A Small Box of Big Ideas for Picture-Perfect 4K+

Panasonic
BUSINESS

PT-RQ13K
3-Chip DLP™ Projector

* Resolution 5120 x 3200 Pixels (QUAD PIXEL DRIVE: ON)

Lenses sold separately.

Worldwide
Olympic Partner

Worldwide
Paralympic Partner

SOLID SHINE LASER

4K PROFESSIONAL

A TEXAS INSTRUMENTS TECHNOLOGY
Add breathtaking 4K+ projection to any venue with the PT-RQ13K, the world's most compact** 3-Chip DLP™ projector. With Quad Pixel Drive rendering pixels invisible in film-like 5120 x 3200 video, and 10,000 lm of consistently bright SOLID SHINE Laser power, performance is nothing short of spectacular. Pair with any lens from Panasonic’s 3-Chip DLP™ family (including those in your current inventory) and see how the PT-RQ13K's small size, powered lens shift, and 360° multi-axis rotation saves you time and money in permanent or temporary installations. In fact, you can expect up to 20,000 hours*1 of continuous maintenance-free operation at full power—just one of many reasons to choose Panasonic.

** Weight and size claim is accurate as of November 2015 among 10,000 lm-class projectors with 4K or higher resolution.

*Lumens sold separately.*

** Resolution 5120 x 3200 Pixels (QUAD PIXEL DRIVE-ON)

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The World’s Smallest and Lightest**

3-Chip DLP™ 4K+ Laser Phosphor Projector

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3-Chip DLP™ Projector

PT-RQ13K

Lenses sold separately.

10,000 lm 4K+

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*1 At 20,000 hours, projector brightness will have decreased to approximately half of its original level (Dynamic Contrast Mode 3, Image Mode: Dynamic). Panasonic recommends cleaning or checkup at point of purchase after every 20,000-hour period (approximately). Light source lifetime may be reduced depending on environmental conditions. Replacement of parts other than the light source may be required in a shorter period.

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Light source lifetime may be reduced depending on environmental conditions. Replacement of parts other than the light source may be required in a shorter period.
More Accurate Color Reproduction
The PT-RQ13K captures a more accurate Rec. 709-compliant color space than comparable laser projectors. A blue laser ensures greater precision while an expanded color gamut improves white balance accuracy.

Ultra-Durable Laser Optical Engine for Continuous 24-hour Operation
Dual-Drive Laser Optical Engine uses two discrete light sources grouping laser diodes into modules. A laser light source redundancy circuit ensures minimal reduction in brightness and color uniformity in the event of laser diode failure, making the PT-RQ13K ideal for applications where maintaining vision is critical. Further, brightness decreases gradually and in a linear rather than exponential fashion (as is common to lamp-based projectors) over its 20,000-hour* maintenance-free service life.

Screen Resolution
Beyond UltraHD
5120 x 3200*

Pixel Quadrupling Technology
Shifting pixels vertically and horizontally creates ultra-high-resolution pictures that exceed standard UltraHD.

Quad Pixel Drive Goes Beyond 4K
The PT-RQ13K achieves better-than-4K resolution by employing a high-speed 2560 x 1600-pixel (WQXGA) DMD chip that shifts each pixel vertically and horizontally, effectively quadrupling the pixel count. Working together with Real Motion Processor 240 Hz frame-creation technology, Quad Pixel Drive produces stunningly detailed 5120 x 3200-pixel (4K+, 16:10) images that retain natural sharpness and clarity when upscaling from a native Full HD source. As well as producing liquid-smooth and accurate video, the added detail also makes small text clearly legible on images used in presentations and lectures.

New Real Motion Processor
Panasonic’s unique high-speed 240 Hz frame-creation technology, for up to 5120 x 3200-pixel (16:10) images ensures the smoothest reproduction of fast-moving 4K+ sequences.

Synchronize
* Maximum physical resolution.
Powerful Features to Deliver Consistently Brilliant Images

Original Panasonic Technology Reduces Motion Blur
Real Motion Processor uses sophisticated algorithms to create three additional frames for each image, boosting native 60 fps footage to 240 frames per second. The result is incredibly smooth and realistic motion rendering, particularly useful for the broadcast of sporting events and other fast-paced video. Further, images of up to 240 Hz can be displayed with SDI, DVI-D, and HDMI simultaneous inputs. A refined optical engine enhances focus performance for a lifelike sense of resolution, contrast, and fluidity.

