

**Panasonic**  
**ideas for life**

**PT-AE1000U**

Full High Definition  
Home Cinema Projector



Full 1080p High Definition.  
Professional Quality.



**HOLLYWOOD TUNING**

HORIZONTAL

LENS SHIFT · VERTICAL



**Panasonic**



# Full HD Hollywood Quality

Beginning with the PT-AE100U in 2001, Panasonic has led the industry in developing advanced projectors that bring large-screen, cinema-level viewing enjoyment right into the home.

Our Hollywood tuning process, which was developed in collaboration with leading Hollywood colorists and directors of photography, produces images

that are exceptionally faithful to the director's artistic vision and intent. Panasonic made Hollywood tuning available to home consumers in 2003 with the PT-AE500U, which provided unmatched image quality when viewing movies.

Now Panasonic is bringing image quality



to even greater heights by offering full HD. The new PT-AE1000U is a full-HD compatible home cinema projector that achieves a remarkable 11,000:1 contrast ratio—best in its class\*<sup>1</sup>. Developed with the quality

and precision that are needed to allow use by Hollywood professionals in the moviemaking process, the PT-AE1000U features three LCD panels

that display beautiful 1,080p high-definition pictures in remarkable detail.

With the new PT-AE1000U, Panasonic gives you the ultimate cinema experience at home.

\*<sup>1</sup> When the dynamic iris is on. LCD projectors with 1,000-lumen brightness or higher, as of September 14, 2006.

