

PX700W/PX750U/PX800X Installation Guide

Desktop and Ceiling Mount

Rev 1.4

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Product Description

Type:	1 chip DMD Reflection Type PX700W: 0.65 in. 2x LVDS DMD PX750U: 0.67 in. 2x LVDS DMD PX800X: 0.7 in. 2x LVDS DMD	Dimensions: 19.84"(W) x 8.67"(H) x 20.55"(D)
Resolution:	PX750U: 1920 x 1200 (16:10) PX700W: 1280 x 800 (16:10) PX800X: 1024 x 768 (4:3)	Weight: PX Series: 19.7kg / 43.3 lbs
Fan Noise:	PX Series: 43 dB / 39dB @ 1 meter	Brightness: PX700W: 7000 Lumens PX750U: 7500 Lumens PX800X: 8000 Lumens
Power Consumption:	PX Series: 1008W (max)	BTU's: PX Series: 3439.44 BTU/hour

Network Ready, integrated wired and wireless adapter
Manual: Lens Shift, Horizontal & Vertical /Zoom/ Focus

Lens Specifications

NP06FL: Throw Ratio: ~ 0.77:1 Screen Sizes: 50"-200"	Focal Length: 11.4mm F/#: 2.0	NP09ZL: Throw Ratio: ~2.22 - 4.43:1 Screen Sizes: 40" - 500"	Focal Length: 32.0 - 63.0mm F/#: 2.1 - 2.9
NP07ZL: Throw Ratio: ~1.33 - 1.79:1 Screen Sizes: 40" - 500"	Focal Length: 19.3 - 25.8mm F/#: 1.8 - 2.3	NP10ZL: Throw Ratio: 4.43 - 8.3:1 Screen Sizes: 40" - 500"	Focal Length: 63.5 - 117.4mm F/#: 2.2 - 3.1
NP08ZL: Throw Ratio: ~1.78 - 2.35:1 Screen Sizes: 40" - 500"	Focal Length: 26.0 - 34.0mm F/#: 1.7 - 1.9		
NP16FL: Throw Ratio: ~ 0.76:1 Screen Sizes: 50"-300"	Focal Length: 11.6mm F/#: 1.85	NP19ZL: Throw Ratio: 2.22 - 3.67:1 Screen Sizes: 50-300"	Focal Length: 32.9 - 54.2mm F/#: 1.86 - 2.48
NP17ZL: Throw Ratio: 1.29 - 1.79:1 Screen Sizes: 50-300"	Focal Length: 18.7 - 26.5mm F/#: 1.85-2.5	NP20ZL: Throw Ratio: 3.60 - 5.40:1 Screen Sizes: 50-300"	Focal Length: 52.8 - 79.1mm F/#: 1.85-2.41
NP18ZL: Throw Ratio: 1.73 - 2.27:1 Screen Sizes: 50-300"	Focal Length: 25.7 - 33.7mm F/#: 1.64-1.86	NP21ZL: Throw Ratio: 5.30 - 8.30:1 Screen Sizes: 50-300"	Focal Length: 78.5 - 121.9mm F/#: 1.85-2.48
NP31ZL: Throw Ratio: 0.75 - 0.93:1 Screen Sizes: 50-300"	Focal Length: 11.3 - 14.1mm F/#: 1.96-2.3		

Screen/Aspect Ratio

4:3, 16:9 and 16:10 screens are fully supported with proper aspect ratio control for both type sources using NEC developed scaling technology. Menu selections have settings for each screen type and aspect ratio control for each source type.

Notes

- For screen sizes not indicated on the projection tables, use the formulas below.
If the figures on the tables do not match the results of formulas, use the figures in the table..
- Distances are in inches, for millimeters multiply by 25.4.
- Distances may vary ±5%.

PX700W/PX750U/PX800X Installation Guide

Desktop and Ceiling Mount

Formulas: 16:10 Aspect Ratio (PX700W—WXGA)

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:

Projection Formulas:

- NP06FL: C = 0.817W – 1.54
- NP07ZL: C(Wide) = 1.379W – 1.952 ----- C(Tele) = 1.854W – 1.809
- NP08ZL: C(Wide) = 1.844W – 2.362 ----- C(Tele) = 2.435W – 2.461
- NP09ZL: C(Wide) = 2.338W – 4.147 ----- C(Tele) = 4.639W – 4.175
- NP10ZL: C(Wide) = 4.580W – 5.415 ----- C(Tele) = 8.603W – 5.352
- NP31ZL: C(Wide) = 0.812W – 2.099 ----- C(Tele) = 1.017W – 1.992

Definitions:

- W = Image Width
- H = Image Height (size)
- C = Throw distance

16:10 Screen Formulas

- W = H x 16/10
- H = W x 10/16
- Screen Diagonal = W x 18.868/16

16:9 Screen Formulas

- W = H x 16/9
- H = W x 9/16
- Screen Diagonal = W x 18.358/16

Distance Chart for popular 16:10 Screens (WXGA)

Screen Size (16:10)			Rear Lens	Zoom Lenses					
Diagonal	Width(W)	Height (H)	NP16FL	NP31ZL	NP07ZL	NP08ZL	NP09ZL	NP10ZL	
inches	inches	inches	0.76:1	0.75-0.93:1	1.33-1.79:1	1.78-2.35-1	2.22-4.43:1	4.43-8.30:1	
40	34	21	24.83	25.2 - 32.2	44.4 - 60.5	59.6 - 79.4	74.1 - 151.7	148.5 - 208.2	
60	51	32	38.80	39.5 - 50.1	68.7 - 93.1	92.1 - 122.2	115.3 - 233.3	229.1 - 328.5	
68	58	36	43.88	44.7 - 56.6	77.5 - 105.0	103.9 - 137.8	130.3 - 263.0	258.4 - 372.2	
72	61	38	46.43	47.3 - 59.8	81.9 - 110.9	109.8 - 145.6	137.7 - 277.9	273.0 - 394.0	
85	72	45	55.32	56.4 - 71.2	97.3 - 131.7	130.4 - 172.9	163.9 - 329.8	324.3 - 470.5	
108	92	57.5	71.20	72.6 - 91.6	124.9 - 168.8	167.3 - 221.6	210.7 - 422.6	415.9 - 607.2	
113	96	60	74.37	75.9 - 95.6	130.4 - 176.2	174.7 - 231.3	220.0 - 441.2	434.3 - 634.5	
130	110	69	85.81	87.5 - 110.3	150.3 - 202.9	201.2 - 266.4	253.7 - 508.0	500.2 - 732.9	
137	116	72.5	90.25	92.1 - 116.0	158.0 - 213.3	211.5 - 280.0	266.8 - 533.9	525.9 - 771.1	
164	139	87	108.67	110.9 - 139.6	190.0 - 256.3	254.3 - 336.5	321.0 - 641.6	632.1 - 929.6	
189	160	100	125.19	127.8 - 160.7	218.7 - 294.8	292.7 - 387.1	369.7 - 738.1	727.4 - 1071.7	
208	176	110	137.89	140.8 - 177.0	240.8 - 324.5	322.2 - 426.1	407.1 - 812.3	800.7 - 1181.0	
226	192	120	150.60	153.8 - 193.3	262.8 - 354.2	351.7 - 465.1	444.5 - 886.5	873.9 - 1290.2	
270	229	143	179.82	183.7 - 230.7	313.6 - 422.4	419.5 - 554.7	530.5 - 1057.2	1042.5 - 1541.6	

Distance Chart using 16:10 native projector with 16:9 Image (720p)

