Panasonic BUSINESS

PT-RZ21K Series
3-Chip DLP™ Projector

PT-RZ21K
PT-RS20K

PROJECT
WHAT’S NEXT

More of what you want, less of what you don’t.

Lenses sold separately.

Graphic is simulated.
The New Gold Standard in 20,000 lm Laser Projection. Compact and Filterless*1 for the Toughest Gigs.

Panasonic’s groundbreaking PT-RZ21K Series 3-Chip DLP™ SOLID SHINE Laser projector combines flagship picture quality produced by the PT-DZ21K/DZ21K2 Series projector—current leader in multi-screen events staging—with the compact size and incredible durability of our mid-range PT-RZ970 Series laser projector. The PT-RZ21K Series is the world’s first 3-Chip DLP™ projector*2 to feature a filterless*1 cooling system and fully sealed optics, delivering unassailable reliability in dusty conditions. Handling is effortless with just two technicians. With 20,000-hour maintenance-free*3 operation and software for expedited multi-screen mapping calibration, the rugged yet lightweight PT-RZ21K Series delivers class-beating color reproduction with dramatically reduced running costs, making it the new first choice for events professionals.

3-Chip DLP™ Projector  PT-RZ21K Series

<p>| | | | | | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>PT-RZ21K</strong></td>
<td><strong>Resolution</strong></td>
<td><strong>Brightness</strong></td>
<td><strong>Contrast</strong></td>
<td><strong>WUXGA</strong></td>
<td>20,000 lm (Center)<em>4 / 20,000 lm</em>5</td>
</tr>
<tr>
<td><strong>PT-RS20K</strong></td>
<td><strong>SXGA</strong></td>
<td><strong>21,000 lm</strong></td>
<td><strong>20,000:1</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*1 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. *2 As of October 2017. *3 At this time, brightness will have decreased to approximately 50% of its original level (NORMAL Mode, Dynamic Contrast Mode: 3, Image Mode: Dynamic, IEC62087: 2008 Broadcast Content, dust density of 0.15 mg/m3). Usage environment affects light-source lifespan. Replacement of parts other than the light source may be required in a shorter period. Panasonic recommends cleaning or checkup at point of purchase after approximately 20,000 hours. *4 Measured at center area of screen. *5 Measurement method is in compliance with ISO/IEC 21118: 2012 international standards. Value is average of all products when shipped.
Revolutionizing Multi-projector Staging with SOLID SHINE Laser

The World’s First*1 Filterless*2 Large-Venue 3-Chip DLP™ Projector

The Panasonic PT-RZ21K Series is the world’s first 3-Chip DLP™ laser projector*1 to eliminate need for a consumable air filter, enabling maintenance-free operational life of 20,000 hours*2 for the whole projector. This is achieved with a hermetically sealed optical engine and heat-sink-based internal cooling system with a one-way airflow.

*1 As of October 2017. *2 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. *3 At this time, brightness will have decreased to approximately 50% of its original level (NORMAL Mode, Dynamic Contrast Mode: 3, Image Mode: Dynamic, IEC62087: 2008 Broadcast Content, dust density of 0.15 mg/m³). Usage environment affects light-source lifespan. Replacement of parts other than the light source may be required in a shorter period. Panasonic recommends cleaning or checkup at point of purchase after approximately 20,000 hours.

The projector can operate continuously for long periods in large-scale event environments without regular maintenance, saving operators considerable time and money. With no filter, light-source lifespan of 20,000 hours, and controlled, linear picture degradation, the PT-RZ21K Series leads the field for low TCO.
Taking Reference Quality Images to the Next Level

**Detail Clarity Processor 5**

Proprietary circuitry analyzes individual video frames to identify and clarify fine details and textures. Algorithms pull information from four frequency bandwidths, from super-high to low, to sharpen outlines, correct contours, and reduce ringing noise.

**120 Hz Real Motion Processor Reduces Motion Blur**

Real Motion Processor interpolates images for a 120 Hz\(^*\) frame-rate. Smooth 120 Hz\(^*\) reproduction is possible via simultaneous inputs (3G-SDI inputs or DVI-D/HDMI). Together with a refined optical engine to enhance focus, Real Motion Processor delivers a better sense of resolution, contrast, and fluidity.

