Panasonic
ideas for life

PT-**DZ770**K
PT-**DZ770**LK

1-Chip DLP™ Projectors

Bright 7,000 lm and Crisp, Vivid Pictures for Various Applications

PT-**DZ770**K
PT-**DZ770**LK

WUXGA

7,000 lm

PICTURE BY
DLP™
A TEXAS INSTRUMENTS TECHNOLOGY

Detailed Images and Versatile Functions in a Compact Cabinet

Panasonic's unique optical engine in the PT-DZ770K produces 7,000 lm of brightness and high-quality images. This combines with a host of terminals and advanced management functions to provide high reliability and hassle-free maintenance. Ideal for a wide variety of applications, from education and business to stage performance.

Vivid Picture Quality with High Brightness

Bright 7,000 lm from Compact Body
New lamp drive system has helped to make the body as compact as Panasonic's PT-DZ6700 Series*[2], while providing high brightness of 7,000 lm.

RGB Booster Significantly Improves Color Reproduction
The RGB Booster achieves high image quality with levels of color reproduction and brightness that make each color stand out. It combines Panasonic's proprietary Vivid Color Control technology with a newly engineered Lamp Modulation Drive System for a 1-chip DLP™ projector that produces bright and vivid colors.

● **Vivid Color Control**
This unique control technology optimizes the use of the color segment areas of the color wheel. It increases the brightness of each RGB color by minimizing the unallocated portions between the colors, to achieve truly vivid coloring.

● **Lamp Modulation Drive System**
With the advanced lamp modulation technology, the projector is able to control the lamp intensity for each of the red, green, blue, and white segments of the color wheel separately. Because the actual light output is controlled in relation to each color segment, light usage is optimized and color balance is obtained without lowering the brightness. This results in bright vivid images with increased color fidelity.

Detail Clarity Processor Brings Depth and Clarity to Details
This advanced image-processing circuit analyzes the video signal frequency range for each scene by extracting data on the distribution of high, mid, and low-frequency components, and brings out fine details accordingly. The resulting images have a more natural, three-dimensional appearance with crisp, clear detail.

System Daylight View 2 for Enhanced Color Perception
Image details are less clear when a projector is used in a room with the lights on. Panasonic's System Daylight View 2 improves brightness perception by adjusting sharpness, gamma curves, and color corrections. This produces crisper, more stunning images with vivid colors even under bright conditions

Without System Daylight View 2

PT-DZ770K with System Daylight View 2

DICOM Simulation Mode*[3]
This imaging mode is similar to DICOM part 14, which is a medical imaging standard. It reproduces X-ray images with remarkable clarity.

Normal mode

DICOM simulation mode
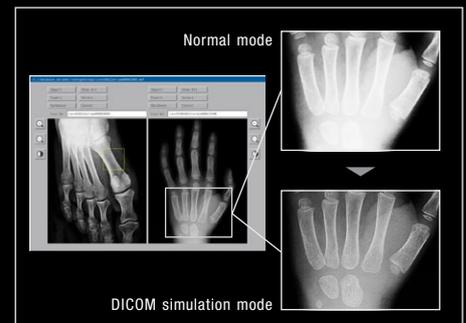
Rec. 709 Mode for HDTV Projection
Optimal color reproduction can be achieved by selecting this mode, compliant with ITU-R Recommendation BT.709, when images from an HDTV source are projected.

● **Conventional system**

Color wheel

Lamp power

Because the lamp power was fixed in conventional projectors, color reproduction was enhanced by sacrificing brightness.

● **RGB Booster**

Color wheel

Lamp power

By modulating the lamp power, we can maximize the color reproduction of each color without sacrificing brightness. Light usage is optimized, and color balance is obtained without lowering the brightness.

Easy Maintenance and Superior Reliability

Eco Filter that Needs No Maintenance for up to 12,000 Hours[*4]

The original Eco Filter consists of two Micro Cut Filters (electrostatic filters), a pre-filter and a main filter, which use an ion effect to collect extremely small dust particles. The pre-filter has a honeycomb configuration and the main filter is pleated to achieve a large surface area that raises its dust collecting performance. Thanks to these features, the Eco Filter has a replacement cycle of up to 12,000 hours[*4], which reduces the hassle of maintenance. And, as an environmental consideration, the filter can be washed with water and reused[*5].

