REALIS 4K501ST
4K LCOS PROJECTOR

4K RESOLUTION COMPACT SIZE
GET CLOSER TO A REAL WORLD EXPERIENCE WITH CANON 4K

The REALiS 4K501ST brings ultra-high definition Canon 4K to the most demanding applications, from simulation and high-tech design to big-scale museum display, detail-rich film and TV, government-grade presentation and more. Audiences can experience images and video with extreme precision, natural fluidity and faithful color – all at a resolution that’s higher than 4K digital cinema.
The REALiS 4K501ST brings true-to-life 4K resolution to the top of Canon’s LCOS projector line. It combines Canon’s LCOS Technology with AISYS-enhancement, and advanced Genuine Canon optics, to set a new standard in detail and clarity within a compact and lightweight design.

- **Native 4K Resolution (4096 x 2400):** Higher than the Digital Cinema Initiative (DCI) standard for 4K cinema (4096 x 2160) and more than QFHD (3840 x 2160), the resolution standard for 4K TV.
- **5000 Lumens* with up to 3000:1 Contrast Ratio:** Deep black levels and bright whites create content with outstanding depth and dimension.
- **Genuine Canon 4K Lens:** Specialized 4K short focus wide zoom lens produces virtually distortion-free 4K resolution projection with consistent brightness maintained at virtually every distance.
- **Compact and Lightweight Size:** Offers unique installation opportunities and flexibility.
- **Powerful Dual Image Processing Engines:** Reproduces uncompressed 4K video at up to 60 fps, and features optimal image upscaling to help maximize the quality of non-native 4K resolution content.

* When in Presentation Mode and lamp is set to Full Power Mode.

**Native 4K Resolution (4096 x 2400)**

Eye-opening 4K resolution produces incredibly detailed, high-impact images that are much sharper and more true to life than lower resolutions.

At 4096 x 2400, Canon’s 4K resolution generates a bigger, richer picture made up of more than 9.8 million pixels — higher than the Digital Cinema Initiative (DCI) standard for 4K cinema (4096 x 2160) and more than QFHD (3840 x 2160), the resolution standard for 4K TV. When compared to popular Full HD (1920 x 1080), the 4K501ST’s native resolution produces more than four times the resolution. This high resolution can help military, flight and other simulators produce highly accurate video and images with a wide depth-of-field to get as close as possible to a real-life experience.

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**CANON 4K PROJECTION. A NEW DIMENSION IN DETAIL.**

**Canon 4K (4096 x 2400)**

A NEW DIMENSION IN DETAIL.
REALISTIC “LIFE-LIKE” IMAGES, ALIVE WITH DETAIL

Genuine Canon 4K Lens
Drawing on Canon’s advanced optical expertise, the specialized 4K short-focus wide zoom lens projects virtually distortion-free 4096 x 2400 resolution images. A throw ratio of 1.1:1 means a 10-foot wide image can be projected from an approximate distance of only 10 feet away.

The design includes the same bold red ring around the lens barrel as Canon’s renowned L-series EF camera lenses, which are highly regarded among professional photographers as many of the industry’s finest. The lens itself features a multitude of sophisticated Canon technologies, such as dual-sided aspherical lens elements as well as Ultra Low Dispersion (UD) lens elements. These elements significantly reduce chromatic aberration, curvilinear distortion, ghosting and flare to create sharp and clear images in a compact size.

A deep depth of focus at F2.8 as well as a new Marginal Focus feature allow images to be rendered highly accurately onto a variety of curved surfaces. Where other projectors may distort or bow at the edges, Canon’s optical technology keeps the image quality extremely straight with a significantly low TV distortion. This results in beautiful images with smooth edges.

Brightness remains virtually consistent at 5000 lumens throughout the 1.3x zoom range, resulting in images that remain clear, strong and color-true whatever the projection distance.

Next Generation LCOS Technology with AISYS-enhancement
Canon’s advanced AISYS Optical Engine (Aspectual Illumination System) maximizes the light source and performance of the LCOS (Liquid Crystal On Silicon) panels to produce high resolution, high brightness and high contrast. Where high-level detail and clarity is vital, 5000 lumens of brightness and a contrast ratio of up to 3000:1 help provide a high-quality image. In addition, three 0.76-inch LCOS panels create smooth, natural video and images with a fast response time when compared to other projection technologies. The result is an immersive 4K resolution picture with crisp detail and true-to-life color.

Virtual Sharp Trace
Canon LCOS images are virtually free from gridlines.

