VT47 Installation Guide
Ceiling Mounted and Desktop   v1.4

Contents

Product Description

Type:	3 panel LCD projector, 0.7" p-Si TFT	Brightness:	1500 ANSI lumens
		Dimensions:	11.57"(W) x 4.43"(H) x 11.10"(D)
Resolution:	800x600	Weight:	6.4 lbs

Lens Specifications

Throw Ratio: 1.2:1(for 100" diagonal)	Focal Length: 17.5mm
Offset Angle: 14.1° (for 100" diagonal)	F/#: 2.0
Screen Sizes: 25"-300" diagonal (4:3)	Fixed Throw / 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 x 4/3
H = W x 3/4
Screen Diagonal = W x 5/4

Projection Formulas:
B = 0.2986W
C = 1.2008W – 1.142
D = 0.0764W
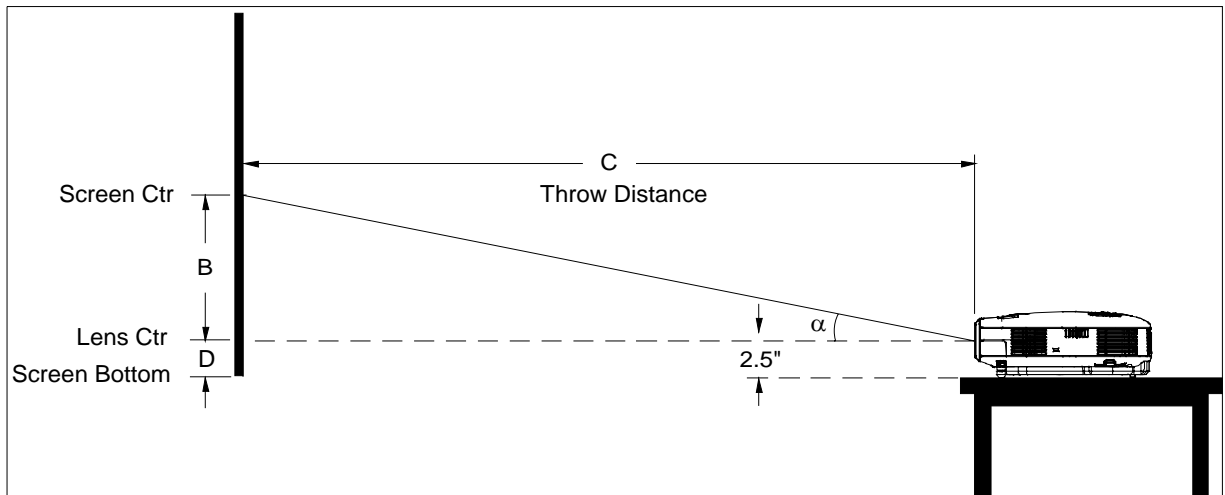$\alpha = \tan^{-1}$ (B/C)

