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Ver.:1
Usage Notice

Safety Information

The lightning flash with arrow head within an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE. DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE. DO NOT OPEN THE CABINET. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

Class B emissions limits
This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Important Safety Instruction
1. Do not block any ventilation openings. To ensure reliable operation of the projector and to protect from over heating, it is recommended to install the projector in a location that does not block ventilation. As an example, do not place the projector on a crowded coffee table, sofa, bed, etc. Do not put the projector in an enclosure such as a book case or a cabinet that restricts air flow.

2. Do not use the projector near water or moisture. To reduce the risk of fire and/or electric shock, do not expose the projector to rain or moisture.

3. Do not install near heat sources such as radiators, heaters, stoves or any other apparatus such as amplifiers that emits heat.

4. Clean only with dry cloth.

5. Only use attachments/accessories specified by the manufacturer.

6. Do not use the unit if it has been physically damaged or abused.
   Physical damage/abuse would be (but not limited to):
   ▶ Unit has been dropped.
   ▶ Power supply cord or plug has been damaged.
   ▶ Liquid has been spilled on to the projector.
   ▶ Projector has been exposed to rain or moisture.
   ▶ Something has fallen in the projector or something is loose inside.

   Do not attempt to service the unit yourself. Opening or removing covers may expose you to dangerous voltages or other hazards. Please call Optoma before you send the unit for repair.

7. Do not let objects or liquids enter the projector. They may touch dangerous voltage points and short out parts that could result in fire or electric shock.

8. See projector enclosure for safety related markings.

9. The unit should only be repaired by appropriate service personnel.
Precautions

Please follow all warnings, precautions and maintenance as recommended in this user's guide.

- **Warning-** Do not look into the projector's lens when the lamp is on. The bright light may hurt your eyes.
- **Warning-** To reduce the risk of fire or electric shock, do not expose this projector to rain or moisture.
- **Warning-** Please do not open or disassemble the projector as this may cause electric shock.
- **Warning-** When replacing the lamp, please allow the unit to cool down. Follow instructions as described on page 67.
- **Warning-** This projector will detect the life of the lamp itself. Please be sure to change the lamp when it shows warning messages.
- **Warning-** Reset the "Lamp Reset" function from the on-screen display "System|Lamp Setting" menu after replacing the lamp module (refer to pages 51-52).
- **Warning-** When switching the projector off, please ensure the cooling cycle has been completed before disconnecting power. Allow 90 seconds for the projector to cool down.
- **Warning-** Do not use lens cap when projector is in operation.
- **Warning-** When the lamp is approaching to the end of its life time, the message "Replacement suggested" will show on the screen. Please contact your local reseller or service center to change the lamp as soon as possible.

---

**Note:**
When the lamp reaches the end of its life, the projector will not turn back on until the lamp module has been replaced. To replace the lamp, follow the procedures listed under "Replacing the Lamp" section on page 67.
Usage Notice

**Do:**
- Turn off and unplug the power plug from the AC outlet before cleaning the product.
- Use a soft dry cloth with mild detergent to clean the display housing.
- Disconnect the power plug from AC outlet if the product is not being used for a long period of time.

**Do not:**
- Block the slots and openings on the unit provided for ventilation.
- Use abrasive cleaners, waxes or solvents to clean the unit.
- Use under the following conditions:
  - In extremely hot, cold or humid environments.
    - Ensure that the ambient room temperature is within 5 - 40°C
    - Relative Humidity is 10 - 85% (Max.), non-condensing
  - In areas susceptible to excessive dust and dirt.
  - Near any appliance generating a strong magnetic field.
  - In direct sunlight.
Usage Notice

Eye Safety Warnings

- Avoid staring/facing directly into the projector beam at all times. Keep your back to the beam as much as possible.
- When projector is used in a classroom, adequately supervise students when they are asked to point out something on the screen.
- In order to minimize the lamp power, use room blinds to reduce ambient light levels.

Note

Keep this manual for future reference.
Introduction

Package Overview

Unpack and inspect the box contents to ensure all parts listed below are in the box. If something is missing, please contact Optoma customer service.

Projector with lens cap
Power Cord 1.8m
15 pin D-sub VGA Cable
Remote Control
2 x AAA Batteries
Carrying Case

Documentation:
- User’s Manual
- Warranty Card
- Basic User’s Manual

Note:
Due to different applications in each Country, some regions may have different accessories.
Introduction

Product Overview

Main Unit

1. IR Receiver
2. Tilt-Adjustment Feet
3. Lens Cap
4. Function Keys
5. LED Indicators
6. Power Button
7. LENS SHIFT (Not available in 1080p short throw)
8. Zoom (Not available in 1080p short throw)
9. Focus
10. Lens
11. Connection Ports
Introduction

Connection Ports

1. Power Socket
2. USB Power Out (5V_1.5A)
3. VGA-IN/YPbPr/ (V)
4. SERVICE
5. VGA-OUT
6. RS-232C
7. HDMI2
8. HDMI1
9. RJ-45
10. Kensington Microsaver™ Lock Port
11. VIDEO
12. AUDIO2-IN (L and R)
13. AUDIO1 IN
14. AUDIO OUT
15. 12V OUT
Introduction

Remote Control

1. Power On/Off
2. 
3. Freeze
4. USB mouse Left click
5. Four Directional Select Keys
6. Enter
7. Laser **(DO NOT POINT IN EYES)**
8. Page-
9. V Keystone +/-
10. /1(Number Button for password input)
11. HDMI/4
12. User1/7
13. Source
14. Menu/2
15. VGA/5
16. Switch
17. 
18. USB mouse Right click
19. Page+
20. Volume +/-
21. 3D/3
22. Video/6
23. User3/9
24. Resync
25. User2/8
26. /0

**Note**: Due to generic remote, function is model dependent.

**CAUTION**
Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure.

Connecting the Projector

Connect to Notebook

1. VGA Input Cable
2. DVI/HDMI Cable (Optional Accessory)
3. HDMI Cable (Optional Accessory)
4. Power Cord
5. Audio Cable (Optional Accessory)
6. RS232 Cable (Optional Accessory)

Note: Due to the difference in applications for each country, some regions may have different accessories.
Installation

Connect to Video Sources

1. SCART RGB/S-Video Adapter (Optional Accessory)
2. HDMI Cable (Optional Accessory)
3. Power Cord
4. Composite Video Cable (Optional Accessory)

**Note:**
Due to the difference in applications for each country, some regions may have different accessories.

**Note:**
12V OUT is a programmable trigger.
Powering On/Off the Projector

Powering On the Projector

1. Remove the lens cover.
2. Connect the power cord to the projector.
3. Turn On the connected devices.
4. Ensure the Power LED is flashing and then press the power button to turn On the projector.

The projector’s startup logo screen displays and connected devices are detected. If the connected device is a laptop, press the appropriate keys on the computer keyboard to switch the display output to the projector. (Check the user manual of the laptop to determine the appropriate Fn key combination to change display output.)

See Security Settings on page 36 if security lock is enabled.

5. If more than one input device is connected, press the “Source” button sequentially to switch between devices.
For direct source selection, see page 20.

Note

Turn on the projector first and then select the signal sources.

Note

Due to the difference in applications for each country, some regions may have different accessories.

Note

12V OUT is a programmable trigger.
Installation

Powering Off the Projector

1. Press the "_indent_1" button on the remote control or "POWER" button on the panel of the projector to turn off the projector. First push of button will display the following message on the screen.

   ![Power Off?] Press power key again.

   Press the button again to confirm the shut down. If the button is not pressed, the message will disappear in 5 seconds.

2. The Power LED flashes green (1 sec on, 1sec off) and the fans will speed up during shut down cooling cycle. The projector reaches stand-by mode as soon as the Power LED flashes green (2 sec on, 2 sec off).
   
   If you wish to turn the projector back on, you must wait until the projector has completed the cooling cycle and has entered standby mode. Once in standby mode, simply press "POWER" button on the rear of the projector or "_indent_2" on the remote control to restart the projector.

3. Disconnect the power cord from the electrical outlet and the projector only when the projector is in stand-by mode.

Warning Indicator

- When the Lamp LED indicator lights red, the projector will automatically shut itself down. Please contact your local reseller or service center. See page 65.

- When the Temp LED is on a steady (not flashing) red, the projector will automatically shut itself down. Under normal conditions, the projector can be switched on again after it has cooled down. If the problem persists, you should contact your local dealer or our service center. See page 65.

Note

Contact the nearest service center if the projector displays these symptoms. See page 85 for more information.
Adjusting the Projected Image

Adjusting the Projector’s Height

*The projector is equipped with tilt-adjuster feet for adjusting the image height.*

To adjust the angle of the picture, turn the tilt-adjuster right or left until the desired angle has been achieved.

Adjusting the vertical image position

*The Lens Shift function can be used to adjust the position of the vertically.*

Lens shift adjustment for WXGA

The display position can be shifted upward up to 7% and down to 4.5% elevation of the display.

Lens shift adjustment for 1080P

The display position can be shifted upward up to 9% and down to 5% elevation of the display.

*Note*

Lens Shift is not available in 1080p short throw.

- The projector table or stand should be level and sturdy.
- Position the projector so that it is perpendicular to the screen.
- For personal safety, please secure the cables properly.
### Adjusting Projection Image Size (WXGA)

#### Table

<table>
<thead>
<tr>
<th>Diagonal length (inch) size of 16:10 Screen</th>
<th>Screen Size W X H (16:10) Width (m)</th>
<th>Height (feet)</th>
<th>Projection distance (D) wide (m)</th>
<th>tele (m)</th>
<th>Offset (A) (m)</th>
<th>Offset (A) (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>0.65</td>
<td>0.40</td>
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<td>3.53</td>
<td>2.52</td>
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<td>1.35</td>
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</tr>
<tr>
<td>120</td>
<td>2.58</td>
<td>1.62</td>
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<td>5.30</td>
<td>3.77</td>
<td>5.69</td>
</tr>
<tr>
<td>140</td>
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<td>1.88</td>
<td>9.89</td>
<td>6.18</td>
<td>4.40</td>
<td>6.63</td>
</tr>
<tr>
<td>160</td>
<td>3.45</td>
<td>2.15</td>
<td>11.31</td>
<td>7.07</td>
<td>5.03</td>
<td>7.58</td>
</tr>
<tr>
<td>190</td>
<td>4.09</td>
<td>2.56</td>
<td>13.43</td>
<td>8.39</td>
<td>5.97</td>
<td>9.00</td>
</tr>
<tr>
<td>230</td>
<td>4.95</td>
<td>3.10</td>
<td>16.25</td>
<td>10.16</td>
<td>7.23</td>
<td>10.90</td>
</tr>
<tr>
<td>280</td>
<td>6.03</td>
<td>3.77</td>
<td>19.79</td>
<td>12.37</td>
<td>8.81</td>
<td>13.27</td>
</tr>
<tr>
<td>300</td>
<td>6.46</td>
<td>4.04</td>
<td>21.20</td>
<td>13.25</td>
<td>9.43</td>
<td>14.22</td>
</tr>
</tbody>
</table>