Screen Size (16:9)			Rear Lens	Zoom Lenses					
Diagonal	Width(W)	Height (H)	NP06FL	NP31ZL	NP07ZL	NP08ZL	NP09ZL	NP10ZL	
inches	inches	inches	0.76:1	0.75-0.93:1	1.33-1.79:1	1.78-2.35-1	2.22-3.67:1	4.43-8.30:1	
39	34	19	26.24	25.5 - 32.6	44.9 - 61.2	60.3 - 80.3	75.3 - 153.6	150.3 - 287.2	
59	51	29	40.13	39.3 - 49.9	68.4 - 92.7	91.7 - 121.7	115.1 - 232.4	228.2 - 433.4	
67	58	33	45.85	45.0 - 57.0	78.0 - 105.7	104.6 - 138.8	131.5 - 264.9	260.2 - 493.6	
70	61	34	48.30	47.4 - 60.0	82.2 - 111.3	110.1 - 146.1	138.5 - 278.8	274.0 - 519.4	
83	72	41	57.28	56.4 - 71.2	97.3 - 131.7	130.4 - 172.9	164.2 - 329.8	324.3 - 614.1	
106	92	52	73.62	72.6 - 91.6	124.9 - 168.8	167.3 - 221.6	210.9 - 422.6	415.9 - 786.1	
110	96	54	76.89	75.9 - 95.6	130.4 - 176.2	174.7 - 231.3	220.3 - 441.2	434.3 - 820.5	
126	110	62	88.33	87.2 - 109.9	149.7 - 202.1	200.5 - 265.4	253.0 - 506.1	498.4 - 941.0	
133	116	65	93.23	92.1 - 116.0	158.0 - 213.3	211.5 - 280.0	267.1 - 533.9	525.9 - 992.6	
159	139	78	112.02	110.8 - 139.4	189.7 - 255.9	254.0 - 336.0	320.8 - 640.6	631.2 - 1190.5	
184	160	90	129.18	127.8 - 160.7	218.7 - 294.8	292.7 - 387.1	369.9 - 738.1	727.4 - 1371.1	
202	176	99	142.25	140.8 - 177.0	240.8 - 324.5	322.2 - 426.1	407.3 - 812.3	800.7 - 1508.8	
220	192	108	155.32	153.8 - 193.3	262.8 - 354.2	351.7 - 465.1	444.7 - 886.5	873.9 - 1646.4	
263	229	129	185.55	183.8 - 230.9	313.8 - 422.8	419.9 - 555.2	531.3 - 1058.2	1043.4 - 1964.7	

PX700W/PX750U/PX800X Installation Guide

Desktop and Ceiling Mount

Formulas: 16:10 Aspect Ratio (PX700W—WXGA)

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:

Projection Formulas:

- NP16FL: C = 0.812W - 1.961
- NP17ZL: C(Wide) = 1.346W - 2.201 ----- C(Tele) = 1.917W - 2.008
- NP18ZL: C(Wide) = 1.852W - 2.811 ----- C(Tele) = 2.428W - 2.772
- NP19ZL: C(Wide) = 2.372W - 3.307 ----- C(Tele) = 3.937W - 3.272
- NP20ZL: C(Wide) = 3.840W - 5.587 ----- C(Tele) = 5.771W - 5.567
- NP21ZL: C(Wide) = 5.743W - 12.213 ----- C(Tele) = 8.956W - 12.110
- NP31ZL: C(Wide) = 0.812W - 2.099 ----- C(Tele) = 1.017W - 1.992

Definitions:

- W = Image Width
- H = Image Height (size)
- C = Throw distance

16:10 Screen Formulas

- W = H x 16/10
- H = W x 10/16
- Screen Diagonal = W x 18.868/16

16:9 Screen Formulas

- W = H x 16/9
- H = W x 9/16
- Screen Diagonal = W x 18.358/16

Distance Chart for popular 16:10 Screens (WXGA)

Screen Size (16:10)			Rear Lens	Zoom Lenses							
Diagonal	Width(W)	Height (H)	NP16FL	NP31ZL	NP17ZL	NP18ZL	NP19ZL	NP20ZL	NP21ZL		
inches	inches	inches	0.76:1	0.75-0.93:1	1.29-1.79:1	1.73-2.27-1	2.22-3.67:1	3.60-5.40:1	5.30-8.30:1		
40	34	21	25.32	25.2 - 32.2	40.8 - 62.4	59.4 - 78.8	76.4 - 129.0	123.4 - 188.3	180.8 - 288.8		
60	51	32	39.61	39.5 - 50.1	63.4 - 96.1	92.0 - 121.5	118.1 - 198.3	191.0 - 289.9	281.8 - 446.4		
68	58	36	44.81	44.7 - 56.6	71.6 - 108.4	103.9 - 137.1	133.3 - 223.5	215.6 - 326.8	318.6 - 503.8		
72	61	38	47.41	47.3 - 59.8	75.7 - 114.5	109.8 - 144.9	140.9 - 236.1	227.9 - 345.3	337.0 - 532.4		
85	72	45	56.50	56.4 - 71.2	90.0 - 136.0	130.5 - 172.0	167.5 - 280.2	270.9 - 409.9	401.3 - 632.7		
108	92	57.5	72.74	72.6 - 91.6	115.7 - 174.4	167.6 - 220.6	214.9 - 358.9	347.7 - 525.4	516.1 - 811.8		
113	96	60	75.99	75.9 - 95.6	120.8 - 182.0	175.0 - 230.3	224.4 - 374.7	363.1 - 548.4	539.1 - 847.7		
130	110	69	87.68	87.5 - 110.3	139.2 - 209.6	201.6 - 265.3	258.6 - 431.4	418.3 - 631.6	621.8 - 976.6		
137	116	72.5	92.23	92.1 - 116.0	146.4 - 220.4	212.0 - 278.9	271.8 - 453.4	439.9 - 663.9	654.0 - 1026.8		
164	139	87	111.07	110.9 - 139.6	176.1 - 264.8	255.0 - 335.2	326.9 - 544.8	528.9 - 797.8	787.2 - 1234.6		
189	160	100	127.96	127.8 - 160.7	202.8 - 304.7	293.5 - 385.7	376.2 - 626.6	608.8 - 917.8	906.7 - 1420.9		
208	176	110	140.95	140.8 - 177.0	223.3 - 335.4	323.1 - 424.6	414.2 - 689.6	670.3 - 1010.1	998.6 - 1564.1		
226	192	120	153.94	153.8 - 193.3	243.8 - 366.1	352.8 - 463.4	452.1 - 752.6	731.7 - 1102.5	1090.4 - 1707.4		
270	229	143	183.82	183.7 - 230.7	290.9 - 436.6	420.9 - 552.8	539.4 - 897.5	873.0 - 1314.8	1301.8 - 2037.0		

Distance Chart using 16:10 native projector with 16:9 Image (720p)

