LT245 Installation Guide
Used with 4:3 and 16:9 screens   v1.1

Contents

Product Description

Type:	1chip DMD™ projector,	Color Wheel:	4 segment
Resolution:	1024 x 768 (4:3)	Dimensions:	10.24"(W) x 4.84"(H) x 12.40"(D)
	1024 x 576 (16:9)	Weight:	7.1 lbs
Brightness:	2200 ANSI lumens		

Lens Specifications

Throw Ratio:	1.5 - 1.9:1(for 100" diagonal)	Focal Length: 22.1mm – 26.5mm
Offset Angle:	15.7°-18.7° (for 100" diagonal)	F/#: 2.2 – 2.5
Screen Sizes:	30"-500" diagonal (4:3)	Manual Zoom / Focus

Screen/Aspect Ratio

Both 4:3 and 16:9 screens are fully supported with proper aspect ratio control for both type sources using NEC developed scaling technology. By selecting the screen type in the menus, Aspect Ratio control is reconfigured for that screen type.

- For a 4:3 screen; select "4:3" in the "Screen" menu for proper aspect ratio control of 4:3 and 16:9 sources.
- For a 16:9 screen; select "16:9" in the "Screen" menu for proper aspect ratio control of 4:3 and 16:9 sources.
  *Factory default "Screen" setting is "4:3".

Notes

- For screen sizes not indicated on the projection charts, use the formulas below.
- The ceiling must be strong enough to support the projector and the installation must be in accordance with any local building codes.
- 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 and 3.

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).
α = Projection angle

4:3 Screen Formulas:
W = H x 4/3
H = W x 3/4
Screen Diagonal = W x 5/4

16:9 Screen Formulas:
W = H x 16/9
H = W x 9/16
Screen Diagonal = W x 18.35756/16

Projection Formulas:
B = 0.5248W - 0.053
C (wide) = 1.5692W – 1.978
C (tele) = 1.8836W – 1.9
D(4:3) = 0.1498W - 0.053
D(16:9) = 0.24355W - 0.053
α (wide) = $\tan^{-1}$ (B/C(wide))
α (tele)   = $\tan^{-1}$ (B/C(tele))

Vertical Position for a 16:9 screen: The Vertical Position adjustment moves the 16:9 image up and down in the unused portion of the 4:3 panel. This adjustment is only available when the projector is set for '16:9' in the 'Screen' menu. The range of Vertical Position is dependent on aspect ratio and 3D Reform used. If 3D Reform is not used, the approximate range of Vertical Position is +/-0.167H (H=Screen Height) when using a 16:9 screen.
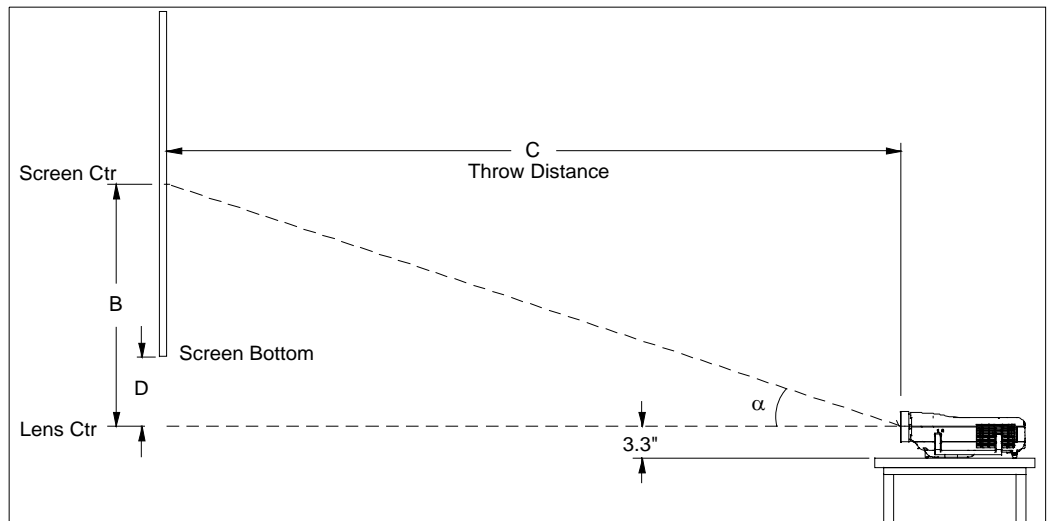
Diagrams and Distance Charts for 4:3 Screens