## PT-AE1000U

Full High Definition Home Cinema Projector



PT-AE500U

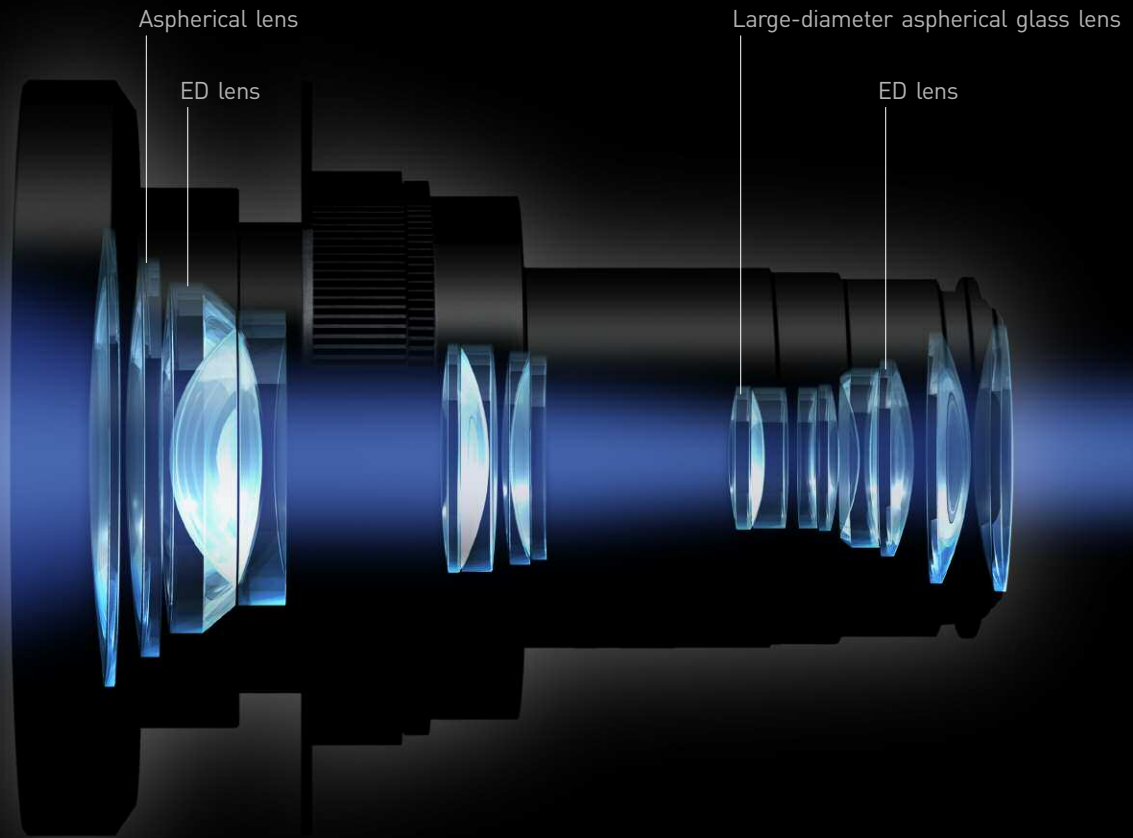


PT-AE700U



PT-AE900U

# Full HD Optics



# New Optical System Helps Deliver 11,000:1 Contrast — Best in its Class\*1



Newly developed full HD lens

## HD Compatible Lens System and New Optical Engine

The lens system plays a key role in getting the best images possible from full-HD video sources. To assure outstanding quality in the new PT-AE1000U, Panasonic developed a full-HD-compatible lens unit comprising 16 lens elements in 12 groups, including two large-diameter aspherical lenses and two high-performance ED (extra-low dispersion) lenses. We also developed a "Clear Prism" to process the three primary colors (red, green and blue) that create the image. By controlling the diffused reflection within the projector, the Clear Prism reduces the chromatic aberrations that can cause color deviation. The result is a sharp, high-contrast image all the way to the edges. This sophisticated new lens system contributes to the PT-AE1000U's remarkable 11,000:1 contrast ratio.



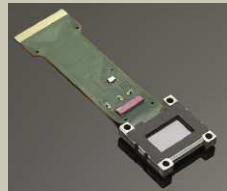
Large-diameter aspherical glass lens



Clear Prism

## Next-Generation Full-HD LCD Panels

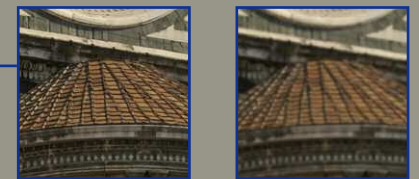
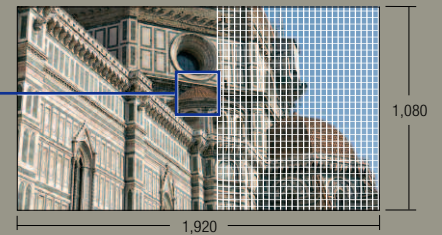
The PT-AE1000U is equipped with next-generation full-HD LCD panels\*2. With their native 1,920 x 1,080 resolution, these panels are ideal for reproducing beautiful full-HD images. The panels use inorganic, vertically aligned liquid crystal molecules. When no voltage is applied, the molecules are aligned perpendicular to the glass substrate, so there is no light leakage and the substrate remains black (called normally black operation).



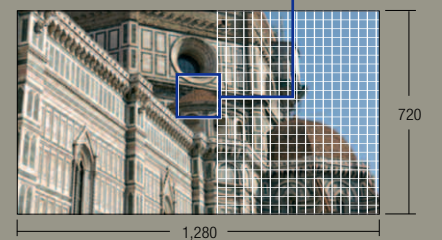
## Dynamic Iris

The Dynamic Iris helps provide the deeper, richer blacks you need for true-to-life images. This system works by analyzing histograms to determine the brightness level of each image, then adjusting the lamp power, iris and gamma curve\*3 accordingly to create the ideal image. The adjustments are made 60 times every second. In the PT-AE1000U we used a new algorithm that further improves response and stability. It helps the projector achieve a wide dynamic range, with beautiful display of both dark and bright scenes.

