

Space-Saving Projection and Interactive Functions* for Classrooms and Offices

* PT-TW231R only



PT-TW231R	PT-TW230
2,500 lm	2,500 lm
WXGA (1,280 × 800)	WXGA (1,280 × 800)
Interactive function	—

Short Throw with Interactive Function*¹

- A carefully engineered short-focal lens allows large 80-inch projection from a mere 86 cm (2.8 ft) away from the screen surface.
- The projector can be placed next to the screen, which allows a presenter to stand in front of the image without his/her shadow being cast on the image.
- The PT-TW231R is equipped with a feedback camera for the interactive function, which enables text, graphics, or lines to be written onto projected images. A pen and a pointer containing infrared sensors are included.

Superb Performance

- High 2,500 lm*² of brightness.
- High-output 10 W speaker built-in.
- Quiet, 29 dB*³ operating noise does not interrupt classes or meetings.
- Environment-friendly, low standby power consumption of 0.5 W or less (STANDBY MODE: ECO)*⁴.
- Abundant terminals including HDMI and two sets of RGB input terminals. RGB 2 IN can be switched to RGB 1 OUT for loop-through monitoring.
- Multi Projector Monitoring & Control Software allows multiple projectors to be managed together over a wired LAN.
- Web browser control over a wired LAN.
- PLink™ compatibility.

Convenient Functions

- The startup screen can be customized using the Logo Transfer software*⁵ from the Panasonic website to customize the projector and/or for theft prevention.
- Direct Power Off allows the room's main power to be turned off immediately after use.
- Long replacement cycle of up to 4,000 hours*⁶ for the lamp and a durable multi-layered filter.
- The filter and lamp are easily replaced from the top even when the projector is installed on the ceiling.
- Presentation support/control tools such as Presentation Timer, Freeze Function, and Digital Zoom.

*¹ For the PT-TW231R only.

*² With the LAMP POWER set to NORMAL, and PICTURE MODE to DYNAMIC.

*³ With the LAMP POWER set to ECO.

*⁴ When the STANDBY MODE is set to ECO, network functions such as standby on via LAN are not available. Also, only certain commands can be received for external control using the serial terminal.

*⁵ Compatible with Windows® XP, Windows Vista®, and Windows® 7. Uploadable still images are limited to 1,024 × 768 pixel bitmap files. Also, the application will reduce the number of colors to 191.

*⁶ The usage environment affects the lamp replacement cycle and the duration of the filter.

