LCD Projector

PT-VMZ51S

Specifications

Main unit

Power supply			AC 100V-240V, 50Hz/60Hz
Power consumption[1]	Maximum power consumption		300 W (3.1-1.3A) (305VA) (The power consumption is 290 W at 200-240V)
	On-mode power consumption (Light power)	[Normal]	265 W (100-120 V), 255 W (200-240 V) * Operating Temperature: 25 ˚C (77 ˚F), Altitude: 700 m (2,297 ft)
		[Eco]	190 W (100-120 V), 180 W (200-240 V)
		[QUIET]	185 W (100-120 V), 175 W (200-240 V)
	Standby mode power consumption	[Normal]	15 W When [IN STANDBY MODE] in [AUDIO SETTING] is set to [OFF], [QUICK STARTUP] is set to [OFF], and <DC OUT> terminal is not in use.
		[Eco]	0.5 W
BTU value			Max 1,025 BTU
LCD panel	Size		16.3 mm [0.64 in] diagonal (16:10 aspect ratio)
	Display system		Transparent LCD panel (x 3, R/G/B)
	Number of pixels		2,304,000 (1920 x 1200)
Refresh rate			60 Hz Refresh rate varies depending on scanning frequency.
Light source			Laser Diode
Light output[1]	Light Power	[Normal]	5,200 lm [PICTURE MODE] is set to [DYNAMIC], [DAYLIGHT VIEW] is set to [OFF], [AUTO POWER SAVE] is set to [OFF]
		[Eco/Quiet]	3,640 lm
Time until light output declines to 50%[2]	Light Power	[Normal/Quiet]	20,000 hours
		[ECO]	24,000 hours
Filter Replacement Cycle			20,000 hours (Under the dust conditions of 0.08mg/m^3) 10,000 hours (Under the dust conditions of 0.15mg/m^3) Filter can be washed and reused up to two times. Filter cleaning cycle varies depending on environment.
Resolution			1920 x 1200 pixels (Input signals that exceed this resolution will be converted to 1920 x 1200 pixels.)
Contrast ratio[1]			3,000,000:1 (All White/All Black) When [PICTURE MODE] is set to [DYNAMIC], [DYNAMIC CONTRAST] is set to [1]
Screen size			0.76-7.62 m [30-300 in], 16:10 aspect ratio
Center to corner zone ratio[1]			85%
Lens			1.6x Manual zoom (Optical) (Throw ratio:1.09-1.77:1) Manual focus lens, F-1.60-2.12, f=15.30-24.64 mm
Digital Zoom Extender[3]			Throw Ratio 1.09:1 - 2.21:1[4] (Corresponding value) (When optical zoom is used together.)
Lens shift (from the origin point of the lens mounter)			Vertical +44%, Horizontal ±20%
Installation			Ceiling/floor, front/rear, free 360-degree installation
Maximum usable volume output			10W (monaural)
Compatible Signal	RGB signal input		Resolution: 640 x 400 to 1920 × 1200 Dot clock frequency: 162 MHz or less PIAS (Panasonic Intelligent Auto Scanning) system
	YC_BC_R/YP_BP_R signal input		Resolution: 480i[5]/576i[5] to 1920 x 1080 Dot clock frequency: 148.5 MHz or less The HD/SYNC and VD terminals do not support 3 value SYNC.
	HDMI signal input		Moving image signal resolution: 480i[5]/576i[5] to 4096 x 2160 Still image signal resolution: 640 x 400 to 1920 x 1200 (non-interlace) Dot clock frequency: 25 MHz to 297 MHz
Terminals	HDMI 1 IN/ 2 IN		HDMI-19 pin x 2 Deep Color, compatible with HDCP 1.4, 4K/30p signal input[6], CEC supported[7] Audio Signal: Linear PCM (Sampling frequency: 48 kHz/44.1 kHz/32 kHz)
	COMPUTER 1 IN / 2 IN		D-sub 15pin (female) x 2
		RGB	0.7 V [p-p], 75 ohms (1.0 V [p-p], 75 ohms for sync on G) HD/SYNC, VD: TTL, high impedance, positive/negative automatic
		YP_BP_R	Y: 1.0 V [p-p], including sync signal, P_B/P_R (C_B/C_R): 0.7 V [p-p], 75 ohms
	AUDIO 1 IN/ 2 IN		M3 stereo mini-jack x 2 0.5 V [rms], input Impedance 22 k Ohms and more
	VARIABLE AUDIO OUT		M3 stereo mini-jack x 1 0 V [rms] to 2.0 V [rms] variable, output Impedance 2.2 k ohms and less
	SERIAL IN		D-sub 9-pin (female) x 1 for computer control (RS-232C compliant)
	LAN		RJ-45 x 1 for network control, 10Base-T, 100Base-TX, compatible with PJLink™ (Class 2)
	USB (VIEWER/WIRELESS/DC OUT)		USB connector (Type A) x 1 for Memory Viewer function, optional Wireless Module AJ-WM50, power supply (DC 5 V, maximum 2 A)

Power cord length		India and North/Middle/South America: 3.0 m [9 ft 10 in] Other countries or regions: 2.0 m [6 ft 7 in]
Cabinet materials		Molded plastic
Dimensions (W x H x D)[10]		399 x 133 x 348 mm [15-23/32 x 5-1/4 x 13-11/16 in]
Weight[8]		Approx. 6.5 kg (14.3 lbs)
Operating noise[1]		36 dB (NORMAL/ECO) 26 dB (QUIET)
Laser Classification	Laser Class	Class 1 (IEC/EN 60825-1:2014)
	Risk Group	Risk Group 2 (IEC 62471-5:2015)
Operating environment	Operating environment temperature	0 °C (32 °F) to 45 °C (113 °F)[9] The operating environment temperature should be between 0 °C (32 °F) and 40 °C (104 °F) when the optional Wireless Module (Model No.: AJ-WM50 Series) is attached.
	Operating environment humidity	20% to 80% (no condensation)

Remote control unit

Power supply	3V DC (AAA/R03/LR03 battery x 2)
Operation range	Approx. 20 m [65 ft 7 in] (when operated directly in front of signal receptor)
Dimensions (W x H x D)	44 x 105 x 20.5 mm [1-47/64 x 4-9/64 x 13/16 in]
Weight[8]	Approx. 63 g (2.22 ozs.) including batteries

Supplied accessories

Wireless remote control unit (x 1)
Power cord (x 2 for Europe and Asia model/ x 1 for other countries)
Batteries for remote control (R03/AAA type x 2)
Lens cap (x 1)
Strap (x 1)

Other Applications

Multi Monitoring and Control Software (for Windows)
Logo Transfer Software (for Windows)
Presenter Light Software (for Windows)
Wireless Projector App (for iOS/Android)

Optional accessories

Ceiling Mount Bracket (for high ceilings)	ET-PKL100H
Ceiling Mount Bracket (for low ceilings)	ET-PKL100S
Attachment plate for ceiling mount bracket	ET-PKV400B
Replacement Filter Unit	ET-RFV500
Wireless Module	AJ-WM50 *The suffix at the end of the model number is omitted. Operating Temperature when attached to the projector: 0-40 °C (32-104 °F).
Early Warning Software	ET-SWA100 series *The symbol at the end of the part number will vary depending on the type of license.