Other Technologies
The lens position, meaning brightness is consistent throughout the zoom range. Brightness remains virtually consistent at 5000 lumens throughout the 1.3x zoom range, resulting in images that remain clear, strong and color-true whatever the projection distance.

Enhanced Image Processing Technologies
Canon’s advanced, powerful dual image processing engines produce exceptional video playback. The engines also allow the projector to offer a variety of features that help enhance the quality of still and motion images, making them more realistic and impactful.

• 4K Video Playback at up to 60p: Smoothly reproduces uncompressed 4K video at up to 60 frames per second for a natural, fluid feel and highly detailed, true-to-life content.

• Upscaling: Non-4K content will be maximized utilizing two upscaling technologies of BI-Cubic and Canon’s proprietary Sharp Trace – which can detect contours of an image in a diagonal direction and performs interpolation, resulting in a stunningly smooth image.

• Low Frame Delay: Effective simulation and training depends on realistic video with “low latency” – images that refresh as quickly as possible with minimal lag time. A relatively small frame delay helps to create an immersive, life-like experience. Response times are fast, so if a trainee pilot activates a cockpit control, for example, the corresponding video picture will respond quickly for a real-life look and feel.

Advanced Image Adjustments

• Multiple Image Modes: Select from six different pre-set image modes, as well as three additional customizable Image Modes, and many advanced adjustments that allow users to customize image and color characteristics to fulfill their specific imaging needs.

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• Standard: Ideal for bright rooms, and when using content from computer screens or motion picture content
• Presentation: Ideal for somewhat bright rooms when text needs to be clear, such as when part of a video presentation.

• Display: Ideal for rooms that are somewhat bright, and when showing motion picture content.

• Dynamic Gamma: When applied, this feature analyzes individual areas of the image for specific, independent contrast adjustment so light and dark areas do not appear over or underexposed.

• Memory Color Correction: This Canon technology can be used to enhance skin tones and other color features for rich, vivid results that look striking to the human eye.

** The REALIS 4K501ST is not intended for medical diagnosis and should not be used for these purposes.
**CANON CLARITY AND QUALITY IN A COMPACT, FLEXIBLE PACKAGE**

**Significantly Compact and Lightweight Design**
Canon’s cutting-edge optical design achieves 4K resolution and 5000 lumen brightness within an incredibly compact projector size. The innovative AISYS Optical Engine makes this possible by independently controlling light in both vertical and horizontal directions to achieve both high brightness and contrast. Combined with the small size of the LCOS panels (just 0.76 inches), the projector is incredibly compact while delivering outstanding performance. At a height of 6.9 inches, width of 18.5 inches and weight of 39.6 pounds, it’s smaller and lighter than many others.

**Installation Versatility**
The REALIS 4K501ST is equipped with a number of features for easy installation in a wide variety of spaces.

- **360-degree Vertical Installation**: Allows the projector to be positioned anywhere on the vertical axis. Fan speed can also be adjusted to help optimize results (depending on projector positioning).
- **Motorized Lens Shift (V: ±60%, H: ±10%)**: Makes it possible to easily adjust the vertical and horizontal positioning of the projected image.
- **4-point Keystone Correction**: Allows the corners of the image to be independently adjusted to help ensure optimal image reproduction.

**Motion Blur Reduction Function**
The REALIS 4K501ST includes Canon’s latest Motion Blur Reduction feature for improved visibility when movement is fast. By inserting extra frames to video content, motion blur is reduced and the clarity of graphics and text on fast-moving objects is preserved. Three different modes (Strong, Low and Off) are included for flexibility, with each depending on the level of movement and type of video content.

**Advanced Professional Installation Settings**
A variety of advanced installation settings provide added customization options for challenging installation areas.

- **Marginal Focus**: Helps to ensure that images projected onto a spherically domed surface are kept in focus right up to the very edges. With the 4K501ST, the built-in marginal focus allows for adjustment of focus on domed screens.
- **Built-in Edge Blending**: Enables the projection of one seamless, large image from multiple projectors without the need of special software.
- **Advanced Registration**: Allows independent position adjustment of the three primary colors (RGB) with high accuracy (0.1 pixel) ultimately reducing blurred colors or lines often projected at the edge of an image.

**Versatile Connectivity**
Generous industry-standard connectivity on the 4K501ST includes two HDMI 2.0 inputs and four DVI inputs that permit various input options such as supporting single, stripe and cross configurations. See page 10 for HDMI and DVI-D connection examples including Display Resolution, Input Frequency, Sub-sampling and Color Depth.