**System Daylight View 3**

This premium technology stops pictures washing out in bright light and assures dramatic impact for mapping and multi-projector applications. It uses sensor information to correct sharpness, gamma curves, and colors to suit on-site conditions.

**NORMAL and ECO Modes**

The PT-RZ21K is designed for a set 20,000-hour operational lifespan out of the box, with no filter or light-source replacement required. In suitable environments, users can select ECO Mode to arrest brightness decline, useful for permanent installations when the projector is used continuously.

**DIGITAL LINK Connection**

DIGITAL LINK transmits uncompressed Full HD video and control commands through a single CAT 5e or higher STP cable for distances of up to 150 m (492 ft)\(^*2\). Optional DIGITAL LINK Switcher or Digital Interface Box further simplifies installation, reduces cabling and associated costs, and enhances reliability.

**90 % Brightness Uniformity**

SOLID SHINE Laser delivers superior brightness uniformity thanks to accurate white balance control. Brightness uniformity is greater than 90 % when measured at screen corners, edges, and center.

**Guaranteed Laser Safety**

SOLID SHINE Laser technology is as safe for eyesight as any lamp-based projector. A diffusing lens reduces the concentration of beam energy, so accidental direct exposure will not result in damage to eyesight.

**Multi-screen Support System**

This system optimizes multiple screens with edge blending, color matching, and digital image enlargement functions.

- **Edge Blending**: Edges of adjacent screens can be blended and their luminance controlled.
- **Color Matching**: Corrects color reproduction variations of each projector via PC control software.
- **Digital Image Enlarging**: Digital zoom up to 10x (H/V)\(^*3\), and up to 100 units (10 x 10) can be edge-blended to create large multi-screen images.

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**Built-in Geometric Adjustment**

Geo Adjustment adapts images for projection onto specially shaped screens with fine-tuning via remote control.

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\(^*1\) Refresh rate varies depending on vertical scanning frequency.

\(^*2\) 150 m (492 ft) transmission available only with ET-YFB200G DIGITAL LINK Switcher for signals up to 1080p.

\(^*3\) While input resolution will not change, maintaining image quality is not possible for images enlarged.
Engineered for Ultimate Flexibility in Multi-screen Staging Applications

Contrast and Shutter Sync Function
Contrast Sync allows Dynamic Contrast Control to be synchronized for consistent picture quality across multiple screens. Shutter Sync, meanwhile, synchronizes shutter on/off timing.

Backup Input Guarantees Picture Display
Projectors switch instantly to a backup input if the primary signal is disrupted, so display is maintained in situations where projection must not be interrupted. No screen-blanking occurs during backup input switching.

New Multi Monitoring & Control Software
Making its debut with the PT-RZ21K Series, refreshed Panasonic Multi Monitoring & Control Software supports up to 2,048 devices over LAN and features system map visualization or auto-search of devices to be registered. The software is available with Early Warning functions (automatic free 90-day trial is available). These advanced functions enable real-time monitoring, abnormality detection, and advanced notification when servicing is required. Administrators can realize seamless control and real-time monitoring while preventing potential problems before they occur, saving time and enhancing system reliability.

Multi-unit Brightness and Color Control
Sensors detect color and brightness apparent on screen. Projectors automatically calibrate for a uniform multi-screen image, adding a layer of convenience and cost saving both in short-term and long-term events.

Active 3D Projection Capability
This projector series is compatible with active 3D projection technology. It supports an external transmitter and active-shutter glasses, or an active filter and passive glasses for viewing 3D images.

Geometry Manager Pro Software and Upgrade Kits
Geometry Manager Pro software expands onboard functionality and simplifies multi-screen setup. The free software enables multi-screen color-matching, edge-blending, and more via networked PC. Two optional plug-in kits are available: ET-UK20, which adds screen uniformity correction and creative masking functions, and ET-CUK10, which activates Auto Screen Adjustment for simultaneous and automatic setup of multiple projectors. The latter performs multi-screen and curved-screen calibration in three steps using a camera and networked PC, simplifying adjustment, edge blending, color matching, stacking, brightness, and black level setup.

Compatible with Panasonic PT-DZ21K/DZ21K2 Series 3-Chip DLP™ Projectors
The PT-RZ21K Series joins the Panasonic 3-Chip DLP™ projector family in sharing a range of mutually compatible optional accessories including frames and ultra-short-throw and zoom lenses. This reduces upgrade or replacement costs for events and staging companies with large inventories.

