

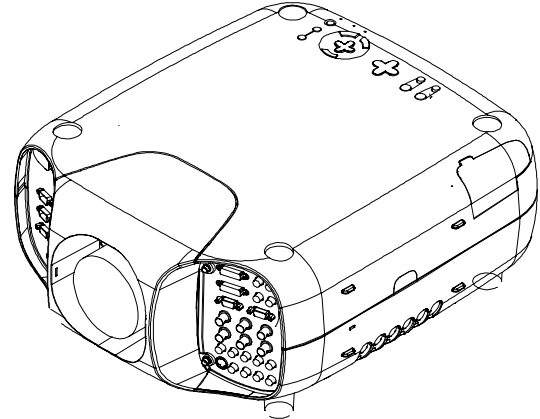
GT1150/2150 Installation Guide

Desktop and Ceiling Mount

v6.6

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Product Description

Type:	3 panel LCD, 1.3" p-Si TFT w/MLA	Dimensions:	16.5"(W) x 8.25"(H) x 19.45"(D)
Native Resolution:	GT1150: 1024 x 768 GT2150: 1366 x 1024	Weight:	GT1150: 22.1 lbs w/o lens GT2150: 28.3 lbs w/o lens
Brightness:	GT1150: 3000 ANSI Lumens GT2150: 2500 ANSI Lumens	Power Lens Shift/Power Zoom/Power Focus	

Lens Specifications

GT10RL <i>(discontinued)</i>	Throw Ratio: 1.0:1 (approx.) Screen Sizes: 40"-300"	Focal Length: 27mm F/#: 2.3
GT10RLB	Throw Ratio: 1.08:1 (approx.) Screen Sizes: 40"-200" (see note below)	Focal Length: 28.9mm F/#: 2.4
*GT13ZL/13ZLB	Throw Ratio: 1.3 - 1.6:1 (approx.) Screen Sizes: 40" - 300"	Focal Length: 34.5 - 42.5mm F/#: 2.3 - 2.8
GT19ZL/19ZLB <i>(check availability)</i>	Throw Ratio: 1.8 - 2.4:1 (approx.) Screen Sizes: 40" - 300"	Focal Length: 48.9 - 63.7mm F/#: 2.0 - 2.5
*GT20ZL	Throw Ratio: 2.1 - 2.8:1 (approx.) Screen Sizes: 40" - 300" (see note below)	Focal Length: 57.4 - 74.7mm F/#: 1.8 - 2.5
GT24ZL/24ZLB	Throw Ratio: 2.4 - 3.4:1 (approx.) Screen Sizes: 60" - 400"	Focal Length: 64.0 - 92.8mm F/#: 2.5 - 3.2
GT34ZL/34ZLB	Throw Ratio: 3.4 - 5.2:1 (approx.) Screen Sizes: 80" - 500"	Focal Length: 92.4 - 140.6mm F/#: 2.5 - 3.4

*GT10RLB and GT20ZL may need a metal plate removed at the back of the lens to achieve full screen size range (see page 6).

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 $\pm 5\%$.

Formulas (for a 4:3 screen)

Units: Inches (for millimeters multiply final number by 25.4)

Projection Formulas:

<i>(discontinued)</i>	GT10RL:	$C = 1.027W - 2.468$	
	GT10RLB:	$C = 1.0891W - 2.087$	
	GT13ZL/13ZLB:	$C(\text{Wide}) = 1.3099W - 2.325$	$C(\text{Tele}) = 1.6111W - 2.325$
<i>(check availability)</i>	GT19ZL/19ZLB:	$C(\text{Wide}) = 1.8639W - 3.228$	$C(\text{Tele}) = 2.4231W - 3.228$
	GT20ZL:	$C(\text{Wide}) = 2.1731W - 3.987$	$C(\text{Tele}) = 2.8477W - 3.949$
	GT24ZL/24ZLB:	$C(\text{Wide}) = 2.4282W - 4.799$	$C(\text{Tele}) = 3.5209W - 4.799$
	GT34ZL/34ZLB:	$C(\text{Wide}) = 3.5523W - 6.786$	$C(\text{Tele}) = 5.3284W - 6.786$

Definitions:

