

P506QL Installation Guide

Desktop and Ceiling Mount

Rev 1.0

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Product Description

Type: 1 chip DLP projector, 0.47" TRP DMD

Dimensions: 18.9"(W) x 6.8"(H) x 15.7"(D)
Weight: 25.4 lbs

Resolution: 3840 x 2160 (16:9)

Brightness: 5000 Lumens

Fan Noise: 35 dB / 32dB @ 1 meter

Power Consumption: 580W (max)

BTU's: 1980 BTU/hour (max)

Network Ready: Integrated wired (RJ45)
Manual: Horizontal & Vertical Lens Shift, Zoom, Focus

Lens Specifications

Throw Ratio: 1.127 – 1.697:1 (for 100" diagonal)

Focal Length: 12.1mm – 18.1mm

Projection Angle: 25.46° - 34.5° (for 100" diagonal)

F/#: 1.8 – 2.43

Screen Sizes: 50" - 310" diagonal

Manual Focus/Manual Zoom/Manual Lens Shift

Screen/Aspect Ratio

4:3, 16:9 and 16:10 screens are fully supported with proper aspect ratio control for both type sources using NEC 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: 16:9 Aspect Ratio

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 pages 2-4:

16:9 Screen Formulas:

$$W = H \times 16/9$$

$$H = W \times 9/16$$

$$\text{Screen Diagonal} = W \times 18.358/16$$

Projection Formulas:

$$C \text{ (wide)} = 1.144W - 1.543$$

$$C \text{ (tele)} = 1.712W - 1.502$$

$$\text{Vertical Lens Shift Max (Down)} = -0.6W$$

$$\text{Vertical Lens Shift Max (Up)} = 0.6W$$

$$\alpha \text{ (wide)} = \tan^{-1} (B/C(\text{wide}))$$

$$\alpha \text{ (tele)} = \tan^{-1} (B/C(\text{tele}))$$

$$\text{Horizontal Lens Shift Max (Left)} = -0.2W$$

$$\text{Horizontal Lens Shift Max (Right)} = 0.2W$$

Note: For screen sizes not indicated on the projection tables, use the formulas on page 1.

Distance Charts

The following shows the proper relative positions of the projector and screen. Refer to the table to determine the position of installation. Distances are in inches. For millimeters multiply by 25.4.