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
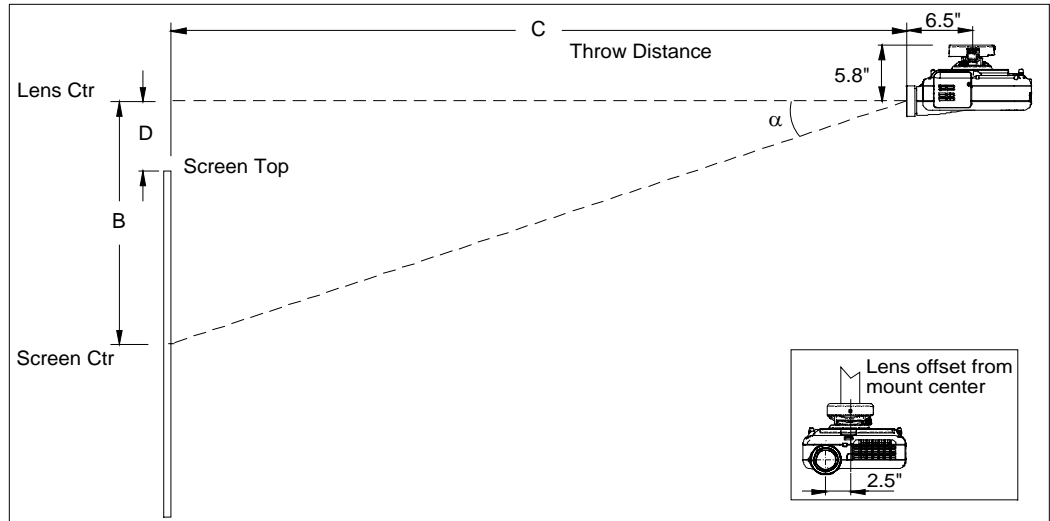
Desktop
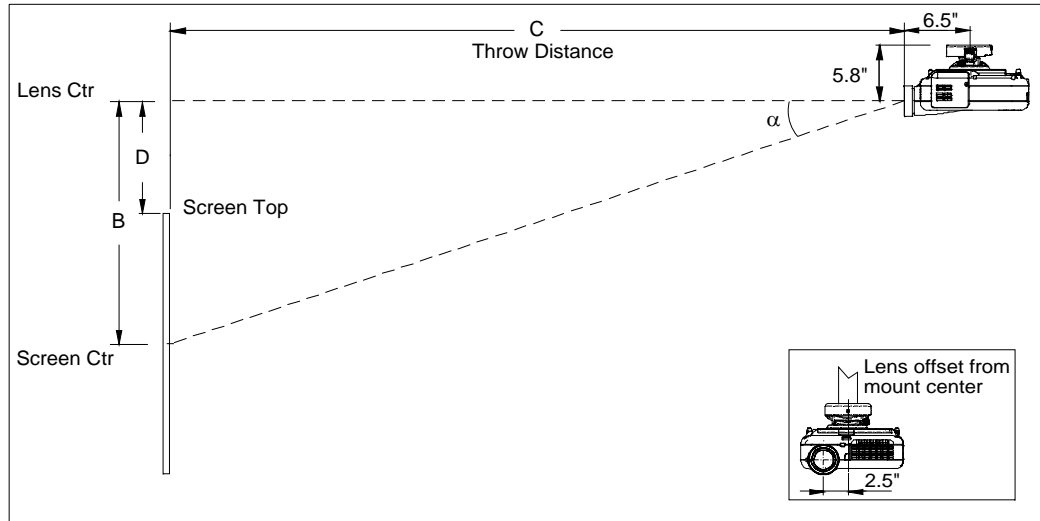