Full high definition LCD panel



High definition LCD panel



Dark scene with iris closed



PT-AE1000U



Without the Dynamic Iris



Bright scene with iris opened



PT-AE1000U

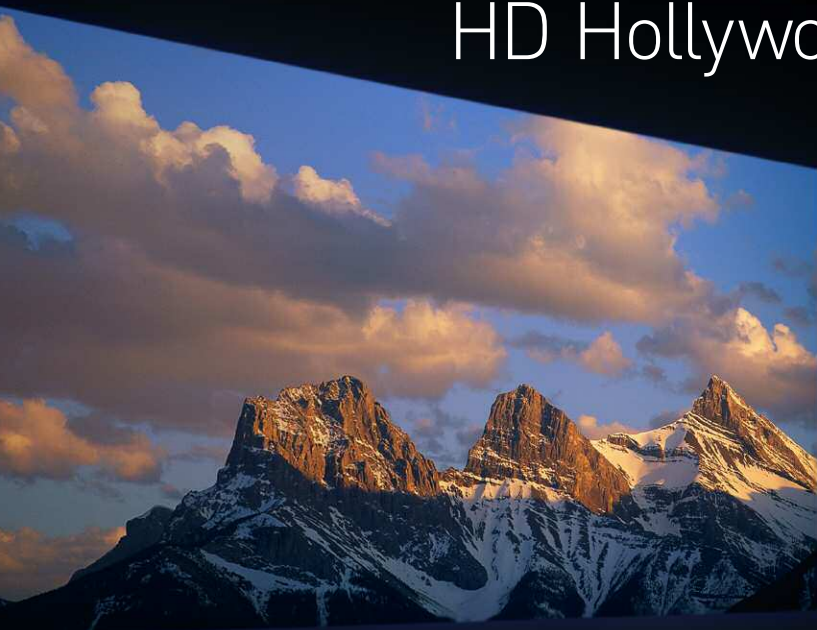


Without the Dynamic Iris

\*2 C2FINE™ 1920 x 1080 panels.

\*3 Parameters for adjusting the output brightness gradation level according to the input signal.

# HD Hollywood Tuning



Made by Panasonic, Tuned by Hollywood

## Technology that Captures the Artistry of a Top Hollywood colorist

Panasonic worked with leading Hollywood colorist David Bernstein and photography directors to achieve the most accurate image reproduction possible. This collaboration resulted in new integrated circuitry and core image optimizers that help the PT-AE1000U deliver true "Hollywood picture quality"—images that faithfully convey the director's artistic intent.

David Bernstein is a top Hollywood colorist whose expertise is evident in the telecine\* process for numerous successful films. \* Telecine process: How film is transferred to video.

## Panasonic Hollywood Laboratory (PHL)—Where Hollywood picture quality begins

For the past decade, PHL has conducted research into digital cinema, DVD video compression, and digital conversion of film stock. Now it is working to create standards for next-generation optical media using Blu-ray Disc and projection technology based on HD image compression. PHL's close relations with leading Hollywood studio technicians, directors, cinematographers and colorists played a key role in developing the PT-AE1000U.

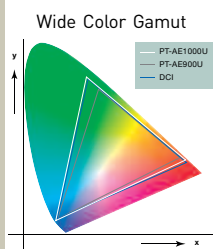


# “Pure Color Filter Pro” Delivers Vivid Colors and Rich Blacks “Cinema Works Pro” Helps Bring Out the Best in HD



## “Pure Color Filter Pro” for Professional-Level Color Reproduction

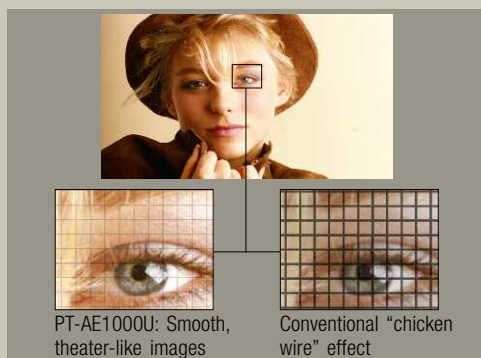
We equipped the PT-AE1000U with a specially developed optical filter that optimizes the light from the UHM projector lamp, helping to achieve deeper blacks while improving purity levels in the three primary colors (red, green and blue) that compose the image. It combines with our multilayered vacuum plating technology to create what we call the Pure Color Filter Pro.



This advanced filter system improves color purity to such an extent that the color gamut is expanded nearly to the level specified in the Digital Cinema Initiatives (DCI)\*<sup>4</sup>. To viewers at home, this means you see the kind of bright, vibrant colors and deep, rich blacks that make for great entertainment.

## “Smooth Screen” Technology for Deep, Film-Like Images

Smooth Screen is a Panasonic technology that uses crystal double refraction to arrange pixels

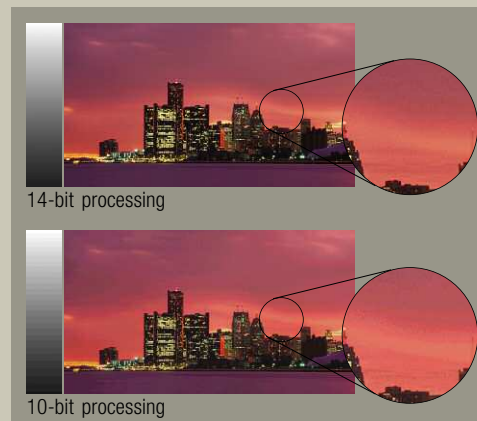


on a screen without gaps between them. This reduces the black-line “chicken wire effect” between pixels that mars picture quality, giving you the kind of smooth images you see in a movie theatre. It also protects colors from the chicken wire effect, so the image appears deeper and more three-dimensional.