Weights and dimensions shown are approximate. Specifications subject to change without notice.

1 Measurement, measuring conditions, and method of notation all comply with ISO/IEC 21118: 2020 international standards. Value is average of all products when shipped.

2 Around this time, light output will have decreased by approximately 50 %. IEC62087: 2008 Broadcast contents, Dynamic Contrast [2], under conditions with 30 °C (86 °F), 700 m (2,297 ft) above sea level, and 0.15 mg/m^3 of particulate matter. Panasonic recommends cleaning or checkup at point of purchase after about 20,000 hours. Light-source lifetime may be reduced depending on environmental conditions.
Replacement of parts other than the light source may be required in a shorter period. Estimated maintenance time varies depending on environment.

3 Resolution decreases when using this function. 6-Point Screen Correction, V/H Keystone Correction, and curved-screen correction are not available when using this function, and range of corner adjustment is limited.

4 When optical zoom is used together and Digital Zoom Extender is set to 80%.

5 Pixel-Repetition signal (dot clock frequency 27.0 MHz) only.

6 A signal with different resolution is converted to the number of display dots.

7 Depending on the connected CEC-compatible device, the link control may not operate normally.

8 Average value. May differ depending on the actual unit.

9 Note that projector cannot be used at altitudes 2,700 m (8,858 ft) or higher above sea level. In the following operating environments, light output may be reduced to protect the projector; when the projector is used at altitudes below 700 m (2,297 ft) and ambient temperature is 36 °C (97 °F) or higher; when the projector is used at altitudes between 700 m (2,297 ft) and 1,400 m (4,593 ft) exclusive and ambient temperature is 34 °C (93 °F) or higher; when the projector is used at altitudes between 1,400 m (4,593 ft) and 2,100m (6,890 ft) exclusive and ambient temperature is 32 °C (90 °F) or higher; and when the projector is used at altitudes between 2,100 m (6,890 ft) and 2,700 m (8,858 ft) exclusive and ambient temperature is 30 °C (86 °F) or higher.

10 With legs at shortest position.

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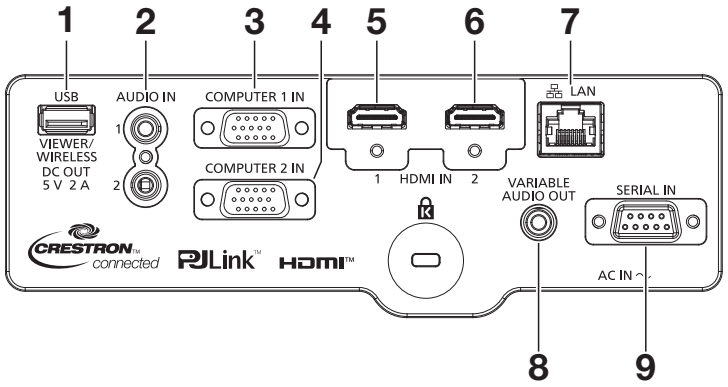
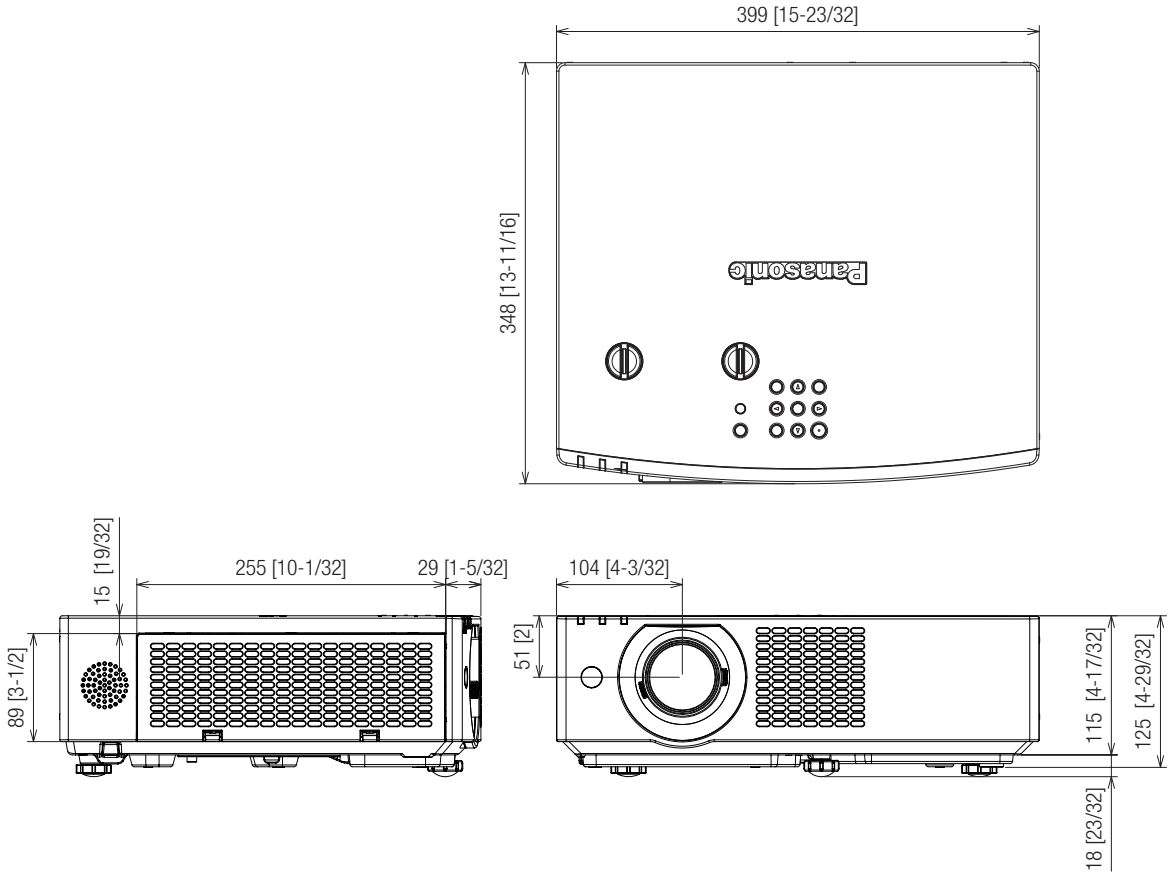
Terminals



1	USB (VIEWER/WIRELESS/DC OUT)	6	HDMI 2 IN
2	AUDIO 1 IN/AUDIO 2 IN	7	LAN
3	COMPUTER 1 IN	8	VARIABLE AUDIO OUT
4	COMPUTER 2 IN	9	SERIAL IN
5	HDMI 1 IN		