Distance chart for popular 4:3 screens

Screen Size (4:3)			B	C	D	α
Diag	W	H		wide - tele		wide - tele
inches	inches	inches	inches	inches	inches	degrees
30	24	18	12.5	35.7 - 43.3	3.5	19.4 - 16.2
60	48	36	25.1	73.3 - 88.5	7.1	18.9 - 15.9
72	57.6	43.2	30.2	88.4 - 106.6	8.6	18.8 - 15.8
84	67.2	50.4	35.2	103.5 - 124.7	10.0	18.8 - 15.8
90	72	54	37.7	111.0 - 133.7	10.7	18.8 - 15.8
100	80	60	41.9	123.6 - 148.8	11.9	18.7 - 15.7
120	96	72	50.3	148.7 - 178.9	14.3	18.7 - 15.7
150	120	90	62.9	186.3 - 224.1	17.9	18.7 - 15.7
180	144	108	75.5	224.0 - 269.3	21.5	18.6 - 15.7
200	160	120	83.9	249.1 - 299.5	23.9	18.6 - 15.7
250	200	150	104.9	311.9 - 374.8	29.9	18.6 - 15.6
300	240	180	125.9	374.6 - 450.2	35.9	18.6 - 15.6
350	280	210	146.9	437.4 - 525.5	41.9	18.6 - 15.6
400	320	240	167.9	500.2 - 600.9	47.9	18.6 - 15.6
450	360	270	188.9	562.9 - 676.2	53.9	18.5 - 15.6
500	400	300	209.9	625.7 - 751.5	59.9	18.5 - 15.6

Note: *For screen sizes not indicated on the chart, use the formulas on page 1.*
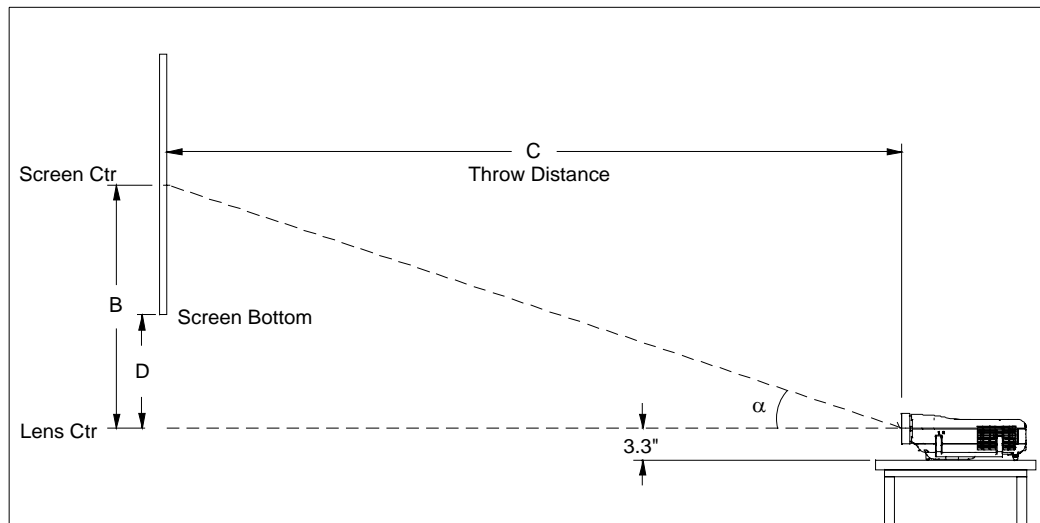
Diagrams and Distance Charts for 16:9 Screens

The following diagram shows 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

