

# Panasonic

BUSINESS

## PT-TW351R Series

LCD Projectors

PT-TW351R

PT-TW350

PT-TX410

PT-TX320

### Smart and Flexible Short-throw Projection



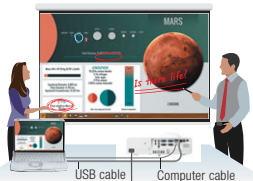
# Big Pictures Served Wirelessly\*

For Clear and Comfortable Communication

## Write and Draw On Projected Images\*

\* Feature supported on PT-TW351R only.

Communicate effectively by notating directly onto images using Interactive Pen/Pointer\*<sup>1</sup>. Great for lectures, lessons, or business meetings, the faster frame-rate enabled by LightPen3 software improves writing smoothness for up to two presenters at once, while setup is now even simpler. Job done, modified images can be saved to PC for later distribution.



### LightPen3 Software Streamlines Workflow

- **No Driver Installation**  
Save time with no driver installation necessary via CD-ROM.
- **Automatic Calibration**  
Auto calibration gets you started faster, or if desired, you can perform setup manually by touching four corners with the Pen/Pointer\*<sup>1</sup>.
- **Better Performance**  
A faster refresh rate lets you write with the smoothness of a real marker.
- **Dual Pen Support\*<sup>2</sup>**  
Dual Pen Mode (half- or full-screen modes) lets two presenters write at the same time, a convenient timesaving feature.



**Half Screen Mode**  
Screen is divided vertically with individual color and line-width selection for both sections.



**Full Screen Mode**  
Color and line-width of both pens is the same for the entire screen surface.



**Two Interactive Pens Included**  
Lightly touch the included pen across the projection surface to write.

### Whiteboard Software\*<sup>3</sup> Extends Your Capabilities

Need more functions? Interactive capabilities expand with optional Whiteboard Software for Windows\*<sup>3</sup>. This original software (also supported on Panasonic's BF Series Touch Screen LCDs) supports interactive-ready Panasonic projectors and pro displays and offers powerful graphical communication capabilities via a connected Windows\*<sup>®</sup> PC.

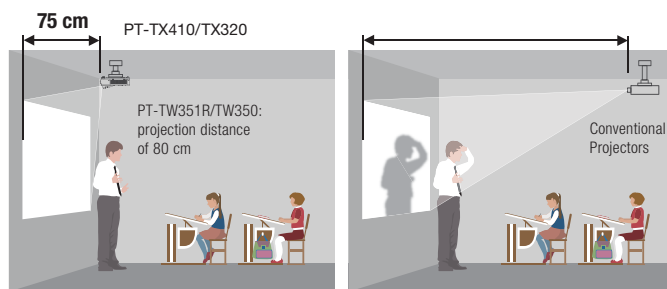
Visit <http://panasonic.net/avc/projector/> for more information.



PT-TW351R Series  
Application Examples

## Big 80-inch Images from Just 75 cm (2.46 ft.)\*<sup>4</sup> Away

Audiences immerse in a large 80-inch image from a projection distance of just 75 cm (2.46 ft.)\*<sup>4</sup>. At this throw distance, the presenter's shadow won't obscure the screen, while projector glare is minimized to preserve his or her vision. Short-throw projection is ideal for small rooms where throw distances are limited.



## Up to 3,800 lm\*<sup>5</sup> with 16,000:1 Contrast

Impressively bright 3,800 lm\*<sup>5</sup> of imaging power at a crisp 16,000:1 is now possible from a compact and lightweight body. Enjoy more legible graphics, text, images, and video, even with the lights on.

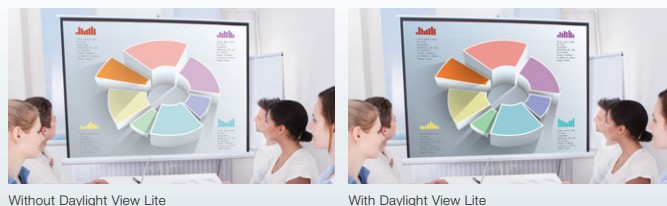
## Selectable Modes Extend Maintenance to 10,000 Hours\*<sup>6</sup>

Choose a lamp power mode to balance presentation style and efficiency requirements to achieve great performance at lower cost—up to 10,000 hours\*<sup>6</sup> maintenance-free in Eco2 Mode. Lamp and filter replacement timing\*<sup>7</sup> is the same in any mode, streamlining maintenance.

Lamp Mode	Replacement Cycle of Lamp* <sup>7</sup>	Replacement Cycle of Air Filter* <sup>7</sup>
Eco2	10,000 hours	10,000 hours
Eco1	6,000 hours	6,000 hours
Normal	5,000 hours	5,000 hours

## Comfortable Images in Bright Light

Daylight View Lite uses sensor information to optimize color and brightness according to ambient lighting levels. This function is easily accessed using the supplied remote control.