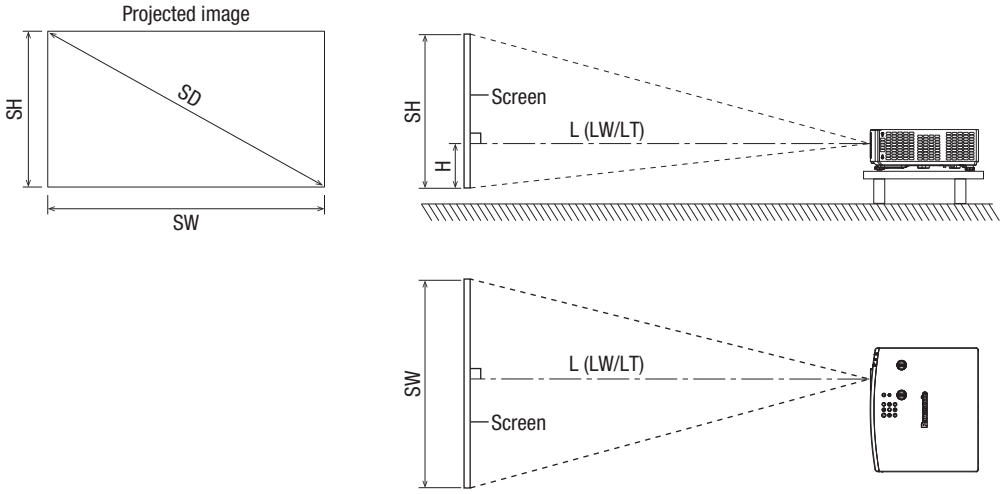
Dimensions

unit : mm [inch]
NOTE: This illustration is not drawn to scale.



Projected image and throw distance

Install the projector referring to the projected image size and projection distance. Image size and image position can be adjusted in accordance with the screen size and screen position.



Note

- This illustration is prepared on the assumption that the projected image size and position have been aligned to fit full in the screen.
- This illustration is not drawn to scale.

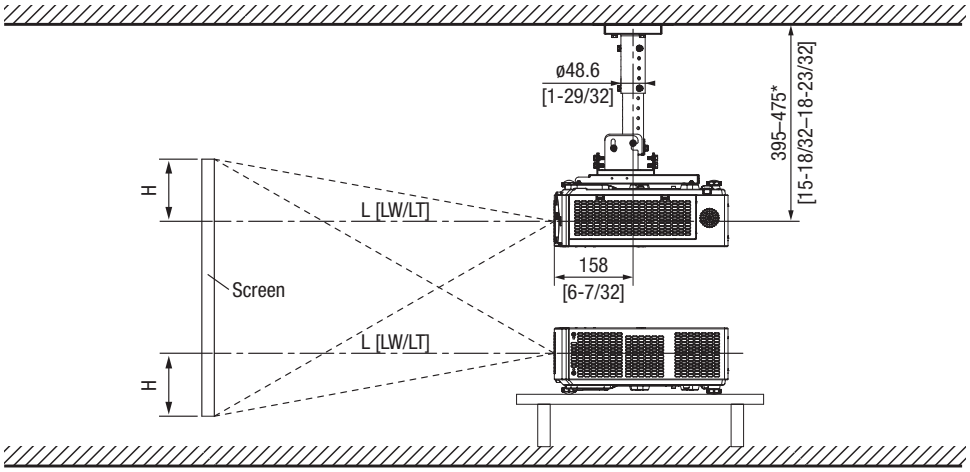
L		Projection distance
	LW	Minimum distance
	LT	Maximum distance
SH		Projected image height
SW		Projected image width
H		Distance from the lens center to the bottom edge of the projected image
SD		Projected image size

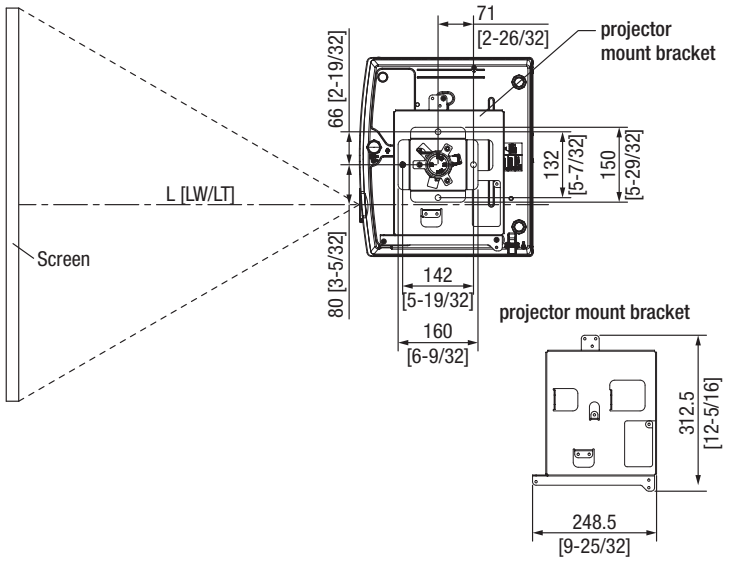
Standard setting position

Illustrations show the projector installed using optional ceiling mount bracket ET-PKL100H and projector mount bracket ET-PKV400B.

unit : mm [inch]

* Adjustable in 20 mm [25/32] steps.





Caution

- All construction work should be done by a qualified technician.
- When mounting to the ceiling, use the special mounting bracket.
  Furthermore, in order to prevent it from falling down from the ceiling, use the supplied wire on the mounting bracket.

Note

- This illustration is prepared on the assumption that the projected image size and position have been aligned to fit full in the screen.
- This illustration is not drawn to scale.
- The values are approximate.

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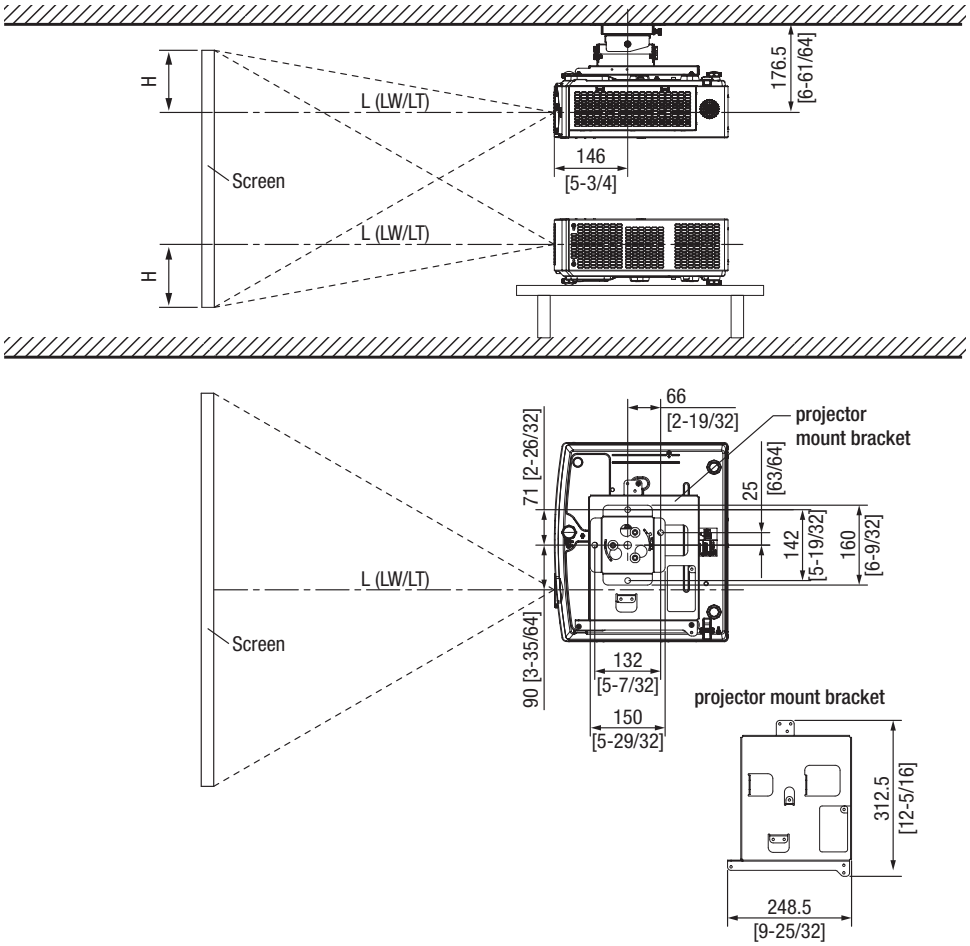
Illustrations show the projector installed using optional ceiling mount bracket ET-PKL100S and projector mount bracket ET-PKV400B.

