

15,000:1 Native Contrast Ratio is the Industry's Highest\*.  
Ensures True Black Reproduction Without Any Loss in Brightness.



**D-ILA** **Full HD**  
1920x1080



## DLA-HD1

Full High Definition Home Theatre Front Projector

- [15,000:1 - Industry's highest\\* native contrast ratio ensures true black reproduction without an iris mechanism.](#)
- [Flexible set-up made possible by high-performance 2x zoom lens with lens shift and front fan intake/exhaust design.](#)
- [Easy to use: detailed video adjustment menu and illuminated remote control.](#)
- [Optional accessory](#)
- [Projection distance chart](#)
- [Specifications](#)

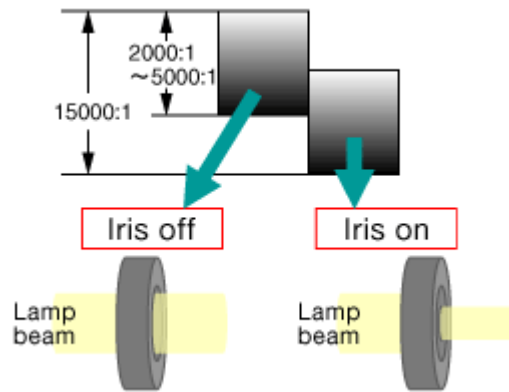
\*Native contrast of 15,000:1 for home theatre projector class (JVC survey as of 14 November 2006).

**The secret behind the 15,000:1 native contrast ratio\* is a newly-developed 0.7-inch full HD D-ILA device combined with a new optical engine.**

\* Native contrast of 15,000:1 for home theatre projector class (JVC survey as of 14 November 2006).

Conventional Projector

DLA-HD1



For bright scenes the iris is opened, making peak values brighter, but at the same time blacks are lighter than they should be.

For dark scenes the iris aperture is reduced, causing blacks to appear darker but at the same time peak values are also darker.

The newly developed 0.7-inch full HD D-ILA device can display peak whites and deep blacks on the same screen.

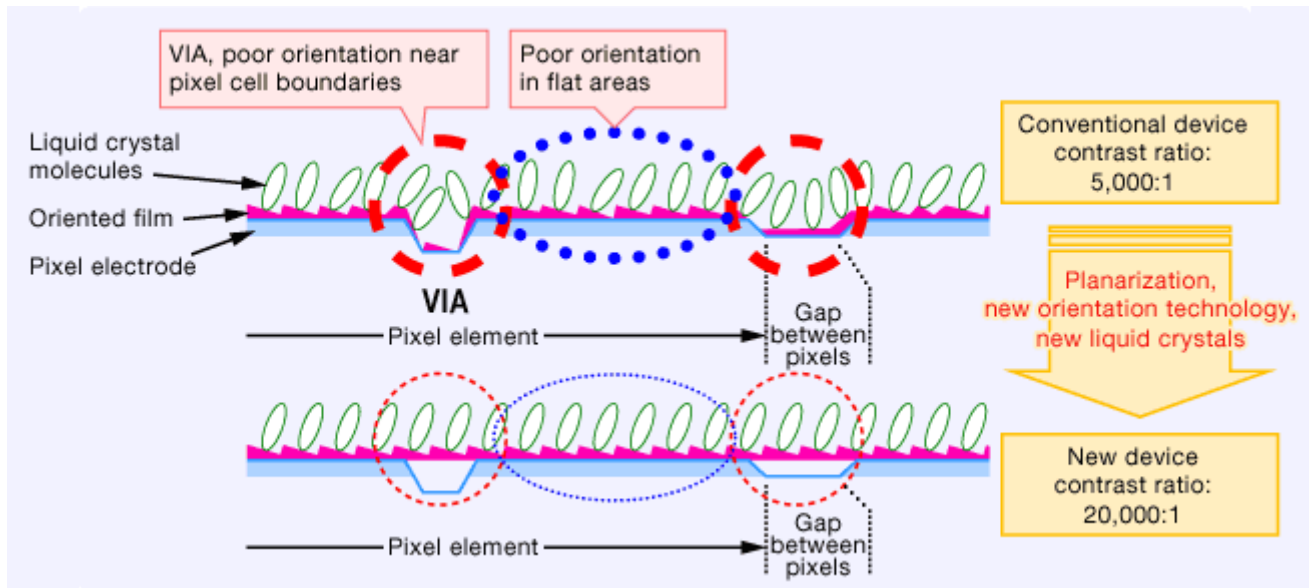
Above images are simulated to show the effect.