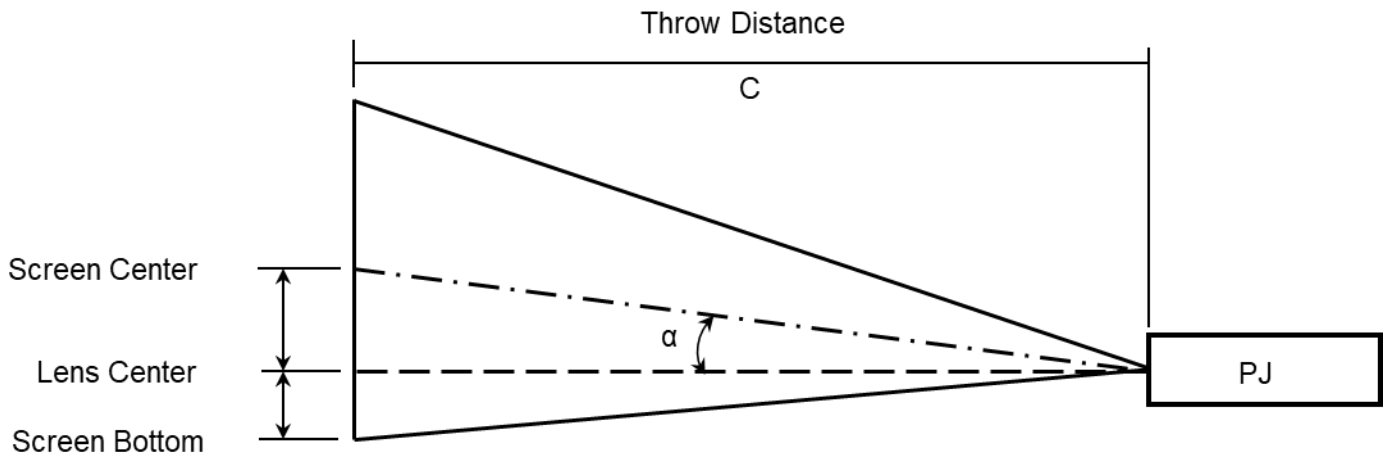
Screen Size (16:9)			C wide - tele	Vertical Lens Shift Range		α wide - tele	Horizontal Lens Shift Range		β wide - tele
Diagonal	Width(W)	Height (H)		Max (Down)	Max (Up)		Max (Left)	Max (Right)	
inches	inches	inches	inches	inches	degrees	inches	degrees		
50	44	25	48 - 73	-15 - 15	16.9 - 11.4	-8.7 - 8.7	10.2 - 6.8		
60	52	29	58 - 88	-18 - 18	16.8 - 11.3	-10.5 - 10.5	10.2 - 6.8		
70	61	34	68 - 103	-21 - 21	16.8 - 11.3	-12.2 - 12.2	10.1 - 6.8		
80	70	39	78 - 118	-24 - 24	16.7 - 11.3	-13.9 - 13.9	10.1 - 6.7		
90	78	44	88 - 133	-26 - 26	16.7 - 11.3	-15.7 - 15.7	10.1 - 6.7		
100	87	49	98 - 148	-29 - 29	16.7 - 11.3	-17.4 - 17.4	10.1 - 6.7		
120	105	59	118 - 178	-35 - 35	16.6 - 11.2	-20.9 - 20.9	10.0 - 6.7		
150	131	74	148 - 222	-44 - 44	16.6 - 11.2	-26.1 - 26.1	10.0 - 6.7		
180	157	88	178 - 267	-53 - 53	16.6 - 11.2	-31.4 - 31.4	10.0 - 6.7		
200	174	98	198 - 297	-59 - 59	16.6 - 11.2	-34.9 - 34.9	10.0 - 6.7		
240	209	118	238 - 357	-71 - 71	16.5 - 11.2	-41.8 - 41.8	10.0 - 6.7		
270	235	132	268 - 401	-79 - 79	16.5 - 11.2	-47.1 - 47.1	10.0 - 6.7		
310	270	152	308 - 461	-91 - 91	16.5 - 11.2	-54.0 - 54.0	10.0 - 6.7		

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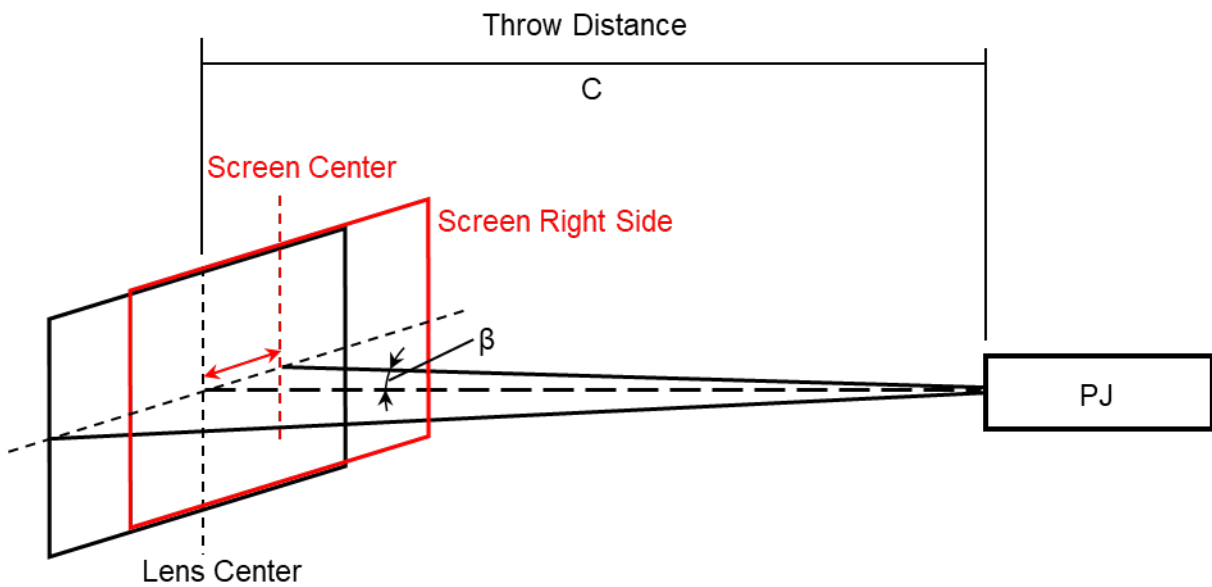
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Placement



