new liquid crystals and new orientation technologies, has achieved a 20,000:1 device contrast ratio. The combination of the new engine and new devices deliver native 10,000:1 high-contrast images for both projectors with deeper, truer black. The incredible native contrast ratio, augmented by 12-bit image processing, ensures richer colours with heightened shades of grey.

■ Impressive light output

A new optical design featuring an 825W Xenon lamp generates 3500 lumens of light output on the DLA-SH4K projector, and delivers excellent colour rendering. Lamp power is adjustable in eight steps over the range from 825 to 660W. Meanwhile the DLA-SH7NL projector has 5000-lumen brightness, realised by adopting a dual-lit system with an ultra high-pressure mercury lamp, keeping running costs low.



DLA-SH7NL

Flexible installation

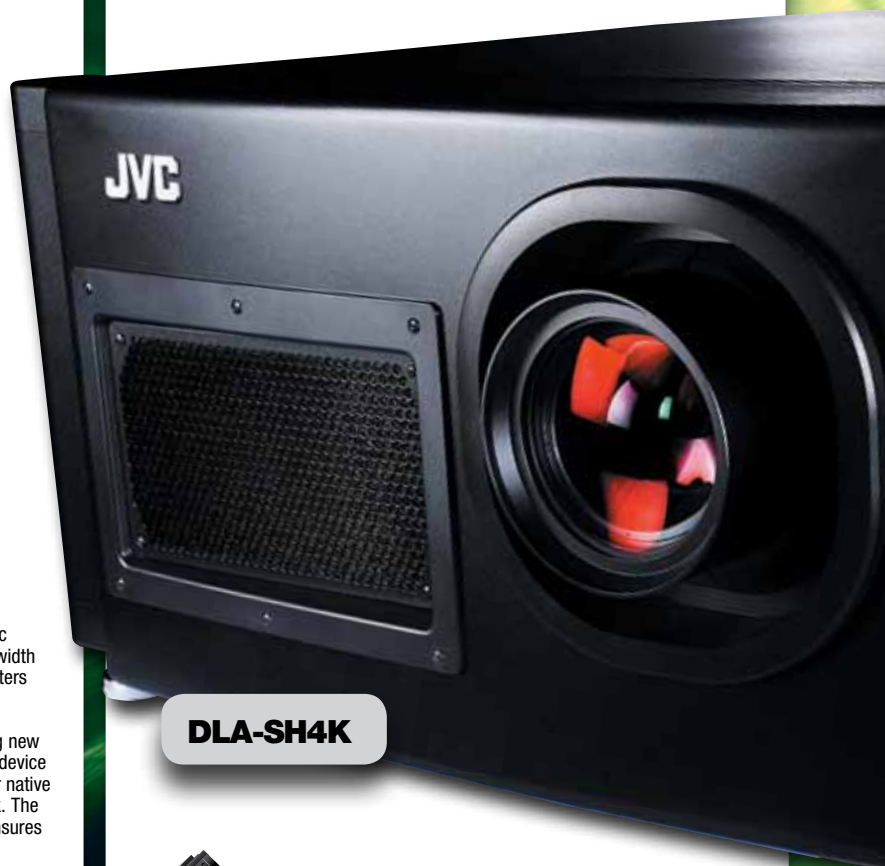
■ Small, lightweight, and stackable design

The projector chassis on both projectors achieves approximately a 65% reduction in size compared to a conventional projector of the same class, and weighs 59kg (lens included). Moreover, the stackable design allows greater installation flexibility for applications such as 3D.

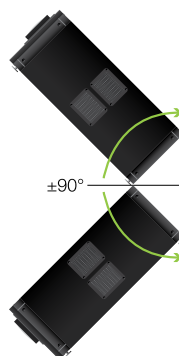


■ Compatible with AC110V – 240V power source

The device operates with a universal 110V – 240V AC power supply and consumes less than 1.5 kW of power.



DLA-SH4K



■ Vertical/horizontal lens shift

Horizontal lens shift ($\pm 25\%$ /zoom lens, $\pm 5\%$ /short lens) as well as vertical shift ($\pm 50\%$ /zoom lens, $\pm 15\%$ /short lens) permits more flexible layout.

■ Inclined installation

The projector chassis can be inclined up to ± 90 -degree tilt angle.

