

## VE303/VE303X Installation Guide

### Ceiling and Desktop Mounted

#### Contents

Product Description, Lens Specs, Notes	Pg 1
Formulas	Pg 2
Diagrams & Distance Charts	Pg 3
Cabinet Dimensions	Pg 4
Ceiling Mount Dimensions	Pg 5
Input Panels and Control Codes	Pg 6



#### Product Description

Type: 1-chip DLP projector, 0.55" DMD

Brightness: 3000 lumens

Resolution: VE303: 800 x 600  
VE303X: 1024 x 768

Fan Noise: 34dB / 30dB @ 1meter

Dimensions: 12.8" (W) x 4.0" (H) x 9.8" (D)

Weight: 5.8 lbs.

Power Consumption: 237W (max)

BTU's: 808.7 BTU/hour

#### Lens Specifications

Throw Ratio: 1.95 – 2.15:1 (for 100" diagonal)

Focal Length: 21.8mm – 24.0mm

Offset Angle: 12.8° - 14.0° (for 100" diagonal)

F/#: 2.41 - 2.55

Screen Sizes: 30" - 300" diagonal (4:3)

Manual Focus/Manual Zoom

#### Notes

- For screen sizes not indicated on the projection tables, use the formulas on the following page. If the figures on the tables do not match the results of formulas, use the figures in the table.
- All calculations are based on a 4:3 aspect ratio.
- Distances are in inches, for millimeters multiply by 25.4.
- Distances may vary  $\pm 5\%$ .

## VE303/VE303X Installation Guide

### Ceiling and Desktop Mounted

Rev 1.0

#### Formulas

The Projection Formulas use the image width for calculation. For proper projection placement, determine the image width for the desired screen size. Use the Screen Formulas below to calculate all screen dimensions. Plug in the width for "W" in the Projection Formulas.

Refer to the diagrams and charts below for popular screen sizes:

#### 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 application)

#### 4:3 Screen Formulas:

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

#### Projection Formulas:

- $B = 0.487W$
- C (wide) =  $1.95W$
- C (tele) =  $2.150W$
- $D = 0.112W$
- $\alpha$  (wide) =  $\tan^{-1}(B/C(\text{wide}))$
- $\alpha$  (tele) =  $\tan^{-1}(B/C(\text{tele}))$

#### Distance Chart for popular 4:3 screens

Screen Size (4:3)			B	C		D	$\alpha$	
Diagonal	Width(W)	Height (H)		wide	tele		wide	tele
inches	inches	inches	inches	inches		inches	degrees	
30	24	18	12	47	- 52	3	14.0	- 12.8
60	48	36	23	94	- 103	5	14.0	- 12.8
67	53.6	40.2	26	105	- 115	6	14.0	- 12.8
72	57.6	43.2	28	112	- 124	6	14.0	- 12.8
84	67.2	50.4	33	131	- 144	8	14.0	- 12.8
90	72	54	35	140	- 155	8	14.0	- 12.8
100	80	60	39	156	- 172	9	14.0	- 12.8
120	96	72	47	187	- 206	11	14.0	- 12.8
150	120	90	58	234	- 258	13	14.0	- 12.8
180	144	108	70	281	- 310	16	14.0	- 12.8
210	168	126	82	328	- 361	19	14.0	- 12.8
240	192	144	94	374	- 413	22	14.0	- 12.8
270	216	162	105	421	- 464	24	14.0	- 12.8
300	240	180	117	468	- 516	27	14.0	- 12.8

