

## X141Q & X171Q Installation Guide Desktop and Ceiling Mount

Rev.1.1

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### Product Description

<b>Type:</b>	1 chip DMD Reflection Type 0.8 in. HEP DMD	<b>Dimensions:</b> 19.7" (W) x 8.5" (H) x 23.0" (D) <b>Weight:</b> 61.7 lbs. / 28kg
<b>DMD Resolution:</b>	1920 x 1200 (16:10) WUXGA	<b>Brightness:</b> X141Q - 13,500 Lumens X171Q - 16,500 Lumens
<b>Screen Resolution:</b>	3840 x 2400 (16:9) 4K+	
<b>Fan Noise:</b>	X141Q - 37dB / 35dB @ 1 meter X171Q - 40dB / 38dB @ 1 meter	
<b>Power Consumption:</b>	X141Q - 1080W (max) X171Q - TBD W (max)	<b>BTU's:</b> X141Q - 3672 BTU/hour X171Q - TBD BTU/hour

Network Ready, RJ45  
Motorized: Lens Shift, Horizontal & Vertical /Zoom/ Focus

### Lens Specifications

<b>XP-57UL:</b>	Throw Ratio: 0.31 - 0.33:1 Screen Sizes: 85"-350"	Focal Length: 5.81 – 6.17mm F/#: 2.05-2.11	<b>Weight:</b> TBD
<b>XP-58ZL:</b>	Throw Ratio: 0.55 - 0.75:1 Screen Sizes: 50"-300"	Focal Length: 10-.03 – 13.60mm F/#: 2.04-2.35	<b>Weight:</b> TBD
<b>XP-59ZL:</b>	Throw Ratio: 0.74 - 1.08:1 Screen Sizes: 50"-300"	Focal Length: 13.47 – 16.67mm F/#: 2.02-2.33	<b>Weight:</b> 6.80lbs. / 3.06kg
<b>XP-60ZL:</b>	Throw Ratio: 1.05 – 1.41:1 Screen Sizes: 50-300"	Focal Length: 18.78 – 23.20mm F/#: 1.90-2.08	<b>Weight:</b> 6.4lbs. / 2.91kg
<b>XP-61ZL:</b>	Throw Ratio: 1.40 - 2.11:1 Screen Sizes: 50-300"	Focal Length: 25.04 – 37.57mm F/#: 1.80 – 2.11	<b>Weight:</b> 4.9lbs. / 2.23g
<b>XP-62ZL:</b>	Throw Ratio: 2.10 – 4.00:1 Screen Sizes: 50"-300"	Focal Length: 37.23 – 70.60mm F/#: 1.90-2.44	<b>Weight:</b> 5.9lbs. / 2.66kg

### Screen/Aspect Ratio

**4:3, 16:9 and 16:10 screens are fully supported** with proper aspect ratio control for both type sources using Sharp developed scaling technology. Menu selections have settings for each screen type and aspect ratio control for each source type.

### Notes

- For screen sizes not indicated on the projection tables, use the formulas below.
- If the figures on the tables do not match the results of formulas, use the figures in the table.
- Distances are in inches, for millimeters multiply by 25.4.
- Distances may vary  $\pm$ 5%.

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#### Formulas: 16:10 Aspect Ratio (4K UHD)

The Projection Formulas use the image width for calculation. Image width is the same for all aspect ratios, only vertical image size varies. For proper projector placement, determine the image width for a desired screen size. Use the Screen Formulas below to calculate all screen dimensions. Plug in the image width for "W" in the Projection Formulas. Refer to the diagrams and charts for popular screen sizes on page 2 and 3:

#### Projection Formulas:

- XP-57UL:** C(Wide) = 0.396W – 1.676 ----- C(Tele) = 0.3552W – 1.919
- XP-58ZL:** C(Wide) = 0.5636W – 1.395 ----- C(Tele) = 0.7684W – 1.718
- XP-59ZL:** C(Wide) = 0.7804W – 3.411 ----- C(Tele) = 1.1403W – 3.5333
- XP-60ZL:** C(Wide) = 1.091W – 4.358 ----- C(Tele) = 1.4736W – 4.0634
- XP-61ZL:** C(Wide) = 1.4388W – 3.0304 ----- C(Tele) = 2.1653W – 3.4461
- XP-62ZL:** C(Wide) = 2.118W – 1.5395 ----- C(Tele) = 4.2114W – 9.2638