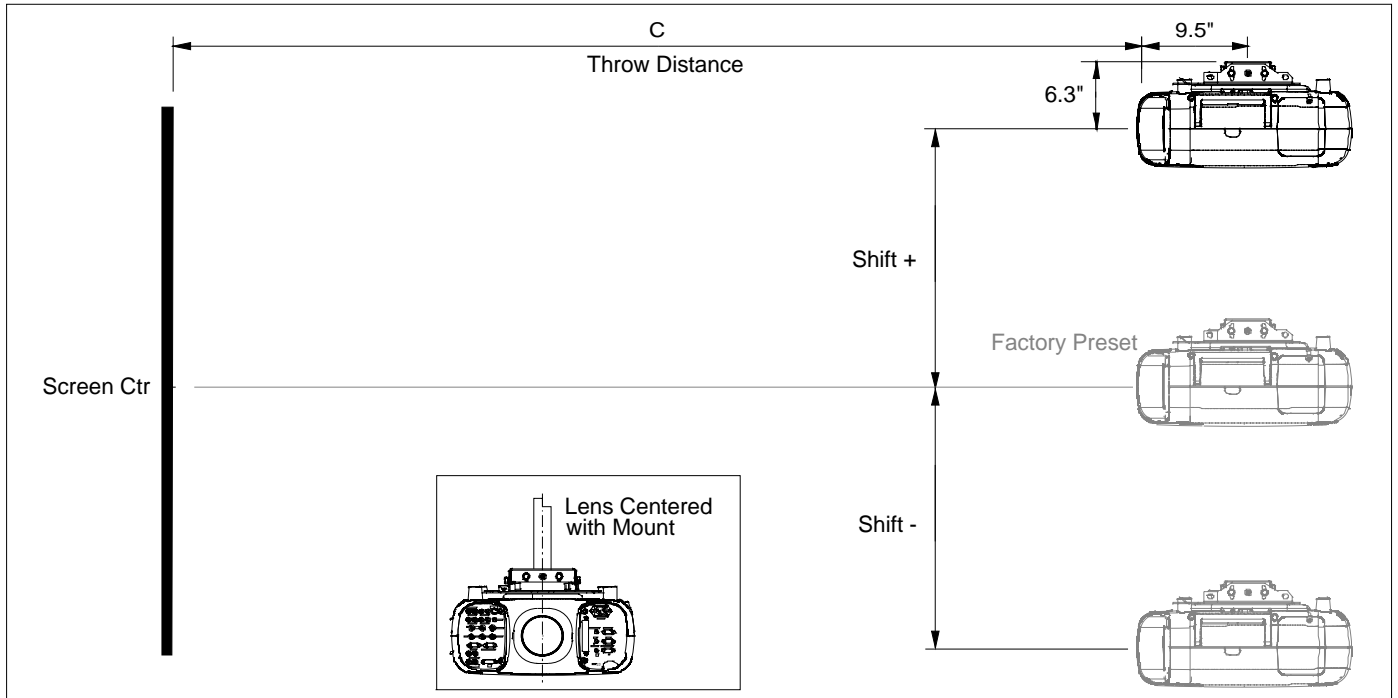
W = Screen Width (4:3)
H = Screen Height (4:3)
C = Throw Distance

Screen Formulas:

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

Ceiling Mounted Installation

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.



Note: See Page 4 and 5 for lens shift range for each lens.

Note: Lens shift is not available on GT10RL/GT10RLB (rear lenses). GT10RL/GT10RLB should be used only for “zero degree/no-offset” applications.

Distance Chart (for popular screen sizes)

Screen Size (4:3)			Throw Distance						
			Rear Lenses		Zoom Lenses				
			GT10RL (discontinued)	GT10RLB*	GT13ZL/13ZLB	GT19ZL/19ZLB (check availability)	GT20ZL*	GT24ZL/24ZLB	GT34ZL/34ZLB
Diag	W	H	1.0:1	1.08:1	1.3 - 1.6:1	1.8 - 2.4:1	2.1 - 2.8:1	2.4 - 3.4:1	3.4 - 5.2:1
inches	inches	inches	inches	inches	inches	inches	inches	inches	inches
40	32	24	30.4	32.8	39.6 - 49.2	56.4 - 74.3	65.6 - 87.2	NA	NA
60	48	36	46.8	50.2	60.6 - 75.0	86.2 - 113.1	100.3 - 132.7	111.8 - 164.2	NA
67	53.6	40.2	52.6	56.3	67.9 - 84.0	96.7 - 126.7	112.5 - 148.7	125.4 - 183.9	NA
72	57.6	43.2	56.7	60.6	73.1 - 90.5	104.1 - 136.3	121.2 - 160.1	135.1 - 198.0	NA
84	67.2	50.4	66.6	71.1	85.7 - 105.9	122.0 - 159.6	142.0 - 187.4	158.4 - 231.8	231.9 - 351.3
90	72	54	71.5	76.3	92.0 - 113.7	131.0 - 171.2	152.5 - 201.1	170.0 - 248.7	249.0 - 376.9
100	80	60	79.7	85.0	102.5 - 126.6	145.9 - 190.6	169.9 - 223.9	189.5 - 276.9	277.4 - 419.5
120	96	72	96.1	102.5	123.4 - 152.3	175.7 - 229.4	204.6 - 269.4	228.3 - 333.2	334.2 - 504.7
150	120	90	120.8	128.6	154.9 - 191.0	220.4 - 287.5	256.8 - 337.8	286.6 - 417.7	419.5 - 632.6
180	144	108	145.4	154.7	186.3 - 229.7	265.2 - 345.7	308.9 - 406.1	344.9 - 502.2	504.7 - 760.5
200	160	120	161.9	172.2	207.3 - 255.5	295.0 - 384.5	343.7 - 451.7	383.7 - 558.5	561.6 - 845.8
240	192	144	194.7	NA	249.2 - 307.0	354.6 - 462.0	413.2 - 542.8	461.4 - 671.2	675.3 - 1016.3
250	200	150	203.0	NA	259.7 - 319.9	369.6 - 481.4	430.6 - 565.6	480.8 - 699.4	703.7 - 1058.9
270	216	162	219.4	NA	280.6 - 345.7	399.4 - 520.2	465.4 - 611.2	519.7 - 755.7	760.5 - 1144.1
300	240	180	244.0	NA	312.1 - 384.3	444.1 - 578.3	517.6 - 679.5	578.0 - 840.2	845.8 - 1272.0
400	320	240	NA	NA	NA	NA	NA	772.2 - 1121.9	1130.0 - 1698.3
500	400	300	NA	NA	NA	NA	NA	NA	1414.1 - 2124.6