#### Note

300" (overdrive) for Asia.
### Adjusting Projection Image Size (1080p)

<table>
<thead>
<tr>
<th>Diagonal length (inch) size of 16:9 Screen</th>
<th>Screen Size W X H (16:9)</th>
<th>Projection distance (D)</th>
<th>Offset (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Width (m)</td>
<td>Height (feet)</td>
<td>Width (m)</td>
</tr>
<tr>
<td>30</td>
<td>0.66</td>
<td>0.37</td>
<td>2.18</td>
</tr>
<tr>
<td>40</td>
<td>0.89</td>
<td>0.50</td>
<td>2.91</td>
</tr>
<tr>
<td>60</td>
<td>1.33</td>
<td>0.75</td>
<td>4.36</td>
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<tr>
<td>80</td>
<td>1.77</td>
<td>1.00</td>
<td>5.81</td>
</tr>
<tr>
<td>100</td>
<td>2.21</td>
<td>1.25</td>
<td>7.26</td>
</tr>
<tr>
<td>120</td>
<td>2.66</td>
<td>1.49</td>
<td>8.72</td>
</tr>
<tr>
<td>140</td>
<td>3.10</td>
<td>1.74</td>
<td>10.17</td>
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<tr>
<td>160</td>
<td>3.54</td>
<td>1.99</td>
<td>11.62</td>
</tr>
<tr>
<td>190</td>
<td>4.21</td>
<td>2.37</td>
<td>13.80</td>
</tr>
<tr>
<td>230</td>
<td>5.09</td>
<td>2.86</td>
<td>16.71</td>
</tr>
<tr>
<td>280</td>
<td>6.20</td>
<td>3.49</td>
<td>20.34</td>
</tr>
<tr>
<td>300</td>
<td>6.64</td>
<td>3.74</td>
<td>21.79</td>
</tr>
</tbody>
</table>
## Installation

### Adjusting Projection Image Size

(1080p short throw)

<table>
<thead>
<tr>
<th>Diagonal length (inch) size of 16:9 Screen</th>
<th>Screen Size W X H (16:9)</th>
<th>Projection distance (D)</th>
<th>Offset (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Width (m)</td>
<td>Height (m)</td>
<td>Width (feet)</td>
</tr>
<tr>
<td>60</td>
<td>1.33</td>
<td>0.75</td>
<td>4.36</td>
</tr>
<tr>
<td>80</td>
<td>1.77</td>
<td>1.00</td>
<td>5.81</td>
</tr>
<tr>
<td>100</td>
<td>2.21</td>
<td>1.25</td>
<td>7.26</td>
</tr>
<tr>
<td>120</td>
<td>2.66</td>
<td>1.49</td>
<td>8.72</td>
</tr>
<tr>
<td>140</td>
<td>3.10</td>
<td>1.74</td>
<td>10.17</td>
</tr>
<tr>
<td>153</td>
<td>3.39</td>
<td>1.91</td>
<td>11.11</td>
</tr>
</tbody>
</table>
# User Controls

## Remote Control

### Using the Remote Control

**Power On/Off**
- Refer to the “Powering Off the Projector” on page 14.
- Refer to the “Powering On the Projector” on page 13.

**/Switch**
- When connecting your PC to the projector through USB, press “Mouse Switch” to activate/inactivate the mouse mode and control your PC using the remote.

<table>
<thead>
<tr>
<th>Display blank &amp; Audio mute</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Freeze</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeze</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mute</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>USB mouse Left click</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>USB mouse Right click</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
</tr>
</tbody>
</table>

**Four Directional Select Keys**
- 1. Use ▲▼◄► to select items or make adjustments to your selection.
- 2. In the mouse mode, use ▲▼◄► as emulation of directional keys.

**Enter**
- 1. Confirm your item selection.
- 2. In the mouse mode, as emulation keyboard enter key.

**Page-**
- Page Down key for emulation of USB keyboard via USB when OSD off

**Laser**
- Press Laser to operate the on-screen pointer.
- **DO NOT POINT IN EYES.**

**Page+**
- Page Up key for emulation of USB keyboard via USB when OSD off

**V Keystone +/-**
- Adjusts image distortion caused by tilting the projector. (±40 degrees)

**Volume +/-**
- Press “Volume +/-” to adjust volume.

---

*Due to the difference in applications for each country, some regions may have different accessories.*

*Due to generic remote, function is model dependent.*
## User Controls

### Using the Remote Control

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🎤/1</td>
<td>Refer to the “Format” on page 30.</td>
</tr>
<tr>
<td>Menu/2</td>
<td>Press “Menu” to launch the on-screen display (OSD) menu. To exit OSD, press “Menu” again.</td>
</tr>
<tr>
<td>3D/3</td>
<td>Press “3D” to turn on/off 3D menu.</td>
</tr>
<tr>
<td>HDMI/4</td>
<td>Press “HDMI” to choose HDMI source.</td>
</tr>
<tr>
<td>VGA/5</td>
<td>Press “VGA” to choose source from VGA- IN connector.</td>
</tr>
<tr>
<td>Video/6</td>
<td>Press “Video” to choose Composite video source.</td>
</tr>
<tr>
<td>User 1/7</td>
<td>Refer to the “User 1” on page 48</td>
</tr>
<tr>
<td>User 2/8</td>
<td>Refer to the “User 2” on page 48</td>
</tr>
<tr>
<td>User 3/9</td>
<td>Refer to the “User 3” on page 48</td>
</tr>
<tr>
<td>√/0</td>
<td>Brightness mode menu on/off</td>
</tr>
<tr>
<td>Source</td>
<td>Press “Source” to search for source.</td>
</tr>
<tr>
<td>Re-sync</td>
<td>Automatically synchronizes the projector to the input source.</td>
</tr>
</tbody>
</table>

**Note:**
Due to the difference in applications for each country, some regions may have different accessories.

**Note:**
Due to generic remote, function is model dependent.

Remote control number is for password used.
On-screen Display Menus

The Projector has multilingual On-screen Display menus that allow you to make image adjustments and change a variety of settings. The projector will automatically detect the source.

How to operate

1. To open the OSD menu, press “Menu” on the Remote Control or Control Panel.
2. When OSD is displayed, use ◄► keys to select any item in the main menu. While making a selection on a particular page, press ▲▼ or “ENTER” key on the Remote Control or “Enter” on the Control Panel to enter sub menu.
3. Use ▲▼ keys to select the desired item and adjust the settings by ◄► key.
4. Select the next item to be adjusted in the sub menu and adjust as described above.
5. Press “ENTER” key on the Remote Control or “Enter” on the Control Panel or “Menu” to confirm, and the screen will return to the main menu.
6. To exit, press “Menu” again. The OSD menu will close and the projector will automatically save the new settings.
### User Controls

#### Menu Tree

<table>
<thead>
<tr>
<th>IMAGE</th>
<th>Display Mode</th>
<th>Brightness</th>
<th>Contrast</th>
<th>Sharpness</th>
<th>Level</th>
<th>Auto</th>
<th>Reset</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### IMAGE | Advanced

<table>
<thead>
<tr>
<th>Brightness</th>
<th>Color/Level</th>
<th>Auto/Reset</th>
</tr>
</thead>
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<td>Menu</td>
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<td>Color Space</td>
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</table>

#### DISPLAY

<table>
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<th>BriliantColor</th>
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</thead>
<tbody>
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<td>Color</td>
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<td>Contrast</td>
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</tbody>
</table>

#### DISPLAY | 3D

<table>
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<th>Auto/RGB/YUV/RGB(16-235)/YUV</th>
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<td>Exit</td>
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</tbody>
</table>

#### SETUP | Security

<table>
<thead>
<tr>
<th>Screen type</th>
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<th>Change Password</th>
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<tr>
<td>Exit</td>
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<td></td>
</tr>
</tbody>
</table>

#### SETUP | Audio Settings

<table>
<thead>
<tr>
<th>Default/Neutral/User</th>
<th>Internal Speaker</th>
<th>Volume</th>
<th>Audio Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>On/Off</td>
<td>Mute</td>
<td>0-10</td>
<td>Default/Audio 1/Audio 2</td>
</tr>
<tr>
<td>Exit</td>
<td></td>
<td></td>
<td>Exit</td>
</tr>
</tbody>
</table>

#### SETUP | Advanced

<table>
<thead>
<tr>
<th>Logo</th>
<th>Default/Neutral/User</th>
<th>Exit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

#### SETUP | Network

<table>
<thead>
<tr>
<th>Network Status/Network Address/Auth/Network Status/Network Address/Network Address/Network Address</th>
<th>Control Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Create/Connect/UPNP/AM/Facility/Authentication</td>
</tr>
</tbody>
</table>
**Note**

- When DynamicBlack is On, and Brightness Mode is set to Bright, the Dynamic range is 100%~30%. When brightness mode is on Eco. Mode, the dynamic range is 80%~30%.
User Controls

Display Mode
There are many factory presets optimized for various types of images.
- Presentation: Good color and brightness from PC input.
- Bright: Maximum brightness from PC input.
- Movie: For home theater.
- sRGB: Standardised accurate color.
- Blackboard: This mode should be selected to achieve optimum color settings when projecting onto a blackboard (green).
- DICOM SIM: This display mode simulates the grayscale/gamma performance of equipment used for “Digital Imaging and Communications in Medicine” (DICOM).

Important: This mode should NEVER be used for medical diagnosis, it is for education/training purposes only.
- User: User’s own settings.
- 3D: User adjustable setting for 3D viewing.

Brightness
Adjust the brightness of the image.
- Press ◀ to darken image.
- Press ▶ to lighten the image.
User Controls

Contrast
The contrast controls the degree of difference between the lightest and darkest parts of the picture.
- Press ◀ to decrease the contrast.
- Press ▶ to increase the contrast.

Sharpness
Adjusts the sharpness of the image.
- Press ◀ to decrease the sharpness.
- Press ▶ to increase the sharpness.

Color
Adjusts a video image from black and white to full color saturation.
- Press ◀ to decrease the amount of color in the image.
- Press ▶ to increase the amount of color in the image.

Tint
Adjusts the color balance of red and green.
- Press ◀ to increase the amount of green in the image.
- Press ▶ to increase the amount of red in the image.

Advanced
Enter the Advanced menu. Select advanced display options such as Gamma, BrilliantColor™, Color Temp., Color Matching, Color Space, Noise Reduction, Signal, and Exit. See page 26 for more information.
User Controls

Gamma
Choose the Gamma type from Film, Video, Standard.

