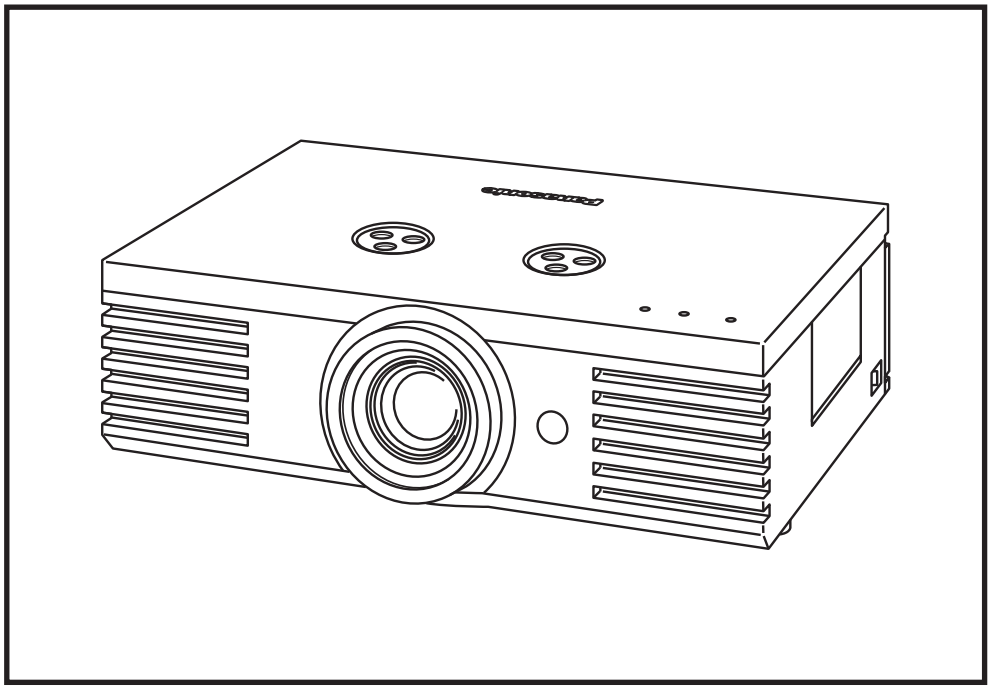
Panasonic ideas for life

SPEC FILE



Product Number : PT-**AE4000**

Product Name : Full High-Definition Home Cinema Projector

Full High-Definition Home Cinema Projector

PT-AE4000

Specifications

Main Unit

Power supply		100–240 V AC, 50/60 Hz
Power consumption		240 W (0.08 W*1 in standby mode with fan stopped)
LCD*2 panel	Panel size	0.74″ diagonal (16:9 aspect ratio)
	Display method	Transparent LCD panel (x 3, R/G/B)
	Drive method	Active matrix
	Pixels	2,073,600 (1,920 x 1,080) x 3, total of 6,220,800 pixels
Lamp*3		170 W UHM lamp
Lens		Powered zoom/focus lens (1:1–1:2), F 1.9–3.2, f 22.4–44.8 mm
Screen size		40–300 inches
Throw distance		1.2–18.0 m (3′9″–59′3″) (16:9 aspect ratio)
Colors		Full colour (1,073,741,824 colors)
Brightness*4		1,600 lumens*5
Center-to-corner uniformity ratio*3		85 %
Contrast*4		100,000:1*5 (full on/full off)
Resolution		1,920 x 1,080 pixels
Scanning frequency	RGB	f_H 30–70 kHz, f_V 50–87 Hz, Dot clock: Less than 150 MHz
	$Y P_B P_R$ ($Y C_B C_R$)	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, 720/50p (750/50p): f_H 37.5 kHz; f_V 50 Hz, 720/60p (750/60p): f_H 45 kHz; f_V 60 Hz, 1080/50i (1125/50i): f_H 28.125 kHz; f_V 50 Hz, 1080/60i (1125/60i): f_H 33.75 kHz; f_V 60 Hz, 1080/24p (1125/24p): f_H 27 kHz; f_V 24 Hz, 1080/50p (1125/50p): f_H 56.3 kHz; f_V 50 Hz, 1080/60p (1125/60p): f_H 67.5 kHz; f_V 60 Hz
	S-Video/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*6		Horizontal: ±40%, vertical: ±100%
Keystone correction range		Vertical: approx. ±30°
Installation		Ceiling/floor, front/rear (menu selection)
OSD languages		English, French, German, Spanish, Italian, Chinese, Korean, Russian, Swedish, Danish, Norwegian, Polish, Czech, Hungarian, Portuguese, Thai, Japanese
Terminals	HDMI IN	HDMI connector x 3, HDMI™ (Deep Color, x.v.Color™*7, CEC*8), HDCP compliant, supports HDAVI Control Version 4
	COMPUTER (RGB) IN	D-sub HD 15-pin (female) x 1
	RGB signal	R, G, B: 0.7 V [p-p] (1.0 Vp-p for Sync on G), 75 ohms HD/SYNC, VD: TTL (positive/negative polarity compatible)
	$Y P_B P_R$ signal	Y: 1.0 V [p-p] (including sync signal), 75 ohms, P_B, P_R: 0.7 V [p-p], 75 ohms