## “Cinema Works Pro”—The Heart of Image Processing

The PT-AE1000U introduces Panasonic’s powerful new digital image processing engine. Called Cinema Works Pro, this system unleashes all the beauty from full-HD sources. It helps provide outstanding image quality from other sources as well.

- **14-Bit Digital Processing Circuit:** The PT-AE1000U handles up to 14-bit digital image processing. Providing 16,384 gradations, this circuit helps faithfully reproduce even subtle hues and brightness variations, making it possible to see even very fine textures in an image. The PT-AE1000U especially stands out in reproducing dark scenes, achieving the high realism demanded by movie-industry professionals.



- **New Scaling LSI:** The PT-AE1000U converts pixels (a process called scaling) according to the characteristics of the on-screen image and ad-

cent pixels. This not only improves image sharpness and reduces noise, it also helps create beautifully enlarged images from 480p sources, so you enjoy superb picture quality when viewing DVDs from your home collection.

- **MPEG Noise Reduction:** This system detects the amount of change in the input signal from one scene to the next and calculates the amount of noise to remove accordingly, minimizing both block noise and mosquito noise.
- **Progressive Cinema Scan (3/2 Pulldown) and HD IP:** It automatically detects when the input signal is derived from filmed material. HD IP enables the PT-AE1000U to convert signals recorded at a higher quality than was possible with conventional models.
- **Dynamic Sharpness Control:** Conventional projectors emphasize sharpness without regard for brightness differences. This can cause a halo or ring effect around object edges, reducing their three-dimensionality. Dynamic Sharpness Control sharpens only the pixels in the image areas where there is a small change in brightness level. This greatly reduces noise amplification and delivers clear, natural-looking images.

## Seven Preset Picture Modes

The PT-AE1000U has seven preset picture modes, making it easy for you to enjoy optimal viewing quality from a variety of image sources. Choose whichever mode provides the picture characteristics best suited to the source material.

<b>Cinema 1</b> (PCF)	A soft, smooth picture ideal for movies. Created under the supervision of David Bernstein, a leading Hollywood colorist.
<b>Cinema 2</b> (PCF)	Emphasizes deeper, richer colors. Suitable for older film classics.
<b>Color 1</b> (PCF)	A setting that supports the 6,500K* <sup>5</sup> color temperature recommended in the HDTV standard (ITU-R BT.709)
<b>Color 2</b> (PCF)	A setting that supports the 6,300K* <sup>5</sup> color temperature recommended in the Digital Cinema Distribution Master (DCDM) standard.
<b>Cinema 3</b>	Designed for clear, sharp reproduction of dynamic scenes. Suitable for action films, cartoons and animation.
<b>Normal</b>	A general setting suitable for use with most image sources.
<b>Dynamic</b>	Specially designed for when you're viewing in a brightly lit room.

(PCF: With Pure Color Filter Pro on.

\*4 A consortium formed by seven major Hollywood studios to establish a standard architecture for digital cinema systems.

\*5 Applies when all settings are in their initial positions.

# Professional-Level Features



# The Same Imaging Technologies Found in Professional Equipment Adjustment Functions that Put You in Control of the Picture



## Waveform Monitor

The PT-AE1000U gives home consumers a projector with the kind of waveform monitor used in equipment for professionals. This function displays waveforms to show how the PT-AE1000U has adjusted the images of the input signals sent from the source device. In cases where the output level of the source device fluctuates, you can view the waveform on the screen and adjust the image brightness and contrast to match standard levels. In cases where the characteristics of the output signal from the source device are distorted, viewing the waveform can make it easier for you to adjust the picture so it looks just the way the director intended.

Red component for the full screen

Green component for the full screen

Blue component for the full screen

You can also monitor the exact signal component that you want—for the full screen or for any desired horizontal line. You can display the luminance (Y), red (R), green (G), or blue (B) component for the full screen, or for a single line. And you can adjust the levels for the full screen.

The luminance level can be displayed on the screen.

Before compensation

After compensation

You can easily achieve standard black and white levels while monitoring the luminance signal component on the screen.

## Cinema Color Management (CCM)

This is an innovative color correction system that enables free control of colors with CCM technology. You can adjust one color without affecting the neighboring colors. This makes it easier to achieve just the right color equalization in hue, luminance and saturation.