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.
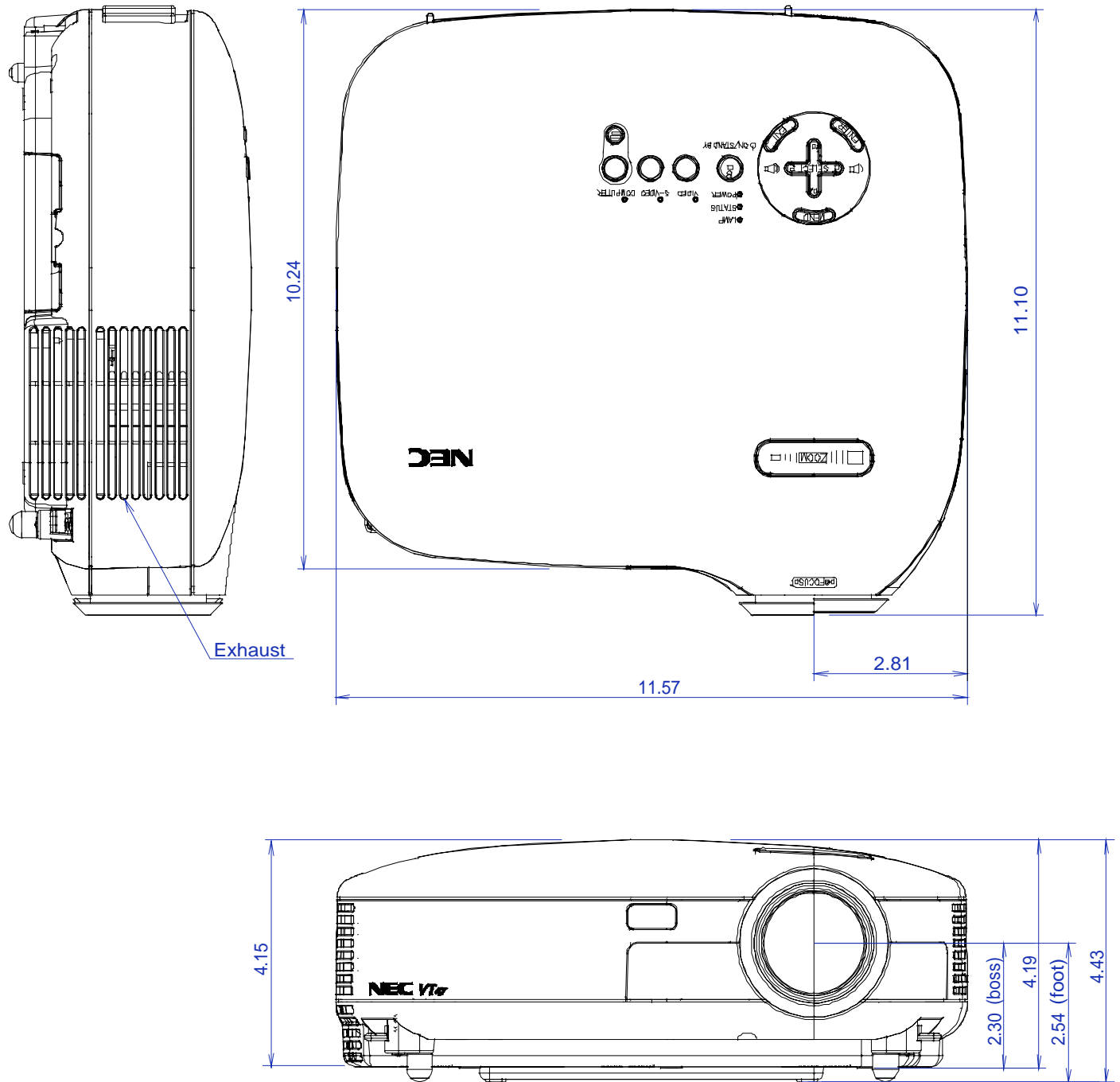
Ceiling Mounted
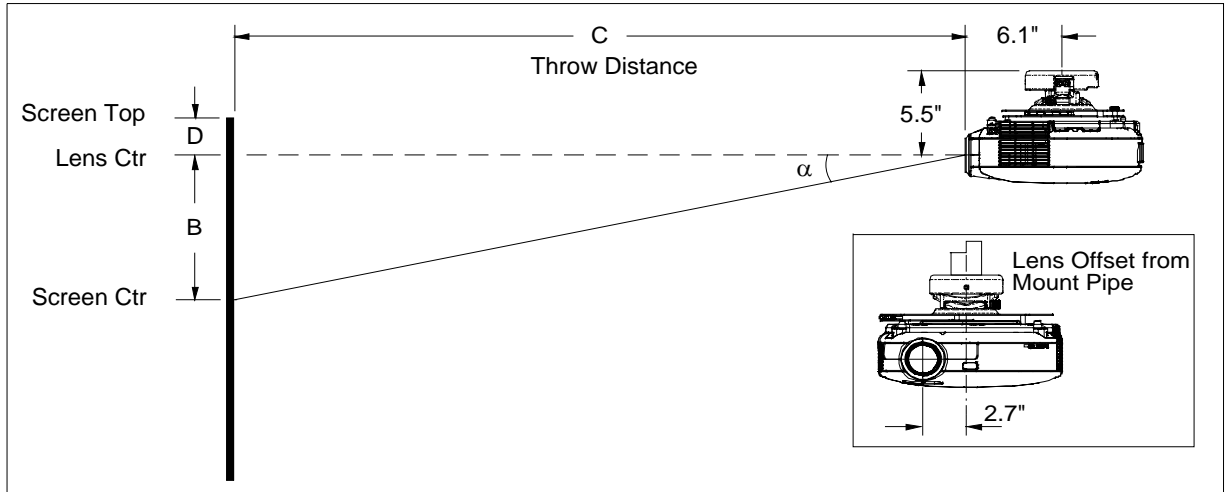
Desktop