Screen Size (16:9)			Rear Lens	Zoom Lenses							
Diagonal	Width(W)	Height (H)	NP16FL	NP31ZL	NP17ZL	NP18ZL	NP19ZL	NP20ZL	NP21ZL		
inches	inches	inches	0.76:1	0.75-0.93:1	1.29-1.79:1	1.73-2.27-1	2.22-3.67:1	3.60-5.40:1	5.30-8.30:1		
39	34	19	25.65	25.5 - 32.6	43.5 -	60.2 - 79.8	77.3 - 130.6	125.0 - 190.6	183.0 - 290.4		
59	51	29	39.45	39.3 - 49.9	66.4 - 73.4	91.6 - 121.1	117.7 - 197.5	190.3 - 288.8	280.7 - 441.6		
67	58	33	45.14	45.0 - 57.0	75.8 - 84.3	104.6 - 138.1	134.3 - 225.1	217.1 - 329.2	320.9 - 503.9		
70	61	34	47.57	47.4 - 60.0	79.9 - 88.9	110.2 - 145.3	141.4 - 236.9	228.7 - 346.5	338.1 - 530.5		
83	72	41	56.50	56.4 - 71.2	94.7 - 106.0	130.5 - 172.0	167.5 - 280.2	270.9 - 409.9	401.3 - 628.4		
106	92	52	72.74	72.6 - 91.6	121.6 - 137.2	167.6 - 220.6	214.9 - 358.9	347.7 - 525.4	516.1 - 806.3		
110	96	54	75.99	75.9 - 95.6	127.0 - 143.4	175.0 - 230.3	224.4 - 374.7	363.1 - 548.4	539.1 - 841.9		
126	110	62	87.36	87.2 - 109.9	145.8 - 165.2	200.9 - 264.3	257.6 - 429.8	416.8 - 629.2	619.5 - 966.5		
133	116	65	92.23	92.1 - 116.0	153.9 - 174.5	212.0 - 278.9	271.8 - 453.4	439.9 - 663.9	654.0 - 1019.8		
159	139	78	110.91	110.8 - 139.4	184.9 - 210.3	254.6 - 334.7	326.4 - 544.0	528.2 - 796.6	786.1 - 1224.4		
184	160	90	127.96	127.8 - 160.7	213.1 - 243.0	293.5 - 385.7	376.2 - 626.6	608.8 - 917.8	906.7 - 1411.3		
202	176	99	140.95	140.8 - 177.0	234.7 - 267.9	323.1 - 424.6	414.2 - 689.6	670.3 - 1010.1	998.6 - 1553.6		
220	192	108	153.94	153.8 - 193.3	256.2 - 292.8	352.8 - 463.4	452.1 - 752.6	731.7 - 1102.5	1090.4 - 1695.9		
263	229	129	183.99	183.8 - 230.9	306.0 - 350.4	421.3 - 553.2	539.9 - 898.3	873.8 - 1316.0	1302.9 - 2025.1		

PX700W/PX750U/PX800X Installation Guide

Desktop and Ceiling Mount

Formulas: 16:10 Aspect Ratio (PX750U—WUXGA)

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:

Projection Formulas:

- NP16FL: C = 0.794W - 1.85
- NP17ZL: C(Wide) = 1.281W - 2.094 ----- C(Tele) = 1.825W - 1.913
- NP18ZL: C(Wide) = 1.764W - 2.677 ----- C(Tele) = 2.313W - 2.638
- NP19ZL: C(Wide) = 2.261W - 3.150 ----- C(Tele) = 3.747W - 3.114
- NP20ZL: C(Wide) = 3.654W - 5.319 ----- C(Tele) = 5.492W - 5.299
- NP21ZL: C(Wide) = 5.469W - 11.626 ----- C(Tele) = 8.527W - 11.531
- NP31ZL: C(Wide) = 0.775W - 1.161 ----- C(Tele) = 0.966W - 2.000

Definitions:

- W = Image Width
- H = Image Height (size)
- C = Throw distance

16:10 Screen Formulas

- W = H x 16/10
- H = W x 10/16
- Screen Diagonal = W x 18.868/16

16:9 Screen Formulas

- W = H x 16/9
- H = W x 9/16
- Screen Diagonal = W x 18.358/16

Distance Chart for popular 16:10 Screens (WUXGA)

Screen Size (16:10)			Rear Lens	Zoom Lenses											
Diagonal	Width(W)	Height (H)	NP16FL	NP31ZL	NP17ZL	NP18ZL	NP19ZL	NP20ZL	NP21ZL						
inches	inches	inches	0.76:1	0.75-0.93:1	1.29-1.79:1	1.73-2.27-1	2.22-3.67:1	3.60-5.40:1	5.30-8.30:1						
40	34	21	24.83	24.9 - 30.5	40.9 - 59.4	56.6 - 75.1	72.8 - 122.8	117.5 - 179.2	172.1 - 275.0						
60	51	32	38.80	38.5 - 47.5	63.5 - 91.5	87.6 - 115.8	112.6 - 188.7	181.8 - 275.9	268.4 - 425.1						
68	58	36	43.88	43.5 - 53.6	71.7 - 103.2	98.9 - 130.6	127.1 - 212.7	205.2 - 311.0	303.4 - 479.6						
72	61	38	46.43	46.0 - 56.7	75.8 - 109.0	104.6 - 138.0	134.3 - 224.7	216.8 - 328.6	320.9 - 506.9						
85	72	45	55.32	54.6 - 67.6	90.1 - 129.5	124.3 - 163.9	159.6 - 266.7	257.8 - 390.1	382.1 - 602.4						
108	92	57.5	71.20	70.1 - 86.9	115.8 - 166.0	159.6 - 210.2	204.9 - 341.6	330.8 - 500.0	491.5 - 773.0						
113	96	60	74.37	73.2 - 90.7	120.9 - 173.3	166.7 - 219.4	213.9 - 356.6	345.5 - 521.9	513.4 - 807.1						
130	110	69	85.81	84.4 - 104.6	139.3 - 199.6	192.1 - 252.7	246.5 - 410.6	398.1 - 601.0	592.2 - 929.8						
137	116	72.5	90.25	88.7 - 110.1	146.5 - 209.8	201.9 - 265.7	259.1 - 431.5	418.5 - 631.8	622.8 - 977.6						
164	139	87	108.67	106.7 - 132.5	176.2 - 252.1	242.9 - 319.3	311.6 - 518.5	503.3 - 759.2	749.7 - 1175.4						
189	160	100	125.19	122.8 - 152.6	202.9 - 290.1	279.6 - 367.4	358.6 - 596.4	579.3 - 873.4	863.4 - 1352.8						
208	176	110	137.89	135.2 - 168.0	223.4 - 319.3	307.8 - 404.5	394.8 - 656.4	637.8 - 961.3	950.9 - 1489.2						
226	192	120	150.60	147.6 - 183.5	243.9 - 348.5	336.0 - 441.5	431.0 - 716.3	696.2 - 1049.2	1038.4 - 1625.7						
270	229	143	179.82	176.2 - 219.0	291.0 - 415.6	400.9 - 526.6	514.2 - 854.2	830.7 - 1251.3	1239.7 - 1939.4						

Distance Chart using 16:10 native projector with 16:9 Image (1080p)

Screen Size (16:9)			Rear Lens	Zoom Lenses											
Diagonal	Width(W)	Height (H)	NP16FL	NP31ZL	NP17ZL	NP18ZL	NP19ZL	NP20ZL	NP21ZL						
inches	inches	inches	0.76:1	0.75-0.93:1	1.29-1.79:1	1.73-2.27-1	2.22-3.67:1	3.60-5.40:1	5.30-8.30:1						
39	34	19	25.15	25.2 - 30.8	41.5 - 60.1	57.3 - 76.0	73.7 - 124.3	118.9 - 181.4	174.3 - 278.4						
59	51	29	38.64	38.4 - 47.3	63.2 - 91.2	87.3 - 115.3	112.2 - 188.0	181.0 - 274.8	267.3 - 423.3						
67	58	33	44.20	43.8 - 54.0	72.2 - 103.9	99.6 - 131.5	128.0 - 214.2	206.6 - 313.2	305.6 - 483.0						
70	61	34	46.58	46.1 - 56.9	76.0 - 109.4	104.9 - 138.5	134.8 - 225.5	217.6 - 329.7	322.0 - 508.6						
83	72	41	55.32	54.6 - 67.6	90.1 - 129.5	124.3 - 163.9	159.6 - 266.7	257.8 - 390.1	382.1 - 602.4						
106	92	52	71.20	70.1 - 86.9	115.8 - 166.0	159.6 - 210.2	204.9 - 341.6	330.8 - 500.0	491.5 - 773.0						
110	96	54	74.37	73.2 - 90.7	120.9 - 173.3	166.7 - 219.4	213.9 - 356.6	345.5 - 521.9	513.4 - 807.1						
126	110	62	85.49	84.1 - 104.3	138.8 - 198.8	191.4 - 251.8	245.6 - 409.1	396.6 - 598.8	590.0 - 926.4						
133	116	65	90.25	88.7 - 110.1	146.5 - 209.8	201.9 - 265.7	259.1 - 431.5	418.5 - 631.8	622.8 - 977.6						
159	139	78	108.52	106.6 - 132.3	176.0 - 251.8	242.5 - 318.9	311.1 - 517.7	502.6 - 758.1	748.6 - 1173.7						
184	160	90	125.19	122.8 - 152.6	202.9 - 290.1	279.6 - 367.4	358.6 - 596.4	579.3 - 873.4	863.4 - 1352.8						
202	176	99	137.89	135.2 - 168.0	223.4 - 319.3	307.8 - 404.5	394.8 - 656.4	637.8 - 961.3	950.9 - 1489.2						
220	192	108	150.60	147.6 - 183.5	243.9 - 348.5	336.0 - 441.5	431.0 - 716.3	696.2 - 1049.2	1038.4 - 1625.7						
263	229	129	179.98	176.3 - 219.2	291.3 - 416.0	401.3 - 527.0	514.6 - 854.9	831.4 - 1252.4	1240.8 - 1941.2						