	COMPONENT IN	RCA pin (Y, P_B/C_B, P_R/C_R) x 3
	Y	1.0 [p-p], 75 ohms
	P_B/C_B, P_R/C_R	0.7 V [p-p], 75 ohms
	TRIGGER IN/OUT	M3 x 2, 12 V, max. 100 mA (input/output selectable using on-screen menu)
	VIDEO IN	RCA pin x 1, 1.0 V [p-p], 75 ohms
	S-VIDEO IN	Mini DIN 4-pin x 1, Y: 1.0 Vp-p, C: 0.286 V [p-p], 75 ohms
	SERIAL IN	D-sub 9-pin (RS-232C) x 1, for external control
Power cord length		3 m (9´10˝)
Cabinet material		Molded (PC+ABS)
Dimensions (W x H x D)		460 x 130 x 300 mm (18-3/32˝ x 5-3/32˝ x 11-25/32˝)*9
Weight*10		Approx. 7.3 kg (16.09 lbs.)
Operating temperature		0°–40°C (32°–104°F)
Operating humidity		20%–80% (no condensation)

Remote Control Unit

Power supply	3 V DC (R6/LR6/AA type battery x 2)
Operation range*11	Approx. 7 m when operated from directly in front of the signal receptor
Dimensions (W x H x D)	48 x 138 x 28.35 mm (1-7/8˝ x 5-7/16˝ x 1-1/8˝)
Weight	125 g (4.4 oz.)

Supplied Accessories

Power cord
Wireless remote control unit
Batteries for remote control (R6/LR6/AA type x 2)

Optional Accessories

Replacement lamp: ET-LAE4000
Ceiling mount bracket for high ceilings: ET-PKE2000
Ceiling mount bracket for low ceilings: ET-PKE1000S
Cable cover: ET-PCE2000

***1: Up to 220 V.**

***2: 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 to provide the finest possible image. 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.**

***3: 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.**

***4: Measurement, measuring conditions, and method of notation all comply with ISO 21118 international standards.**

***5: In dynamic mode, with dynamic iris on.**

***6: Shift range is limited during simultaneous horizontal and vertical shifting.**

***7: Effective in Color 1 image mode.**

***8: CEC is an abbreviation for Consumer Electronics Control. Operation may not be possible with some connected equipment or settings.**

***9: Lens and legs not included.**

***10: Average value. May differ depending on models.**

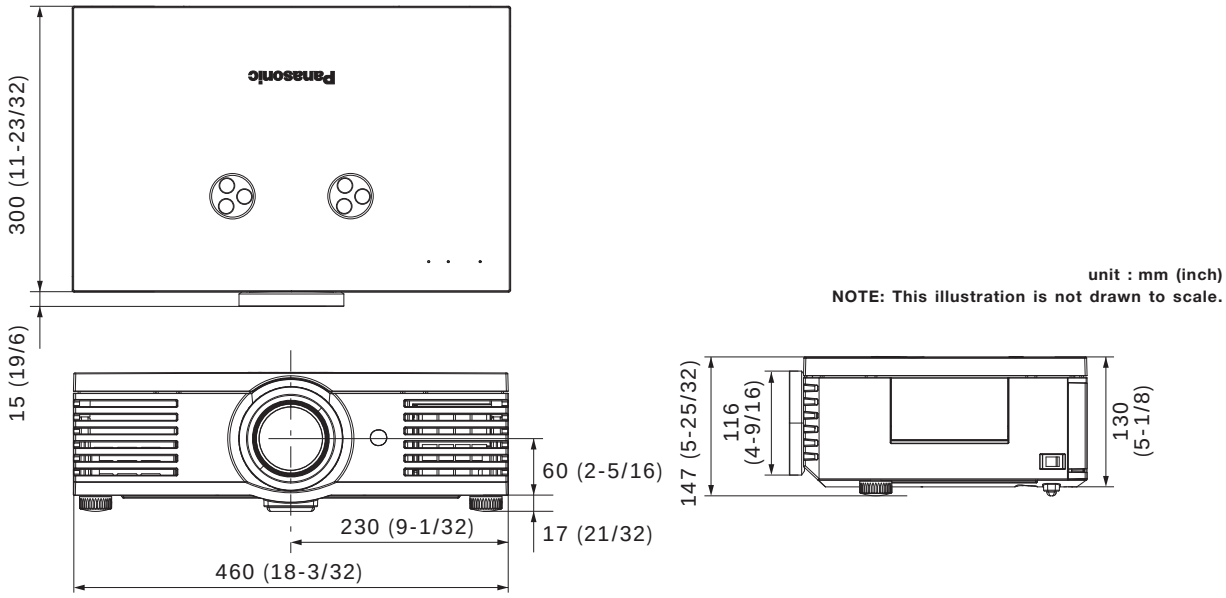
***11: Operation range differs depending on environments.**

Weights and dimensions shown are approximate.
Specifications are subject to change without notice.
This product may be subject to export control regulations.

