

VT470/570/575/670/676 Installation Guide

Ceiling Mounted and Desktop

v1.5

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Product Description

Type:	3 panel LCD projector, 0.7" p-Si TFT (VT670 w/MLA)	Brightness:	VT470: 2000 ANSI lumens VT570: 1300 ANSI lumens
Resolution:	VT470: 800x600 VT570/575/670/676: 1024x768		VT575: 1500 ANSI lumens VT670: 2100 ANSI lumens
Dimensions:	11.57"(W) x 4.43"(H) x 11.10"(D)		VT676: 2500 ANSI lumens
Weight:	6.4 lbs		

Lens Specifications

Throw Ratio: 1.5 - 1.8:1 (for 100" diagonal)	Focal Length: 21.6mm – 25.9mm
Offset Angle: 9.6°-11.5° (for 100" diagonal)	F/#: 1.7 – 2.0
Screen Sizes: 21"-300" diagonal (4:3)	Manual Zoom / Manual Focus

Notes

- For screen sizes not indicated on the projection charts, use the formulas below.
- If a value in a chart does not match the results of the formulas, use the values in the chart.
- The ceiling must be strong enough to support the projector and the installation must be in accordance with any local building codes.
- All formulas are based on a 4:3 aspect ratio and screen.
- Distances are in inches, for millimeters multiply by 25.4.
- Distances may vary ±5%.

Formulas

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.

Definitions:

W = Image Width
H = Image Height (Size)
B = Vertical distance between lens center and screen center
C = Throw distance
D = Vertical distance between lens center and screen top (screen bottom for desktop)
 α = Projection angle

4:3 Screen Formulas:

$W = H \times 4/3$
 $H = W \times 3/4$
Screen Diagonal = $W \times 5/4$

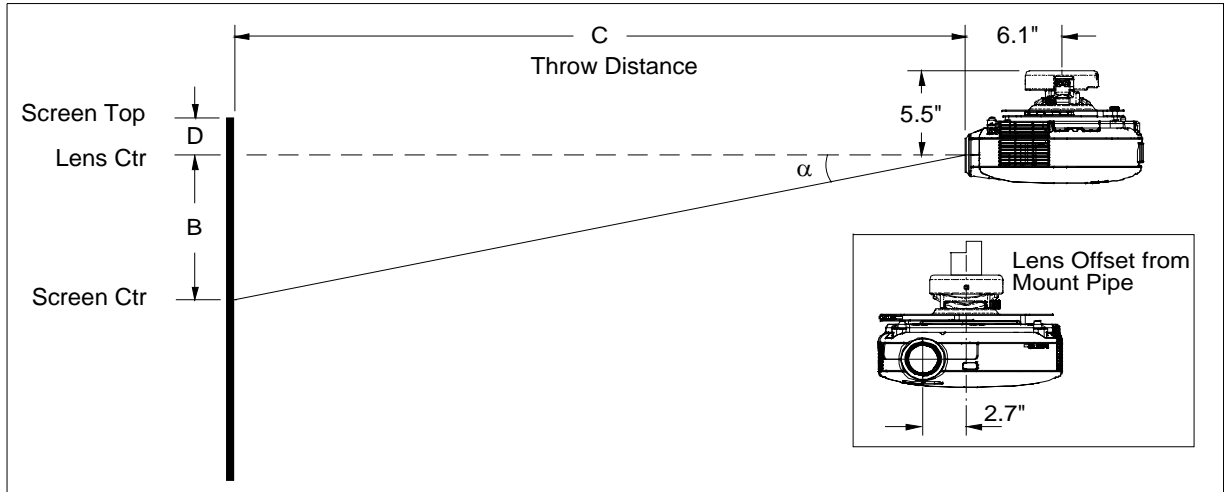
Projection Formulas:

$B = 0.2986W$
 $C \text{ (wide)} = 1.4813W - 1.425$
 $C \text{ (tele)} = 1.7913W - 1.406$
 $D = 0.0764W$
 $\alpha \text{ (wide)} = \tan^{-1} (B/C \text{ (wide)})$
 $\alpha \text{ (tele)} = \tan^{-1} (B/C \text{ (tele)})$

