The Power of 4K Image Displays — Super High-Definition Pictures that Surpass Full HD.

The feeling of actually being immersed into a picture, an unprecedented visual sensation, is now being realized with 4K-resolution. JVC’s professional projector business, nurtured by its high-definition expertise, has integrated with e-Shift technology to enhance the potential of realism in home theater projectors. The incredible picture resolution of 4K projection surpasses that of full high-definition to ensure a masterful reproduction of details as well as clear, realistic representations of texture. Now everyone can enjoy a remarkable viewing experience unlike anything before seen in a home theater environment.
Super High-definition 4K Projection (3,840 x 2,160 pixels)

In addition to a Full HD D-ILA device, the DLA-X90R and X70R feature a newly developed optical engine incorporating new e-Shift technology to realize super high-definition projection of 4K-resolution (3,840 x 2,160 pixels).

These projectors take any compatible 2D 1920 x 1080 signal and scale that signal to 3840 x 2160 resolution. Once this 3840 x 2160 image is created, the JVC projector divides it into two 1920 x 1080 subframes which are displayed at high speed using our exclusive e-Shift device. The e-Shift device shifts the second frame by ½ a pixel in each direction. The viewer’s eye combines these two subframes to see the full 3840 x 2160 image, effectively doubling the resolution of traditional Full HD.

Unlike simple resolution-upscaling technology, the use of a device that is capable of displaying 4K-resolution (3,840 x 2,160 pixels) drastically improves picture quality to ensure exceptional precision and full presence.

JVC’s Original Advanced Image-processing Technologies

JVC’s advanced image-processing technologies ensure high definition through the use of precise detection and restoration algorithms. The former analyzes pixel information within different areas of the frame; the latter restores the high-frequency components that are missing in low-resolution images. Further quality enhancement is achieved via contrast correction and jagged edge reduction. The overall result is a picture that looks real down to the smallest detail.

Close-up view

<table>
<thead>
<tr>
<th>Original</th>
<th>Results of JVC technologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jagged edges are eliminated in diagonal sections for sharper images.</td>
<td></td>
</tr>
<tr>
<td>Faithful reproduction of contrast even for intricate details.</td>
<td></td>
</tr>
<tr>
<td>Clearer images with reduced noise and less blur.</td>
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</table>
D-ILA 3D Projection Leaps Forward in Quality.

Fully equipped with an array of beneficial 3D functions such as 2D-3D conversion and 3D picture adjustment, JVC’s D-ILA projectors take a significant leap forward in picture quality by delivering a more realistic 3D video experience that is simply packed with presence.

Frame Addressing — the D-ILA Method

Thanks to JVC’s original D-ILA driving method, Frame Addressing reproduces more colorful and vivid 3D video content with reduced crosstalk (image overlapping). What’s more, this technology incorporates newly developed driving circuitry that helps to drastically improve image brightness. This means that with JVC’s D-ILA projectors, anyone can enjoy breathtaking and impressive 3D video content just like that seen at cinemas, right in the comfort of their living rooms.

An alternative driving method known as “line addressing” utilizes a fast-shutter approach, but when the shutters are switched between the left and right eyes, crosstalk can be generated where the left and right images overlap. This crosstalk occurs because the shutter on 3D glasses is opened for a shorter amount of time compared to the D-ILA method which causes the picture to darken and lose brightness. However, JVC’s Frame Addressing driving method draws images in a single frame at one time, enabling the shutter on the 3D glasses for one eye to remain open for an extended period, which ultimately realizes a brighter 3D picture with less crosstalk.
Crosstalk Canceling

The innovative Crosstalk Canceling function drastically reduces crosstalk from intensity levels that are likely to generate this phenomenon by first analyzing the video signal for the left and right eyes and then correcting the levels via an original algorithm. This ensures the reproduction of more natural and clear pictures that are easier on the eyes to heighten the viewing enjoyment of more realistic 3D video content.

Disparity Adjustment

To adjust for the parallax difference between each eye, this function finely controls image disparity between the left eye and right eye to ensure more natural stereoscopic reproduction with less distortion.

2D-3D Conversion

The real-time 2D-3D converter featured on JVC’s IF-2D3D1 Professional 3D Image Processor, which has earned an excellent reputation in film and 3D video production/editing studios, has been modified for home projector use and is now featured on the DLA-X90R/X70R/X30 projectors. This means that 2D video recorded on camcorders and from TV broadcasts can be converted into 3D video instantaneously for home stereoscopic viewing enjoyment.

Depth Adjustment:

3D effects, especially depth characteristics, can be adjusted to match the content source or viewer preferences.

Subtitle Adjustment:

Subtitle distortion generated during 2D-3D conversion can be rectified.