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User-friendly interface and operability

■ Incorporates DVI(Dual-Link) x 4 input terminals

For maximum flexibility, a wide array of PC input resolutions are supported.

■ Network available

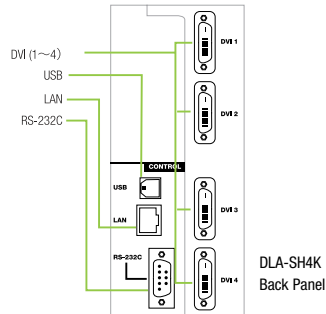
Besides a conventional RS-232C interface, an Ethernet interface makes adjustment and installation from web browsers on PCs possible. Moreover, networking allows multiple projectors to be operated with a single PC. An e-mail function also enables sending out error messages and lamp replacement reminders.

■ Test patterns incorporated

Six built-in test patterns are incorporated – Colour Bars, Colour Crosshatch, Crosshatch, Staircase, Ramp and Flat.



Network Browser



DLA-SH4K
Back Panel



DLA-SH4K

■ Three types of gamma table incorporated

Three separate Gamma Tables are incorporated in the projectors to allow for customisation for different image sources and viewing environments.

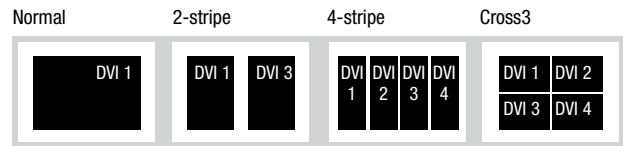
■ Convergence adjustment function incorporated

Colour registration of RGB panels in the optical system can be mechanically adjusted in 1/4 and 1/10 pixel increments.

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 x 1200	1ch	Single	Normal	2048 x 1200
2048 x 1080	1ch	Single	Normal	2048 x 1080
1920 x 1200	1ch	Single	Normal	1920 x 1200
1920 x 1080	1ch	Single	Normal	1920 x 1080
1600 x 1200	1ch	Single	Normal	1600 x 1200
1280 x 1024	1ch	Single	Normal	1280 x 1024
1024 x 768	1ch	Single	Normal	1024 x 768
800 x 600	1ch	Single	Normal	800 x 600
640 x 480	1ch	Single	Normal	640 x 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.

PC1, PC2					Displayed image from the projector
Resolution	Channel	Link status	Output state		
4096 x 2400	2ch	Dual	2-stripe	2048 x 2400	4096 x 2400
	4ch	Single	Cross	2048 x 1200	
			4-stripe	1024 x 2400	
4096 x 2160	2ch	Dual	2-stripe	2048 x 2160	4096 x 2160
	4ch	Single	Cross	2048 x 1080	
			4-stripe	1024 x 2160	
3840 x 2400	2ch	Dual	2-stripe	1920 x 2400	3840 x 2400
	4ch	Single	Cross	1920 x 1200	
			4-stripe	960 x 2400	
3840 x 2160	2ch	Dual	2-stripe	1920 x 2160	3840 x 2160
	4ch	Single	Cross	1920 x 1080	
			4-stripe	960 x 2160	
2048 x 1200	1ch	Single	Normal	2048 x 1200	4096 x 2400
2048 x 1080	1ch	Single	Normal	2048 x 1080	4096 x 2160
1920 x 1200	1ch	Single	Normal	1920 x 1200	3840 x 2400
1920 x 1080	1ch	Single	Normal	1920 x 1080	3840 x 2160
1600 x 1200	1ch	Single	Normal	1600 x 1200	3200 x 2400
1280 x 1024	1ch	Single	Normal	1280 x 1024	2560 x 2048
1024 x 768	1ch	Single	Normal	1024 x 768	2048 x 1536
800 x 600	1ch	Single	Normal	800 x 600	1600 x 1200
640 x 480	1ch	Single	Normal	640 x 480	1280 x 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.

DLA-SH7NL

Ultra-high resolution projector

The newest addition to the 4K projector family, the DLA-SH7NL achieves ultra-high resolution of approximately 10 megapixels (4,096 x 2,400), or more than four times full HD, plus a stunning 10,000:1 native contrast ratio. It incorporates three 1.27-inch 4K2K D-ILA display devices for high-quality imaging and dual ultra-high-pressure mercury lamps for 5,000 lumens of brightness.