### Newly developed 0.7-inch full HD D-ILA device

Conventional D-ILA devices suffer from surface unevenness, minute gaps and irregularities that are unavoidable using normal semiconductor manufacturing processes. Discontinuities between individual pixel cells or where the pixel cells are connected with the underlying semiconductor structure disturb the orientation of the liquid crystals, and the resulting diffraction and other effects lead to stray light. In the manufacture of this newly developed device, technology has been adopted to ensure extreme planarization; this reduces to an absolute minimum such stray light.

Moreover, as a result of employing new liquid crystal materials and orientation technologies, the gap between pixel cells has been optimised, reducing it from the previous 3.2 microns to 2.3 microns, cutting light loss from the liquid crystal layer itself, and significantly improving the compensation accuracy. Such new technologies have realised the extremely high device contrast ratio of 20,000:1, and at the same time halved response time from 8msec (Tr+Td) to 4msec.



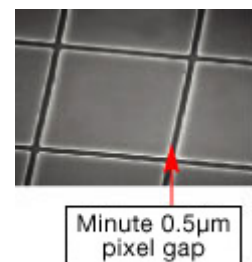


Use of three new 0.7-inch full HD D-ILA devices results in a flicker-free high-definition picture

JVC's original D-ILA (Direct-drive Image Light Amplifier) technology ensures a natural, rich, flicker-free picture which does not suffer from the sort of colour-breaking phenomenon that can often occur with single-device projectors, especially when there is rapid movement. The result is a smooth picture, like that produced by film, with fine detail from one edge of the screen to the other.

Film-like picture with inconspicuous pixels

There is no obvious "screen-door" effect (a faintly visible mesh representing pixel cell boundaries) when using D-ILA devices, so the high-definition picture is like that produced by a film projector.



Professional-standard greyscale performance

JVC's original D-ILA pulse drive produces clear, high-precision gradations without employing error diffusion. While delivering a 15000:1 contrast ratios, high-precision calibration technology enables the faithful reproduction of dark pictures, in which luminance is 10% or less, so that the blacks can still be differentiated, thus resulting in pictures with appreciable texture.



Greyscale comparison

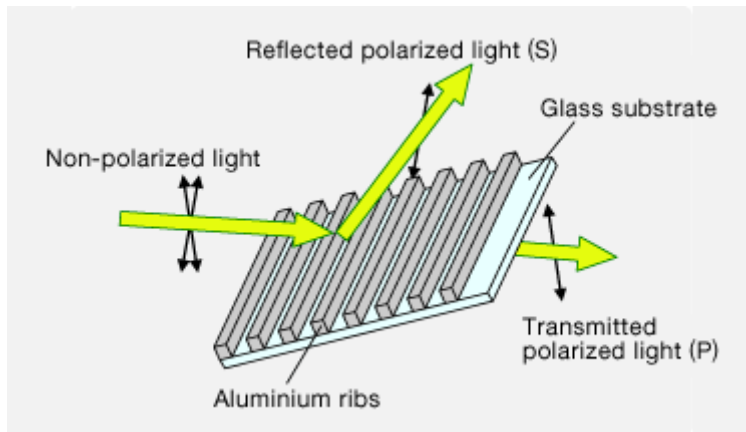
Excellent colour reproduction

Thanks to an optical engine developed by JVC, colours are reproduced with smooth gradations and minimal noise. The resulting colour reproduction is ideal for movies. Since vertically oriented liquid crystals are used for the D-ILA device, it is possible to reproduce objects that are normally black with true blacks. And, irrespective of brightness, consistent response is assured, allowing the reproduction of a wide range of intermediate colours.

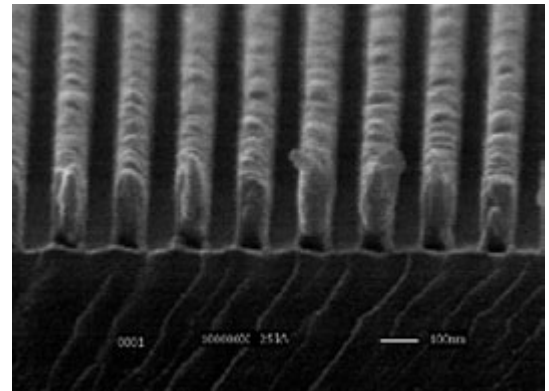
## New optical engine with wire-grid polarizers

Using a conventional PBS (Polarizing Beam Splitter), comprised of a glass prism on which has been deposited a multilayer interference film, optical properties can vary considerably depending on the angle of the incident light beam; this makes it difficult to realise high contrast.