Placement



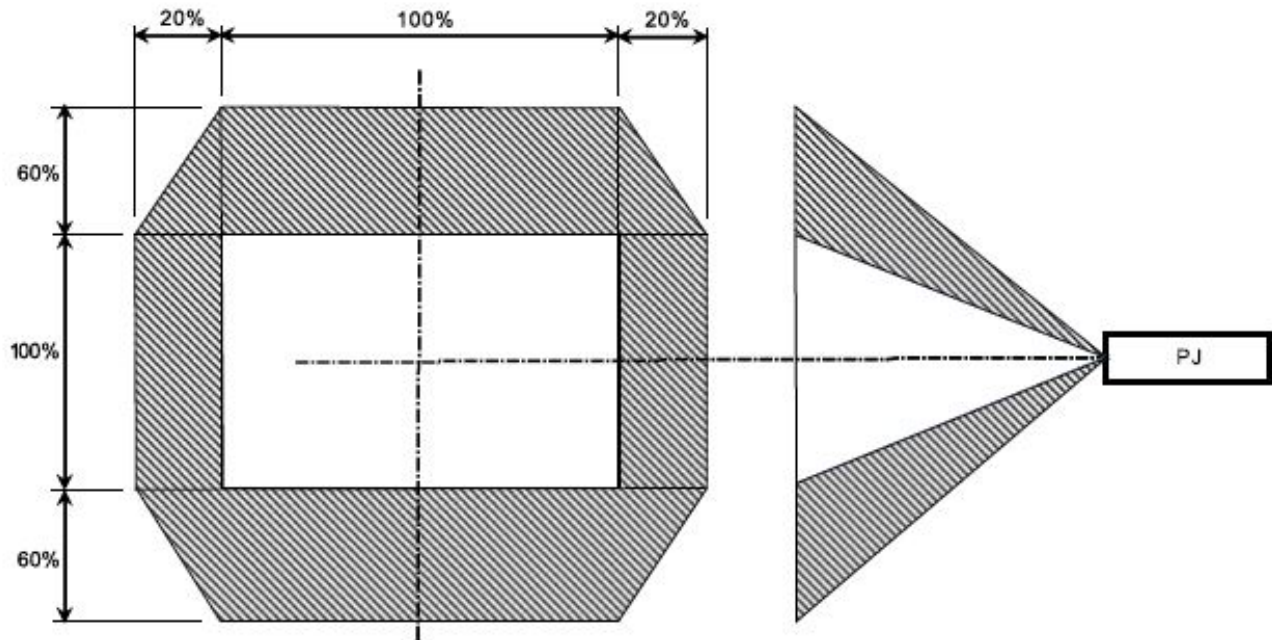
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Lens Shift Adjustable Range

Lens Shift Range for Desktop and Ceiling Mount Application

The diagram below shows the location of the image position in the lens for the P506QL. The P506QL has a maximum horizontal lens shift range of +/- 20% and a maximum vertical lens shift of +/- 60%. The lens can be shifted within the shaded area as shown using the normal projection position as a starting point.