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
25	20	15	6.0	22.9	1.5	14.6
60	48	36	14.3	56.5	3.7	14.2
72	57.6	43.2	17.2	68.0	4.4	14.2
84	67.2	50.4	20.1	79.6	5.1	14.2
90	72	54	21.5	85.3	5.5	14.1
100	80	60	23.9	94.9	6.1	14.1
120	96	72	28.7	114.1	7.3	14.1
150	120	90	35.8	143.0	9.2	14.1
180	144	108	43.0	171.8	11.0	14.1
200	160	120	47.8	191.0	12.2	14.0
250	200	150	59.7	239.0	15.3	14.0
300	240	180	71.7	287.1	18.3	14.0

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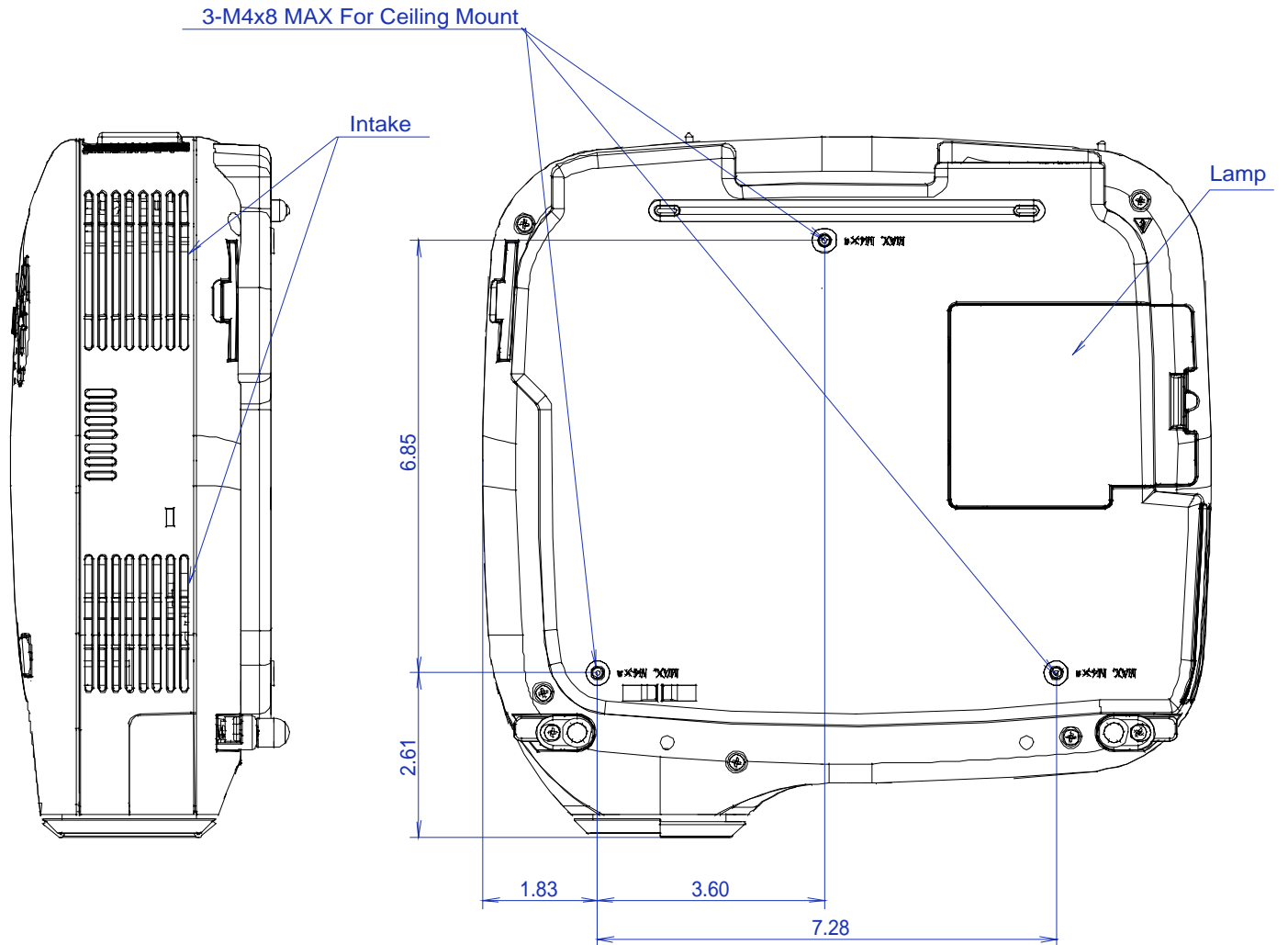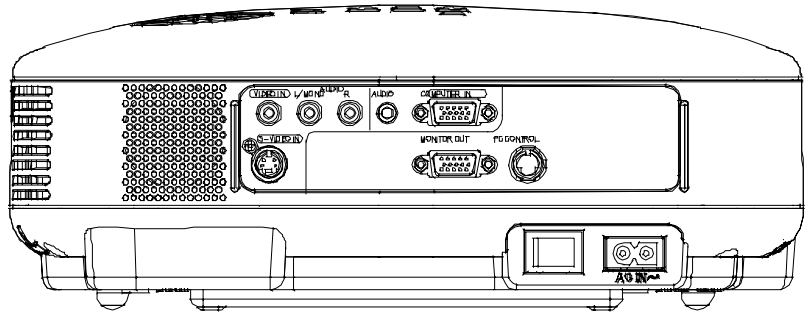
Cabinet Dimensions