Main filter

Pre-filter
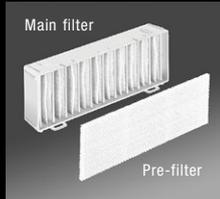
Dual-Lamp System Prevents Image Interruptions

The Dual-Lamp System eliminates the need to interrupt a presentation if a lamp should burn out (in dual-lamp operation mode). The Lamp Relay mode also operates the lamps alternately to enable 24/7 projector operation. The replacement lamp unit[*6] can be used with all of the Panasonic PT-DW730 Series[*1], DZ6700 Series[*2] and PT-DZ570 Series[*7] projectors. This reduces the number of lamp types that need to be kept in stock when multiple projectors are used.

Liquid Cooling System Attains a High Level of Reliability

Panasonic's unique liquid cooling system directly cools the DLP™ chip to improve performance and enable operation up to 45°C (113°F).[*8] This allows use in a wider variety of environments, while stabilizing performance and keeping the unit quiet even in harsh conditions. It also contributes to realizing the compact body. Plus, Panasonic's liquid cooling system is hermetically sealed, so you don't need to replenish the liquid.

Embedded pump
Radiator
DLP™ chip
Reservoir tank
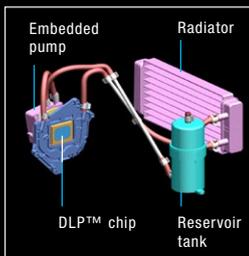
System Integration Flexibility

Flexible Installation

The wide adjustment range of the powered horizontal/vertical lens shift function assures convenience and versatility during installation. It lets you easily make adjustments with the remote control. The unit can also be

360°

rotated 360 degrees vertically. This means you can install it at any angle you want, to accommodate different installation conditions.

A Wide Selection of Optional Lenses

Choose from a wide lineup of optional lenses for your system, including short-throw zoom lens, long-throw zoom and fixed-throw lenses for rear projection use. The additional lenses make it easy to adapt your projector to the installation site.

ET-DLE080

Multi-Screen Support System Seamlessly Connects Multiple Screens

The Multi-Screen Support System optimally adjusts multiple screens: Edge blending, color matching and multi-screen processor.

• Edge Blending

The edges of adjacent screens can be blended and their luminance controlled.

• Color Matching

This function corrects for slight variations in the color reproduction range of individual projectors.

• Multi-Screen Processor

The PT-DZ770K can project large, multi-screen images without any additional equipment. Up to 100 units (10 × 10) can be edge-blended at a time.

Color matching
Edge blending
With edge blending
Without edge blending
Source
Overlapping image edges
PT-DZ770K
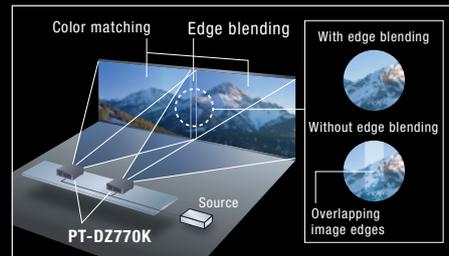
Side-by-Side Function[*9]

The PT-DZ770K can simultaneously display images from two sources onto a single screen. For example, you can display a PC image on the left and a video image on the right. Taking advantage of the wide-screen projection, this function gives you a host of new application possibilities to explore.
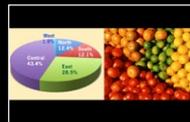
Multi Projector Monitoring & Control Software

Panasonic's original freeware, "Multi Projector Monitoring & Control Software," allows the user to control and monitor multiple projectors at the same time via LAN. Projectors can be scheduled to turn on and off at a certain hour everyday. When a problem occurs, an alarm message is sent to the monitoring/controlling PC.