Cinema Color Management

Adjusted color

Color before adjustment

Cursor

## User Equalizing Function

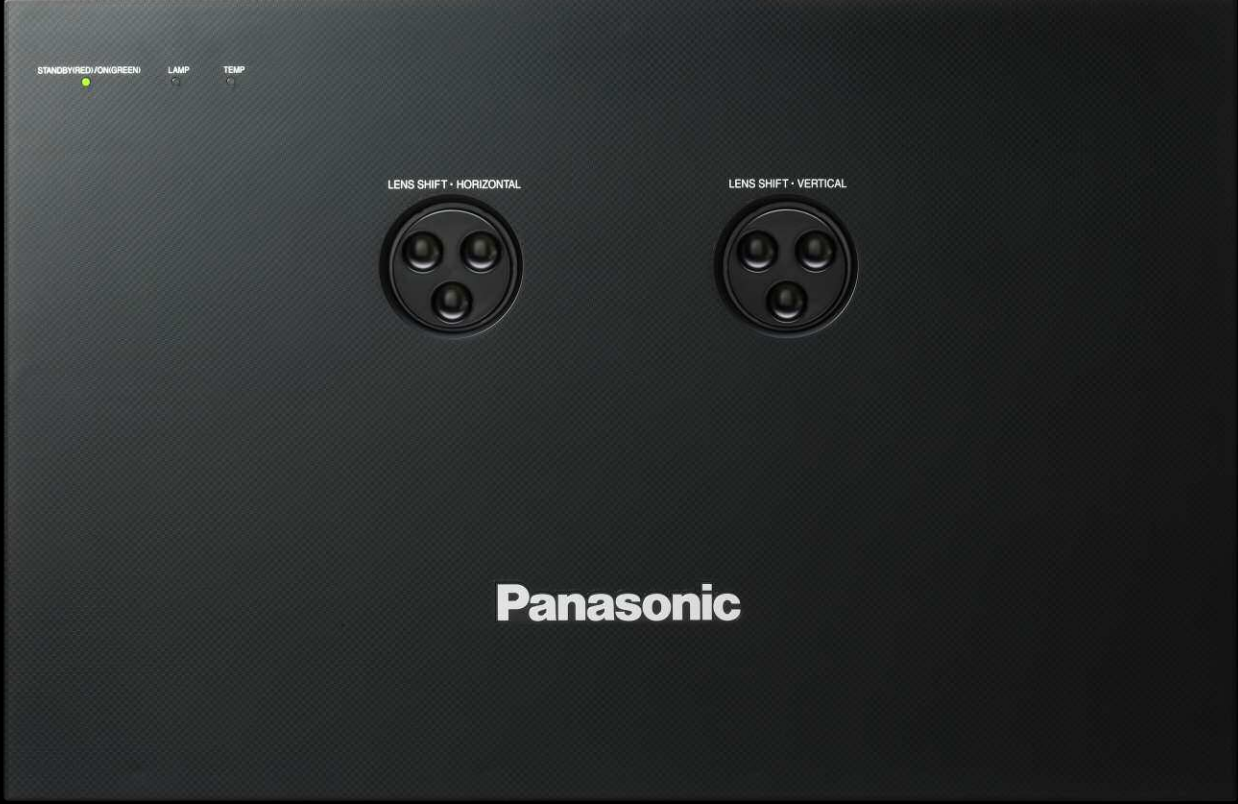
Incorporating Cinema Color Management technology, the PT-AE1000U has a user equalizing function that lets you decide precisely how images look on your screen. In each of the seven preset picture modes, the high, mid, and low gamma levels are adjustable. The PT-AE1000U features a broader adjustment range than earlier models and control screens that are more legible and easy to use. This makes customizing the picture fun and provides professional results. You can even store up to three sets of adjustment settings in memory for use any time.

## Built-In Test Pattern

For quick and easy adjustment of zoom and focus, two test patterns are built-in.



# Beauty in Design



# A Quality Look to Match the Quality Performance

## Flexible Installation, Easy Maintenance



### A Stylish Lens-Centered Design

The PT-AE1000U features a symmetrical design with a centered lens and a high-grade finish that suggests quality. Also available is an optional cable cover (ET-PCE1000) that gives the projector a square shape while neatly concealing the connection cables.



