SHARP®

DATA PROJECTOR

MODEL

XG-PH80W-N
XG-PH80X-N
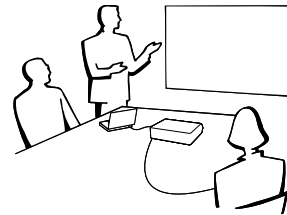
SETUP MANUAL

Setting up the Screen

For optimal image quality, position the projector perpendicular to the screen with the projector's feet flat and level. Doing so will eliminate the need for Keystone correction and provide the best image quality.

✎ **Note**
- The projector lens should be centered in the middle of the screen. If the horizontal line passing through the lens center is not perpendicular to the screen, the image will be distorted, making viewing difficult.
- For an optimal image, position the screen so that it is not in direct sunlight or room light. Light falling directly on the screen washes out the colors, making viewing difficult. Close the curtains and dim the lights when setting up the screen in a sunny or bright room.
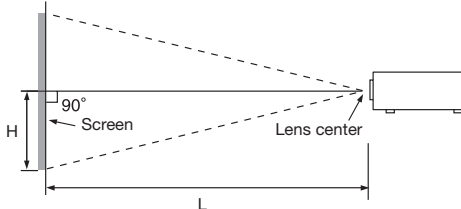
Standard Setup (Front Projection)

■ Place the projector at the required distance from the screen according to the desired picture size.

Example of standard setup

Side View

[AN-PH808EX]

90°
Screen
Lens center
H
L

[AN-PH814EZ/AN-PH818EZ/AN-PH823EZ/AN-PH845EZ]

Lens center
90°
Screen
Lower lens shift position
(High mount setup)
H1
H2
Lens center
Upper lens shift position
(Desktop setup)
90°
L

Top View

Screen
90°
Lens center
Leftmost lens shift position
W — Center of screen
90°
Lens center
Rightmost lens shift position
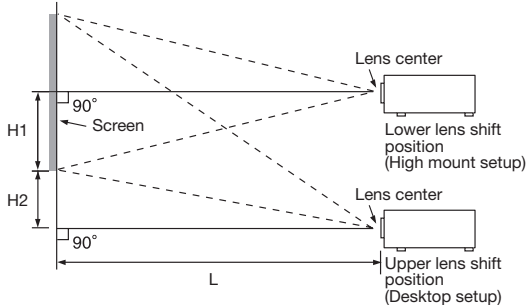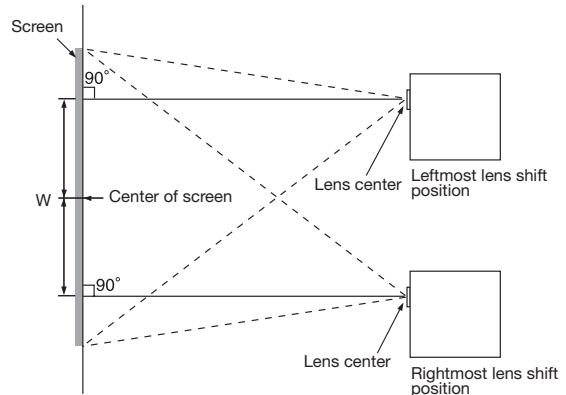
- The distance from the screen to the projector may vary depending on the size of the screen.
- The default setting can be used, when placing the projector in front of the screen. If the projected image is reversed, readjust the setting to "Front" in the "PRJ Mode" menu. (See page 49 of the projector's operation manual.)
- Place the projector so that an imaginary horizontal line that passes through the center of the lens is perpendicular to the screen.

Screen Size and Projection Distance

The projection screen size varies according to the distance from the lens of the projector to the screen. The optional lenses from Sharp are also available for specialized application. Please see your nearest Sharp Authorized Projector Dealer to details on all the lenses. (Refer to the lens operation manual when using a lens.)

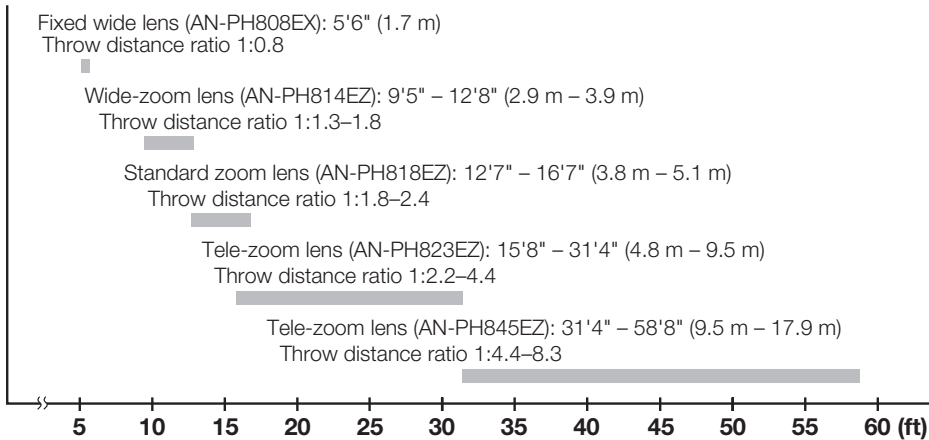Install the projector so that projected images are projected onto the screen at the optimum size by referring to the table. Use the values in the table as a reference when installing the projector.

Throw Distance

XG-PH80W-N

The graph below is for 100-inch (254 cm) screen with 16:10 normal mode.

Screen

Fixed wide lens (AN-PH808EX): 5'6" (1.7 m)
Throw distance ratio 1:0.8

Wide-zoom lens (AN-PH814EZ): 9'5" – 12'8" (2.9 m – 3.9 m)
Throw distance ratio 1:1.3–1.8

Standard zoom lens (AN-PH818EZ): 12'7" – 16'7" (3.8 m – 5.1 m)
Throw distance ratio 1:1.8–2.4

Tele-zoom lens (AN-PH823EZ): 15'8" – 31'4" (4.8 m – 9.5 m)
Throw distance ratio 1:2.2–4.4

Tele-zoom lens (AN-PH845EZ): 31'4" – 58'8" (9.5 m – 17.9 m)
Throw distance ratio 1:4.4–8.3

5 10 15 20 25 30 35 40 45 50 55 60 (ft)

XG-PH80X-N

The graph below is for 100-inch (254 cm) screen with 4:3 normal mode.

Screen

Fixed wide lens (AN-PH808EX): 5'2" (1.6 m)
Throw distance ratio 1:0.8

Wide-zoom lens (AN-PH814EZ): 8'10" – 11'11" (2.7 m – 3.6 m)
Throw distance ratio 1:1.3–1.8

Standard zoom lens (AN-PH818EZ): 11'10" – 15'8" (3.6 m – 4.8 m)
Throw distance ratio 1:1.8–2.4

Tele-zoom lens (AN-PH823EZ): 14'10" – 29'6" (4.5 m – 9.0 m)
Throw distance ratio 1:2.2–4.4

Tele-zoom lens (AN-PH845EZ): 29'6" – 55'4" (9.0 m – 16.9 m)
Throw distance ratio 1:4.4–8.3

5 10 15 20 25 30 35 40 45 50 55 60 (ft)
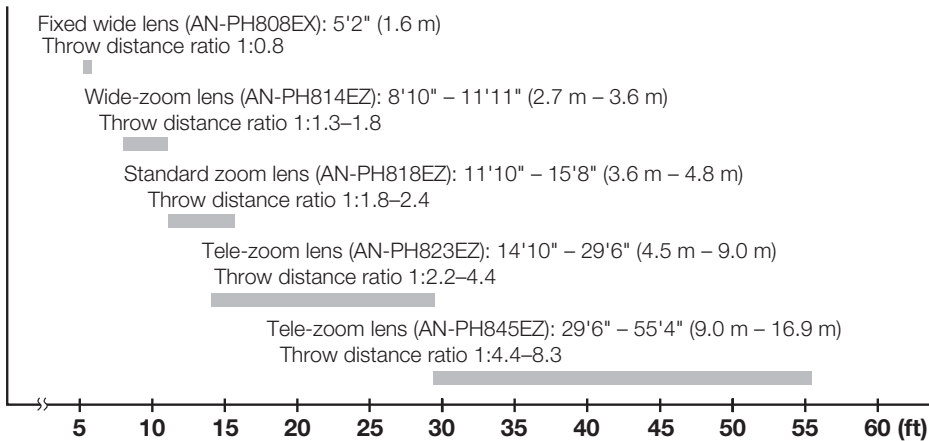
Screen Size and Projection Distance

Standard Zoom Lens (AN-PH818EZ: For XG-PH80W-N)
F1.7-1.9, f = 26-34 mm

16:10 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
500" (1270 cm)	1077 cm (424")	673 cm (265")	19.2 m (62' 11")	25.3 m (83' 0")	-336.6 cm (-132 $\frac{1}{2}$")	0.0 cm (0")	± 107.7 cm (42 $\frac{13}{32}$")
300" (762 cm)	646 cm (254")	404 cm (159")	11.5 m (37' 9")	15.2 m (49' 10")	-201.9 cm (-79 $\frac{1}{2}$")	0.0 cm (0")	± 64.6 cm (25 $\frac{7}{16}$")
200" (508 cm)	431 cm (170")	269 cm (106")	7.7 m (25' 2")	10.1 m (33' 3")	-134.6 cm (-53")	0.0 cm (0")	± 43.1 cm (16 $\frac{61}{64}$")
150" (381 cm)	323 cm (127")	202 cm (79")	5.8 m (18' 10")	7.6 m (24' 11")	-101.0 cm (-39 $\frac{3}{4}$")	0.0 cm (0")	± 32.3 cm (12 $\frac{23}{32}$")
100" (254 cm)	215 cm (85")	135 cm (53")	3.8 m (12' 7")	5.1 m (16' 7")	-67.3 cm (-26 $\frac{1}{2}$")	0.0 cm (0")	± 21.5 cm (8 $\frac{31}{64}$")
80" (203 cm)	172 cm (68")	108 cm (42")	3.1 m (10' 1")	4.0 m (13' 3")	-53.8 cm (-21 $\frac{13}{64}$")	0.0 cm (0")	± 17.2 cm (6 $\frac{25}{32}$")
70" (178 cm)	151 cm (59")	94 cm (37")	2.7 m (8' 10")	3.5 m (11' 8")	-47.1 cm (-18 $\frac{35}{64}$")	0.0 cm (0")	± 15.1 cm (5 $\frac{15}{16}$")
60" (152 cm)	129 cm (51")	81 cm (32")	2.3 m (7' 7")	3.0 m (10' 0")	-40.4 cm (-15 $\frac{29}{32}$")	0.0 cm (0")	± 12.9 cm (5 $\frac{3}{32}$")
40" (102 cm)	86 cm (34")	54 cm (21")	1.5 m (5' 0")	2.0 m (6' 8")	-26.9 cm (-10 $\frac{19}{32}$")	0.0 cm (0")	± 8.6 cm (3 $\frac{25}{64}$")

4:3 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
300" (762 cm)	610 cm (240")	457 cm (180")	13.0 m (42' 9")	17.2 m (56' 5")	-228.6 cm (-90")	0.0 cm (0")	± 69.0 cm (27 $\frac{11}{64}$")
200" (508 cm)	406 cm (160")	305 cm (120")	8.7 m (28' 6")	11.5 m (37' 7")	-152.4 cm (-60")	0.0 cm (0")	± 46.0 cm (18 $\frac{7}{64}$")
150" (381 cm)	305 cm (120")	229 cm (90")	6.5 m (21' 4")	8.6 m (28' 2")	-114.3 cm (-45")	0.0 cm (0")	± 34.5 cm (13 $\frac{37}{64}$")
120" (305 cm)	244 cm (96")	183 cm (72")	5.2 m (17' 1")	6.9 m (22' 7")	-91.4 cm (-36")	0.0 cm (0")	± 27.6 cm (10 $\frac{7}{8}$")
100" (254 cm)	203 cm (80")	152 cm (60")	4.3 m (14' 3")	5.7 m (18' 10")	-76.2 cm (-30")	0.0 cm (0")	± 23.0 cm (9 $\frac{1}{16}$")
80" (203 cm)	163 cm (64")	122 cm (48")	3.5 m (11' 5")	4.6 m (15' 1")	-61.0 cm (-24")	0.0 cm (0")	± 18.4 cm (7 $\frac{1}{4}$")
60" (152 cm)	122 cm (48")	91 cm (36")	2.6 m (8' 7")	3.4 m (11' 3")	-45.7 cm (-18")	0.0 cm (0")	± 13.8 cm (5 $\frac{7}{16}$")

When using the projector with screen sizes not listed in the above charts, calculate the values according to the formulas.