BrilliantColor™
This adjustable item utilizes a new color-processing algorithm and system level enhancements to enable higher brightness while providing true, more vibrant colors in picture. The range is from 1 to 10. If you prefer a stronger enhanced image, adjust toward the maximum setting. For a smoother, more natural image, adjust toward the minimum setting.

Color Temp
Adjust the color temperature. Cold temperature, the screen looks colder; with Warm temperature, the screen looks warmer.

Color Matching
Enter the Color Matching menu. See page 28 for more details.

Color Space
Select an appropriate color matrix type from AUTO, RGB, YUV.
- For HDMI only: Select color matrix from Auto, RGB (0-255), RGB (16-235), YUV.
Noise Reduction
The motion Adaptive Noise Reduction reduces the amount of visible noise in interlaced signals. The range is from “0” to “10”. (0=Off)

Signal
Enter the Signal menu. Set projector signal properties. The function is available when input source is support VGA See page 29 for more information.
User Controls

Colors (Except White)
Press ▲▼ to select a color and press “ENTER” to adjust the hue, saturation, and gain settings.

Note

- Green, Blue, Cyan, Yellow, Magenta can be separate adjust by each color HSG.
- White can be adjust Red, Green, Blue color by each.

White
Press ▲▼ to select White and press “ENTER”.

Press ▲▼ to select Red, Green, or Blue and press ◀▶ to adjust the settings.

Reset
Reset all Color Setting values to the factory default.
**User Controls**

**Image / Advanced / Signal**

---

**Automatic**
Set Automatic to On or Off to lock or unlock the Phase and Frequency features.

- **Disable**—Off auto lock.
- **Enable**—On auto lock.

**Frequency**
Change the display data frequency to match the frequency of your computer's graphics card. If you experience a vertical flickering bar, use this function to make an adjustment.

**Phase**
Phase synchronizes the signal timing of the display with the graphics card. If you experience an unstable or flickering image, use this function to correct it.

**H. Position**
- Press ◄ to move the image left.
- Press ► to move the image right.

**V. Position**
- Press ◄ to move the image down.
- Press ► to move the image up.
User Controls

Display

Format

Use this function to choose your desired aspect ratio.

- **4:3**: This format is for 4x3 input sources not enhanced for Wide screen TV.
- **16:9/16:10**: This format is for 16x9 input sources, like HDTV and DVD enhanced for Wide screen TV.
- **LBX**: This format is for non-16x9, letterbox source and for users who use an external 16x9 lens to display 2.35:1 aspect ratio using full resolution.
- **Native**: Depends on the resolution of the input source – No scaling is performed.
- **Auto**: Automatically selects the appropriate format.
### User Controls

**Edge Mask**

Edge Mask function removes the noise in a video image. Edge Mask the image to remove video encoding noise on the edge of video source.

**Zoom**

- Press ◀ to reduce the size of the image.
- Press ► to magnify an image on the projected screen.

**Image Shift**

Shifts the projected image position horizontally or vertically.

- Press ◀► to move the image horizontally on the projected screen.
- Press ▲▼ to move the image vertically on the projected screen.

![Image Shift Diagram](image.png)

When Zoom ≤ 0  When Zoom > 0

**V Keystone**

Press ◀ or ► to compensate for vertical images distortion when the projector is positioned at an angle to the screen.

**3D**

Enter the 3D menu. Select 3D options such as 3D Mode, 3D->2D, 3D Format, and 3D Sync Invert. See page 32 for more information.
User Controls

Display / 3D

3D Mode
- DLP Link: Select DLP Link to use optimized settings for DLP Link 3D Glasses.
- IR: Select IR to use optimized settings for IR-based 3D images.

3D→2D
Press ◄ or ► to select projector display 3D content in 2D (Left) or 2D(Right) without using 3D glasses to enjoy 3D content. This setting can also be used for dual projector passive 3D installations.

3D Format
- Auto: When a 3D identification signal is detected, the 3D format is selected automatically. (For HDMI 1.4 3D sources only)
- SBS: Display 3D signal in Side-by-Side format.
- Top and Bottom: Display 3D signal in Top and Bottom format.
- Frame Sequential: Display 3D signal in Frame Sequential format.

3D Sync. Invert
Press ◄ or ► to enable or disable the 3D Sync invert function to invert images.

Note
3D settings would be saved after adjustment.
**Language**

Enter the Language menu. Select the multilingual OSD menu. See page 35 for more information.

**Projection**

Select projection method:

- **P** Front Desktop
  
The factory default setting.

- **R** Rear Desktop
  
When you select this function, the projector reverses the image so you can project from behind a translucent screen.

- **D** Front Ceiling
  
When you select this function, the projector turns the image upside down for ceiling-mounted projection.

- **B** Rear Ceiling
  
When you select this function, the projector reverses and turns the image upside down at same time. You can project from behind a translucent screen with ceiling mounted projection.

**Menu Location**

Choose the menu location on the display screen.

**Screen Type**

Press ◄► to set the aspect ratio to 16:9 or 16:10. This function is only available for WXGA.
User Controls

___ Security
Enter the Security menu. Access the projector’s security features. See pages 36-38 for more information.

___ Projector ID
Select a two digit projector ID from 00 through 99.

___ Audio Settings
Enter the Audio menu. Set audio level properties. See page 39 for more information.

___ Advanced
Enter the Advanced menu. Select the screen display during startup. See page 40 for more information.

___ Network
Allows access to controls for web, PJ-Link, and IP commands. See page 41 for more information.
User Controls

Setup / Language

Language

Choose the multilingual OSD menu. Press “ENTER” into the sub menu and then use the Left (◄) or Right (►) key to select your preferred language.
User Controls

Setup / Security

Security
Enable or disable the security password.

- On—the current password is required to power on the projector and access the Security menu.
- Off—no password is required after system power up.

Note
The default password: 1, 2, 3, 4, 5.

When security is enabled, the following screen displays at startup and before access to the Security menu is allowed:
Security Timer
Enter the Security Timer sub menu.

Enter the Months, Days, and hours that the projector can be used without entering the password. Exiting to the Setup menu activates the Security Timer.

Once activated, the projector requires a password on the specified dates and times to allow power on and access to the security menu.

If the projector is in use and the Security Timer is active, the following screen displays 60 seconds before the password is required.
User Controls

Change Password
Use this submenu to change the security password for the projector.

2. Select Yes.
3. Enter the default password <1> <2> <3> <4> <5>. A second password screen displays.
4. Enter the new password twice for verification.

Note
If the incorrect password is entered three times, the device auto shuts down after 10 seconds.

Note
If the new passwords do not match, the password screen redisplays.
User Controls

Setup / Audio Settings

Internal Speaker
- Off—turn off the internal speaker.
- On—turn on the internal speaker.

Mute
Toggle the audio on or off.
- Off—the speaker volume and audio out are turned on.
- On—the speaker volume and audio out are turned off.

Volume
Press ◄ to decrease the volume.
Press ► to increase the volume.

Audio Input
Press ◄► to select audio source input.
User Controls

Setup / Advanced

Logo
Select the screen to display during startup.
- Default—the supplied default startup screen.
- Neutral—is Background Color.
- User—customized screen capture using the Logo Capture function.

Logo Capture
Capture a displayed screen to use as the startup screen.
1. Display the desired screen on the projector.
2. Select Logo Capture from the Advanced menu. A confirmation screen displays.
3. Select OK. Screen capture in progress will display.
   When finished, Screen capture Succeeded will display.
   The captured screen is saved as User in the logo menu.

Closed Captioning
Select the screen to display closed captioning
- Off—the supplied default setting.
- CC1/CC2—closed captioning type select.

Note
Only one startup screen can be saved at once. Subsequent captures overwrite previous files limited in 1920 x 1200 (Refer Appendices Timing Table)
User Controls

Setup / Network

---

### LAN Settings

Enter the LAN Settings menu. See page 42 for more information.

### Control Settings

Enter the Control Settings menu. See page 43 for more information.
User Controls

Setup / LAN Settings

If the connection is successful, the OSD display will show the following dialogue box.

- **Network State**—to display network information.
- **DHCP**:
  - On: Assign an IP address to the projector from the DHCP server automatically.
  - Off: Assign an IP address manually.
- **IP Address**—Select an IP address
- **Subnet Mask**—Select subnet mask number.
- **Gateway**—Select the default gateway of the network connected to the projector.
- **DNS**—Select DNS number.
- **Apply**—Press “ENTER” to apply the selection.
- **MAC Address**—Read only.

**Note**

Network sub-menu can only be accessed if a network cable is connected.
**User Controls**

**Setup / Control Settings**

- **Crestron**
  Press ◄► to check to enable/disable Crestron.

- **Extron**
  Press ◄► to check to enable/disable Extron.

- **PJ Link**
  Press ◄► to check to enable/disable PJ Link.

- **AMX Device Discovery**
  Press ◄► to check to enable/disable AMX Device Discovery.

- **Telnet**
  Press ◄► to check to enable/disable Telnet.
User Controls

Options

---

**Input Source**

Enter the Input Source submenu. Select the sources to scan for at startup. See page 47 for more information.

**Source Lock**

Lock the current source as the only available source, even if the cable is unplugged.

- **On**—only the current source is recognized as an input source.
- **Off**—all sources selected in Options | Input Source are recognized as an input source.

**High Altitude**

Adjust the fan speed to reflect the environment.

- **On**—increases fan speed for high temperature, humidity, or altitude.
- **Off**—regular fan speed for normal conditions.

**Information Hide**

Suppress informational messages on the projected screen.

- **On**—no status messages appear on screen during operation.
- **Off**—status messages appear as normal on screen during operation.
User Controls

---

**Keypad Lock**

Lock the buttons on the projector top panel.

- **On**—a warning message displays to confirm keypad lock.

- **Off**—projector keypad functions as normal.

---

**Test Pattern**

Display a test pattern. There are Grid, White and None.

---

**12V Trigger**

Press ◄► to select 12V Trigger whether output or not.

---

**Background Color**

Select the desired background color for the projected image when no source is detected.

---

**Remote Settings**

Enter the Remote settings. See page 48 for more information.

---

*Note*

Hold "ENTER" key on keypad for 10 seconds to unlock keypad.
User Controls

Advanced
Enter the Advanced menu. See pages 49-50 for more details.

Lamp Setting
Enter the Lamp Setting menu. See pages 51-52 for more details.

Information
Show the projector information.

Reset
Reset all Options to default factory settings.
### Options / Input Source

<table>
<thead>
<tr>
<th>Input Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGA</td>
</tr>
<tr>
<td>Video</td>
</tr>
<tr>
<td>HDMI1</td>
</tr>
<tr>
<td>HDMI2</td>
</tr>
<tr>
<td>Exit</td>
</tr>
</tbody>
</table>

**Options**

If all sources are deselected, the projector cannot display any images. Always leave at least one source selected.