Full High-Definition Home Cinema Projector

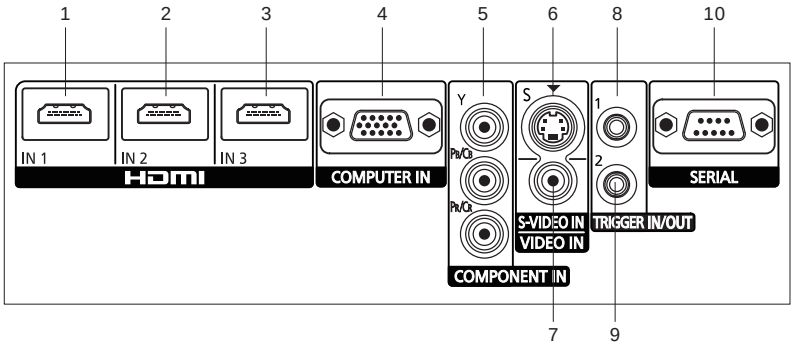
PT-AE4000

Dimensions



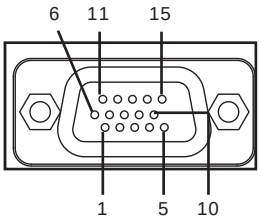
unit : mm (inch)
NOTE: This illustration is not drawn to scale.

Terminals



1 HDMI 1 input
2 HDMI 2 input
3 HDMI 3 input
4 Computer input
5 Component (YPBPR/YCBCR) input
6 S-Video input
7 Video input
8 Trigger 1 input/output
9 Trigger 2 input/output
10 Serial input

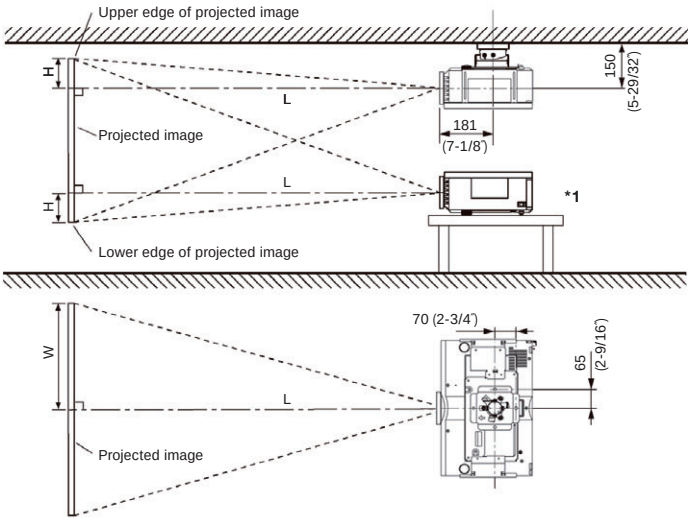
COMPUTER IN connector pin assignment



D-sub HD 15-pin, female

no.	signal	no.	signal	no.	signal
1	R, PR/CR	6	GND	11	GND
2	G, Y	7	GND	12	NC
3	B, PR/CR	8	GND	13	HD/SYNC
4	GND	9	NC	14	VD
5	GND	10	GND	15	NC

Standard setting-up positions



unit : mm (inch)

NOTE:

Illustrations show the projector installed using optional ceiling bracket ET-PKE1000S.

This illustration is not drawn to scale.

Values shown are approximate.