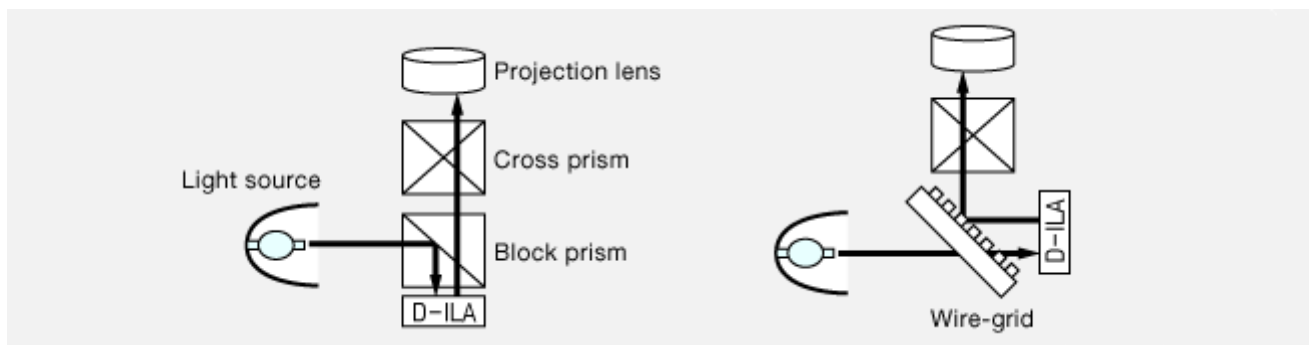
However, the wire grid design employed for JVC's newly developed optical engine uses an inorganic reflective polarizing plate made from a glass substrate on the surface of which are aluminium ribs with a width of a 20~30 nanometers, aligned with a pitch of 120~130 nanometers. This has very little angle-dependence and it succeeds in reducing to an absolute minimum the amount of stray light reaching the lens during dark scenes. The combination of this polarizer with the newly developed D-ILA device increases contrast by a factor of 5.



How the wire-grid polarizer works



Enlarged photo of the wire-grid polarizers



## Image processing circuit with video processor made by Genum Corporation

The projection system features the GF9351, a video processor made by Genum Corporation. This video processor ensures the faithful reproduction of high-quality images thanks to a high-precision scaling function and four VXP technologies as the followings.



VXP Technologies

FineEdge

Edge correction technology that gets rid of the jaggy artifacts that can affect diagonal lines, creating instead smooth outlines.

### FidelityEngine

Imaging technology that improves detail while reducing noise. This technology ensures a clear, detailed picture even when using video sources with lower resolutions.

### TruMotionHD

De-interlacing technology that supports HD signals (1080i), converting them to high-quality 1080p signals for playback.

### RealityExpansion

10-bit image processing technology. This technology can upsample 4:2:2 (Y:Cb:Cr) video signals to the 4:4:4 format; it delivers outstanding image processing at a level comparable to that of broadcast masters.

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## 2x zoom lens plus front fan intake/exhaust design for flexible set-up

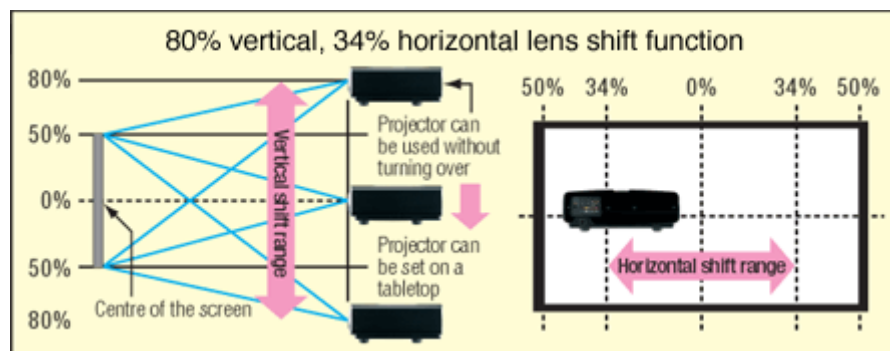
### Lens system

The projection lens features a large diameter, all-glass lens with 16 elements in 13 groups that significantly reduces chromatic aberration and ensures a high-resolution picture, with every point on the screen perfectly in focus. Also, the high-performance 2x zoom lens enables you to enjoy a large and impressive image even in smaller rooms that do not permit typical recommended throw distances to the screen.