**Input Source**

Use this option to enable / disable input sources. Press ▲ or ▼ to select a source, then press ◄ or ► to enable / disable it. Press “ENTER” to finalize the selection. The projector will not search inputs that are de-selected.
User Controls

User Controls

User1
Set User1 key as a hotkey for LAN, Brightness, Contrast, Sleep Timer, Color Matching, Color Temp, Gamma, Source Lock, Projection, Lamp Settings, Zoom, Test Pattern, Freeze, HDMI1, HDMI2 function.

User2
Set User2 key as a hotkey for LAN, Brightness, Contrast, Sleep Timer, Color Matching, Color Temp, Gamma, Source Lock, Projection, Lamp Settings, Zoom, Test Pattern, Freeze, HDMI1, HDMI2 function.

User3
Set User3 key as a hotkey for LAN, Brightness, Contrast, Sleep Timer, Color Matching, Color Temp, Gamma, Source Lock, Projection, Lamp Settings, Zoom, Test Pattern, Freeze, HDMI1, HDMI2 function.

IR Function
Enable or Disable projector’s IR function.
## Options / Advanced

### Direct Power On

Enable or disable Direct Power On.

- **On**—the projector powers on automatically when AC power is supplied.
- **Off**—the projector must be powered on as normal.

### Signal Power On

Enable or disable Signal Power On.

- **On**—the projector powers on automatically when an active signal is detected.
- **Off**—disable the power on trigger by active signal is detected.

#### Note

1. Only available on Standby Mode is Active.
2. If projector is turned off with keeping input the signal source (the last image source showing on screen), it will not re-start unless:
   - a. Terminate the last image source and input any signal source again.
   - b. Unplug and re-plug the projector power again.
3. Signal power on will ignore “source lock” setting.
User Controls

Auto Power Off (min)
Set the Auto Power Off interval. The projector powers off the lamp after 30 minutes of no signal by default. The following warning is displayed 60 seconds before power off.

Sleep Timer (min)
Set the Sleep Timer interval. The projector powers off after the specified time period of inactivity (regardless of signal). The following warning is displayed 60 seconds before power off.

Power Mode (Standby)
- Eco.: Choose “Eco.” to save power dissipation further < 0.5W.
- Active: Choose “Active” to return to normal standby and the VGA out port will be enabled.

Quick Resume
If Quick Resume is On, the projector can resume operating soon provided the projector is turned back on within 100 seconds of being turned off.

OSD Time-Out
Set the OSD display time.

Note
When Power Mode(Standby) is set to Eco., the VGA & Audio pass-through and RJ45 would be deactivated. Limited functionality is available on RS232 control.

Note
Projector won’t really be 100% turn off unless end-user wait 100sec.
**User Controls**

### Options / Lamp Setting

#### Lamp Hour
Displays the number of hours the lamp has been active. This item is for display only.

#### Lamp Reminder
Enable or disable the lamp life span reminder.
- **On** — a warning message displays when remaining lamp life is less than 30 hours.
- **Off** — no warning message displays.

#### Brightness Mode
Select the lamp brightness mode.
- **Bright** — the default setting.
- **Eco** — lower brightness setting to conserve lamp life.
User Controls

DynamicBlack
Select the DynamicBlack mode.

Lamp Reset
After replacing the lamp, reset the lamp counter to accurately reflect the new lamp’s life span.

1. Select Lamp Reset.
   A confirmation screen displays.

2. Select Yes to reset the lamp counter to zero.

Note
When DynamicBlack is On, and Brightness Mode is set to Bright, the Dynamic range is 100%~30%. When brightness mode is on Eco. Mode, the dynamic range is 80%~30%.
LAN_RJ45

For simplicity and ease of operation, the Optoma projector provides diverse networking and remote management features. The LAN/RJ45 function of the projector through a network, such as remotely manage: Power On/Off, Brightness and Contrast settings. Also, projector status information, such as: Video-Source, Sound-Mute, etc.

Wired LAN Terminal functionalities

The projector can be controlled by a PC (Laptop) or other external device via LAN/RJ45 port and compatible with Crestron / Extron / AMX (Device Discovery) / PJLink.

- Crestron is a registered trademark of Crestron Electronics, Inc. of the United States.
- Extron is a registered trademark of Extron Electronics, Inc. of the United States.
- AMX is a registered trademark of AMX LLC of the United States.
- PJLink applied for trademark and logo registration in Japan, the United States of America, and other countries by JBMIA.

Supported External Devices

This projector is supported by the specified commands of the Crestron Electronics controller and related software (ex, RoomView®).

http://www.crestron.com/

This projector is compliant to support Extron device(s) for reference.

http://www.extron.com/

This projector is supported by AMX (Device Discovery).

http://www.amx.com/
User Controls

This projector supports all commands of PJLink Class1 (Version 1.00).
http://pjlink.jbmia.or.jp/english/

For more detail of information about the diverse types of external devices which can be connected to the LAN/RJ45 port and remote/control the projector, as well as the related control commands supporting for each external device, kindly please get contact with the Support-Service directly.

LAN RJ45
1. Connect an RJ45 cable to RJ45 ports on the projector and the PC (Laptop).

2. On the PC (Laptop), select Start -> Control Panel-> Network Connections.
3. Right Click on your Local Area Connection, and select Property.

4. In the Properties window, select the General tab, and select Internet Protocol (TCP/IP).

5. Click Properties.
6. Fill in the IP address and Subnet mask, then press OK.

7. Press the Menu button on the projector.
9. After getting into Network Status, input the following:
   - DHCP: Off
   - IP Address: 10.10.10.10
   - Subnet Mask: 255.255.255.0
   - Gateway: 0.0.0.0
   - DNS: 0.0.0.0
11. Open a web browser (ex, Microsoft Internet Explorer with Adobe Flash Player 9.0 or higher).

12. In the Address bar, input the IP address: 10.10.10.10.

The projector is setup for remote management. The LAN/RJ45 function displays as follows.

For more information, please visit http://www.crestron.com
## User Controls

<table>
<thead>
<tr>
<th>Category</th>
<th>Item</th>
<th>Input-Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crestron Control</td>
<td>IP Address</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>IP ID</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Port</td>
<td>5</td>
</tr>
<tr>
<td>Projector</td>
<td>Projector Name</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Location</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Assigned To</td>
<td>10</td>
</tr>
<tr>
<td>Network Configuration</td>
<td>DHCP (Enabled)</td>
<td>(N/A)</td>
</tr>
<tr>
<td></td>
<td>IP Address</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Subnet Mask</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Default Gateway</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>DNS Server</td>
<td>15</td>
</tr>
<tr>
<td>User Password</td>
<td>Enabled</td>
<td>(N/A)</td>
</tr>
<tr>
<td></td>
<td>New Password</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Confirm</td>
<td>10</td>
</tr>
<tr>
<td>Admin Password</td>
<td>Enabled</td>
<td>(N/A)</td>
</tr>
<tr>
<td></td>
<td>New Password</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Confirm</td>
<td>10</td>
</tr>
</tbody>
</table>

For more information, please visit [http://www.crestron.com](http://www.crestron.com).

### Preparing Email Alerts

1. Make sure that user can access the homepage of LAN RJ45 function by web browser (for example, Microsoft Internet Explorer v6.01/v8.0).
2. From the Homepage of LAN/RJ45, click Alert Settings.
User Controls

3. By default, these input boxes in Alert Settings are blank.

![User Controls Diagram]

4. For Sending alert mail, input the following:
   - The SMTP field is the mail server for sending out email (SMTP protocol). This is a required field.
   - The To field is the recipient’s email address (for example, the projector administrator). This is a required field.
   - The Cc field sends a carbon copy of the alert to the specified email address. This is an optional field (for example, the projector administrator’s assistant).
   - The From field is the sender’s email address (for example, the projector administrator). This is a required field.
   - Select the alert conditions by checking the desired boxes.

![User Controls Diagram]

**Note:** Fill in all fields as specified. User can click Send Test Mail to test what setting is correct. For successful sending an email alert, you must select alert conditions and enter a correct email address.
User Controls

RS232 by Telnet Function
Besides projector connected to RS232 interface with "Hyper-Terminal" communication by dedicated RS232 command control, there is alternative RS232 command control way, so called “RS232 by TELNET” for LAN/RJ45 interface.

Quick Start-Guide for “RS232 by TELNET”
Check and get the IP-Address on OSD of the projector.
Make sure that laptop/PC can access the web-page of the projector.
Make sure that “Windows Firewall” setting to be disabled in case of “TELNET” function filtering out by laptop/PC.

1. Start => All Programs => Accessories => Command Prompt.
2. Input the command format like the below:
   \texttt{telnet \ ttt.xxx.yyy.zzz 23} ("Enter" key pressed)
   (ttt.xxx.yyy.zzz: IP-Address of the projector)

3. If Telnet-Connection ready, and user can have RS232 command input, then “Enter” key pressed, the RS232 command will be workable.

How to have TELNET enabled in Windows VISTA / 7

By default installation for Windows VISTA, “TELNET” function is not included. But end-user can have it by way of “Turn Windows features On or Off” to be enabled.

1. Open “Control Panel” in Windows VISTA.

2. Open “Programs”.
3. Select “Turn Windows features on or off” to open.

4. Have “Telnet Client” option checked, then press “OK” button.

Specsheet for “RS232 by TELNET”:
1. Telnet: TCP.
2. Telnet port: 23 (for more detail, kindly please get contact with the service agent or team).
3. Telnet utility: Windows “TELNET.exe” (console mode).
   Limitation 1 for Telnet-Control: there is less than 50 bytes for successive network payload for Telnet-Control application.
   Limitation 2 for Telnet-Control: there is less than 26 bytes for one complete RS232 command for Telnet-Control.
   Limitation 3 for Telnet-Control: Minimum delay for next RS232 command must be more than 200 (ms).
   (*, In Windows XP built-in “TELNET.exe” utility, “Enter” key pressed will have “Carriage-Return” and “New-Line” code.)
Troubleshooting

If you experience a problem with your projector, please refer to the following information. If a problem persists, please contact your local reseller or service center.

Image

?q No image appears on-screen
- Ensure all the cables and power connections are correctly and securely connected as described in the “Installation” section.
- Ensure the pins of connectors are not crooked or broken.
- Check if the projection lamp has been securely installed. Please refer to the “Replacing the Lamp” section.
- Make sure you have removed the lens cap and the projector is switched on.

?q Image is out of focus
- Make sure the Lens cap is removed.
- Adjust the Focus Ring on the projector lens.
- Make sure the projection screen is between the required distance from the projector. See pages 16-17.