#### Definitions:

- W = Image Width
- H = Image Height (size)
- C = Throw distance

#### 16:9 Screen Formulas

- W = H x 16/10
- H = W x 10/16
- Screen Diagonal = W x 18.868/16

#### Distance Chart for popular 16:10 Screens (4K UHD)

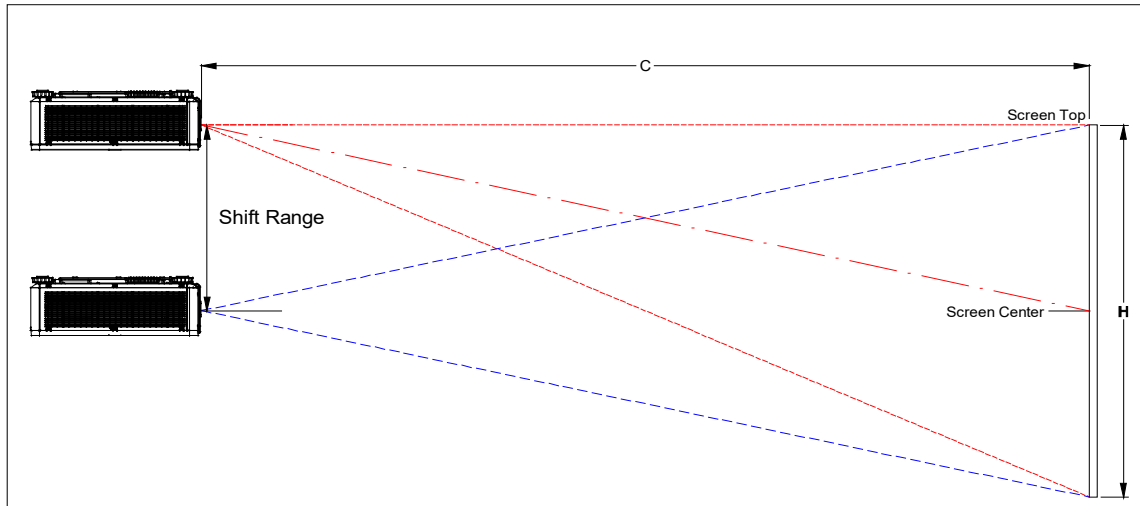
Screen Size (16:10)			Zoom Lenses																	
			XP-57UL		XP-58ZL		XP-59ZL		XP-60ZL		XP-61ZL		XP-62ZL							
Diagonal	Width(W)	Height (H)	0.31-0.33:1		0.55-0.75:1		0.74-1.08-1		1.05-1.41:1		1.40-2.11:1		2.10-4.00:1							
inches	inches	inches	inches		inches		inches		inches		inches		inches							
60	51	32	-	-	-	-	-	-	51.2	-	70.9	70.2	-	106.7	106.2	-	205.0			
67	57	36	-	-	-	-	-	40.9	-	61.3	57.6	-	79.7	78.7	-	119.6	118.8	-	230.0	
70	59	37	-	-	-	-	-	42.9	-	64.2	60.4	-	83.4	82.4	-	125.1	124.2	-	240.7	
83	70	44	21.5	-	23.1	38.3	-	52.4	51.5	-	76.7	72.4	-	99.7	98.2	-	149.0	147.5	-	287.2
106	90	56	28.0	-	30.0	49.3	-	67.4	66.7	-	99.0	93.7	-	128.4	126.3	-	191.2	188.8	-	369.3
110	93	58	29.1	-	31.2	51.2	-	70.0	69.4	-	102.8	97.4	-	133.4	131.2	-	198.5	196.0	-	383.6
126	107	67	33.5	-	36.0	58.8	-	80.4	80.0	-	118.3	112.2	-	153.4	150.7	-	227.9	224.8	-	440.7
133	113	70	35.5	-	38.1	62.2	-	84.9	84.6	-	125.1	118.7	-	162.1	159.2	-	240.8	237.3	-	465.7
159	135	84	42.8	-	46.0	74.6	-	101.9	101.8	-	150.2	142.7	-	194.6	191.0	-	288.5	284.0	-	558.6
184	156	98	49.8	-	53.5	86.5	-	118.2	118.4	-	174.4	165.9	-	225.9	221.5	-	334.4	328.9	-	647.8
202	171	107	54.8	-	58.9	95.1	-	129.9	130.3	-	191.8	182.5	-	248.4	243.4	-	367.5	361.3	-	712.1
220	187	117	59.8	-	64.3	103.7	-	141.6	142.2	-	209.2	199.2	-	270.9	265.4	-	400.5	393.6	-	776.4
263	223	139	71.8	-	77.3	124.3	-	169.7	170.6	-	250.8	239.0	-	324.6	317.9	-	479.5	470.8	-	930.0
299	254	158	81.9	-	88.1	141.5	-	193.1	194.5	-	285.6	272.3	-	369.6	361.8	-	545.6	535.5	-	1058.5
400	339	212	-	-	-	-	-	-	261.3	-	383.3	365.7	-	495.8	485.0	-	731.0	716.9	-	1419.2
500	436	265	-	-	-	-	-	-	-	-	-	471.1	-	638.1	624.0	-	940.1	921.4	-	1826.0

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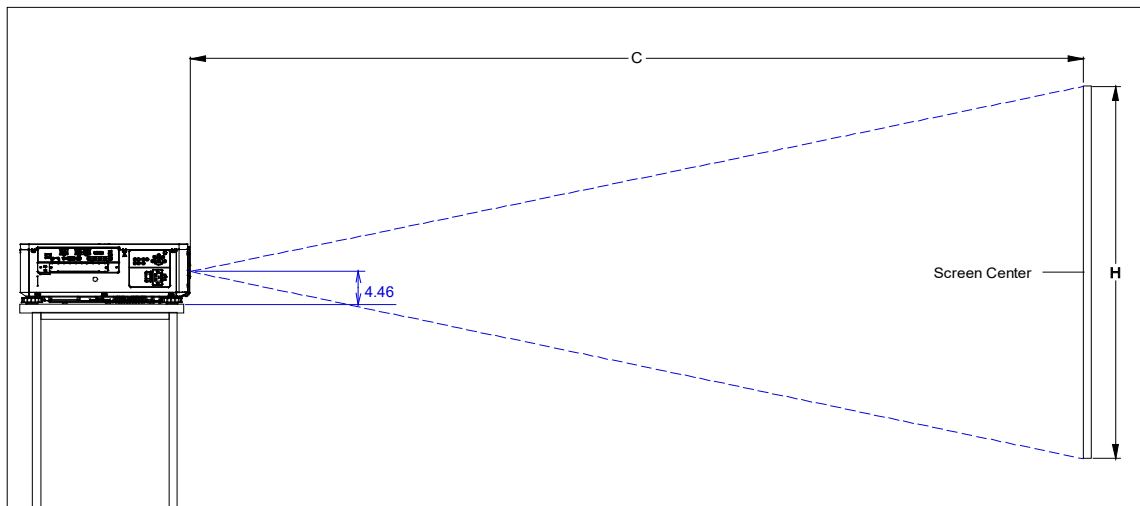
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### Ceiling Mount Installation



**Note:** Lens Shift Feature is not available for the NP16F-4KL. This lens should only be used for "zero degree"/"no-offset" applications.