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Formulas: 4:3 Aspect Ratio (PX800X—XGA)

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:

Projection Formulas:

- NP06FL: C = 0.808W – 1.644
- NP07ZL: C(Wide) = 1.361W – 1.833 ----- C(Tele) = 1.831W – 1.800
- NP08ZL: C(Wide) = 1.823W – 2.524 ----- C(Tele) = 2.403W – 2.447
- NP09ZL: C(Wide) = 2.298W – 4.133 ----- C(Tele) = 4.579W – 4.226
- NP10ZL: C(Wide) = 4.516W – 5.296 ----- C(Tele) = 8.514W – 5.512
- NP31ZL: C(Wide) = 0.802W – 1.811 ----- C(Tele) = 1.004W – 1.713

Definitions:

- W = Image Width
- H = Image Height (size)
- C = Throw distance

4:3 Screen Formulas

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

Distance Chart for popular 4:3 Screens (XGA)

Screen Size (4:3)			Rear Lens	Zoom Lenses					
Diagonal inches	Width(W) inches	Height (H) inches	NP06FL	NP31ZL	NP07ZL	NP08ZL	NP09ZL	NP10ZL	
			0.77:1 inches	0.75-0.93:1 inches	1.33-1.79:1 inches	1.78-2.35-1 inches	2.22-4.43:1 inches	4.43-8.30:1 inches	
40	32	24	24.2	23.9 - 30.4	41.7 - 56.8	55.8 - 74.4	69.4 - 142.3	139.2 - 266.9	
60	48	36	37.1	36.7 - 46.5	63.5 - 86.1	85.0 - 112.9	106.2 - 215.6	211.5 - 403.2	
67	54	40.2	41.7	41.2 - 52.1	71.1 - 96.3	95.2 - 126.4	119.0 - 241.2	236.8 - 450.8	
72	58	43.2	44.9	44.4 - 56.1	76.6 - 103.7	102.5 - 136.0	128.2 - 259.5	254.8 - 484.9	
84	67	50.4	52.7	52.1 - 65.8	89.6 - 121.2	120.0 - 159.0	150.3 - 303.5	298.2 - 566.6	
90	72	54	56.5	55.9 - 70.6	96.2 - 130.0	128.7 - 170.6	161.3 - 325.5	319.9 - 607.5	
100	80	60	63.0	62.3 - 78.6	107.0 - 144.7	143.3 - 189.8	179.7 - 362.1	356.0 - 675.6	
120	96	72	75.9	75.2 - 94.7	128.8 - 174.0	172.5 - 228.2	216.5 - 435.4	428.2 - 811.8	
150	120	90	95.3	94.4 - 118.8	161.5 - 217.9	216.2 - 285.9	271.6 - 545.3	536.6 - 1016.2	
180	144	108	114.7	113.7 - 142.9	194.2 - 261.9	260.0 - 343.6	326.8 - 655.2	645.0 - 1220.5	
210	168	126	134.1	132.9 - 167.0	226.8 - 305.8	303.7 - 401.3	381.9 - 765.0	753.4 - 1424.8	
240	192	144	153.5	152.2 - 191.1	259.5 - 349.8	347.5 - 458.9	437.1 - 874.9	861.8 - 1629.2	
270	229	143	183.2	181.7 - 228.0	309.6 - 417.1	414.6 - 547.4	521.6 - 1043.4	1028.0 - 1942.5	

Projection Formulas:

- NP16FL: C = 0.822W – 1.866
- NP17ZL: C(Wide) = 1.358W – 2.094 ----- C(Tele) = 1.934W – 1.913
- NP18ZL: C(Wide) = 1.828W – 2.681 ----- C(Tele) = 2.397W – 2.642
- NP19ZL: C(Wide) = 2.343W – 3.154 ----- C(Tele) = 3.883W – 3.118
- NP20ZL: C(Wide) = 3.789W – 5.323 ----- C(Tele) = 5.689W – 5.299
- NP21ZL: C(Wide) = 5.664W – 11.638 ----- C(Tele) = 8.834W – 11.535
- NP31ZL: C(Wide) = 0.802W – 1.811 ----- C(Tele) = 1.004W – 1.713

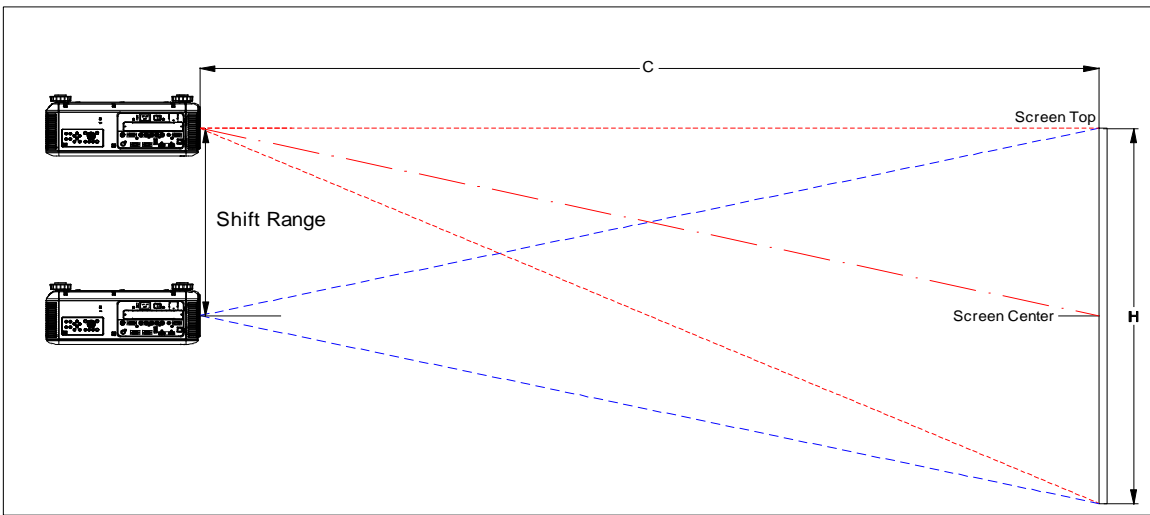
Screen Size (4:3)			Rear Lens	Zoom Lenses					
Diagonal inches	Width(W) inches	Height (H) inches	NP16FL	NP31ZL	NP17ZL	NP18ZL	NP19ZL	NP20ZL	NP21ZL
			0.76:1 inches	0.75-0.93:1 inches	1.29-1.79:1 inches	1.73-2.27-1 inches	2.22-3.67:1 inches	3.60-5.40:1 inches	5.30-8.30:1 inches
40	32	24	24.4	23.9 - 30.4	41.4 - 60.0	55.8 - 74.1	68.6 - 121.1	115.9 - 176.7	169.6 - 271.2
60	48	36	37.6	36.7 - 46.5	63.1 - 90.9	85.1 - 112.4	104.5 - 183.3	176.5 - 267.8	260.2 - 412.5
67	54	40.2	42.2	41.2 - 52.1	70.7 - 101.7	95.3 - 125.8	117.1 - 205.0	197.8 - 299.6	292.0 - 462.0
72	58	43.2	45.5	44.4 - 56.1	76.1 - 109.5	102.6 - 135.4	126.0 - 220.5	212.9 - 322.4	314.6 - 497.3
84	67	50.4	53.4	52.1 - 65.8	89.2 - 128.1	120.2 - 158.4	147.6 - 257.8	249.3 - 377.0	369.0 - 582.1
90	72	54	57.3	55.9 - 70.6	95.7 - 137.3	128.9 - 169.9	158.3 - 276.5	267.5 - 404.3	396.2 - 624.5
100	80	60	63.9	62.3 - 78.6	106.5 - 152.8	143.6 - 189.1	176.3 - 307.5	297.8 - 449.8	441.5 - 695.2
120	96	72	77.0	75.2 - 94.7	128.3 - 183.8	172.8 - 227.5	212.2 - 369.7	358.4 - 540.8	532.1 - 836.5
150	120	90	96.8	94.4 - 118.8	160.9 - 230.2	216.7 - 285.0	266.0 - 462.8	449.4 - 677.4	668.0 - 1048.5
180	144	108	116.5	113.7 - 142.9	193.5 - 276.6	260.6 - 342.5	319.8 - 556.0	540.3 - 813.9	804.0 - 1260.6
210	168	126	136.2	132.9 - 167.0	226.1 - 323.0	304.4 - 400.1	373.7 - 649.2	631.2 - 950.5	939.9 - 1472.6
240	192	144	156.0	152.2 - 191.1	258.6 - 369.4	348.3 - 457.6	427.5 - 742.4	722.2 - 1087.0	813.9 - 1684.6
270	229	143	179.82	181.7 - 228.0	308.6 - 440.6	415.6 - 545.8	510.0 - 885.3	861.6 - 1296.3	808.2 - 2009.7