**Note:** For screen sizes not indicated on the projection tables, use the formulas on above

## VE303/VE303X Installation Guide

Ceiling and Desktop Mounted

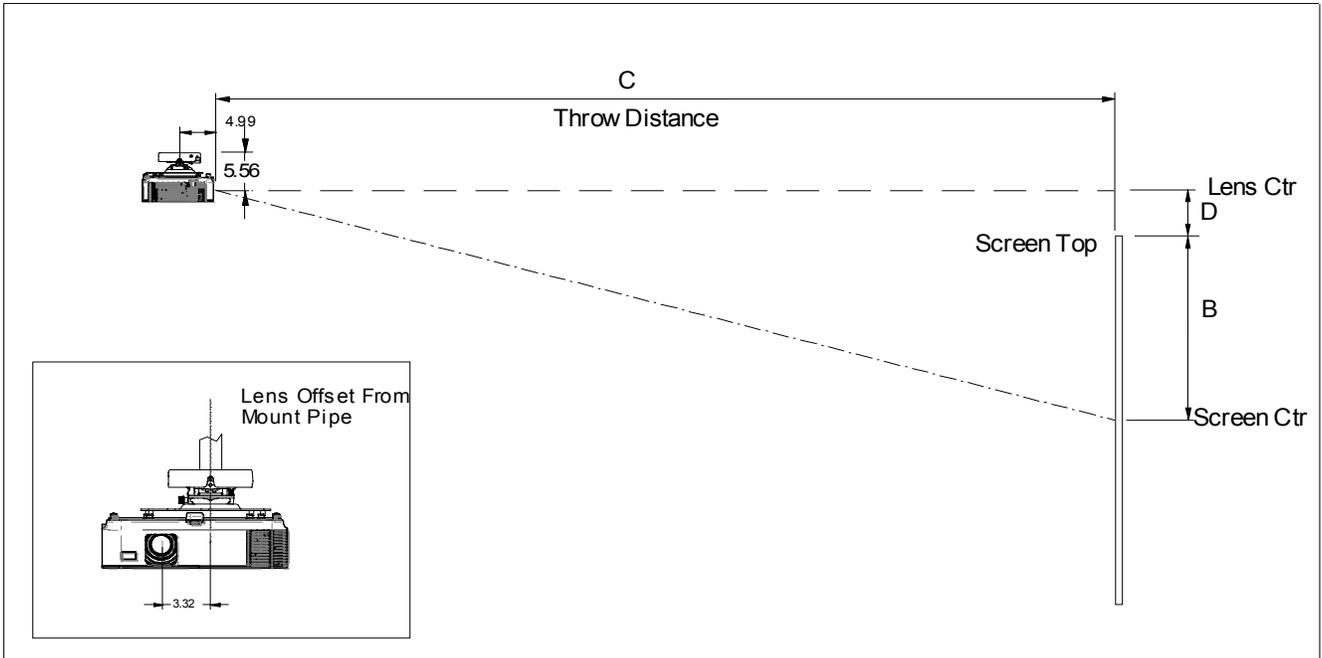
Rev 1.0

### Diagrams and Distance Charts

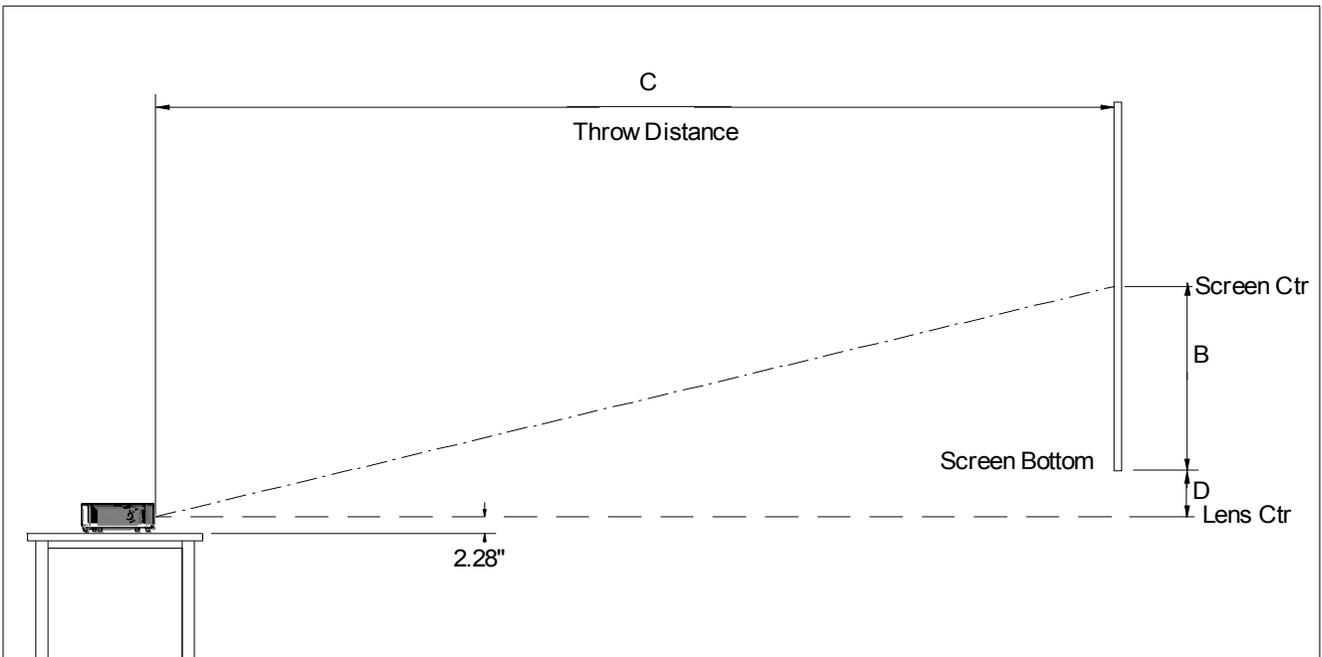
The following shows the proper relative positions of the projector and screen. Refer to the table to determine the position of installation.