	16:10 Signal		4:3 Signal	
	[m/cm]	[Feet/inches]	[m/cm]	[Feet/inches]
L1: Minimum projection distance (m/ft)	0.03834χ	0.03834χ / 0.3048	0.0434χ	0.0434χ / 0.3048
L2: Maximum projection distance (m/ft)	0.05062χ	0.05062χ / 0.3048	0.05731χ	0.05731χ / 0.3048
H1: Lower distance from the lens center to the bottom of the image (cm/in)	-0.6731χ	-0.6731χ / 2.54	-0.762χ	-0.762χ / 2.54
H2: Upper distance from the lens center to the bottom of the image (cm/in)	0χ	0χ / 2.54	0χ	0χ / 2.54
W: Distance from the lens center to the center of the image (cm/in)	±0.21539χ	±0.21539χ / 2.54	±0.23004χ	±0.23004χ / 2.54

χ : Picture diagonal size: 40" – 500" (16:10)
                         60" – 300" (4:3)

✎ **Note**
- Allow a margin of error in the values in the diagrams above.
- When the distance from the lens center to the bottom of the image [H] is a negative number, this indicates that the bottom of the image is below the lens center.

Standard Zoom Lens (AN-PH818EZ: For XG-PH80X-N)

F1.7-1.9, f = 26-34 mm

4:3 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
500" (1270 cm)	1016 cm (400'')	762 cm (300'')	18.1 m (59' 4")	23.9 m (78' 4")	-381.0 cm (-150")	0.0 cm (0")	± 101.6 cm (40")
300" (762 cm)	610 cm (240'')	457 cm (180'')	10.9 m (35' 7")	14.3 m (47' 0")	-228.6 cm (-90")	0.0 cm (0")	± 61.0 cm (24")
200" (508 cm)	406 cm (160'')	305 cm (120'')	7.2 m (23' 9")	9.6 m (31' 4")	-152.4 cm (-60")	0.0 cm (0")	± 40.6 cm (16")
150" (381 cm)	305 cm (120'')	229 cm (90'')	5.4 m (17' 10")	7.2 m (23' 6")	-114.3 cm (-45")	0.0 cm (0")	± 30.5 cm (12")
100" (254 cm)	203 cm (80'')	152 cm (60'')	3.6 m (11' 10")	4.8 m (15' 8")	-76.2 cm (-30")	0.0 cm (0")	± 20.3 cm (8")
80" (203 cm)	163 cm (64'')	122 cm (48'')	2.9 m (9' 6")	3.8 m (12' 6")	-61.0 cm (-24")	0.0 cm (0")	± 16.3 cm (6 $^{13}/_{32}$")
70" (178 cm)	142 cm (56'')	107 cm (42'')	2.5 m (8' 4")	3.3 m (11' 0")	-53.3 cm (-21")	0.0 cm (0")	± 14.2 cm (5 $^{19}/_{32}$")
60" (152 cm)	122 cm (48'')	91 cm (36'')	2.2 m (7' 1")	2.9 m (9' 5")	-45.7 cm (-18")	0.0 cm (0")	± 12.2 cm (4 $^{51}/_{64}$")
40" (102 cm)	81 cm (32'')	61 cm (24'')	1.4 m (4' 9")	1.9 m (6' 3")	-30.5 cm (-12")	0.0 cm (0")	± 8.1 cm (3 $^{13}/_{64}$")

16:9 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
300" (762 cm)	664 cm (261'')	374 cm (147'')	11.8 m (38' 9")	15.6 m (51' 2")	-186.8 cm (-73 $^{17}/_{32}$")	62.3 cm (24 $^{33}/_{64}$")	± 66.4 cm (26 $^{9}/_{64}$")
200" (508 cm)	443 cm (174'')	249 cm (98'')	7.9 m (25' 10")	10.4 m (34' 2")	-124.5 cm (-49 $^{1}/_{32}$")	41.5 cm (16 $^{11}/_{32}$")	± 44.3 cm (17 $^{7}/_{16}$")
150" (381 cm)	332 cm (131'')	187 cm (74'')	5.9 m (19' 5")	7.8 m (25' 7")	-93.4 cm (-36 $^{49}/_{64}$")	31.1 cm (12 $^{1}/_{4}$")	± 33.2 cm (13 $^{5}/_{64}$")
120" (305 cm)	266 cm (105'')	149 cm (59'')	4.7 m (15' 6")	6.2 m (20' 6")	-74.7 cm (-29 $^{27}/_{64}$")	24.9 cm (9 $^{13}/_{16}$")	± 26.6 cm (10 $^{29}/_{64}$")
100" (254 cm)	221 cm (87'')	125 cm (49'')	3.9 m (12' 11")	5.2 m (17' 1")	-62.3 cm (-24 $^{33}/_{64}$")	20.8 cm (8 $^{11}/_{64}$")	± 22.1 cm (8 $^{23}/_{32}$")
80" (203 cm)	177 cm (70'')	100 cm (39'')	3.2 m (10' 4")	4.2 m (13' 8")	-49.8 cm (-19 $^{39}/_{64}$")	16.6 cm (6 $^{17}/_{32}$")	± 17.7 cm (6 $^{31}/_{32}$")
60" (152 cm)	133 cm (52'')	75 cm (29'')	2.4 m (7' 9")	3.1 m (10' 3")	-37.4 cm (-14 $^{45}/_{64}$")	12.5 cm (4 $^{29}/_{32}$")	± 13.3 cm (5 $^{15}/_{64}$")

When using the projector with screen sizes not listed in the above charts, calculate the values according to the formulas.

	4:3 Signal		16:9 Signal	
	[m/cm]	[Feet/inches]	[m/cm]	[Feet/inches]
L1: Minimum projection distance (m/ft)	0.03617χ	0.03617χ / 0.3048	0.03941χ	0.03941χ / 0.3048
L2: Maximum projection distance (m/ft)	0.04775χ	0.04775χ / 0.3048	0.05202χ	0.05202χ / 0.3048
H1: Lower distance from the lens center to the bottom of the image (cm/in)	-0.762χ	-0.762χ / 2.54	-0.62263χ	-0.62263χ / 2.54
H2: Upper distance from the lens center to the bottom of the image (cm/in)	0χ	0χ / 2.54	0.20754χ	0.20754χ / 2.54
W: Distance from the lens center to the center of the image (cm/in)	±0.2032χ	±0.2032χ / 2.54	±0.22138χ	±0.22138χ / 2.54

χ : Picture diagonal size: 40" – 500" (4:3)
  60" – 300" (16:9)

✎ **Note**

- Allow a margin of error in the values in the diagrams above.
- When the distance from the lens center to the bottom of the image [H] is a negative number, this indicates that the bottom of the image is below the lens center.

Screen Size and Projection Distance

Fixed Wide Lens (AN-PH808EX: For XG-PH80W-N)
F2.0, f = 11.4 mm

16:10 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance	Distance from the lens center to the bottom of the image [H]	Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	[L]		
200'' (508 cm)	431 cm (170'')	269 cm (106'')	3.3 m (10' 11'')	-134.6 cm (-53'')	± 43.1 cm (16 $^{61}/_{64}$'')
150'' (381 cm)	323 cm (127'')	202 cm (79'')	2.5 m (8' 2'')	-101.0 cm (-39 $^{3}/_{4}$'')	± 32.3 cm (12 $^{23}/_{32}$'')
100'' (254 cm)	215 cm (85'')	135 cm (53'')	1.7 m (5' 6'')	-67.3 cm (-26 $^{1}/_{2}$'')	± 21.5 cm (8 $^{31}/_{64}$'')
50'' (127 cm)	108 cm (42'')	67 cm (26'')	0.8 m (2' 9'')	-33.7 cm (-13 $^{1}/_{4}$'')	± 10.8 cm (4 $^{15}/_{64}$'')

4:3 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance	Distance from the lens center to the bottom of the image [H]	Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	[L]		
150'' (381 cm)	305 cm (120'')	229 cm (90'')	2.8 m (9' 3'')	-114.3 cm (-45'')	± 34.5 cm (13 $^{37}/_{64}$'')
100'' (254 cm)	203 cm (80'')	152 cm (60'')	1.9 m (6' 2'')	-76.2 cm (-30'')	± 23.0 cm (9 $^{1}/_{16}$'')
80'' (203 cm)	163 cm (64'')	122 cm (48'')	1.5 m (4' 11'')	-61.0 cm (-24'')	± 18.4 cm (7 $^{1}/_{4}$'')

When using the projector with screen sizes not listed in the above charts, calculate the values according to the formulas.

	16:10 Signal		4:3 Signal	
	[m/cm]	[Feet/inches]	[m/cm]	[Feet/inches]
L: Projection distance (m/ft)	0.01667χ	0.01667χ / 0.3048	0.01887χ	0.01887χ / 0.3048
H: Distance from the lens center to the bottom of the image (cm/in)	-0.6731χ	-0.6731χ / 2.54	-0.762χ	-0.762χ / 2.54
W: Distance from the lens center to the center of the image (cm/in)	±0.21539χ	±0.21539χ / 2.54	±0.23004χ	±0.23004χ / 2.54

χ : Picture diagonal size: 50'' – 200'' (16:10)
        80'' – 150'' (4:3)

✎ **Note**
- Allow a margin of error in the values in the diagrams above.
- When the distance from the lens center to the bottom of the image [H] is a negative number, this indicates that the bottom of the image is below the lens center.

Fixed Wide Lens (AN-PH808EX: For XG-PH80X-N)

F2.0, f = 11.4 mm

4:3 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance	Distance from the lens center to the bottom of the image [H]	Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	[L]		
200'' (508 cm)	406 cm (160'')	305 cm (120'')	3.1 m (10' 4")	-152.4 cm (-60")	± 40.6 cm (16")
150'' (381 cm)	305 cm (120'')	229 cm (90'')	2.4 m (7' 9")	-114.3 cm (-45")	± 30.5 cm (12")
100'' (254 cm)	203 cm (80'')	152 cm (60'')	1.6 m (5' 2")	-76.2 cm (-30")	± 20.3 cm (8")
50'' (127 cm)	102 cm (40'')	76 cm (30'')	0.8 m (2' 7")	-38.1 cm (-15")	± 10.2 cm (4")

16:9 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance	Distance from the lens center to the bottom of the image [H]	Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	[L]		
150'' (381 cm)	332 cm (131'')	187 cm (74'')	2.5 m (8' 4")	-93.4 cm (-36 $\frac{49}{64}$")	± 33.2 cm (13 $\frac{5}{64}$")
100'' (254 cm)	221 cm (87'')	125 cm (49'')	1.7 m (5' 6")	-62.3 cm (-24 $\frac{33}{64}$")	± 22.1 cm (8 $\frac{23}{32}$")
80'' (203 cm)	177 cm (70'')	100 cm (39'')	1.3 m (4' 4")	-49.8 cm (-19 $\frac{39}{64}$")	± 17.7 cm (6 $\frac{31}{32}$")

When using the projector with screen sizes not listed in the above charts, calculate the values according to the formulas.

	4:3 Signal		16:9 Signal	
	[m/cm]	[Feet/inches]	[m/cm]	[Feet/inches]
L: Projection distance (m/ft)	0.01573χ	0.01573χ / 0.3048	0.01714χ - 0.042	(0.01714χ - 0.042) / 0.3048
H: Distance from the lens center to the bottom of the image (cm/in)	-0.762χ	-0.762χ / 2.54	-0.62263χ	-0.62263χ / 2.54
W: Distance from the lens center to the center of the image (cm/in)	±0.2032χ	±0.2032χ / 2.54	±0.22138χ	±0.22138χ / 2.54

χ : Picture diagonal size: 50" – 200" (4:3)
80" – 150" (16:9)

✎ **Note**

- Allow a margin of error in the values in the diagrams above.
- When the distance from the lens center to the bottom of the image [H] is a negative number, this indicates that the bottom of the image is below the lens center.