Dynamic Contrast Function for High 20,000:1 Contrast
The PT-RQ13K projector directly modulates laser power output to enable high contrast while reducing power consumption. Digitally controlled frame-by-frame scene-linking modulation ensures highly precise light output adjustment, and accurate 20,000:1 contrast is achieved even when bright and dark scenes suddenly or frequently interchange. There is also almost no drop in contrast even in 4K+ images.

Detail Clarity Processor 5+ Clarifies and Enhances Fine Details
Panasonic’s new generation circuit technology analyzes each individual image frame by frame to clarify areas containing fine details and textures. Powerful algorithms extract hidden information from the super high, high, medium, and low frequency video bands, sharpening outlines, correcting contours, and reducing ringing noise to improve the sense of resolution. The PT-RQ13K adds an exclusive Refine Enhancer algorithm designed to clean and enhance the finest details in 4K+ images.

System Daylight View 3 Improves Color Perception
This proprietary technology optimizes image quality to improve color perception of images projected onto walls and other exotic surface materials (ideal for mapping applications) as well as in environments with bright ambient light. Combined with high 10,000 lm brightness, the PT-RQ13K delivers clear and comfortable viewing in the most challenging applications.

Waveform Monitor Function
When source device output level fluctuates due to the performance of the device or its cable connections, the original black and white levels of the image cannot be reproduced correctly. The PT-RQ13K displays the waveforms on screen where they can be adjusted either automatically or manually as preferred.

DICOM Simulation Mode
This imaging mode is similar to the DICOM Part 14 medical imaging standard. It lends a film-like resolution to X-ray images, making the PT-RQ13K ideal for medical presentations and training.

Selectable Operational Modes Maintain Image Quality Longer
- Approx. 30,000 Hours of Continuous Operation (Normal Mode)
  In Normal Mode with a maximum 10,000 lm brightness, PT-RQ13K can operate continuously for approximately 20,000 hours. In Eco Mode at 8,000 lm, this is extended to approximately 24,000 hours of continuous operation. These modes are ideal for education or signage applications.
- Up to 10 Years Operation with Constant Brightness Modes
  In environments where very high brightness is not necessary, such as surveillance, control, and simulation rooms, constant operation modes extend light source replacement to up to 87,600 hours in Long Life 3 Mode—about 10 years of 24/7 projection—with consistent brightness and color.

User Operating Mode
In addition to preset operating modes, the PT-RQ13K can be customized to achieve your preferred balance of brightness or extended life. Brightness can be set from 1,900 to 10,000 lm within the lifetime set to a maximum of 10 years.

*2 Refresh rate varies depending on vertical scanning frequency. Note that 240 Hz frame rate is downsampled back to 60 Hz when projecting at 4K resolution. *3 HDMI and DVI-D terminals available only on optional SLOT NX boards. Two boards of the same kind are required when displaying images at 240 Hz via simultaneous inputs. *4 Geometric Adjustment and Upgrade Kit functions are not supported with simultaneous video signals. *5 With Dynamic Contrast Mode set to 3. *6 This product is not a medical instrument. Do not use for actual medical diagnosis. *7 At this time the brightness will have decreased to approximately half of its original level (Dynamic Contrast Mode: 3, Image Mode: Dynamic). Panasonic recommends cleaning or checkup at points of purchase every 20,000 hours for optimal performance.*8 Long Life 3 Mode brightness is lowered to 1,900 lm per day for approximately 10 years in 87,600 hours. Replacement of parts other than the light source may be required in a shorter period.
High Reliability, Low TCO, and Easy Maintenance

Efficient Cooling System Assures Reliable Operation
The PT-RQ13K employs a newly developed direct liquid cooling system for the laser light source that features a redesigned air intake and a solid aluminum heat sink to suppress temperature rises. This allows stable operation in ambient temperatures of up to 45 °C (113 °F)*9 while reducing operating noise to just 46 dB.

Dustproof for Ultimate Endurance
The PT-RQ13K has hermetically sealed laser modules, a long-life Eco Filter, and a new air-intake system to extend life and maintain picture quality in dusty locations. SOLID SHINE Laser products exceed rigorous dustproofing requirements for operation in environments containing 0.150 mg of dust per cubic meter**.