Crestron RoomView™ and AMX Device Discovery

The AMX Device Discovery technology is built in the PT-DZ770K. Therefore, the LAN terminal allows a computer connected to the

network to use Crestron RoomView™ application software to manage and control system devices.

Standby Mode: Eco[*10]

The PT-DZ770K has attained a low standby power level of 0.2 W[*11] (STANDBY MODE: ECO). It also helps to slash running costs, and reduces environmental impact.

Other Valuable Features

- Multiple terminals with HDMI compatibility
- 3D color management system
- HD IP conversion
- Digital noise reduction
- Dynamic sharpness control
- Web browser control/monitoring and e-mail message alert
- PJLink™ (Class 1) compatibility
- Scheduling function
- 30m long-range wireless remote control
- Mechanical lens shutter
- Direct Power Off allows unplugging the power cord right after use

Recommended Applications

The PT-DZ770K boasts superior image quality, flexible installation, and easy maintenance, making either model an ideal choice for use in classrooms, auditoriums, houses of worship, museums, and much more.

Ecology-conscious 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 during its life cycle. The PT-DZ770K projector reflects the following ecological considerations.

- No halogenated flame retardants are used in the cabinet.
- Lead-free solder is used to mount components to the printed circuit boards.
- Lamp power switching further reduces power consumption.
- Standby power consumption of only 0.2 W[*11] has been achieved (STANDBY MODE: ECO).[*10]
- Auto Power Save activates standby mode when no signal is input.

made in Japan

The PT-DZ770K is carefully manufactured at the Panasonic factory in Japan, under strict quality control. This is another, very important advantage of a Panasonic projector.

*1 PT-DW730S/DW730LS/DX800S/DX800LS. *2 PT-DZ6710/DZ6710L/DZ6700/DZ6700L/DW6300S/DW6300LS/D6000S/D6000LS/D5000S/D5000LS. *3 This product is not a medical instrument. Do not use it for actual medical diagnosis. *4 The usage environment affects the duration of the filter. *5 When washing with water, please follow the procedures listed in the operating instructions. Also, we recommend replacing the filter with a new one after it has been washed and reused twice. If the filter is not sufficiently clean after washing, replace it with a new one. *6 ET-LAD60A/LAD60AW. *7 PT-DZ570/DW530/DX500. *8 The operating temperature range is 0°C to 40°C (32°F to 104°F) when the fan control is set to High Altitude mode (for altitudes from 1,400 m to 2,700 m (4,593 ft to 8,858 ft) above sea level). Also, if the ambient temperature exceeds 40°C (104°F) (35°C (95°F) in High Altitude mode) when the projector is being used with Lamp Select set to Dual and Lamp Power set to High, the light output may be reduced approximately 20% to protect the projector. *9 This function is not effective for some source combinations. *10 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. *11 For 120 V AC power supply. 0.3 W for 200–240 V AC power supply.