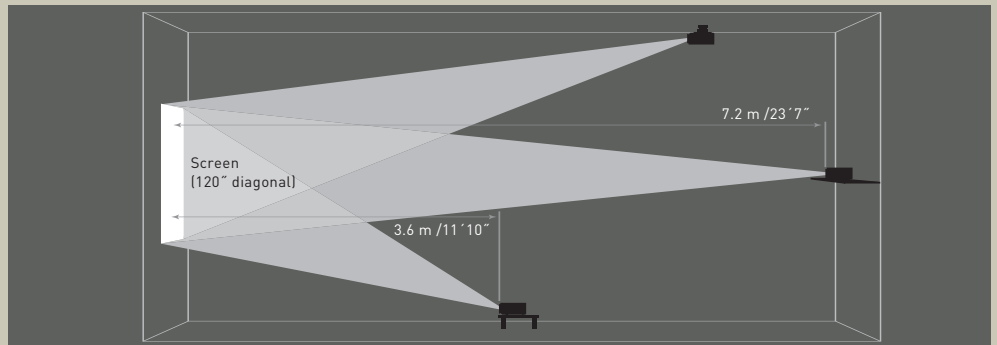
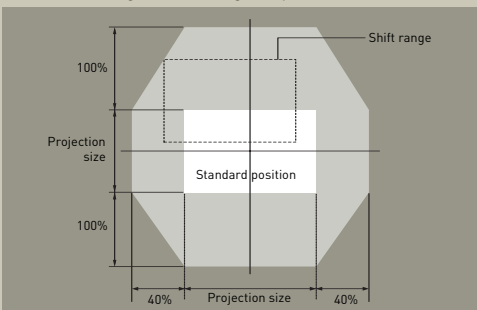
Optional cable cover

### 2x Optical Power Zoom and Power Focus

A 2x optical power zoom/focus lens and a lens shift function together make it possible to project a 120-inch picture from as close as 11'10" (3.6 m) to the screen or as far as 23'7" (7.2 m) away. This gives you outstanding setup flexibility. If you choose to ceiling-mount the projector, you can zoom and focus by remote control.

### Wide Lens Shift Range

The PT-AE1000U lens has a much wider shift range than previous models. Horizontally, it can shift the image in a range equal to about 40% of



the screen width. Vertically it can shift the image up to about 100% of the screen height. If you ceiling-mount the projector, the expanded vertical shift range lets you position the unit closer to the ceiling. Compared to pole mounting, a ceiling mount can give the room a more attractive look. To shift the lens, simply turn the dials which are secured in place by worm gears.

The dial has minimal play and allows precise adjustment, and once the lens is adjusted, it stays that way.

### Quiet Operation

We reduced fan noise all the way down to 22 dB (in Economy lamp mode) by improving the efficiency of the cooling system. The PT-AE1000U's whisper-quiet operation means there's nothing to keep you from enjoying all the beauty of the large-screen HD images.

### Learning Remote Control

The PT-AE1000U comes with a universal "learning" remote control unit that you can use to control your DVD player, AV amplifier, motorized projector screen or other components. A backlit LCD panel makes the remote easy to find and use even when you've turned the lights low for a home theater effect.



### On-Screen Input Guidance

A graphic display on the screen shows which terminals have been selected for sources. An indicator blinks to alert you if you've selected a terminal that has no device connected to it.



### Variety of Input Ports

The PT-AE1000U has two component inputs. In addition to video, S-video and computer (RGB) terminals, the projector is equipped with two HDMI ports and an RS232C serial port.

### Easy Maintenance

For easier maintenance, you can replace the filter from the side and the lamp from the top. The dust filter and lamp are easily replaced even after the PT-AE1000U is installed on the ceiling.