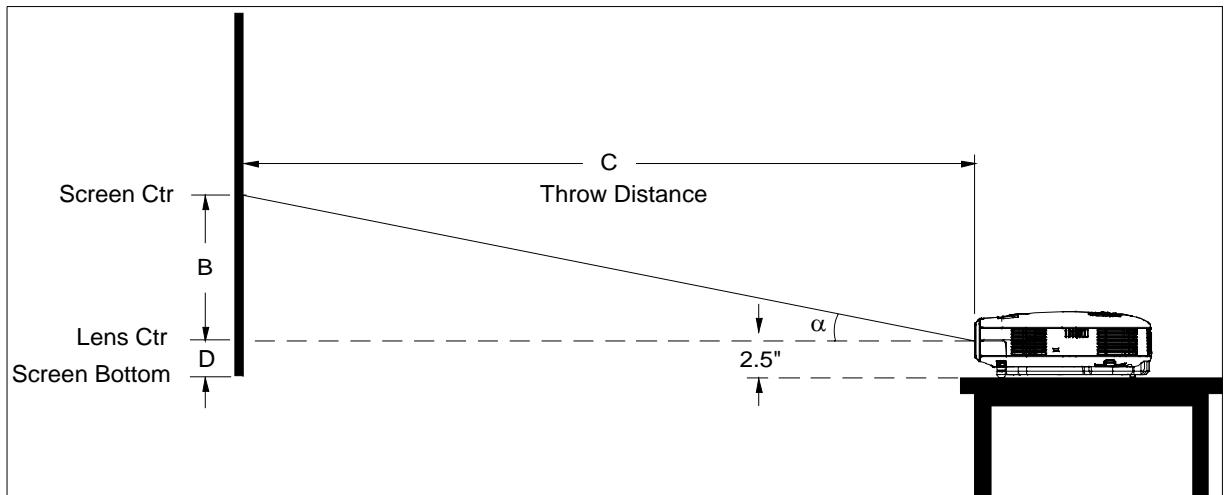
Diagrams and Distance Charts

The following diagrams show the relationship between projector position and the screen. Refer to the chart below for data. Distances are in inches. For millimeters multiply by 25.4.

Ceiling Mounted



Desktop



Distance chart for popular 4:3 screens

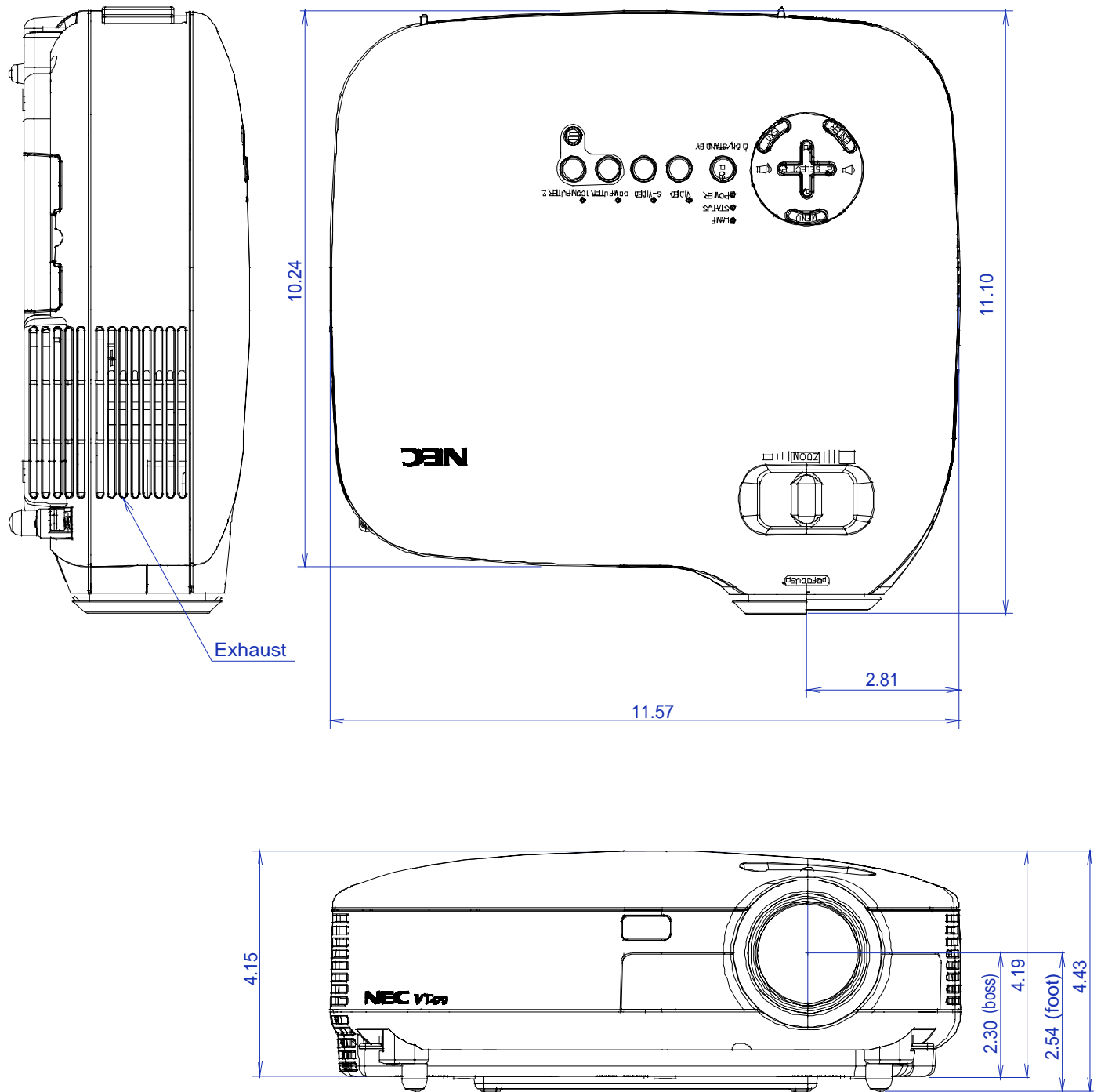
Screen Size (4:3)			B	C	D	α
Diag	W	H				
inches	inches	inches	inches	inches	inches	degrees
21	16.8	12.6	5.0	NA - 28.7	1.3	NA - 9.9
60	48	36	14.3	69.7 - 84.6	3.7	11.6 - 9.6
72	57.6	43.2	17.2	83.9 - 101.8	4.4	11.6 - 9.6
84	67.2	50.4	20.1	98.1 - 119.0	5.1	11.6 - 9.6
90	72	54	21.5	105.2 - 127.6	5.5	11.5 - 9.6
100	80	60	23.9	117.1 - 141.9	6.1	11.5 - 9.6
120	96	72	28.7	140.8 - 170.6	7.3	11.5 - 9.5
150	120	90	35.8	176.3 - 213.6	9.2	11.5 - 9.5
180	144	108	43.0	211.9 - 256.5	11.0	11.5 - 9.5
200	160	120	47.8	235.6 - 285.2	12.2	11.5 - 9.5
250	200	150	59.7	294.8 - 356.9	15.3	11.5 - 9.5
300	240	180	71.7	354.1 - 428.5	18.3	11.4 - 9.5