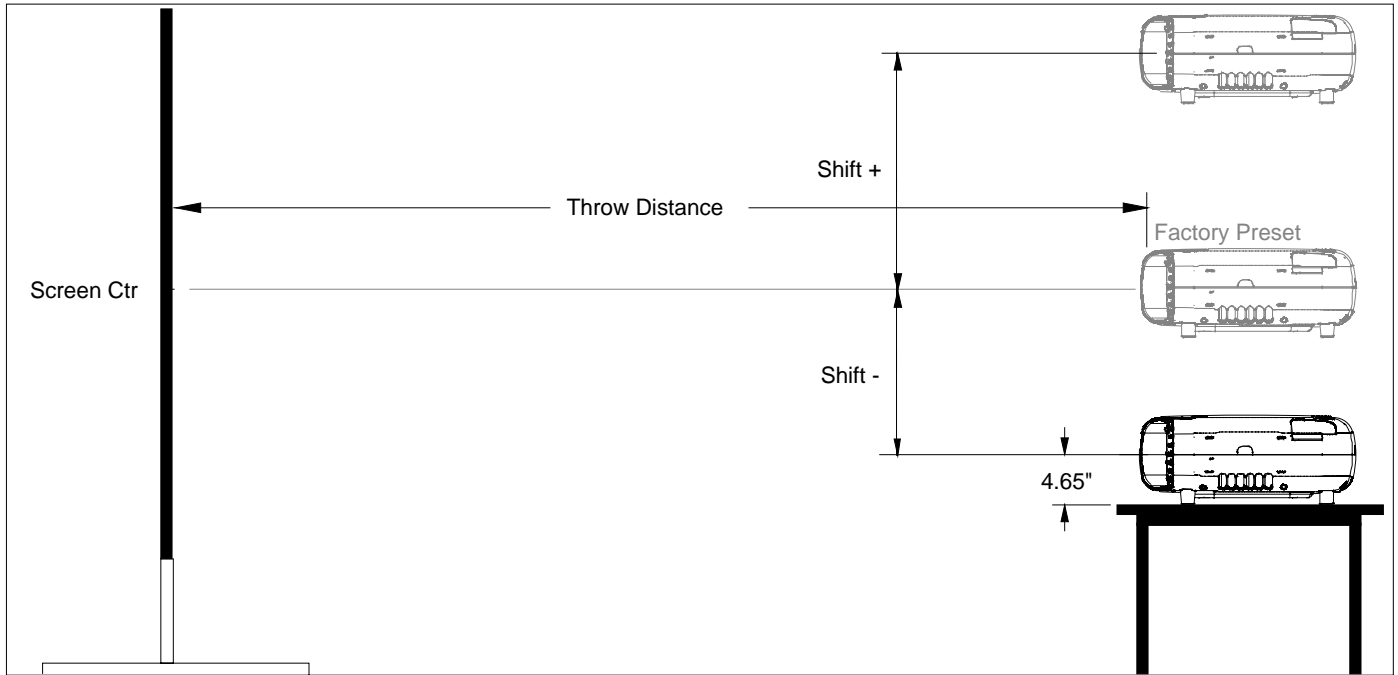
Note: For screen sizes not indicated on the chart, use the formulas on page 1.

Note: “NA” means it is outside the screen range for that lens. Refer to “Screen Sizes” in the Lens Specifications on Page 1.

*GT10RLB and GT20ZL may need a metal plate removed at the back of the lens to achieve full screen size range (see page 6).

Desktop Setup

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.



Note: See Page 4 and 5 for lens shift range for each lens.

Note: Lens shift is not available on GT10RL/GT10RLB (rear lenses). GT10RL/GT10RLB should be used only for “zero degree/no-offset” applications.

Distance Chart (for popular screen sizes)

Screen Size (4:3)			Throw Distance						
			Rear Lenses		Zoom Lenses				
			GT10RL (discontinued)	GT10RLB*	GT13ZL/13ZLB	GT19ZL/19ZLB (check availability)	GT20ZL*	GT24ZL/24ZLB	GT34ZL/34ZLB
Diag	W	H	1.0:1	1.08:1	1.3 - 1.6:1	1.8 - 2.4:1	2.1 - 2.8:1	2.4 - 3.4:1	3.4 - 5.2:1
inches	inches	inches	inches	inches	inches	inches	inches	inches	inches
40	32	24	30.4	32.8	39.6 - 49.2	56.4 - 74.3	65.6 - 87.2	NA	NA
60	48	36	46.8	50.2	60.6 - 75.0	86.2 - 113.1	100.3 - 132.7	111.8 - 164.2	NA
67	53.6	40.2	52.6	56.3	67.9 - 84.0	96.7 - 126.7	112.5 - 148.7	125.4 - 183.9	NA
72	57.6	43.2	56.7	60.6	73.1 - 90.5	104.1 - 136.3	121.2 - 160.1	135.1 - 198.0	NA
84	67.2	50.4	66.6	71.1	85.7 - 105.9	122.0 - 159.6	142.0 - 187.4	158.4 - 231.8	231.9 - 351.3
90	72	54	71.5	76.3	92.0 - 113.7	131.0 - 171.2	152.5 - 201.1	170.0 - 248.7	249.0 - 376.9
100	80	60	79.7	85.0	102.5 - 126.6	145.9 - 190.6	169.9 - 223.9	189.5 - 276.9	277.4 - 419.5
120	96	72	96.1	102.5	123.4 - 152.3	175.7 - 229.4	204.6 - 269.4	228.3 - 333.2	334.2 - 504.7
150	120	90	120.8	128.6	154.9 - 191.0	220.4 - 287.5	256.8 - 337.8	286.6 - 417.7	419.5 - 632.6
180	144	108	145.4	154.7	186.3 - 229.7	265.2 - 345.7	308.9 - 406.1	344.9 - 502.2	504.7 - 760.5
200	160	120	161.9	172.2	207.3 - 255.5	295.0 - 384.5	343.7 - 451.7	383.7 - 558.5	561.6 - 845.8
240	192	144	194.7	NA	249.2 - 307.0	354.6 - 462.0	413.2 - 542.8	461.4 - 671.2	675.3 - 1016.3
250	200	150	203.0	NA	259.7 - 319.9	369.6 - 481.4	430.6 - 565.6	480.8 - 699.4	703.7 - 1058.9
270	216	162	219.4	NA	280.6 - 345.7	399.4 - 520.2	465.4 - 611.2	519.7 - 755.7	760.5 - 1144.1
300	240	180	244.0	NA	312.1 - 384.3	444.1 - 578.3	517.6 - 679.5	578.0 - 840.2	845.8 - 1272.0
400	320	240	NA	NA	NA	NA	NA	772.2 - 1121.9	1130.0 - 1698.3
500	400	300	NA	NA	NA	NA	NA	NA	1414.1 - 2124.6

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

Note: “NA” means it is outside the screen range for that lens. Refer to “Screen Sizes” in the Lens Specifications on Page 1.