## Specifications

<b>Power supply</b>	100–240 V AC, 50/60 Hz
<b>Power consumption</b>	240 W (Approx. 0.08 W in standby mode with fan stopped) 2.8 A–1.2 A
<b>Amps</b>	
<b>LCD panel*1</b>	
<b>Panel size</b>	0.74" (17.78 mm) diagonally
<b>Aspect ratio</b>	16:9 aspect ratio
<b>Display method</b>	Transparent LCD panel (x 3, R/G/B)
<b>Drive method</b>	Active matrix
<b>Pixels</b>	2,073,600 (1,920 x 1,080) x 3, total of 6,220,800 pixels
<b>Lens</b>	Powered zoom (2x)/powered focus, F 1.9 - 3.2, f 22.4 mm–44.8 mm
<b>Lamp*2</b>	165 W UHM™ lamp
<b>Brightness</b>	1,100 lumens*3
<b>Contrast</b>	11,000:1*3 (full on/full off)
<b>Centre-to-corner uniformity ratio</b>	85%
<b>Colors</b>	Full color (1,073,741,824 colors)
<b>Projection size</b>	1,016–5,080 mm (40–200 inches) diagonally, 16:9 aspect ratio
<b>Throw distance</b>	1.2 m–12.0 m (3' 11"–39' 4")
<b>Screen aspect ratio</b>	16:9 (4:3 compatible)
<b>Scanning frequency for RGB</b>	Horizontal: 30–70 kHz, Vertical: 50–87 Hz Dot clock: 150 MHz or less
<b>YPbPr signal compatibility</b>	525i (480i), 525p (480p), 625i (576i), 625p (576p), 750 (720)/50p, 750 (720)/60p, 1,125 (1,080)/24p, 1,125 (1,080)/50i, 1,125 (1,080)/50p, 1,125 (1,080)/60i, 1,125 (1,080)/60p

<b>Color system</b>	PAL, PAL-M, PAL-N, PAL 60, SECAM, NTSC, NTSC 4.43,
<b>Optical axis shift*4</b>	Horizontal ±40% and vertical ±100%
<b>Keystone correction range</b>	Vertical: approx. ±30° Ceiling/desk, front/rear (menu selection)
<b>Installation</b>	
<b>OSD languages</b>	English, French, German, Spanish, Italian, Chinese, Korean, Russian, Swedish, Danish, Norwegian, Polish, Czech, Hungarian, Portuguese, Thai
<b>Terminals</b>	
<b>HDMI IN</b>	19-pin HDMI connector x 2
<b>PC (RGB) IN</b>	D-sub HD 15-pin (female) x 1 R, G, B: 0.7 Vp-p (1.0 Vp-p for Sync on G), 75 ohms HD/SYNC, VD: TTL, high impedance (positive/negative polarity)
<b>COMPONENT IN</b>	RCA pin (Y, Pb/Cb, Pr/Cr) x 2, Y: 1.0 Vp-p, 75 ohms Pb/Pr (Cb/Cr): 0.7 Vp-p, 75 ohms
<b>S-VIDEO IN</b>	Mini DIN 4-pin x 1, Y: 1.0 Vp-p, C: 0.286 Vp-p, 75 ohms
<b>VIDEO IN SERIAL</b>	RCA pin x 1, 1.0 Vp-p, 75 ohms
<b>Power cord length</b>	3 m (9' 10")
<b>Cabinet material</b>	PC, ABS
<b>Dimensions*5</b>	460 x 130 x 300 mm (W x H x D) [18-1/8" x 5-1/8" x 11-25/32"]
<b>Weight</b>	7.2 kg (15.9 lbs.)
<b>Operating environment</b>	Temperature: 0°–40°C [32°–104°F] Humidity: 20%–80% (no condensation)

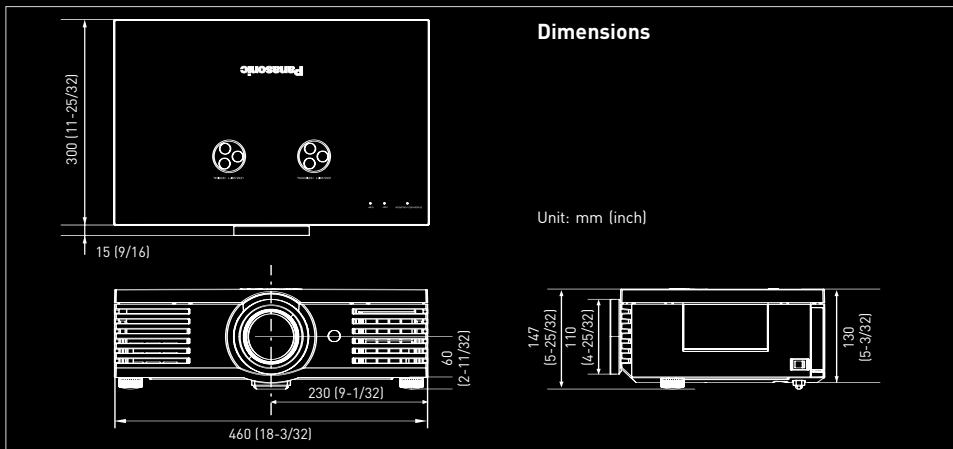
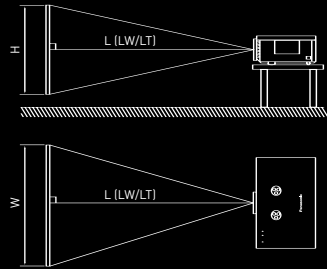
<b>Remote control unit</b>	
<b>Power supply</b>	3 V DC (UM-3 (AA) battery x 2)
<b>Operation range</b>	Approx. 7 m (23') when operated from directly in front of the signal receptor
<b>Dimensions (W x H x D)</b>	52 x 200 x 28.5 mm [2" x 6-15/16" x 7/8"]
<b>Weight</b>	170 g (6 oz.) (including batteries)
<b>Supplied accessories</b>	Power cord, Wireless remote control unit, Batteries for remote control (UM-3 x 2)
<b>Optional accessories</b>	
<b>ET-LAE1000</b>	Replacement lamp unit
<b>ET-PKE1000S</b>	Ceiling mount bracket
<b>ET-PCE1000</b>	Cable cover

