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Product Description
Type: 1 chip DMD Reflection Type
Dimensions: 18.5"(W) x 5.4"(H) x 14.4"(D)
Weight: 19.2lbs. / 8.7kg
Resolution: P502WL/P502WL-2: 1280 x 800 (16:10)
          P502HL/P502HL-2: 1920 x 1080 (16:9)
Brightness: 5000 Lumens
Fan Noise: 39 dB / 33dB @ 1 meter

Power Consumption: 464W (max)
BTU’s: 1583 BTU/hour
Network Ready, integrated wired networking
Power: Lens Shift, Horizontal & Vertical /Zoom/ Focus

Lens Specifications
Throw Ratio: P502WL/P502WL-2: 1.3 – 2.2:1 (for 100” diagonal)
            P502HL/P502HL-2: 1.24 – 2.1:1 (for 100” diagonal)
Focal Length: 18.2mm – 31.1mm
F/#: 2.0

Screen Sizes: 30” - 300” diagonal
Manual Focus/Manual Zoom

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%.
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**

### Distance Chart for popular 16:10 screens

**16:10 Screen Formulas:**

- \( W = H \times 16/10 \)
- \( H = W \times 10/16 \)
- \( \text{Screen Diagonal} = W \times 18.868/16 \)

**Projection Formulas:**

- \( B = 0.369W \)
- \( C \text{ (wide)} = 1.309W - 1.457 \)
- \( C \text{ (tele)} = 2.248W - 1.404 \)
- \( D \text{ (max)} = -0.056W \)
- \( D \text{ (min)} = 0.313W \)
- \( \alpha \text{ (wide)} = \tan^{-1} \left( \frac{B}{C\text{(wide)}} \right) \)
- \( \alpha \text{ (tele)} = \tan^{-1} \left( \frac{B}{C\text{(tele)}} \right) \)

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

![Diagrams](image_url)

## Desktop

![Diagrams](image_url)

## Distance Chart for popular 16:9 screens

**16:9 Screen Formulas:**

- \( W = H \times 16/9 \)
- \( H = W \times 9/16 \)
- Screen Diagonal = \( W \times 18.358/16 \)

**Projection Formulas:**

- \( B = 0.369W \)
- \( C (\text{wide}) = 1.247W - 1.426 \)
- \( C (\text{tele}) = 2.142W - 1.374 \)
- \( D (\text{max}) = -0.068W \)
- \( D (\text{min}) = 0.281W \)
- \( \alpha (\text{wide}) = \tan^{-1} \left( B/C(\text{wide}) \right) \)
- \( \alpha (\text{tele}) = \tan^{-1} \left( B/C(\text{tele}) \right) \)

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

<table>
<thead>
<tr>
<th>Diagonal Width (W)</th>
<th>Height (H)</th>
<th>B wide - tele</th>
<th>C wide - tele</th>
<th>D max - min</th>
<th>( \alpha ) wide - tele</th>
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<td>inches</td>
<td>inches</td>
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<td>inches</td>
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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 for the P502WL. The P502WL has a maximum horizontal lens shift range of +/- 28% and a maximum vertical lens shift of + 59%. The lens can be shifted within the shaded area as shown using the normal projection position as a starting point.

Note: Projector is set out of the box at center position, which is how it is depicted above. (H: width of projected image, V: height of projected image)
Cabinet Dimensions
The following diagrams show the cabinet dimensions for the P502WL/P502HL.
Dimensions are in inches. For millimeters multiply by 25.4.
Ventilation Requirements

- If installed on a portrait stand:

(Unit mm)

![Diagram of ventilation requirements]

Regulatory Stickers

Label 1:

![Regulatory sticker 1]

Label 2:

![Regulatory sticker 2]
Input Panel

Control Panel
PC Control Codes

<table>
<thead>
<tr>
<th>Function</th>
<th>Code Data</th>
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</thead>
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</tr>
<tr>
<td>POWER OFF</td>
<td>02H 01H 00H 00H 00H 03H</td>
</tr>
<tr>
<td>INPUT SELECT COMPUTER</td>
<td>02H 03H 00H 00H 02H 01H 01H 09H</td>
</tr>
<tr>
<td>INPUT SELECT HDMI 1</td>
<td>02H 03H 00H 00H 02H 01H 1AH 22H</td>
</tr>
<tr>
<td>INPUT SELECT HDMI 2</td>
<td>02H 03H 00H 00H 02H 01H 18H 23H</td>
</tr>
<tr>
<td>INPUT SELECT VIDEO</td>
<td>02H 03H 00H 00H 02H 01H 06H 0EH</td>
</tr>
<tr>
<td>INPUT SELECT HDBaseT</td>
<td>02H 03H 00H 00H 02H 01H 20H 28H</td>
</tr>
<tr>
<td>PICTURE MUTE ON</td>
<td>02H 01H 00H 00H 00H 00H 12H</td>
</tr>
<tr>
<td>PICTURE MUTE OFF</td>
<td>02H 11H 00H 00H 00H 13H</td>
</tr>
<tr>
<td>SOUND MUTE ON</td>
<td>02H 12H 00H 00H 00H 14H</td>
</tr>
<tr>
<td>SOUND MUTE OFF</td>
<td>02H 13H 00H 00H 00H 15H</td>
</tr>
</tbody>
</table>

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.