Combining superb definition and resolution with low-cost maintenance, the 4K2K D-ILA projector is ideal for simulation applications, or use in planetariums, museums and medical institutions, as well as used for high-spec designing and monitoring.

■ Simple mounting

Compact, light, quiet, centralized optic as well as flexible mounting in the projection axis up to plus/minus 90° offers optimal installation possibilities.

■ Operational cost saving

For the operation there was developed a new productive and cost saving dual-lamp-system which considerably reduces the operating costs and at the same time increases operational reliability. The hours of operation with two lamps in energy-saving mode are 3000 hours, at full tilt up to 2000 hours. By individual operation of the lamps the value increase accordingly.



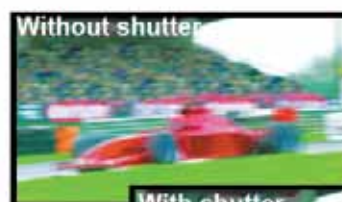
DLA-SH7NL

PK-VS4MS mechanical shutter

Mechanical shutter mounting option for both the DLA-SH4K and DLA-SH7NL to reduce perceptual motion blur. Ideal for applications where content involving fast moving targets. Control signal and power is supplied by the JVC projector.



PK-VS4MS



*Simulated image

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PK-VS4GD graphics interface

This optional graphics interface unit adjusts picture quality of multiple JVC 4K projectors, both for the DLA-SH4K and DLA-SH7NL models. Now ten preset memories are available for picture adjustments, including Offset, Gain, Gamma adjustable and Storable, while Over-drive Level Control improves imaging performance.



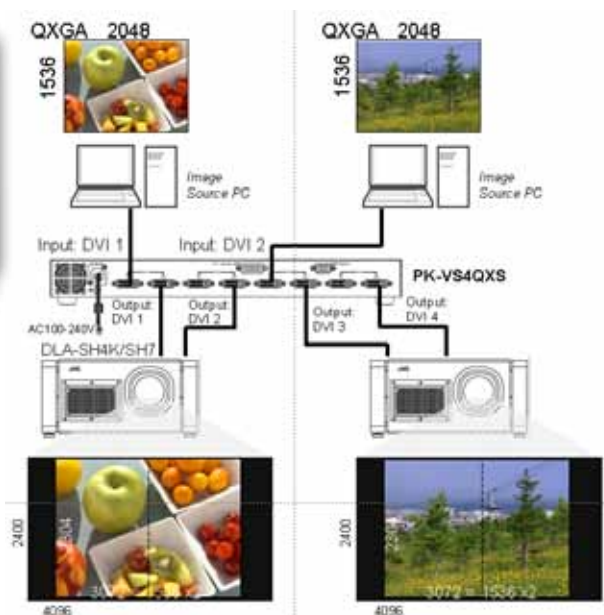
DLA-SH7NL



Simulation application

PK-VS4QXS scaler

This is a QXGA scaler for both the DLA-SH4K and DLA-SH7NL projectors, for upconverting video signals from QXGA to 1536x2304x2ch. It makes effective use of the 4K2K projector's ultra-high resolution for QXGA applications. 4:3 aspect ratio is suited for integrating into multi-channel visualization systems. The PK-VS4QXS can up-convert QXGA (2048x1536) to 3072x2304 resolution.



Optional lens	
Video I/O	DVI In x2, DVI Out x4 (Dual-Link)
Control interface	D-Sub 9pin RS-232C (male)
Input video format	2048 x 1536 (QXGA)
Output video format	1536 x 2304 x2
Display	7-segment LED
Power	External AC Adapter (100-240VAC), XLR 12V DC in
Style	Rack-mountable EIA 1U
Safety/EMC regulations	CE, CSA NRTL, FCC3