Dustproof for Ultimate Endurance

Eco Filter Extends Replacement Cycle to 20,000 Hours**
The Eco Filter includes an electrostatic Micro Cut Filter that collects minute dust particles with an ion effect. It joins with a dust-resistant cabinet to enable long-term use even in punishing conditions. A long maintenance-cycle of up to 20,000 hours** reduces hassle, while the eco-friendly washable filter*** can be reused to reduce cost and waste.

Optional Smoke Cut Filter
The optional Smoke Cut Filter captures fine dust particles contained in smoke used for special effects.

Flexibility and Functionality for Professional Users

Contrast Sync Function for Multi-screen Configurations
Contrast Sync function for multi-screen applications allows the dynamic contrast control to be synchronized for consistent picture quality across screens, while Shutter Sync synchronizes shutter on/off timing.

Geometric Adjustment for Specially Shaped Screens**
This function adjusts the image for projection onto spherical, cylindrical, and other specially shaped surfaces. Adjustments can be easily made using only the remote control, with no external equipment needed. New 4-Corner Adjustment and Keep Aspect Off functions also simplify fine adjustment.

Quick Start and Quick Off
The laser light source does not require any warm-up time, so images appear almost instantly with PT-RQ13K projectors. There’s also no cooling time required when turning the power off. Users can turn the projector on and off immediately as many times as necessary.

Multi-Screen Support System Seamlessly Connects Multiple Screens
- **Edge Blending:** The edges of adjacent screens can be blended and their luminance controlled.
- **Color Matching:** This function corrects for slight variations in the color reproduction range of individual projectors. PC software assures easy, accurate control.
- **Digital Image Enlarging:** PT-RQ13K features a digital zoom function that allows images to be enlarged up to approximately 10 times (horizontally and vertically)**. Up to 100 units (10 x 10) can be edge-blended at a time to create large multi-screen images.

Flexible Setup and Smooth Operation
Unlike conventional lamp-based projectors, the PT-RQ13K’s SOLID SHINE Laser system allows free 360-degree installation through any axis. Together with extra-wide-range powered lens shift and a big range of optional lenses shared by Panasonic’s 3-Chip DLP™ projector family, the PT-RQ13K can be mounted in any way desired without picture distortion.

Single-Cable 4K DIGITAL LINK Connection
Based on HDBaseT™ technology, DIGITAL LINK supports transmission of 4K video signals and control commands through a single cable for distances of up to 50 m (164 ft)**. An optional ET-YFB200G DIGITAL LINK Switcher or ET-YFB100G Digital Interface Box further simplifies installation in large venues while reducing cost and improving reliability.

Note: ET-YFB100G/ET-YFB200G is not compatible with 4K signals. Transmission of 1080/60p signals (1920 x 1080 pixels, 60 MHz HVAR, 48 MHz YC, 15 MHz R/G/B) is available in Long Reach Mode with the optional ET-YFB200G DIGITAL LINK Switcher (requires CAT 5e cable or above). Transmission distance is up to 100 m (328 ft) in other cases.

*12 Please follow the procedures listed in the operating instructions when washing the filter with water. Replacement is recommended after the filter has been washed and reused twice, or if filter is not sufficiently clean after washing. *13 Audio transmission not supported on PT-RQ13K projectors. When using CAT 5e/6 cable or above, transmission of 4K signals up to 20 m (65 ft) is supported. *14 While this test evaluation will not change, maintaining image quality is not possible for images enlarged horizontally and vertically via the digital zoom function.
Geometry Manager Pro and Optional Upgrade Kit (ET-UK20 Series)**

Geometry Manager Pro software enables more flexible and complex adjustment to expand built-in geometric adjustment functionality. The free software package includes functions such as color matching and edge blending for multi-screen projection and easy adjustment of multiple screens over the network. An optional ET-UK20 Upgrade Kit adds creative masking capability using four lines or bitmap data as well as uniformity correction. Further, the PT-RQ13K projector supports optional ET-GUK10 Auto Screen Adjustment Upgrade Kit***.

Multi-Unit Brightness and Color Control

This function automatically corrects brightness and color fluctuations that occur over time in individual projectors in a multi-screen system. Up to eight projectors connected by a hub can be controlled increasing to a maximum of 2,048 projectors with Multi Monitoring & Control Software.