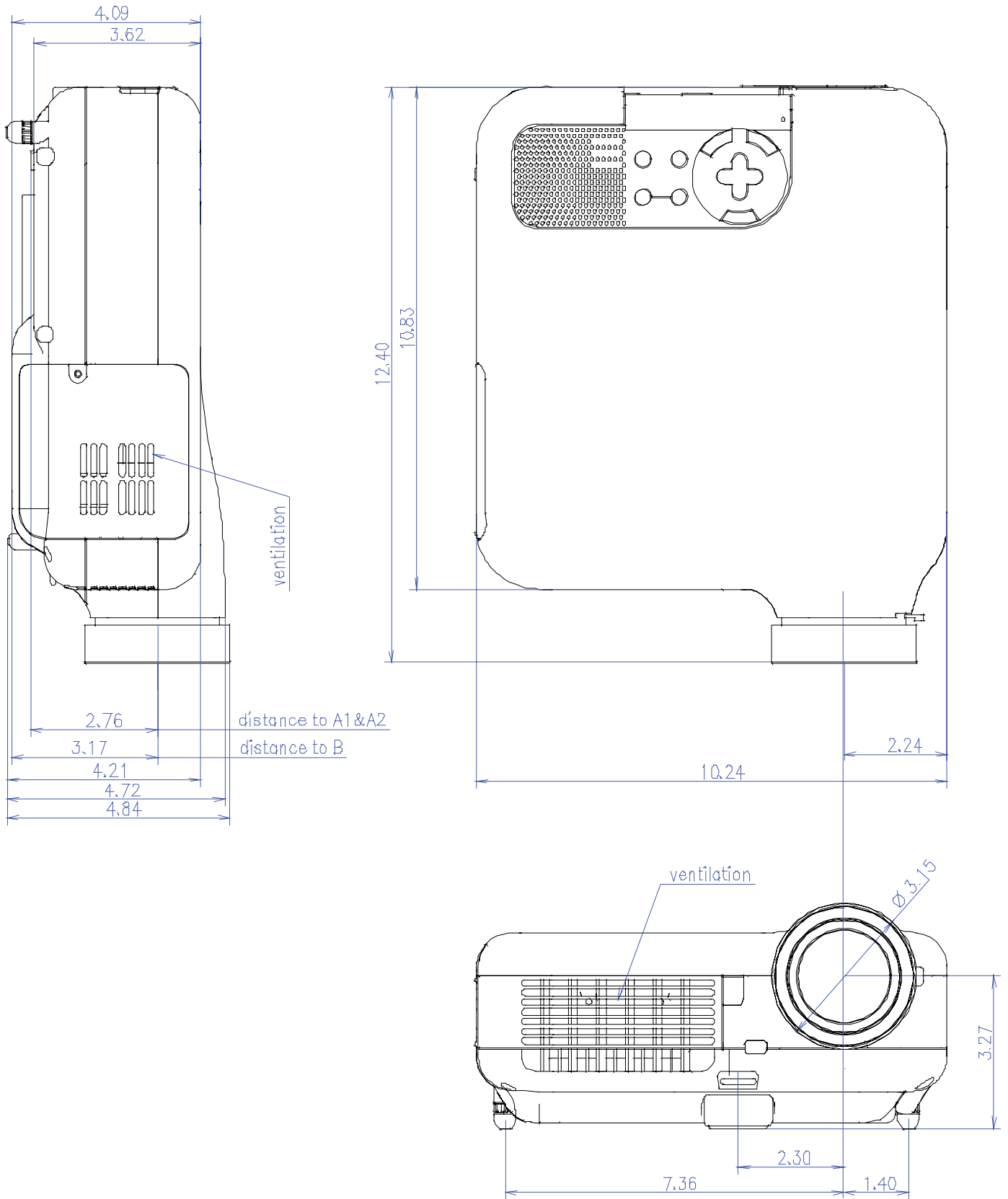### Desktop

Distance chart for popular 16:9 screens

Vertical Position for a 16:9 screen
The Vertical Position adjustment moves the 16:9 image up and down in the unused portion of the 4:3 panel. This adjustment is only available when the projector is set for '16:9' in the 'Screen' menu. The range of Vertical Position is dependent on aspect ratio and 3D Reform used. If 3D Reform is not used, the approximate range of Vertical Position is +/-0.167H (H=Screen Height) when using a 16:9 screen.

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

Screen Size (16:9)			B	C	D	α
Diag	W	H		wide - tele		wide - tele
inches	inches	inches	inches	inches	inches	degrees
28	24	13.5	12.5	35.7 - 43.3	5.8	19.4 - 16.2
55	48	27	25.1	73.3 - 88.5	11.6	18.9 - 15.9
60	53	29.5	27.5	80.4 - 97.0	12.7	18.9 - 15.8
73	64	36	33.5	98.5 - 118.7	15.5	18.8 - 15.8
82.6	72	40.5	37.7	111.0 - 133.7	17.5	18.8 - 15.8
92	80	45	41.9	123.6 - 148.8	19.4	18.7 - 15.7
100	87	49	45.6	134.5 - 162.0	21.1	18.7 - 15.7
106	92	52	48.2	142.4 - 171.4	22.4	18.7 - 15.7
110	96	54	50.3	148.7 - 178.9	23.3	18.7 - 15.7
119	104	58.5	54.5	161.2 - 194.0	25.3	18.7 - 15.7
123	107	60	56.1	165.9 - 199.6	26.0	18.7 - 15.7
133	116	65	60.8	180.0 - 216.6	28.2	18.7 - 15.7
135	118	66	61.9	183.2 - 220.4	28.7	18.7 - 15.7
159.5	139	78	72.9	216.1 - 259.9	33.8	18.6 - 15.7
161	140	79	73.4	217.7 - 261.8	34.0	18.6 - 15.7
459	400	225	209.9	625.7 - 751.5	97.4	18.5 - 15.6