Options to Enjoy 3D Viewing

Notes about viewing 3D video content

- The optional 3D Synchro Emitter and 3D glasses are required to view 3D images from the D-ILA projectors. 3D video software (3D media or output of 3D broadcasts) and a 3D-compatible video player are also required.
- Perception of 3D images will vary with individual viewers.
- Stop viewing 3D images immediately if any discomforts such as headaches, dizziness, eye fatigue, etc. occur.
- Viewing of 3D images by children under the age of five is not recommended.
- Read the Safety Precautions in the User Manual carefully before viewing any 3D source.
**Cinema-like Quality Realized by D-ILA**

### Native Contrast Ratio

A high native contrast ratio is achieved by an enhanced optical engine featuring JVC’s original D-ILA device and a wire grid. The D-ILA method features a wide video dynamic range to display peak whites and deep blacks on the same field of a picture, helping to realize remarkable presence with smoother grayscale and increased depth.

### JVC’s Unique Real Color Imaging Technology (DLA-X90R/X70R)

Real Color Imaging Technology accurately detects film color specifications to optimize color replication and heighten picture quality to reproduce colors that are as faithful to the original source as possible.

#### Exclusive Color Profile

JVC has succeeded in creating an exclusive color profile from video content by accurately analyzing color information to reproduce images faithful to the original source. By combining this color profile with the array of picture modes, users can enjoy up to twelve different levels of picture quality.

#### Xenon-lamp Color Temperature Setting

Real Color Imaging Technology also incorporates a Xenon-mode color temperature setting equivalent to that of a Xenon lamp, a popular light source used in cinemas. This setting allows for the authentic reproduction of colors similar to those of film in cinemas, while using highly efficient and economical ultra-high pressure mercury lamps.

#### Wide Color Space

Real Color Imaging Technology features a color space wider than that of Adobe RGB to vividly reproduce a fuller spectrum of colors such as the green of trees, the blue of oceans, etc., which was difficult to recreate accurately up until now.

### Color Management System with 7-axis Matrix (DLA-X90R/X70R)

A 7-axis matrix of red, green, blue, cyan, magenta, yellow, and orange ensures the precise adjustment of hue, saturation, and intensity. The last axis of orange helps in enhancing the selection of the color spectrum for skin tones. And for improved operability, only the color being adjusted will be shown on the screen while the others are displayed in black and white.

### Screen Adjustment Modes

Reflective characteristics that differ from screen to screen are precisely analyzed and the projector automatically selects the best mode to match the screen being used. With the appropriate mode selected, the picture displayed will always be precisely adjusted to ensure excellent image reproduction with natural color balance.

*The DLA-X30 has three selectable modes; the DLA-X70R offers 101 modes but with a firmware update it provides a maximum of 255 modes. Please refer to the JVC website for a comparison table of primary screens and adjustment modes.

### JVC’s Original Picture Tone Function (DLA-X90R/X70R)

The Picture Tone function works to balance gamma, contrast, and brightness settings without affecting the gray scaling of the original source to enable brightness adjustment that better matches the surrounding environment.
Flexible Installation Guaranteed

Flexible installation is made possible thanks to the ±80% vertical and ±34% horizontal powered lens-shift function. The projector also features a high-performance 2X zoom lens with motorized focus that can project images upon a large 100-inch screen at distances of between 9.8 and 20 feet. With the high-performance motor, the once tedious tasks of setting zoom ratios and focus adjustments are now made simple and effortless.

Pixel Adjust Function

The Pixel Adjust function allows users to precisely correct color deviation in 1/16-pixel increments*, and it is also capable of segmenting the entire screen into 121 points and adjusting them individually to realize clearer video without color deviation.

A Wide Range of Inputs and Outputs

In addition to 3D compatible HDMI inputs, the projector features an array of other connections, such as an RJ45 socket for projector control, firmware and configuration updates, and a trigger socket for an anamorphic lens or motorized screen.

Industry Certified Projectors (DLA-X90R/X70R)

THX 3D Display Certification

The DLA-X90R and X70R are accredited with THX 3D Certification, which is established to ensure the precise reproduction of picture quality in home environments for both 2D and 3D content just as the original filmmaker envisioned. Encompassing more than 400 laboratory tests to evaluate a projector’s color accuracy, crosstalk, viewing angles and video processing, this certification helps to guarantee high-definition quality.

* Ideal 3D screen-size performance is 90 inches diagonal (16:9).

Certified by ISF (Imaging Science Foundation)

The DLA-X90R and X70R are licensed with the ISF C3 (Certified Calibration Controls) mode, enabling trained dealers to professionally calibrate them to desired screen surfaces, lighting environments and video sources, and then securely store these precise settings into the projector. This not only helps to ensure the reproduction of film or video content accurate to the source but also excellent picture quality optimized for specific environments.
4K Projection

In addition to an HD D-ILA device, the newly developed optical engine features new e-Shift technology to realize a super high-definition 4K (3,840 x 2,160 pixels) display. This means that unlike conventional resolution-upscaling technology for Full HD projectors, 4K display performance drastically improves picture quality to ensure exceptional precision and full presence.

Exceptionally High Native Contrast Ratio of 120,000:1

As a top-of-the-line D-ILA projector, the DLA-X90R delivers ultimate performance in all aspects of image reproduction, including the industry’s highest native contrast ratio of 120,000:1*. This extraordinary figure is realized by reducing unnecessary light leakage from the optical engine, which is comprised of an original D-ILA device, wire grid, and other innovatively assembled components/devices.