*GT10RLB and GT20ZL may need a metal plate removed at the back of the lens to achieve full screen size range (see page 6).

Lens Shift Adjustable Range

The top right diagram shows the location of the image position in the lens. The lens can be shifted within the shaded area as shown using the normal projection position as a starting point.

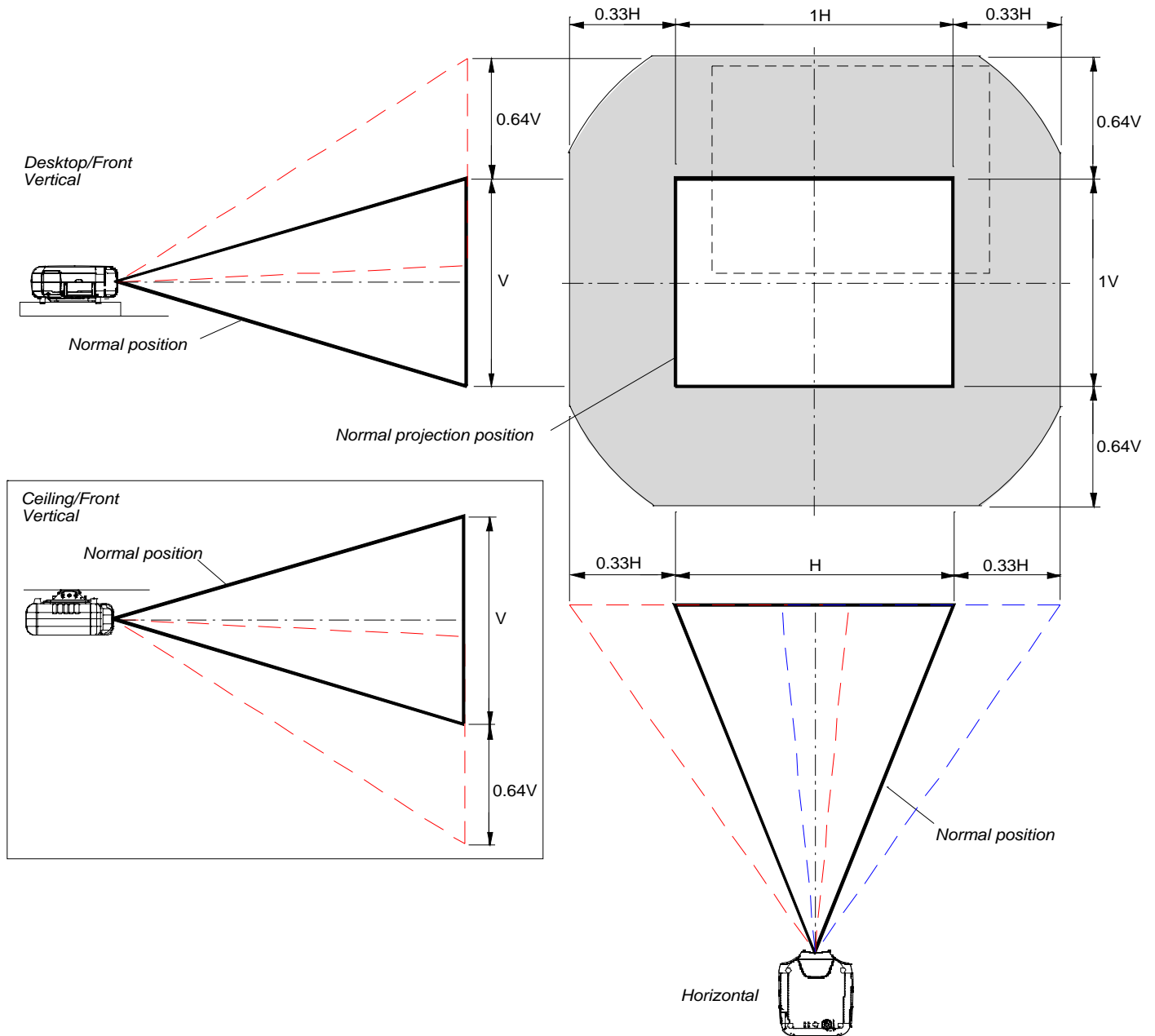
Maximum Possible Range for GT20ZL lens:

Up: $0.64V$ (V: height of projected image)
 Down: $0.64V$
 Right: $0.33H$ (H: width of projected image)
 Left: $0.33H$

Note: Check availability of GT19ZL. (GT10RL is discontinued)

Note: Lens shift is not available on the GT10RL/GT10RLB rear lenses. GT10RL/GT10RLB should be used only for “zero degree/no-offset” applications.

Note: If the lens is shifted in two directions combined, maximum range in either direction cannot be obtained due to rounded off area of lens. (example: shift up and right) See top right diagram.