Cabinet Dimensions

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

4.09
3.62

ventilation

12.40
10.83

2.76   distance to A1&A2
3.17   distance to B
4.21
4.72
4.84

2.24

10.24
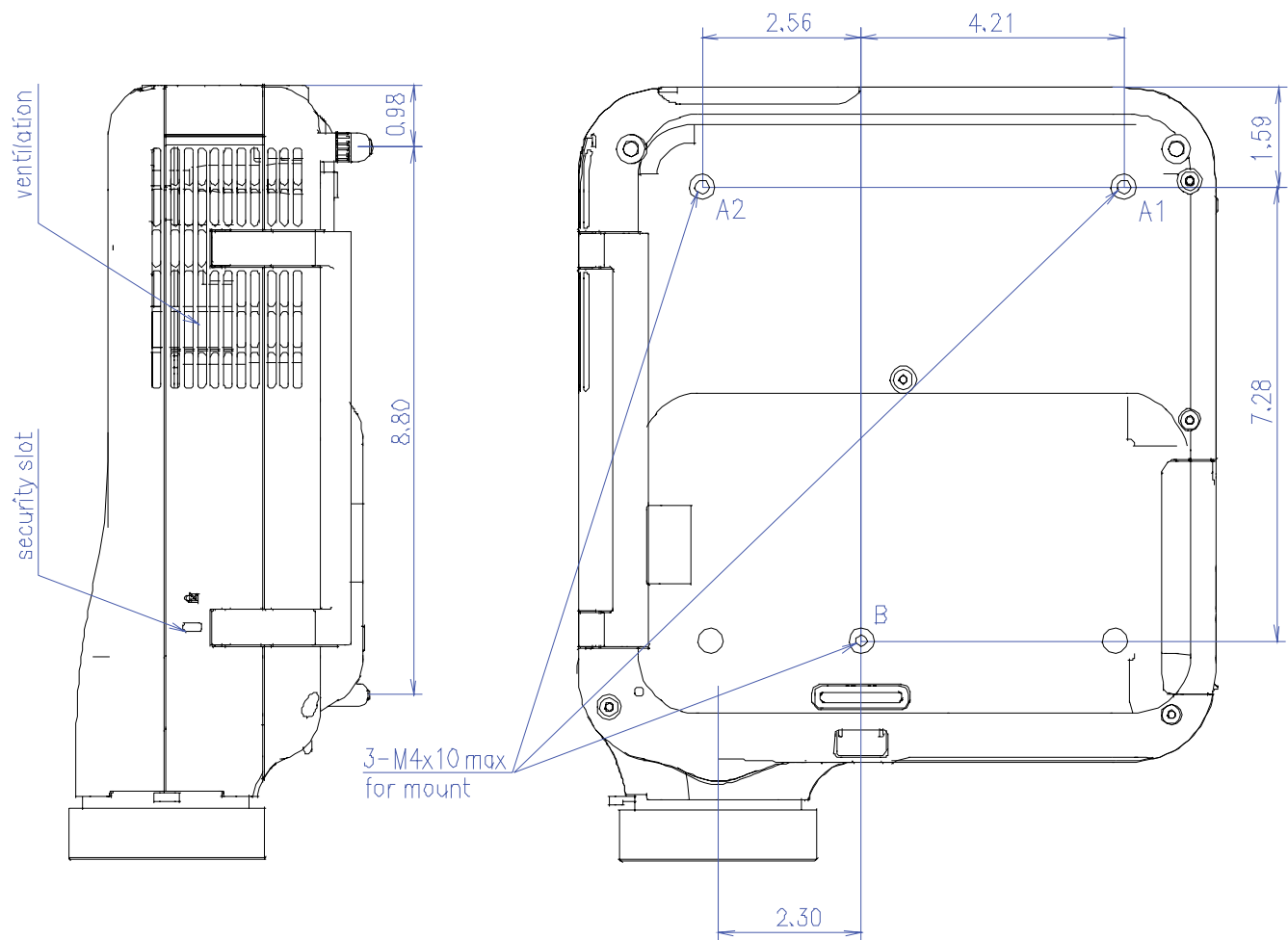
ventilation

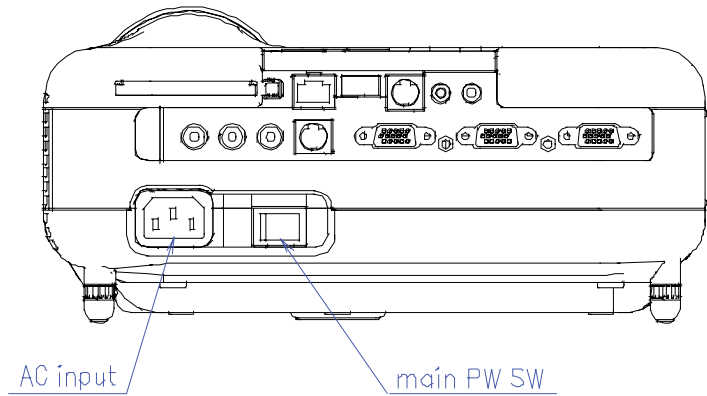Ø3.15

3.27

2.30

7.36   1.40

Cabinet Dimensions (continued)

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

AC input

main PW SW

ventilation

security slot

0.98

8.80

2.56

4.21

1.59

7.28

A2

A1

B