Distances are in inches. For millimeters multiply by 25.4.

#### Ceiling Mounted



#### Desktop



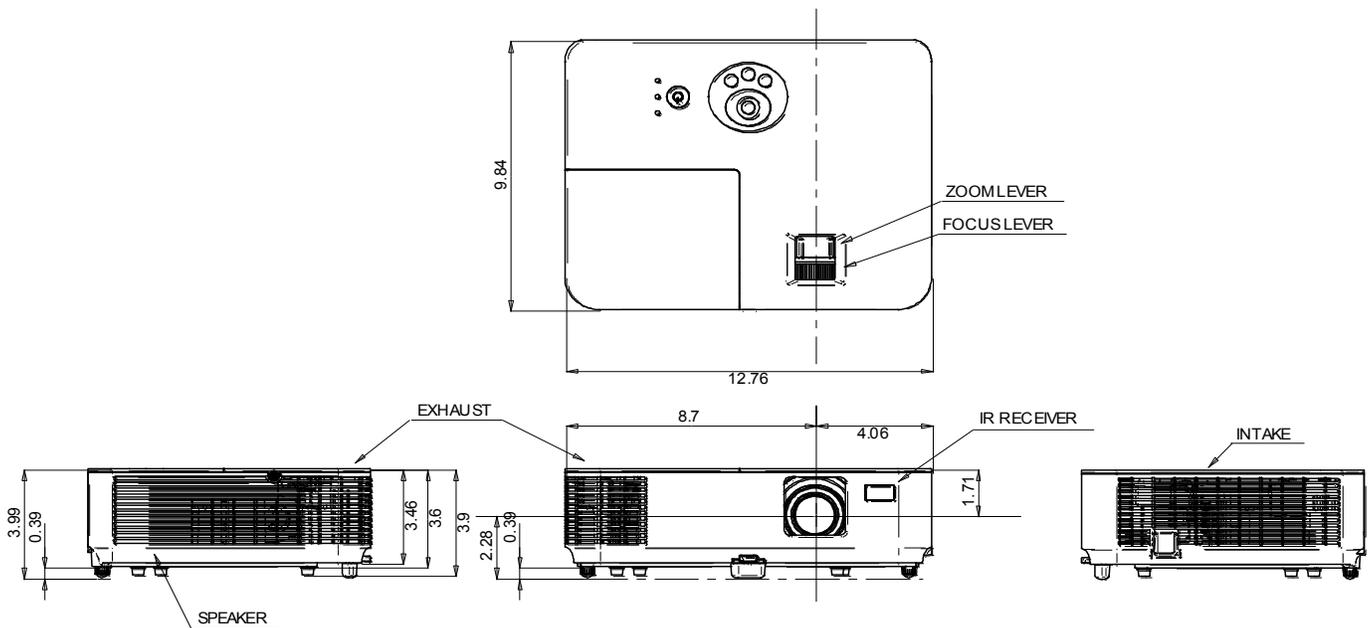
## VE303/VE303X Installation Guide

### Ceiling and Desktop Mounted

Rev 1.0

#### Cabinet Dimensions

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



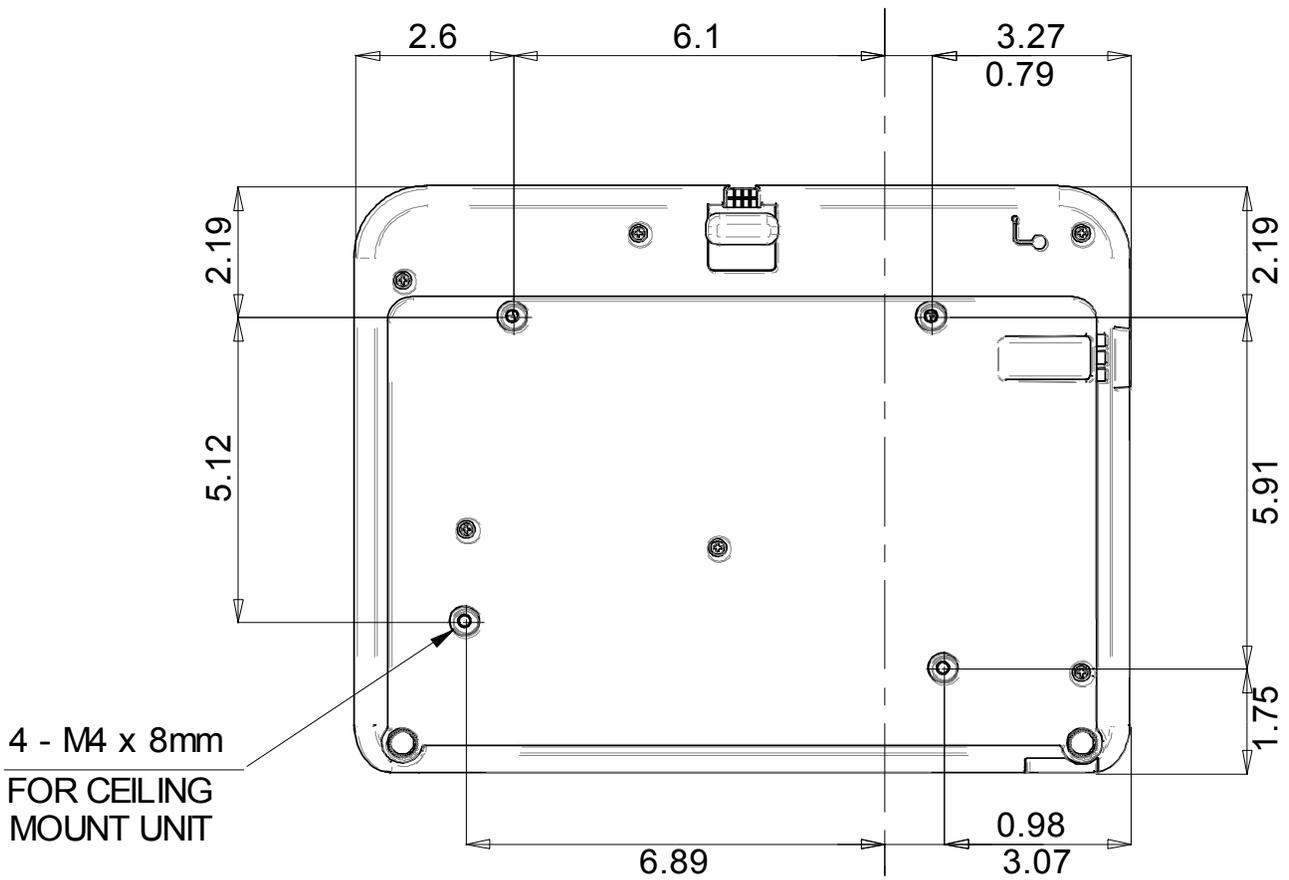
## VE303/VE303X Installation Guide

Ceiling and Desktop Mounted

Rev 1.0

### Cabinet Dimensions (continued)

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