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

Note: "NA" means it is outside lens range for that part of the zoom. Refer to "Screen Sizes" in Lens Specifications on Page 1.

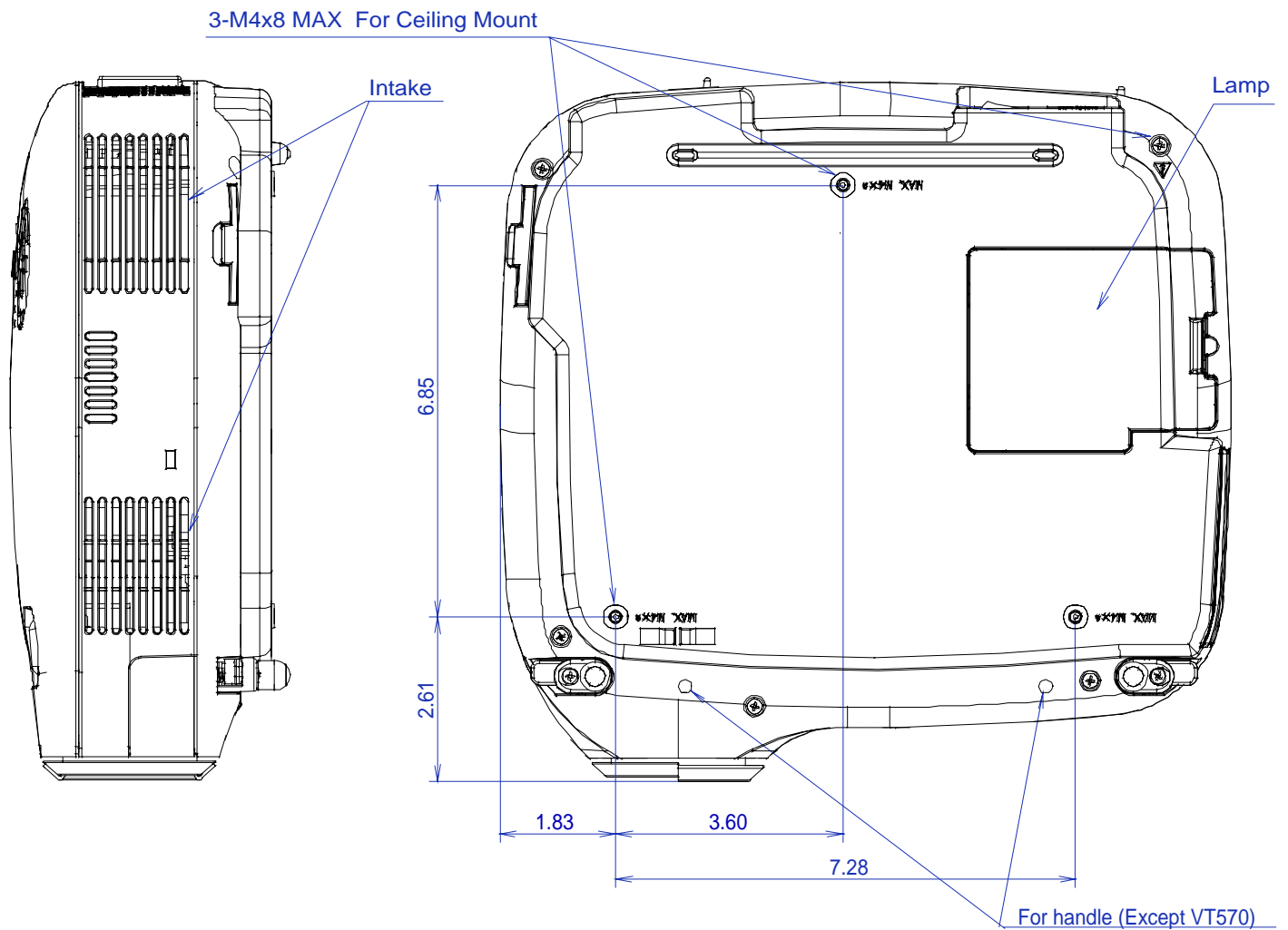
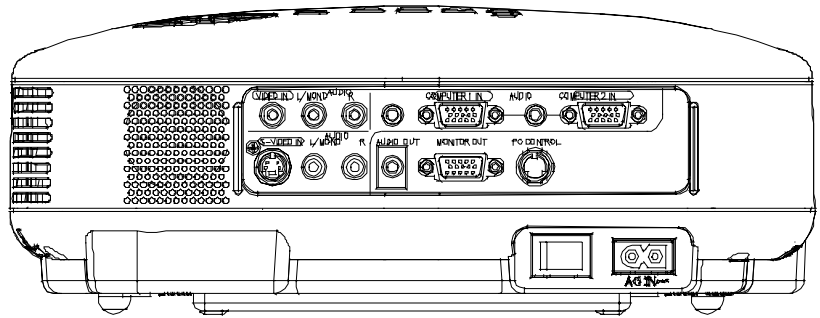
Cabinet Dimensions