Projection distance for screen aspect ratio of 16:9

Projection size (16:9) Diagonal length	Projection distance (L) Min (Wide)	Max (Telephoto)	Height from the edge of screen to center of lens (H)	Width from the right edge of screen to center of lens (W)
1.02 m / 40″	1.2 m / 3′11″	2.3 m / 7′9″	-0.25 m – 0.75 m / -10″ – 2′5″	0.09 m – 0.80 m / 4″ – 2′7″
1.27 m / 50″	1.5 m / 4′10″	2.9 m / 9′8″	-0.31 m – 0.93 m / -1′1″ – 3′	0.11 m – 0.99 m / 5″ – 3′3″
1.52 m / 60″	1.8 m / 5′10″	3.5 m / 11′8″	-0.37 m – 1.12 m / -1′3″ – 3′8″	0.13 m – 1.20 m / 6″ – 3′11″
1.78 m / 70″	2.1 m / 6′10″	4.1 m / 13′8″	-0.44 m – 1.31 m / -1′6″ – 4′3″	0.15 m – 1.39 m / 7″ – 4′6″
2.03 m / 80″	2.4 m / 7′10″	4.7 m / 15′8″	-0.50 m – 1.49 m / -1′8″ – 4′10″	0.18 m – 1.59 m / 7″ – 5′2″
2.29 m / 90″	2.7 m / 8′10″	5.3 m / 17′8″	-0.56 m – 1.68 m /-1′11″ – 5′6″	0.20 m – 1.79 m / 8″ – 5′10″
2.54 m / 100″	3.0 m / 9′10″	5.9 m / 19′7″	-0.62 m – 1.87 m / -2′1″ – 6′1″	0.22 m – 1.99 m / 9″ – 6′6″
3.05 m / 120″	3.6 m /11′10″	7.1 m / 23′7″	-0.75 m – 2.24 m / -2′6″ – 7′4″	0.27 m – 2.39 m / 11″ – 7′10″
3.81 m / 150″	4.5 m / 14′9″	9.0 m / 29′6″	-0.93 m – 2.80 m / -3′1″ – 9′2″	0.33 m – 2.99 m / 1′2″ – 9′9″
5.08 m / 200″	6.0 m / 19′9″	12.0 m / 39′5″	-1.24 m – 3.74 m / -4′2″ – 12′2″	0.44 m – 3.98 m / 1′6″ – 13′
6.35 m / 250″	7.6 m / 24′8″	15.0 m / 49′4″	-1.56 m – 4.67 m / -5′2″ – 15′3″	0.55 m – 4.98 m /1′10″ – 16′4″
7.62 m / 300″	9.1 m / 29′8″	18.0 m / 59′3″	-1.87 m – 5.60 m / -6′2″ – 18′4″	0.66 m – 5.98 m / 2′3″ – 19′7″

Projection distance for screen aspect ratio of 2.35:1

(When projecting both 2.35:1 and 16:9 images onto a 2.35:1 screen using the Lens Memory function.)

Projection size (2.35:1) Diagonal length	Projection distance (L) Min (Wide)	Max (Telephoto)	Height from the edge of screen to center of lens (H)	Width from the right edge of screen to center of lens (W)
1.02 m / 40″	1.3 m / 4′1″	– / –	0.00 m – 0.40 m / 0″ – 1′3″	0.07 m – 0.64 m / 3″ – 2′1″
1.27 m / 50″	1.6 m / 5′2″	2.3 m / 7′8″	0.00 m – 0.49 m / 0″ – 1′7″	0.09 m – 0.80 m / 4″ – 2′7″
1.52 m / 60″	1.9 m / 6′2″	2.8 m / 9′3″	0.00 m – 0.60 m / 0″ – 1′11″	0.11 m – 0.96 m / 5″ – 3′1″
1.78 m / 70″	2.2 m / 7′3″	3.3 m /10′10″	0.00 m – 0.69 m / 0″ – 2′3″	0.12 m – 1.11 m / 5″ – 3′7″
2.03 m / 80″	2.6 m / 8′3″	3.8 m / 12′5″	0.00 m – 0.80 m / 0″ – 2′7″	0.14 m – 1.27 m / 6″ – 4′2″
2.29 m / 90″	2.9 m / 9′4″	4.2 m / 14′	0.00 m – 0.90 m / 0″ – 2′11″	0.16 m – 1.43 m / 7″ – 4′8″
2.54 m / 100″	3.2 m / 10′5″	4.7 m / 15′7″	0.00 m – 0.99 m / 0″ – 3′3″	0.18 m – 1.59 m / 7″ – 5′2″
3.05 m / 120″	3.8 m / 12′6″	5.7 m / 18′9″	0.00 m – 1.19 m / 0″ – 3′11″	0.21 m – 1.91 m / 9″ – 6′3″
3.81 m / 150″	4.8 m / 15′7″	7.1 m / 23′6″	0.00 m – 1.49 m / 0″ – 4′10″	0.27 m – 2.39 m / 11″ – 7′9″
5.08 m / 200″	6.4 m /20′10″	9.5 m / 31′5″	0.00 m – 1.99 m / 0″ – 6′6″	0.35 m – 3.18 m / 1′2″ – 10′5″
6.35 m / 250″	8.0 m / 26′1″	12.0 m / 39′4″	0.00 m – 2.49 m / 0″ – 8′1″	0.44 m – 3.98 m / 1′6″ – 13′
7.62 m / 300″	9.6 m / 31′4″	14.4 m / 47′3″	0.00 m – 2.98 m / 0″ – 9′9″	0.53 m – 4.77 m / 1′9″ – 15′7″

NOTE: The values of L shown above vary due to characteristics of the zoom lens. Images may slightly distort due to characteristics of the zoom lens when the zoom lens is set to the minimum throw distance.

