Panasonic

ideas for life

PT-LB60U

Micro Portable XGA LCD Projector

3200 lm XGA

Daylight View 2

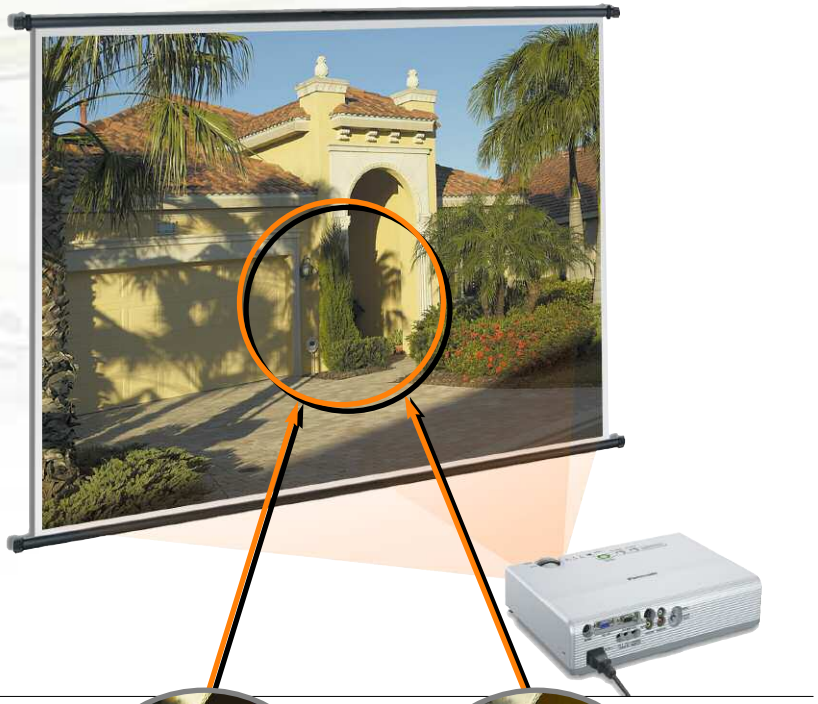
Presentations in Light

- **Daylight View 2 technology**
  - **Looks max. 50% brighter*1**
  - **Vivid colors in a bright room**
  - **Auto operation with ambient light sensor (ALS)**
- **High power and portability**
  - **Bright 3,200 lumens**
  - **Ultra-lightweight: 5.5 lbs/2.5 kg**
  - **Slim and compact design: 3-1/4″ (83-mm) thickness*2**
- **Quick operation**
  - **2-second speed start**
  - **Auto search**
  - **Real-time keystone correction**
  - **Operation assistance**
  - **Direct power off**

*1 Comparison with Daylight View 2 turned On and Off, using an 80-inch screen and ordinary meeting room lighting of 400 lux. (Screen gain: 2.6)
*2 Legs and protruding parts not included.

Sharp Images in Brightly Lit Rooms

The PT-LB50U incorporates Panasonic's original Daylight View 2 technology, which makes images easy to see even in brightly lit rooms. Also, the PT-LB50U is built for exceptional portability, quick and easy operation.



Daylight View 2 Technology

Simulated image when the Daylight View 2 is turned off.

Simulated image when the Daylight View 2 is turned on.

Looks max. 50% brighter

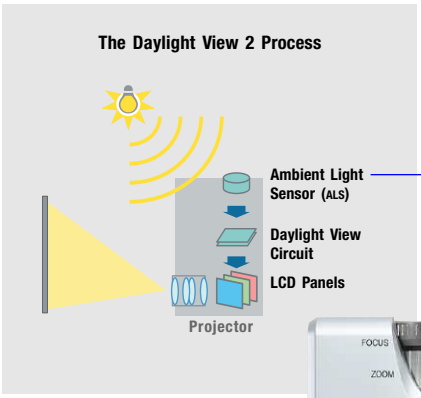
Panasonic's Daylight View 2 technology, which helps project sharp, crisp images that are easy to see even in brightly lit rooms. A built-in sensor measures the ambient light, and the halftone colors and brightness level are adjusted accordingly in real-time. Viewing brightness is increased by as much as 50%*1.

Vivid colors in a Bright Room

Panasonic designed and adjusted its projector image display based on use in a well-lit room in developing Daylight View technology. This technology greatly improves color perception in bright rooms. Pale colors are divided into six basic color components (red, green, blue, yellow, cyan and magenta) for more precise control. Daylight View achieves a superb level of image performance that produces less of a difference between PC display images and projected images.