Screen Size and Projection Distance

Wide-zoom Lens (AN-PH814EZ: For XG-PH80W-N)
F1.81-2.29, f = 19.3-25.8 mm

16:10 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
500" (1270 cm)	1077 cm (424")	673 cm (265")	14.3 m (47' 0")	19.3 m (63' 3")	-336.6 cm (-132 $^1/_2$")	0.0 cm (0")	± 107.7 cm (42 $^{13}/_{32}$")
300" (762 cm)	646 cm (254")	404 cm (159")	8.6 m (28' 2")	11.6 m (37' 11")	-201.9 cm (-79 $^1/_2$")	0.0 cm (0")	± 64.6 cm (25 $^7/_{16}$")
200" (508 cm)	431 cm (170")	269 cm (106")	5.7 m (18' 10")	7.7 m (25' 4")	-134.6 cm (-53")	0.0 cm (0")	± 43.1 cm (16 $^{61}/_{64}$")
100" (254 cm)	215 cm (85")	135 cm (53")	2.9 m (9' 5")	3.9 m (12' 8")	-67.3 cm (-26 $^1/_2$")	0.0 cm (0")	± 21.5 cm (8 $^{31}/_{64}$")
80" (203 cm)	172 cm (68")	108 cm (42")	2.3 m (7' 6")	3.1 m (10' 1")	-53.8 cm (-21 $^{13}/_{64}$")	0.0 cm (0")	± 17.2 cm (6 $^{25}/_{32}$")
70" (178 cm)	151 cm (59")	94 cm (37")	2.0 m (6' 7")	2.7 m (8' 10")	-47.1 cm (-18 $^{35}/_{64}$")	0.0 cm (0")	± 15.1 cm (5 $^{15}/_{16}$")
60" (152 cm)	129 cm (51")	81 cm (32")	1.7 m (5' 8")	2.3 m (7' 7")	-40.4 cm (-15 $^{29}/_{32}$")	0.0 cm (0")	± 12.9 cm (5 $^3/_{32}$")
40" (102 cm)	86 cm (34")	54 cm (21")	1.1 m (3' 9")	1.5 m (5' 1")	-26.9 cm (-10 $^{19}/_{32}$")	0.0 cm (0")	± 8.6 cm (3 $^{25}/_{64}$")

4:3 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
300" (762 cm)	610 cm (240")	457 cm (180")	9.7 m (31' 11")	13.1 m (43' 0")	-228.6 cm (-90")	0.0 cm (0")	± 69.0 cm (27 $^{11}/_{64}$")
200" (508 cm)	406 cm (160")	305 cm (120")	6.5 m (21' 3")	8.7 m (28' 8")	-152.4 cm (-60")	0.0 cm (0")	± 46.0 cm (18 $^7/_{64}$")
150" (381 cm)	305 cm (120")	229 cm (90")	4.9 m (16' 0")	6.5 m (21' 6")	-114.3 cm (-45")	0.0 cm (0")	± 34.5 cm (13 $^{37}/_{64}$")
100" (254 cm)	203 cm (80")	152 cm (60")	3.2 m (10' 8")	4.4 m (14' 4")	-76.2 cm (-30")	0.0 cm (0")	± 23.0 cm (9 $^1/_{16}$")
80" (203 cm)	163 cm (64")	122 cm (48")	2.6 m (8' 6")	3.5 m (11' 5")	-61.0 cm (-24")	0.0 cm (0")	± 18.4 cm (7 $^1/_4$")
60" (152 cm)	122 cm (48")	91 cm (36")	1.9 m (6' 5")	2.6 m (8' 7")	-45.7 cm (-18")	0.0 cm (0")	± 13.8 cm (5 $^7/_{16}$")

When using the projector with screen sizes not listed in the above charts, calculate the values according to the formulas.

	16:10 Signal		4:3 Signal	
	[m/cm]	[Feet/inches]	[m/cm]	[Feet/inches]
L1: Minimum projection distance (m/ft)	0.02865χ	0.02865χ / 0.3048	0.03243χ	0.03243χ / 0.3048
L2: Maximum projection distance (m/ft)	0.03856χ	0.03856χ / 0.3048	0.04365χ	0.04365χ / 0.3048
H1: Lower distance from the lens center to the bottom of the image (cm/in)	-0.6731χ	-0.6731χ / 2.54	-0.762χ	-0.762χ / 2.54
H2: Upper distance from the lens center to the bottom of the image (cm/in)	0χ	0χ / 2.54	0χ	0χ / 2.54
W: Distance from the lens center to the center of the image (cm/in)	±0.21539χ	±0.21539χ / 2.54	±0.23004χ	±0.23004χ / 2.54

χ : Picture diagonal size: 40" – 500" (16:10)
                 60" – 300" (4:3)

✎ **Note**

- Allow a margin of error in the values in the diagrams above.
- When the distance from the lens center to the bottom of the image [H] is a negative number, this indicates that the bottom of the image is below the lens center.

Wide-zoom Lens (AN-PH814EZ: For XG-PH80X-N)

F1.81-2.29, f = 19.3-25.8 mm

4:3 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
500" (1270 cm)	1016 cm (400'')	762 cm (300'')	13.5 m (44' 4")	18.2 m (59' 8")	-381.0 cm (-150")	0.0 cm (0")	± 101.6 cm (40")
300" (762 cm)	610 cm (240'')	457 cm (180'')	8.1 m (26' 7")	10.9 m (35' 10")	-228.6 cm (-90")	0.0 cm (0")	± 61.0 cm (24")
200" (508 cm)	406 cm (160'')	305 cm (120'')	5.4 m (17' 9")	7.3 m (23' 10")	-152.4 cm (-60")	0.0 cm (0")	± 40.6 cm (16")
100" (254 cm)	203 cm (80'')	152 cm (60'')	2.7 m (8' 10")	3.6 m (11' 11")	-76.2 cm (-30")	0.0 cm (0")	± 20.3 cm (8")
80" (203 cm)	163 cm (64'')	122 cm (48'')	2.2 m (7' 1")	2.9 m (9' 7")	-61.0 cm (-24")	0.0 cm (0")	± 16.3 cm (6 $13/_{32}$")
70" (178 cm)	142 cm (56'')	107 cm (42'')	1.9 m (6' 2")	2.5 m (8' 4")	-53.3 cm (-21")	0.0 cm (0")	± 14.2 cm (5 $19/_{32}$")
60" (152 cm)	122 cm (48'')	91 cm (36'')	1.6 m (5' 4")	2.2 m (7' 2")	-45.7 cm (-18")	0.0 cm (0")	± 12.2 cm (4 $51/_{64}$")
40" (102 cm)	81 cm (32'')	61 cm (24'')	1.1 m (3' 7")	1.5 m (4' 9")	-30.5 cm (-12")	0.0 cm (0")	± 8.1 cm (3 $13/_{64}$")

16:9 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
300" (762 cm)	664 cm (261'')	374 cm (147'')	8.8 m (29' 0")	11.9 m (39' 0")	-186.8 cm (-73 $17/_{32}$")	62.3 cm (24 $33/_{64}$")	± 66.4 cm (26 $9/_{64}$")
200" (508 cm)	443 cm (174'')	249 cm (98'')	5.9 m (19' 4")	7.9 m (26' 0")	-124.5 cm (-49 $1/_{32}$")	41.5 cm (16 $11/_{32}$")	± 44.3 cm (17 $7/_{16}$")
150" (381 cm)	332 cm (131'')	187 cm (74'')	4.4 m (14' 6")	5.9 m (19' 6")	-93.4 cm (-36 $49/_{64}$")	31.1 cm (12 $1/_{4}$")	± 33.2 cm (13 $5/_{64}$")
100" (254 cm)	221 cm (87'')	125 cm (49'')	2.9 m (9' 8")	4.0 m (13' 0")	-62.3 cm (-24 $33/_{64}$")	20.8 cm (8 $11/_{64}$")	± 22.1 cm (8 $23/_{32}$")
80" (203 cm)	177 cm (70'')	100 cm (39'')	2.4 m (7' 9")	3.2 m (10' 5")	-49.8 cm (-19 $39/_{64}$")	16.6 cm (6 $17/_{32}$")	± 17.7 cm (6 $31/_{32}$")
60" (152 cm)	133 cm (52'')	75 cm (29'')	1.8 m (5' 10")	2.4 m (7' 10")	-37.4 cm (-14 $45/_{64}$")	12.5 cm (4 $29/_{32}$")	± 13.3 cm (5 $15/_{64}$")

When using the projector with screen sizes not listed in the above charts, calculate the values according to the formulas.

	4:3 Signal		16:9 Signal	
	[m/cm]	[Feet/inches]	[m/cm]	[Feet/inches]
L1: Minimum projection distance (m/ft)	0.02703χ	0.02703χ / 0.3048	0.02945χ	0.02945χ / 0.3048
L2: Maximum projection distance (m/ft)	0.03637χ	0.03637χ / 0.3048	0.03962χ	0.03962χ / 0.3048
H1: Lower distance from the lens center to the bottom of the image (cm/in)	-0.762χ	-0.762χ / 2.54	-0.62263χ	-0.62263χ / 2.54
H2: Upper distance from the lens center to the bottom of the image (cm/in)	0χ	0χ / 2.54	0.20754χ	0.20754χ / 2.54
W: Distance from the lens center to the center of the image (cm/in)	±0.2032χ	±0.2032χ / 2.54	±0.22138χ	±0.22138χ / 2.54

χ : Picture diagonal size: 40" – 500" (4:3)
　　　　　　　　　　　　 60" – 300" (16:9)

✎ **Note**

- Allow a margin of error in the values in the diagrams above.
- When the distance from the lens center to the bottom of the image [H] is a negative number, this indicates that the bottom of the image is below the lens center.

Screen Size and Projection Distance

Tele-zoom Lens (AN-PH823EZ: For XG-PH80W-N)
F2.1-2.9, f = 32-63 mm

16:10 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
500" (1270 cm)	1077 cm (424")	673 cm (265")	23.9 m (78' 5")	47.7 m (156' 6")	-336.6 cm (-132 $^1/_2$")	0.0 cm (0")	± 107.7 cm (42 $^{13}/_{32}$")
300" (762 cm)	646 cm (254")	404 cm (159")	14.3 m (47' 1")	28.6 m (93' 11")	-201.9 cm (-79 $^1/_2$")	0.0 cm (0")	± 64.6 cm (25 $^7/_{16}$")
200" (508 cm)	431 cm (170")	269 cm (106")	9.6 m (31' 5")	19.1 m (62' 7")	-134.6 cm (-53")	0.0 cm (0")	± 43.1 cm (16 $^{61}/_{64}$")
150" (381 cm)	323 cm (127")	202 cm (79")	7.2 m (23' 6")	14.3 m (47' 0")	-101.0 cm (-39 $^3/_4$")	0.0 cm (0")	± 32.3 cm (12 $^{23}/_{32}$")
100" (254 cm)	215 cm (85")	135 cm (53")	4.8 m (15' 8")	9.5 m (31' 4")	-67.3 cm (-26 $^1/_2$")	0.0 cm (0")	± 21.5 cm (8 $^{31}/_{64}$")
80" (203 cm)	172 cm (68")	108 cm (42")	3.8 m (12' 7")	7.6 m (25' 1")	-53.8 cm (-21 $^{13}/_{64}$")	0.0 cm (0")	± 17.2 cm (6 $^{25}/_{32}$")
60" (152 cm)	129 cm (51")	81 cm (32")	2.9 m (9' 5")	5.7 m (18' 9")	-40.4 cm (-15 $^{29}/_{32}$")	0.0 cm (0")	± 12.9 cm (5 $^3/_{32}$")
40" (102 cm)	86 cm (34")	54 cm (21")	1.9 m (6' 3")	3.8 m (12' 6")	-26.9 cm (-10 $^{19}/_{32}$")	0.0 cm (0")	± 8.6 cm (3 $^{25}/_{64}$")

4:3 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
300" (762 cm)	610 cm (240")	457 cm (180")	16.2 m (53' 3")	32.4 m (106' 4")	-228.6 cm (-90")	0.0 cm (0")	± 69.0 cm (27 $^{11}/_{64}$")
200" (508 cm)	406 cm (160")	305 cm (120")	10.8 m (35' 6")	21.6 m (70' 11")	-152.4 cm (-60")	0.0 cm (0")	± 46.0 cm (18 $^7/_{64}$")
150" (381 cm)	305 cm (120")	229 cm (90")	8.1 m (26' 8")	16.2 m (53' 2")	-114.3 cm (-45")	0.0 cm (0")	± 34.5 cm (13 $^{37}/_{64}$")
100" (254 cm)	203 cm (80")	152 cm (60")	5.4 m (17' 9")	10.8 m (35' 5")	-76.2 cm (-30")	0.0 cm (0")	± 23.0 cm (9 $^1/_{16}$")
80" (203 cm)	163 cm (64")	122 cm (48")	4.3 m (14' 3")	8.6 m (28' 4")	-61.0 cm (-24")	0.0 cm (0")	± 18.4 cm (7 $^1/_4$")
60" (152 cm)	122 cm (48")	91 cm (36")	3.2 m (10' 8")	6.5 m (21' 3")	-45.7 cm (-18")	0.0 cm (0")	± 13.8 cm (5 $^7/_{16}$")

When using the projector with screen sizes not listed in the above charts, calculate the values according to the formulas.