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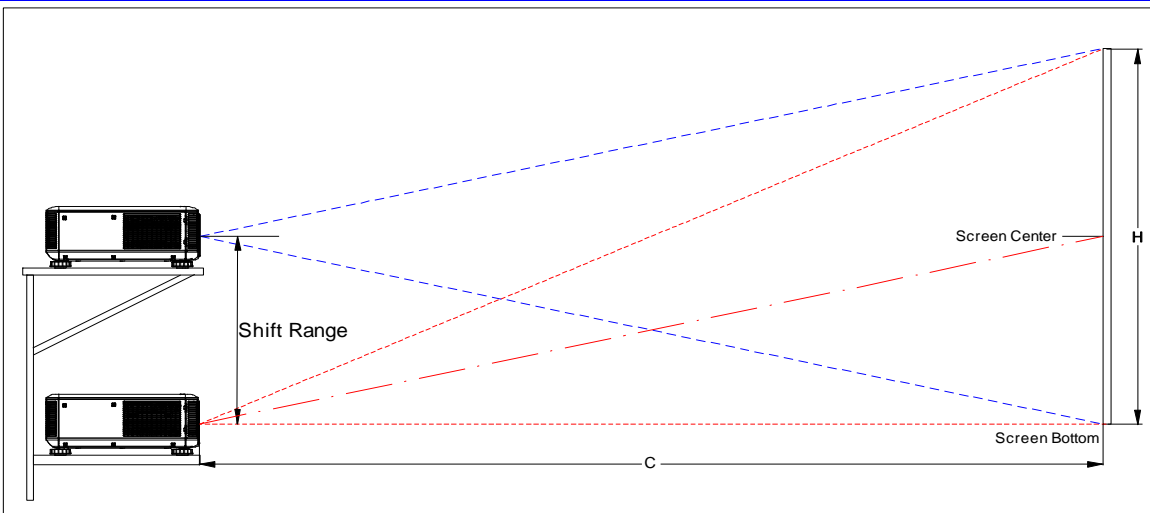
Desktop and Ceiling Mount

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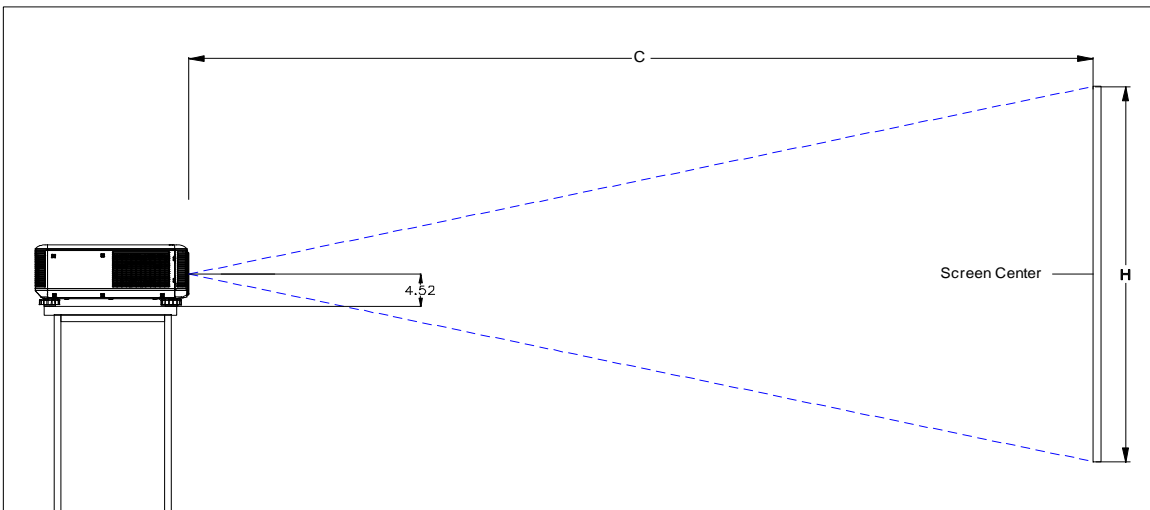
Ceiling Mount Installation



Desktop Installation



Note: Lens Shift Feature is not available to NP16FL. This lens should only be used for "zero degree"/"no-offset" applications. See below

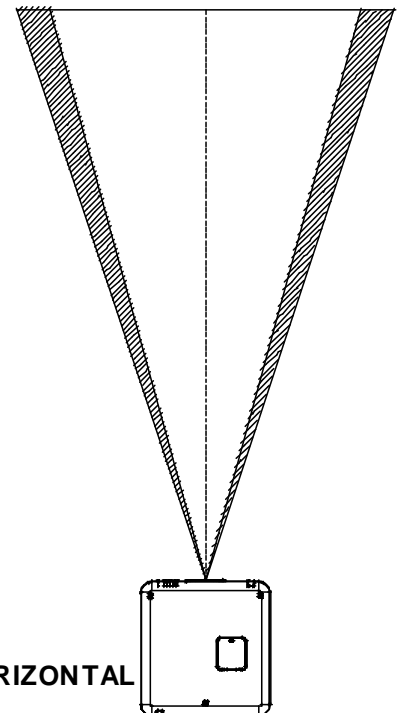
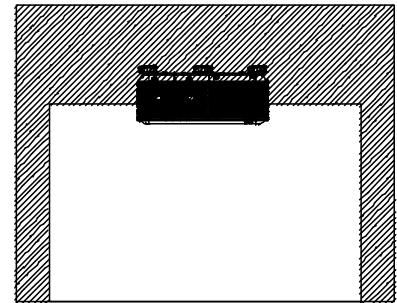
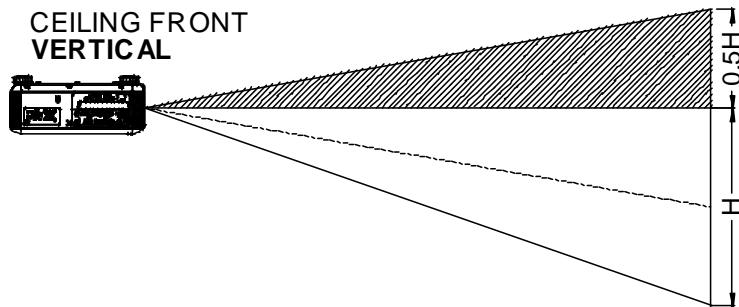
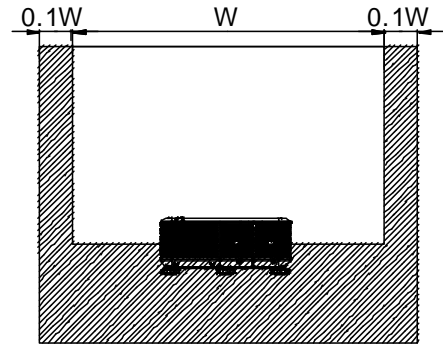
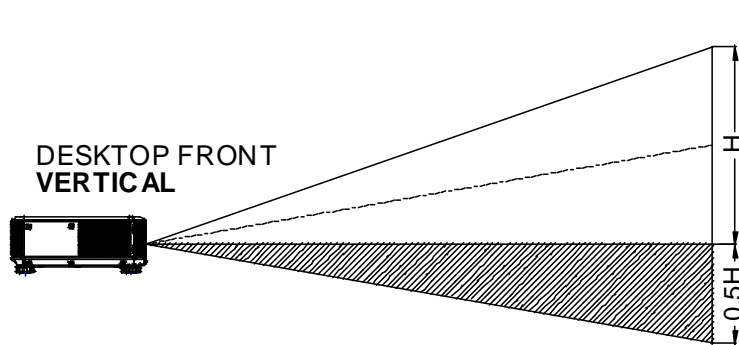