unit : mm [inch]



Caution

- All construction work should be done by a qualified technician.
- When mounting to the ceiling, use the special mounting bracket.
  Furthermore, in order to prevent it from falling down from the ceiling, use the supplied wire on the mounting bracket.

Note

- This illustration is prepared on the assumption that the projected image size and position have been aligned to fit full in the screen.
- This illustration is not drawn to scale.
- The values are approximate.

Projection distance

A ±5 % error in listed projection distances may occur.
When [SCREEN ADJUSTMENT] is used, distance is corrected to become smaller than the specified image size.

Screen aspect ratio 16:10 Unit: meters

			Optical zoom		Digital Zoom Extender[1]	Height from the edge of screen to center of lens (H)[3]
Throw ratio			1.09-1.77:1		1.09-2.21:1[2] (Corresponding Value)	
Projected image size			Projection distance (L)			
Diagonal (SD) inches / m	Height (SH)	Width (SW)	Min. (LW)	Max. (LT)	Max. (LT)	
30 / 0.76	0.40	0.64	0.68	1.12	1.40	0.022 - 0.201
40 / 1.02	0.54	0.86	0.93	1.51	1.89	0.030 - 0.270
50 / 1.27	0.67	1.08	1.16	1.89	2.37	0.037 - 0.337
60 / 1.52	0.81	1.29	1.39	2.26	2.84	0.045 - 0.403
70 / 1.78	0.94	1.51	1.64	2.66	3.33	0.052 - 0.472
80 / 2.03	1.08	1.72	1.87	3.03	3.80	0.060 - 0.538
90 / 2.29	1.21	1.94	2.12	3.43	4.29	0.067 - 0.607
100 / 2.54	1.35	2.15	2.35	3.80	4.76	0.075 - 0.673
120 / 3.05	1.62	2.59	2.83	4.57	5.73	0.090 - 0.808
150 / 3.81	2.02	3.23	3.54	5.72	7.16	0.112 - 1.010
200 / 5.08	2.69	4.31	4.73	7.64	9.56	0.150 - 1.346
250 / 6.35	3.37	5.38	5.92	9.56	11.96	0.187 - 1.683
300 / 7.62	4.04	6.46	7.11	11.48	14.35	0.224 - 2.019

1 The display resolution decreases when the Digital Zoom Extender function is used. In addition, the 6-point correction, keystone correction and curved correction functions cannot be used, and the adjustable range of corner correction is reduced.
2 When optical zoom is used together and Digital Zoom Extender is set to 80%.
3 Only for optical zoom

Unit: feet

			Optical zoom		Digital Zoom Extender[1]	Height from the edge of screen to center of lens (H)[3]
Throw ratio			1.09-1.77:1		1.09-2.21:1[2] (Corresponding Value)	
Projected image size			Projection distance (L)			
Diagonal (SD) inches / m	Height (SH)	Width (SW)	Min. (LW)	Max. (LT)	Max. (LT)	
30 / 0.76	1.31	2.10	2.23	3.67	4.59	0.072 - 0.659
40 / 1.02	1.77	2.82	3.05	4.95	6.20	0.098 - 0.886
50 / 1.27	2.20	3.54	3.81	6.20	7.78	0.121 - 1.106
60 / 1.52	2.66	4.23	4.56	7.41	9.32	0.148 - 1.322
70 / 1.78	3.08	4.95	5.38	8.73	10.93	0.171 - 1.549
80 / 2.03	3.54	5.64	6.14	9.94	12.47	0.197 - 1.765
90 / 2.29	3.97	6.36	6.96	11.25	14.07	0.220 - 1.991
100 / 2.54	4.43	7.05	7.71	12.47	15.62	0.246 - 2.208
120 / 3.05	5.31	8.50	9.28	14.99	18.80	0.295 - 2.651
150 / 3.81	6.63	10.60	11.61	18.77	23.49	0.367 - 3.314
200 / 5.08	8.83	14.14	15.52	25.07	31.36	0.492 - 4.416
250 / 6.35	11.06	17.65	19.42	31.36	39.24	0.614 - 5.522
300 / 7.62	13.25	21.19	23.33	37.66	47.08	0.735 - 6.624

1 The display resolution decreases when the Digital Zoom Extender function is used. In addition, the 6-point correction, keystone correction and curved correction functions cannot be used, and the adjustable range of corner correction is reduced.
2 When optical zoom is used together and Digital Zoom Extender is set to 80%.
3 Only for optical zoom

Screen aspect ratio 16:9

Unit: meters

			Optical zoom		Digital Zoom Extender[1]	Height from the edge of screen to center of lens (H)[3]
Throw ratio			1.09-1.77:1		1.09-2.21:1[2] (Corresponding Value)	
Projected image size			Projection distance (L)			
Diagonal (SD) inches / m	Height (SH)	Width (SW)	Min. (LW)	Max. (LT)	Max. (LT)	
30 / 0.76	0.37	0.66	0.70	1.15	1.44	0.002 - 0.186
40 / 1.02	0.50	0.89	0.95	1.55	1.95	0.003 - 0.250
50 / 1.27	0.62	1.11	1.19	1.94	2.43	0.004 - 0.311
60 / 1.52	0.74	1.33	1.43	2.33	2.92	0.005 - 0.372
70 / 1.78	0.87	1.55	1.69	2.73	3.42	0.005 - 0.436
80 / 2.03	0.99	1.77	1.93	3.12	3.91	0.006 - 0.497
90 / 2.29	1.12	2.00	2.18	3.52	4.41	0.007 - 0.561
100 / 2.54	1.24	2.21	2.42	3.91	4.90	0.008 - 0.622
120 / 3.05	1.49	2.66	2.91	4.70	5.89	0.009 - 0.747
150 / 3.81	1.87	3.32	3.64	5.88	7.36	0.012 - 0.933
200 / 5.08	2.49	4.43	4.86	7.85	9.83	0.015 - 1.245
250 / 6.35	3.11	5.54	6.09	9.83	12.29	0.019 - 1.556
300 / 7.62	3.73	6.64	7.31	11.80	14.75	0.023 - 1.867