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



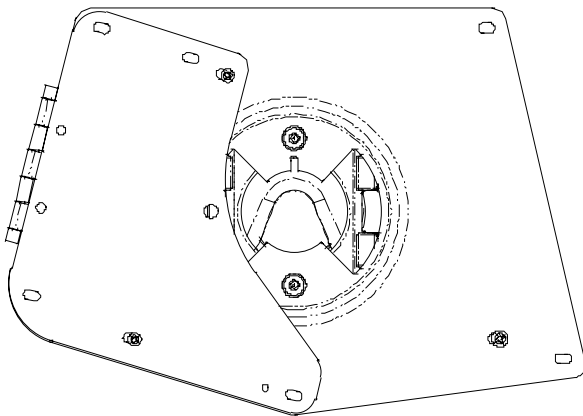
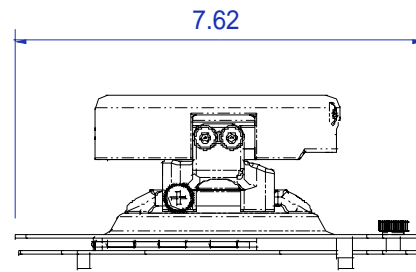
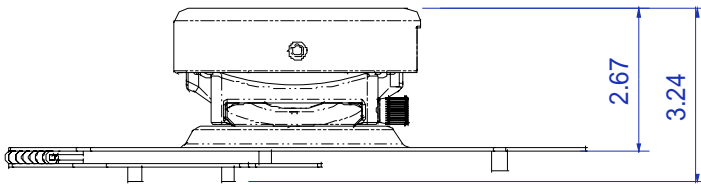
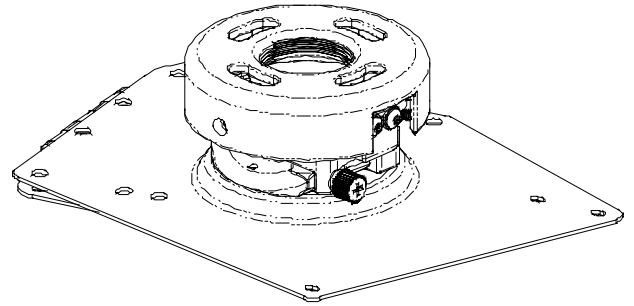
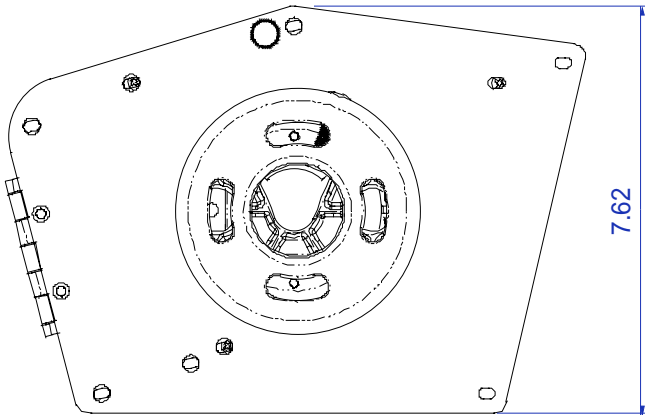
Cabinet Dimensions (continued)