Lens Shift Adjustable Range (continued)

The top right diagram shows the location of the image position in the lens. The lens can be shifted within the shaded area as shown using the normal projection position as a starting point.

Maximum Possible Range for GT13ZL/GT13ZLB/GT19ZL/GT19ZLB/GT24ZL/GT24ZLB/GT34ZL/GT34ZLB lenses:

GT13ZL/13ZLB values in parentheses

Up: 0.5V (0.43V) (V: height of projected image)

Down: 0.5V (0.43V)

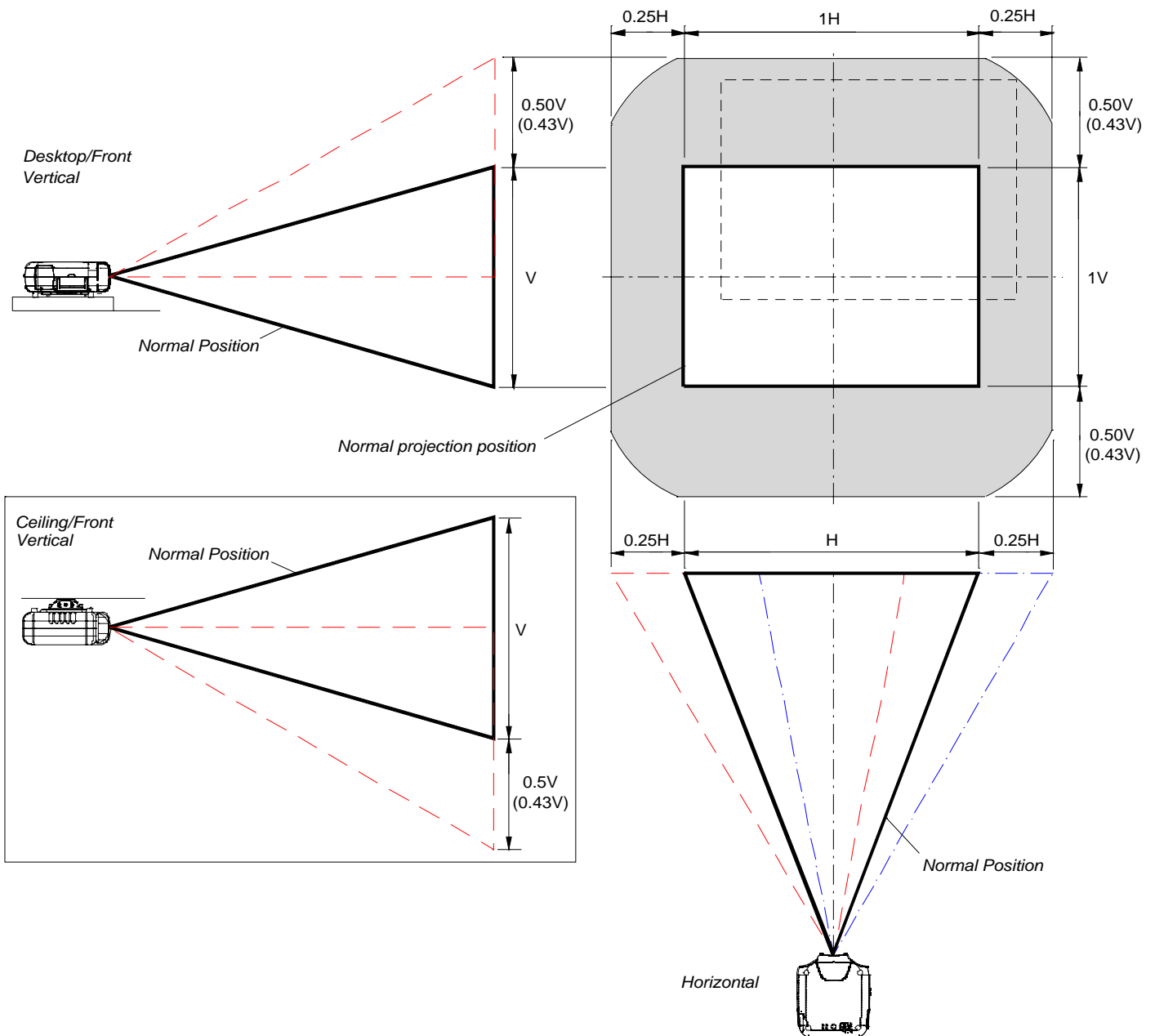
Right: 0.32H (H: width of projected image)

Left: 0.32H

Note: Check availability of GT19ZL. (GT10RL is discontinued)

Note: Lens shift is not available on the GT10RL/GT10RLB rear lenses. GT10RL/GT10RLB should be used only for “zero degree/no-offset” applications.

Note: If the lens is shifted in two directions combined, maximum range in either direction cannot be obtained due to rounded off area of lens. (example: shift up and right) See top right diagram.