# In Small Spaces

\*Requires optional ET-WML100 Wireless USB Module.

## Simple Setup, Easy Management

### Corner Keystone Correction for Angled Projection

If on-site conditions call for off-axis projection, designate four screen corners and Horizontal & Vertical Corner Keystone Correction performs necessary adjustments for a distortion-free image.

### Curved Screen Correction

Barrel and pincushion distortions are easily corrected when projecting onto a curved screen surface.

### Multiple Unit Monitoring Capability

Multi Monitoring & Control Software is available for monitoring and controlling multiple Panasonic projectors from a single PC.

### Quiet 28 dB\*<sup>6</sup> for Distraction-free Viewing

Operating noise is as low as 28 dB\*<sup>6</sup>, reducing the chance of distraction during presentations or quiet video scenes.

### Simple Lamp and Filter Replacement

Lamp and filter are accessed via panels in the top and side of the projector. Periodic maintenance takes moments even with the unit attached to a ceiling-mount bracket.

## More Practical Ways to Connect

### Project Wirelessly with Optional Module

Project media wirelessly via PC using Presenter Light or a compatible third-party application for iOS and Android™ devices. Just connect the optional ET-WML100 Wireless Module to the projector's USB input.

#### Presenter Light Ver. 1.0 for Windows® PCs

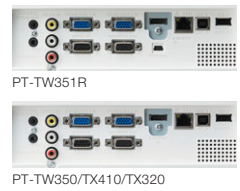
- Supports images, video, and documents such as PDF and PowerPoint®
- Mirrors PC screen on the big screen
- Project media from up to four PCs simultaneously in Split Screen Mode



### HDMI and PC Inputs

Transmit Full HD video\* and graphics using HDMI terminal or either of two D-sub HD terminals for personal computer. A PC monitor output is also included.

\*Signals are converted to suit native projector resolution.



### Other Handy Features

- Built-in closed caption decoder
- Direct Power Off
- Configurable Start-up logo
- PJLink™ compatibility **PJLink**
- Built-in 10 W speaker
- Projector identification system for up to six projectors
- Blackboard mode
- Equipped with a security bar for theft prevention

### Memory Viewer Function

Insert a USB memory device into the USB port and start projecting stored content straight away without need of a connected PC.

### USB Display Function Projects Media Over USB Cable

Transmission of audio-video content\* via PC to the projector is supported over USB cable with an included USB Display Mode.

\*Audio transmission not supported with Mac OS.

### Eco-friendly Design Features

- No halogenated flame-retardants used in the cabinet
- Lead-free glass inside lens
- Coating-free cabinet for easy recycling
- Switchable lamp mode saves power

\*1 Interactive Pointer is optional. \*2 Available for Windows® operating systems. \*3 Supported by Windows® 7, Windows® 8, and Windows® 10. Please note that some functions operable on professional displays are not supported on projectors. \*4 Projection distance is 80 cm (2.62 ft.) for the PT-TW351R/TW350. \*5 PT-TX410 only. Brightness is 3,300 lm for the PT-TW351R/TW350 and 3,200 lm for the PT-TX320. \*6 With Lamp Mode on Eco2. \*7 Lamp and filter life depends on environment and usage conditions. \*8 With Lamp Mode is set to Eco2.

PT-TW351R	WXGA	3,300 lm
PT-TW350	WXGA	3,300 lm
PT-TX410	XGA	3,800 lm
PT-TX320	XGA	3,200 lm

Note: A built-in camera is featured on the PT-TW351R only.










Photo shows the PT-TW350. The PT-TW350/TX410/TX320 does not have a built-in camera.



Photo shows the PT-TW351R with built-in camera.