?q The image is stretched when displaying 16:9 DVD title
- When you play anamorphic DVD or 16:9 DVD, the projector will show the best image in 16:9 format on projector side.
- If you play the LBX format DVD title, please change the format as LBX in projector OSD.
- If you play 4:3 format DVD title, please change the format as 4:3 in projector OSD.
- If the image is still stretched, you will also need to adjust the aspect ratio by referring to the following:
- Please setup the display format as 16:9 (wide) aspect ratio type on your DVD player.
Appendices

Image is too small or too large
- Adjust the zoom lever from the lens.
- Move the projector closer to or further from the screen.
- Press [Menu] on the projector panel, go to “Display->Format”. Try the different settings.

Image has slanted sides:
- If possible, reposition the projector so that it is centered on the screen and below the bottom of the screen and use PureShift to make adjustments to the image position.
- Use “Display->V Keystone” from the OSD to make an adjustment.

Image is reversed
- Select “System->Projection” from the OSD and adjust the projection direction.

Other

The projector stops responding to all controls
- If possible, turn off the projector, then unplug the power cord and wait at least 20 seconds before reconnecting power.

Lamp burns out or makes a popping sound
- When the lamp reaches its end of life, it will burn out and may make a loud popping sound. If this happens, the projector will not turn on until the lamp module has been replaced. To replace the lamp, follow the procedures in the “Replacing the Lamp” section on page 67.
## Projector LED Status Indicator

<table>
<thead>
<tr>
<th>Message</th>
<th>Power LED (Green)</th>
<th>Temp LED (Red)</th>
<th>Lamp LED (Red)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standby State (Input power cord)</td>
<td>Slow Flashing 2 sec off 2 sec on</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Power on (Warming)</td>
<td>Flashing 0.5 sec off 0.5 sec on</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Power on &amp; Lamp lighting</td>
<td></td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Power off (Cooling)</td>
<td>Flashing 1 sec off 1 sec on</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Error (Lamp fail)</td>
<td>Flashing 0.5 sec off 0.5 sec on</td>
<td>○</td>
<td>⚡</td>
</tr>
<tr>
<td>Error (Fan fail)</td>
<td>Flashing 0.5 sec off 0.5 sec on</td>
<td>Flashing 0.5 sec off 0.5 sec on</td>
<td>○</td>
</tr>
<tr>
<td>Error (Over Temp)</td>
<td>Flashing 0.5 sec off 0.5 sec on</td>
<td>⚡</td>
<td>○</td>
</tr>
<tr>
<td>Quick Resume (100 secs)</td>
<td>Flashing 0.25 sec off 0.25 sec on</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

**Note:**
- Steady light => ☀️
- No light => ○

![Diagram of LED status indicators](image)
LED states

On Screen Messages

- Fan failed:
  The projector will switch off automatically.

- Over temperature:
  The projector will switch off automatically.

- Replacing the lamp:
  Lamp is approaching the end of its rated life.
  Replacement suggested.

Remote Control

If the remote control does not work

- Check the operating angle of the remote control is within ±15° both horizontally and vertically of one of the IR receivers on the projector.
- Make sure there are no any obstructions between the remote control and the projector. Move to within 7 m (23 ft) of the projector.
- Make sure batteries are inserted correctly.
- Replace batteries if they are exhausted.

Warning:
Only use genuine lamps.
Replacing the Lamp

The projector automatically detects the lamp life. When the lamp life is nearing the end of use, you will receive a warning message.

![Lamp is approaching the end of its useful life]

When you see this message, please contact your local reseller or service center to change the lamp as soon as possible. Make sure the projector has been cooled down for at least 30 minutes before changing the lamp.

⚠️ Warning: Lamp compartment is hot! Allow it to cool down before changing lamp!

⚠️ Warning: To reduce the risk of personal injury, do not drop the lamp module or touch the lamp bulb. The bulb may shatter and cause injury if it is dropped.
Lamp Replacing Procedure:
1. Switch off the power to the projector by pressing the Power button.
2. Allow the projector to cool down at least 30 minutes.
3. Disconnect the power cord.
4. Remove the single screw on the lamp compartment cover.
5. Remove the lamp compartment cover.
6. Remove the two screws from the lamp module.
   Lift the module handle up.
7. Pull firmly on the module handle to remove the lamp module.
   To replace the lamp module, reverse the previous steps. While installing, align the lamp module with the connector and ensure it is level to avoid damage.
8. Turn on the projector and do "Lamp Reset" after the lamp module is replaced.
   Lamp Reset: (i)Press "Menu" -> (ii)Select "Options" -> (iii)Select "Lamp Settings" -> (iv)Select "Lamp Reset" -> (v)Select "Yes".
Compatibility Modes

Video Compatibility

<table>
<thead>
<tr>
<th>Mode</th>
<th>Compatibility Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTSC</td>
<td>NTSC M/J, 3.58MHz, 4.43MHz</td>
</tr>
<tr>
<td>PAL</td>
<td>PAL B/D/G/H/I/M/N, 4.43MHz</td>
</tr>
<tr>
<td>SECAM</td>
<td>SECAM B/D/G/K/K1/L, 4.25/4.4 MHz</td>
</tr>
<tr>
<td>SDTV</td>
<td>480i/p, 576i/p</td>
</tr>
<tr>
<td>HDTV</td>
<td>720p(50/60Hz), 1080i(50/60Hz), 1080P(50/60Hz)</td>
</tr>
</tbody>
</table>

Video Timing Detail Describe

<table>
<thead>
<tr>
<th>Signal</th>
<th>Resolution</th>
<th>Refresh Rate(Hz)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV(NTSC)</td>
<td>720 x 480</td>
<td>60</td>
<td>For Composite Video /S-video</td>
</tr>
<tr>
<td>TV(PAL, SECAM)</td>
<td>720 x 576</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>SDTV (480i)</td>
<td>720 x 480</td>
<td>60</td>
<td>For Component</td>
</tr>
<tr>
<td>SDTV (480P)</td>
<td>720 x 480</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>SDTV (576i)</td>
<td>720 x 576</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>SDTV (576P)</td>
<td>720 x 576</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>HDTV (720p)</td>
<td>1280 x 720</td>
<td>50/60</td>
<td></td>
</tr>
<tr>
<td>HDTV (1080i)</td>
<td>1920 x 1080</td>
<td>50/60</td>
<td></td>
</tr>
<tr>
<td>HDTV (1080p)</td>
<td>1920 x 1080</td>
<td>24/50/60</td>
<td></td>
</tr>
</tbody>
</table>
## Computer Compatibility - VESA standards

### Computer Signal (Analog RGB Compatible)

<table>
<thead>
<tr>
<th>Signal</th>
<th>Resolution</th>
<th>Refresh Rate(Hz)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGA</td>
<td>640 X 480</td>
<td>60/67/72/85</td>
<td>Mac 60/72/85/</td>
</tr>
<tr>
<td>SVGA</td>
<td>800 X 600</td>
<td>56/60 (*2)/72/85/120 (*2)</td>
<td>Mac 60/72/85</td>
</tr>
<tr>
<td>XGA</td>
<td>1024 X768</td>
<td>48/50(*4)/60 (*2)/70/75/85/120 (*2)</td>
<td>Mac 60/70/75/85</td>
</tr>
<tr>
<td>HDTV (720P)</td>
<td>1280 x 720</td>
<td>50/60 (*2)/120 (*2)</td>
<td>Mac 60</td>
</tr>
<tr>
<td>WXGA</td>
<td>1280 x 768</td>
<td>60/75/85</td>
<td>Mac 60/75/85</td>
</tr>
<tr>
<td></td>
<td>1280 x 800</td>
<td>48/50(*4)60</td>
<td>Mac 60</td>
</tr>
<tr>
<td>WXGA(*3)</td>
<td>1366 x 768</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>WXGA+</td>
<td>1440 x 900</td>
<td>60</td>
<td>Mac 60</td>
</tr>
<tr>
<td>SXGA</td>
<td>1280 x 1024</td>
<td>60/75/85</td>
<td>Mac 60/75</td>
</tr>
<tr>
<td>SXGA+</td>
<td>1400 x 1050</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>UXGA</td>
<td>1600 x 1200</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>HDTV (1080p)</td>
<td>1920 x 1080</td>
<td>24/50/60</td>
<td>Mac 60</td>
</tr>
<tr>
<td>WUXGA</td>
<td>1920 x 1200 (*1)</td>
<td>60</td>
<td>Mac 60</td>
</tr>
</tbody>
</table>

(*1) 1920 x 1200 @60Hz only support RB (reduced blanking).
(*2) 3D timing for 3D Ready projector(STD) and True 3D projector. (Option)
(*3) Winow 8 standard timing
(*4) Native resolution must support @50hz
## Input Signal for HDMI/DVI-D

<table>
<thead>
<tr>
<th>Signal</th>
<th>Resolution</th>
<th>Refresh Rate (Hz)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGA</td>
<td>640 x 480</td>
<td>60</td>
<td>Mac 60/72/85</td>
</tr>
<tr>
<td>SVGA</td>
<td>800 x 600</td>
<td>60(*2)/72/85/120(*2)</td>
<td>Mac 60/72/85</td>
</tr>
<tr>
<td>XGA</td>
<td>1024 x 768</td>
<td>48/50</td>
<td>Mac 60/70/75/85/120(*2)</td>
</tr>
<tr>
<td>SDTV (480i)</td>
<td>720 x 480</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>SDTV (480p)</td>
<td>720 x 480</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>SDTV (576i)</td>
<td>720 x 576</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>SDTV (576p)</td>
<td>720 x 576</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>WSVGA (1024 x 600)</td>
<td>1024 x 600</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>HDTV (720p)</td>
<td>1280 x 720</td>
<td>50/60(*2)/120(*2)</td>
<td>Mac 60</td>
</tr>
<tr>
<td>WXGA</td>
<td>1280 x 768</td>
<td>60/75</td>
<td>Mac 75</td>
</tr>
<tr>
<td></td>
<td>1280 x 800</td>
<td>48/60(*2)/50</td>
<td>Mac 60</td>
</tr>
<tr>
<td>WXGA</td>
<td>1366 x 768</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>WXGA+</td>
<td>1440 x 900</td>
<td>60</td>
<td>Mac 60</td>
</tr>
<tr>
<td>SXGA</td>
<td>1280 x 1024</td>
<td>60/75</td>
<td>Mac 60/75</td>
</tr>
<tr>
<td>SXGA+</td>
<td>1400 x 1050</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>UXGA</td>
<td>1600 x 1200</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>HDTV (1080i)</td>
<td>1920 x 1080</td>
<td>50/60</td>
<td></td>
</tr>
<tr>
<td>HDTV (1080p)</td>
<td>1920 x 1080</td>
<td>24/30/50/60/120</td>
<td>Mac 60</td>
</tr>
<tr>
<td>WUXGA</td>
<td>1920 x 1200 (*1)</td>
<td>50/60</td>
<td>Mac 60</td>
</tr>
</tbody>
</table>