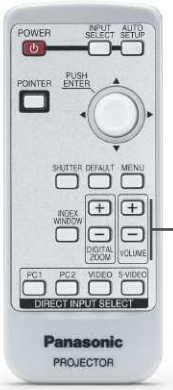
Ambient Light Sensor

The top panel of the unit is equipped with an ambient light sensor (ALS). The ALS detects changes in the ambient light intensity and optimizes color compensation in four steps according to the environment. The Daylight View mode also provides white balance adjustment settings for both fluorescent and incandescent lamps to match the room lighting.



Top view

Front view



The volume of the sound, from the built-in speaker or external speakers connected to the audio output terminal, can be adjusted using the supplied remote control. The remote control also features pointer control functions.

A total of three independent audio inputs are provided for PC 1, PC 2 and S-Video/Video.

Rear view

High Power and Portability

Powerful 3,200-Lumen Projectors

Thanks to a high-performance optical system and high-efficiency 220-W UHM™ lamp, the PT-LB60U delivers super-bright pictures with 3,200 lumens brightness. Sharp, crisp images are easy to see.

Ultra-Lightweight and Compact

Weighing only 5.5 pounds, the PT-LB60U is easy to carry even with a laptop. Also, it packs powerful functions into a compact body—12-27/32″ wide by 9-5/32″ deep and only 3-1/4″ high.

Quick Operation

Two-Second Speed Start

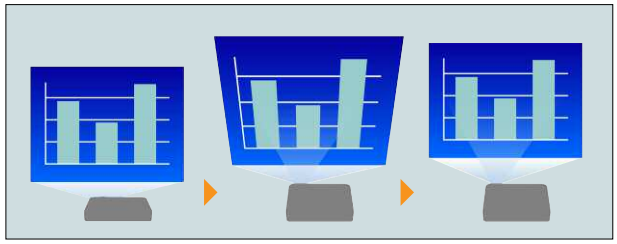
With Speed Start, the image appears in about two seconds after you press the power button.

Auto Search

When a source is connected and you switch the unit on, it automatically detects what kind of source is connected and begins projection.

Real-Time Keystone Correction

The projector automatically senses if you adjust its angle (vertical direction) during operation and instantly makes whatever keystone correction is necessary for optimum viewing.



Direct Power Off

You can disconnect the power cable and move the projector as soon as your presentation is finished, because the cooling fan keeps operating until the lamp is cooled. For fixed installation systems, this means you can turn off the room's main power without waiting for the projector to cool down.

Other Features

- Operation assistance
- Short-throw zoom lens
- Anti-theft features: User password, control panel lock and text superimposing
- Projector AI
- Index Window
- Auto power off
- Two RGB inputs
- RGB 2 IN can be switched to RGB 1 OUT for loop-through monitoring
- HDTV compatibility
- Full compatibility with sRGB color space for accurate color reproduction (in natural mode)
- Picture mode selection (standard/dynamic/ natural)
- Blackboard mode allows you to project images onto an ordinary classroom or conference room blackboard
- 3x digital zoom
- Shutter function for image/sound muting
- Selectable 17-language on-screen menu
- Ceiling mountable (option)

Optional ceiling mount bracket:ET-PKB30

*1 Comparison with Daylight View 2 turned On and Off, using an 80-inch screen and ordinary meeting room lighting of 400 lux. (Screen gain: 2.6)