1 The display resolution decreases when the Digital Zoom Extender function is used. In addition, the 6-point correction, keystone correction and curved correction functions cannot be used, and the adjustable range of corner correction is reduced.
2 When optical zoom is used together and Digital Zoom Extender is set to 80%.
3 Only for optical zoom

Unit: feet

			Optical zoom		Digital Zoom Extender[1]	Height from the edge of screen to center of lens (H)[3]
Throw ratio			1.09-1.77:1		1.09-2.21:1[2] (Corresponding Value)	
Projected image size			Projection distance (L)			
Diagonal (SD) inches / m	Height (SH)	Width (SW)	Min. (LW)	Max. (LT)	Max. (LT)	
30 / 0.76	1.21	2.17	2.30	3.77	4.72	0.007 - 0.610
40 / 1.02	1.64	2.92	3.12	5.09	6.40	0.010 - 0.820
50 / 1.27	2.03	3.64	3.90	6.36	7.97	0.013 - 1.020
60 / 1.52	2.43	4.36	4.69	7.64	9.58	0.016 - 1.220
70 / 1.78	2.85	5.09	5.54	8.96	11.22	0.016 - 1.430
80 / 2.03	3.25	5.81	6.33	10.24	12.83	0.020 - 1.631
90 / 2.29	3.67	6.56	7.15	11.55	14.47	0.023 - 1.841
100 / 2.54	4.07	7.25	7.94	12.83	16.08	0.026 - 2.041
120 / 3.05	4.89	8.73	9.55	15.42	19.32	0.030 - 2.451
150 / 3.81	6.14	10.89	11.94	19.29	24.15	0.039 - 3.061
200 / 5.08	8.17	14.53	15.94	25.75	32.25	0.049 - 4.085
250 / 6.35	10.20	18.18	19.98	32.25	40.32	0.062 - 5.105
300 / 7.62	12.24	21.78	23.98	38.71	48.39	0.075 - 6.125

1 The display resolution decreases when the Digital Zoom Extender function is used. In addition, the 6-point correction, keystone correction and curved correction functions cannot be used, and the adjustable range of corner correction is reduced.
2 When optical zoom is used together and Digital Zoom Extender is set to 80%.
3 Only for optical zoom

Screen aspect ratio 4:3

Unit: meters

			Optical zoom		Digital Zoom Extender[1]	Height from the edge of screen to center of lens (H)[3]
Throw ratio			1.31-2.12:1		1.31-2.66:1[2] (Corresponding Value)	
Projected image size			Projection distance (L)			
Diagonal (SD) inches / m	Height (SH)	Width (SW)	Min. (LW)	Max. (LT)	Max. (LT)	
30 / 0.76	0.46	0.61	0.78	1.27	1.59	0.025 - 0.228
40 / 1.02	0.61	0.82	1.05	1.71	2.15	0.034 - 0.306
50 / 1.27	0.76	1.02	1.32	2.14	2.68	0.042 - 0.381
60 / 1.52	0.91	1.22	1.58	2.57	3.22	0.051 - 0.456
70 / 1.78	1.07	1.42	1.86	3.01	3.77	0.059 - 0.534
80 / 2.03	1.22	1.62	2.12	3.44	4.31	0.068 - 0.609
90 / 2.29	1.37	1.83	2.40	3.88	4.86	0.076 - 0.687
100 / 2.54	1.52	2.03	2.67	4.31	5.40	0.085 - 0.762
120 / 3.05	1.83	2.44	3.21	5.18	6.49	0.102 - 0.915
150 / 3.81	2.29	3.05	4.01	6.48	8.11	0.127 - 1.143
200 / 5.08	3.05	4.06	5.36	8.65	10.83	0.169 - 1.524
250 / 6.35	3.81	5.08	6.71	10.83	13.54	0.212 - 1.905
300 / 7.62	4.57	6.10	8.05	13.00	16.25	0.254 - 2.286

1 The display resolution decreases when the Digital Zoom Extender function is used. In addition, the 6-point correction, keystone correction and curved correction functions cannot be used, and the adjustable range of corner correction is reduced.
2 When optical zoom is used together and Digital Zoom Extender is set to 80%.
3 Only for optical zoom

Unit: feet

			Optical zoom		Digital Zoom Extender[1]	Height from the edge of screen to center of lens (H)[3]
Throw ratio			1.31-2.12:1		1.31-2.66:1[2] (Corresponding Value)	
Projected image size			Projection distance (L)			
Diagonal (SD) inches / m	Height (SH)	Width (SW)	Min. (LW)	Max. (LT)	Max. (LT)	
30 / 0.76	1.51	2.00	2.56	4.17	5.22	0.082 - 0.748
40 / 1.02	2.00	2.69	3.44	5.61	7.05	0.112 - 1.004
50 / 1.27	2.49	3.35	4.33	7.02	8.79	0.138 - 1.250
60 / 1.52	2.99	4.00	5.18	8.43	10.56	0.167 - 1.496
70 / 1.78	3.51	4.66	6.10	9.88	12.37	0.194 - 1.752
80 / 2.03	4.00	5.31	6.96	11.29	14.14	0.223 - 1.998
90 / 2.29	4.49	6.00	7.87	12.73	15.94	0.249 - 2.254
100 / 2.54	4.99	6.66	8.76	14.14	17.72	0.279 - 2.500
120 / 3.05	6.00	8.01	10.53	16.99	21.29	0.335 - 3.002
150 / 3.81	7.51	10.01	13.16	21.26	26.61	0.417 - 3.750
200 / 5.08	10.01	13.32	17.59	28.38	35.53	0.554 - 5.000
250 / 6.35	12.50	16.67	22.01	35.53	44.42	0.696 - 6.250
300 / 7.62	14.99	20.01	26.41	42.65	53.31	0.833 - 7.500

1 The display resolution decreases when the Digital Zoom Extender function is used. In addition, the 6-point correction, keystone correction and curved correction functions cannot be used, and the adjustable range of corner correction is reduced.
2 When optical zoom is used together and Digital Zoom Extender is set to 80%.
3 Only for optical zoom

Formula for calculating the projection distance

To use a projected image size not listed in this manual, check the projected image size SD (m) and use the respective formula to calculate the value.
The unit of all the formulae is m. (Values obtained by the following calculation formulae contain a slight error.)
When calculating the value using image size designation (value in inches), multiply the value in inches by 0.0254 and substitute it into SD in the formula.