Backup Input Setting Assures Reliability and Optimizes Performance

In the event of signal disruption, a Backup Input Setting allows the primary signal to be switched to a backup input signal**. This function ensures high reliability and is ideal for mission-critical control rooms, projection mapping, staging, and other applications where image display should not be interrupted.

Art-Net DMX Compatible

The PT-RQ13K is compatible with Art-Net DMX protocol for lighting management. Art-Net compatibility allows the projector to be connected to a lighting console with easy control of functions such as shutter on/off, input change, power on/off, etc., together with lighting control.

Extensive Connectivity

The PT-RQ13K features four built-in 3G-SDI inputs and a DIGITAL LINK terminal. The projector also features Panasonic’s convenient SLOT NX to accommodate optional terminal boards that offer a range of connections including HDMI, DVI, and SDI**.

Early Warning Software ET-SWA100 Series (Optional)

Early Warning Software monitors the status of projectors and displays connected to an intranet, and informs the operator when an abnormality is detected or predicted, and when there are symptoms of trouble. This minimizes downtime to provide more stable operation.

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**Available worldwide except in the United States. **Combination of primary/secondary input terminals is fixed. Supported combination as standard is SDI 1 (primary) and SDI 2 (secondary) with a variety of combinations available with the addition of optional terminal boards excluding the combination of DVI-D and HDMI. The Backup Input Setting is enabled only when the input signal to the primary and secondary terminals is the same. HDMI and DVI-D terminals are available only with optional boards. **Projector firmware and board firmware must be updated to Version 2.0 or later (scheduled for February 2016) before using the optional 3G-SDI Terminal Board (TY-TBN03G). Contact your sales representative for more information.
Shares Common Lenses
The PT-RQ10K shares optional lenses with the Panasonic 3-Chip DLP™ projector range, including the ET-D75LE90 Ultra-Short-Throw Lens and ET-D75LE8 Zoom Lens for long throw distances, reducing cost of ownership for staging and event companies with extensive projector inventories.

Projection Distance

PT-RQ10K (1:10 aspect ratio) unit: meters (inches)

<table>
<thead>
<tr>
<th>Throw distance</th>
<th>ET-D75LE90</th>
<th>ET-D75LE80</th>
<th>ET-D75LE60</th>
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<tr>
<td>0°C</td>
<td>1.80</td>
<td>3.60</td>
<td>5.40</td>
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<tr>
<td>25°C</td>
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<td>4.80</td>
<td>7.20</td>
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<td>ET-PFD510*</td>
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<td>ET-PFD510*</td>
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Optional Accessories

- ET-D75LE6: Zoom Lens
- ET-D75LE10: Fixed-Focus Lens
- ET-D75LE20: Fixed-Focus Lens
- ET-D75LE30: Lens Motor Cover
- ET-PFD510*: Lens Fixed Attachment
- ET-MFD330: Replacement Filter Unit
- ET-SFR330: Smoke Cut Filter
- ET-PKD520H*: Ceiling Mount Bracket (for high ceiling)
- ET-PKD520S*: Ceiling Mount Bracket (for low ceiling)
- ET-PKD520B*: Projector Mount Bracket
- ET-PKD520H*: Upgrade Kit
- ET-UKD50 Series: Geometry Manager Pro Upgrade Kit
- ET-MNDV10: Interface Board for DVI-D 2 input (input x 2)
- ET-SWA300 Series: Early Warning Software
- ET-EFD330: Digital Link Switcher
- ET-EFD330: Digital Interface Box

* This frame cannot be used when the separately sold ET-D75LE60 fixed-focus lens is attached to the projector.

* Projector firmware and board firmware must be updated to Version 2.0 or later before using the optional 3G-SDI Terminal Board (TY-TBM30). Contact your sales representative for more information.

Dimensions

If using lens other than the ET-D75LE90

If using the ET-D75LE90

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Width</th>
<th>Depth</th>
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<tr>
<td>Screen TOP</td>
<td>484 (19-1/16)</td>
<td>578 (22-3/4)</td>
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<td>637 (25-1/2)</td>
<td>725 (28-17/32)</td>
<td>740 (29-1/8)</td>
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<tr>
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* With the optional ET-D75LE60 lens.
**Specifications**

**Model**
- PT-RQ13K

**Power supply**
- AC 100–240 V, 50/60 Hz

**Power consumption**
- 1,270 W (3.5 W with Standby Mode set to Eco, 4 W with Standby Mode set to Normal)  
  - Normal Mode: 913 W  
  - Eco Mode: 782 W