Specifications

Power supply	100–240 V AC, 50/60 Hz
Power consumption	300 W (Approx. 3 W in standby mode with fan stopped)
LCD panel	4:3 aspect ratio
Panel size	0.8″ (20.32 mm) diagonal
Display method	Transparent LCD panel (x 3, R/G/B)
Drive method	Active matrix
Pixels	786,432 (1,024 x 768) x 3, total of 2,359,296 pixels
Pixel configuration	Stripe
Lens	Manual zoom (1:1–1:1.2), manual focus, F 1.7–1.8, f 24.0–28.8 mm
Lamp	220 W UHM™ lamp
Colors	Full color (16,777,216 colors)
Brightness	3,200 lumens
Contrast	400:1*1 (full on/full off)
Scanning frequency	
RGB	Horizontal: 15–91 kHz, Vertical: 50–85 Hz
$Y P_B P_R$	480i (525i): f_H 15.75 kHz; fv 60 Hz 576i (625i): f_H 15.63 kHz; fv 50 Hz 480p (525p): f_H 31.5 kHz; fv 60 Hz 576p (625p): f_H 31.25 kHz; fv 50 Hz 720p (750p): f_H 45 kHz; fv 60 Hz 1080i (1125i): f_H 33.75 kHz; fv 60 Hz 1080i (1125i): f_H 28.125 kHz; fv 50 Hz
S-Video/Video	NTSC, NTSC4.43, PAL-M, PAL60: f_H 15.75 kHz; fv 60 Hz PAL, SECAM, PAL-N: f_H 15.63 kHz; fv 50 Hz
Projection size	33–300 inches/838–7,620 mm diagonally
Throw distance	3′7″–36′5″ (1.1 m–11.1 m)
Optical axis shift	6:1 (fixed)
Keystone correction range	Vertical: ±30°
On-screen menu	17 languages: English, French, German, Spanish, Italian, Korean, Russian, Chinese, Japanese, Swedish, Norwegian, Danish, Portuguese, Polish, Hungarian, Czech, and Thai
Installation	Front/rear ceiling/desk (menu selection)
Built-in speakers	1-9/16″ x 1-3/16″ (4 x 3 cm) x 1 (oval), 1.0 W (monaural) output power
Terminals	
PC 1 IN	D-sub HD 15-pin x 1
RGB signal	R, G, B: 0.7 Vp-p, 75 ohms, Sync on green: 1.0 Vp-p, 75 ohms HD/SYNC, VD: TTL (positive/negative polarity compatible)
$Y P_B P_R$ signal	Y: 1.0 Vp-p (including sync signal), 75 ohms; P_B, P_R: 0.7 Vp-p, 75 ohms
PC 2 IN/PC 1 OUT	D-sub HD 15-pin x 1 (input/output selectable using on-screen menu)
RGB signal	R, G, B: 0.7 Vp-p, 75 ohms, Sync on green: 1.0 Vp-p, 75 ohms HD/SYNC, VD: TTL (positive/negative polarity compatible)
$Y P_B P_R$ signal	Y: 1.0 Vp-p (including sync signal), 75 ohms; P_B, P_R: 0.7 Vp-p, 75 ohms
VIDEO IN	RCA pin x 1, 1.0 Vp-p, 75 ohms
S-VIDEO IN	Mini DIN 4-pin x 1, Y: 1.0 Vp-p, C: 0.286 Vp-p, 75 ohms
AUDIO IN	RCA (L-R) x 1, 0.5 Vrms (for VIDEO/S-VIDEO)
PC 1 AUDIO IN	M3 (stereo) x 1, 0.5 Vrms
PC 2 AUDIO IN	M3 (stereo) x 1, 0.5 Vrms
AUDIO OUT	M3 (stereo) x 1, 0–2.0 Vrms (variable)
SERIAL	Mini DIN 8-pin x 1 (RS-232C)
Power cord length	6′7″ (2 m)
Cabinet material	Molded material (ABS/PC)
Dimensions*2 (W x H x D)	12-27/32″ x 3-1/4″ x 9-5/32″ (327 x 83 x 233 mm)
Weight	5.5 lbs. (2.5 kg)
Operating environment	
Temperature	0°–40°C (32°–104°F)
Humidity	20%–80% (no condensation)
Remote Control Unit	
Power supply	3 V DC (AAA battery x 2)
Operation range*3	Approx. 7 m (23 feet) when operated from directly in front of the signal receptor
Dimensions (W x H x D)	2″ x 4-13/16″ x 13/16″ (51.5 x 123 x 2.11 mm)
Weight	2.6 ozs. (74 g) (including batteries)

Supplied Accessories

- Power cord
- Wireless remote control
- Batteries for remote control
- VGA cable
- Lens cover
- Carrying bag
- Wireless Manager ME 3.0 (CD-ROM)

Optional Accessories

ET-LAB30	Replacement lamp unit
ET-PKB30	Ceiling mount bracket
ET-RM300	Full-function wireless remote control
ET-ADSER	Serial adapter (DIN 8-pin/D-sub 9-pin)

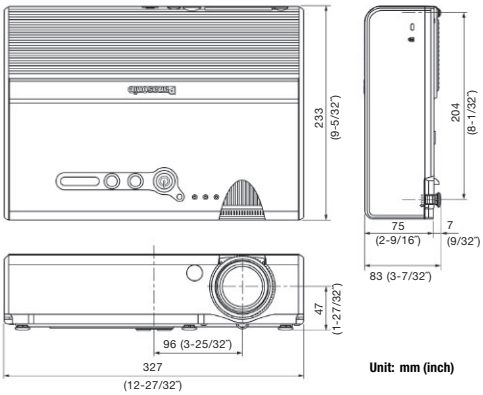
*1: In AI mode.
*2: Legs and protruding parts not included.
*3: Operation range differs depending on the environment.

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 itself over its life cycle. The PT-LB60U reflects the following ecological considerations.