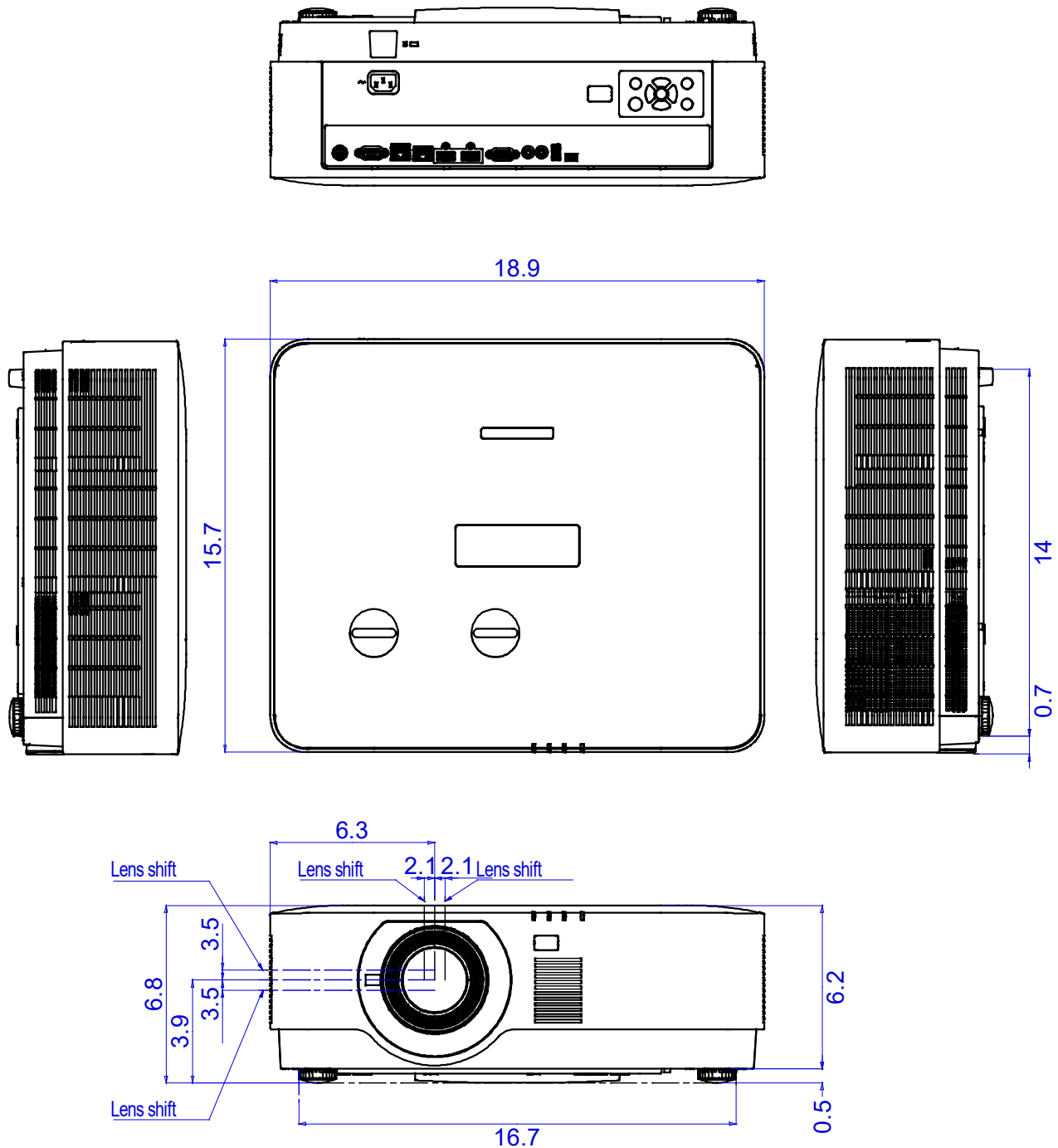
Note: Projector is set out of the box at center position, which is how it is depicted above.