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Lens Shift Adjustable Range



Lens Shift Range for Desktop and Ceiling Mount Application

The diagram below 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.

Note: Lens shift feature is not available with NP16FL (rear lens). NP16FL should be used only for "zero degree" / "no-offset" applications.

Note: Projector is set out of the box at maximum lens shift, which is how it is depicted above.
(W: width of projected image, H: height of projected image)

Note: Vertical Lens Shift for PX800X w/NP31ZL is 0.43H.

PX700W/PX750U/PX800X Installation Guide

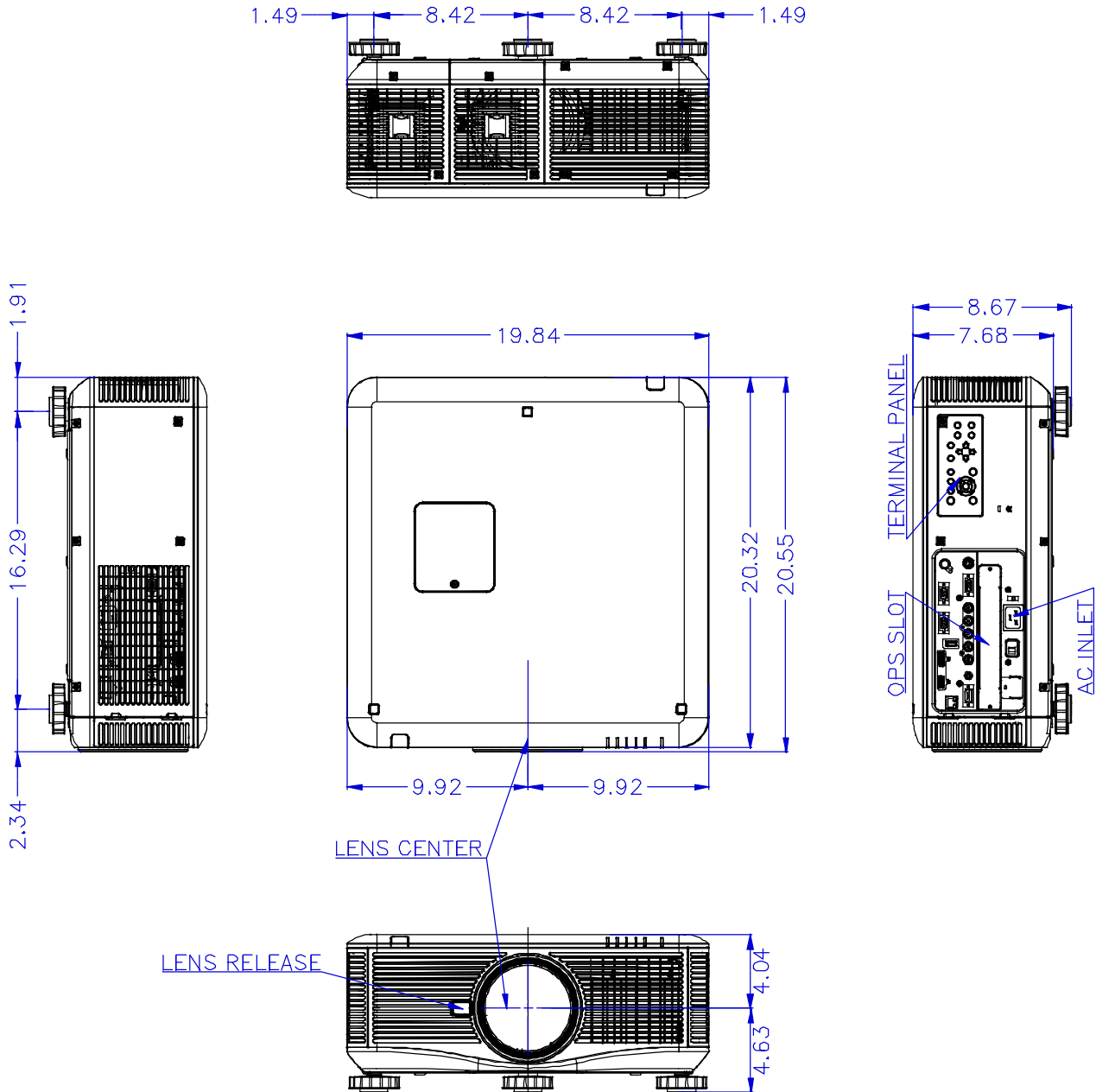
Desktop and Ceiling Mount

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Cabinet Dimensions

The following diagrams show the cabinet dimensions for the PX750U. Dimensions are in inches. For millimeters multiply by 25.4.