3-M4x10 max
for mount

2.30

Optional Ceiling Mount Dimensions (Model #: LT65CM)

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

The mount accommodates a 1.5" NPT treaded pipe extension or two 3/8"-16 threaded rod extensions.
Mount adjustments include roll, pitch and yaw.
Contact Peerless Industries for mount accessories at (800) 865-2112.

1.5 NPT

0.406

8.062

3.044

7.398

2.669
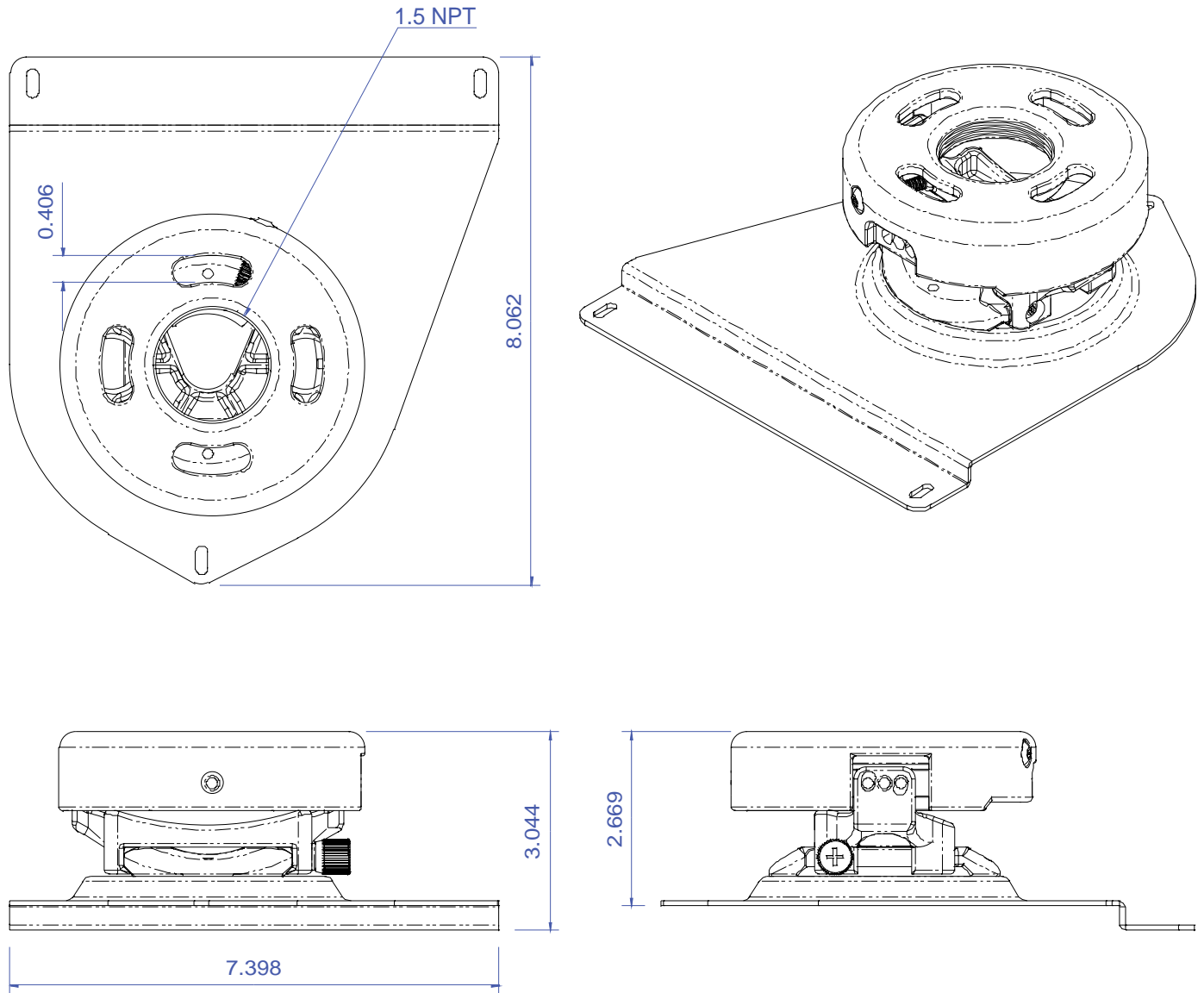
Input Panel
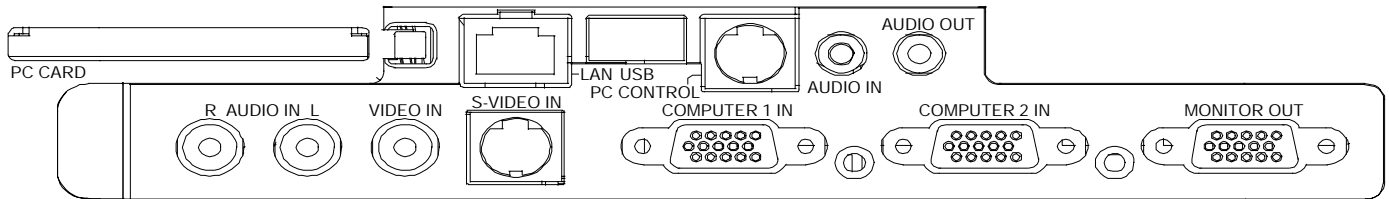
Control Codes