- **Lead-free solder is used to mount components to the printed circuit boards.**
- **No halogenated flame retardants are used in the cabinet.**
- **No styrofoam 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.**

Dimensions



Unit: mm (inch)

Projection Distance

Diagonal image size (4:3 aspect ratio)	Distance to screen (L) min.	recommended*	max.	Height from the edge of screen to center of lens
33″/ 0.84 m / 2.7′	–	–	1.1 m / 3.6′	5 cm / 2.0″
40″/ 1.02 m / 3.3′	1.2 m / 3.9′	1.4 m / 4.6′	1.4 m / 4.6′	8 cm / 3.1″
50″/ 1.27 m / 4.2′	1.5 m / 4.9′	1.7 m / 5.6′	1.7 m / 5.6′	11 cm / 4.3″
60″/ 1.52 m / 4.9′	1.8 m / 5.9′	2.1 m / 6.9′	2.1 m / 6.9′	13 cm / 5.1″
70″/ 1.78 m / 5.8′	2.1 m / 6.9′	2.5 m / 8.5′	2.5 m / 8.5′	15 cm / 6.3″
80″/ 2.03 m / 6.7′	2.4 m / 7.9′	2.8 m / 9.2′	2.8 m / 9.2′	17 cm / 6.7″
90″/ 2.29 m / 7.5′	2.7 m / 8.9′	3.2 m / 10.5′	3.2 m / 10.5′	19 cm / 7.5″
100″/ 2.54 m / 8.3′	3.0 m / 9.8′	3.5 m / 11.5′	3.5 m / 11.5′	21 cm / 8.3″
120″/ 3.05 m / 10.0′	3.6 m / 11.8′	4.3 m / 14.1′	4.3 m / 14.1′	25 cm / 9.8″
150″/ 3.81 m / 12.5′	4.6 m / 15.1′	5.4 m / 17.7′	5.4 m / 17.7′	32 cm / 12.6″
200″/ 5.08 m / 16.7′	6.1 m / 20.0′	7.2 m / 23.6′	7.2 m / 23.6′	42 cm / 16.5″
250″/ 6.35 m / 20.8′	7.6 m / 24.9′	9.0 m / 29.5′	9.0 m / 29.5′	53 cm / 20.9″
300″/ 7.62 m / 25.0′	9.1 m / 29.9′	10.8 m / 35.4′	10.8 m / 35.4′	63 cm / 24.8″

Optional replacement lamp unit: ET-LAB30

Notes on use

- 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.
- The brightness of the lamp will gradually decrease with use.
- The lamp, LCD panel, polarizing plate, and polarizing beam splitter (PBS) are consumable parts. These parts may need to be replaced during the guarantee period if the projector is used for six or more hours per day.
- The replacement cycle of the LCD panel, polarizing plate, and polarizing beam splitter (PBS) will be shortened if the projector is subjected to continuous use for six or more hours. Likewise, the replacement cycle of the lamp will be shortened if the power is frequently turned on and off or the projector is subjected to continuous use for 10 or more hours.
- Interruptions may occur in the wireless connection due to signal interference or PC conditions.

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Please contact Panasonic or your dealer for a demonstration.

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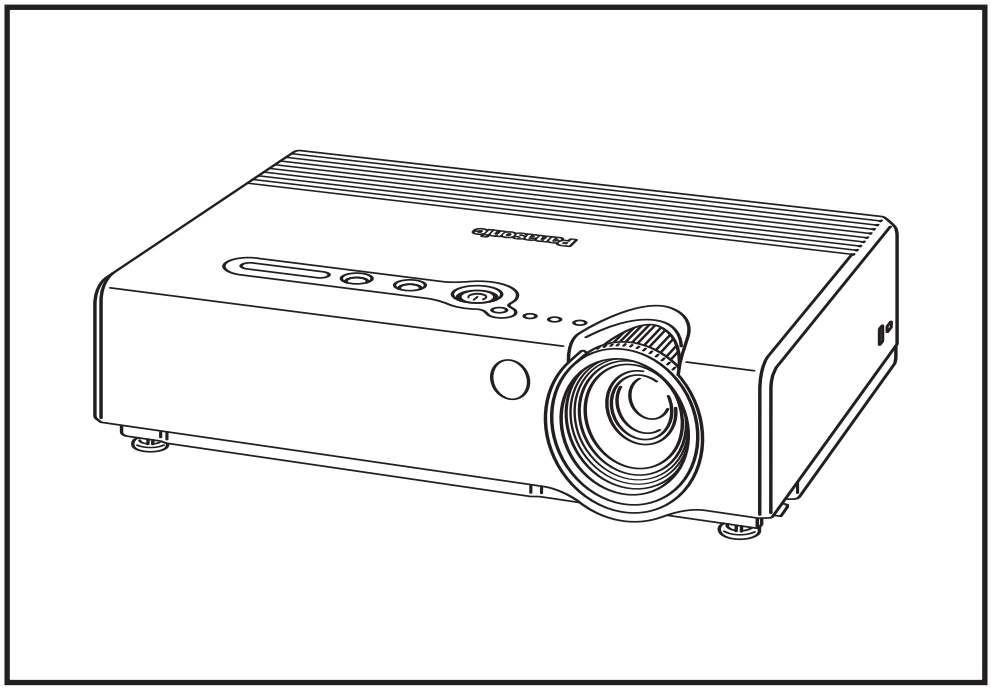
SPEC FILE