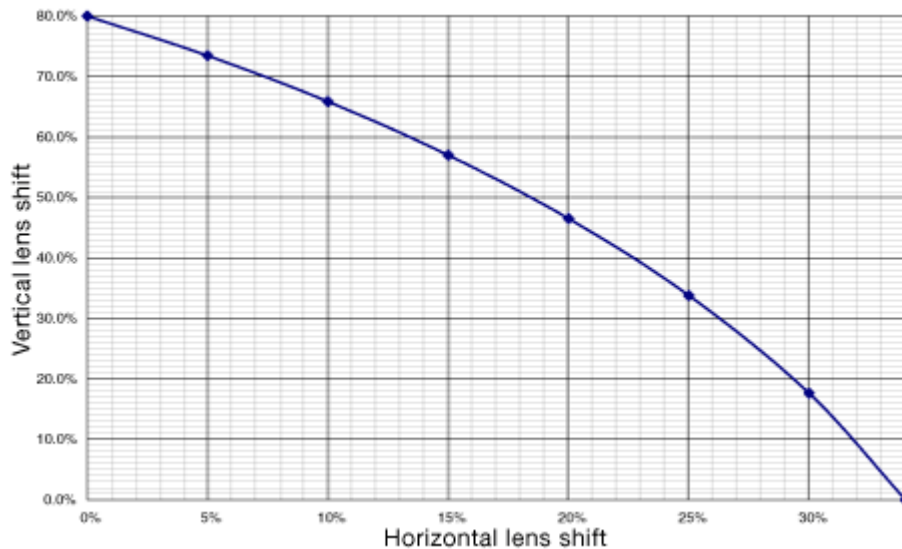
### Lens shift function: +/-80% vertical, +/-34% horizontal

The intelligent projection system features a +/-80% vertical and +/-34% horizontal lens shift function, allowing you to set up the system more freely.



\*The vertical and horizontal lens shifts cannot be set to maximum values at the same time.

Lens shift correlation diagram

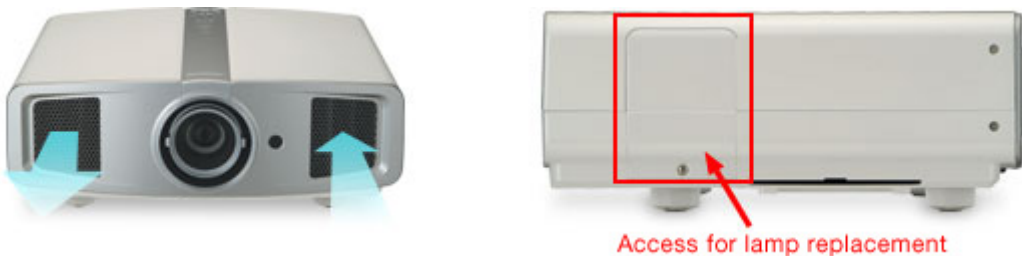


Zoom

Note: Values are calculated from design data

### Front fan air intake/exhaust design for the cooling system

Both the air intake and exhaust are located on the front of the projector to maximise flexibility for projector installation. The simple, clean design means that there are only interface connections on the back panel, giving you more freedom of choice in deciding where to put the projector. For example, the DLA-HD1 can be placed next to a wall if ceiling mounting is not possible. And, regardless of whether the projector is ceiling mounted or on a tabletop, the lamp is easy to replace from the side panel.



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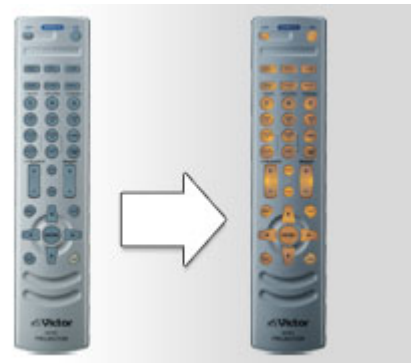
### User friendliness as well as top performance

Convenient, detailed video adjustment menu

The projection system features a convenient video adjustment menu that allows you to easily adjust the picture to suit the source video and your own preferences.

Self-illuminating remote control

The buttons of the remote control light up automatically, making it easy to operate even in a dark room. The remote control includes direct keys to adjust frequently used functions such as contrast and brightness, in addition to video input selection.



Equipped with 2 HDMI terminals for greater convenience



This product is equipped with 2 separate HDMI terminals that ensure HDTV signals are transferred without any degradation.