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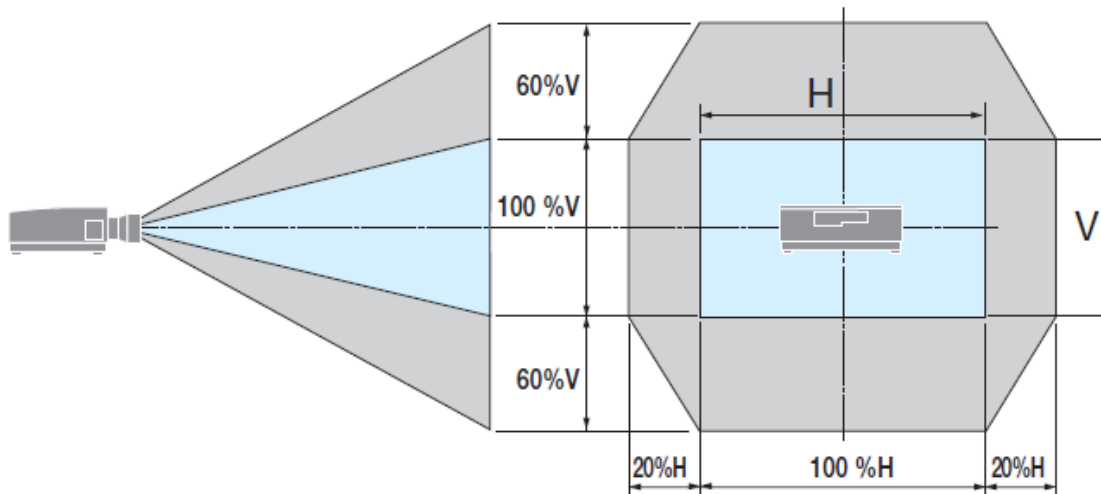
#### Lens Shift Adjustable Range

##### Lens Shift Range for Desktop and Ceiling Mount Application

The diagram below shows the location of the image position in the lens after selecting HOME POSITION. The lens can be shifted within the shaded area as shown using the normal projection position as a starting point.

**Note:** *XP-61ZL lens shift range.*

**Note:** Projector is set out of the box at maximum lens shift, which is not shown below.  
(W: width of projected image, H: height of projected image)



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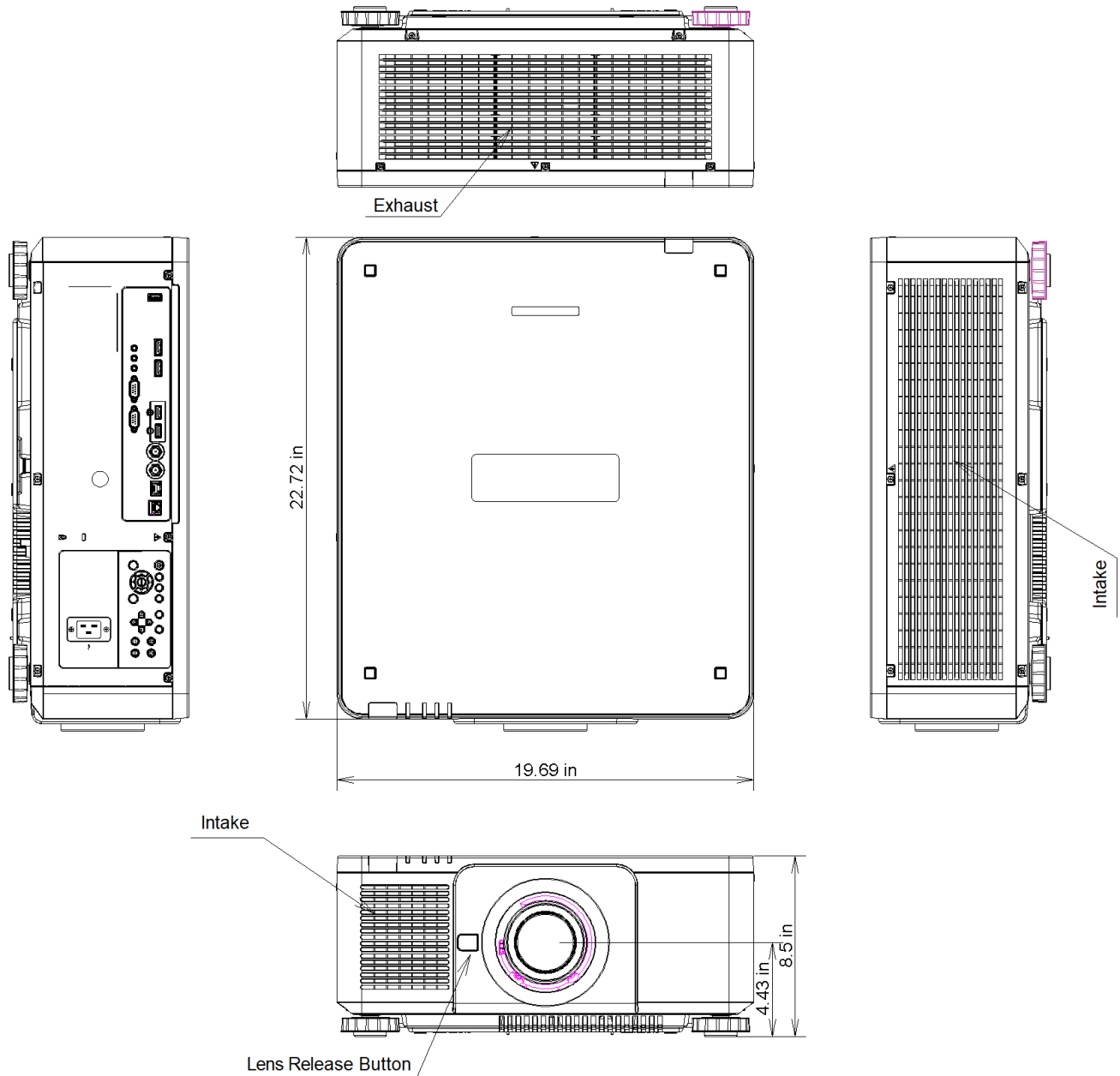
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### Cabinet Dimensions

The following diagrams show the cabinet dimensions for the PX1005QL.