Product Number : PT-**LB60**

Product Name : Micro-Portable LCD Projector

Micro-Portable LCD Projector

PT-LB60

Specifications

Power supply		100–240 V AC, 50/60 Hz
Power consumption		300 W (approx. 3 W in standby mode with fan stopped)
Optical system		Dichroic mirror separation/prism synthesis system
LCD panel	Panel size	0.8″ (20.32 mm) diagonal, micro lens array (4:3 aspect ratio)
	Display method	Transparent LCD panel (x 3, R/G/B)
	Drive method	Active matrix
	Pixels	786,432 (1,024 x 768) x 3, total of 2,359,296 pixels
	Pixel configuration	Stripe
Lens		Manual zoom (1:1–1:1.2), manual focus
		F 1.7–1.8, f 24.0–28.8 mm
Lamp		220 W UHM™ lamp
Colors		Full color (16,777,216 colors)
Brightness		3,200 lumens
Center-to-corner uniformity ratio		90%
Contrast ratio		400:1*1 (full on/full off)
Scanning frequency	RGB	Horizontal: 15–91 kHz, Vertical: 50–85 Hz
	YP_BP_R	480i (525i): f_H 15.75 kHz; f_V 60 Hz
		576i (625i): f_H 15.63 kHz; f_V 50 Hz
		480p (525p): f_H 31.5 kHz; f_V 60 Hz
		576p (625p): f_H 31.25 kHz; f_V 50 Hz
		720p (750p): f_H 45 kHz; f_V 60 Hz
		1080i (1125i): f_H 33.75 kHz; f_V 60 Hz
		1080i (1125i): f_H 28.125 kHz; f_V 50 Hz
	S-Video/Video	NTSC, NTSC4.43, PAL-M, PAL60: f_H 15.75 kHz; f_V 60 Hz
		PAL, SECAM, PAL-N: f_H 15.63 kHz; f_V 50 Hz
Projection size		838–7,620 mm (33–300 inches) diagonally, 4:3 aspect ratio
Throw distance		1.1 m–10.8 m (3′7″–35′5″)
Optical axis shift		6:1 (fixed)
Keystone correction range		Vertical: approx. ±30°
On-screen menu		17 languages: English, French, German, Spanish, Italian, Korean, Russian, Chinese, Japanese, Swedish, Norwegian, Danish, Portuguese, Polish, Hungarian, Czech, and Thai
Installation		Front/rear, ceiling/desk (menu selection)
Built-in speakers	Size	4 x 3 cm x 1, oval
	Output power	1.0 W (monaural)
Terminals	PC 1 IN (RGB 1 IN)	D-sub HD 15-pin x 1
	RGB signal	R, G, B: 0.7 Vp-p, 75 Ω, Sync on green: 1.0 V [p-p], 75 Ω, HD/SYNC, VD: TTL (positive/negative polarity compatible)
	YP_BP_R signal	Y: 1.0 V [p-p] (including sync signal), 75 Ω, P_B, P_R: 0.7 Vp-p, 75 Ω
	PC 2 IN/PC 1 OUT (RGB 2 IN/RGB 1 OUT)	
		D-sub HD 15-pin x 1 (input/output selectable using on-screen menu)
	RGB signal	R, G, B: 0.7 V [p-p], 75 Ω, Sync on green: 1.0 V [p-p], 75 Ω, HD/SYNC, VD: TTL (positive/negative polarity compatible)
	YP_BP_R signal	Y: 1.0 V [p-p] (including sync signal), 75 Ω, P_B, P_R: 0.7 V [p-p], 75 Ω
	VIDEO IN	RCA pin x 1, 1.0 Vp-p, 75 Ω
	S-VIDEO IN	Mini DIN 4-pin x 1, Y: 1.0 V [p-p], C: 0.286 V [p-p], 75 Ω
	PC 1 (RGB 1) AUDIO IN	M3 (L, R) x 1, 0.5 V [rms]
	PC 2 (RGB 2) AUDIO IN	M3 (L, R) x 1, 0.5 V [rms]
	AUDIO IN	RCA (L, R) x 1, 0.5 V [rms], for VIDEO and S-VIDEO
	AUDIO OUT	M3 (L, R) x 1, 0–2.0 V [rms] (variable)
	SERIAL	Mini DIN 8-pin x 1, for external control (RS-232C)
Power cord length		2 m/6.6′
Cabinet material		Moulded plastic (ABS/PC)
Dimensions (W x H x D)		327 x 75 x 233 mm (12-27/32″ x 2-15/16″ x 9-5/32″)
Weight		2.5 kg (5.5 lbs.)