Unit: m

Aspect ratio			16:10	16:9	4:3
Screen height (SH)			= 0.530 x SD	= 0.490 x SD	= 0.6 x SD
Screen width (SW)			= 0.848 x SD	= 0.872 x SD	= 0.8 x SD
Projection distance (L)	Optical zoom	Minimum (LW)	= 0.9371 x SD - 0.0294	= 0.9632 x SD - 0.0294	= 1.0609 x SD - 0.0294
		Maximum (LT)	= 1.5103 x SD - 0.0319	= 1.5523 x SD - 0.0319	= 1.7098 x SD - 0.0319
	Digital Zoom Extender	Minimum (LW)	= 0.9371 x SD / X - 0.0294	= 0.9632 x SD / X - 0.0294	= 1.0609 x SD / X - 0.0294
		Maximum (LT)	= 1.5103 x SD / X - 0.0319	= 1.5523 x SD / X - 0.0319	= 1.7098 x SD / X - 0.0319

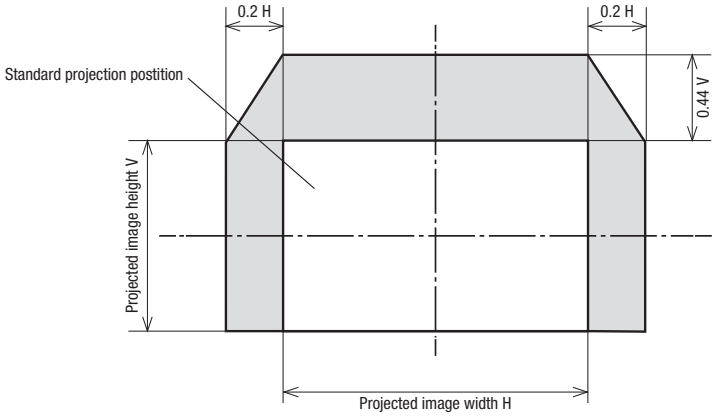
* X in the formulas represents the setting value of [DIGITAL ZOOM EXTENDER] (100%=1.00, 95%=0.95, 90%=0.90, 85%=0.85, 80%=0.80).

Note

- The value for L (distance to screen) varies slightly within ±5% depending on the zoom lens characteristics.
- When keystone correction is used, the image is corrected in the direction that reduces its projected size.

Lens shift range

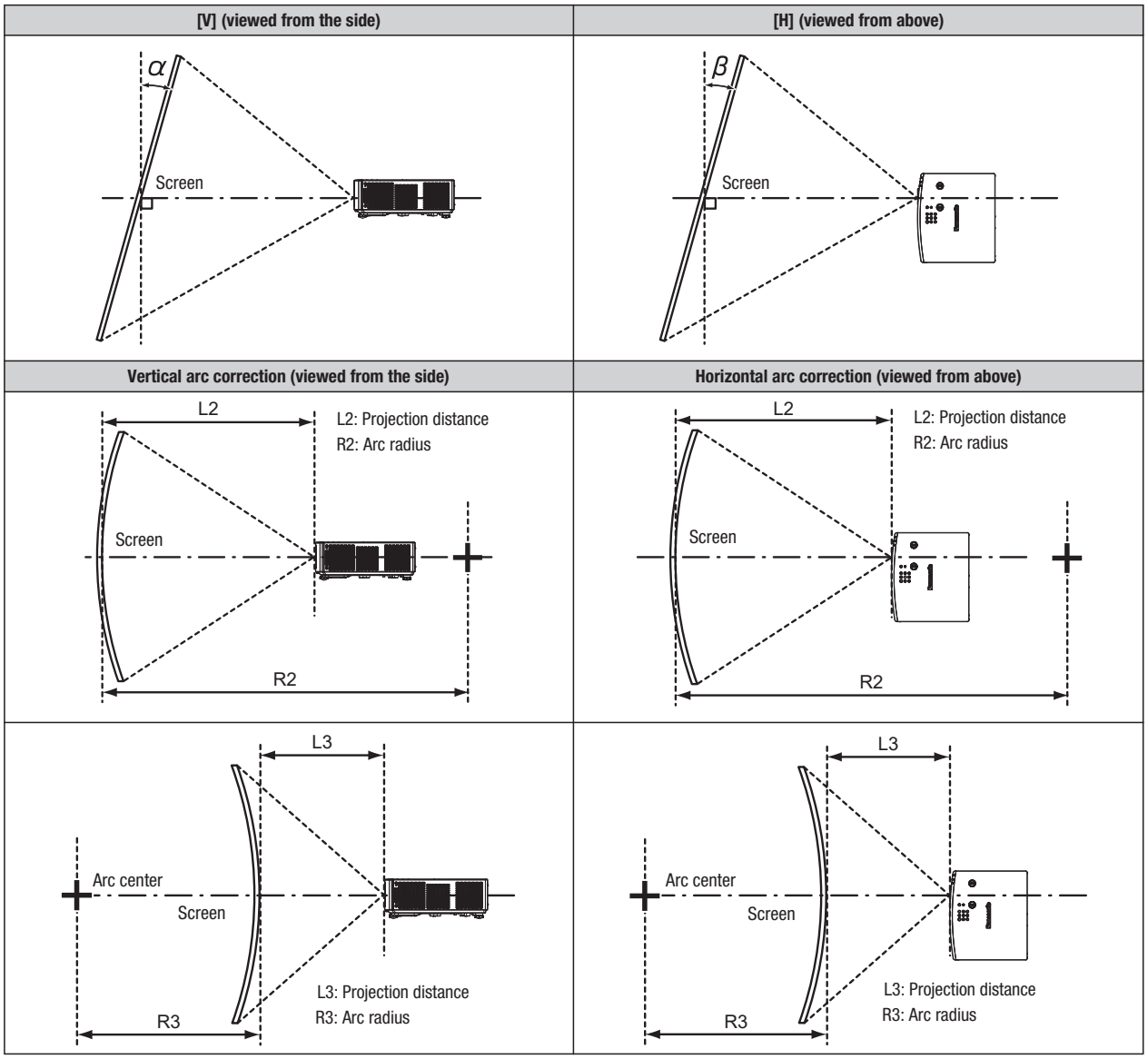
The projector supports lens shift in horizontal and vertical direction. The following figure shows the lens shift adjustable range in horizontal and vertical direction with reference to the standard projection position.



Note

- The standard projection position indicates the projection screen position in the state without lens shift adjustment.