- \*1 The projector uses a type of liquid crystal panel that typically consists of millions of pixels. This panel is built with very high-precision technology designed to provide one of the finest possible images. Occasionally, a few pixels may remain turned on (bright) or turned off (dark). Please note that this is an intrinsic characteristic of the manufacturing technology that affects all products using LCD technology.
- \*2 The projector uses a high-voltage mercury lamp that contains high internal pressure. This lamp may break, emitting a large sound, or fail to illuminate, due to impact or extended use. The length of time that it takes for the lamp to break or fail to illuminate varies greatly depending on individual lamp characteristics and usage conditions.
- \*3 In AI mode, with dynamic iris on.
- \*4 Shift range is limited during simultaneous horizontal and vertical shifting.
- \*5 Excluding protrusions



## Image size/projection distance

Projection size (16:9) Diagonal length	Projection distance (L)		Height from the edge of screen to center of lens (E)	Width from the right edge of screen to center of lens (W)
	Min (Wide)	Max (Telephoto)		
1.01 m / 40"	1.2 m / 3' 11"	2.3 m / 7' 7"	-0.25 m - 0.75 m / 9.8" - 2' 6"	0.09 m - 0.80 m / 3.5" - 2' 7"
1.52 m / 60"	1.8 m / 5' 10"	3.5 m / 11' 6"	-0.38 m - 1.13 m / 1' 3" - 3' 8"	0.14 m - 1.20 m / 5.5" - 3' 11"
2.03 m / 80"	2.4 m / 7' 10"	4.7 m / 15' 5"	-0.50 m - 1.50 m / 1' 8" - 4' 11"	0.18 m - 1.60 m / 7" - 5' 3"
2.54 m / 100"	3.0 m / 10' 2"	6.0 m / 19' 8"	-0.63 m - 1.87 m / 2' 1" - 6' 2"	0.23 m - 2.00 m / 9" - 6' 7"
3.05 m / 120"	3.6 m / 11' 10"	7.2 m / 23' 7"	-0.75 m - 2.25 m / 2' 6" - 7' 5"	0.27 m - 2.40 m / 11" - 7' 10"
3.81 m / 150"	4.5 m / 14' 9"	9.0 m / 29' 6"	-0.94 m - 2.81 m / 3' 1" - 9' 3"	0.34 m - 2.99 m / 1' 1" - 9' 10"
5.08 m / 200"	6.0 m / 19' 8"	12.0 m / 39' 4"	-1.25 m - 3.74 m / 4' 1" - 12' 3"	0.45 m - 3.99 m / 1' 6" - 13' 1"



## Ecology-Conscious Design

Panasonic strives to minimize environmental impact caused by its products through careful consideration of design, production, delivery, process and product life cycle. The PT-AE1000U reflects the following ecological considerations.

- Lead-free solder is used to mount components on the printed circuit boards.
- No halogenated flame retardants are used in the cabinet.
- No polystyrene foam is used in the packing materials.
- Lead-free glass is used for the lens.
- The packing case and operating manual are made from recycled paper.
- Lamp power switching further reduces power consumption.
- Standby power consumption is a mere 0.08 watts in the standby mode.

Projector Global Web Site <http://panasonic.co.jp/pavc/global/projector>

# Panasonic ideas for life

Panasonic Projector Systems Company, Unit of Panasonic Corporation of North America

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PT-AE1000U1-06OCT30K Printed in Japan.