Supports Art-Net DMX, Crestron Connected™, and PJLink™
Art-Net DMX protocol for lighting management enables connection with lighting consoles for added functionality and control options. Crestron Connected™ and PJLink™ (Class 2) streamline integration into existing AV infrastructure.

Contrast Sync: OFF
Contrast Sync: ON
Player A
Player B
Player A
Player B

Shutter A
OFF
Shutter A
OFF
Shutter B
ON
Shutter B
ON

Parallely blank!
Source
Primary source
Secondary source
Switch quickly

If the main input signal is disrupted, image display is cut off.
If primary signal is disrupted, backup signal smoothly engages to maintain image display.

Basic functions (free)
Display Projector
Intranet
Advanced functions (Early Warning*)
Monitoring Server
Monitoring / Control (up to 2,048 devices)
Maintenance scheduling notifications
Device warning / error notifications
Monitoring using supported network camera

*Software functionality varies depending on the model.
**Additional Features**

**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 projector suitable for medical presentations and training.

**Waveform Monitor Function**
If source device output levels fluctuate, the original black and white levels of the image cannot be reproduced correctly. The projector can display these waveforms on screen, where they can be adjusted automatically or manually.

**Power Management Reduces Downtime**
Auto power management compensates for voltage fluctuations. Image display is maintained at a reduced brightness even if voltage drops below required specifications, rather than shutting the projector off.

**Supports BT.2020 Emulation and HDR**
PT-RZ21K Series has emulation for BT.2020, a 4K color-space standard. It reproduces a wider color gamut than conventional standards. Additionally, they support HDR (High Dynamic Range). Image reproduction is stunning, from deepest black to sparkling bright highlights.

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**Projection Distance**

<table>
<thead>
<tr>
<th>1.78 [°]</th>
<th>2.03 [°]</th>
<th>2.34 [°]</th>
<th>3.05 [°]</th>
<th>3.84 [°]</th>
<th>6.08 [°]</th>
<th>6.35 [°]</th>
<th>7.62 [°]</th>
<th>8.49 [°]</th>
<th>10.16 [°]</th>
<th>12.70 [°]</th>
<th>15.24 [°]</th>
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<tbody>
<tr>
<td>1.36</td>
<td>1.50</td>
<td>1.81</td>
<td>2.33</td>
<td>3.38</td>
<td>4.64</td>
<td>5.44</td>
<td>7.62</td>
<td>9.06</td>
<td>11.06</td>
<td>13.70</td>
<td>18.02</td>
</tr>
<tr>
<td>1.43</td>
<td>1.67</td>
<td>2.08</td>
<td>2.68</td>
<td>3.87</td>
<td>5.17</td>
<td>6.00</td>
<td>8.26</td>
<td>9.74</td>
<td>12.29</td>
<td>15.62</td>
<td>20.02</td>
</tr>
<tr>
<td>1.90</td>
<td>2.33</td>
<td>2.85</td>
<td>3.54</td>
<td>4.86</td>
<td>6.22</td>
<td>7.05</td>
<td>9.30</td>
<td>10.81</td>
<td>13.70</td>
<td>17.74</td>
<td>23.02</td>
</tr>
<tr>
<td>2.46</td>
<td>3.02</td>
<td>3.69</td>
<td>4.50</td>
<td>6.00</td>
<td>7.50</td>
<td>8.33</td>
<td>10.67</td>
<td>12.19</td>
<td>15.70</td>
<td>20.24</td>
<td>26.60</td>
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<tr>
<td>2.88</td>
<td>3.56</td>
<td>4.30</td>
<td>5.20</td>
<td>6.70</td>
<td>8.20</td>
<td>9.00</td>
<td>11.33</td>
<td>12.87</td>
<td>16.40</td>
<td>21.94</td>
<td>28.40</td>
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<tr>
<td>3.60</td>
<td>4.44</td>
<td>5.33</td>
<td>6.33</td>
<td>8.00</td>
<td>9.66</td>
<td>10.67</td>
<td>13.33</td>
<td>15.00</td>
<td>18.67</td>
<td>24.24</td>
<td>30.80</td>
</tr>
</tbody>
</table>