Specifications

DLA-SH4K and DLA-SH7NL

■ Specifications

Optical device	DLA-SH7NL	DLA-SH4K
Device	1.27 inch D-ILA*1 x 3 (aspect ratio: approx. 17:10)	
Resolution	4096 x 2400	
Lens	Optional (see below)	
Light source lamp	330W UHP mercury lamp (dual-lit system)	Single 660-825W Xenon lamp
Lamp life*2	Approx. 3000 hours at 265W; approx. 2000 hours at 330W	Approx. 1500 hours
Brightness	5000lm	3500lm
Contrast ratio	10,000:1	
Video signals		
Digital video input signal (progressive)	4096 x 2400, 4096 x 2160, 3840 x 2400, 3840 x 2160, 2048 x 1200, 2048 x 1080, 1920 x 1200, 1920 x 1080, 1600 x 1200, 1280 x 1024, 1024 x 768, 800 x 600, 640 x 480	
Input terminals		
DVI In	24-pin DVI-D (dual-link; enhanced 12-bit input compatible) x4 (HDCP enabled*3)	DVI-D x4 (12-bit expanded input capable)
LAN	RJ45 x1	
USB	Type B (slave) x1	
RS-232C	D-sub 9-pin (male) x1	
Miscellaneous		
Power requirement	AC 110V/240V, 50/60Hz	
Power consumption	1100W (stand-by: 6W)	1500W
Power supply	9.5A (AC 110V) - 4.5A (AC 240V)	
Operating temperature	10°C to 35°C	
Operating humidity	Less than 80% (non-condensing)	Less than 90% (non-condensing)
Storage temperature	-5°C to 60°C	
Dimensions (W x H x D)	660 x 342 x 783mm (without protrusions)	660 x 340-390 x 827mm (without protrusions)
Weight	50.5kg (without lens)	50.0kg (without lens)
Accessories	Power cord (US and continental Europe, 3.3m/AC 110-240V), user manual	

Optional lens

Model	GL-MS4015SZ	GL-MS4011S
Projection ratio	1.5:1 - 1.84:1	1.1:1
Zoom ratio	1.22x	Fixed
Lens shift	±50% vertical (motorised) ±25% horizontal (motorised)	±15% vertical (motorised) ±5% horizontal (motorised)
Projection distance	Approx. 2.6m - 12m	Approx. 1.2m - 6.2m
Weight	3.6kg	3.4kg
Optional lamp		
Model	PK-L3310U	

*1: Please note that as the D-ILA device is manufactured using highly advanced technologies, 0.01% or fewer of the pixels may be non-performing (always on or off).

*2: Lamp life quantities are approximations and may vary.

*3: Images input through the DVI terminal may not display due to changes in HDCP standards.

■ Screen Size and Distance Chart*

Display size, inches, (approx. diagonal)	Width	Projection distance		
		GL-MS4015SZ		GL-MS4011S
		Tele	Wide	
50 (1.27m)	1.10m	—	—	1.16m
60 (1.53m)	1.31m	—	—	1.41m
70 (1.79m)	1.54m	—	—	1.66m
80 (2.03m)	1.75m	3.19m	2.58m	1.91m
90 (2.29m)	1.97m	3.60m	2.91m	2.16m
100 (2.54m)	2.19m	4.01m	3.25m	2.41m
110 (2.79m)	2.41m	4.42m	3.58m	2.66m
120 (3.05m)	2.63m	4.83m	3.91m	2.91m
130 (3.30m)	2.85m	5.24m	4.25m	3.16m
140 (3.56m)	3.07m	5.65m	4.58m	3.42m
150 (3.81m)	3.29m	6.06m	4.91m	3.67m
160 (4.06m)	3.51m	6.46m	5.25m	3.92m
170 (4.32m)	3.73m	6.87m	5.58m	4.17m
180 (4.57m)	3.94m	7.28m	5.91m	4.42m
190 (4.83m)	4.16m	7.69m	6.24m	4.67m
200 (5.08m)	4.38m	8.10m	6.58m	4.92m
210 (5.33m)	4.60m	8.51m	6.91m	5.17m
220 (5.59m)	4.82m	8.92m	7.24m	5.43m
230 (5.84m)	5.04m	9.33m	7.58m	5.68m
240 (6.10m)	5.26m	9.74m	7.91m	5.93m
250 (6.35m)	5.48m	10.15m	8.24m	6.18m
260 (6.60m)	5.70m	10.55m	8.58m	—
270 (6.86m)	5.92m	10.96m	8.91m	—
280 (7.11m)	6.14m	11.37m	9.24m	—
290 (7.37m)	6.36m	11.78m	9.57m	—
300 (7.62m)	6.57m	12.19m	9.91m	—

* Projection distance chart is based on projected images with 4,096 x 2,400-pixel resolution. Projection distances are design specifications, so there is ±5% variation. Aspect ratio 17:10.

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