	16:10 Signal		4:3 Signal	
	[m/cm]	[Feet/inches]	[m/cm]	[Feet/inches]
L1: Minimum projection distance (m/ft)	0.04782χ	0.04782χ / 0.3048	0.05414χ	0.05414χ / 0.3048
L2: Maximum projection distance (m/ft)	0.09542χ	0.09542χ / 0.3048	0.10802χ	0.10802χ / 0.3048
H1: Lower distance from the lens center to the bottom of the image (cm/in)	-0.6731χ	-0.6731χ / 2.54	-0.762χ	-0.762χ / 2.54
H2: Upper distance from the lens center to the bottom of the image (cm/in)	0χ	0χ / 2.54	0χ	0χ / 2.54
W: Distance from the lens center to the center of the image (cm/in)	±0.21539χ	±0.21539χ / 2.54	±0.23004χ	±0.23004χ / 2.54

χ : Picture diagonal size: 40" – 500" (16:10)
60" – 300" (4:3)

✎ **Note**

- Allow a margin of error in the values in the diagrams above.
- When the distance from the lens center to the bottom of the image [H] is a negative number, this indicates that the bottom of the image is below the lens center.

Tele-zoom Lens (AN-PH823EZ: For XG-PH80X-N)
F2.1-2.9, f = 32-63 mm

4:3 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
500" (1270 cm)	1016 cm (400'')	762 cm (300'')	22.6 m (74' 0")	45.0 m (147' 8")	-381.0 cm (-150")	0.0 cm (0")	± 101.6 cm (40")
300" (762 cm)	610 cm (240'')	457 cm (180'')	13.5 m (44' 5")	27.0 m (88' 7")	-228.6 cm (-90")	0.0 cm (0")	± 61.0 cm (24")
200" (508 cm)	406 cm (160'')	305 cm (120'')	9.0 m (29' 7")	18.0 m (59' 1")	-152.4 cm (-60")	0.0 cm (0")	± 40.6 cm (16")
150" (381 cm)	305 cm (120'')	229 cm (90'')	6.8 m (22' 2")	13.5 m (44' 4")	-114.3 cm (-45")	0.0 cm (0")	± 30.5 cm (12")
100" (254 cm)	203 cm (80'')	152 cm (60'')	4.5 m (14' 10")	9.0 m (29' 6")	-76.2 cm (-30")	0.0 cm (0")	± 20.3 cm (8")
80" (203 cm)	163 cm (64'')	122 cm (48'')	3.6 m (11' 10")	7.2 m (23' 8")	-61.0 cm (-24")	0.0 cm (0")	± 16.3 cm (6 $^{13}/_{32}$")
60" (152 cm)	122 cm (48'')	91 cm (36'')	2.7 m (8' 11")	5.4 m (17' 9")	-45.7 cm (-18")	0.0 cm (0")	± 12.2 cm (4 $^{51}/_{64}$")
40" (102 cm)	81 cm (32'')	61 cm (24'')	1.8 m (5' 11")	3.6 m (11' 10")	-30.5 cm (-12")	0.0 cm (0")	± 8.1 cm (3 $^{13}/_{64}$")

16:9 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
300" (762 cm)	664 cm (261'')	374 cm (147'')	14.7 m (48' 5")	29.4 m (96' 6")	-186.8 cm (-73 $^{17}/_{32}$")	62.3 cm (24 $^{33}/_{64}$")	± 66.4 cm (26 $^9/_{64}$")
200" (508 cm)	443 cm (174'')	249 cm (98'')	9.8 m (32' 3")	19.6 m (64' 4")	-124.5 cm (-49 $^1/_{32}$")	41.5 cm (16 $^{11}/_{32}$")	± 44.3 cm (17 $^7/_{16}$")
150" (381 cm)	332 cm (131'')	187 cm (74'')	7.4 m (24' 2")	14.7 m (48' 3")	-93.4 cm (-36 $^{49}/_{64}$")	31.1 cm (12 $^1/_4$")	± 33.2 cm (13 $^5/_{64}$")
100" (254 cm)	221 cm (87'')	125 cm (49'')	4.9 m (16' 2")	9.8 m (32' 2")	-62.3 cm (-24 $^{33}/_{64}$")	20.8 cm (8 $^{11}/_{64}$")	± 22.1 cm (8 $^{23}/_{32}$")
80" (203 cm)	177 cm (70'')	100 cm (39'')	3.9 m (12' 11")	7.8 m (25' 9")	-49.8 cm (-19 $^{39}/_{64}$")	16.6 cm (6 $^{17}/_{32}$")	± 17.7 cm (6 $^{31}/_{32}$")
60" (152 cm)	133 cm (52'')	75 cm (29'')	2.9 m (9' 8")	5.9 m (19' 4")	-37.4 cm (-14 $^{45}/_{64}$")	12.5 cm (4 $^{29}/_{32}$")	± 13.3 cm (5 $^{15}/_{64}$")

When using the projector with screen sizes not listed in the above charts, calculate the values according to the formulas.

	4:3 Signal		16:9 Signal	
	[m/cm]	[Feet/inches]	[m/cm]	[Feet/inches]
L1: Minimum projection distance (m/ft)	0.04511χ	0.04511χ / 0.3048	0.04915χ	0.04915χ / 0.3048
L2: Maximum projection distance (m/ft)	0.09002χ	0.09002χ / 0.3048	0.09807χ	0.09807χ / 0.3048
H1: Lower distance from the lens center to the bottom of the image (cm/in)	-0.762χ	-0.762χ / 2.54	-0.62263χ	-0.62263χ / 2.54
H2: Upper distance from the lens center to the bottom of the image (cm/in)	0χ	0χ / 2.54	0.20754χ	0.20754χ / 2.54
W: Distance from the lens center to the center of the image (cm/in)	±0.2032χ	±0.2032χ / 2.54	±0.22138χ	±0.22138χ / 2.54

χ : Picture diagonal size: 40" – 500" (4:3)
60" – 300" (16:9)

✎ **Note**

- Allow a margin of error in the values in the diagrams above.
- When the distance from the lens center to the bottom of the image [H] is a negative number, this indicates that the bottom of the image is below the lens center.

Screen Size and Projection Distance

Tele-zoom Lens (AN-PH845EZ: For XG-PH80W-N)
F2.2-3.1, f = 63.5-117.4 mm

16:10 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
500" (1270 cm)	1077 cm (424")	673 cm (265")	47.7 m (156' 6")	89.4 m (293' 3")	-336.6 cm (-132 $^1/_2$")	0.0 cm (0")	± 107.7 cm (42 $^{13}/_{32}$")
300" (762 cm)	646 cm (254")	404 cm (159")	28.6 m (93' 11")	53.6 m (176' 0")	-201.9 cm (-79 $^1/_2$")	0.0 cm (0")	± 64.6 cm (25 $^7/_{16}$")
200" (508 cm)	431 cm (170")	269 cm (106")	19.1 m (62' 7")	35.8 m (117' 4")	-134.6 cm (-53")	0.0 cm (0")	± 43.1 cm (16 $^{61}/_{64}$")
150" (381 cm)	323 cm (127")	202 cm (79")	14.3 m (47' 0")	26.8 m (88' 0")	-101.0 cm (-39 $^3/_4$")	0.0 cm (0")	± 32.3 cm (12 $^{23}/_{32}$")
100" (254 cm)	215 cm (85")	135 cm (53")	9.5 m (31' 4")	17.9 m (58' 8")	-67.3 cm (-26 $^1/_2$")	0.0 cm (0")	± 21.5 cm (8 $^{31}/_{64}$")
80" (203 cm)	172 cm (68")	108 cm (42")	7.6 m (25' 1")	14.3 m (46' 11")	-53.8 cm (-21 $^{13}/_{64}$")	0.0 cm (0")	± 17.2 cm (6 $^{25}/_{32}$")
60" (152 cm)	129 cm (51")	81 cm (32")	5.7 m (18' 9")	10.7 m (35' 2")	-40.4 cm (-15 $^{29}/_{32}$")	0.0 cm (0")	± 12.9 cm (5 $^3/_{32}$")
40" (102 cm)	86 cm (34")	54 cm (21")	3.8 m (12' 6")	7.2 m (23' 6")	-26.9 cm (-10 $^{19}/_{32}$")	0.0 cm (0")	± 8.6 cm (3 $^{25}/_{64}$")

4:3 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
300" (762 cm)	610 cm (240")	457 cm (180")	32.4 m (106' 4")	60.7 m (199' 2")	-228.6 cm (-90")	0.0 cm (0")	± 69.0 cm (27 $^{11}/_{64}$")
200" (508 cm)	406 cm (160")	305 cm (120")	21.6 m (70' 11")	40.5 m (132' 10")	-152.4 cm (-60")	0.0 cm (0")	± 46.0 cm (18 $^7/_{64}$")
150" (381 cm)	305 cm (120")	229 cm (90")	16.2 m (53' 2")	30.4 m (99' 7")	-114.3 cm (-45")	0.0 cm (0")	± 34.5 cm (13 $^{37}/_{64}$")
100" (254 cm)	203 cm (80")	152 cm (60")	10.8 m (35' 5")	20.2 m (66' 5")	-76.2 cm (-30")	0.0 cm (0")	± 23.0 cm (9 $^1/_{16}$")
80" (203 cm)	163 cm (64")	122 cm (48")	8.6 m (28' 4")	16.2 m (53' 1")	-61.0 cm (-24")	0.0 cm (0")	± 18.4 cm (7 $^1/_4$")
60" (152 cm)	122 cm (48")	91 cm (36")	6.5 m (21' 3")	12.1 m (39' 10")	-45.7 cm (-18")	0.0 cm (0")	± 13.8 cm (5 $^7/_{16}$")

When using the projector with screen sizes not listed in the above charts, calculate the values according to the formulas.

	16:10 Signal		4:3 Signal	
	[m/cm]	[Feet/inches]	[m/cm]	[Feet/inches]
L1: Minimum projection distance (m/ft)	0.09542χ	0.09542χ / 0.3048	0.10802χ	0.10802χ / 0.3048
L2: Maximum projection distance (m/ft)	0.17878χ	0.17878χ / 0.3048	0.20239χ	0.20239χ / 0.3048
H1: Lower distance from the lens center to the bottom of the image (cm/in)	-0.6731χ	-0.6731χ / 2.54	-0.762χ	-0.762χ / 2.54
H2: Upper distance from the lens center to the bottom of the image (cm/in)	0χ	0χ / 2.54	0χ	0χ / 2.54
W: Distance from the lens center to the center of the image (cm/in)	±0.21539χ	±0.21539χ / 2.54	±0.23004χ	±0.23004χ / 2.54

χ : Picture diagonal size: 40" – 500" (16:10)
                  60" – 300" (4:3)

✎ **Note**

- Allow a margin of error in the values in the diagrams above.
- When the distance from the lens center to the bottom of the image [H] is a negative number, this indicates that the bottom of the image is below the lens center.