Operating environment	Temperature	0°–40°C (32°–104°F)
	Humidity	20%–80% (no condensation)
Remote control unit	Power supply	3 V DC (AAA battery x 2)
	Operation range*3	Approx. 7 m when operated from directly in front of the signal receptor
	Dimensions (W x H x D)	52 x 123 x 21 mm (2-1/32″ x 4-27/32″ x 27/32″)
	Weight	74 g (2.6 ozs.) (including batteries)
Supplied accessories		Power cord Wireless remote control Batteries for remote control VGA cable Lens cover Carrying bag
Optional accessories		Replacement lamp unit: ET-LAB30 Ceiling mount bracket: ET-PKB30 Full-function wireless remote control: ET-RM300 Serial adapter (DIN 8-pin/D-sub 9-pin): ET-ADSER

***1: In AI mode.**

***2: Operation range differs depending on environments.**

Weights and dimensions shown are approximate.

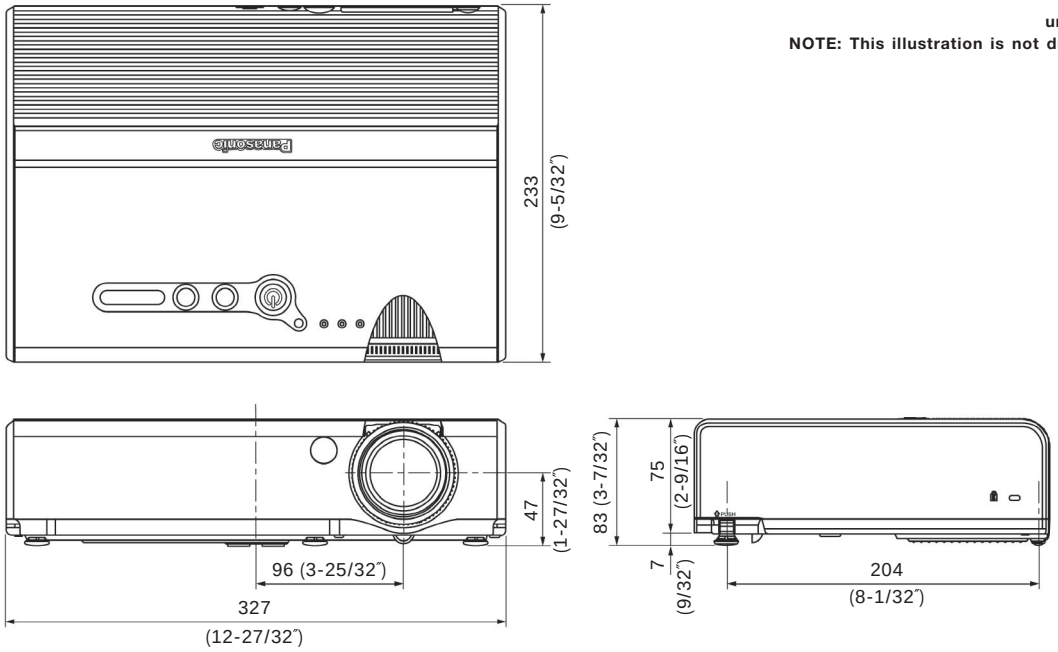
Specifications subject to change without notice.

Micro-Portable LCD Projector

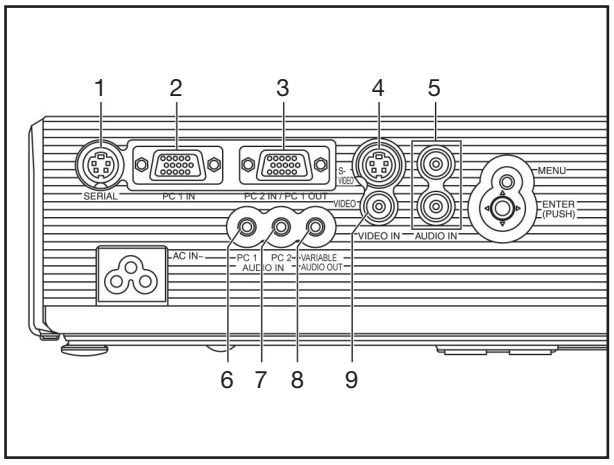
PT-LB60

Dimensions

unit : mm (inch)
NOTE: This illustration is not drawn to scale.