Dimensions are in inches. For millimeters multiply by 25.4.

Note: Dimensions below shown without a lens

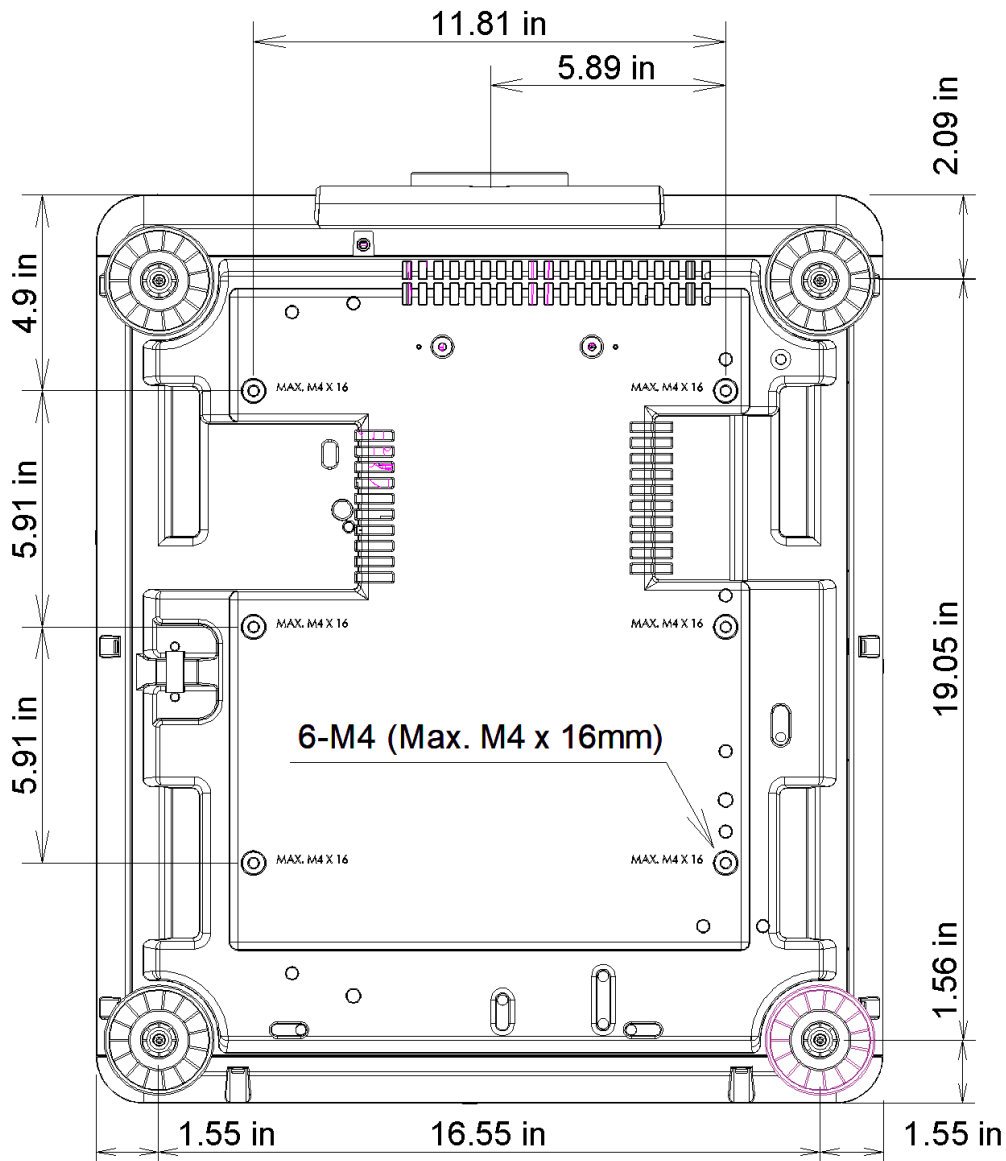


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### Cabinet Dimensions



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### Optional Lens Dimensions

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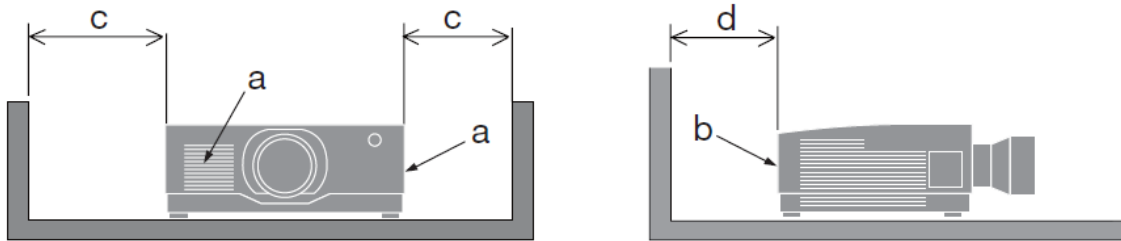
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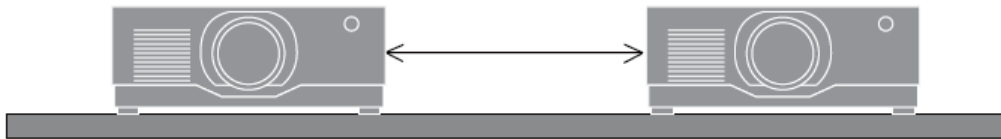
#### Ventilation Requirements

- Clearance for Installing a Projector:



a: Intake vent / b: Exhaust vent / c: 20 cm/8" or greater / d: 30 cm/12" or greater

- Installing Projectors Side-By-Side :