[SCREEN ADJUSTMENT] projection range



Model No.	Only [KEYSTONE] used		[KEYSTONE] and [CURVED CORRECTION] used together				Only [CURVED CORRECTION] used	
	Vertical keystone correction angle α (°)	Horizontal keystone correction angle β (°)	Vertical keystone correction angle α (°)	Horizontal keystone correction angle β (°)	Min. value of R2/L2	Min. value of R3/L3	Min. value of R2/L2	Min. value of R3/L3
PT-VMZ51S	±25	±35	±25	±35	1.4	2.9	0.7	1.6

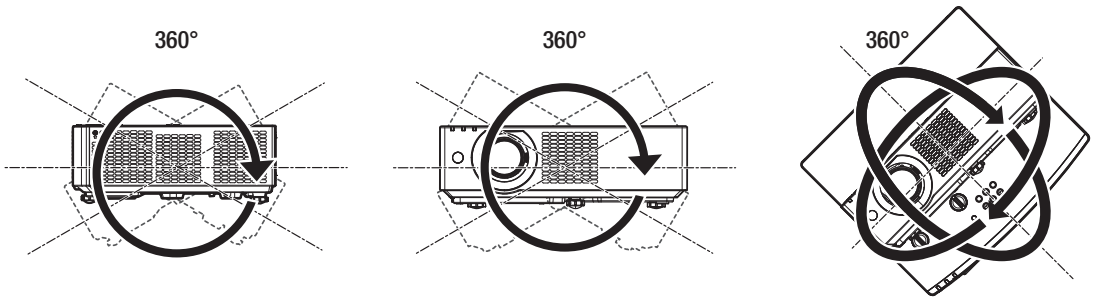
Note

- When [SCREEN ADJUSTMENT] is used, the focus may not be able to match the whole screen as correction increases.
- The curved screen should be in the shape of a circular arc part of a perfect circle.

Installable angle

Install the projector at an angle within the range shown below.

FULL 360-degree projection



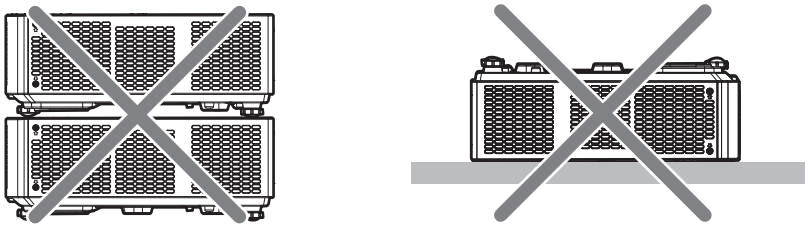
360° vertically

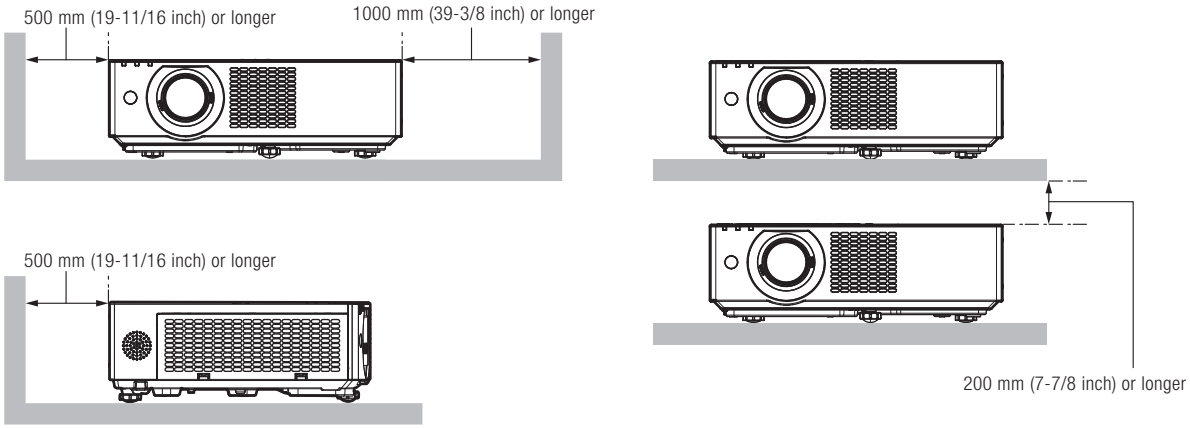
360° horizontally

360° tilted
(combination of vertical and horizontal)

Notes on projector placement and operation

1.Never place objects on top of the projector while it is operating.
2.Make sure there is the unobstructed space as shown below or more around the projector's exhaust openings. In addition to this space, also ensure that there is a sufficient work space for removing and installing filter and other parts.
3.Make sure that nothing blocks the projector's air intake and exhaust openings. Also, install the pro-jector so that cool or hot air from other air conditioning equipment does not flow directly toward the projector's air intake or exhaust openings.
4.Do not install the projector in an enclosed space. If it is necessary to install it in an enclosed space, add a separate ventilation system. If ventilation is insufficient, hot air will accumulate at the intake opening. This may cause the projector's protective circuit to interrupt projector operation.





List of compatible signals

The following table specifies the type of signals compatible with the projector.

- Symbols that indicate formats are as follows.
  -R: RGB
  -Y: YC_BC_R/YP_BP_R
  -H: HDMI
- Input corresponding to each item in the plug and play column is as follows.
  -COMPUTER: COMPUTER1 / COMPUTER2 input
  -HDMI: HDMI1 / HDMI2 input