Calculation of the projection distance

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

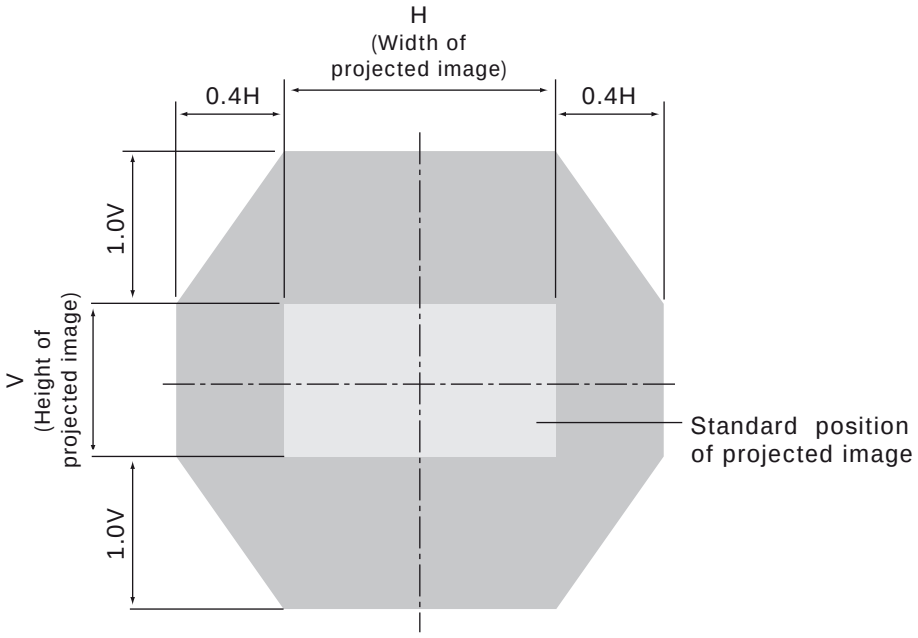
16:9 minimum L (m) = (diagonal screen size in inches) x 0.0302 - 0.04
maximum L (m) = (diagonal screen size in inches) x 0.0604 - 0.05

2.35:1 (When projecting both 2.35:1 and 16:9 images onto a 2.35:1 screen using the Lens Memory function.)
minimum L (m) = (diagonal screen size in inches) x 0.0319 - 0.04
maximum L (m) = (diagonal screen size in inches) x 0.0482 - 0.05

NOTE: The accuracy of calculated value by the formula shown above is ±5%.

Shift range

Optical axis shift function allows to shift the position of a projected image as shown below.

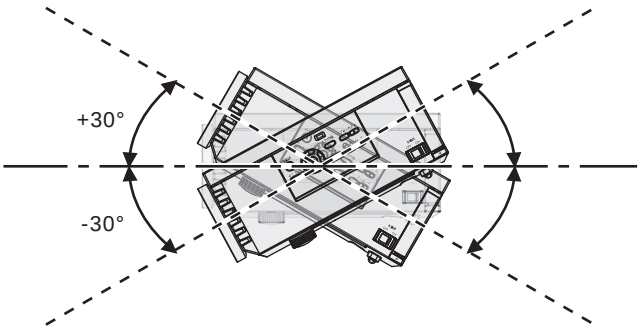


Installable angle

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

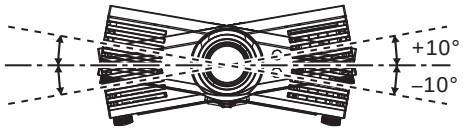
• Vertical direction

The projector may be installed at a vertical angle of ±30°.



• Horizontal direction

The projector may be installed at a vertical angle of ±10°.



Computer data compatibility

This projector accepts up to 70 kHz horizontal scanning frequency and 150 MHz dot clock.

NOTE: The display resolution of this projector is 1920 x 1080 pixels. If the display resolution indicated in the above data does not match this resolution, the input signal will be converted to 1920 x 1080 pixels.