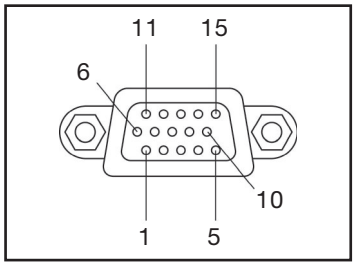


Terminals



1 Serial
2 PC 1 (RGB 1) input
3 PC 2 (RGB 2) input/PC 1 (RGB 1) output
4 S-Video input
5 Audio input for S-Video/Video
6 Audio input for PC 1 (RGB 1)
7 Audio input for PC 2 (RGB 2)
8 Audio output
9 Video input

RGB IN connector pin assignment

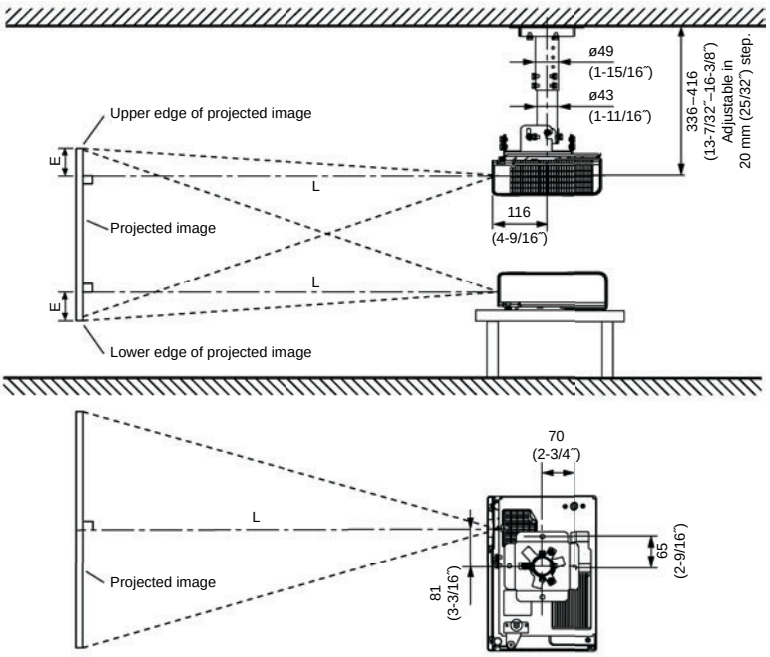


D-sub HD 15-pin, female

no.	signal	no.	signal	no.	signal
1	R/P_R	6	GND	11	GND
2	G/Y	7	GND	12	SDA*
3	B/P_B	8	GND	13	HD/SYNC
4	NC	9	NC	14	VD
5	GND	10	GND	15	SCL*

* Effective when connected to a PC having proper functions.

Standard setting-up positions



unit : mm (inch)

A: Distance to screen
E: Height from the edge of screen to center of lens

NOTE:

Illustrations show the projector installed using optional ceiling bracket.

This illustration is not drawn to scale.

Diagonal image size (4:3 aspect ratio)	Distance to screen (L) min.	recommended*	max.	Height from the edge of screen to center of lens
33˝/ 0.84 m / 2.7´	–	–	1.1 m / 3.6´	5 cm / 2.0˝
40˝/ 1.02 m / 3.3´	1.2 m / 3.9´	1.4 m / 4.6´	1.4 m / 4.6´	8 cm / 3.1˝
50˝/ 1.27 m / 4.2´	1.5 m / 4.9´	1.7 m / 5.6´	1.7 m / 5.6´	11 cm / 4.3˝
60˝/ 1.52 m / 4.9´	1.8 m / 5.9´	2.1 m / 6.9´	2.1 m / 6.9´	13 cm / 5.1˝
70˝/ 1.78 m / 5.8´	2.1 m / 6.9´	2.5 m / 8.5´	2.5 m / 8.5´	15 cm / 6.3˝
80˝/ 2.03 m / 6.7´	2.4 m / 7.9´	2.8 m / 9.2´	2.8 m / 9.2´	17 cm / 6.7˝
90˝/ 2.29 m / 7.5´	2.7 m / 8.9´	3.2 m / 10.5´	3.2 m / 10.5´	19 cm / 7.5˝
100˝/ 2.54 m / 8.3´	3.0 m / 9.8´	3.5 m / 11.5´	3.5 m / 11.5´	21 cm / 8.3˝
120˝/ 3.05 m / 10.0´	3.6 m / 11.8´	4.3 m / 14.1´	4.3 m / 14.1´	25 cm / 9.8˝
150˝/ 3.81 m / 12.5´	4.6 m / 15.1´	5.4 m / 17.7´	5.4 m / 17.7´	32 cm / 12.6˝
200˝/ 5.08 m / 16.7´	6.1 m / 20.0´	7.2 m / 23.6´	7.2 m / 23.6´	42 cm / 16.5˝
250˝/ 6.35 m / 20.8´	7.6 m / 24.9´	9.0 m / 29.5´	9.0 m / 29.5´	53 cm / 20.9˝
300˝/ 7.62 m / 25.0´	9.1 m / 29.9´	10.8 m / 35.4´	10.8 m / 35.4´	63 cm / 24.8˝

* This distance is especially recommended for ceiling-mounted use and other permanent installations.

NOTE:

Values shown are approximate.

The value for L (distance to screen) varies slightly depending on the zoom lens characteristics.