Specifications

Model	PT-**DZ770K/DZ770LK**
Power supply	120 V AC, 7.5 A, 50/60 Hz, 220–240 V AC, 4.3 A, 50/60 Hz
Power consumption	
120 V AC	830 W (880 VA) (0.2 W when STANDBY MODE set to ECO*[1], 6 W when STANDBY MODE set to NORMAL. Both with fan stopped.)
220–240 V AC	810 W (1,000 VA) (0.3 W when STANDBY MODE set to ECO*[1], 8 W when STANDBY MODE set to NORMAL. Both with fan stopped.)
Dissipation BTU	Max. 2,924 BTU/hour
DLP™ chip	
Panel size	17.0 mm (0.67 inches) diagonal (16:10 aspect ratio)
Display method	DLP™ chip × 1, DLP™ projection system
Pixels	2,304,000 (1,920 × 1,200) pixels
Lens	
PT-DZ770K	Powered zoom (throw ratio 1.7–2.4:1), powered focus F 1.7–1.9, f 25.6–35.7 mm
PT-DZ770LK	Optional powered zoom/focus lenses and fixed-focus lens
Lamp	300 W (max. 310 W) UHM lamp × 2
Screen size (diagonal)	1.27–15.24 m (50–600 inches), 1.27–5.08 m (50–200 inches) with the ET-DLE055, 16:10 aspect ratio
Brightness*[2]	7,000 lm (dual-lamp, LAMP MODE: NORMAL)
Center-to-corner uniformity*[2]	90 %
Contrast*[2]	2,500:1 (full on/full off, CONTRAST MODE: HIGH*[3])
Resolution	1,920 × 1,200 pixels
Scanning frequency	
HDMI/DVI-D	f_H: 15–91 kHz, f_V: 50–85 Hz, dot clock: 162 MHz or lower
RGB	f_H: 15–91 kHz, f_V: 50–85 Hz, dot clock: 150 MHz or lower
YP_BP_R (YC_BC_R)	f_H: 15.75 kHz, f_V: 60 Hz [480i (525i)] f_H: 28.13 kHz, f_V: 50 Hz [1080 (1125)/50i]
	f_H: 31.50 kHz, f_V: 60 Hz [480p (525p)] f_H: 28.13 kHz, f_V: 25 Hz [1080 (1125)/25p]
	f_H: 15.63 kHz, f_V: 50 Hz [576i (625i)] f_H: 27.00 kHz, f_V: 24 Hz [1080 (1125)/24p]
	f_H: 31.25 kHz, f_V: 50 Hz [576p (625p)] f_H: 27.00 kHz, f_V: 48 Hz [1080 (1125)/24sF]
	f_H: 45.00 kHz, f_V: 60 Hz [720 (750)/60p] f_H: 33.75 kHz, f_V: 30 Hz [1080 (1125)/30p]
	f_H: 37.50 kHz, f_V: 50 Hz [720 (750)/50p] f_H: 67.50 kHz, f_V: 60 Hz [1080 (1125)/60p]
	f_H: 33.75 kHz, f_V: 60 Hz [1035 (1125)/60i] f_H: 56.25 kHz, f_V: 50 Hz [1080 (1125)/50p]
	f_H: 33.75 kHz, f_V: 60 Hz [1080 (1125)/60i]
Video/S-Video	f_H: 15.75 kHz, f_V: 60 Hz [NTSC/NTSC4.43/PAL-M/PAL60], f_H: 15.63 kHz, f_V: 50 Hz [PAL/PAL-N/SECAM]
Optical axis shift*[4]	
Vertical/horizontal	+50% from center of screen (powered) / ±10% from center of screen (powered)
Keystone correction range	Vertical: ±40° (±30° with the ET-DLE055/DLE080)
Installation	Ceiling/floor, front/rear
Terminals HDMI IN	HDMI 19-pin × 1 (Deep Color, compatible with HDCP) 480p, 576p, 720/60p, 720/50p, 1080/60i, 1080/50i, 1080/24p, 1080/24sF, 1080/25p, 1080/30p, 1080/60p, 1080/50p, VGA (640 × 480)–WUXGA (1,920 × 1,200)*[5], compatible with non-interlaced signals only, dot clock: 25–162 MHz
DVI-D IN	DVI-D 24-pin × 1 (DVI 1.0 compliant, compatible with HDCP, compatible with single link only) 480p, 576p, 720/60p, 720/50p, 1080/60i, 1080/50i, 1080/24p, 1080/24sF, 1080/25p, 1080/30p, 1080/60p, 1080/50p, VGA (640 × 480)–WUXGA (1,920 × 1,200)*[5], compatible with non-interlaced signals only, dot clock: 25–162 MHz
RGB 1 IN	BNC × 5 (RGB/YP_BP_R/YC_BC_R × 1)
RGB 2 IN	D-Sub HD 15-pin (female) × 1 (RGB/YP_BP_R/YC_BC_R × 1)
VIDEO IN	BNC × 1 (composite video)
S-VIDEO IN	Mini DIN 4-pin × 1 (S-Video)
SERIAL IN	D-sub 9-pin (female) × 1 for external control (RS-232C compliant)
SERIAL OUT	D-sub 9-pin (male) × 1 for link control (RS-232C compliant)
REMOTE 1 IN	M3 × 1 for wired remote control
REMOTE 1 OUT	M3 × 1 for link control (for wired remote control)
REMOTE 2 IN	D-sub 9-pin (female) × 1 for external control (parallel)
LAN	RJ-45 × 1 (for network connection, 10Base-T/100Base-TX, compliant with PJLink™)
Cabinet materials	Molded plastic
Dimensions (W × H × D)	
PT-DZ770K	498 × 175*[6] × 466 mm (19-19/32 × 6-7/8*[6] × 18-11/32 in)(with supplied lens)
PT-DZ770LK	498 × 175*[6] × 432 mm (19-19/32 × 6-7/8*[6] × 17 in) (without lens)
Weight*[7]	
PT-DZ770K	Approximately 16.3 kg (35.9 lbs) (with supplied lens)
PT-DZ770LK	Approximately 15.4 kg (34.0 lbs) (without lens)
Operating environment	Operating temperature: 0–45 °C (32–113 °F)*[8], operating humidity: 20%–80% (no condensation)
Supplied accessories	Power cord, power cord secure lock, wireless/wired remote control unit, batteries (R6/AA type × 2), Software CD-ROM (Logo Transfer Software, Multi Projector Monitoring & Control Software) (× 1)