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Cabinet Dimensions

The following diagrams show the cabinet dimensions for the P506QL. Dimensions are in inches. For millimeters multiply by 25.4.



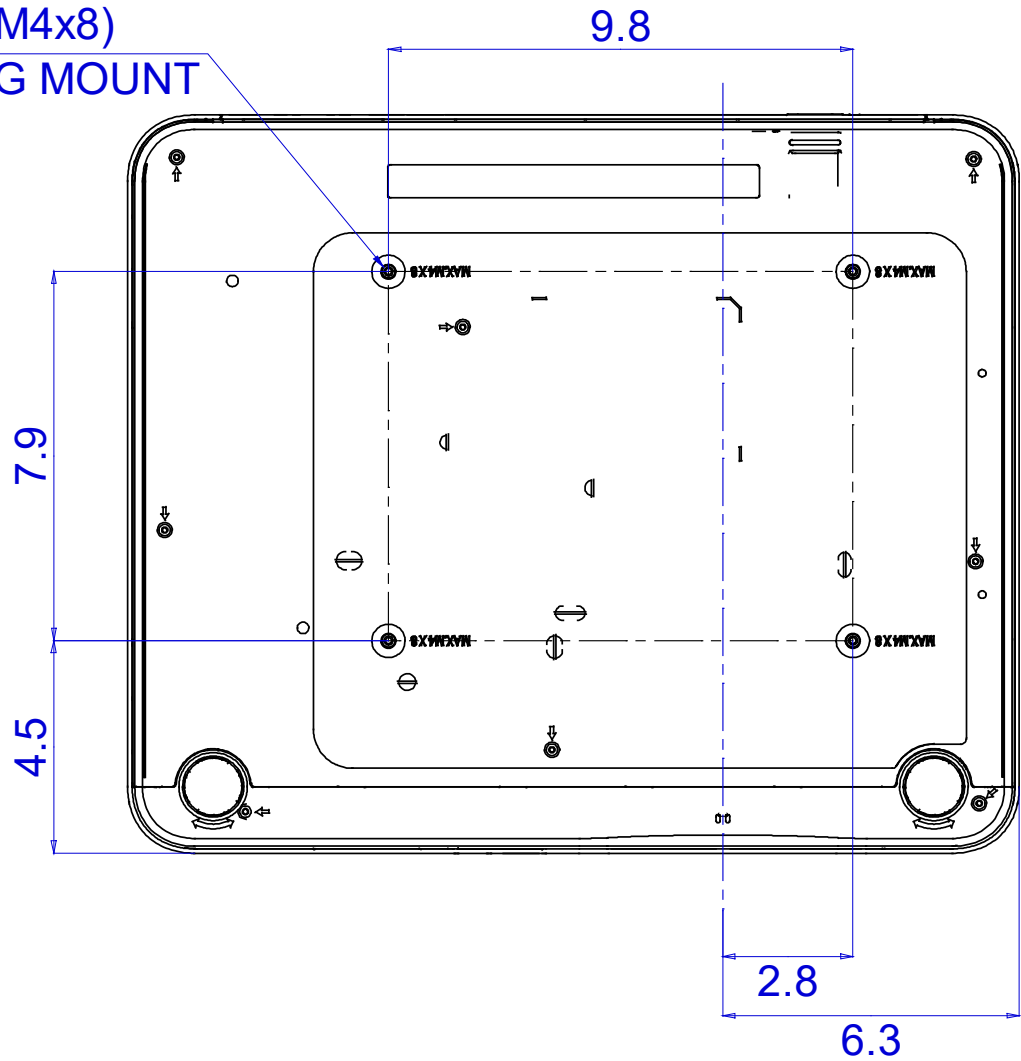
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Cabinet Dimensions