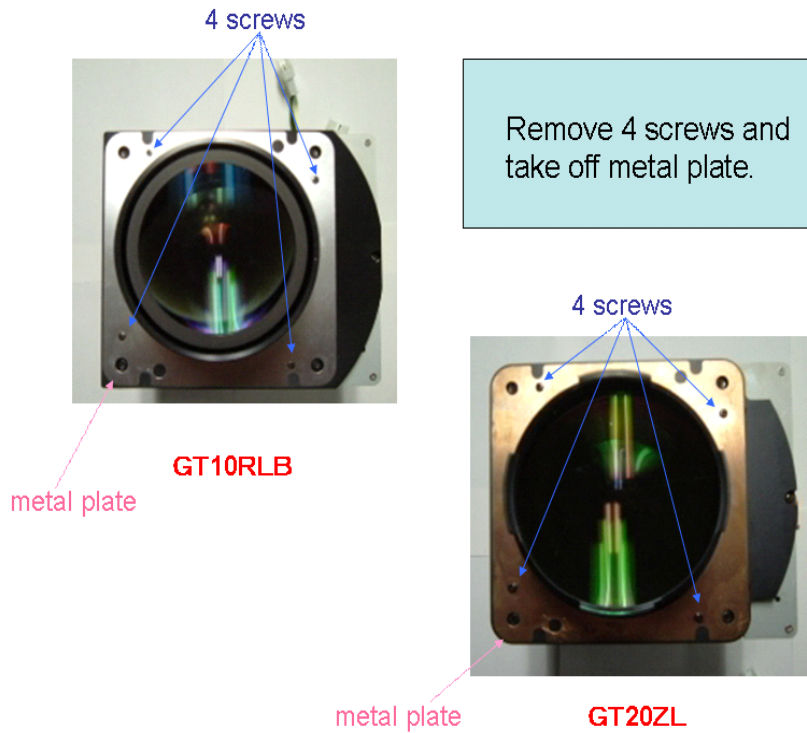
GT10RLB and GT20ZL Screen Size Information

These two lenses are a newer lens designed optimally for newer models in the GT Series. They are both fully backward compatible with the GT1150/2150, but to obtain the full screen size range the metal plate at the back of the lens may need to be removed. This is only an issue when the GT10RLB is used for screen sizes from 100" – 200" diagonal and when the GT20ZL is used for screen sizes from 250" – 300" diagonal. If these screen sizes are needed, see the information below on removing the metal plate.

Information in "blue" shows the screen size range for each lens with the metal plate left on the lens. Information in "red" shows the screen size range for each lens with the metal plate removed.

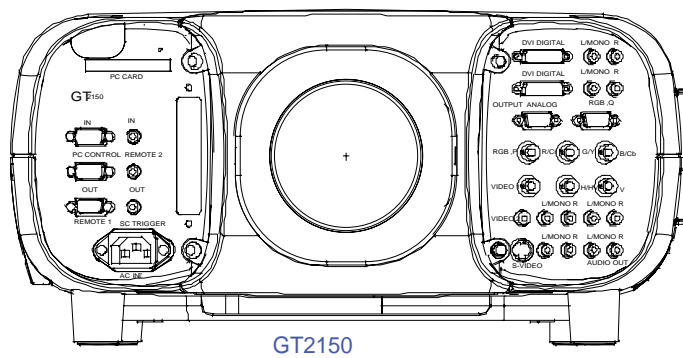
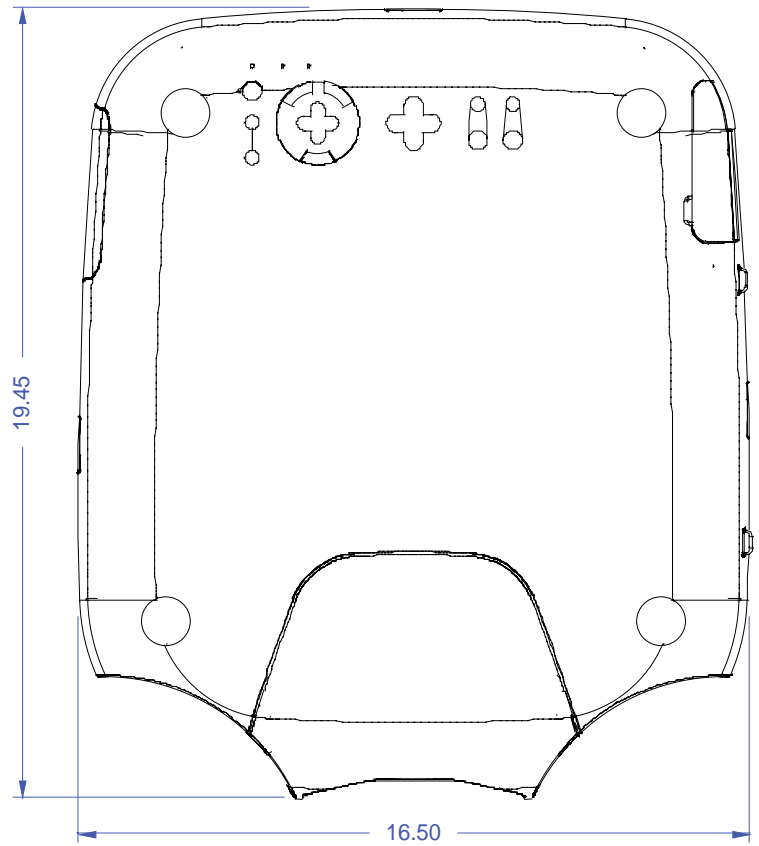
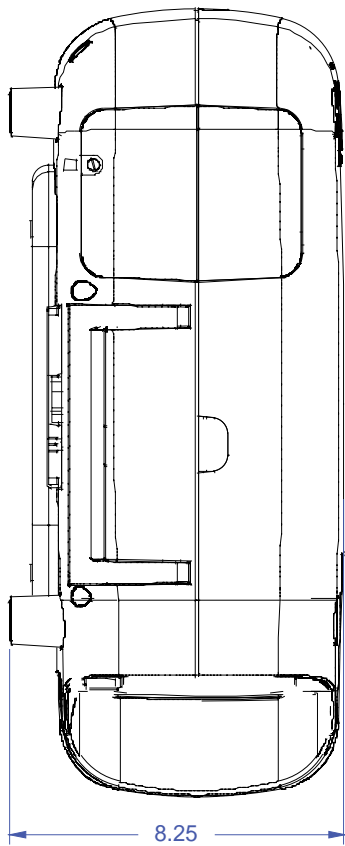
Image Size