List of Compatible Signals

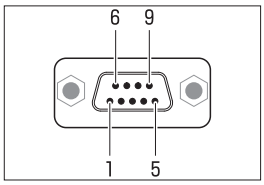
Display mode	Display resolution (dots)[1]	Scanning frequency H (kHz)	Scanning frequency V (kHz)	Dot clock frequency (MHz)	Picture quality[2]	Format
NTSC/NTSC4.43/PAL-M/PAL60	720 x 480i	15.7	59.9	-	A	VIDEO/S-VIDEO
PAL/PAL-N/SECAM	720 x 576i	15.6	50.0	-	A	VIDEO/S-VIDEO
480i (525i)	720 x 480i	15.7	59.9	13.5	A	COMPONENT
576i (625i)	720 x 576i	15.6	50.0	13.5	A	COMPONENT
480p (525p)	720 x 483	31.5	59.9	27.0	A	COMPONENT/HDMI
576p (625p)	720 x 576	31.3	50.0	27.0	A	COMPONENT/HDMI
720 (750)/60p	1,280 x 720	45.0	60.0	74.3	AA	COMPONENT/HDMI
720 (750)/50p	1,280 x 720	37.5	50.0	74.3	AA	COMPONENT/HDMI
1080 (1125)/60i	1,920 x 1,080i	33.8	60.0	74.3	AA	COMPONENT/PC/HDMI
1080 (1125)/50i	1,920 x 1,080i	28.1	50.0	74.3	AA	COMPONENT/PC/HDMI
1080 (1125)/24p	1,920 x 1,080	27.0	24.0	74.3	AA	COMPONENT/HDMI
1080 (1125)/60p	1,920 x 1,080	67.5	60.0	148.5	AA	COMPONENT/PC/HDMI
1080 (1125)/50p	1,920 x 1,080	56.3	50.0	148.5	AA	COMPONENT/PC/HDMI
VGA480	640 x 480	31.5	59.9	25.2	A	PC/HDMI
	640 x 480	37.5	75.0	31.5	A	PC
	640 x 480	43.3	85.0	36.0	A	PC
	640 x 480	72.1	138.0	62.3	A	PC
WIDE480	856 x 480	30.1	60.1	31.5	A	PC
SVGA	800 x 600	35.2	56.3	36.0	A	PC
	800 x 600	37.9	60.3	40.0	A	PC
	800 x 600	48.1	72.2	50.0	A	PC
	800 x 600	46.9	75.0	49.5	A	PC
	800 x 600	53.7	85.1	56.3	A	PC
WIDE600	1,072 x 600	37.2	59.9	51.4	A	PC
WIDE720	1,280 x 720	45.1	60.1	76.5	AA	PC
XGA	1,024 x 768	48.4	60.0	65.0	A	PC
	1,024 x 768	56.5	70.1	75.0	A	PC
	1,024 x 768	60.0	75.0	78.8	A	PC
	1,024 x 768	68.7	85.0	94.5	A	PC
	1,024 x 768	72.1	89.0	99.2	A	PC
WIDE768	1,280 x 768	45.3	56.5	76.2	A	PC
MXGA	1,152 x 864	64.0	71.2	94.2	A	PC
	1,152 x 864	67.5	74.9	108.0	A	PC
SXGA	1,280 x 1,024	64.0	60.0	108.0	A	PC
WIDE768-2	1,360 x 768	48.8	59.8	74.3	A	PC
SXGA60+	1,400 x 1,050	65.1	59.9	122.4	A	PC
WIDE800	1,280 x 800	49.7	59.8	83.5	A	PC
WIDE900	1,440 x 900	55.9	59.8	106.5	A	PC
WIDE 1080/60	1,920 x1,080	66.5	59.9	138.5	AA	PC
WIDE 1080/50	1,920 x1,080	55.6	49.9	141.5	AA	PC

1. **The "i" appearing after the resolution indicates an interlaced signal.**
2. **The following symbols are used to indicate picture quality.**
   - **AA Maximum picture quality can be obtained.**
   - **A Signals are converted by the image processing circuit before picture is projected.**

Serial connector

The serial connector complies with RS-232C. To control the projector from a personal computer, commands must be input through communication software, based on the format and satisfying the communication conditions shown below.

Pin assignments and signal names



D-sub 9-pin

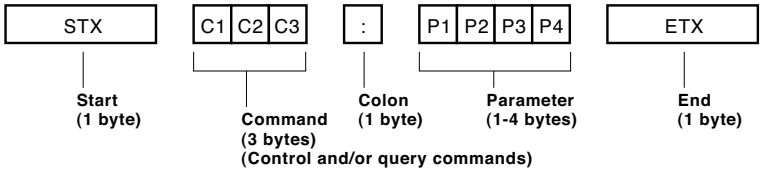
No.	Signal name	Description	No.	Signal name	Description
1	–	NC	6	–	NC
2	TXD	Send data	7	RTS	Connected internally
3	RXD	Receive data	8	CTS	Connected internally
4	–	NC	9	–	NC
5	GND	Ground			

Communication conditions (factory setting)

Signal level	RS-232C-compliant
Synchronization method	Start-stop synchronization
Baud rate	9,600 bps
Parity	None
Character length	8 bits
Stop bit	1 bit
X parameter	None
S parameter	None

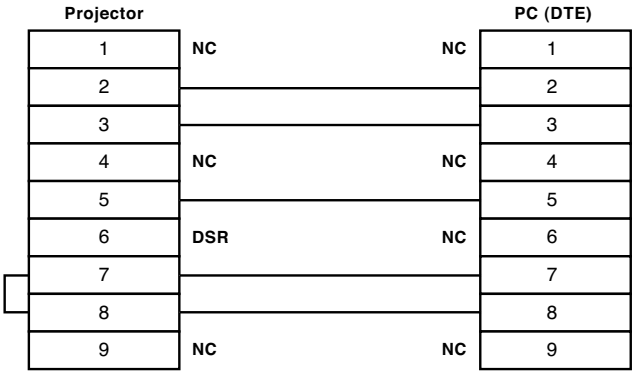
Basic format

Transmission from the computer begins with STX, then the ID, command, parameter, and ETX are sent in this order. Add parameters according to the details of control.



CAUTIION
When sending multiple commands, be sure to send the next command after receiving a response from the projector.