Tele-zoom Lens (AN-PH845EZ: For XG-PH80X-N)

F2.2-3.1, f = 63.5-117.4 mm

4:3 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
500" (1270 cm)	1016 cm (400'')	762 cm (300'')	45.0 m (147' 8")	84.3 m (276' 8")	-381.0 cm (-150")	0.0 cm (0")	± 101.6 cm (40")
300" (762 cm)	610 cm (240'')	457 cm (180'')	27.0 m (88' 7")	50.6 m (166' 0")	-228.6 cm (-90")	0.0 cm (0")	± 61.0 cm (24")
200" (508 cm)	406 cm (160'')	305 cm (120'')	18.0 m (59' 1")	33.7 m (110' 8")	-152.4 cm (-60")	0.0 cm (0")	± 40.6 cm (16")
150" (381 cm)	305 cm (120'')	229 cm (90'')	13.5 m (44' 4")	25.3 m (83' 0")	-114.3 cm (-45")	0.0 cm (0")	± 30.5 cm (12")
100" (254 cm)	203 cm (80'')	152 cm (60'')	9.0 m (29' 6")	16.9 m (55' 4")	-76.2 cm (-30")	0.0 cm (0")	± 20.3 cm (8")
80" (203 cm)	163 cm (64'')	122 cm (48'')	7.2 m (23' 8")	13.5 m (44' 3")	-61.0 cm (-24")	0.0 cm (0")	± 16.3 cm (6 $^{13}/_{32}$")
60" (152 cm)	122 cm (48'')	91 cm (36'')	5.4 m (17' 9")	10.1 m (33' 2")	-45.7 cm (-18")	0.0 cm (0")	± 12.2 cm (4 $^{51}/_{64}$")
40" (102 cm)	81 cm (32'')	61 cm (24'')	3.6 m (11' 10")	6.7 m (22' 2")	-30.5 cm (-12")	0.0 cm (0")	± 8.1 cm (3 $^{13}/_{64}$")

16:9 Signal Input (Normal Mode)

Picture (Screen) size			Projection distance [L]		Distance from the lens center to the bottom of the image [H]		Distance from the lens center to the center of the image [W]
Diag. [χ]	Width	Height	Minimum [L1]	Maximum [L2]	Lower [H1]	Upper [H2]	
300" (762 cm)	664 cm (261'')	374 cm (147'')	29.4 m (96' 6")	55.1 m (180' 10")	-186.8 cm (-73 $^{17}/_{32}$")	62.3 cm (24 $^{33}/_{64}$")	± 66.4 cm (26 $^{9}/_{64}$")
200" (508 cm)	443 cm (174'')	249 cm (98'')	19.6 m (64' 4")	36.8 m (120' 7")	-124.5 cm (-49 $^{1}/_{32}$")	41.5 cm (16 $^{11}/_{32}$")	± 44.3 cm (17 $^{7}/_{16}$")
150" (381 cm)	332 cm (131'')	187 cm (74'')	14.7 m (48' 3")	27.6 m (90' 5")	-93.4 cm (-36 $^{49}/_{64}$")	31.1 cm (12 $^{1}/_{4}$")	± 33.2 cm (13 $^{5}/_{64}$")
100" (254 cm)	221 cm (87'')	125 cm (49'')	9.8 m (32' 2")	18.4 m (60' 3")	-62.3 cm (-24 $^{33}/_{64}$")	20.8 cm (8 $^{11}/_{64}$")	± 22.1 cm (8 $^{23}/_{64}$")
80" (203 cm)	177 cm (70'')	100 cm (39'')	7.8 m (25' 9")	14.7 m (48' 3")	-49.8 cm (-19 $^{39}/_{64}$")	16.6 cm (6 $^{17}/_{32}$")	± 17.7 cm (6 $^{31}/_{32}$")
60" (152 cm)	133 cm (52'')	75 cm (29'')	5.9 m (19' 4")	11.0 m (36' 2")	-37.4 cm (-14 $^{45}/_{64}$")	12.5 cm (4 $^{29}/_{32}$")	± 13.3 cm (5 $^{15}/_{64}$")

When using the projector with screen sizes not listed in the above charts, calculate the values according to the formulas.

|	4:3 Signal		16:9 Signal	
	[m/cm]	[Feet/inches]	[m/cm]	[Feet/inches]
L1: Minimum projection distance (m/ft)	0.09002χ	0.09002χ / 0.3048	0.09807χ	0.09807χ / 0.3048
L2: Maximum projection distance (m/ft)	0.16866χ	0.16866χ / 0.3048	0.18375χ	0.18375χ / 0.3048
H1: Lower distance from the lens center to the bottom of the image (cm/in)	-0.762χ	-0.762χ / 2.54	-0.62263χ	-0.62263χ / 2.54
H2: Upper distance from the lens center to the bottom of the image (cm/in)	0χ	0χ / 2.54	0.20754χ	0.20754χ / 2.54
W: Distance from the lens center to the center of the image (cm/in)	±0.2032χ	±0.2032χ / 2.54	±0.22138χ	±0.22138χ / 2.54

χ : Picture diagonal size: 40" – 500" (4:3)
                     60" – 300" (16:9)

✎ **Note**

- Allow a margin of error in the values in the diagrams above.
- When the distance from the lens center to the bottom of the image [H] is a negative number, this indicates that the bottom of the image is below the lens center.

Connecting Pin Assignments

**COMPUTER/COMPONENT input and COMPUTER/COMPONENT output Terminals:** mini D-sub 15 pin female connector
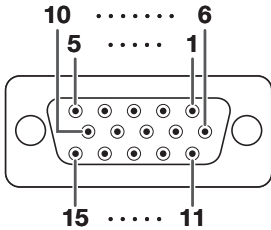
COMPUTER Input/Output

Pin No.	Signal
1.	Video input (red)
2.	Video input (green/sync on green)
3.	Video input (blue)
4.	Not connected
5.	Not connected
6.	Earth (red)
7.	Earth (green/sync on green)
8.	Earth (blue)
9.	Not connected
10.	GND
11.	Not connected
12.	Bi-directional data
13.	Horizontal sync signal: TTL level
14.	Vertical sync signal: TTL level
15.	Data clock

COMPONENT Input/Output

Pin No.	Signal
1.	PR (CR)
2.	Y
3.	PB (CB)
4.	Not connected
5.	Not connected
6.	Earth (PR)
7.	Earth (Y)
8.	Earth (PB)
9.	Not connected
10.	Not connected
11.	Not connected
12.	Not connected
13.	Not connected
14.	Not connected
15.	Not connected

DVI-D Terminal: 24 pin connector
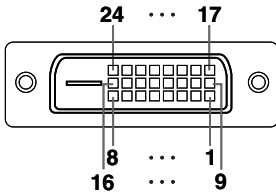
Pin No.	Name
1.	T.M.D.S. Data 2–
2.	T.M.D.S. Data 2+
3.	T.M.D.S. Data 2 Shield
4.	Not connected
5.	Not connected
6.	DDC Clock
7.	DDC Data
8.	Not connected
9.	T.M.D.S. Data 1–
10.	T.M.D.S. Data 1+
11.	T.M.D.S. Data 1 Shield
12.	Not connected

Pin No.	Name
13.	Not connected
14.	+5 V Power
15.	Ground
16.	Hot Plug Detect
17.	T.M.D.S. Data 0–
18.	T.M.D.S. Data 0+
19.	T.M.D.S. Data 0 Shield
20.	Not connected
21.	Not connected
22.	T.M.D.S. Clock Shield
23.	T.M.D.S. Clock+
24.	T.M.D.S. Clock–

RS-232C Terminal: D-sub 9 pin male connector
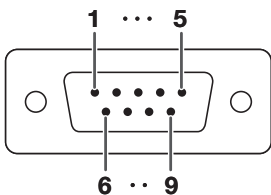
Pin No.	Signal	Name	I/O	Reference
1.				Not connected
2.	RD	Receive Data	Input	Connected to internal circuit
3.	SD	Send Data	Output	Connected to internal circuit
4.				Not connected
5.	SG	Signal Ground		Connected to internal circuit
6.				Not connected
7.	RS	Request to Send		Connected to CS in internal circuit
8.	CS	Clear to Send		Connected to RS in internal circuit
9.				Not connected

RS-232C Cable recommended connection: D-sub 9 pin female connector
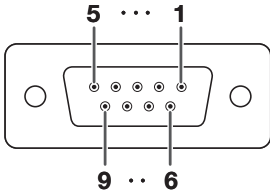
Pin No.	Signal		Pin No.	Signal
1.	CD		1.	CD
2.	RD		2.	RD
3.	SD		3.	SD
4.	ER		4.	ER
5.	SG		5.	SG
6.	DR		6.	DR
7.	RS		7.	RS
8.	CS		8.	CS
9.	CI		9.	CI

✎ **Note**

• Depending on the controlling device used, it may be necessary to connect Pin 4 and Pin 6 on the controlling device (e.g. computer).

Projector Pin No.	Computer Pin No.
4	4
5	5
6	6

USB Terminal: Type B USB connector
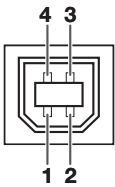
Pin No.	Signal	Name
1.	VCC	USB power
2.	USB–	USB data–
3.	USB+	USB data+
4.	SG	Signal Ground

LAN Terminal: LAN (RJ-45)
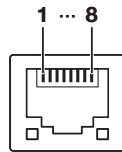
Pin No.	Signal	Pin No.	Signal
1.	TX+	5.	
2.	TX–	6.	RX–
3.	RX+	7.	
4.		8.	

RS-232C Specifications and Commands

Computer control

A computer can be used to control the projector by connecting an RS-232C serial control cable (cross type, commercially available) to the projector. (See page 24 of the projector's operation manual for connection.)

Communication conditions

Set the serial port settings of the computer to match that of the table.

Signal format: Conforms to RS-232C standard.   Parity bit: None
Baud rate: 115,200 bps   Stop bit: 1 bit
Data length: 8 bits   Flow control: None

Basic format

Commands from the computer are sent in the following order: command, parameter, and return code. After the projector processes the command from the computer, it sends a response code to the computer.

Command format

C1	C2	C3	C4	P1	P2	P3	P4		Return code (0DH)

Command 4-digit   Parameter 4-digit
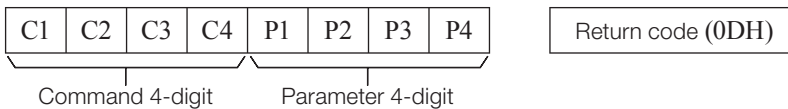
Response code format

Normal response

O	K		Return code (0DH)

Problem response (communication error or incorrect command)

E	R	R		Return code (0DH)

📖 **Info**

- When controlling the projector using RS-232C commands from a computer, wait for at least 40 seconds after the power has been turned on, and then transmit the commands.
- After sending an input selection or picture adjustment command and then receiving an "OK" response code, the projector may take some time to process the command. If a second command is sent while the projector is still processing the first command, you may receive an "ERR" response code. If this happens, try resending the second command.
- When more than one code is being sent, send each command only after the response code for the previous command from the projector is verified.
- "POWR????", "TABN _ _ _ 1", "TLPS _ _ _ 1", "TPOW _ _ _ 1", "TLPN _ _ _ 1", "TLTT _ _ _ 1", "TLTM _ _ _ 1", "TLTL _ _ _ 1", "TNAM _ _ _ 1", "MNRD _ _ _ 1", "PJN0 _ _ _ 1"
  - When the projector receives the special commands shown above:
    * The on-screen display will not disappear.
    * The "Auto Power Off" timer will not be reset.
  - The special commands are available for applications that require continuous polling.

✎ **Note**

- Set "LAN/RS232C" in "Ex. Setting" of "PRJ-ADJ" menu to "RS232C".
- If an underbar (_) appears in the parameter column, enter a space.
- If an asterisk (*) appears in the parameter column, enter a value in the range indicated in brackets under CONTROL CONTENTS.

Commands

Example: When turning on the projector, make the following setting.