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

Exhaust

10.24

11.57

2.81

11.10

4.15

2.30 (boss)

4.19

2.54 (foot)

4.43

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

3-M4x8 MAX For Ceiling Mount

Intake

Lamp

6.85

2.61

1.83

3.60

7.28

Optional Ceiling Mount Dimensions (Model #: VT70CM)

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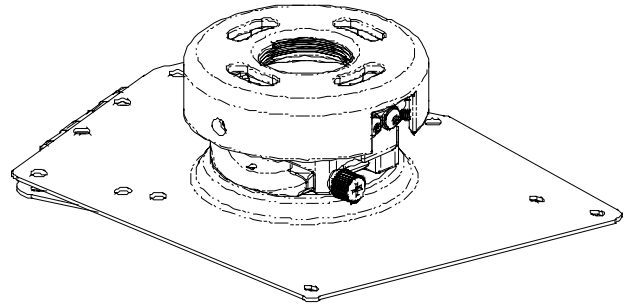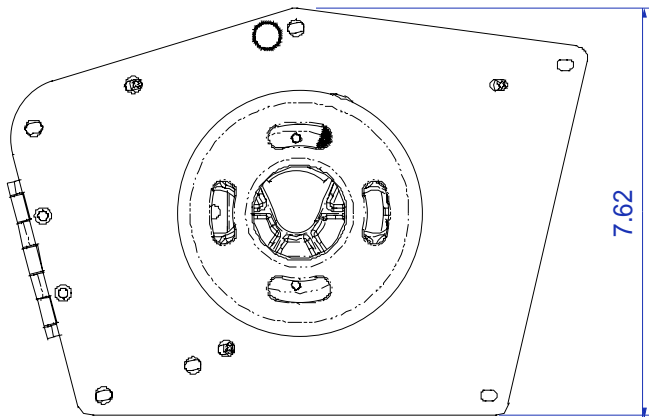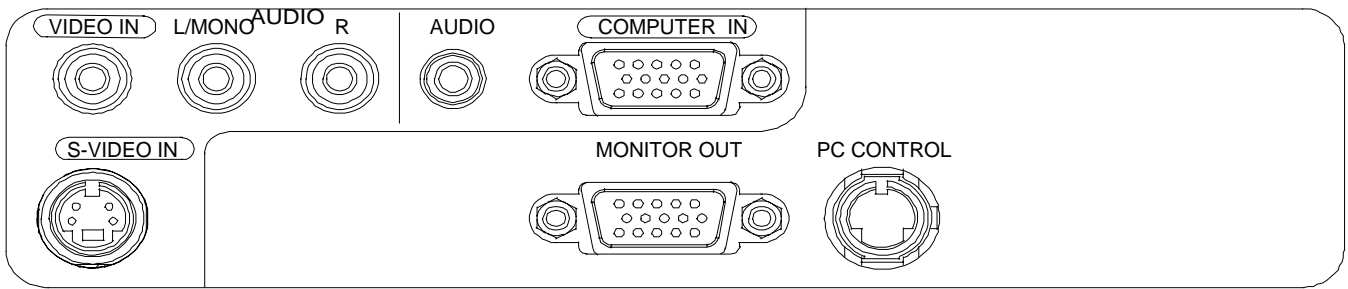Dimensions are in inches. For millimeters multiply by 25.4.