(*1) 1920 x 1200 @60Hz only support RB (reduced blanking).
(*2) 3D timing for 3D Ready projector (STD) and True 3D projector (Option)
### True 3D Video Compatibility table

<table>
<thead>
<tr>
<th>Input Resolutions</th>
<th>Input timing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HDMI 1.4a 3D Input</strong></td>
<td></td>
</tr>
<tr>
<td>1280 x 720p @50Hz</td>
<td>Top-and-Bottom</td>
</tr>
<tr>
<td>1280 x 720p @60Hz</td>
<td>Top-and-Bottom</td>
</tr>
<tr>
<td>1280 x 720p @50Hz</td>
<td>Frame packing</td>
</tr>
<tr>
<td>1280 x 720p @60Hz</td>
<td>Frame packing</td>
</tr>
<tr>
<td>1920 x 1080i @50Hz</td>
<td>Side-by-Side (Half)</td>
</tr>
<tr>
<td>1920 x 1080i @60Hz</td>
<td>Side-by-Side (Half)</td>
</tr>
<tr>
<td>1920 x 1080p @24Hz</td>
<td>Top-and-Bottom</td>
</tr>
<tr>
<td>1920 x 1080p @24Hz</td>
<td>Frame packing</td>
</tr>
<tr>
<td><strong>HDMI 1.3</strong></td>
<td></td>
</tr>
<tr>
<td>1920 x 1080i @50Hz</td>
<td>Side-by-Side (Half)</td>
</tr>
<tr>
<td>1920 x 1080i @60Hz</td>
<td>Side-by-Side (Half)</td>
</tr>
<tr>
<td>1280 x 720p @50Hz</td>
<td>Top-and-Bottom</td>
</tr>
<tr>
<td>1280 x 720p @60Hz</td>
<td>Top-and-Bottom</td>
</tr>
<tr>
<td>1920 x 1080i @50Hz</td>
<td>TAB mode is on</td>
</tr>
<tr>
<td>1920 x 1080i @60Hz</td>
<td>TAB mode is on</td>
</tr>
<tr>
<td>1280 x 720p @50Hz</td>
<td>HQFS</td>
</tr>
<tr>
<td>1280 x 720p @60Hz</td>
<td>3D format is Frame sequential</td>
</tr>
<tr>
<td>480i</td>
<td>HQFS</td>
</tr>
</tbody>
</table>

- If 3D input is 1080p @24Hz, the DMD should replay with integral multiple with 3D mode.
- 1080i @25Hz and 720p @50Hz will run in 100Hz; other 3D timing will run in 120Hz.
RS232 Commands and Protocol
Function List

RS232 Pin Assignments (projector side)

<table>
<thead>
<tr>
<th>Pin no.</th>
<th>Name</th>
<th>I/O (From Projector Side)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NC</td>
<td>__</td>
</tr>
<tr>
<td>2</td>
<td>RXD</td>
<td>IN</td>
</tr>
<tr>
<td>3</td>
<td>TXD</td>
<td>OUT</td>
</tr>
<tr>
<td>4</td>
<td>NC</td>
<td>__</td>
</tr>
<tr>
<td>5</td>
<td>NC</td>
<td>__</td>
</tr>
<tr>
<td>6</td>
<td>NC</td>
<td>__</td>
</tr>
<tr>
<td>7</td>
<td>RS232</td>
<td>RTS</td>
</tr>
<tr>
<td>8</td>
<td>RS232</td>
<td>CTS</td>
</tr>
<tr>
<td>9</td>
<td>NC</td>
<td>__</td>
</tr>
</tbody>
</table>
RS232 Protocol Function List

<table>
<thead>
<tr>
<th>232 ASCII Code</th>
<th>HEX Code</th>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-XX00 1</td>
<td>0</td>
<td>Power ON</td>
<td>(0/2 for backward compatible)</td>
</tr>
<tr>
<td>-XX00 0</td>
<td>0</td>
<td>Power OFF</td>
<td>(0/2 for backward compatible)</td>
</tr>
<tr>
<td>-XX00 1</td>
<td>0</td>
<td>Power On with Password</td>
<td>nnnnn = nnnnn = 00000 (a = 7E 30 30 30 30)</td>
</tr>
<tr>
<td>-XX01 1</td>
<td>7E 30 30 30 31 30 31 0D</td>
<td>Resync</td>
<td></td>
</tr>
<tr>
<td>-XX02 0</td>
<td>7E 30 30 30 32 30 30 0D</td>
<td>AV Mute</td>
<td>On</td>
</tr>
<tr>
<td>-XX03 1</td>
<td>7E 30 30 30 33 31 30 0D</td>
<td>Mute</td>
<td>On</td>
</tr>
<tr>
<td>-XX04 1</td>
<td>7E 30 30 30 34 31 30 0D</td>
<td>Freeze</td>
<td>(0/2 for backward compatible)</td>
</tr>
<tr>
<td>-XX05 1</td>
<td>7E 30 30 30 35 31 30 0D</td>
<td>Zoom Plus</td>
<td></td>
</tr>
<tr>
<td>-XX06 1</td>
<td>7E 30 30 30 36 30 30 0D</td>
<td>Zoom Minus</td>
<td></td>
</tr>
<tr>
<td>-XX07 1</td>
<td>7E 30 30 30 37 30 30 0D</td>
<td>Direct Source Commands</td>
<td>HDMI</td>
</tr>
<tr>
<td>-XX12 8</td>
<td>7E 30 30 30 32 30 30 0D</td>
<td>DisplayPort</td>
<td></td>
</tr>
<tr>
<td>-XX13 8</td>
<td>7E 30 30 30 32 30 30 0D</td>
<td>Display</td>
<td></td>
</tr>
<tr>
<td>-XX20 1</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Bright</td>
<td></td>
</tr>
<tr>
<td>-XX21 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Tint</td>
<td></td>
</tr>
<tr>
<td>-XX23 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Sharpness</td>
<td>n = 1 (a = 30 31) – 15 (a = 31 35)</td>
</tr>
<tr>
<td>-XX27 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Matching</td>
<td></td>
</tr>
<tr>
<td>-XX28 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color</td>
<td></td>
</tr>
<tr>
<td>-XX29 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX30 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX31 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX33 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX34 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX35 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX36 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX37 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
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<tr>
<td>-XX38 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
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</tr>
<tr>
<td>-XX39 n</td>
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</tr>
<tr>
<td>-XX40 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
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</tr>
<tr>
<td>-XX41 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
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<td>-XX42 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX43 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
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</tr>
<tr>
<td>-XX44 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX45 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX46 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX47 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
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</tr>
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<td>-XX48 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
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<td>-XX49 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX50 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX51 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX52 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX53 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX54 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
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<td>-XX55 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX56 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX57 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
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<td>-XX58 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
<tr>
<td>-XX59 n</td>
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<td>-XX60 n</td>
<td>7E 30 30 30 30 30 30 0D</td>
<td>Color Saturation</td>
<td></td>
</tr>
</tbody>
</table>

Appendices

Appendices
Appendices

---

**Image Shift**
- n = -100 (a=2D 31 30 30) ~ 100 (a=31 30 30)

**Zoom**
- n = -5 (a=35) ~ 25 (a=32 35)

**Edge mask**
- n = 0 (a=30) ~ 10 (a=31 30)

**LBX**
- 5

**V Image Shift**
- n = -100 (a=2D 31 30 30) ~ 100 (a=31 30 30)

**V Keystone**
- n = -40 (a=34 30) ~ 40 (a=34 30)

**Auto**
- LBX
- V Image Shift
- V Keystone
- Security

**Screen Type**
- 16:9
- 3D

**Language**
- English
- German
- French
- Italian
- Spanish
- Portuguese
- Polish
- Dutch
- Swedish
- Norwegian/Danish
- Finnish
- Greek
- Traditional Chinese
- Simplified Chinese
- Japanese
- Korean
- Russian
- Hungarian
- Czechoslovak
- Arabic
- Thai
- Turkish
- Farsi
- Vietnamese
- Indonesian
- Romanian