Projector	GT1150>2150	
Lens	with plate	metal plate removed
GT10RLB	40" - 100"	40" - 200"
GT20ZL	40" - 250"	40" - 300"

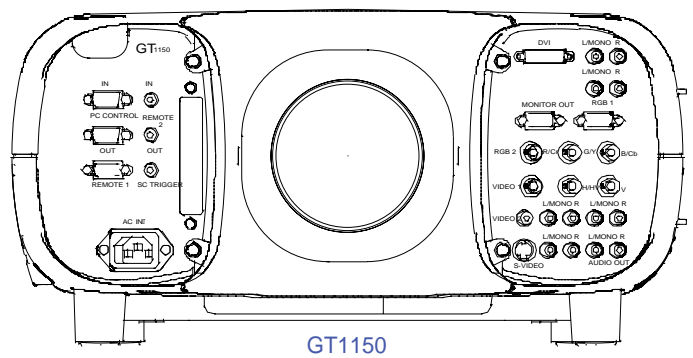


Cabinet Dimensions

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



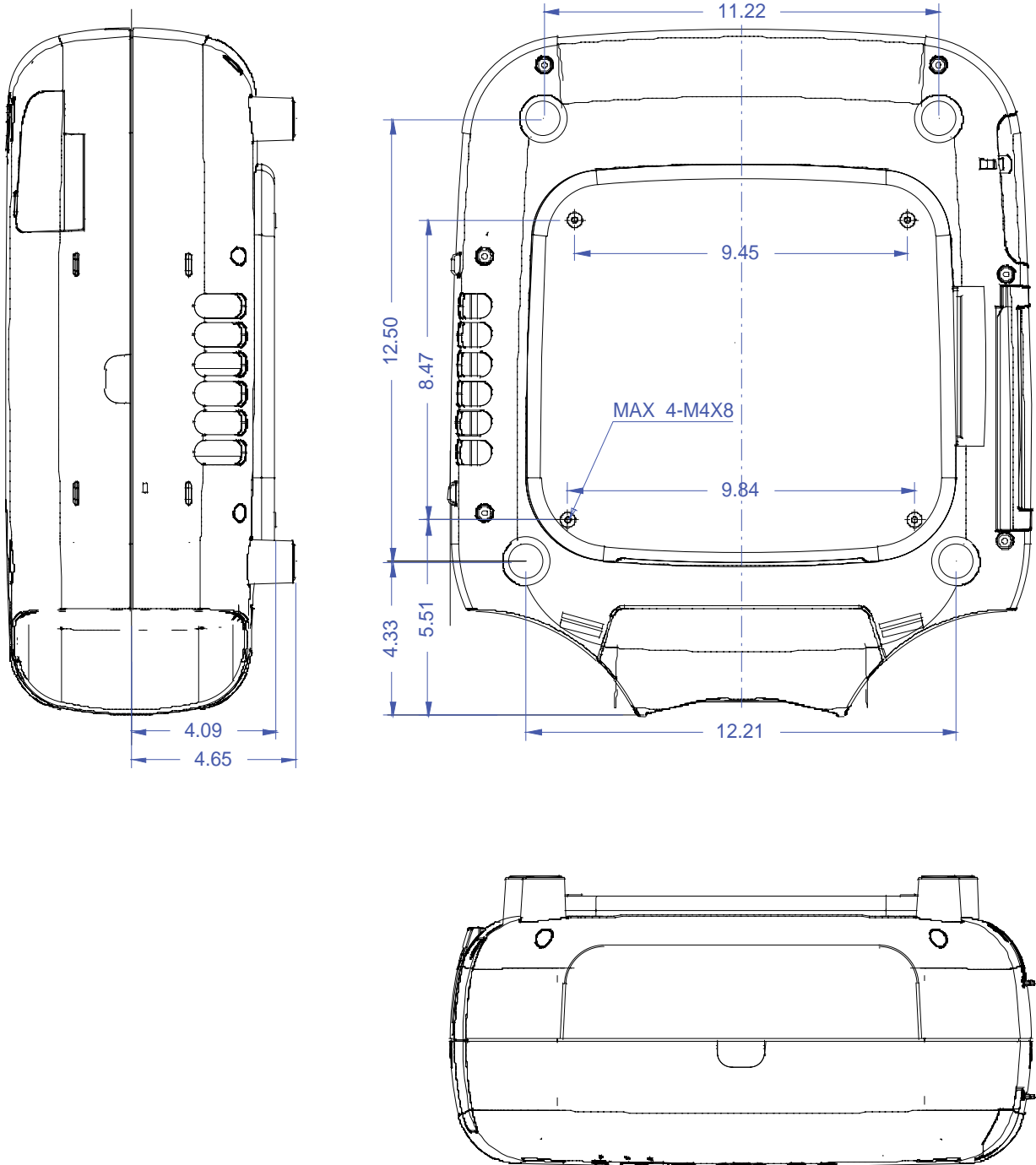
GT2150



GT1150

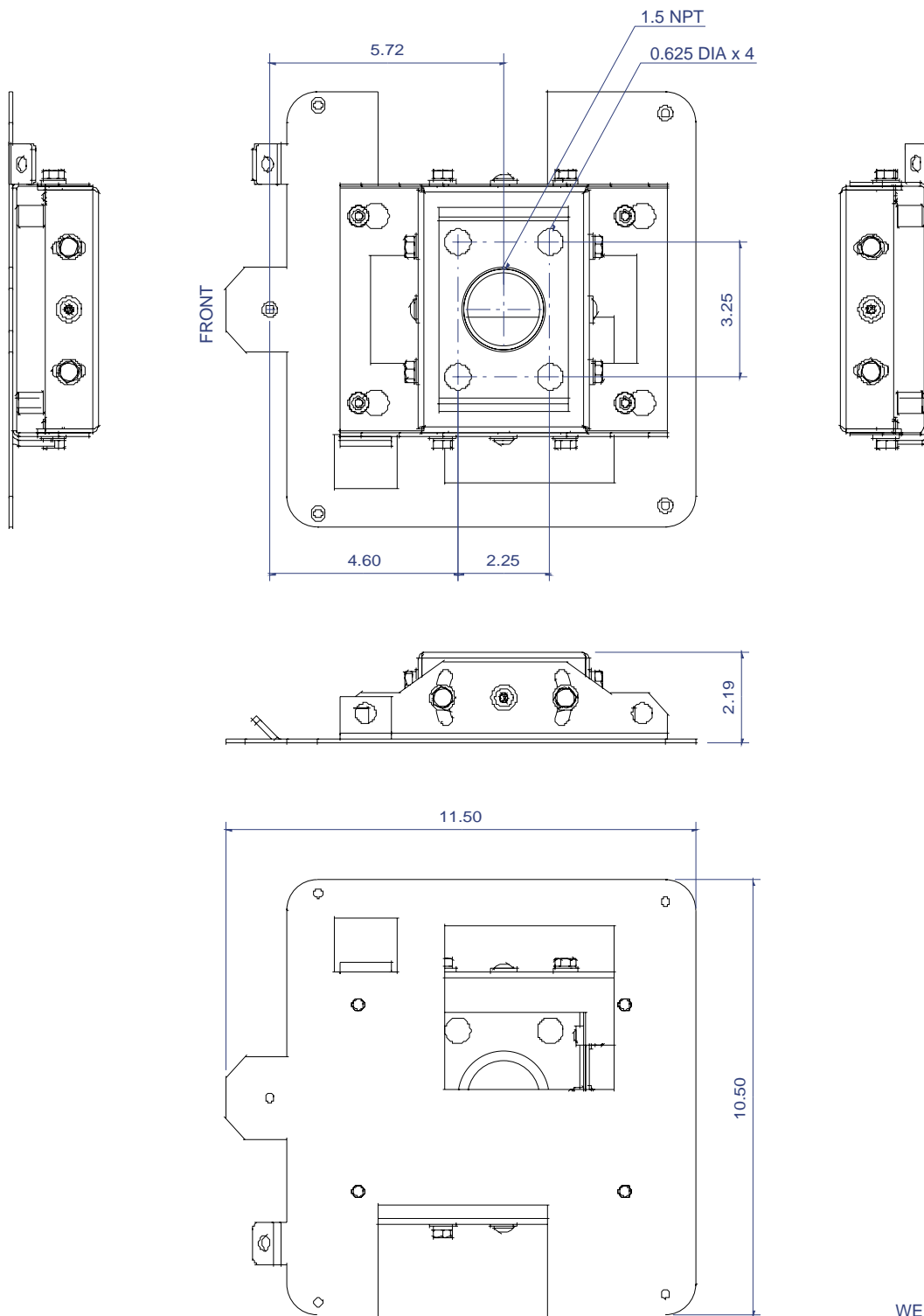
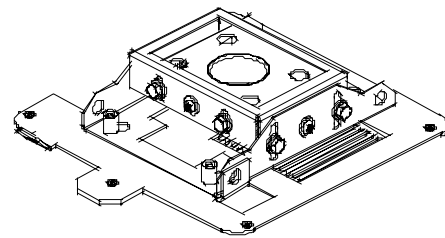
Cabinet Dimensions (continued)

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



Optional Ceiling Mount Dimensions (Model #: GT60CM)

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



WEIGHT: 8 LBS

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 1	02H	03H	00H	00H	02H	01H	06H	0EH	
INPUT SELECT VIDEO 2	02H	03H	00H	00H	02H	01H	07H	0FH	