Model		PT-TW231R	PT-TW230
Power supply		100–240 V AC, 50/60 Hz	
Power consumption		350 W (0.5 W or less with STANDBY MODE set to ECO; ^{*1} 9.7 W with STANDBY MODE set to NORMAL.)	
LCD panel	Panel size Display method Drive method Pixels	15.1 mm (0.59") diagonal (16:10 aspect ratio) Transparent LCD panel (× 3, R/G/B) Active matrix 1,024,000 (1,280 × 800) × 3, total of 3,072,000 pixels	
Lens		Fixed (0.5:1 throw ratio), manual focus, F 1.8, f 6.68 mm	
Lamp		230 W UHM lamp × 1	
Lamp replacement cycle		3,000 hours* ² (LAMP POWER: NORMAL), 4,000 hours* ² (LAMP POWER: ECO)	
Screen size (diagonal)		1.52–2.79 m (60–110 in), 16:10 aspect ratio	
Brightness* ³		2,500 lm (LAMP POWER: NORMAL, PICTURE MODE: DYNAMIC)	
Center-to-corner uniformity* ³		80 %	
Contrast* ³		500:1 (full on/off, LAMP POWER: NORMAL, PICTURE MODE: DYNAMIC)	
Resolution		1,280 × 800 pixels (Input signals that exceed this resolution will be converted to 1,280 × 800 pixels.)	
Scanning frequency RGB (analog) YPbPr (YCbCr)		fh: 15–100 kHz, fv: 50–100 Hz, dot clock: 140 MHz or lower (Signals exceeding the dot clock rate of 140 MHz are downsampled.) fh: 15.75 kHz, fv: 60 Hz [480i (525i)] fh: 31.25 kHz, fv: 50 Hz [576p (625p)] fh: 33.75 kHz, fv: 60 Hz [1080 (1125)/60i] fh: 31.50 kHz, fv: 60 Hz [480p (525p)] fh: 45.00 kHz, fv: 60 Hz [720 (750)/60p] fh: 28.13 kHz, fv: 50 Hz [1080 (1125)/50i] fh: 15.63 kHz, fv: 50 Hz [576i (625i)] fh: 37.50 kHz, fv: 50 Hz [720 (750)/50p]	
Video/S-Video		fh: 15.75 kHz, fv: 60 Hz [NTSC/NTSC4.43/PAL-M/PAL60], fh: 15.63 kHz, fv: 50 Hz [PAL/PAL-N/SECAM]	
Optical axis shift		10:–1.44 (fixed)	
Keystone correction range		Vertical: ±20° (manual)	
Installation		Ceiling/floor, front/rear	
Terminals	HDMI IN COMPUTER 1 IN COMPUTER 2 IN / 1 OUT COMPUTER AUDIO IN VIDEO IN S-VIDEO IN VIDEO AUDIO IN SERIAL IN LAN	HDMI 19-pin × 1 D-Sub HD 15-pin (female) × 1 (RGB/YPbPr/YCbCr/Scart RGB × 1) D-Sub HD 15-pin (female) × 1 (RGB × 1) (input/output selectable using on-screen menu) M3 (L, R) × 1 for COMPUTER 1/2 IN RCA × 1 (composite video) Mini DIN 4-pin × 1 (S-Video) RCA (L, R) × 1 for VIDEO/S-VIDEO D-sub 9-pin (female) × 1 for external control (RS-232C compliant) RJ-45 × 1 (for network connection, 10Base-T/100Base-TX, compliant with PLink™)	
Built-in speaker		10 W (monaural) output power	
Operating noise* ⁴		36 dB (LAMP POWER: NORMAL), 29 dB (LAMP POWER: ECO)	
Filter		× 1, recommended replacement cycle: 4,000 hours	
Cabinet materials		Molded plastic (PC)	
Dimensions (W × H × D)		350 × 143.4* ⁵ × 381.9 mm (13-25/32 × 5-21/32* ⁵ × 15-1/16 in) (protruding parts not included)	
Weight* ⁴		Approximately 4.7 kg (10.4 lbs)	
Operating environment		Operating temperature: 0 °C–35 °C (32 °F–95 °F)* ⁶ , operating humidity: 20%–80% (no condensation)	
Supplied accessories		Power cord with secure lock, wireless/wired remote control unit, batteries (R03/LR03/AAA type × 6), Software CD-ROM (Logo Transfer Software, Multi Projector Monitoring and Control Software, LightPen II), interactive pen, interactive pointer, USB cable	Power cord with secure lock, wireless/wired remote control unit, batteries (R03/LR03/AAA × 2), Software CD-ROM (Logo Transfer Software, Multi Projector Monitoring and Control Software)

Optional accessories

Bracket assembly

ET-PKT100B

Ceiling mount bracket

ET-PKV100H (for high ceilings)**ET-PKV100S** (for low ceilings)

Replacement lamp unit

ET-LAT100

Replacement filter unit

ET-RFT100

- *1 When the STANDBY MODE is set to ECO, network functions such as power on over the LAN will not operate. Also, only certain commands can be received for external control using the serial terminal.
- *2 The usage environment affects the lamp replacement cycle.
- *3 Measurement, measuring conditions, and method of notation all comply with ISO 21118 international standards.
- *4 Average value. May differ depending on models.
- *5 With legs at shortest position.
- *6 The operating temperature range is 0 °C to 30 °C (32 °F to 86 °F) when the fan control is set to HIGH ALTITUDE mode (for altitudes from 1,200 m to 2,700 m (3,937 ft to 8,858 ft) above sea level).

Panasonic®

For more information about Panasonic projectors, please visit:
 Projector Global Web Site – panasonic.net/avc/projector
 Facebook – www.facebook.com/panasonicprojector
 YouTube – www.youtube.com/user/PanasonicProjector

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All information included here is valid as of January 2012.

PT-TW230PRE1 Printed in Japan.