*As of November 2011.

The Top-Of-The-Line PREMIUM D-ILA Projector

The name D-ILA itself speaks of high-quality home cinema projectors, but the DLA-X90R represents a step above the rest in terms of exquisite image reproduction. Incorporating a select choice of premier components and technologies, the DLA-X90R offers remarkable levels of picture quality with its 4K-resolution and a native contrast ratio of 120,000:1.

Conventional projector

DLA-X90R
Distinguished PREMIUM D-ILA Projector

Equipped with precision engineering and special features only available on this Premium model, the DLA-X90R is simply the finest home cinema projector the market has to offer.

Industry leading 120,000:1 Native Contrast Ratio.

4K-resolution D-ILA Projector with 3D Viewing
DLA-X90R

- 3D compatibility
- Variety of 3D functions: 2D-3D conversion, crosstalk canceling, depth adjustment, etc.
- Adobe RGB color space
- Xenon-lamp color temperature
- Clear Motion Drive*
- 7-axis Color Management
- Screen Adjustment modes (Max. 255 modes)
- Picture Adjustment functions: Picture Tone, Black Level, Darkness and Lightness Correction
- Lens Memory function (3 modes)
- Pixel Adjust function (1/16-pixel increments)
- Motorized lens cover
- Digital keystone*
- THX 3D Certification
- ISF Certification

*Operates only in 2D mode.
High-definition Projector that Perfectly Replicates Movie Quality.

4K Projection*, Native Contrast Ratio of 80,000:1, and Premium Features Realize an Exquisite Picture.

4K-resolution D-ILA Projector with 3D Viewing

DLA-X70R

- 4K (3,840 x 2,160 pixels) D-ILA projector*
- High native contrast ratio of **80,000:1**
- Minimized crosstalk for brighter, more realistic 3D picture
- 2D-3D conversion creates dynamic 3D video content from 2D video sources
- JVC original Real Color Imaging Technology
- Clear Motion Drive**
- Various picture adjustment functions ensure a high-quality picture
- Lens Memory function automatically adjusts aspect ratio to match content
- Pixel Adjust function corrects color distortion in 1/16-pixel increments
- Motorized lens cover automatically opens or closes the lens

*3,840 x 2,160 pixels. **Operates only in 2D mode.
Remarkable Picture Quality Even in a Well-lit Room.

1,300-lumen Brightness Level and a Native Contrast Ratio of 50,000:1.

**D-ILA Projector with 3D Viewing**

**DLA-X30**

- **1,300-lumen** brightness level and **50,000:1** native contrast ratio
- Bright, high-definition 3D picture without crosstalk made possible by D-ILA
- 2D-3D conversion creates dynamic 3D video content from 2D video sources
- Convenient lens memory function (3 stages)
- 16-step aperture function adjusts brightness
- Pixel Adjust function corrects color distortion in 1-pixel increments
- 2X motorized zoom lens for flexible installation
- Screen Adjustment modes (3 modes)
- Clear Motion Drive ensures smoother picture reproduction*

*Operates only in 2D mode.
Main Features

- **4K Projection**
- **Clear Motion Drive**
- **Motorized Lens Cover**
- **Initial Calibration**
- **Pixel Adjust**
- **Darkness and Lightness Correction**
- **Picture Tone**
- **Color Management**
- **Aperture 16 steps**

Optional Equipment

User-replaceable Lamp
PK-L2210U

3D Glasses
PK-AG2
Rechargeable Type

PK-A1G1
Battery-operated Type

3D Synchro Emitter
PK-EM1

External Dimensions (unit: in. mm)

Top

Bottom

*Operates only in 2D mode. * Requires a commercially available optical sensor.

Projection Distance Chart

<table>
<thead>
<tr>
<th>Distance (in.</th>
<th>mm)</th>
<th>Distance (in.</th>
<th>mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>52.8</td>
<td>1342</td>
<td>60.5</td>
<td>1534</td>
</tr>
<tr>
<td>65.8</td>
<td>1670</td>
<td>70.0</td>
<td>1778</td>
</tr>
<tr>
<td>83.0</td>
<td>2100</td>
<td>100.0</td>
<td>2540</td>
</tr>
<tr>
<td>110.0</td>
<td>2794</td>
<td>130.0</td>
<td>3302</td>
</tr>
<tr>
<td>160.0</td>
<td>4064</td>
<td>170.0</td>
<td>4318</td>
</tr>
</tbody>
</table>

Specifications

- **Contrast Ratio**
  - Native: 50,000:1
  - Native: 80,000:1
  - Native: 120,000:1
- **Power Consumption**
  - 330W (Standby: 0.8W)
  - 360W (Standby: 0.8W)
- **Power Requirement**
  - AC 110-240V, 50/60Hz
- **Noise**
  - 20dB (Lamp normal mode)
- **Dimensions (w. 1 kg)**
  - 32.85 x 14.9kg
  - 33.95 x 15.4kg

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