Computer											Projector		
P	O	W	R	_	_	_	1	↵	→ ←		O	K	↵
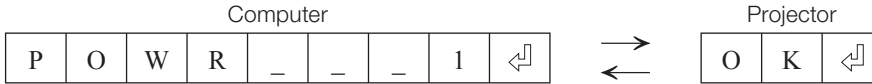
CONTROL CONTENTS		COMMAND				PARAMETER				RETURN	
										Power ON	Standby mode (or 40-second startup time)
Power	On	P O W R				_	_	_	1	OK	OK or ERR
	Off	P O W R				_	_	_	0	OK or ERR	OK
	Status	P O W R				?	?	?	?	1	0
Projector Condition		T A B N				_	_	_	1	0: Normal 8: Lamp Life 5% or less 16: Lamp Burn-out 32: Lamp Ignition Failure	0: Normal 2: Fan Error 4: Lamp Unit Cover Open 8: Lamp Life 5% or less 16: Lamp Burn-out 32: Lamp Ignition Failure 64: Temp Abnormally High
Lamp	Lamp1 Status	T L P S				_	_	_	1	0: Off, 1: On, 2: Retry 3: Waiting, 4: Lamp Error	0: Off, 4: Lamp Error
	Lamp2 Status	T L P S				_	_	_	2	0: Off, 1: On, 2: Retry 3: Waiting, 4: Lamp Error	0: Off, 4: Lamp Error
	Power Status	T P O W				_	_	_	1	1: On, 2: Cooling	0: Standby
	Quantity	T L P N				_	_	_	1	2	
	Lamp1 Usage Time(Hour)	T L T T				_	_	_	1	0 – 9999(Integer)	
	Lamp2 Usage Time(Hour)	T L T T				_	_	_	2	0 – 9999(Integer)	
	Lamp1 Usage Time(Minute)	T L T M				_	_	_	1	0, 15, 30, 45	
	Lamp2 Usage Time(Minute)	T L T M				_	_	_	2	0, 15, 30, 45	
	Lamp1 Life(Percentage)	T L T L				_	_	_	1	0% – 100%(Integer)	
	Lamp2 Life(Percentage)	T L T L				_	_	_	2	0% – 100%(Integer)	
	Lamp1 Timer Reset *1	L P R E				0	0	0	1	ERR	OK or ERR
	Lamp2 Timer Reset *1	L P R E				0	0	0	2	ERR	OK or ERR
Name	Model Name Check	T N A M				_	_	_	1	XGPH80WN/XGPH80XN	
	Model Name Check	M N R D				_	_	_	1	XG-PH80W-N/XG-PH80X-N	
	Serial No. Check *2	S N R D				_	_	_	1	Serial No.	
	Projector Name Setting 1 (First 4 characters) *3	P J N 1				*	*	*	*	OK or ERR	
	Projector Name Setting 2 (Middle 4 characters) *3	P J N 2				*	*	*	*	OK or ERR	
	Projector Name Setting 3 (Last 4 characters) *3	P J N 3				*	*	*	*	OK or ERR	
	Projector Name Check	P J N 0				_	_	_	1	Projector Name	
Input Change	COMPUTER1	I R G B				_	_	_	1	OK or ERR	ERR
	COMPUTER2 (5BNC)	I R G B				_	_	_	2	OK or ERR	ERR
	COMPUTER3 (DVI)	I R G B				_	_	_	3	OK or ERR	ERR
	COMPONENT	I R G B				_	_	_	4	OK or ERR	ERR
	S-VIDEO	I V E D				_	_	_	1	OK or ERR	ERR
	VIDEO	I V E D				_	_	_	2	OK or ERR	ERR
	Input RGB Check	I R G B				?	?	?	?	1: COMPUTER1, 2: COMPUTER2, 3: DVI, 4: COMPONENT or ERR	ERR
	Input Video Check	I V E D				?	?	?	?	1: S-VIDEO, 2: VIDEO or ERR	ERR
	Input Mode Check	I M O D				?	?	?	?	1: RGB, 2: VIDEO	ERR

*1 The Lamp Timer Reset command is available only in standby mode.
*2 Serial No. Check command is used to read out the 12 digits of serial No.
*3 For setting the projector name, send the commands in the order of PJN1, PJN2 and PJN3.

Setting up the Projector Network Environment

**This section describes the basic procedure for using the projector via the network.
If the network is already constructed, the projector's network settings may need to be changed. Please consult your network administrator for assistance with these settings.
You can make network settings both on the projector and on the computer. The following procedure is for making settings on the computer.**

Network settings on the computer

1. Connecting the projector to a computer

Connect a LAN cable (Category 5, cross-over type) between the computer and projector.

LAN cable
(commercially available)
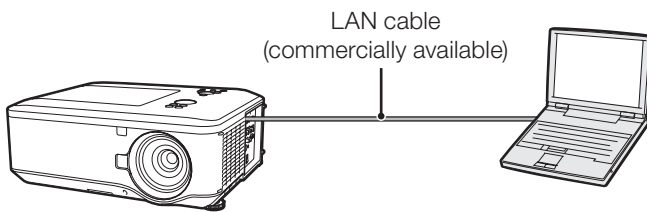
➡ **Page 19**

2. Setting an IP address for the computer

Adjust the IP settings of the computer to enable one-to-one communications with the projector.

Temporarily change the computer's IP address.
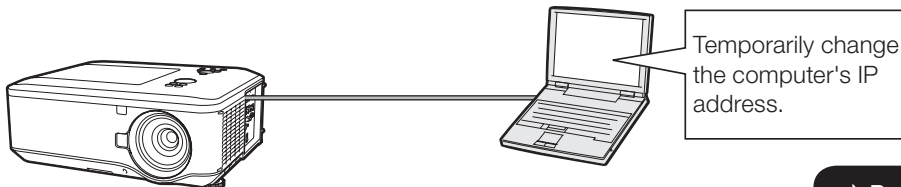
➡ **Pages 20, 21**

3. Setting up a network connection for the projector

Adjust the projector network settings to conform to your network.

Use Internet Explorer (version 6.0 or later) to make various projector settings.
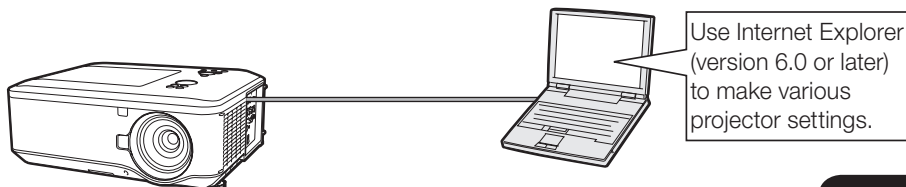
➡ **Pages 22, 23**

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1. Connecting the Projector to a Computer

Establishing a one-to-one connection from the projector to a computer. Using a commercially available LAN cable (UTP cable, Category 5, cross-over type) you can configure the projector via the computer.

1 **Disconnect the computer's LAN cable from the existing network.**

A LAN cable being connected to the network
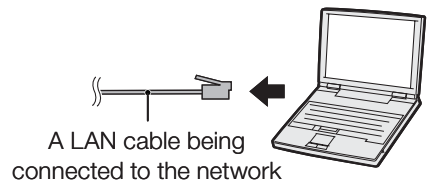
2 **Connect a commercially available LAN cable (UTP cable, Category 5, cross-over type) to the projector's LAN terminal and connect the other end of the cable to the computer's LAN terminal.**

LAN cable
(cross-over type, commercially available)
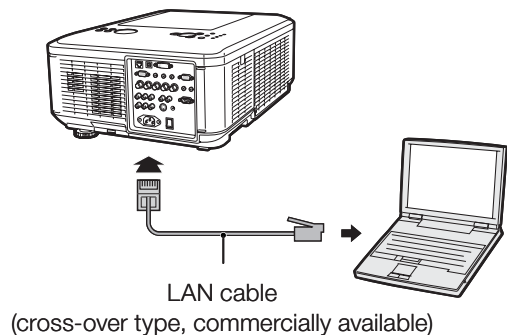
3 **Plug the power cord into the AC socket of the projector.**
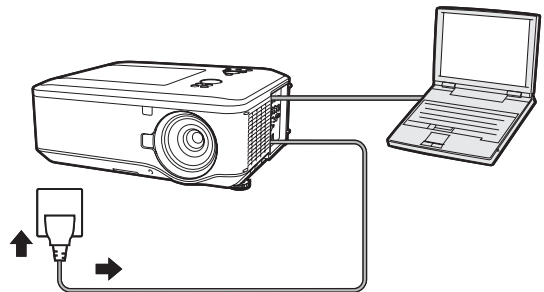
4 **Turn on the computer.**

ON
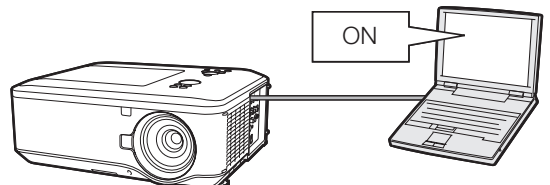
📕 Info

Confirm that the LINK LED on the rear of the projector illuminates. If the LINK LED does not illuminate, check the following:
• The LAN cable is properly connected.
• The power switches of both the projector and the computer are on.

This completes the connection. Now proceed to **"2. Setting an IP Address for the Computer"**.

2. Setting an IP Address for the Computer

The following describes how to make settings in Windows Vista®.

1 Log on the network using the administrator's account for the computer.

2 Click "start", and click "Control Panel".
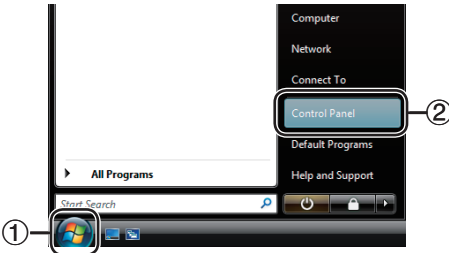
3 Click "View network status and tasks" of "Network and Internet", and click "View status" in the new window.
- This manual uses examples to explain the operations in Category View. If you are using Classic View, double-click "Network and Sharing Center".
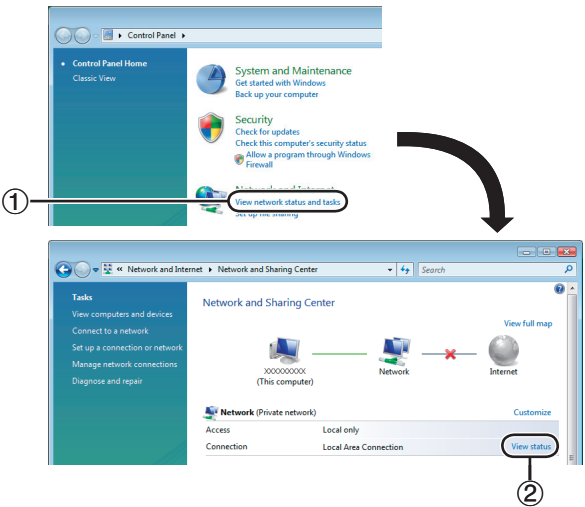
4 Click "Properties".
- When the user account control display is displayed, click "Continue".
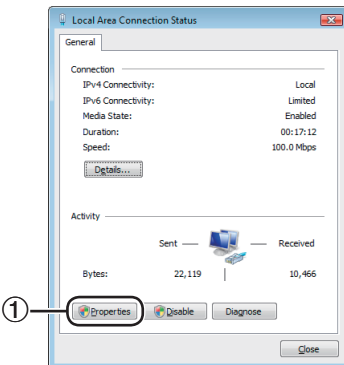
5 Click "Internet Protocol Version 4 (TCP/IPv4)", and click the "Properties" button.
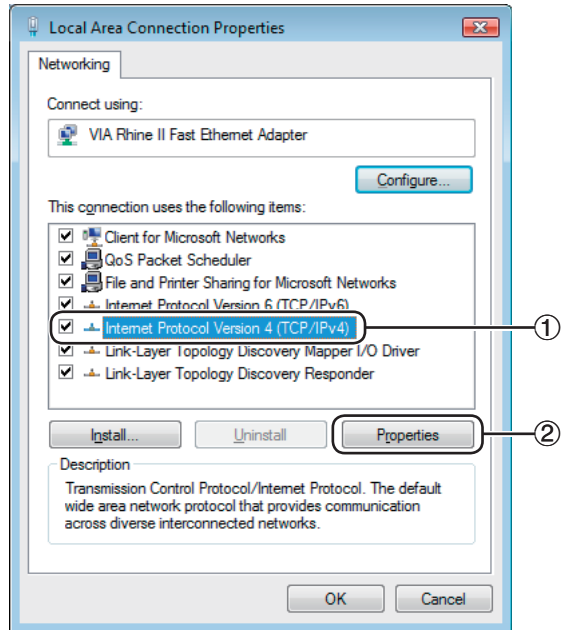
6 Confirm or change an IP address for the setup computer.
① Confirm and note the current IP address, Subnet mask and Default gateway.
Make sure to note the current IP address, Subnet mask and Default gateway as you will be required to reset them later.
② Set temporarily as follows:
IP address: 192.168.150.3
Subnet mask: 255.255.255.0
Default gateway: (Do not input any values.)
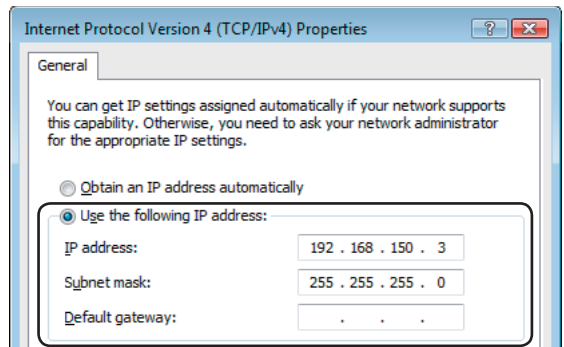
✎ **Note**
• The factory default settings for the projector are as follows:
DHCP Client: OFF
IP address: 192.168.150.2
Subnet mask: 255.255.255.0
Default gateway: 0.0.0.0

7 After setting, click the "OK" button, and then restart the computer.

After confirming or setting, proceed to **"3. Setting up a Network Connection for the Projector"**.