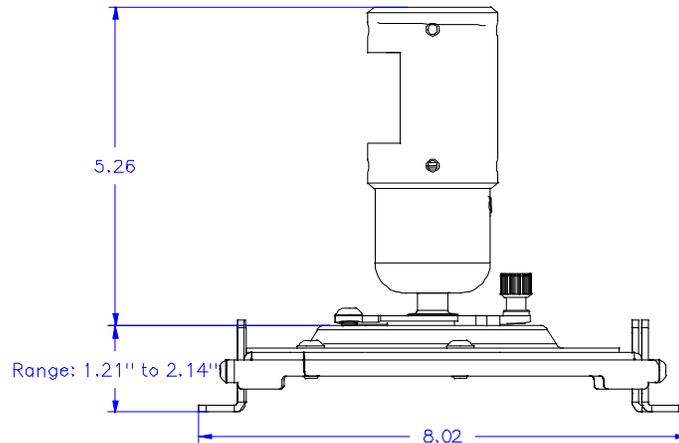
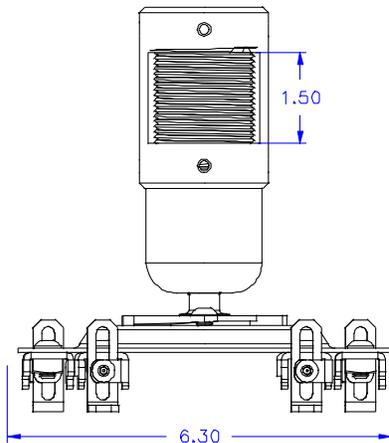
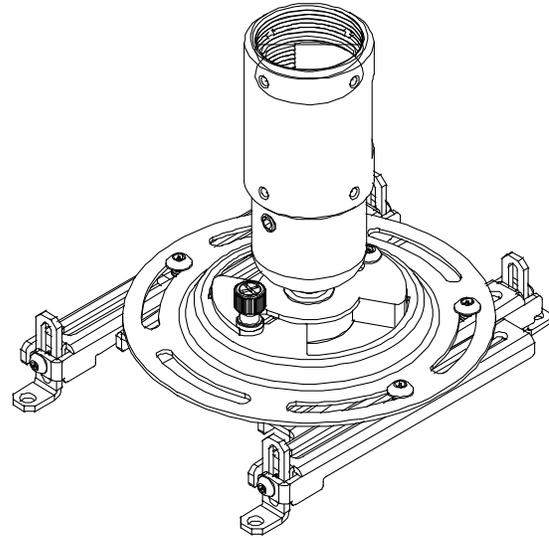
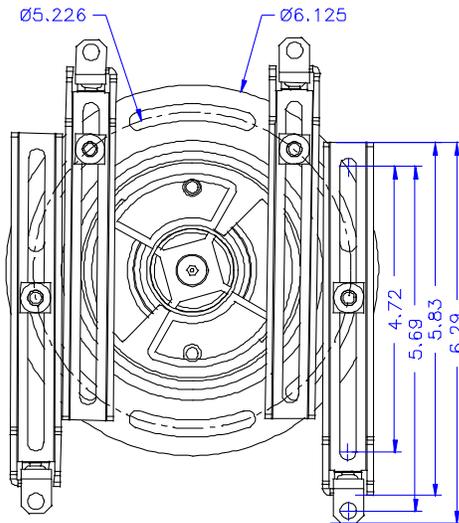
## VE303/VE303X Installation Guide

Ceiling and Desktop Mounted

Rev 1.0

### Optional Ceiling Mount Dimensions (Model #: NP01UCM)

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



## VE303/VE303X Installation Guide

Ceiling and Desktop Mounted

Rev 1.0

### Input Panels



### PC Control Codes

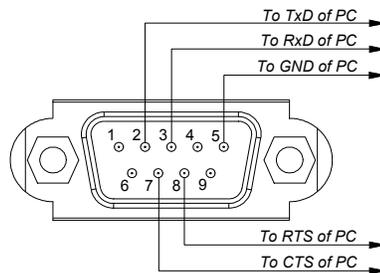
Function	Code Data
POWER ON	02H 00H 00H 00H 00H 02H
POWER OFF	02H 01H 00H 00H 00H 03H
INPUT SELECT COMPUTER	02H 03H 00H 00H 02H 01H 01H 09H
INPUT SELECT VIDEO	02H 03H 00H 00H 02H 01H 06H 0EH
INPUT SELECT HDMI	02H 03H 00H 00H 02H 01H A1H A9H
PICTURE MUTE ON	02H 10H 00H 00H 00H 12H
PICTURE MUTE OFF	02H 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: 38400 bps  
 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.