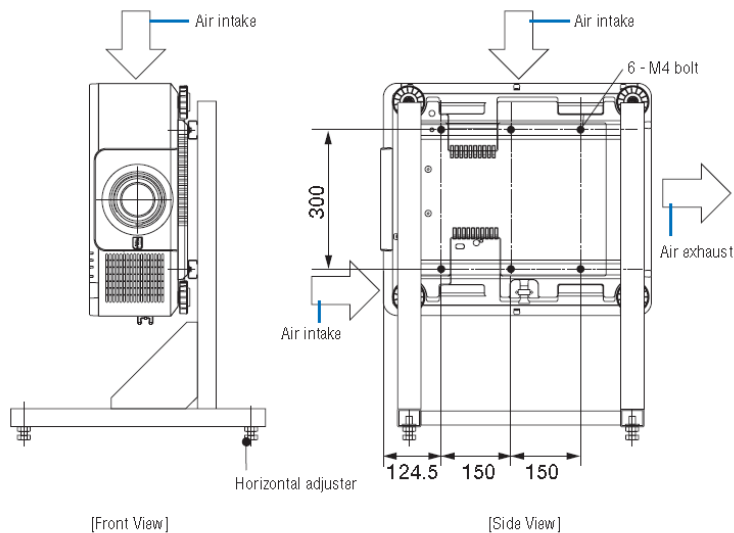


#### Portrait Requirements

##### Reference drawings

\* The drawing showing the dimensional requirements is not an actual stand design drawing.

(Unit: mm)





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### Hazard Zones and Risk Groups

#### Risk groups

##### X171Q-B/X171Q-W

This projector is classified as risk group 3 of IEC/EN 62471-5:2015.

##### X141Q-B/X141Q-W

This projector is classified as either IEC/EN 62471-5:2015 risk group 2 or risk group 3 depending on the lens unit.

#### Risk group 2 (RG2)

##### WARNING

As with any bright light source, do not stare into the beam, RG2 IEC/EN 62471-5:2015.

#### Risk group 3 (RG3)

##### WARNING

RG3 PRODUCT OF IEC/EN 62471-5:2015

- When classified as RG3, this projector is for professional use and must be installed in location where safety is assured. For this reason, be sure to consult your dealer as installation must be performed by a professional installer. Never try to install the projector by yourself. This may result in visual impairment etc.
- No direct exposure to the beam shall be permitted, RG3 IEC/EN 62471-5:2015.
- Do not look into the projector's lens. Serious damage to your eyes could result.
- Operators shall control access to the beam within the hazard distance or install the product at the height that will prevent exposures of spectators' eyes within the hazard distance.
- When turning on the power, operate from the side or rear of the projector (outside the hazard zone). Also, when turning on the power, make sure no one within the projection range is looking at the lens.

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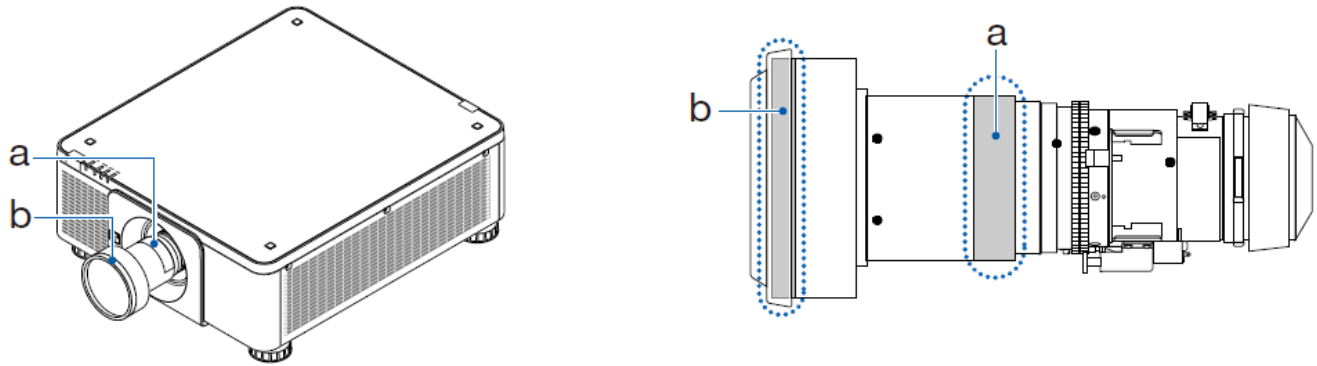
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### • Check before installing the projector (For X141Q-B/X141Q-W)

#### ① Lens model name or throw ratio

The lens model name and throw ratio are listed in the image below.



a: Lens model name / b: Throw ratio

#### ② Combining lens units and risk groups

Lens model name	Throw ratio	X141Q-B X141Q-W
XP-57UL	0.31 - 0.33	RG2
XP-58ZL	0.55 - 0.75	
XP-59ZL	0.74 - 1.08	
XP-60ZL	1.05 - 1.41	
XP-61ZL	1.40 - 2.11	
XP-62ZL	2.10 - 4.00	RG3

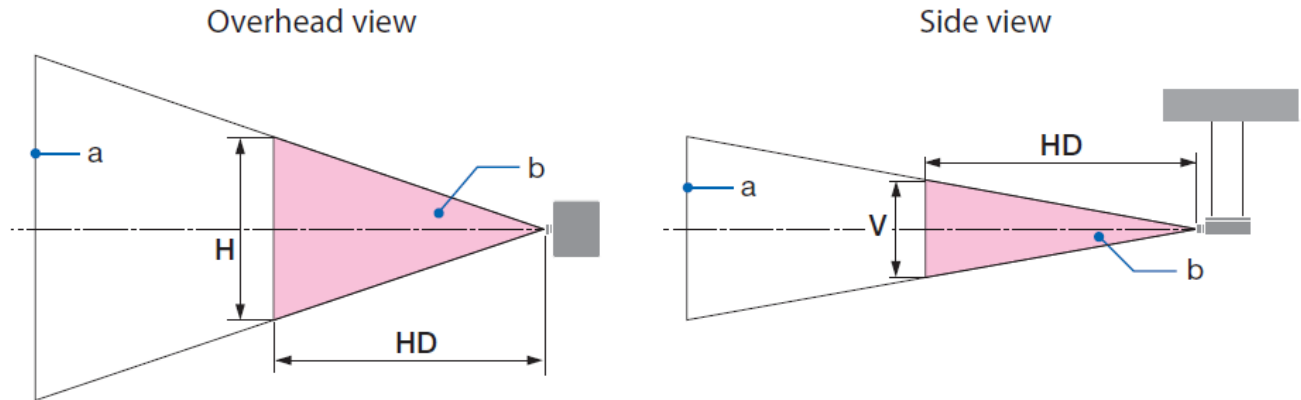
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### • Hazard zone

The below figure describes the radiation zone (hazard zone) of light emitted by the projector that is classified as Risk Group 3 (RG3) of IEC/EN 62471-5:2015.