3. Setting up a Network Connection for the Projector

Settings for such items as the projector's IP address and subnet mask are compatible with the existing network.
Set each item on the projector as follows. (See page 54 of the projector's operation manual for setting.)
DHCP Client: Off
IP Address: 192.168.150.002
Subnet Mask: 255.255.255.000

1 Start Internet Explorer (version 6.0 or later) on the computer, and enter "http://192.168.150.2/system.html" in "Address", and then press the "Enter" key.
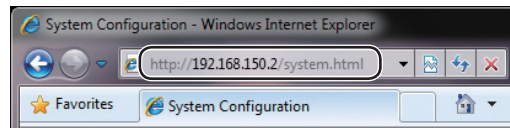
2 The "System Configuration" screen appears, ready for network settings for the projector.

Items	Setting example / Remarks
IP Address	You can set this item when "DHCP Client" is set to "OFF". Factory default setting: 192.168.150.2 Enter an IP address appropriate for the network.
Subnet Mask	You can set this item when "DHCP Client" is set to "OFF". Factory default setting: 255.255.255.0 Set the subnet mask to the same as that of the computer and equipment on the network.
Default Gateway	You can set this item when "DHCP Client" is set to "OFF". Factory default setting: 0.0.0.0 * When not in use, set to "0.0.0.0".
DNS Server	Factory default setting: 0.0.0.0 * When not in use, set to "0.0.0.0".
DHCP Client	Select "ON" or "OFF" to determine whether to use DHCP Client.

System Configuration

IP Address:	192	168	150	2
Subnet Mask:	255	255	255	0
Default Gateway:	0	0	0	0
DNS Server:	0	0	0	0

DHCP Client	○ ON ● OFF
MAC Address:	XX:XX:XX:XX:XX:XX
Firmware Version:	

[Apply] [Cancel]

✎ **Note**

- Confirm the existing network's segment (IP address group) to avoid setting an IP address that duplicates the IP addresses of other network equipment or computers. If "192.168.150.2" is not used in the network having an IP address of "192.168.150.XXX", you don't have to change the projector IP address.
- For details about each setting, consult your network administrator.

3 **Confirm that the values are set properly, and then click the "Apply" button.**

System Configuration

IP Address:	192	168	150	2
Subnet Mask:	255	255	255	0
Default Gateway:	0	0	0	0
DNS Server:	0	0	0	0
DHCP Client:	○ ON ● OFF			
MAC Address:	XX:XX:XX:XX:XX:XX			
Firmware Version:				

➡ [Apply] [Cancel]

- Close the browser.
- This completes the network settings.
- After setting items, wait for about 15 seconds and then re-access.
- Change the IP address of the setting computer back to its original address, which you have noted down in Step 6-① on page **21**, and then connect the computer and the projector to the network.

Controlling the Projector via LAN

After connecting the projector to your network, enter the projector IP address in "Address" on Internet Explorer (version 6.0 or later) using a computer on the network to start a setup screen that will enable control of the projector via the network.

Controlling the Projector Using Internet Explorer

Complete connections to external equipment before starting the operation. (See pages 21-25 of the projector's operation manual.)
Complete the AC cord connection. (See page 27 of the projector's operation manual.)

✎ **Note**

- Set "LAN/RS232C" in "Ex. Setting" of the "PRJ-ADJ" menu to "LAN".
- When connecting the projector to the LAN, use a commercially available LAN cable (UTP cable, Category 5, cross-over type). When connecting the projector to a hub, use a straight-through cable.

1 Start Internet Explorer on the computer.

2 Enter "http://" followed by the projector IP address set by the procedure on page **22** followed by "/" in "Address", and then press the "Enter" key.
- When "DHCP Client" is set to "Off" on the projector, IP address is 192.168.150.2. If you did not change the IP address in **"3. Setting up a Network Connection for the Projector"** (pages **22**-**23**), enter "http://192.168.150.2/system.html".

3 A screen for controlling the projector appears, ready for performing various status conditions and control.
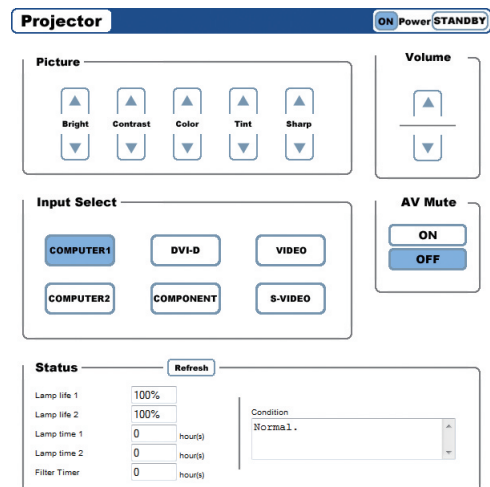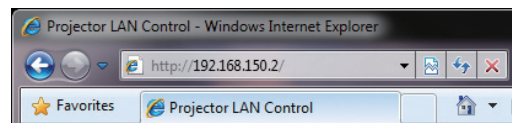
Controlling the Projector and Confirming the Projector Status

On this screen, you can perform projector control or confirm the projector status.

You can control the following items:
- **Power**
- **Picture**
  - **Bright**
  - **Contrast**
  - **Color**
  - **Tint**
  - **Sharp**
- **Input Select**
- **Volume**
- **AV Mute**

You can confirm the following items:
- **Status**
  - **Lamp life 1**
  - **Lamp life 2**
  - **Lamp time 1**
  - **Lamp time 2**
  - **Filter Timer**
  - **Condition**

Note

- For details about each item, refer to the projector's operation manual.

Controlling the Projector via LAN

Making General Settings for the Network

Enter "http://XXX.XXX.XXX.X/lanconf. html" (for "XXX.XXX.XXX.X", enter the IP address set by the procedure on page 22) in "Address" on Internet Explorer (version 6.0 or later) using a computer on the network to display the "Projector LAN Configuration" screen.

On this screen, you can make general settings relating to the network.

■ DOMAIN

Items	Description
Host Name	Setting a hostname.
Domain Name	Setting a domain name of the network connected to the projector.

■ MAIL

Items	Description
Error Mail	Selecting "Enable" activates the Alert Mail feature. When using a wired LAN, your computer will receive an error message via e-mail if the projector lamp reaches the end of its lifetime or if an error occurs in the projector.
Originator Address	Setting the projector's e-mail address. The e-mail address set here becomes Originator E-mail Address.
SMTP Server	Setting an SMTP server address for e-mail transmission.
Recipient Address (1–3)	Setting your recipient's address.

■ TEST MAIL

Click "Execute" to enable the TEST MAIL feature, which allows you to send a test mail to confirm that the settings for e-mail transmission are properly made. Click "Test Mail Status" to make sure that the test mail is sent correctly.

■ PJLink

Items	Description
PJLink (Password)	Selecting "Enable" allows you to set a password when using the PJLink feature.
Password	Setting a password.

✎ Note

- When "DHCP Client" is set to "Off" on the projector, IP address is 192.168.150.2. If you did not change the IP address in **"3. Setting up a Network Connection for the Projector"** (pages 22-23), enter "http://192.168.150.2/system.html".
- You can input up to 60 characters.
- You can input the characters below:
  – Host Name and Domain Name: A-Z, 0-9, -
  – Originator Address, SMTP Server and Recipient Address: a-z, A-Z, 0-9, !, #, $, %, &, *, +, -, /, =, ?, ^, {, |, }, ~, _, ', ., @, `

Confirm that the values are set properly, and then click the "Apply" button.

Operating the Projector Using the PJLink™ Protocol

The projector conforms with the PJLink™ standard Class 1.
The commands to be used in controlling the projector by the PJLink™ protocol are as shown below.

CONTROL CONTENTS		COMMAND						RETURN
Power Control	Off	P	O	W	R	_	0	OK or ERR3
	On	P	O	W	R	_	1	OK or ERR3
Power Status Query		P	O	W	R	_	?	0: Standby Mode
								1: Power On
								2: Standby (Cooling)
								3: Power On (Warming up)
Input List Query		I	N	S	T	_	?	11 12 21 22 23 31
Input Change	COMPUTER1	I	N	P	T	_	1 1	OK or ERR3
	COMPUTER2	I	N	P	T	_	1 2	OK or ERR3
	COMPONENT	I	N	P	T	_	2 1	OK or ERR3
	S-VIDEO	I	N	P	T	_	2 2	OK or ERR3
	VIDEO	I	N	P	T	_	2 3	OK or ERR3
	DVI	I	N	P	T	_	3 1	OK or ERR3
Input Status Query		I	N	P	T	_	?	11: COMPUTER1
								12: COMPUTER2
								21: COMPONENT
								22: S-VIDEO
								23: VIDEO
								31: DVI
								or ERR3
AV Mute	Off	A	V	M	T	_	3 0	OK or ERR3
	On	A	V	M	T	_	3 1	OK or ERR3
AV Mute Status Query		A	V	M	T	_	?	30: Off
								31: On
								or ERR3
Lamp Query		L	A	M	P	_	?	1st Number: Lamp1 Usage Time (Hour)
								2nd Number: 0: Lamp1 Off 1: Lamp1 on
								3rd Number: Lamp2 Usage Time (Hour)
								4th Number: 0: Lamp2 Off 1: Lamp2 on
Error Condition Query		E	R	S	T	_	?	1st Byte: Fan Error Status
								2nd Byte: Lamp Error Status
								3rd Byte: Temp. Error Status
								4th Byte: Cover Open Status
								5th Byte: Not Used, Return 0
								6th Byte: Not Used, Return 0
								0: No Error Detected
								1: Warning
								2: Error Detected
Projector Name Query		N	A	M	E	_	?	Projector Name
Manufacture Name Query		I	N	F	1	_	?	SHARP
Product Name Query		I	N	F	2	_	?	XG-PH80W-N/XG-PH80X-N
Other Information Query		I	N	F	O	_	?	Not used
Class Information Query		C	L	S	S	_	?	1

PJLink™ Authentication:

To activate the password used for PJLink™, set "PJLink (Password)" to "Enable" and then enter the password (page **26**). When operating without authentication, set "PJLink (Password)" to "Disable".

PJLink™ Compliant:

This product conforms with the PJLink standard Class 1 and all Class 1 commands are implemented.
This product confirms with the PJLink standard specification version 1.00.
For additional information, visit "http://pjlink.jbmia.or.jp/english/".

Troubleshooting

Communication cannot be established with the projector

When connecting the projector using serial-connection

◀ Check that the RS-232C terminal of the projector and a computer or the commercially available controller are connected correctly.

◀ Check that the RS-232C cable is a cross-over cable.

◀ Check that the RS-232C port setting for the projector corresponds to the setting for the computer or the commercially available controller.

When connecting the projector to a computer using network (LAN)-connection

◀ Check that the cable's connector is firmly inserted in the LAN terminal of the projector.

◀ Check that the cable is firmly inserted into a LAN port for a computer or a network device such as a hub.

◀ Check that the LAN cable is a Category 5 cable.

◀ Check that the LAN cable is a cross-over cable when connecting the projector to a computer directly.

◀ Check that the LAN cable is a straight-through cable when connecting the projector with a network device such as a hub.

◀ Check that the power supply is turned on for the network device such as a hub between the projector and a computer.

