Panasonic

ideas for life

PT-AE4000U

Full High-Definition Home Cinema Projector

The Theater of Your Dreams
For Film Lovers Everywhere

Panasonic seeks the highest performance in optical systems and signal processing circuits to achieve cinema-level colors, contrast, texture and details for an uncompromised home theater experience. Panasonic’s extensive knowledge of digital filmmaking and media such as Blu-ray Discs and HD broadcasting are clearly seen in the high picture quality of the PT-AE4000U, which embodies advanced technologies that optimize the reproduction of digital content.

Its exceptional performance—details with amazing reality and clarity—is further boosted by Panasonic’s collaboration with leading Hollywood filmmakers to ensure that it produces images that mirror the director’s artistic vision and intent.

The PT-AE4000U integrates seamlessly with your home theater environment. It lets you create a dream theater with the dynamic power of a full-scale movie theater in the comfort of your own home. Professional-level adjustments enable precise calibrations to suit the specific home theater conditions in your house.
New Red-Rich Lamp
The incorporation of the new Red-Rich Lamp increases the luminance efficiency of the projector, to achieve 150% brighter Cinema Picture modes compared to its predecessor, the PT-AE3000U. Prior to the development of the Red-Rich Lamp, much brightness was lost to attain the desired color purity/balance for the rich color reproduction of Cinema Picture modes due to the lack of red luminance. The newly engineered lamp successfully adds red luminance, and enables the projector to produce brighter images with excellent colors. With the ability to produce a stunning brightness of 1,600 lumens, the PT-AE4000U unleashes the beauty of full-HD expression for viewing on various screen sizes.

Full-HD Optimized Optical System
To assure maximum clarity and sharpness in full-HD images, this advanced optical system employs a full-HD-optimized lens unit comprising of 16 lens elements in 12 groups, including two large-diameter aspherical lenses and two high-performance ED (extra-low dispersion) lenses. Each lens is carefully aligned to assure a uniform focusing balance from the centre to the edges of the screen. As a result, the PT-AE4000U produces stunningly clear and beautiful images.

New Pure Contrast Plates Deliver High 100,000:1 Contrast Ratio
The Pure Contrast Plates in the PT-AE4000U use a newly engineered crystalline material that is carefully matched to the characteristics of the LCD panels to effectively correct the passage of light exiting the panels. This enables the projector to block unwanted light leakage and successfully increases the dynamic range. It works together with the dynamic iris to achieve an astounding contrast ratio of 100,000:1.

Pure Color Filter Pro for Rich, Vibrant Colors
The optical filter optimizes the light spectrum from the UHM projector lamp, helping to produce deeper blacks while improving purity levels in the three primary colors (red, green and blue). This advanced filter system improves color purity to cover a range that extends from the HDTV standard (Color 1 mode)*1 to the color gamut used in digital cinema*2. This gives images the deep, rich coloring that distinguishes movie images.

Smooth Screen Technology Creates Film-Like Texture
While many LCD projectors suffer from a “chicken wire” effect, Panasonic’s pursuit of the highest possible image quality has successfully overcome this device limitation through the incorporation of Smooth Screen technology. This uses the double refraction property of crystals to arrange pixels on a screen with no gaps between them. Smooth Screen technology is designed to give you the kind of smooth, vivid, and three-dimensional-like images you see in movie theaters.

Dynamic Iris Adds Beauty to Both Dark and Bright Scenes
The fifth generation intelligent iris system works by analyzing the brightness level of each image using a histogram, then adjusting the lamp power, iris and gamma curve*3 accordingly to create the ideal image. The adjustments are made virtually frame by frame. This helps the projector achieve a wide dynamic range with swift smoothness for added beauty in both dark and bright scenes.

Full-HD LCD Panels Enhance Motion Response
The PT-AE4000U’s full-HD LCD panels have a double-speed drive capability that improves the projection clarity of moving images. These high-precision panels use vertically aligned liquid crystal molecules with inorganic alignment layers. When no voltage is applied, the molecules are aligned perpendicular to the glass substrate, so there is minimal light leakage and the substrate remains black called “normally black” operation, providing higher contrast.

A vast accumulation of Panasonic projector technology is further strengthened by the new Red-Rich Lamp and a refined, high-precision optical system to enrich your home theater experience.
Crisp, Clear Details and Professional-Level Tuning

The remarkable advancement of the PT-AE4000U reflects in its uncompromising signal processing system. Carefully matched to its new optical system, this advanced signal processing brings incredible, full-HD clarity to image details.