*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 Measurement, measuring conditions, and method of notation all comply with ISO 21118 international standards. *3 Brightness becomes 3,500 lm with CONTRAST MODE set to HIGH. *4 Optical axis shift function cannot be operated when used with the ET-DLE055. *5 Compliant with VESA CVT-RB. *6 With legs at shortest position. *7 Average value. May differ depending on the actual unit. *8 The operating temperature range is 0 °C to 40 °C (32 °F to 104 °F) when the fan control is set to High Altitude mode (for altitudes from 1,400 m to 2,700 m (4,593 ft to 8,858 ft) above sea level). Also, if the ambient temperature exceeds 40 °C (104 °F) (35 °C (95 °F) in High Altitude mode) when the projector is being used with Lamp Select set to Dual and Lamp Power set to High, the light output may be reduced approximately 20% to protect the projector.

Dimensions
unit: mm (inches)

498 (19-19/32)   466 (18-11/32)

175 (6-7/8)

Terminals

1	LAN connector	**7**	Remote 1 input
2	Video input	**8**	Remote 1 output
3	S-Video input	**9**	Remote 2 input
4	RGB 1 input	**10**	Serial input
5	HDMI input	**11**	Serial output
6	DVI-D input	**12**	RGB 2 Input

Projection distance

16:10 aspect ratio

Diagonal image size	ET-DLE080 <0.8–1.0:1>		ET-DLE150 <1.3–1.9:1>		Supplied lens <1.7–2.4:1>		ET-DLE250 <2.3–3.6:1>		ET-DLE350 <3.6–5.4:1>		ET-DLE450 <5.4–8.6:1>		ET-DLE055 <0.8:1>
<throw ratio>	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	
1.27 [50″]	0.82 (2.7)	1.04 (3.4)	1.38 (4.5)	2.01 (6.6)	1.82 (6.0)	2.52 (8.3)	2.42 (7.9)	3.87 (12.7)	3.80 (12.5)	5.81 (19.1)	5.66 (18.6)	9.12 (29.9)	0.83 (2.7)
2.03 [80″]	1.35 (4.4)	1.68 (5.5)	2.23 (7.3)	3.25 (10.7)	2.95 (9.7)	4.08 (13.4)	3.92 (12.8)	6.23 (20.4)	6.16 (20.2)	9.38 (30.8)	9.24 (30.3)	14.78 (48.5)	1.35 (4.4)
2.54 [100″]	1.70 (5.6)	2.11 (6.9)	2.81 (9.2)	4.08 (13.4)	3.71 (12.2)	5.11 (16.8)	4.92 (16.1)	7.81 (25.6)	7.74 (25.4)	11.76 (38.6)	11.62 (38.1)	18.55 (60.8)	1.70 (5.6)
3.81 [150″]	2.57 (8.4)	3.19 (10.5)	4.24 (13.9)	6.14 (20.1)	5.60 (18.4)	7.71 (25.3)	7.41 (24.3)	11.75 (38.6)	11.68 (38.3)	17.71 (58.1)	17.58 (57.7)	27.97 (91.8)	2.58 (8.5)
5.08 [200″]	3.44 (11.3)	4.27 (14.0)	5.67 (18.6)	8.20 (26.9)	7.50 (24.6)	10.30 (33.8)	9.91 (32.5)	15.70 (51.5)	15.61 (51.2)	23.66 (77.6)	23.54 (77.2)	37.39 (122.7)	3.45 (11.3)
7.62 [300″]	5.18 (17.0)	6.43 (21.1)	8.53 (28.0)	12.33 (40.4)	11.28 (37.0)	15.49 (50.8)	14.91 (48.9)	23.59 (77.4)	23.49 (77.1)	35.56 (116.7)	35.46 (116.3)	56.24 (184.5)	– (–)