**DLP™ chip**
- Panel size: 23.8 mm (0.9 inches) diagonal (16:10 aspect ratio)
- Display method: DLP™ chip + x. DLP™ projection system

**Pixels**
- 4,915,023 (12,800 x 4 x 4) pixels with Quad Pixel Drive set to ON, 12,288,000 (4,915,023 x 4) pixels with Quad Pixel Drive set to OFF

**Refresh rate**
- 240 Hz

**Lens**
- Optional (no lens included with this model)

**Light source**
- Laser diodes laser Class 1 (Class 3R for US models)  
  - Laser light source: 20,000 hours (Normal Mode) / 20,000 hours (Eco Mode)  
  - Laser light source life: 20,000 hours (Normal Mode) / 24,000 hours (Eco Mode) at this time the brightness will have decreased to approximately half of its original level.

**Screen size (diagonal)**
- 1.75–74 m (70–300 in) with 16:10 aspect ratio

**Signal input**
- 3D-SDI: SMPTE ST 259 compliant, [YPbPr 4:2:2 10-bit] [RGB 4:4:4 12-bit]  
  - SMPTE ST 311 compliant, [YPbPr 4:2:0] [RGB 4:4:4 10-bit]  
  - SMPTE ST 424 compliant, [YPbPr 4:2:2 10-bit]  
  - SMPTE ST 444M compliant, [RGB 4:4:4 12-bit]  
  - SMPTE ST 444M compliant, [RGB 4:4:4 12-bit]  
  - SMPTE ST 444M compliant, [RGB 4:4:4 12-bit]

**SDI**
- Vertical: ±45 ° (± 40 ° with ET-D75LE10/20, ±22 ° with ET-D75LE50, ±28 ° with ET-D75LE6, +5 ° with ET-D75LE90), horizontal: ±30 ° with ET-D75LE6/10/50, ±40 ° with ET-D75LE20, ±60 ° with ET-D75LE30/40/80, ±110 ° with ET-D75LE90, Up to a total of ±30 ° during simultaneous horizontal and vertical correction.

**Input**
- DIGITAL LINK/LAN: RJ-45 × 1 for network, DIGITAL LINK connection (HDBaseT™ compliant), 100Base-TX, compatible with Art-Net, PJLink™ (class 1), Deep Color, HDCP 2.2
  - BNC × 1: Frame-synchronizing timing signal
  - BNC × 1: 3G/HD/SD-SDI input, Dual-link HD-SDI input (LINK-B), Dual-link 3G-SDI input (LINK-2), Dual-link 3G-SDI input (LINK-4)
  - BNC × 1: 3G/HD/SD-SDI input (LINK-A), Dual-link 3G-SDI input (LINK-L), Quad-link 3G-SDI input (LINK-U)

**Output**
- DIGITAL LINK/LAN: RJ-45 × 1 for network, DIGITAL LINK connection (HDBaseT™ compliant), 100Base-TX, compatible with Art-Net, PJLink™ (class 1), Deep Color, HDBaseT 2.2

**Power consumption**

**Dimensions (W × H × D)**
- 578 x 270 x 725 mm (22 3/4˝ × 10 5/8˝ × 28 17/32˝) (Not including legs or protruding parts)

**Weight**
- 108.0 lbs (Approximately 49 kg (108 lbs.) (optional lens not included))

**Other**
- Operating temperature: 0–45 °C (32–113 °F), operating humidity: 10–80 % (no condensation)

**Supplied accessories**
- Power cord x 2, wireless/wired remote control unit, batteries (R6/AA type × 2), Lens drop-prevention screw, software CD-ROM (Logo Transfer Software, Multi Monitoring & Control Software)

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**Weights and dimensions shown are approximate. Specifications and appearance are subject to change without notice. Product availability differs depending on region and country. This product may be subject to export control regulations. DLP, DLP logo and DLP Medallion logo are trademarks or registered trademarks of Texas Instruments. The projection distances and throw ratios given in this leaflet are for use only as guidelines. For more detailed information, please consult the dealer from whom you are purchasing the product. The PJLink standard is an application protocol in Japan, the United States, and other countries and regions or registered trademark. HDMI, the HDMI logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries. All other trademarks are the property of their respective trademark owners. Projector images simulated. 38 USC 220506 © 2017 Panasonic Corporation. All rights reserved.