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

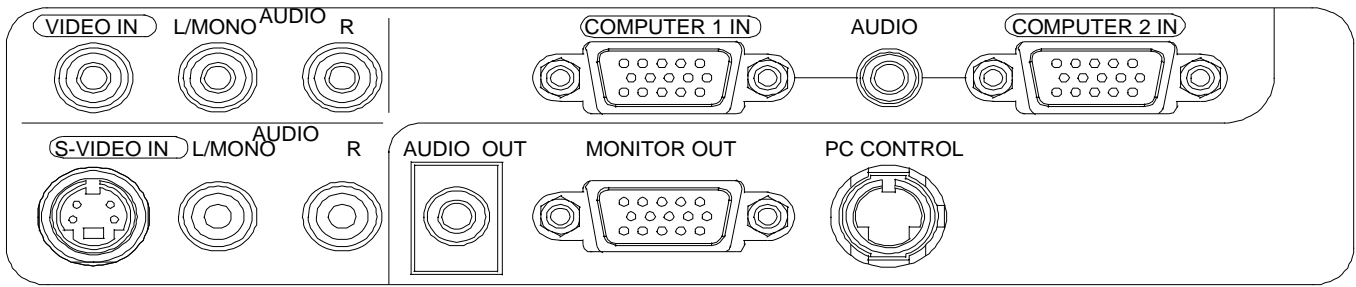


Optional Ceiling Mount Dimensions (Model #: VT70CM)

The following drawings show ceiling mount dimensions.
Dimensions are in inches. For millimeters multiply by 25.4.



Input Panel



Control Codes

Function	Code Data
POWER ON	02H 00H 00H 00H 00H 02H
POWER OFF	02H 01H 00H 00H 00H 03H
INPUT SELECT COMPUTER 1	02H 03H 00H 00H 02H 01H 01H 09H
INPUT SELECT COMPUTER 2	02H 03H 00H 00H 02H 01H 02H 0AH
INPUT SELECT VIDEO	02H 03H 00H 00H 02H 01H 06H 0EH
INPUT SELECT S-VIDEO	02H 03H 00H 00H 02H 01H 0BH 13H
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

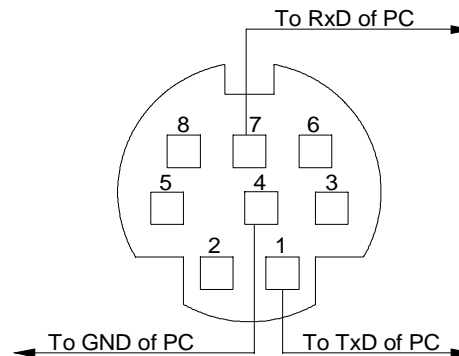
NOTE: Contact your NEC rep for codes not listed.

Cable Connection

Communication Protocol:

Baud Rate: 19200 bps
 Data Length: 8 bits
 Parity: No Parity
 Stop Bit: One bit
 X on/off: None
 Communications: Full duplex

PC Control Connector (DIN-8P)



NOTE 1: Pins 2, 3, 5, 6 and 8 are used inside the projector..

NOTE 2: For long cable runs it is recommended to set communication speed within projector menus to 9600 bps.