After 20 years of progress, the D-ILA projector evolves from 4K to 8K with JVC’s e-shift technology.

It all started in 1997. For two decades, we have dedicated ourselves to perfecting the D-ILA devices and technologies resulting in the finest D-ILA projectors of our time. D-ILA projectors that project realistic images with their overwhelmingly high native contrast, high resolution and wide colour gamut have gained support from projection and video enthusiasts and received many prestigious awards. Always looking ahead, in 2018 we succeeded in the development of a refined 4K native device. What’s more, combining the latest 8K carbon device and exclusive e-shift technology, the world’s first 8K/e-shift home theatre projector is now here and ready to immerse your senses.

A new challenge for the 21st year. At JVCKENWOOD we will continue to pursue the possibilities of D-ILA projection.

**New series**

**DLA-RS3000**
- World’s first 8K/e-shift technology*
- Equipped with new 0.69-in 8K D-ILA devices
- Newly developed digital driver LSI for native 8K device
- 100 mm Large diameter, high resolution all-glass lens
- 2,200 lm Light Output
- 100,000:1 Native Contrast Ratio
- 1,000,000:1 Dynamic Contrast Ratio
- 10-bit High Dynamic Range (HDR10, HLG)
- D-ILA Projector
- New Frame Adapt HDR function*2
- Supports Wide Colour Gamut (DCI-P3)
- High-quality Performance assured: THX 8K display

**DLA-RS2000**
- Equipped with new 0.69-in 8K D-ILA devices
- Newly developed digital driver LSI for native 8K device
- 65 mm-diameter high-resolution all-glass lens
- 1,900 lm Light Output
- 80,000:1 Native Contrast Ratio
- 800,000:1 Dynamic Contrast Ratio
- 10-bit High Dynamic Range (HDR10, HLG)
- D-ILA Projector
- New Frame Adapt HDR function*2
- Supports Wide Colour Gamut (DCI-P3)

**DLA-RS1000**
- Equipped with new 0.69-in 8K D-ILA devices
- Newly developed digital driver LSI for native 8K device
- 65 mm-diameter high-resolution all-glass lens
- 1,800 lm Light Output
- 40,000:1 Native Contrast Ratio
- 400,000:1 Dynamic Contrast Ratio
- 10-bit High Dynamic Range (HDR10, HLG)
- D-ILA Projector
- New Frame Adapt HDR function*2
- Supports Wide Colour Gamut (DCI-P3)

*1: As of August 30, 2018; as a home theatre projector capable of displaying 8K-resolution images.

*2: Supports software version v3.10 and later versions.

1997 Developed the first D-ILA device


New series
Combination of Technologies that Realize 4K Native and 8K/e-shift Projection

**8K Home Theatre Projection Achieved by Combining Native 4K and “e-shift” Technology**

“e-shift” is JVC’s proprietary high-resolution display technology that shifts pixels by 0.5 pixels vertically and horizontally to achieve 4 times the pixel density of the original content. Ahead of the competition, JVCKENWOOD developed the 8K/e-shift technology in 2011. Ever since, this technology has evolved and received a favourable response for its high resolution near-native 4K using the FHD device.

The 8K/e-shift technology adopted for the DLA-RS3000 combines the “e-shift” technology with another proprietary technology, Multi Pixel Control, to convert Full HD and 4K-resolution images into 8K-equivalent resolution (8192 horizontal by 4320 vertical). The result is an eye-opening, high-definition display that is very close to the original subject.

*3: The projector does not support 8K signal input.

All D-ILA projectors feature original high-performance image processing technology, Multiple Pixel Control (MPC) that detects blurring generated from images taken with 4K cameras. Through analyzing and correcting with an original algorithm, the MPC is an image processing technology capable of accurate reproduction closer to the original. Compared to conventional band processing, MPC achieves the utter reality of 4K quality by detecting and processing images in a higher frequency range to achieve exceptional presence and bokeh – creating almost 3D feeling. On the high-end model DLA-RS3000, the image processed with MPC is up-converted using 8K/e-shift technology to double the image information for displaying more realistic and smooth images closer to the original.

**Equipment with refined 0.69” native 4K D-ILA device and newly developed digital driver LSI for native 4K device**

The DLA-RS3000 is equipped with an 18-element, 16-group all-glass lens featuring a full aluminium lens barrel. In order to project high-resolution images to every corner of the screen with the 100 mm diameter lens offering wide lens shift of ±100% vertically and ±43% horizontally, the projector adopts five ED lenses that take into account differences in the R/G/B refractive index to reduce chromatic aberration and colour fringing when lens shift kicks in to deliver precise reproduction of 8K-resolution projection.

The DLA-RS2000 and DLA-RS1000 models feature a 17-element, 15-group all glass lens with 65 mm diameter to project fully focused 4K native resolution to all corners of the screen.

8K/e-shift image

A 4K
pixel

An 8K
pixel

DLA-RS3000 is processed by combining MPC with 8K/e-shift technology.

Equipped with refined 0.69” native 4K D-ILA device and newly developed digital driver LSI for native 4K device
The Power to Project HDR Images Brighter, Higher Contrast, and Wider Gamut

Maximum brightness of 2,200 lm*4 can be achieved by combining a 265 W ultra high-pressure mercury lamp and a highly efficient optical engine. JVC, with the D-ILA device that features a narrow gap between pixels for optimum use of light, a powerful yet finely detailed and smooth image projection can be achieved.