**Crestron and AMX Device Compatibility**
For extra control and seamless integration into existing systems, the projector is compatible with Crestron Room View, AMX Device Discovery, PJLink and others.

*** When standing the projector straight up or down, lamp life may be shortened.
◊◊◊ When motion blur reduction is activated, brightness will be affected.

◊ The REALIS 4K501ST is not cleared or approved for medical diagnosis and should not be used for these purposes.
# HDMI CONNECTIONS

### HDMI 2.0 x 1 Connection

| RESOLUTION | INPUT SIGNAL | SAMPLE RATE | REFRESH RATE | COLOR DEPTH | SUPPORTED
|-------------|--------------|-------------|--------------|-------------|----------|
| 3840 x 2400 (DCI) | Y, U, V (4:2:0) | 340 MHz | 120 Hz | 10-bit | Yes
| 3840 x 2160 (4K) | Y, U, V (4:2:0) | 340 MHz | 120 Hz | 12-bit | Yes
| 4096 x 2160 (4K) | Y, U, V (4:2:0) | 340 MHz | 120 Hz | 12-bit | Yes
| 5120 x 2880 (8K) | Y, U, V (4:2:0) | 340 MHz | 120 Hz | 10-bit | Yes

### HDMI 1.4 x 2 Connection

| RESOLUTION | INPUT SIGNAL | SAMPLE RATE | REFRESH RATE | COLOR DEPTH | SUPPORTED
|-------------|--------------|-------------|--------------|-------------|----------|
| 3840 x 2400 (DCI) | Y, U, V (4:2:0) | 340 MHz | 120 Hz | 10-bit | Yes
| 3840 x 2160 (4K) | Y, U, V (4:2:0) | 340 MHz | 120 Hz | 12-bit | Yes
| 4096 x 2160 (4K) | Y, U, V (4:2:0) | 340 MHz | 120 Hz | 12-bit | Yes
| 5120 x 2880 (8K) | Y, U, V (4:2:0) | 340 MHz | 120 Hz | 10-bit | Yes

### HDMI 2.0 Upscaling

| RESOLUTION | INPUT SIGNAL | SAMPLE RATE | REFRESH RATE | COLOR DEPTH | SUPPORTED
|-------------|--------------|-------------|--------------|-------------|----------|
| 5120 x 2880 (8K) | Y, U, V (4:2:0) | 340 MHz | 120 Hz | 10-bit | Yes
| 3840 x 2160 (4K) | Y, U, V (4:2:0) | 340 MHz | 120 Hz | 12-bit | Yes
| 4096 x 2160 (4K) | Y, U, V (4:2:0) | 340 MHz | 120 Hz | 12-bit | Yes
| 5120 x 2880 (8K) | Y, U, V (4:2:0) | 340 MHz | 120 Hz | 10-bit | Yes

# DVI-D CONNECTIONS

### DVI-D x 1 Connection (Single)

| RESOLUTION | INPUT SIGNAL | SAMPLE RATE | REFRESH RATE | COLOR DEPTH | SUPPORTED
|-------------|--------------|-------------|--------------|-------------|----------|
| 4096 x 2160 (4K) | Y, U, V (4:2:0) | 340 MHz | 120 Hz | 12-bit | Yes
| 5120 x 2880 (8K) | Y, U, V (4:2:0) | 340 MHz | 120 Hz | 10-bit | Yes

### DVI-D x 2 Connection (2 Stripes)

| RESOLUTION | INPUT SIGNAL | SAMPLE RATE | REFRESH RATE | COLOR DEPTH | SUPPORTED
|-------------|--------------|-------------|--------------|-------------|----------|
| 4096 x 2160 (4K) | Y, U, V (4:2:0) | 340 MHz | 120 Hz | 12-bit | Yes
| 5120 x 2880 (8K) | Y, U, V (4:2:0) | 340 MHz | 120 Hz | 10-bit | Yes

### DVI-D x 4 Connection (Cross & 4 Stripes)

| RESOLUTION | INPUT SIGNAL | SAMPLE RATE | REFRESH RATE | COLOR DEPTH | SUPPORTED
|-------------|--------------|-------------|--------------|-------------|----------|
| 4096 x 2160 (4K) | Y, U, V (4:2:0) | 340 MHz | 120 Hz | 12-bit | Yes
| 5120 x 2880 (8K) | Y, U, V (4:2:0) | 340 MHz | 120 Hz | 10-bit | Yes