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**Dimension Definitions**

**Terminals**
1. REMOTE 1 IN terminal
2. REMOTE 1 OUT terminal
3. REMOTE 2 IN terminal
4. SERIAL IN terminal
5. SERIAL OUT terminal
6. MULTI PROJECTOR SYNCH IN
7. MULTI PROJECTOR SYNCH OUT
8. DC OUT 1/DC OUT 2 terminal
9. SDI IN 1/SDI IN 2 terminal
10. RGB 1 IN terminal
11. RGB 2 IN terminal
12. DVI-D IN terminal
13. HDMI IN terminal
14. LAN/DIGITAL LINK terminal
15. AC IN terminal
16. Screen Top
17. Screen Bottom
18. Unit (inches)
### Specifications

**Model**
- PT-BZ21K
- PT-RS20K

<table>
<thead>
<tr>
<th>Power supply</th>
<th>AC 200 V - 240 V, 50 / 60 Hz (Light output will decrease to approximately 50% when using the projector with AC 100 V to 120 V (60 Hz).)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power consumption</td>
<td>1,510 W (30% with Standby Mode set to ECO**, 4 W with Standby Mode set to NORMAL)</td>
</tr>
<tr>
<td>DLP® chip</td>
<td>Panel size: 24.4 mm (0.96 inches) diagonal (16:10 aspect ratio) 24.1 mm (0.95 inches) diagonal (4:3 aspect ratio)</td>
</tr>
<tr>
<td>Display method</td>
<td>DLP® chip, 3-chip, DLP® projection system</td>
</tr>
<tr>
<td>Pixels</td>
<td>8,192,000 (1920 x 1080 x 3) pixels</td>
</tr>
<tr>
<td>Refresh rate</td>
<td>120 Hz*</td>
</tr>
<tr>
<td>Lens</td>
<td>Optional (re-lens included with this model)</td>
</tr>
<tr>
<td>Light source</td>
<td>Laser diode, Light source life: 20,000 hours (NORMAL Mode, brightness decreases to approx. 50%)</td>
</tr>
<tr>
<td>Lens</td>
<td>Optional (no lens included with this model)</td>
</tr>
<tr>
<td>Screen size (diagonal)</td>
<td>1.78–25.4 m (70–1,000 in) with 16:10 aspect ratio 1.78–15.24 m (70–600 in) with the ET-D75LE10, 16:10 aspect ratio 3.05–15.24 m (120–600 in) with the ET-D75LE95, 16:10 aspect ratio</td>
</tr>
<tr>
<td>Brightness</td>
<td>24.4 mm (0.96 inches) diagonal (16:10 aspect ratio)</td>
</tr>
<tr>
<td>Center-to-corner uniformity</td>
<td>90 %</td>
</tr>
<tr>
<td>Contrast</td>
<td>20,000:1 (Full On/Full Off, Dynamic Contrast Mode: 3)</td>
</tr>
<tr>
<td>Resolution</td>
<td>1920 x 1080 pixels</td>
</tr>
<tr>
<td>Scanning frequency</td>
<td>SMPTE 259 compliant, [YCbCr 4:2:2 10-bit] 480/60i, 576/50i</td>
</tr>
<tr>
<td>LCD</td>
<td>SMPTE 352 compliant, [YPbPr 4:4:4 10-bit] 1080/60i, 1080/50i, 1080/25i, 1080/24p, 1080/24f, 1080/30p</td>
</tr>
<tr>
<td>Dual-link HD-SDI</td>
<td>SMPTE 425-2 compliant, [BNC × 1] 480/60i, 576/50i, 1080/60i, 1080/50i, 1080/25p, 1080/24p, 1080/24f, 1080/30p</td>
</tr>
<tr>
<td>3G-SDI</td>
<td>SMPTE 425-3 compliant, [BNC × 1] 480/60i, 576/50i, 1080/60p, 1080/50p, 2048 × 1080/60p, 2048 × 1080/50p</td>
</tr>
<tr>
<td>HDMI/DVI-D/DIGITAL LINK</td>
<td>SMPTE 352 compliant, [BNC × 1] 480/60i, 576/50i, 1080/60i, 1080/50i, 1080/25p, 1080/24p, 1080/24f, 1080/30p</td>
</tr>
<tr>
<td>Video/YC</td>
<td>SMPTE 425-3 compliant, [BNC × 1] 480/60i, 576/50i, 1080/60i, 1080/50i, 1080/25p, 1080/24p, 1080/24f, 1080/30p</td>
</tr>
<tr>
<td>Optical axis shift</td>
<td>Vertical (from center of screen) ±55 % (±44 % with ET-D75LE6, ±68 % – ±78 % with ET-D75LE95) (powered) ±50 % ±4 % with ET-D75LE95, ±67 % – ±77 % with ET-D75LE95 (powered)</td>
</tr>
<tr>
<td>Keystone correction range</td>
<td>Vertical: ±45 ° (± 31 ° with ET-D75LE10, ±33 ° with ET-D75LE95), Horizontal: ±15 °</td>
</tr>
<tr>
<td>Installation</td>
<td>Vertical: ±39 ° (± 30 ° with ET-D75LE10, ±28 ° with ET-D75LE95), Horizontal: ±15 °</td>
</tr>
<tr>
<td>Installation with optional Upgrade Kit ET-UK20</td>
<td>Vertical: ±39 ° (± 30 ° with ET-D75LE10, ±28 ° with ET-D75LE95), Horizontal: ±15 °</td>
</tr>
<tr>
<td>Terminals</td>
<td>SDI IN 1</td>
</tr>
<tr>
<td>HDMI IN</td>
<td>HDMI × 1 (Deep Color, compatible with HDCP)</td>
</tr>
<tr>
<td>RGB 1 IN</td>
<td>D-sub HD 15-pin (female) × 1: RGB, YPbPr, YC/VIDEO</td>
</tr>
<tr>
<td>DVI-D IN</td>
<td>RGB × 1 (BNC × 5): RGB/YPbPr/YC/VIDEO</td>
</tr>
<tr>
<td>D-sub HD 15-pin (female) × 1 for external control (parallel)</td>
<td>D-sub 9-pin (female) × 1 for external control (RS-232C compliant)</td>
</tr>
<tr>
<td>REMOTE 1 IN / OUT</td>
<td>M3 × 1 for wired remote control, link control</td>
</tr>
<tr>
<td>DIGITAL LINK</td>
<td>RJ-45 × 1 for network, DIGITAL LINK connection, 100Base-TX, compatible with Art-Net, PULNIX™ (Class 2), Deep Color, HDCP</td>
</tr>
<tr>
<td>Dimensions (W × H × D)</td>
<td>598 × 270 × 725 mm (23 5/32˝ x 10 5/8˝ x 28 17/32˝) (not including protruding parts)</td>
</tr>
<tr>
<td>Weight</td>
<td>49.0 kg (108 lbs)</td>
</tr>
<tr>
<td>Operation noise</td>
<td>46 dB</td>
</tr>
<tr>
<td>Cabinet materials</td>
<td>Multi-layered</td>
</tr>
<tr>
<td>Operating environment</td>
<td>Operating temperature: 0–50 °C (32–122 °F), Operating humidity: 10–80 % (no condensation)</td>
</tr>
</tbody>
</table>