Detail Clarity Processor 3 Gives Natural Clarity to Even the Finest Details
This digital image processing circuit brings greater clarity and sharpness to details, by reproducing fine nuances that were lost due to image compression. After a two dimensional analysis of the video signal’s frequency in each scene, the new circuit optimizes the sharpness of each image portion based on the extracted information. The resulting images have a more natural, lifelike expression than those of previous image-processing methods. The detection of super-high-frequency image components also enables more faithful reproduction of highly detailed information, such as the film grain in movies. The effect can be adjusted in nine steps from 0 to +7.

Frame Creation 2 Featuring Motion Blur Reduction
A double-speed display (120 Hz or 100 Hz) greatly improves the clarity of motion images. Frame Creation interpolates one new frame for each existing frame by analyzing the characteristics of the adjacent frames to reproduce sharp and clear images for fast moving scenes in sports and action movies. For 24p input signal, three frames are calculated and interpolated for each existing frame, to enable 4x speed (72p-Hz) display. There are four modes (mode 1, mode 2, mode 3, and off) to choose from. The effect is more pronounced as you ascend through the modes, to provide crisp, clear images to your liking.

Advanced Gamma Adjustment Function
The gamma curve can be flexibly controlled, allowing precise calibration according to the signal source and environment. Brightness (Y), R, G and B can each be adjusted and can be shifted both horizontally and vertically to bring out the desired gradation level.

New Cinema Color Management Premium Enables Flexible Color Control
This color correction system enables free color control in two different modes. The Point Color Correction mode lets you pick a point in the image and adjust that color without affecting the neighboring colors, so it is easy to get just the right color equalization in hue, luminance and saturation. The Six Color Correction mode enables independent adjustment of red, green, blue, cyan, magenta and yellow.

Waveform Monitor for Precise Calibration
When the output level of the source device fluctuates due to the performance of the device or its cable connections, the original black and white levels of the image content cannot be reproduced. With the PT-AE4000U you can view the waveforms on the screen and adjust the settings both automatically and manually as you prefer.

Split Adjust Mode for Easy Picture Adjustment
You can freeze any scene you wish, and then make adjustments while easily comparing the original image and the adjusted image side-by-side.

16 Bit Gamma Correction for Natural Gradations
The PT-AE4000U handles up to 16-bit (full 12-bit) digital image processing. It faithfully reproduces even subtle hues and brightness variations.
Flexible Installation and Smart, Easy Operation

The Lens Memory, programmable 12V trigger and setup flexibility ensure that you will always enjoy comfortable large-screen viewing matched to your theater room. PT-AE4000U’s rich features accommodate simple to fully customized theatres. An ecology-conscious design is another trait that lifts the PT-AE4000U to an even higher level of quality.

Intelligent Lens Memory with Auto Detection
Up to six settings can be stored in the Lens Memory, including zoom and focus positions for projecting in the normal 16:9 or 4:3 image ratio, and wide cinema projection settings. These memories can be recalled manually or can be set for automatic switching. The projector is able to detect 2.35:1 and 16:9 source and retrieve the stored setting automatically. This Lens Memory function lets you easily enjoy images with different image ratios on a wide 2.35:1 screen for an immersive movie theatre-like experience.

VIERA Link for Easy Operation
The PT-AE4000U supports VIERA Link. If your home theatre system contains VIERA Link-ready equipment, projection can be started by using only the remote control of the PT-AE4000U, regardless of whether the source is a Blu-ray Disc or a TV program stored on an HD recorder. This eliminates the need for hassling with several remote controls.4

Programmable 12V Trigger for Automated Theatre Setup
Two 12V triggers are provided. Since the input and output can be set independently (menu selectable), they can link flexibly with powered screens, room light and powered curtains. When combined with the Intelligent Lens Memory, they let you create a truly classy home theatre.

HDMI with x.v.Color™ Deep Color™
The PT-AE4000U has three HDMI input terminals for digital transmission without image degradation. The HDMI input terminals also support Deep Color and the x.v.Color™ color space of the HDMI 1.3 standard. Deep Color provides 10-bit (over 1.07 billion) and 12-bit (over 68.7 billion) color depths for smooth gradation between colors, while x.v.Color™ compliance reproduces natural, lifelike images. 4

Simple Maintenance
For easy maintenance, you can replace the filter from the side and the lamp from the top of the projector. The dust filter and lamp are easily replaced even after the PT-AE4000U is installed on the ceiling.

Ecology-Conscious Engineering and Design
Panasonic works from every angle to minimize environmental impact in the product design, production and delivery processes, and in the performance of the product itself over its life cycle.