# Specifications

- **Input Source**: 0.707/1.001 Panel or x
- **Aspect Ratio**: 17:10 (XV-1200)/16:10
- **Native Resolution**: 3840 x 2160/4096 x 2160
- **Brightness**: 5000 Lumens (Full Power) / 3750 Lumens (Power Saver)
- **Contrast**: 3000 (Native) / 6000 (Power Saver)
- **Image Size**: 40 - 600”
- **Digital Keystone**: 0°, 15°, 30°, 45°
- **Funnel Shape**: 75°, 90°, 110°, 135°
- **Zoom Ratio**: 2.3:1
- **Throw Ratio**: 10 - 131
- **Focus**: Power
- **Lens Shift**: V: 150%, H: 150% (Power Saver)

# Image Adjustments

- **Image Mode**: Standard / Presentation / Dynamic / Photo / SVGA / Video / DVI-D / HDMI / User 1 / User 2 / User 3
- **Color Adjustment**: Color Level, Color Balance, Color Temperature: Gam (R,G,B), User (R,G,B)
- **Screen Color Correction**: Normal / Grounded / Adjust (custom)
- **Mounting**: Front, Rear, Ceiling, Downward
- **Adjustable Feet**: Power location at bottom; Extension length ≤ 4.7”

# Technical Specifications

- **Type**: Super High Pressure Lamp
- **Power Consumption**: 300W (Full Power) / 240W (Power Saver)
- **Power Factor**: 0.8 / 0.75
- **Operating Temperature**: 0°C – 40°C / -10°C – 60°C
- **Humidity**: 20% – 80% (non-condensing)
- **Dimensions (W x H x D)**: 10.7” x 5.7” x 2.7”
- **Weight**: 39.4 lbs.

# Remote Control

- **Optional Accessory**: Wireless Remote Control

# Dimensions

- **Height**: 15.7”
- **Width**: 8.7”
- **Depth**: 2.7”

# Connectivity

- **Digital PC Input (x4)**: Four locations at bottom. Extension length = 0.47”
- **Lens Cap**: Included with two AA batteries

# Acoustic Information

- **Critical Information**: 3840 x 2160 (4K) / 4096 x 2160 (4K) / 5120 x 2880 (8K)
- **Lamp Life**: 2000 hours (Full Power) / 3000 hours (Power Saver)

# About the Projector

- **Lamp Type**: Super High Pressure Lamp
- **Power Consumption**: 300W (Full Power) / 240W (Power Saver)
- **Lamp Life**: 2000 hours (Full Power) / 3000 hours (Power Saver)
- **Weight**: 39.4 lbs.
FOCUSED ON PROFESSIONALS

Whether you are a business of one, an organization of many or somewhere in between, working professionals need service and support they can count on. Canon provides skilled technicians to support our entire line of professional projectors. This small group of dedicated professionals has years of experience assisting customers with every aspect of their A/V needs. From the simplest of setups, to the most complex configurations, we are here to answer your questions.

CUSTOMER SERVICE & TECHNICAL SUPPORT
- Dedicated Team of Industry Experts
- Industry-leading Response Times
- 100% U.S.-based Call Center

PRODUCT REPAIR AND MAINTENANCE
- State-of-the-Art Service Facilities
- Fast Repair Processing & Available Loaner Equipment
- Genuine Canon Parts
- Factory-level Quality

CANON 3-YEAR PROJECTOR & LAMP LIMITED WARRANTY
All Canon Projectors offer peace of mind as they are backed by Canon USA’s Projector and Lamp Limited Warranty, which guarantees that the projector will be free from defects in workmanship and materials for 3 years from the date of original purchase, and the Lamp for 120 days from the date of original purchase.

EXTENDED SERVICE PLAN
Canon CarePAK PRO AV Extended Service Plan* offer options for one year or two years additional coverage for up to five full years of service and support from the date the Canon REALiS PRO AV Installation Projector is purchased.

3-YEAR ADVANCED WARRANTY EXCHANGE SERVICE PROGRAM
The Canon 3-Year Advanced Warranty Exchange Service Program* provides you with enhanced warranty service in addition to traditional “mail-in” repair service. The exchange program provides a replacement unit in exchange for your eligible inoperative Canon Projector if repair service is required during the product’s limited warranty period.

3-YEAR SERVICE LOANER PROGRAM
The Canon Service Loaner Program* provides a loaner product in the event that your eligible Canon Projector is in need of repair during the limited warranty period. The loaner projector may be used while your inoperative unit is being serviced via Canon’s “mail-in” repair service.

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* Programs and service offerings subject to change without notice. For complete details, including terms and conditions for each program, or to learn more about Service and Support offerings for Canon professional projectors, please contact a Canon sales rep or call 1-800-OK-CANON.