**Projection**
- Front-Desktop
- Rear-Desktop
- Front-Ceiling
- Rear-Ceiling

**Menu Location**
- Top Left
- Top Right
- Centre
- Bottom Left
- Bottom Right

**Security**
- Security Timer
- Security Settings

**Volume(Audio)**
- n = 0 (a=30 30) ~ 10 (a=31 30)

**Audio Input**
- Default

**3D Sync Invert**
- On
- Off

**Logo Default**
- Default

---

**Security Timer**
- mm/dd/hh = mm/dd/hh

**Screen Type**
- 16:10
- 16:9

**Projector ID**
- n = 00 (a=30 30) ~ 99 (a=39 39)

---

**Audio Input**
- Default

---

**Logo**
- Default
<table>
<thead>
<tr>
<th>Command</th>
<th>Value</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>7E 30 30 38 32 20 32 0D</td>
<td>User</td>
<td>User</td>
</tr>
<tr>
<td>7E 30 30 38 32 20 33 0D</td>
<td>Neutral</td>
<td>Neutral</td>
</tr>
<tr>
<td>7E 30 30 38 33 30 21 0D</td>
<td>Logo Capture</td>
<td>Logo Capture</td>
</tr>
<tr>
<td>7E 30 30 38 38 20 31 0D</td>
<td>Closed Captioning</td>
<td>Closed Captioning</td>
</tr>
<tr>
<td>cc1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7E 30 30 38 38 20 32 0D</td>
<td>cc2</td>
<td>cc2</td>
</tr>
<tr>
<td>7E 30 30 34 35 34 20 30 0D</td>
<td>Crestron</td>
<td>Crestron</td>
</tr>
<tr>
<td>7E 30 30 34 35 34 20 31 0D</td>
<td>On</td>
<td>On</td>
</tr>
<tr>
<td>7E 30 30 34 35 35 20 30 0D</td>
<td>Extron</td>
<td>Extron</td>
</tr>
<tr>
<td>7E 30 30 34 35 35 20 31 0D</td>
<td>On</td>
<td>On</td>
</tr>
<tr>
<td>7E 30 30 34 35 36 20 30 0D</td>
<td>PJLink</td>
<td>PJLink</td>
</tr>
<tr>
<td>7E 30 30 34 35 36 20 31 0D</td>
<td>On</td>
<td>On</td>
</tr>
<tr>
<td>AMX Device Discovery</td>
<td>Off</td>
<td>Off</td>
</tr>
<tr>
<td>7E 30 30 34 35 37 20 30 0D</td>
<td>On</td>
<td>On</td>
</tr>
<tr>
<td>7E 30 30 34 35 37 20 31 0D</td>
<td>Logo Capture</td>
<td>Logo Capture</td>
</tr>
<tr>
<td>7E 30 30 34 36 20 30 0D</td>
<td>Teleport</td>
<td>Teleport</td>
</tr>
<tr>
<td>7E 30 30 34 36 20 31 0D</td>
<td>On</td>
<td>On</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Command</th>
<th>Value</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>7E 30 30 30 30 20 31 0D</td>
<td>Source Lock</td>
<td>On</td>
</tr>
<tr>
<td>7E 30 30 30 20 20 30 0D</td>
<td>Off</td>
<td>Off</td>
</tr>
<tr>
<td>7E 30 30 30 20 30 0D</td>
<td>Information Hide</td>
<td>On</td>
</tr>
<tr>
<td>7E 30 30 30 20 31 0D</td>
<td>Keypad Lock</td>
<td>On</td>
</tr>
<tr>
<td>7E 30 30 30 20 32 0D</td>
<td>Test Pattern</td>
<td>Off</td>
</tr>
<tr>
<td>7E 30 30 30 20 33 0D</td>
<td>White Pattern</td>
<td>Off</td>
</tr>
<tr>
<td>7E 30 30 30 20 34 0D</td>
<td>Auto 3D</td>
<td>Off</td>
</tr>
<tr>
<td>7E 30 30 30 20 35 0D</td>
<td>IR Function</td>
<td>On</td>
</tr>
<tr>
<td>7E 30 30 30 20 36 0D</td>
<td>On</td>
<td>On</td>
</tr>
<tr>
<td>7E 30 30 30 20 37 0D</td>
<td>Blue</td>
<td>Blue</td>
</tr>
<tr>
<td>7E 30 30 30 20 38 0D</td>
<td>Black</td>
<td>Black</td>
</tr>
<tr>
<td>7E 30 30 30 20 39 0D</td>
<td>Red</td>
<td>Red</td>
</tr>
<tr>
<td>7E 30 30 30 20 40 0D</td>
<td>Green</td>
<td>Green</td>
</tr>
<tr>
<td>7E 30 30 30 20 41 0D</td>
<td>White</td>
<td>White</td>
</tr>
<tr>
<td>Advanced</td>
<td>Direct Power On</td>
<td>On</td>
</tr>
<tr>
<td>7E 30 30 30 20 32 0D</td>
<td>Auto Power Off (min)</td>
<td>Off</td>
</tr>
<tr>
<td>7E 30 30 30 20 33 0D</td>
<td>Sleep Timer (min)</td>
<td>Off</td>
</tr>
<tr>
<td>7E 30 30 30 20 34 0D</td>
<td>Quick Resume</td>
<td>Off</td>
</tr>
<tr>
<td>7E 30 30 30 20 35 0D</td>
<td>Power Mode(Standby)</td>
<td>Off</td>
</tr>
<tr>
<td>7E 30 30 30 20 36 0D</td>
<td>Active</td>
<td>Off</td>
</tr>
<tr>
<td>Lamp Reminder</td>
<td>On</td>
<td>On</td>
</tr>
<tr>
<td>7E 30 30 30 20 37 0D</td>
<td>Brightness Mode</td>
<td>Off</td>
</tr>
<tr>
<td>7E 30 30 30 20 38 0D</td>
<td>DynamicBlack</td>
<td>Off</td>
</tr>
<tr>
<td>7E 30 30 30 20 39 0D</td>
<td>Lamp Reset</td>
<td>Off</td>
</tr>
<tr>
<td>7E 30 30 30 20 40 0D</td>
<td>Lamp</td>
<td>Off</td>
</tr>
<tr>
<td>7E 30 30 30 20 41 0D</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>7E 30 30 30 20 42 0D</td>
<td>Display message on the OSD</td>
<td>Off</td>
</tr>
<tr>
<td>7E 30 30 30 20 43 0D</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>7E 30 30 30 20 44 0D</td>
<td>n: 1-30 characters</td>
<td>n: 1-30 characters</td>
</tr>
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</table>
### Appendices

SEND to emulate Remote

<table>
<thead>
<tr>
<th>ASCII Code</th>
<th>Hex Code</th>
<th>Function</th>
<th>Projector Return</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-XX140 10</td>
<td>7E 30 30 31 34 30 30 31 30 0D</td>
<td>Up</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-XX140 11</td>
<td>7E 30 30 31 34 30 30 31 31 0D</td>
<td>Left</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-XX140 12</td>
<td>7E 30 30 31 34 30 30 32 30 0D</td>
<td>Enter (for projection MENU)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-XX140 13</td>
<td>7E 30 30 31 34 30 30 33 30 0D</td>
<td>Right</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-XX140 14</td>
<td>7E 30 30 31 34 30 30 34 30 0D</td>
<td>Down</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-XX140 15</td>
<td>7E 30 30 31 34 30 30 35 30 0D</td>
<td>Keystone +</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-XX140 16</td>
<td>7E 30 30 31 34 30 30 36 30 0D</td>
<td>Keystone –</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-XX140 17</td>
<td>7E 30 30 31 34 30 30 37 30 0D</td>
<td>Volume +</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-XX140 18</td>
<td>7E 30 30 31 34 30 30 38 30 0D</td>
<td>Volume –</td>
<td></td>
<td></td>
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<tr>
<td>-XX140 19</td>
<td>7E 30 30 31 34 30 30 39 30 0D</td>
<td>Brightness</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-XX140 20</td>
<td>7E 30 30 31 34 30 30 32 30 0D</td>
<td>Menu</td>
<td></td>
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<tr>
<td>-XX140 21</td>
<td>7E 30 30 31 34 30 30 32 31 0D</td>
<td>Zoom</td>
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<tr>
<td>-XX140 22</td>
<td>7E 30 30 31 34 30 30 33 30 0D</td>
<td>Contrast</td>
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<tr>
<td>-XX140 23</td>
<td>7E 30 30 31 34 30 30 34 30 0D</td>
<td>Brightness</td>
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SEND from projector automatically

<table>
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<tr>
<th>ASCII Code</th>
<th>Hex Code</th>
<th>Function</th>
<th>Projector Return</th>
<th>Description</th>
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</table>

232 ASCII Code | HEX Code | Function | Projector Return | Description |
<table>
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<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>-XX121 1</td>
<td>7E 30 30 31 32 31 30 31 30 0D</td>
<td>Input Source Commands</td>
<td>OKn</td>
<td>n: 0/2/3/4/5/7/15 = Standby/Warming/Cooling/Out of Range/Lamp fail/Fan Lock/Over Temperature/Lamp Hours Running Out/Cover Open</td>
</tr>
<tr>
<td>-XX122 1</td>
<td>7E 30 30 31 32 32 20 31 0D</td>
<td>Software Version</td>
<td>OKdddd</td>
<td>dddd: FW version/None/VGA1/VGA2/Video/S-Video/HDMI/DisplayPort</td>
</tr>
<tr>
<td>-XX123 1</td>
<td>7E 30 30 31 33 33 20 31 0D</td>
<td>Display Mode</td>
<td>OKn</td>
<td>n: 0/12/34/56/78/90/91/92/93/94/95/96/97/98/99/9A/9B/9C/9D/9E/9F/00/01/02/03/04/05/06/07/08/09/0A/0B/0C/0D/0E/0F</td>
</tr>
<tr>
<td>-XX124 1</td>
<td>7E 30 30 31 34 30 31 30 0D</td>
<td>Power State</td>
<td>OKn</td>
<td>n: 1/0=Off/On</td>
</tr>
<tr>
<td>-XX125 1</td>
<td>7E 30 30 31 34 30 31 30 0D</td>
<td>Brightness</td>
<td>OKn</td>
<td>n: 1/23456789 = None/Presentation/Bright/Movie/sRGB/User/Blackboard/DICOM SIM/3D</td>
</tr>
<tr>
<td>-XX126 1</td>
<td>7E 30 30 31 34 30 31 30 0D</td>
<td>Contrast</td>
<td>OKn</td>
<td></td>
</tr>
<tr>
<td>-XX127 1</td>
<td>7E 30 30 31 34 30 31 30 0D</td>
<td>Brightness</td>
<td>OKn</td>
<td></td>
</tr>
<tr>
<td>-XX128 1</td>
<td>7E 30 30 31 34 30 31 30 0D</td>
<td>Color Temperature</td>
<td>OKn</td>
<td>n: 3/0/1/2 = Warm/Standard/Cool/Cold</td>
</tr>
<tr>
<td>-XX129 1</td>
<td>7E 30 30 31 34 30 31 30 0D</td>
<td>Projection Mode</td>
<td>OKn</td>
<td>n: 0/1/2/3 = Front/Desktop/ Rear-desktop/Front-Ceiling/ Rear-Ceiling</td>
</tr>
<tr>
<td>-XX130 1</td>
<td>7E 30 30 31 34 30 31 30 0D</td>
<td>Input Source Commands</td>
<td>OKn</td>
<td></td>
</tr>
<tr>
<td>-XX131 1</td>
<td>7E 30 30 31 32 32 32 32 32 0D</td>
<td>Software Version</td>
<td>OKn</td>
<td>n: 0/12/34/56/78/90/91/92/93/94/95/96/97/98/99/00/01/02/03/04/05/06/07/08/09/0A/0B/0C/0D/0E/0F</td>
</tr>
</tbody>
</table>

READ from projector

<table>
<thead>
<tr>
<th>ASCII Code</th>
<th>Hex Code</th>
<th>Function</th>
<th>Projector Return</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>-XX151 1</td>
<td>7E 30 30 31 33 30 31 30 30 0D</td>
<td>Model name</td>
<td>OKn</td>
<td></td>
</tr>
<tr>
<td>-XX152 1</td>
<td>7E 30 30 31 33 30 31 30 30 0D</td>
<td>Lamp Hours</td>
<td>OKn</td>
<td></td>
</tr>
<tr>
<td>-XX153 1</td>
<td>7E 30 30 31 33 30 31 30 30 0D</td>
<td>Cumulative Lamp Hours</td>
<td>OKn</td>
<td></td>
</tr>
<tr>
<td>-XX154 1</td>
<td>7E 30 30 31 33 30 31 30 30 0D</td>
<td>Network Status</td>
<td>OKn</td>
<td></td>
</tr>
<tr>
<td>-XX155 1</td>
<td>7E 30 30 31 33 30 31 30 30 0D</td>
<td>Fan1 speed (blower)</td>
<td>OKn</td>
<td></td>
</tr>
<tr>
<td>-XX156 1</td>
<td>7E 30 30 31 33 30 31 30 30 0D</td>
<td>System temperature</td>
<td>OKn</td>
<td></td>
</tr>
<tr>
<td>-XX157 1</td>
<td>7E 30 30 31 33 30 31 30 30 0D</td>
<td>Closed Captioning</td>
<td>OKn</td>
<td></td>
</tr>
<tr>
<td>-XX158 1</td>
<td>7E 30 30 31 33 30 31 30 30 0D</td>
<td>AV Mute</td>
<td>OKn</td>
<td></td>
</tr>
<tr>
<td>-XX159 1</td>
<td>7E 30 30 31 33 30 31 30 30 0D</td>
<td>LAN FW version</td>
<td>OKn</td>
<td></td>
</tr>
<tr>
<td>-XX160 1</td>
<td>7E 30 30 31 33 30 31 30 30 0D</td>
<td>Current lamp watt</td>
<td>OKn</td>
<td></td>
</tr>
</tbody>
</table>
Telnet Commands