10.16 [400″]	6.93 (22.7)	8.59 (28.2)	11.39 (37.4)	16.45 (54.0)	15.07 (49.4)	20.67 (67.8)	19.90 (65.3)	31.48 (103.3)	31.36 (102.9)	47.46 (155.7)	47.38 (155.4)	75.08 (246.3)	– (–)
12.70 [500″]	8.67 (28.5)	10.75 (35.3)	14.25 (46.7)	20.58 (67.5)	18.86 (61.9)	25.86 (84.8)	24.90 (81.7)	39.37 (129.2)	39.23 (128.7)	59.36 (194.7)	59.30 (194.6)	93.93 (308.2)	– (–)
15.24 [600″]	10.42 (34.2)	12.91 (42.3)	17.11 (56.1)	24.70 (81.0)	22.64 (74.3)	31.05 (101.9)	29.89 (98.1)	47.25 (155.0)	47.11 (154.6)	71.25 (233.8)	71.22 (233.7)	112.77 (370.0)	– (–)

16:9 aspect ratio

Diagonal image size	ET-DLE080 <0.8–1.0:1>		ET-DLE150 <1.3–1.9:1>		Supplied lens <1.7–2.4:1>		ET-DLE250 <2.3–3.6:1>		ET-DLE350 <3.6–5.4:1>		ET-DLE450 <5.4–8.6:1>		ET-DLE055 <0.8:1>
<throw ratio>	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	min.	max.	
1.27 [50″]	0.85 (2.8)	1.07 (3.5)	1.42 (4.6)	2.07 (6.8)	1.87 (6.1)	2.64 (8.7)	2.49 (8.2)	3.97 (13.0)	3.91 (12.8)	5.98 (19.6)	5.82 (19.1)	9.39 (30.8)	0.85 (2.8)
2.03 [80″]	1.39 (4.6)	1.73 (5.7)	2.30 (7.5)	3.34 (11.0)	3.04 (10.0)	4.27 (14.0)	4.03 (13.2)	6.41 (21.0)	6.34 (20.8)	9.65 (31.7)	9.50 (31.2)	15.20 (49.9)	1.39 (4.6)
2.54 [100″]	1.75 (5.7)	2.17 (7.1)	2.89 (9.5)	4.19 (13.8)	3.82 (12.5)	5.36 (17.6)	5.05 (16.6)	8.03 (26.3)	7.96 (26.1)	12.09 (39.7)	11.95 (39.2)	19.07 (62.6)	1.75 (5.7)
3.81 [150″]	2.64 (8.7)	3.28 (10.8)	4.36 (14.3)	6.31 (20.7)	5.76 (18.9)	8.08 (26.5)	7.62 (25.0)	12.08 (39.6)	12.00 (39.4)	18.21 (59.7)	18.08 (59.3)	28.75 (94.3)	2.65 (8.7)
5.08 [200″]	3.54 (11.6)	4.39 (14.4)	5.82 (19.1)	8.43 (27.7)	7.71 (25.3)	10.80 (35.4)	10.19 (33.4)	16.14 (52.9)	16.05 (52.7)	24.32 (79.8)	24.20 (79.4)	38.44 (126.1)	3.55 (11.7)
7.62 [300″]	5.33 (17.5)	6.61 (21.7)	8.76 (28.7)	12.67 (41.6)	11.60 (38.1)	16.23 (53.2)	15.32 (50.3)	24.25 (79.5)	24.14 (79.2)	36.55 (119.9)	36.45 (119.6)	57.81 (189.7)	– (–)
10.16 [400″]	7.12 (23.4)	8.83 (29.0)	11.70 (38.4)	16.91 (55.5)	15.49 (50.8)	21.66 (71.1)	20.46 (67.1)	32.35 (106.1)	32.24 (105.8)	48.78 (160.0)	48.71 (159.8)	77.18 (253.2)	– (–)
12.70 [500″]	8.91 (29.2)	11.05 (36.3)	14.64 (48.0)	21.15 (69.4)	19.38 (63.6)	27.10 (88.9)	25.59 (84.0)	40.46 (132.7)	40.33 (132.3)	61.01 (200.2)	60.96 (200.0)	96.55 (316.8)	– (–)
15.24 [600″]	10.71 (35.1)	13.27 (43.5)	17.58 (57.7)	25.39 (83.3)	23.27 (76.4)	32.53 (106.7)	30.72 (100.8)	48.57 (159.4)	48.42 (158.9)	73.24 (240.3)	73.21 (240.3)	115.91 (380.3)	– (–)