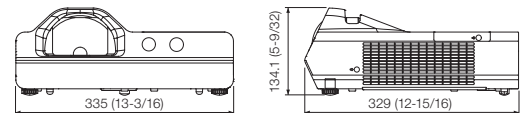
Specifications		PT-TW351R	PT-TW350	PT-TX410	PT-TX320
Model		PT-TW351R	PT-TW350	PT-TX410	PT-TX320
Power supply		AC 100–240 V, 3.5 A, 50 Hz/60 Hz			
Power consumption		300 W (6 W with Standby mode set to Normal, 0.5 W with Standby mode set to Eco*)			
LCD panel	Display method	Transparent LCD panel (× 3, R/G/B)			
	Drive method	Active matrix method			
	Panel size	15.0 mm (0.59 inches) diagonal (16:10 aspect ratio)		16.0 mm (0.63 inches) diagonal (4:3 aspect ratio)	
	Pixels	1,024,000 (1280 × 800)		786,432 (1024 × 768)	
Lens	Fixed zoom, Manual focus lens, F = 1.8, f = 6.08 mm, Throw Ratio: 0.46:1				
Screen size	1.27–2.54 m (50–100 inches) diagonally, 16:10 aspect ratio		1.27–2.54 m (50–100 inches) diagonally, 4:3 aspect ratio		
Resolution	1280 × 800 pixels <sup>3</sup>		1024 × 768 pixels <sup>3</sup>		
Brightness <sup>2</sup> (Lamp power: Normal)	3,300 lm		3,800 lm		3,200 lm
Lamp	230 W × 1 lamp				
	Lamp replacement cycle <sup>4</sup>	Normal: 5,000 hours, Eco1: 6,000 hours, Eco2: 10,000 hours			
Center-to-corner uniformity <sup>2</sup>	80 %				
Contrast <sup>2</sup>	16,000:1 (all white/all black, Iris: On) (Image mode: Dynamic, Lamp control: Normal)				
Scanning frequency	HDMI IN	525i (480i) <sup>3</sup> , 625i (576i) <sup>3</sup> , 525p (480p), 625p (576p), 750 (720)/60p, 750 (720)/50p, 1125 (1080)/60i, 1125 (1080)/50i, 1125 (1080)/60p, 1125 (1080)/50p, 1125 (1080)/24p, 1125 (1080)/25p, 1125 (1080)/24sF, 1125 (1080)/30p, VGA size (640 dots × 480 dots)–WUXGA (1920 dots × 1200 dots), dot clock: 25–162 MHz			
	RGB	frc: 15–91 kHz, fvc: 24–85 Hz, dot clock: 162 MHz or lower			
	YPbPr (Y/Cs/Cc)	frc: 15.73 kHz, fvc: 59.94 Hz [525i (480i)], frc: 45.00 kHz, fvc: 60 Hz [750 (720)/60p], frc: 28.13 kHz, fvc: 25 Hz [1125 (1080)/25p], frc: 67.50 kHz, fvc: 60 Hz [1125 (1080)/60p]	frc: 15.63 kHz, fvc: 50 Hz [625i (576i)], frc: 37.50 kHz, fvc: 50 Hz [750 (720)/50p], frc: 27.00 kHz, fvc: 24 Hz [1125 (1080)/24p], frc: 56.25 kHz, fvc: 50 Hz [1125 (1080)/50p]	frc: 31.47 kHz, fvc: 59.94 Hz [525p (480p)], frc: 33.75 kHz, fvc: 60 Hz [1125 (1080)/60i], frc: 27.00 kHz, fvc: 48 Hz [1125 (1080)/24sF], frc: 33.75 kHz, fvc: 30 Hz [1125 (1080)/30p]	frc: 31.25 kHz, fvc: 50 Hz [625p (576p)], frc: 28.13 kHz, fvc: 50 Hz [1125 (1080)/50i], frc: 33.75 kHz, fvc: 30 Hz [1125 (1080)/30p]
	Video/S-Video	frc: 15.73 kHz, fvc: 59.94 Hz [NTSC/NTSC4.43/PAL-M/PAL60], frc: 15.63 kHz, fvc: 50 Hz [PAL/SECAM/PAL-N]			
Keystone correction range	Vertical	±15° (Auto, Manual)			
	Horizontal	±15° (Manual)			
Installation	Ceiling/floor, front/rear				
Terminals	HDMI IN	HDMI 19-pin × 1 HDCP compatible, Deep Color compatible, Audio signal: linear PCM (sampling frequencies: 48 kHz, 44.1 kHz, 32 kHz)			
	COMPUTER 1 IN	D-sub HD 15-pin (female) × 1 [RGB/S-Video/Y-Pb(Cr)-Pr(Cb)]			
	COMPUTER 2 IN	D-sub HD 15-pin (female) × 1 [RGB]			
	MONITOR OUT	D-sub HD 15-pin (female) × 1 [RGB/Monitor output]			
	VIDEO IN	Pin jack × 1			
	AUDIO IN 1	M3 (L,R) × 1			
	AUDIO IN 2	Pin jack × 2 (L,R)			
	AUDIO OUT	M3 (L,R) × 1 (variable)			
	LAN	RJ-45 (× 1) for network connections, 10Base-T/100Base-TX, PLink™ (Class 1) compatible			
	SERIAL IN	D-Sub 9-pin (female) × 1 for external control (RS-232C compatible)			
	USB-Type A	Memory Viewer/Wireless Module (DC 5 V, max. 500 mA)			
	USB-Type B	USB Display			
Mini USB	For Interactive function				
Built-in speaker	10 W (monaural)				
Operation noise <sup>2</sup>	Normal: 37 dB, Eco1: 33 dB, Eco2: 28 dB				
Cabinet materials	Molded plastic (PC)				
Dimensions (W × H × D)	335 mm × 134.1 mm <sup>5</sup> × 329 mm (13 3/16" × 5 9/32" × 12 15/16")				
Weight	Approx. 3.9 kg (8.6 lbs)				
Operating environment	Operating temperature: 5–40 °C (41–104 °F) [Altitude: below 1,400 m (4,593 ft), High Land Mode: OFF]; 5–35 °C (41–95 °F) [Altitude: 1,400–2,700 m (4,593–8,858 ft), High Land Mode: On1]; 5–30 °C (41–86 °F) [Altitude: 2,700–3,000 m (8,858–9,843 ft), High Land Mode: On2], Operating humidity: 20–80 % (no condensation)				
Supplied accessories	Wireless remote control unit, Power cord (Number and size of cords depends on region), Instruction manual (Basic guide), Batteries for remote control (R03/LR03/AAA type × 2), RGB signal cable, Interactive Light Pen × 2, Batteries for pen (R03/LR03/AAA type × 4), USB cable (4.5 m), Software CD-ROM (Instruction manual, Multi Monitoring & Control Software), Multi Monitoring & Control Software, LightPen3)				