Cable specifications



Control commands

Command	Function	Parameter
PON[1]	Power on (standby mode on)	–
POF[1]	Power off (standby mode off)	–
IIS	Input signal selection	CP1, SVD, VID, HD1, HD2, HD3, RG1
OMN	Menu	–
OEN	Enter	–
OBK	Return	–
OCU	Cursor up	–
OCD	Cursor down	–
OCL	Cursor left	–
OCR	Cursor right	–
OLE	The same function as “LENS” button	–
OST	Default	–
OFZ	Freeze	0, 1
FC1	The same function as “FUNCTION” button	–
OSH[2]	Blank on/off	–
OVM	Picture mode switch	–
OWM	Waveform monitor activate/off	0, 1, 2, 3, 4, 5, 6, 7, 8
VS1	Aspect switch	–
VPM	Picture mode	NOR, DYN, CL1, CL2, CN1, CN2, CN3
OOT	Off timer	0, 1, 2, 3, 4, 5, 6, 7
OMM	The same function as “MEMORY LOAD” button	–
DPA	The same function as “PICTURE ADJUSTMENT” button	–
DCM	Color management menu	–
OVL	The same function as “VIERA Link” button	–
OSM	The same function as “SUB MENU” button	–
Option Menu Command		
VXX	Lens memory	LMLI0=+00000 – LMLI0=+00005
	Gamma output level (Y)	AGOS0=010000 – AGOS0=090255
	Gamma output level (R)	AGOS1=010000 – AGOS1=090255
	Gamma output level (G)	AGOS2=010000 – AGOS2=090255
	Gamma output level (B)	AGOS3=010000 – AGOS3=090255
	Gamma input level	AGIS0=01000 – AGOS0=09100
	Trigger 1 output	TROI0=+00000 – TROI0=+00001
	Trigger 2 output	TROI1=+00000 – TROI1=+00001

1 PON is the only command that is effective in standby mode; all other commands are invalid. The PON command is not accepted during lamp on control. After the lamp has been turned off and while the cooling fan is still operating, lamp on control will not be activated for about 85 seconds in order to protect the lamp.

2 Do not send OSH commands continuously in a short period of time. Doing so may burst the lamp or shorten the lamp replacement cycle.

Control command parameters

Command	Size (Byte)	Parameter
IIS	3	CP1 = component, SVD = S-video, VID = video, HD1 = HDMI1, HD2 = HDMI2, HD3 = HDMI3, RG1 = computer
OFZ	1	0 = off, 1 = on
OWM	1	0 = off, 1 = full scan (Y), 2 = full scan (R), 3 = full scan (G), 4 = full scan (B), 5 = single line (Y), 6 = single line (R), 7 = single line (G), 8 = single line (B)
VPM	3	NOR = normal, DYN = dynamic, CL1 = color 1, CL2 = color 2, CN1 = cinema 1, CN2 = cinema 2, CN3 = cinema 3
OOT	1	4 = 150 min, 5 = 180 min, 6 = 210 min, 7 = 240 min
QVX:LMLI0	6	LMLI0=+00000 = lens memory 1, LMLI0=+00000 = lens memory 2, LMLI0=+00000 = lens memory 3, LMLI0=+00000 = lens memory 4, LMLI0=+00000 = lens memory 5, LMLI0=+00000 = lens memory 6
AGOS0	6	AGOS0=p1p2d1d2d3d4 p1p2 = point number: 01 – 09, d1d2d3d4 = output: 0000 – 0255
AGOS1	6	AGOS1=p1p2d1d2d3d4 p1p2 = point number: 01 – 09, d1d2d3d4 = output: 0000 – 0255
AGOS2	6	AGOS2=p1p2d1d2d3d4 p1p2 = point number: 01 – 09, d1d2d3d4 = output: 0000 – 0255
AGOS3	6	AGOS3=p1p2d1d2d3d4 p1p2 = point number: 01 – 09, d1d2d3d4 = output: 0000 – 0255
AGIS0	5	AGIS0=p1p2d1d2d3 p1p2 = point number: 01 – 09, d1d2d3 = output: 000 – 100
TROI0	6	TROI0=+00000 = low, TROI0=+00000 = high
TROI1	6	TROI1=+00000 = low, TROI1=+00000 = high