| Function		Code Data									
POWER ON		02H	00H	00H	00H	00H	02H				
POWER OFF		02H	01H	00H	00H	00H	03H				
INPUT SELECT RGB 1		02H	03H	00H	00H	02H	01H	01H	09H		
INPUT SELECT RGB 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		
INPUT SELECT VIEWER		02H	03H	00H	00H	02H	01H	1FH	27H		
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				
ON SCREEN MUTE ON		02H	14H	00H	00H	00H	16H				
ON SCREEN MUTE OFF		02H	15H	00H	00H	00H	17H				
ASPECT RATIO (4:3 Screen)	4:3	03H	10H	00H	00H	05H	18H	00H	00H	00H	00H	30H
	Letterbox	03H	10H	00H	00H	05H	18H	00H	00H	01H	00H	31H
	Widescreen	03H	10H	00H	00H	05H	18H	00H	00H	02H	00H	32H
	Crop	03H	10H	00H	00H	05H	18H	00H	00H	03H	00H	33H
ASPECT RATIO (16:9 Screen)	4:3 Window	03H	10H	00H	00H	05H	18H	00H	00H	00H	00H	30H
	Letterbox	03H	10H	00H	00H	05H	18H	00H	00H	01H	00H	31H
	Widescreen	03H	10H	00H	00H	05H	18H	00H	00H	02H	00H	32H
	4:3 Fill	03H	10H	00H	00H	05H	18H	00H	00H	04H	00H	34H
AUTO ADJUST		02H	0FH	00H	00H	02H	05H	00H	18H			

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 (DIN-8P)
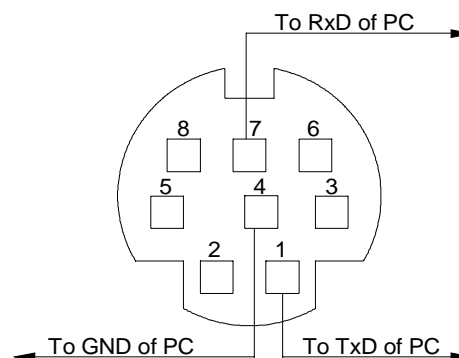
NOTE 1: *For LT265GOV, it is recommended to set Standby Mode to 'Normal' in the Setup menu for best Power ON response.*
NOTE 2: *Pins 2, 3, 5, 6 and 8 are used inside the projector..*
NOTE 3: *For long cable runs it is recommended to set communication speed within projector menus to 9600 bps.*