Note: Dimensions below shown with the NP18ZL lens

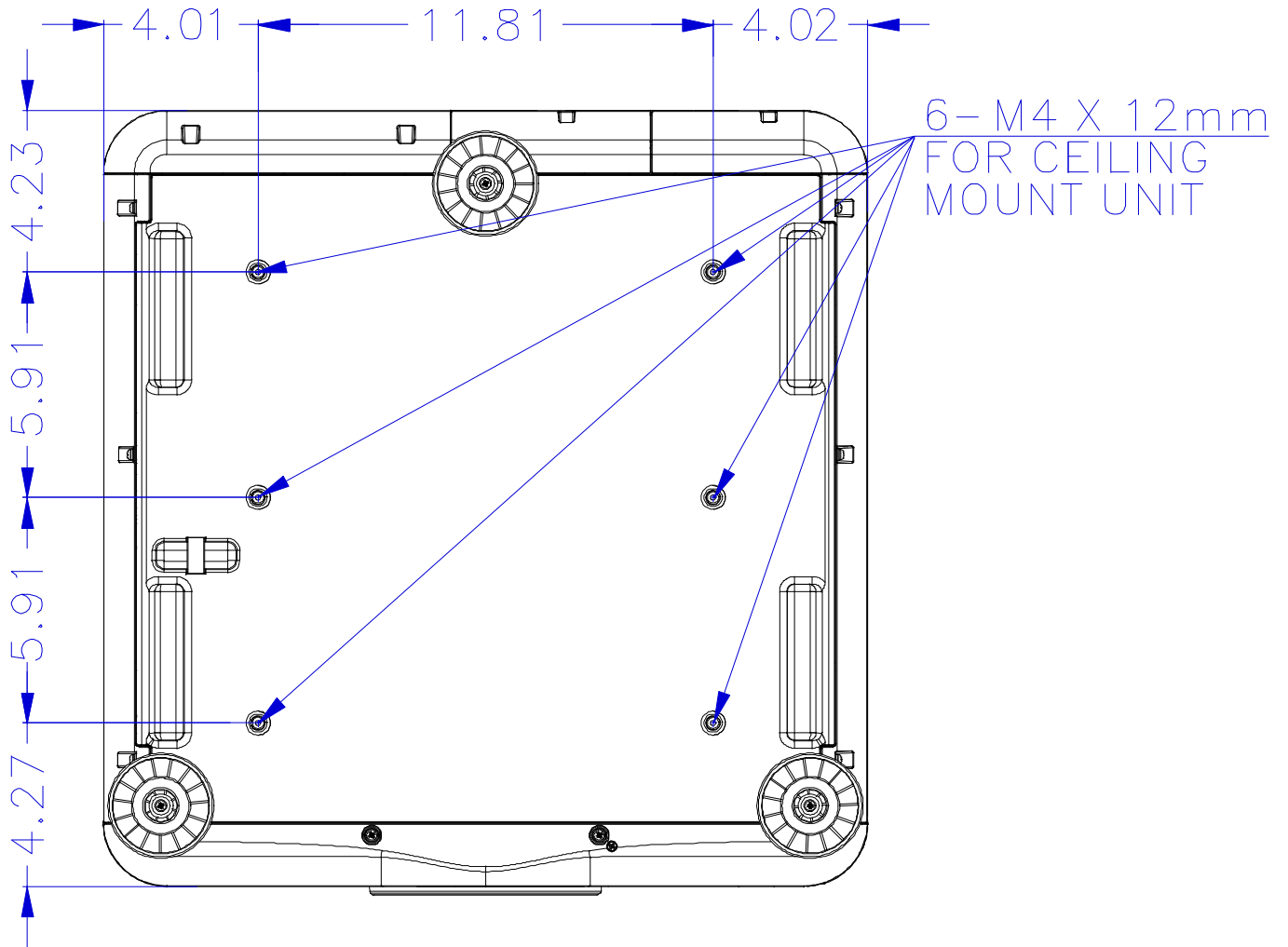


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Cabinet Dimensions

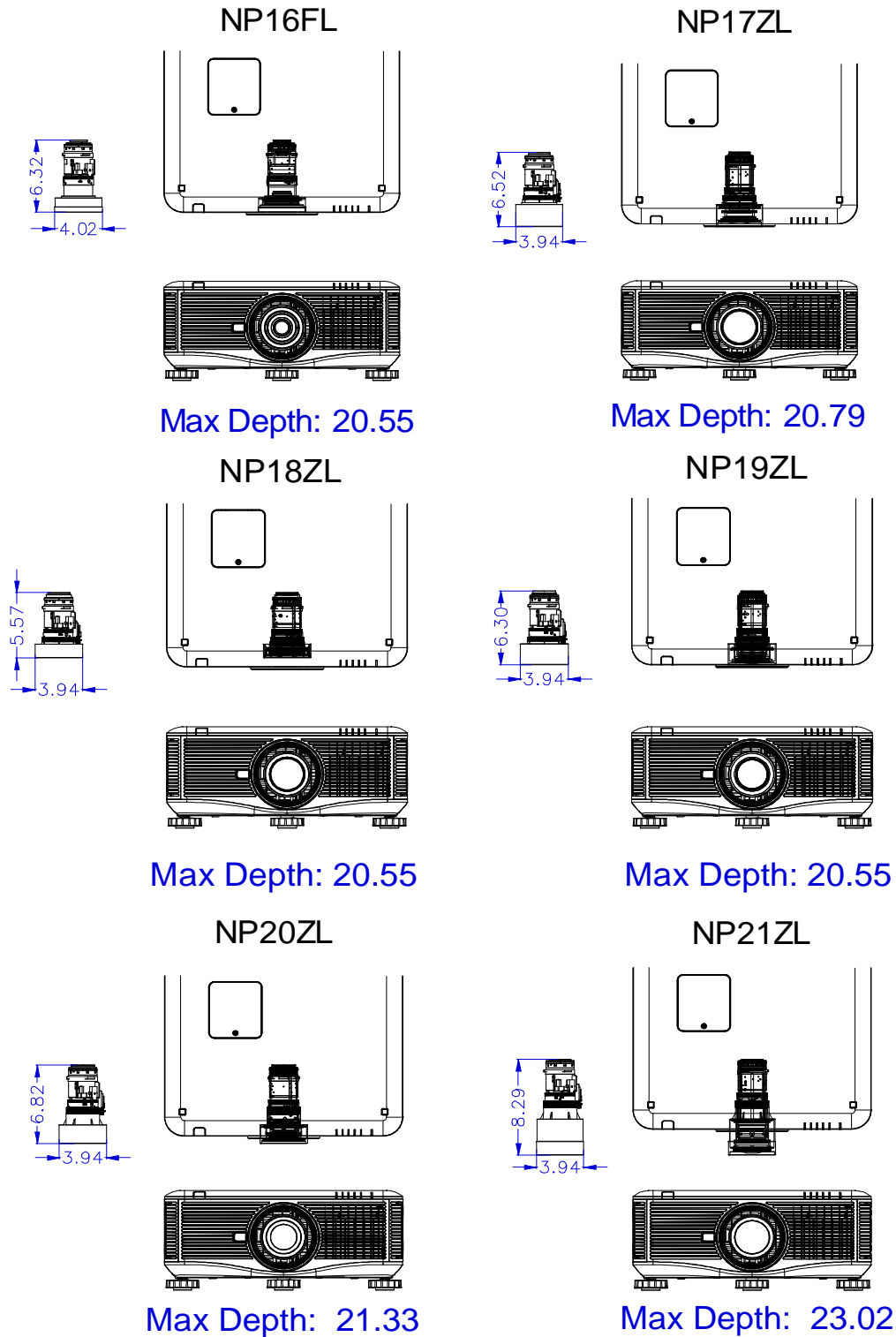


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Optional Lens Dimensions



Note: Depth for the PX750U will remain at 20.55" if the NP16FL, NP18ZL or NP19ZL are utilized.

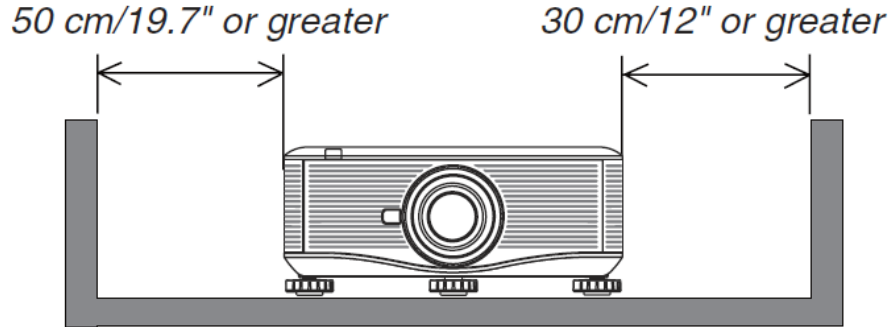
PX700W/PX750U/PX800X Installation Guide

Desktop and Ceiling Mount

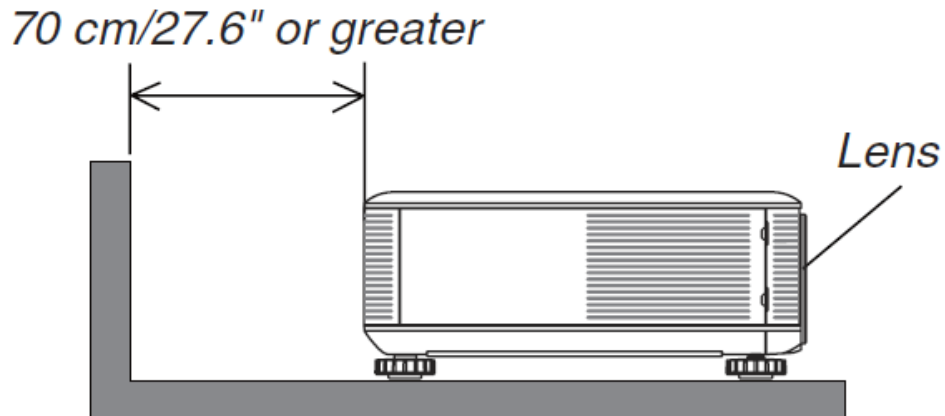
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Ventilation Requirements