Silver models

Silver cabinet models are also available as built-to-order.

PT-DZ770S   **PT-DZ770LS**

The specifications are the same as those of the PT-DZ770K and PT-DZ770LK.

Optional accessories

ET-PKD56H Ceiling mount bracket for high ceilings

ET-PKD55S Ceiling mount bracket for low ceilings

ET-EMF300 Replacement filter unit

ET-LAD60A Replacement lamp unit

ET-LAD60AW Replacement lamp unit (twin pack)

ET-DLE080 Zoom lens   **ET-DLE150** Zoom lens   **ET-DLE250** Zoom lens   **ET-DLE350** Zoom lens   **ET-DLE450** Zoom lens   **ET-DLE055** Fixed-focus lens

NOTES ON USE

1. Do not install the projector in locations that are subject to excessive water, humidity, steam, or oily smoke. Doing so may result in fire, malfunction, or electric shock.
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.
3. The projector uses a high-wattage lamp that becomes very hot during operation. Please observe the following precautions:
   - Never place objects on top of the projector while it is in operation.
   - Make sure there is an unobstructed space of 500 mm (1 ft 8 in) or more around the projector's intake and exhaust openings.
   - Do not stack projector units directly on top of one another for the purpose of multiple (stacked) projection. When stacking projector units, be sure to provide the amount of space indicated between them. These space requirements also apply to installation where only one projector unit is operating at one time and the other unit is used as a backup.
   - If the projector is placed in a box or enclosure, the temperature of the air surrounding the projector must be between 0 °C (32 °F) and 40 °C (104 °F). Also, make sure the projector's intake and exhaust openings are not blocked. Take particular care to ensure that hot air from the exhaust openings is not sucked into the intake openings. Even when the ambient temperature near the intake opening is 40 °C (104 °F) or lower, an accumulation of hot air inside the cabinet may cause the protective circuit to activate and shut down the projector. Please give ample consideration to the design with regard to ambient temperature conditions.
4. If the projector is to be operated continuously 24 hours a day / 7 days a week, use the dual-lamp optical system's alternating lamp operation (lamp changer) function. The projector cannot be operated continuously 24 hours a day / 7 days a week in dual-lamp mode. Allow a minimum of two hours per week of non-operation time per lamp if using the dual-lamp mode.
5. The lamp replacement cycle duration becomes shorter if the projector is operated repeatedly for short periods.
   - 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.
   - The brightness of the lamp will gradually decrease with use.