*4: Achieved on the DLA-RS3000. 1,900 lm for the DLA-RS2000 and 1,800 lm for the DLA-RS1000.

By using a new cinema filter, the projector achieves not only 100% coverage of the BT.709 but also coverage beyond the DCI-P3*6 display range used in film production. HDR content found on media such as UHD Blu-ray Discs adopts a much wider colour gamut compared to conventional content.

Three new D-ILA projectors that feature wide gamut allow for more accurate reproduction of the natural gradations in images of the sky and the sea, as well as differences in the colour contrast between subjects such as flowers of a deep crimson or rose colour, or the different shades of green on tree leaves, which presented difficulties in the past.

*6: DCI-P3 coverage is featured on the DLA-RS3000 and DLA-RS2000.

HDR (high dynamic range) content contains more data including an extended brightness range, 10-bit gradation and a wide BT.2020 colour gamut. For this reason, high basic performance is required for precise reproduction by the projector. With D-ILA projectors, HDR content are optimally reproduced with “high-brightness, high contrast, and wide gamut” to enjoy high quality HDR content as you’ve never experienced in the past. Moreover, in addition to HDR10 content, which is found on UHD Blu-ray Discs, the projector automatically detects the Hybrid Log-Gamma (HLG) signal, a technology used widely in broadcasting, allowing the user to view in an optimum picture mode.
Functional Beauty to Clearly Project Images Boasted by D-ILA

Stately Form that Matches the New Generation Model

Adopting the legendary centre paneling of the D-ILA projectors, the new form has no decorative lines but only features simplicity for the pursuit its functionality. Symmetrical design centred on the lens that is set in the core conveys a stately form with a sharp impression that fits the new generation models.

Stately Form that Matches the New Generation Model

Flexible installation is made possible thanks to the wide lens-shift function. As described in the diagram below, wide shift ranges are offered vertically and horizontally that help to deliver natural projected images without distortion.

Installation Mode

These projectors are equipped with "Installation Mode" that allows users to centrally manage settings related to installation in order to enjoy projected video best suited for each environment. As shown in the graphical interface on the right, eight settings for Lens Control, Pixel Adjustment, Mask, Anamorphic on or off, Screen Adjust, Installation Style, Keystone, and Aspect can be adjusted. Additionally, ten different mode settings can be stored in memory that can be named as desired. Installation modes stored in memory for various environments can be called up immediately.

Installation Mode and Memory graphical interfaces

Installation Mode

Other Features

- **Screen Adjustment Mode**
  Screen Adjustment Mode is one of the eight Installation Modes described above. When the user selects a setting that best suits the screen being used from the Screen Adjustment Mode settings, the projector adjusts the image with natural colour balance to match the screen. The mode is compatible with the latest models offered by the world's major screen manufacturers.*

- **Digital Keystone**
  The new projectors feature Digital Keystone, which adjusts keystone distortion that occurs when the projector is placed in a tilted position.

- **Anamorphic Mode**
  A 2.35:1 aspect ratio for wide cinematic films can be enjoyed by combining the projector with a third-party anamorphic lens to create dynamic picture reproduction just as can be seen in a movie theatre. Additionally, these projectors feature a mode to extend the width to fully match the newly installed 17:9 panel.

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**Rich Processing Technologies and Functions Capable of Supporting Various Video Sources**

- **Exceptional motion image processing achieved with renewed Clear Motion Drive**
  - The high-end DLA-RS3000 achieves 400,000 frames per second, which is far higher than the 18,000 frames per second used by previous models. The newly developed software processing technology and optical motor allow consistent motion processing of images. Using proprietary software, the projector is capable of reproducing motion images with natural judder and jerkiness. Clear Motion Drive provides high-quality motion reproduction with excellent gradation. In order to be compatible with the latest HDMI standard and HDCP, the projectors comply with copyright-protected content such as OTT video services and the UHD Blu-ray Discs, the projectors comply with compatibility for reproducing more vivid colours with more precise gradation. In order to be compatible with the latest HDMI standard with 18 Gbps transmission bandwidth, the projectors are capable of receiving full spec 4K signals including 4K/60P 4:4:4, 4K/60P 4:2:2/36-bit and 4K/120P 4:2:0/4-bit. Additionally, all models 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 thus satisfy the ISF production standards for home theatre environments.

- **Auto Calibration Function**
  - The Auto Calibration Function is a feature that makes it easier for users to adjust the image settings. When this function is set to "On", the projectors automatically make adjustments to image brightness and color balance, and other parameters that affect image quality. The projectors are capable of recognizing the image characteristics, including color balance, gamma characteristics, and color gamut. This function is convenient for users who want to maintain consistent image quality, but do not want to manually adjust the settings. This function can also be used to adjust the image settings for different types of video sources, such as movies or sports.

- **Low Latency Mode**
  - As an example of the Auto Calibration Function, the projectors are capable of configuring the image settings based on the type of video source. When the Low Latency Mode is set to "On", the projectors automatically adjust the image settings to reduce lag and latency. This mode is particularly useful for watching live events or fast-paced video games, where delays can be distracting.

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