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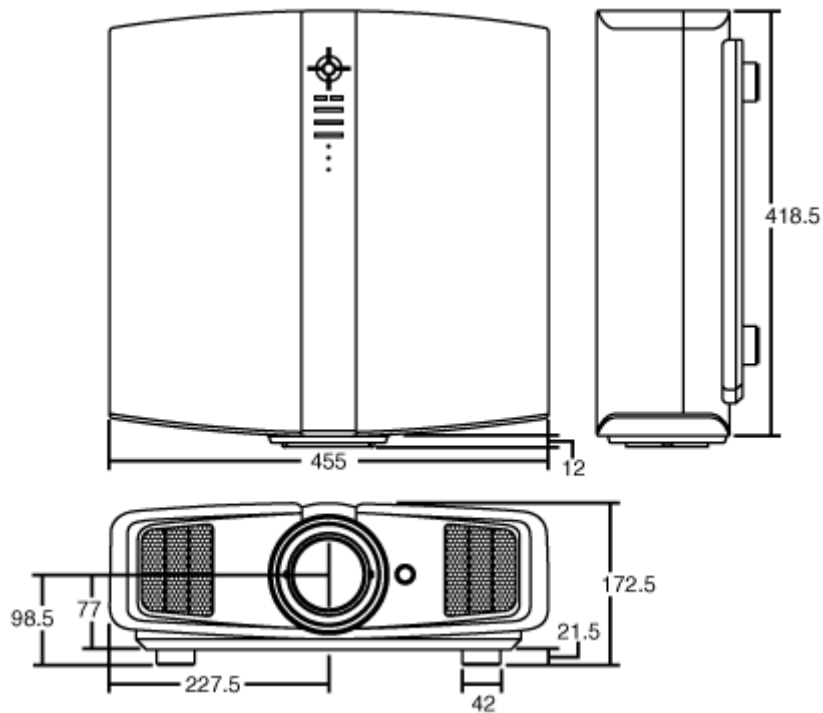
### Optional Accessory

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**User-replaceable Lamp  
BHL5009-S**

External dimensions



Unit: mm

Rear terminals



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### Projection Distance Chart

Inch	Display size (16:9)		Projection distance	
	W (mm)	H (mm)	Wide (m)	Tele (m)
60	1,328	747	1.78	3.63
70	1,549	872	2.09	4.24
80	1,771	996	2.40	4.86
90	1,992	1,121	2.71	5.47
100	2,214	1,245	3.01	6.08



110	2,435	1,370	3.32	6.70
120	2,656	1,494	3.63	7.31
130	2,878	1,619	3.93	7.93
140	3,099	1,743	4.24	8.54
150	3,320	1,868	4.55	9.16
160	3,542	1,992	4.86	9.77
170	3,763	2,117	5.16	10.38
180	3,984	2,241	5.47	11.00
190	4,206	2,366	5.78	11.61
200	4,427	2,490	6.08	12.23

\*Projection distances are design specifications, so there is  $\pm 5\%$  variation.

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## Specifications

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<b>Display device</b>	Full HD D-ILA device
<b>Panel size</b>	0.7 inch x 3 (16:9)
<b>Resolution</b>	1,920 x 1,080 pixels
<b>Lens</b>	X2 manual zoom/focus lens f=21.3-42.6mm F=3.2-4.3
<b>Projection size</b>	60 inches to 200 inches
<b>Lens shift function</b>	+/-80% vertical and +/-34% horizontal
<b>Light source lamp</b>	200-watt ultra high-pressure mercury lamp
<b>Light output</b>	700 lm
<b>Contrast ratio</b>	15,000:1
<b>Video input terminals</b>	HDMI x 2 Component x 1 (3RCA) can also be used as a RGB terminal. S Video terminal (mini DIN4 pin) x 1 Composite x 1 (1RCA terminal)
<b>(back panel)</b>	
<b>Control terminals</b>	RS-232 (D-sub9 pin)
<b>Video input signals</b>	480i/p, 576i/p, 720p60/50, 1080i60/50, 1080p60/50/24, NTSC/NTSC4.43/PAL/PAL-M/PAL-N/SECAM
<b>Noise level</b>	25dB (in normal mode)
<b>Power consumption</b>	280 watts (2.7 watts while in stand-by)
<b>Dimensions (W x H x D)</b>	455 x 172 x 418mm (without extrusions)
<b>Weight</b>	11.6kg
<b>Provided accessories</b>	Power source cable x 1, self-illuminating remote control x 1, AAA size batteries, and lens cap

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Inside this projector there is a high-pressure mercury lamp. This type of lamp may break, emitting a loud noise, when it is subjected to shock or after it has been used for some length of time. Please note that, depending on how the projector is used, there can be considerable variance between individual lamps as regards how many hours they will operate before requiring replacement.

A separate charge is payable for installation, if required.

Design and specifications are subject to change without notice.

◆ Depending on your computer monitor characteristics, the product colours seen on this website may appear slightly different to the actual colours.

◆ The projector lamp requires periodic replacement and is not covered by warranty.

◆ Please be aware that, because 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).

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