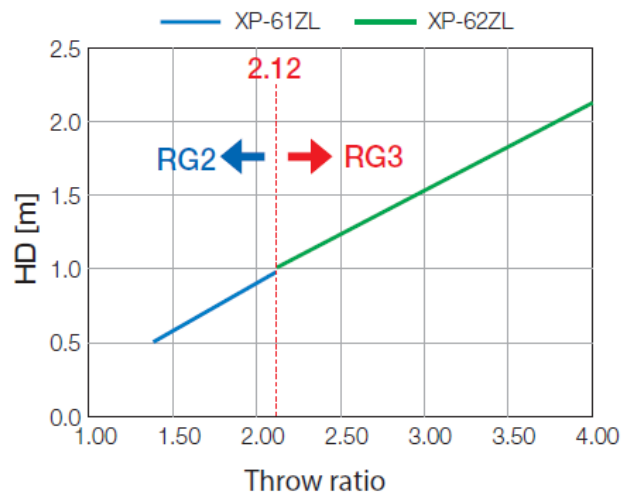
a: Screen / b: Hazard zone

#### X171Q-B/X171Q-W

Lens	Throw ratio TR@0.8"	Hazard zone (m)		
		HD	H	V
XP-57UL	0.31 (Wide)	0.13	0.41	0.26
	0.33 (Tele)	0.14	0.41	0.26
XP-58ZL	0.55 (Wide)	0.23	0.42	0.26
	0.75 (Tele)	0.40	0.53	0.33
XP-59ZL	0.74 (Wide)	0.33	0.53	0.33
	1.08 (Tele)	0.60	0.60	0.38
XP-60ZL	1.05 (Wide)	0.48	0.54	0.34
	1.41 (Tele)	0.73	0.57	0.35
XP-61ZL	1.40 (Wide)	0.62	0.49	0.31
	2.11 (Tele)	1.16	0.58	0.36
XP-62ZL	2.10 (Wide)	1.18	0.57	0.36
	4.00 (Tele)	2.53	0.66	0.41

#### X141Q-B/X141Q-W

Lens	Throw ratio TR@0.8"	Hazard zone (m)		
		HD	H	V
XP-62ZL	2.10 (Wide)	-	-	-
	2.12 (Middle)	1.00	0.49	0.31
	4.00 (Tele)	2.11	0.56	0.35



### Calculation of the throw ratio

Throw ratio = L: Throw distance (m) / W: Screen width (m)

For throw distances and screen widths, refer to "Lens types and throw distance" in the installation manual.

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### • About the precautionary zone

By providing a precautionary zone or physical barriers, it is possible to prevent human eyes from entering the hazard zone.

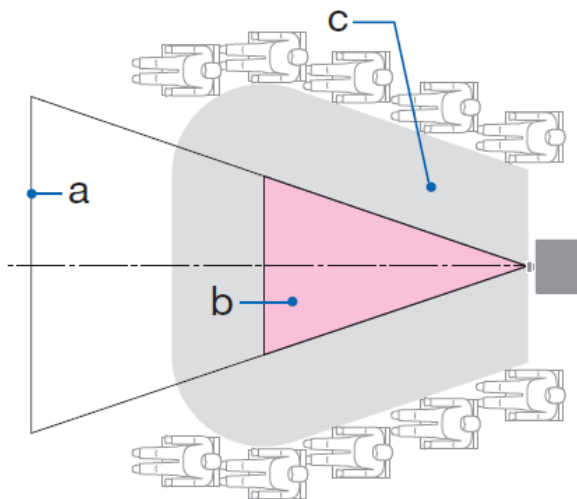
When the manager of the projector (operator) cannot prevent spectators from entering the hazard zone such as in public facilities, it is recommended to secure a space of 1 m or more from the hazard zone as "the precautionary zone" for the safety of the spectators. When installing the projector overhead, it is recommended that the distance between the floor and the hazard zone be at least 3 m in the vertical direction.

In the United States, provide a horizontal distance of 2.5 meters from the hazard zone.

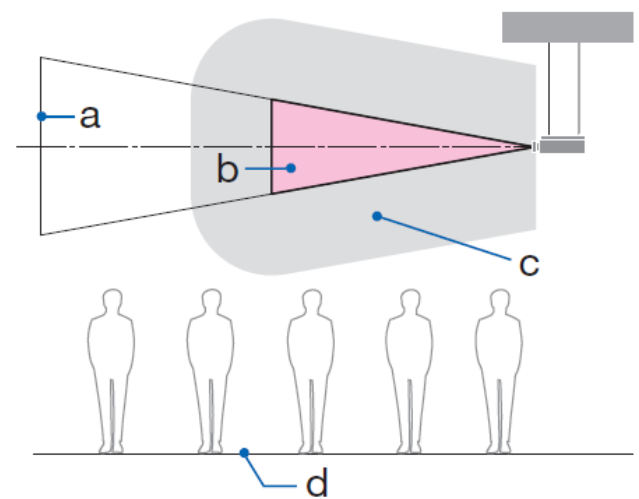
When installthe projector overhead, provide a vertical distance of 3 meters from the floor to the hazard zone.