Signal type	Signal name	Resolution (Dots)	Scanning freq.		Dot clock freq. (MHz)	Format	Plug and play correspondence[1]	
			Horizontal (kHz)	Vertical (Hz)			COMPUTER	HDMI
Video signals	480 /60i	720 x 480i	15.7	59.9	13.5	R/Y	—	—
	576 /50i	720 x 576i	15.6	50.0	13.5	R/Y	—	—
	480 /60i	720(1440) x 480i[2]	15.7	59.9	27.0	H	—	—
	576 /50i	720(1440) x 576i[2]	15.6	50.0	27.0	H	—	—
	480 /60p	720 x 480	31.5	59.9	27.0	R/Y/H	—	✓
	576 /50p	720 x 576	31.3	50.0	27.0	R/Y/H	—	✓
	720 /60p	1280 x 720	45.0	60.0[3]	74.3	R/Y/H	—	✓
	720 /50p	1280 x 720	37.5	50.0	74.3	R/Y/H	—	✓
	1080 /60i	1920 x 1080i	33.8	60.0[3]	74.3	R/Y/H	—	✓
	1080 /50i	1920 x 1080i	28.1	50.0	74.3	R/Y/H	—	✓
	1080 /24p	1920 x 1080	27.0	24.0[3]	74.3	R/Y/H	—	✓
	1080 /24sF	1920 x 1080i	27.0	48.0[3]	74.3	R/Y/H	—	—
	1080 /25p	1920 x 1080	28.1	25.0	74.3	R/Y/H	—	—
	1080 /30p	1920 x 1080	33.8	30.0[3]	74.3	R/Y/H	—	—
	1080 /60p	1920 x 1080	67.5	60.0[3]	148.5	R/Y/H	—	✓
	1080 /50p	1920 x 1080	56.3	50.0	148.5	R/Y/H	—	✓
	3840 x 2160/24p	3840 x 2160	54.0	24.0[3]	297.0	H	—	✓
	3840 x 2160/25p	3840 x 2160	56.3	25.0	297.0	H	—	✓
	3840 x 2160/30p	3840 x 2160	67.5	30.0[3]	297.0	H	—	✓
	4096 x 2160/24p	4096 x 2160	54.0	24.0[3]	297.0	H	—	✓
	4096 x 2160/25p	4096 x 2160	56.3	25.0	297.0	H	—	✓
	4096 x 2160/30p	4096 x 2160	67.5	30.0[3]	297.0	H	—	✓
Computer signals	640 x 400/70	640 x 400	31.5	70.1	25.2	R/H	—	—
	640 x 400/85	640 x 400	37.9	85.1	31.5	R/H	—	—
	640 x 480/60	640 x 480	31.5	59.9	25.2	R/H	✓	✓
	640 x 480/67	640 x 480	35.0	66.7	30.2	R/H	—	—
	640 x 480/73	640 x 480	37.9	72.8	31.5	R/H	✓	✓
	640 x 480/75	640 x 480	37.5	75.0	31.5	R/H	✓	✓
	640 x 480/85	640 x 480	43.3	85.0	36.0	R/H	—	—
	800 x 600/56	800 x 600	35.2	56.3	36.0	R/H	✓	✓
	800 x 600/60	800 x 600	37.9	60.3	40.0	R/H	✓	✓
	800 x 600/72	800 x 600	48.1	72.2	50.0	R/H	✓	✓
	800 x 600/75	800 x 600	46.9	75.0	49.5	R/H	✓	✓
	800 x 600/85	800 x 600	53.7	85.1	56.3	R/H	—	—
	832 x 624/75	832 x 624	49.7	74.6	57.3	R/H	✓	✓
	1024 x 768/50[4]	1024 x 768	39.6	50.0	51.9	R/H	—	—
	1024 x 768/60	1024 x 768	48.4	60.0	65.0	R/H	✓	✓
	1024 x 768/70	1024 x 768	56.5	70.1	75.0	R/H	✓	✓
	1024 x 768/75	1024 x 768	60.0	75.0	78.8	R/H	✓	✓
	1024 x 768/82	1024 x 768	65.5	81.6	86.0	R/H	—	—
	1024 x 768/85	1024 x 768	68.7	85.0	94.5	R/H	—	—
	1024 x 768/100	1024 x 768	81.4	100.0	113.3	R/H	—	—
	1152 x 864/60	1152 x 864	53.7	60.0	81.6	R/H	—	—
	1152 x 864/75	1152 x 864	67.5	75.0	108.0	R/H	—	—
	1152 x 864/85	1152 x 864	77.1	85.0	119.7	R/H	—	—
	1152 x 870/75	1152 x 870	68.7	75.1	100.0	R/H	✓	✓
	1280 x 720/50	1280 x 720	37.1	49.8	60.5	R/H	—	—
	1280 x 720/60	1280 x 720	44.8	59.9	74.5	R/H	—	—
	1280 x 768/60[4]	1280 x 768	47.7	60.0	80.1	R/H	—	—
	1280 x 768/60	1280 x 768	47.8	59.9	79.5	R/H	—	—

Signal type	Signal name	Resolution (Dots)	Scanning freq.		Dot clock freq. (MHz)	Format	Plug and play correspondence[1]	
			Horizontal (kHz)	Vertical (Hz)			COMPUTER	HDMI
Computer signals	1280 x 768/75	1280 x 768	60.3	74.9	102.3	R/H	—	—
	1280 x 768/85	1280 x 768	68.6	84.8	117.5	R/H	—	—
	1280 x 800/50	1280 x 800	41.3	50.0	68.0	R/H	—	—
	1280 x 800/60	1280 x 800	49.7	59.8	83.5	R/H	—	—
	1280 x 800/75	1280 x 800	62.8	74.9	106.5	R/H	—	—
	1280 x 800/85	1280 x 800	71.6	84.9	122.5	R/H	—	—
	1280 x 960/60	1280 x 960	60.0	60.0	108.0	R/H	—	—
	1280 x 1024/60[4]	1280 x 1024	64.0	60.0	108.0	R/H	—	—
	1280 x 1024/75	1280 x 1024	80.0	75.0	135.0	R/H	✓	✓
	1280 x 1024/85	1280 x 1024	91.1	85.0	157.5	R/H	—	—
	1366 x 768/50	1366 x 768	39.6	49.9	69.0	R/H	—	—
	1366 x 768/60	1366 x 768	47.7	59.8	85.5	R/H	—	—
	1366 x 768/60[4]	1366 x 768	47.7	60.0	84.7	R/H	—	—
	1400 x 1050/60	1400 x 1050	65.3	60.0	121.8	R/H	—	—
	1400 x 1050/60[4]	1400 x 1050	65.2	60.0	122.6	R/H	—	—
	1400 x 1050/75	1400 x 1050	82.2	75.0	155.9	R/H	—	—
	1440 x 900/50[4]	1440 x 900	46.3	50.0	87.4	R/H	—	—
	1440 x 900/60[4]	1440 x 900	55.9	60.0	106.5	R/H	—	—
	1440 x 900/60	1440 x 900	55.9	59.9	106.5	R/H	—	—
	1600 x 900/50[4]	1600 x 900	46.3	50.0	97.0	R/H	—	—
	1600 x 900/60[4]	1600 x 900	55.9	60.0	119.0	R/H	—	—
	1600 x 1200/60	1600 x 1200	75.0	60.0	162.0	R/H	✓	✓
	1680 x 1050/50	1680 x 1050	54.1	50.0	119.5	R/H	—	—
	1680 x 1050/60	1680 x 1050	65.3	60.0	146.3	R/H	—	—
	1680 x 1050/60[4]	1680 x 1050	65.2	60.0	147.1	R/H	—	—
	1920 x 1080/50	1920 x 1080	55.6	49.9	141.5	R/H	—	—
	1920 x 1080/60[5]	1920 x 1080	66.6	59.9	138.5	R/H	—	—
	1920 x 1200/50	1920 x 1200	61.8	49.9	158.3	R/H	—	—
	1920 x 1200/60[5]	1920 x 1200	74.0	60.0	154.0	R/H	✓	✓

1 Signal with ✓ in the plug and play column is a signal described in the EDID (extended display identification data) of the projector. The signal that does not have ✓ in the plug and play column can also be input if it is described in the format column. The resolution may not be selected in the computer even if the projector is compatible with the signal that does not have ✓ in the plug and play column.

2 Pixel-Repetition signal (dot clock frequency 27.0 MHz) only

3 It also supports signals with vertical scanning frequency of 1 / 1.001 times.

4 When inputting appropriate analog signal, it can be displayed by making the setting suitable for the signal from the [PICTURE] menu → [RGB-SYSTEM]. For digital signal, the [RGB-SYSTEM] setting is unnecessary.

5 VESA CVT-RB (Reduced Blanking)-compliant

Note

- A signal with a different resolution is converted to the number of display dots.
  1920 x 1200
- The “i” at the end of the resolution indicates an interlaced signal.
- When interlaced signals are connected, flickering may occur on the projected image.
- The maximum transmission distance when connected with the long-reach communication method is 150 m (492 ft 2 in). In this case, the signal that the projector can receive is only up to 1080/60p (1920 x 1080 dots, dot clock frequency 148.5 MHz).
- Even the above signals exist, some image signals recorded in special method may not be displayed.