- Port: support 3 ports of 23/1023/2023
- Multi-connections: Projector could receive commands from different ports at the same time
- Command Format: Follow RS232 command format (support both of ASCII and HEX)

<table>
<thead>
<tr>
<th>Lead Code</th>
<th>Projector ID</th>
<th>Command ID</th>
<th>Space</th>
<th>Variable</th>
<th>Carriage Return</th>
</tr>
</thead>
<tbody>
<tr>
<td>~</td>
<td></td>
<td></td>
<td></td>
<td>n</td>
<td>CR</td>
</tr>
<tr>
<td>Fix code One Digit</td>
<td>00</td>
<td>Defined by Optoma 2 or 3 Digit. See the Follow content</td>
<td>One Digit</td>
<td>Per item Definition</td>
<td>Fix code One Digit</td>
</tr>
</tbody>
</table>

Note: For wide screen resolution (WXGA), the compatibility support is dependent on Notebook/PC models.

AMX Device Discovery commands

- DP : 239.255.250.250
- Port No. : 9131
- Each UDP broadcast information as below are updated around 40 seconds

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
<th>Remark (Parameter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Device-UUID</td>
<td>MAC address (Hex value without ‘:’ separator)</td>
<td>12 digits</td>
</tr>
<tr>
<td>Device-SKDClass</td>
<td>The Duet DeviceSdk class name</td>
<td>VideoProjector</td>
</tr>
<tr>
<td>Device-Make</td>
<td>Maker name</td>
<td>MakerPXLW</td>
</tr>
<tr>
<td>Device-Model</td>
<td>Model name</td>
<td>Projector</td>
</tr>
</tbody>
</table>
Appendices

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
<th>Remark (Parameter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Config-URL</td>
<td>Device’s IP address</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LAN IP address is shown up if LAN IP address is valid.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wireless LAN IP address is shown up if Wireless LAN IP address is valid.</td>
<td></td>
</tr>
<tr>
<td>Revision</td>
<td>The revision must follow a major. minor.micro scheme. The revision is only increased if the command protocol is modified.</td>
<td>1.0.0</td>
</tr>
</tbody>
</table>

- For wide screen resolution (WXGA), the compatibility support is dependent on Notebook/PC models.
- This AMX function is only to support AMX Device Discovery.
- The broadcast information only send out through valid interface.
- Both LAN and Wireless LAN interfaces could be supported at the same time.
- If “Beacon Validator” was used. Please take care below information.

**PJLink™ supported commands**

The table below shows commands to control the projector using the PJLink™ protocol.

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
<th>Remark (Parameter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWR</td>
<td>Power control</td>
<td>0 = Standby</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = Power on</td>
</tr>
<tr>
<td>POWR?</td>
<td>Inquiry about the power state</td>
<td>0 = Standby</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = Power on</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 = Cooling down</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 = Warming up</td>
</tr>
<tr>
<td>INPT</td>
<td>INPT Input switching</td>
<td>11 = VGA1</td>
</tr>
</tbody>
</table>
### Command Table

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
<th>Remark (Parameter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>INPT?</td>
<td>Inquiry about input switching</td>
<td>12 = VGA2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13 = Component</td>
</tr>
<tr>
<td></td>
<td></td>
<td>14 = BNC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>21 = VIDEO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22 = S-VIDEO</td>
</tr>
<tr>
<td></td>
<td></td>
<td>31 = HDMI 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>32 = HDMI 2</td>
</tr>
<tr>
<td>AVMT</td>
<td>Mute control</td>
<td>30 = Video and audio mute disable</td>
</tr>
<tr>
<td>AVMT?</td>
<td>Inquiry about the mute state</td>
<td>31 = Video and audio mute enable</td>
</tr>
<tr>
<td>ERST?</td>
<td>Inquiry about the error state</td>
<td>1st byte: Fan error, 0 or 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2nd byte: Lamp error, 0 to 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3rd byte: Temperature error, 0 or 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4th byte: Cover open error, 0 or 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5th byte: Filter error, 0 or 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6th byte: Other error, 0 or 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0 to 2 mean as follows: 0 = No error detected, 1 = Warning, 2 = Error</td>
</tr>
<tr>
<td>LAMP?</td>
<td>Inquiry about the lamp state</td>
<td>1st value (1 to 5 digits): Cumulative LAMP operating time (This item shows a lamp operating time (hour) calculated based on that LAMP MODE is LOW.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2nd value: 0 = Lamp off, 1 = Lamp on</td>
</tr>
<tr>
<td>INST?</td>
<td>Inquiry about the available inputs</td>
<td>The following value is returned. “11 12 21 22 31 32”</td>
</tr>
<tr>
<td>NAME?</td>
<td>Inquiry about the projector name</td>
<td>The projector name set on the NETWORK menu or the ProjectorView Setup window is returned</td>
</tr>
<tr>
<td>INF1?</td>
<td>Inquiry about the manufacturer name</td>
<td>“Optoma” is returned.</td>
</tr>
</tbody>
</table>

**Note:**

This projector is fully compliant to the specifications of JBMIA PJLink™ Class 1. It supports all the commands defined by PJLink™ Class 1, and the compliance has been verified with the PJLink™ standard specifications Version 1.0.
Appendices

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
<th>Remark (Parameter)</th>
</tr>
</thead>
<tbody>
<tr>
<td>INF2?</td>
<td>Inquiry about the model name</td>
<td>“EH7700” is returned.</td>
</tr>
<tr>
<td>INF0?</td>
<td>Inquiry about other information</td>
<td>No other information is available. No parameter is returned.</td>
</tr>
<tr>
<td>CLSS?</td>
<td>Inquiry about the class information</td>
<td>“1” is returned.</td>
</tr>
</tbody>
</table>

Trademarks

- DLP is trademarks of Texas Instruments.
- IBM is a trademark or registered trademark of International Business Machines Corporation.
- Macintosh, Mac OS X, iMac, and PowerBook are trademarks of Apple Inc., registered in the U.S. and other countries.
- Microsoft, Windows, Windows Vista, Internet Explorer and PowerPoint are either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.
- HDMI, the HDMI Logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.
- AMX Device Discovery
  The projector is monitored and controlled by the control system of AMX.
- Crestron RoomView Connected™
  The projector is monitored and controlled by the control system and software of Crestron Electronics, Inc.
- PJLink™
  PJLink trademark is a trademark applied for registration or is already registered in Japan, the United States of America and other countries and areas.
  This projector supports standard protocol PJLink™ for projector control and you can control and monitor projector’s operations using the same application among projectors of different models and different manufacturers.
Other product and company names mentioned in this user’s manual may be the trademarks or registered trademarks of their respective holders.

About Crestron RoomView Connected™
Electronics, Inc. to facilitate configuration of the control system of Crestron and its target devices.

For details, see the website of Crestron Electronics, Inc.
URL http://www.crestron.com
URL http://www.crestron.com/getroomview/
Appendices

Ceiling Mount Installation

1. To prevent damage to your projector, please use the Optoma ceiling mount.

2. If you wish to use a third party ceiling mount kit, please ensure the screws used to attached a mount to the projector met the following specifications:
   - Screw type: M4
   - Maximum screw length: 11mm
   - Minimum screw length: 9mm

Note:

Please note that damage resulting from incorrect installation will invalidate the warranty.

Warning:

1. If you buy ceiling mount from other company, please be sure to use the correct screw size. Screw size will be different on different mounts. It depends on the plate thickness.

2. Be sure to keep at least 10cm gap between the ceiling and the bottom of the projector.

3. Avoid installing the projector near a heat source.
# Optoma Global Offices

For service or support please contact your local office.

## USA
3178 Laurelview Ct., Fremont, CA 94538, USA  
Tel : 888-289-6786  
Fax : 510-897-8601  
www.optomausa.com  
Service : services@optoma.com

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www.optoma.ca  
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www.optoma.com.br  
www.optoma.com.mx

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Fax : +33 1 41 46 94 35  
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Fax : +34 91 670 08 32
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FAX : +47 32 98 89 99  
Service : info@optoma.no

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3038 Drammen, Norway

### Taiwan

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Xindian Dist., New Taipei City 231, Taiwan, R.O.C.  
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FAX: +886-2-8911-6550  
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www.optoma.com.tw

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Fax: +852-2370-1222  
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FAX: +86-21-62947375  
www.optoma.com.cn

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株式会社オーエス  
コンタクトセンター:0120-380-495  
Service : info@os-worldwide.com  
http://www.os-worldwide.com/

### Korea

WOOMI TECH.CO.,LTD.  
4F, Minu Bldg.33-14, Kangnam-Ku, seoul,135-815, KOREA  
Tel : +82+2+34430004  
Fax: +82+2+34430005
Appendices

Regulation & Safety Notices

This appendix lists the general notices of your Projector.

FCC notice

This device has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the device and receiver.
- Connect the device into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

Notice: Shielded cables

All connections to other computing devices must be made using shielded cables to maintain compliance with FCC regulations.

Caution

Changes or modifications not expressly approved by the manufacturer could void the user’s authority, which is granted by the Federal Communications Commission, to operate this projector.
Operation conditions

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference and
2. This device must accept any interference received, including interference that may cause undesired operation.

Notice: Canadian users

This Class B digital apparatus complies with Canadian ICES-003.

Remarque à l’intention des utilisateurs canadiens

Cet appareil numérique de la classe B est conforme a la norme NMB-003 du Canada.

Declaration of Conformity for EU countries

- EMC Directive 2004/108/EC (including amendments)
- Low Voltage Directive 2006/95/EC
- R & TTE Directive 1999/5/EC (if product has RF function)
- RoHS Directive 2011/65
- Energy Related Products (ErP) Directive 2009/125/EC

Disposal instructions

Do not throw this electronic device into the trash when discarding. To minimize pollution and ensure utmost protection of the global environment, please recycle it.