### • Installation example considering the precautionary zone (For lens units other than XP-57UL)

#### ① Floor or desktop installation example



#### ② Ceiling installation example



a: Screen / b: Hazard zone / c: Precautionary zone / d: floor

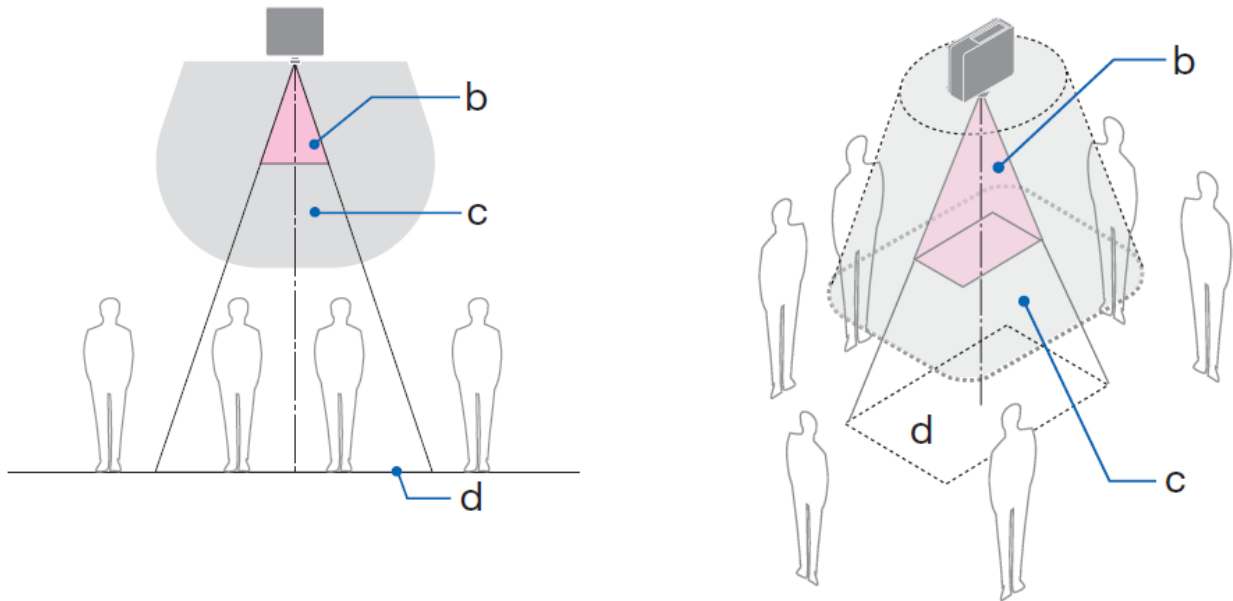


If it is expected that spectators will intrude into the hazard zone when installed on the ceiling, it is necessary to prevent spectators from entering that area.

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### ③ Example of downward projection installed on the ceiling



a: Screen / b: Hazard zone / c: Precautionary zone / d: floor



### CAUTION

If the precautionary zone between the floor and the hazard zone cannot be secured, it is necessary to prevent spectators from entering the area around the screen as shown in the figure on the right.

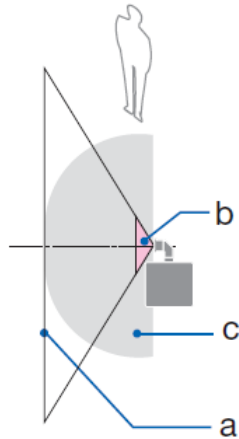
- \* If using lens shift, please consider the shift of projected image according to the volume of lens shift. Installation example considering the precautionary zone

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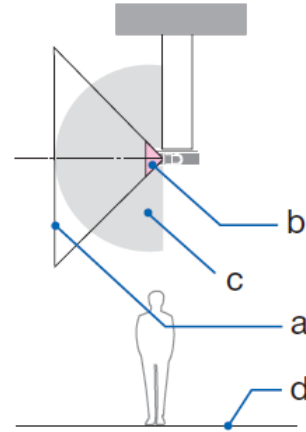
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### • Installation example considering the precautionary zone (For XP-57UL)

#### ① Floor or desktop installation example



#### ② Ceiling installation example



a: Screen / b: Hazard zone / c: Precautionary zone / d: Floor



### CAUTION

If the precautionary zone cannot be secured between the floor and the hazard zone, spectators must be restricted from entering the space between the projector and screen.

\* The above figure is an example of a typical installation. It is also necessary to secure the precautionary zone when installing the projector at an angle.



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### Regulatory Labels



Complies with 21 CFR 1040.10 and 1040.11 except for conformance as a Risk Group 2 LIP as defined in IEC 62471-5:Ed. 1.0. For more information see Laser Notice No. 57, dated May 8, 2019.

This product is in conformity with performance standards for laser products under 21 CFR 1040, except with respect to those characteristics authorized by Variance Number FDA-2018-V-4413 effective on September 19, 2023

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**CAUTION ! Do not stare into the beam**  
RG2  
This projector may become RG3 when an interchangeable lens with throw ratio greater than 2.12@0.8 is installed.

Refer to the manual for the lens list and hazard distance before operation.  
Such combinations of projector and lens are intended for professional use only, and are not intended for consumer use.

**ATTENTION ! Ne pas regarder dans le faisceau**  
RG2  
Ce projecteur peut devenir RG3 lorsqu'un objectif interchangeable avec un rapport de projection supérieur à 2.12 est installé.

Avant utilisation, reportez-vous au manuel pour trouver la liste des objectifs et la distance de danger.  
Ces combinaisons de projecteur et d'objectif sont destinées à un usage professionnel uniquement et ne sont pas destinées à une utilisation grand public.