7.62

7.62

2.67

3.24

Input Panel

VIDEO IN   L/MONO AUDIO R   AUDIO   COMPUTER IN
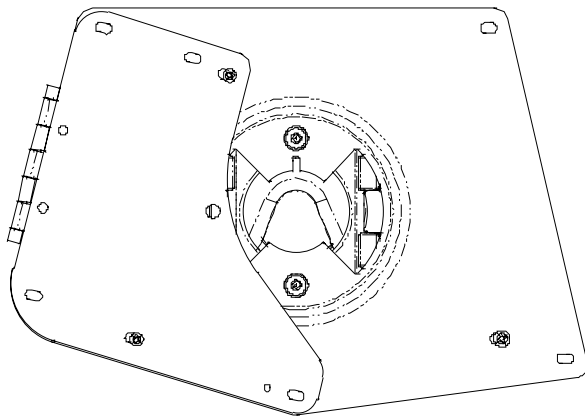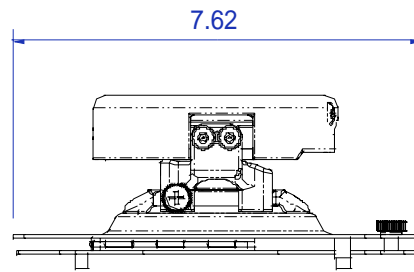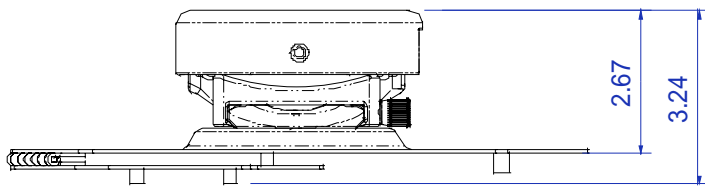
S-VIDEO IN   MONITOR OUT   PC CONTROL

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	01H	09H
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)

To RxD of PC

8 7 6
5 4 3
2 1

To GND of PC   To TxD of PC
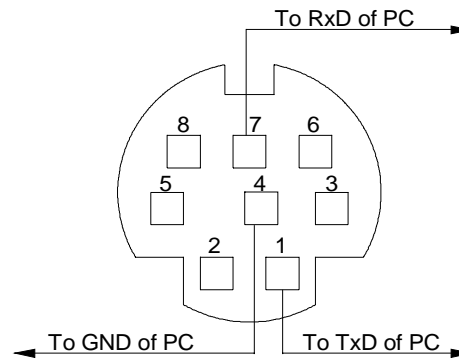
NOTE 1: Pins 2, 3, 5, 6 and 8 are used inside the projector..
NOTE 2: For long cable runs it is recommended to set communication speed within projector menus to 9600 bps.