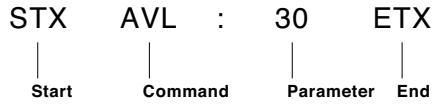
Status asking commands

Command	Description	Parameter
QPW	Standby power status	000 = off, 001 = on
QIN	Input signal status	CP1 = component, SVD = S-video, VID = video, HD1 = HDMI1, HD2 = HDMI2, HD3 = HDMI3, RG1 = computer
QPM	Picture mode status	NOR = normal, DYN = dynamic, CL1 = color 1, CL2 = color 2, CN1 = cinema 1, CN2 = cinema 2, CN3 = cinema 3
QSH	Blank function status	0 = off, 1 = on
QFZ	Freeze function status	0 = off, 1 = on
QOT	Off timer status	0 = off, 1 = 60 min, 2 = 90 min, 3 = 120 min, 4 = 150 min, 5 = 180 min, 6 = 210 min, 7 = 240 min
QWM	Waveform monitor statusutton	0 = off, 1 = full scan (Y), 2 = full scan (R), 3 = full scan (G), 4 = full scan (B), 5 = single line (Y), 6 = single line (R), 7 = single line (G), 8 = single line (B)
Option Menu Command		
QVX	Gamma output level (Y)	AGOS0=p1p2d1d2d3d4 p1p2 = point number: 01 – 09 d1d2d3d4 = output: 0000 – 0255
	Gamma output level (R)	AGOS1=p1p2d1d2d3d4 p1p2 = point number: 01 – 09 d1d2d3d4 = output: 0000 – 0255
	Gamma output level (G)	AGOS2=p1p2d1d2d3d4 p1p2 = point number: 01 – 09 d1d2d3d4 = output: 0000 – 0255
	Gamma output level (B)	AGOS3=p1p2d1d2d3d4 p1p2 = point number: 01 – 09 d1d2d3d4 = output: 0000 – 0255
	Gamma input level	AGIS0=p1p2d1d2d3 p1p2 = point number: 01 – 09 d1d2d3 = output: 000 – 100

NOTE: If a wrong command is received, the projector will send an ER401 command to the computer.

Command example

To set the volume to +30, send the command as shown below.

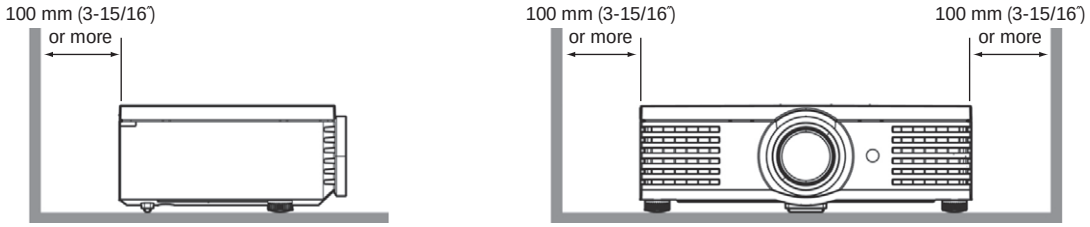


NOTE: When sending commands without parameters, a colon (:) is not necessary.

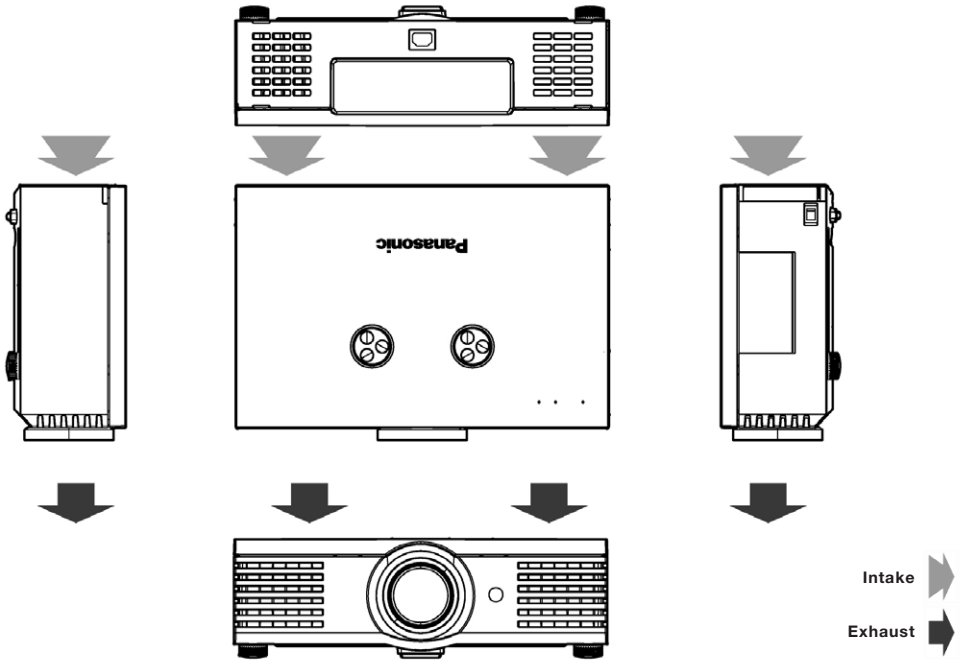
Notes on projector placement and operation

The projector uses a high-wattage lamp that becomes very hot during operation. Please observe the following precautions.

1. Never place objects on top of the projector while it is operating.
2. Make sure there is an unobstructed space of 100 mm (3-15/16″) or more around the projector's air intake openings.
3. If the projector is placed in a box or enclosure, ensure the temperature of the air surrounding the projector is between 0°C/32°F and 35°C/95°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.



Direction of air intake and exhaust



Operating the projector continuously

1. If the projector is to be operated continuously 10 hours or more, lamp replacement cycle duration becomes shorter.
2. The lamp replacement cycle duration becomes shorter if the projector is operated repeatedly for short periods.