4 (Max. M4x8)
FOR CEILING MOUNT

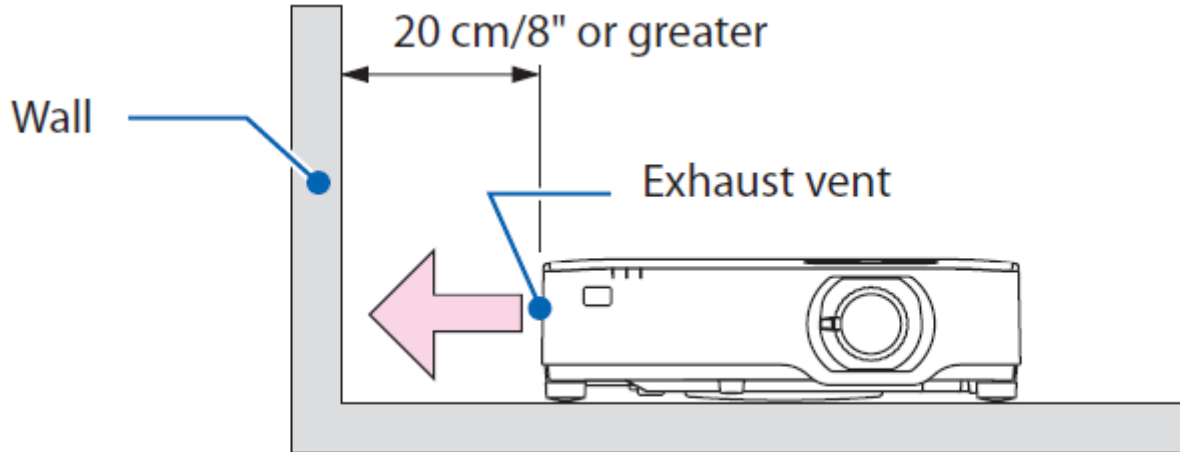


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Ventilation Requirements



Input Panel



Control Panel



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PC Control Codes

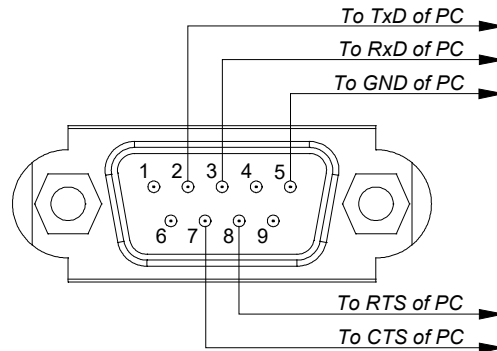
Function	Code Data							
POWER ON	02H	00H	00H	00H	00H	02H		
POWER OFF	02H	01H	00H	00H	00H	03H		
INPUT SELECT Computer	02H	03H	00H	00H	02H	01H	09H	
INPUT SELECT HDMI1	02H	03H	00H	00H	02H	01H	A1H	A9H
INPUT SELECT HDMI2	02H	03H	00H	00H	02H	01H	A2H	AAH
INPUT SELECT HDBaseT	02H	03H	00H	00H	02H	01H	BFH	C7H
INPUT SELECT USB-A	02H	03H	00H	00H	02H	01H	1FH	27H
INPUT SELECT LAN	02H	03H	00H	00H	02H	01H	20H	28H
PICTURE MUTE ON	02H	10H	00H	00H	00H	12H		
PICTURE MUTE OFF	02H	11H	00H	00H	00H	13H		
SOUND MUTE ON	02H	12H	00H	00H	00H	14H		
SOUND MUTE OFF	02H	13H	00H	00H	00H	15H		
AUTO ADJUST	02H	0FH	00H	00H	02H	05H	00H	18H

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.