Intelligent Power Management System for Eco-Friendly Power Consumption
The PT-AE4000U realizes an extremely low standby power consumption of 0.08 W*. In addition, the PT-AE4000U’s main power consumption is reduced by as much as 10% when the dynamic iris function is operating because it intelligently determines the necessary power output of the projector by analyzing over 3 billion different image patterns, to optimize and eliminate excessive power consumption.

Other Ecological Considerations
• An off-timer that reduces wasteful power consumption. • RoHS compliance. • Lead-free solder for mounting components to printed circuit boards. • No vinyl chloride in interior wiring. • No halogenated flame retardants in the cabinet. • Lead-free glass for the lens.

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Other Features

• Seven picture mode includes Cinema 1, Cinema 2, Cinema 3, Normal, Dynamic, Color 1 and Color 2.
• 3D noise reduction for high-precision noise detection and reduction
• Scene-adaptive MPEQ noise reduction effectively blocks regular noise and minimizes mosquito noise.
• Scene adaptive resizing LSI improves quality individually lamp characteristics and usage conditions.
• Protruding parts are not included.

Specifications

Power supply 100 - 240 V AC, 50/60 Hz
Power consumption 280 W (Max), 110 W (Min) (in standby mode with fan stopped)

LCD panel

• Panel size: 0.74˝ (17.78 mm) diagonally
• Aspect ratio: 16:9 aspect ratio
• Display method: Transflective LCD panel (x 3, R/G/B)
• Drive method: Active matrix
• Pixels: 2,073,600 (1,125 x 1,080 x 3, total of 6,220,800 pixels

Lens

• 1.08 X wide lens
• Brightness (ET-LAE4000) 1,400 Lumens*
• Contrast (ET-LAE4000) 1000:1

Optical axis shift

Shift range is limited during simultaneous horizontal and vertical shifting.

Scene-adaptive MPEG noise reduction effectively blocks regular noise and minimizes mosquito noise.

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.

Video input compatibility

MID (1024), DIVX (1024), DVI-D (576), DVI (576), DVI (576), 720 (576), 720 (540), 1125 (576), 1125 (540), 1125 (540), 1125 (576), 1125 (600), 1125 (1200)

Color system

FAL, PAL-M, PAL-N, PAL-S, SECAM, PAL (4:3, 16:9)

Optional accessories

Vertical: approx. ±45°
Horizontal: ±60° and vertical: ±100°

Weight

Approx.: 2.7 kg (6 lb. 3 oz.)

Dimensions

Dimensions (W x H x D) 460 x 130 x 300 mm (18-1/8˝ x 5-1/8˝ x 11-25/32˝)

Power consumption

240 W (Approx. 0.08 W in standby mode with fan stopped)

D-sub 9-pin x 1 (RS-232C based)
Min DIN 4-pin x 1
D-sub HD 15-pin (female) x 1

DVI-D (x 1), HDAVI Control Version 4

On-screen input guidance

• Featuring a wide range of aspect modes, including ones for anamorphic lenses. ([J:ST/4:3/16:9/512/14:9/200M/2/30M/2/FIT/FIT]) NOTE: The selectable modes vary depending on the input signal.
• Up to sixteen sets of adjustment settings can be stored in memory with custom names that make them easy to remember.
• Masking function to match the desired projection area to the screen.
• User-friendly ergonomic remote control.
• Built-in test pattern including color bar and gray scale.
• On-screen input guidance
• Auto input search
• Quiet operation: 22 dB (in Economy lamp mode)
• Normal/Eco lamp power selection
• Lens-centred design

Made in Japan

Each Panasonic projector is produced by a vertically integrated production process, which extends from R&D to manufacturing, at the Panasonic factory in Japan, under strict quality control. This ensures stable, top-quality performance in every product.

Image size/projection distance

Aspect ratio 16:9

Projection size (16:9) Projection distance (L) Diagonal length

L (LW/LT) Min Max (LW/LT)
1.97 m / 6.5 ft 2.54 m / 8.3 ft 3.05 m / 10 ft
2.44 m / 8 ft 3.05 m / 10 ft 3.66 m / 12 ft
3.05 m / 10 ft 3.66 m / 12 ft 4.27 m / 14 ft

Aspect ratio 2.35:1

Projection size (2.35:1) Projection distance (L) Diagonal length

L (LW/LT) Min Max (LW/LT)
1.52 m / 5 ft 2.03 m / 6.6 ft 2.54 m / 8.3 ft
2.03 m / 6.6 ft 2.54 m / 8.3 ft 3.05 m / 10 ft
2.54 m / 8.3 ft 3.05 m / 10 ft 3.56 m / 11 ft

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For detailed explanation of features please visit our Projector Global Web Site http://panasonic.net/avc/projector

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