### Optional accessories

 <p>Ceiling Mount Bracket for High Ceilings <b>ET-PKL100H</b></p>	 <p>Ceiling Mount Bracket for Low Ceilings <b>ET-PKL100S</b></p>	 <p>Projector Mount Bracket <b>ET-PKL430B</b></p>	 <p>Replacement Filter* <b>ET-RFL300</b></p> <p>* Filter cover not included.</p>
 <p>Replacement Lamp Unit <b>ET-LAL500</b></p>	 <p>Interactive Light Pen* <b>ET-PEN100</b></p> <p>* Exclusively for PT-TW351R. Same as supplied Interactive Light Pen.</p>	 <p>Interactive Pointer* <b>ET-PNT100</b></p> <p>* Exclusively for PT-TW351R</p>	 <p>Wireless Module <b>ET-WML100</b></p> <p>ET-WML100E shown.</p>
			 <p>D-sub/S-VIDEO Conversion Cable <b>ET-ADS</b></p>

### Dimensions

Unit: mm (inches)



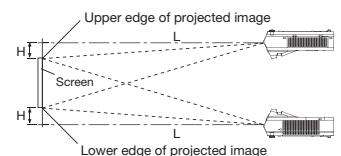
\*1 When Standby Mode is set to Eco, network functions such as power on over LAN will not operate. Additionally, only certain commands can be received for external control using the serial terminal. \*2 Measurement, measuring conditions, and method of notation all comply with ISO/IEC 21118:2012 international standards. \*3 Input signals that exceed supported resolution will be converted. \*4 The value for the recommended lamp replacement cycle is the maximum value, at which luminance will become 50 %. Usage environment affects the lamp replacement cycle. \*5 Pixel-repetition signal (dot clock frequency 27.0 MHz) only. \*6 With legs at shortest position.

### Projection distance

Unit: feet (meters)

PT-TW351R/TW350 (16:10 aspect ratio; throw ratio 0.46:1)		
Diagonal image size	Projection distance (L)	Height from the edge of screen to center of lens (H)
50" [1.27]	1.57 [0.48]	0.36 [0.11]
60" [1.52]	1.94 [0.59]	0.43 [0.13]
70" [1.78]	2.26 [0.69]	0.49 [0.15]
80" [2.03]	2.62 [0.80]	0.56 [0.17]
90" [2.29]	2.95 [0.90]	0.62 [0.19]
100" [2.54]	3.28 [1.00]	0.72 [0.22]

PT-TX410/TX320 (4:3 aspect ratio; throw ratio 0.46:1)		
Diagonal image size	Projection distance (L)	Height from the edge of screen to center of lens (H)
50" [1.27]	1.51 [0.46]	0.13 [0.04]
60" [1.52]	1.80 [0.55]	0.15 [0.05]
70" [1.78]	2.13 [0.65]	0.18 [0.05]
80" [2.03]	2.46 [0.75]	0.20 [0.06]
90" [2.29]	2.79 [0.85]	0.23 [0.07]
100" [2.54]	3.08 [0.94]	0.25 [0.08]



# Panasonic®



For more information about Panasonic projectors, please visit:  
 Projector Global Website – [panasonic.net/avc/projector](http://panasonic.net/avc/projector)  
 Facebook – [www.facebook.com/panasonicprojector](https://www.facebook.com/panasonicprojector)  
 YouTube – [www.youtube.com/user/PanasonicProjector](https://www.youtube.com/user/PanasonicProjector)

All information included here is valid as of January 2017.

PT-TW351RG1 Printed in Japan.

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