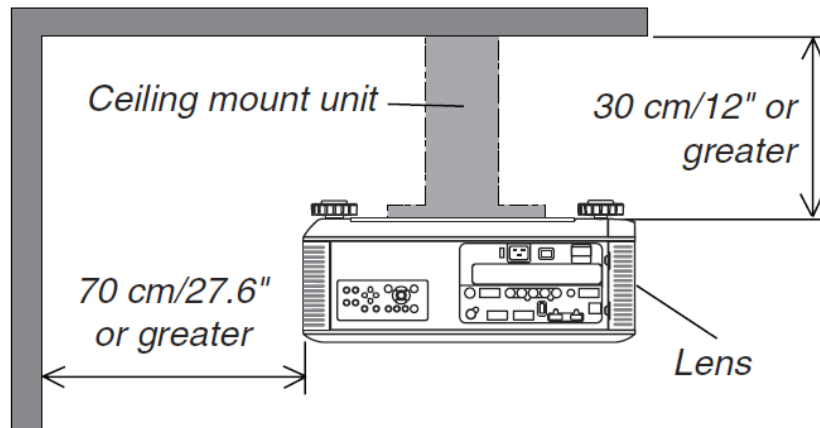
- If there are walls on both sides of the projector :



- If there's a wall behind the projector :



- For ceiling mounting :

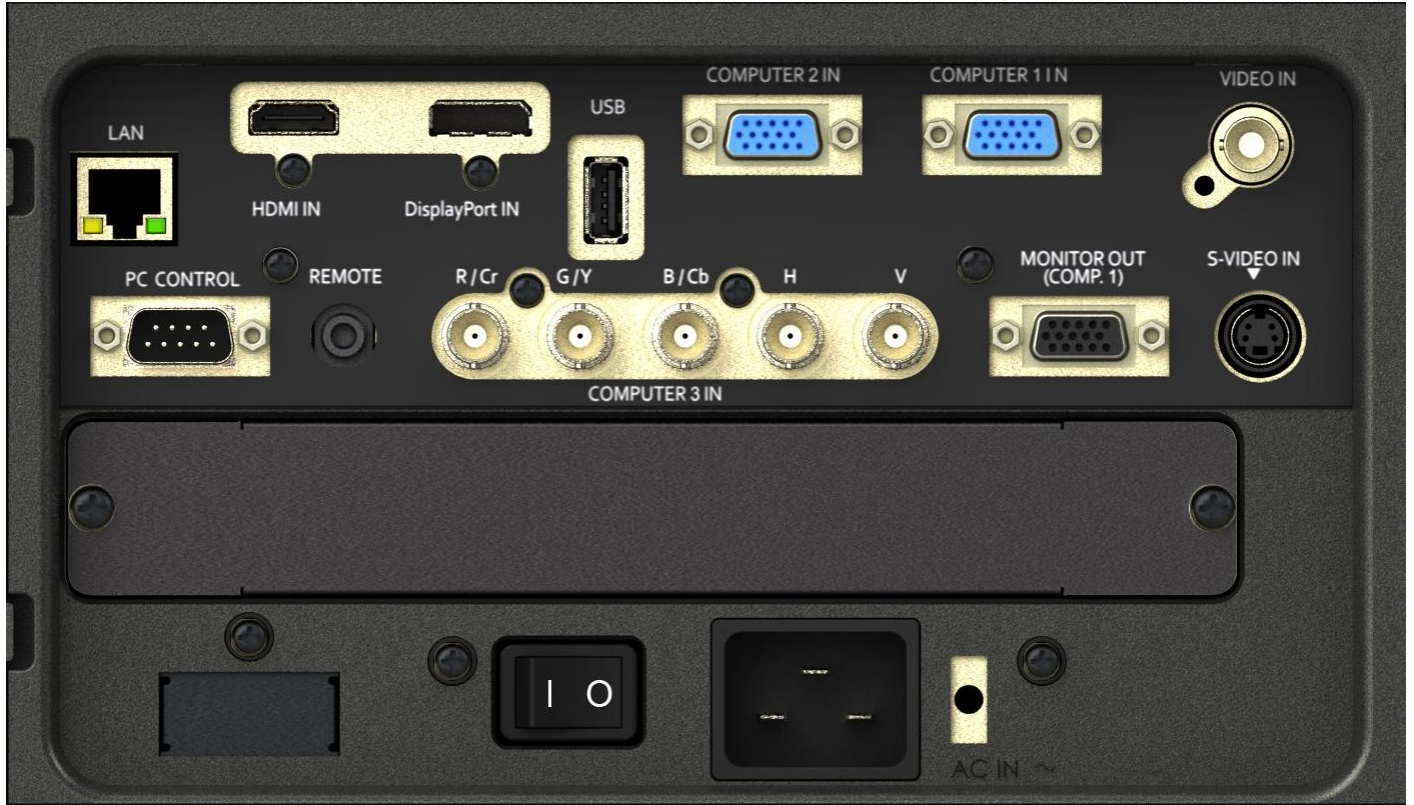


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Input Panel



Control Panel



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PC Control Codes

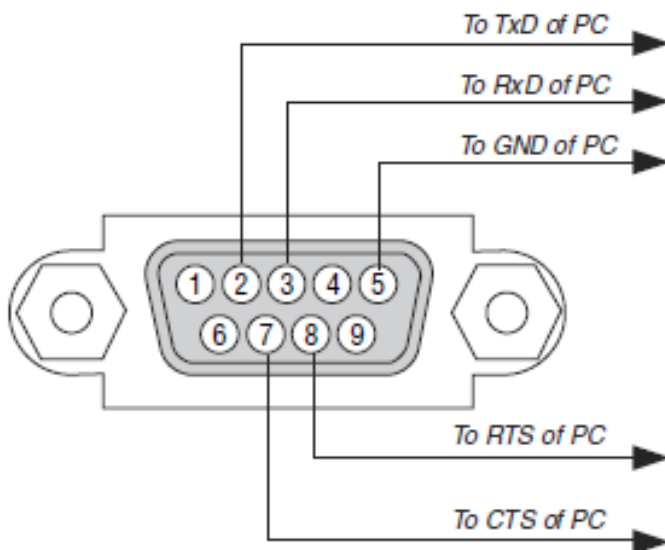
Function	Code Data
POWER ON	02H 00H 00H 00H 00H 02H
POWER OFF	02H 01H 00H 00H 00H 03H
INPUT SELECT COMPUTER 1	02H 03H 00H 00H 02H 01H 01H 09H
INPUT SELECT COMPUTER 2	02H 03H 00H 00H 02H 01H 02H 0AH
INPUT SELECT COMPUTER 3	02H 03H 00H 00H 02H 01H 03H 0BH
INPUT SELECT HDMI	02H 03H 00H 00H 02H 01H 1AH 22H
INPUT SELECT DisplayPort	02H 03H 00H 00H 02H 01H 1BH 23H
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
INPUT SELECT NETWORK	02H 03H 00H 00H 02H 01H 20H 28H
PICTURE MUTE ON	02H 10H 00H 00H 00H 12H
PICTURE MUTE OFF	02H 11H 00H 00H 00H 13H

Cable Connection

Communication Protocol:

Baud Rate: 38400 bps (for cable lengths longer than 20', it is recommended changing to 9600 bps in setup menu)
 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.