**Optional Accessories**
- PT-RS20K: Optional Accessories
  - ET-D75LE50: Fixed-Focus Lens
  - ET-D75LE95: Fixed-Focus Lens
  - ET-D75LE10: Zoom Lens
  - ET-D75LE20: Zoom Lens
  - ET-D75LE30: Zoom Lens
  - ET-D75LE40: Zoom Lens
  - ET-D75LE8: Zoom Lens
  - ET-PKD520H: Ceiling Mount Bracket for High Ceilings
  - ET-PKD520S: Ceiling Mount Bracket for Low Ceilings
  - ET-UK20: Geometry Manager Pro Software Upgrade Kit
  - ET-CUK10 / ET-CUK10P: Auto Screen Adjustment Upgrade Kit
  - ET-PLF10*: Lens Fixed Attachment
  - ET-YFB200G: DIGITAL LINK Switcher
  - ET-YFB100G: DIGITAL Interface Box

* When Standby Mode is set to ECO, network functions such as power over LAN will not operate. Additionally, any certain commands can be received for external controlling using the serial terminal. ** Refresh rate varies depending on scanning frequency. *** Only compatible with digital clock frequency of 6 MHz (reserved pin 2 of ET-D75LE95). ** Must be updated with the latest firmware. Calibration is required each time the lens is mounted.