When the shortest projection distance is used, a small amount of distortion may occur in the image due to the zoom lens characteristics.

Calculation of the projection distance

For a screen size different from the above, use the equation below to calculate the projection distance.

Aspect ratio 4 : 3
- minimum L (m) = (diagonal screen size in inches) x 0.0303 - 0.044
- maximum L (m) = (diagonal screen size in inches) x 0.0364 - 0.044

Aspect ratio 16 : 9
- minimum L (m) = (diagonal screen size in inches) x 0.0331 - 0.044
- maximum L (m) = (diagonal screen size in inches) x 0.0397 - 0.044

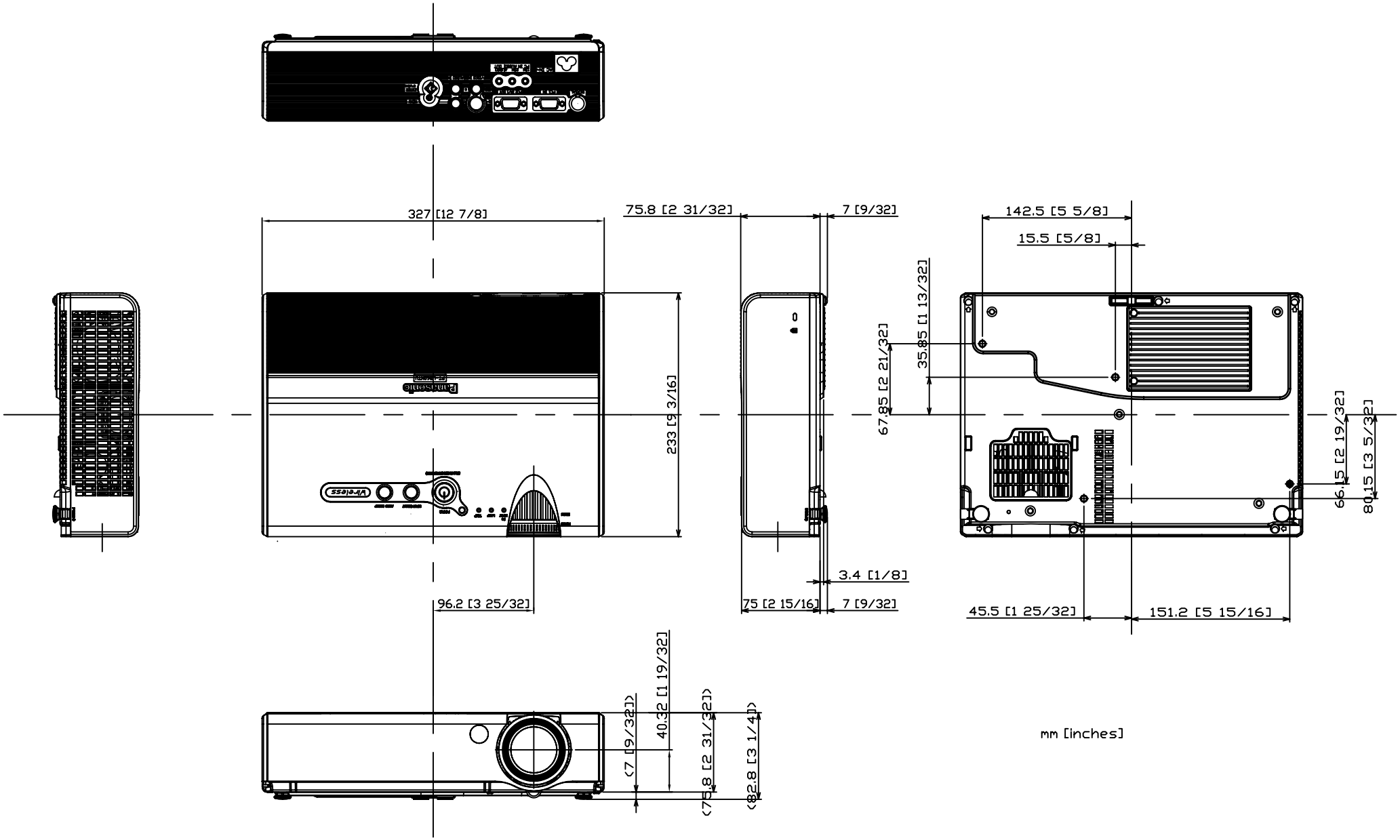
Computer data compatibility

This projector accepts up to 91 kHz horizontal scanning frequency and 162 MHz dot clock.

NOTE: The projector is not fully compatible with RGB signals of which dot clock is higher than 100 MHz.
The display resolution of this projector is 1024 x 768 pixels. If the display resolution indicated in the above data does not match this resolution, the input signal will be converted to 1024 x 768 pixels.

Panasonic Projector

PT-LB60NT / LB60 / LB55NT / LB55



mm [inches]