Check the network settings for the computer and the projector

◀ Check the following network settings for the projector.
  • IP Address
    Check that the IP address for the projector is not duplicated on the network.
  • Subnet Mask
    When the gateway setting for the projector is "0.0.0.0" (Not Used), or the gateway setting for the projector and the default gateway setting for the computer are the same:
    • The subnet masks for the projector and the computer should be the same.
    • The IP address parts shown by the subnet mask for the projector and the computer should be the same.
      (Example)
      When the IP address is "192.168.150.2" and the subnet mask is "255.255.255.0" for the projector, the IP address for the computer should be "192.168.150.X" (X=3-254) and the subnet mask should be "255.255.255.0".
  • Gateway
    When the gateway setting for the projector is "0.0.0.0" (Not Used), or the gateway setting for the projector and the default gateway setting for the computer are the same:
    • The subnets for the projector and the computer should be the same.
    • The IP address parts shown by the subnet mask for the projector and the computer should be the same.
      (Example)
      When the IP address is "192.168.150.2" and the subnet mask is "255.255.255.0" for the projector, the IP address for the computer should be "192.168.150.X" (X=3-254) and the subnet mask should be "255.255.255.0".

✎ Note

• When "DHCP Client" is set to "Off" on the projector:
  IP address: 192.168.150.2
  Subnet mask: 255.255.255.0
  Gateway address: 0.0.0.0 (Not Used)
• For network settings for the projector, refer to pages **22**-**23**.

◀ Take the following steps for checking the network settings for the computer.
1. Open a command prompt.
   - In the case of Windows® 2000: click "start" ➜ "Programs" ➜ "Accessories"
     ➜ "Command Prompt" in order.
   - In the case of Windows® XP, Windows Vista®: click "start" ➜ "All Programs"
     ➜ "Accessories" ➜ "Command Prompt" in order.
2. After launching the command prompt, enter the command "ipconfig", and press the "Enter" key.

✎**Note**

- Communication may not be established even after carrying out the network settings for the computer. In such cases, restart your computer.

C:\>ipconfig

```
Command Prompt                                                    _ □ ✕
C:\>ipconfig

Windows IP Configuration


Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . :
    IPv4 Address. . . . . . . . . . . : 192.168.150.3
    Subnet Mask . . . . . . . . . . . : 255.255.255.0
    Default Gateway . . . . . . . . . : 192.168.150.1
```
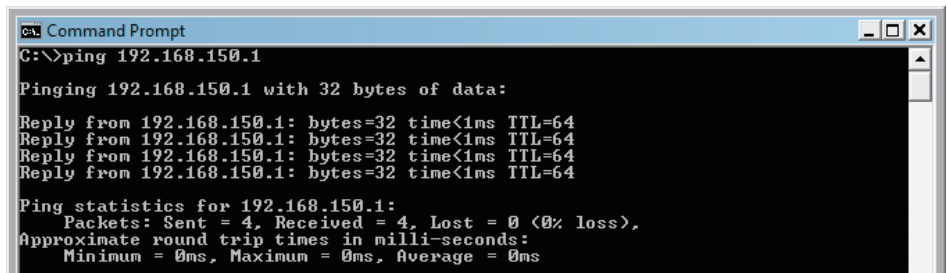
✎**Note**

- Usage examples of ipconfig
  C:\>ipconfig /?   displays how to use "ipconfig.exe".
  C:\>ipconfig   displays the set IP address, subnet mask and default gateway.
  C:\>ipconfig /all   displays all the setting information related to TCP/IP.

3. To return to the Windows® screen, enter "exit" and press the "Enter" key.

Troubleshooting

◄ Check if the "TCP/IP" protocol is operating correctly using the "PING" command. Also, check if an IP address is set.

1. Open a command prompt.
   - In the case of Windows® 2000: click "start" ➜ "Programs" ➜ "Accessories" ➜ "Command Prompt" in order.
   - In the case of Windows® XP, Windows Vista®: click "start" ➜ "All Programs" ➜ "Accessories" ➜ "Command Prompt" in order.
2. After launching the command prompt enter a command "PING".
   Entry example C:\>ping XXX.XXX.XXX.XXX
   "XXX.XXX.XXX.XXX" should be entered with an IP address to be connected to, such as the projector.
3. When connecting normally, the display will be as follows.
   (The screen may be slightly different depending on the OS type.)
   <Example> when the IP address connected to is "192.168.150.1"

```
Command Prompt                                                    _ □ ×
C:\>ping 192.168.150.1

Pinging 192.168.150.1 with 32 bytes of data:

Reply from 192.168.150.1: bytes=32 time<1ms TTL=64
Reply from 192.168.150.1: bytes=32 time<1ms TTL=64
Reply from 192.168.150.1: bytes=32 time<1ms TTL=64
Reply from 192.168.150.1: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.150.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms
```
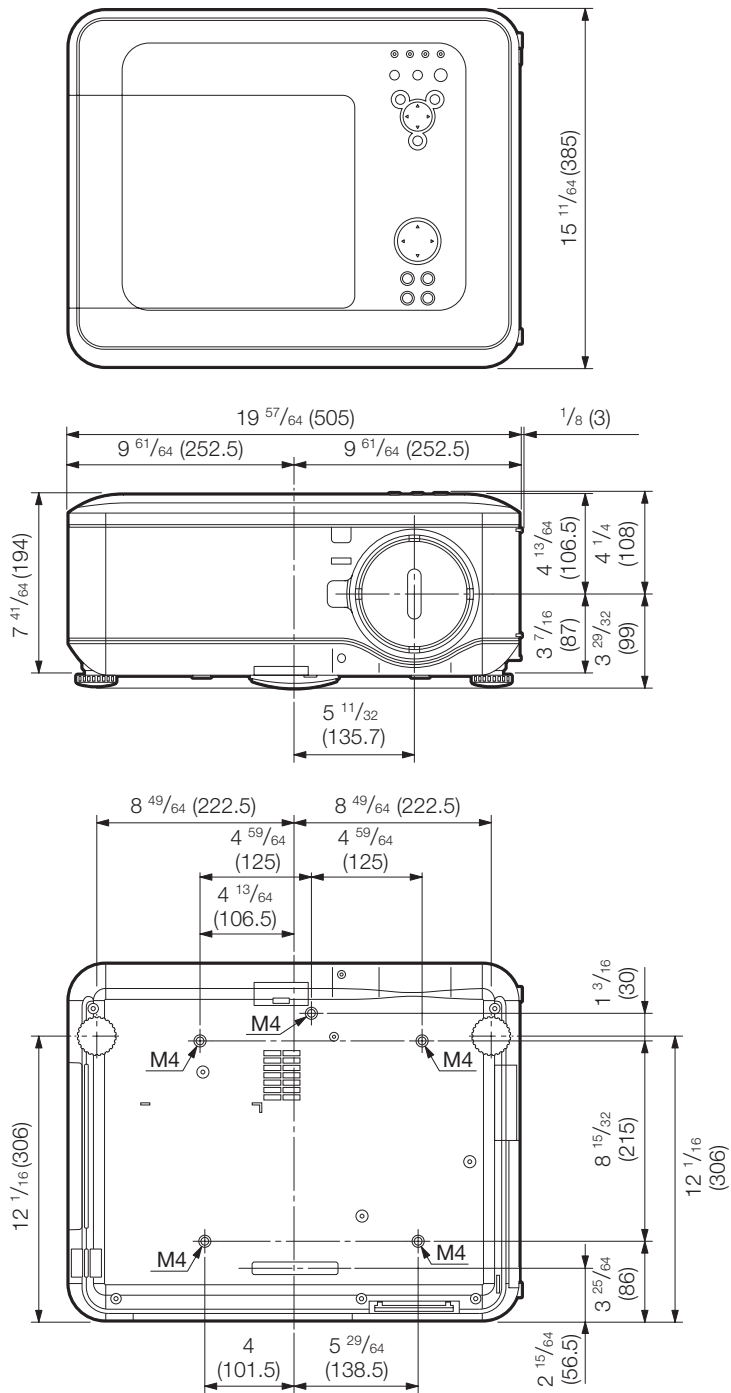
4. When a command cannot be sent, "Request time out" will be displayed.
   Check the network setting again.
   If communication can still not be established properly, contact your network administrator.
5. To return to the Windows® screen, enter "exit" and then press the "Enter" key.

◄ When the projector cannot be connected, even though the "PING" command is checked:
   - When a security software is installed on the PC, or when a fire wall has been set up for the network system, connection may not be possible. Consult the system administrator.

Dimensions

Units: inches (mm)

15 11/64 (385)

19 57/64 (505)
9 61/64 (252.5)   9 61/64 (252.5)   1/8 (3)

7 41/64 (194)

4 13/64 (106.5)   4 1/4 (108)

3 7/16 (87)   3 29/32 (99)

5 11/32 (135.7)

8 49/64 (222.5)   8 49/64 (222.5)
4 59/64 (125)   4 59/64 (125)
4 13/64 (106.5)

1 3/16 (30)

M4   M4
M4   M4

12 1/16 (306)

8 15/32 (215)   12 1/16 (306)

M4   M4

3 25/64 (86)

4 (101.5)   5 29/64 (138.5)

2 15/64 (56.5)

Dimensions

Projector and Lens Dimensions

[When AN-PH808EX is installed]

Unit : inches (mm)

$^{61}/_{64}$
(24.2)

0
(0)

$3\,^{7}/_{16}$
(87)

15 $^{11}/_{64}$
(385)
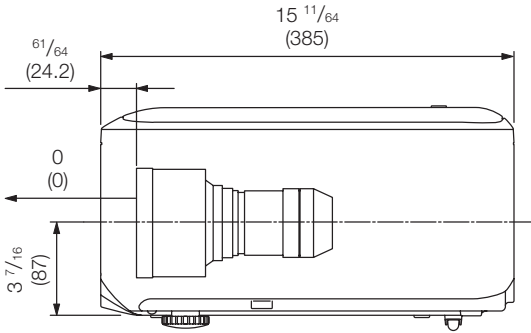
[When AN-PH814EZ is installed]

Unit : inches (mm)

$^{7}/_{64}$
(2.65)

$^{1}/_{16}$
(1.63)

$3\,^{7}/_{16}$
(87)

15 $^{11}/_{64}$
(385)
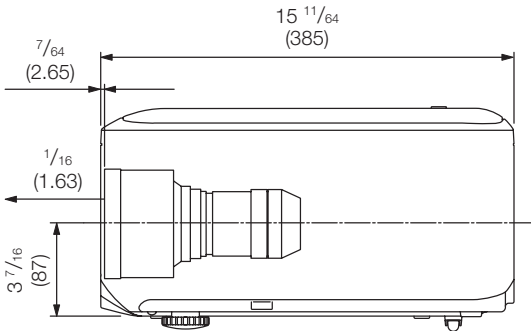
[When AN-PH818EZ is installed]

Unit : inches (mm)

$1\,^{3}/_{32}$
(27.7)

$^{7}/_{64}$
(2.8)

$3\,^{7}/_{16}$
(87)

15 $^{11}/_{64}$
(385)
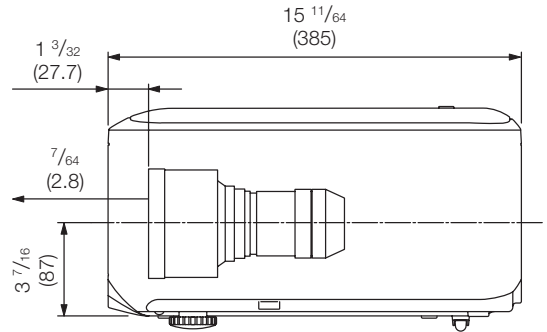
[When AN-PH823EZ is installed]

Unit : inches (mm)

$^{9}/_{32}$
(7)

$^{13}/_{64}$
(5)

$3\,^{7}/_{16}$
(87)

15 $^{11}/_{64}$
(385)
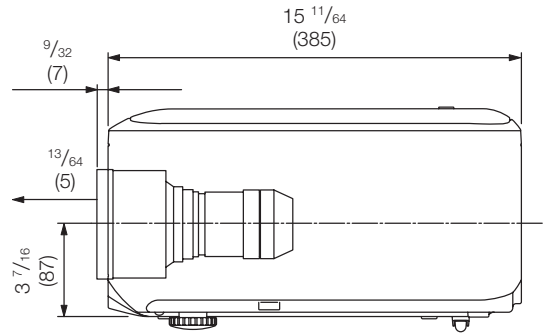
[When AN-PH845EZ is installed]

Unit : inches (mm)

$^{13}/_{64}$
(5)

$^{3}/_{32}$
(2.4)

$3\,^{7}/_{16}$
(87)

15 $^{11}/_{64}$
(385)