INPUT SELECT S-VIDEO	02H	03H	00H	00H	02H	01H	0BH	13H	
INPUT SELECT DVI (DIGITAL)	02H	03H	00H	00H	02H	01H	1AH	22H	
INPUT SELECT DVI (ANALOG)	02H	03H	00H	00H	02H	01H	03H	0BH	(GT1150 ONLY)
INPUT SELECT PC CARD VIEWER	02H	03H	00H	00H	02H	01H	1FH	27H	(GT1150 ONLY)
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			

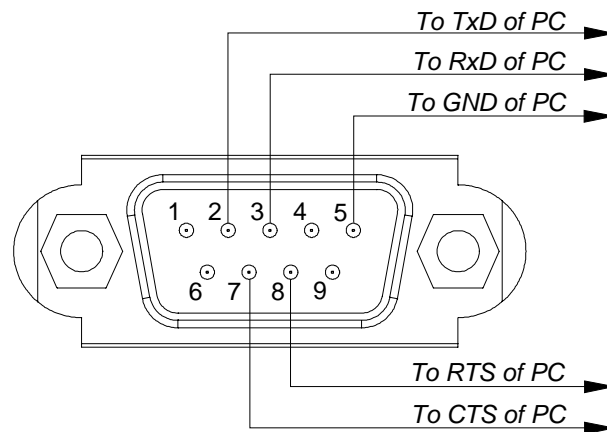
Note: Contact your NEC rep for codes not listed

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)



NOTE1: Pins 1, 4, 6, and 9 are used inside the projector.

NOTE2: Jumper "Request to send" and "Clear to Send" together on both ends of the cable to simplify cable connection.

NOTE3: For long cable runs it is recommended to set communication speed to 9600 bps in the Setup menu.