CLASS 1 / RG2 激光产品  
警告！不要直视光束  
不允许直接暴露于激光中  
第1类 / RG2  
危险距离：参考使用手册  
不适合家庭使用

CLASS 1 / RG2 雷射產品  
警告！請勿直視光源  
不允許直接曝露於雷射光中  
第1類 / RG2  
危險距離：參考說明書  
不適合家庭使用

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CLASS 1 LASER PRODUCT  
APPAREIL À LASER DE CLASS 1  
LASERPRODUKT DER KLASSE 1  
ЛАЗЕРНОЕ ИЗДЕЛИЕ 1 КЛАССА ОПАСНОСТИ  
등급 1 레이저 제품  
第一級雷射產品  
IEC 60825-1 : 2014  
IEC/EN 62471-5: 2015

CONSUMER LASER PRODUCT  
APPAREIL À LASER GRAND PUBLIC  
VERBRAUCHER-LASERPRODUKT  
EN 60825-1:2014+A11:2021  
EN 50689:2021



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クラス1レーザ製品

IEC/EN 60825-1: 2014

JIS C 6802: 2018

**WARNING : MOUNT ABOVE THE HEADS OF CHILDREN !**  
Do not look into the beam less than 1m.  
No direct eye exposure to the beam is permitted.

**AVERTISSEMENT : INSTALLER AU-DESSUS DE LA TÊTE DES ENFANTS !**  
Avertissement supplémentaire contre l'exposition oculaire pour des expositions à une distance de moins de 1m.

  
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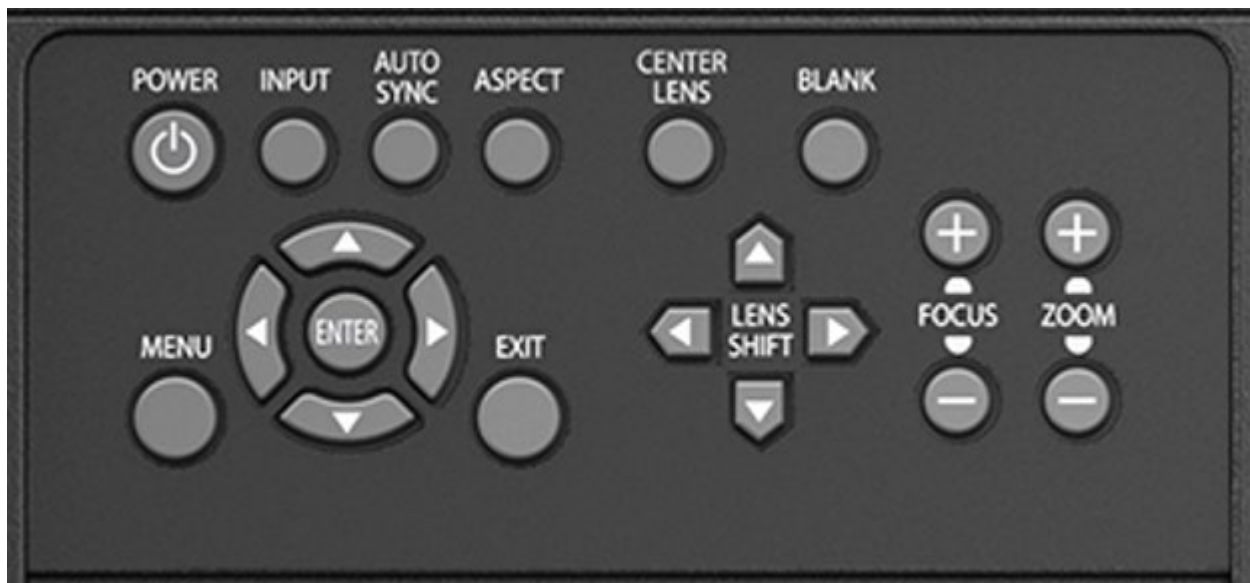
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### Input Panel



### Control Panel





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### PC Control Codes

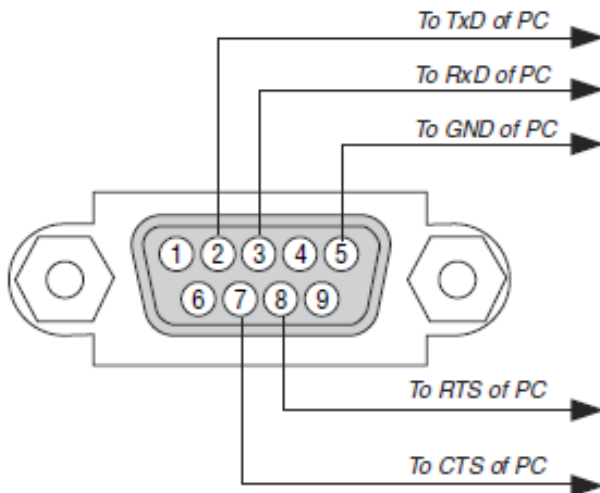
Function	Code Data
POWER ON	02H 00H 00H 00H 00H 02H
POWER OFF	02H 01H 00H 00H 00H 03H
INPUT SELECT HDMI 1	02H 03H 00H 00H 02H 01H A1H A9H
INPUT SELECT HDMI 2	02H 03H 00H 00H 02H 01H A2H AAH
INPUT SELECT DisplayPort 1	02H 03H 00H 00H 02H 01H A6H AEH
INPUT SELECT DisplayPort 2	02H 03H 00H 00H 02H 01H A7H AFH
INPUT SELECT HDBaseT	02H 03H 00H 00H 02H 01H 20H 28H
INPUT 12G SDI1	02H 03H 00H 00H 02H 01H C4H CCH
PICTURE MUTE ON	02H 10H 00H 00H 00H 12H
PICTURE MUTE OFF	02H 11H 00H 00H 00H 13H

### Cable Connection

#### Communication Protocol:

Baud Rate: 38400 bps (for cable lengths longer than 20', it is recommended changing to 9600 bps in setup menu)  
Data Length: 8 bits  
Parity: No Parity  
Stop Bit: One bit  
X on/off: None  
Communications: Full duplex

#### PC Control Connector (D-Sub 9P)



**Note 1 :** Pins 1, 4, 6, and 9 are used inside the projector.

**Note 2 :** For long cable runs it is recommended to set communication speed within the projector to 9600 bps.

**Note 3 :** Jumper "Request to Send" and "Clear to Send" together on both ends of the cable to simplify cable connection.