User’s manual for projector
> dnp|A|3000|HD|S
> dnp|A|3000|HD|I
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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.

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 and damage 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.
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.
    > Sea level to 6000 feet
      Extremely hot: > 35°C
      Extremely cool: < 5°C
    > 6000 feet above
      Extremely hot: > 30°C
      Extremely cool: < 5°C
    > Extremely humid: > 70% R.H. (Relative Humidity)
  - In areas susceptible to excessive dust and dirt.
  - Near any appliance generating a strong magnetic field.
  - In direct sunlight.
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 your nearest customer service center.

- Projector
- Power Cord
- VGA Cable
- 2 × AAA Batteries
- IR Remote Control

Documentation:
- User’s Manual

> Some regions may have different accessories.
Product Overview

Main Unit

1. Control Panel
2. Focus Switch
3. Ventilation (inlet)
4. IR Receiver
5. Ventilation (outlet)
6. Speaker
7. Power Socket
8. Input / Output Connections
9. Lens
1. Power LED
2. Enter
3. Temp LED
4. Lamp LED
5. Menu
6. Input
7. Four Directional Select Keys
8. Power/Standby button
9. IR Receiver
Introduction

Input/Output Connections

1. VGA1-In/YPbPr Connector
   (PC Analog Signal/Component Video Input/HDTV/YPbPr)
2. HDMI2 Input Connector
3. HDMI1 Input Connector
4. USB Connector (Connect to PC for Remote Mouse function)
5. RJ45 connector (Optional)
6. USB Type A Connector (Optional)
7. Power Socket
8. Interactive Connector (3.5 mm mini jack, Optional)
9. VGA-Out/VGA2-In Connector
10. RS-232 Connector (9-pin DIN Type)
11. Composite Video Input Connector
12. Composite Audio Input (right) Connector
13. Composite Audio Input (left) Connector
14. Audio Output Connector (3.5mm mini jack)
15. Audio Input Connector (3.5mm mini jack)
16. Audio Input Connector (microphone)
17. Kensington™ Lock Port

> Monitor loop through only support in VGA1-In/YPbPr.
Introduction

Remote Control

1. Infrared transmitter
2. LED Indicator
3. Power On/Off
4. OK
5. Four Directional Select Keys
6. Menu
7. Exit
8. Zoom in
9. Reset
10. Auto
11. Source
12. Zoom out
13. Volume +/-
14. Keystone +/-
15. Image
16. Black screen
17. Aspect ratio
18. VGA1
19. HDMI1
20. VGA2
21. HDMI2
22. Video
23. Screen freeze
24. Numbered keypad
Some regions may have different accessories.

(*) Optional accessory

Connecting the Projector

Connect to Computer/Notebook

1. RS232 Cable
2. VGA Cable
3. *HDMI Cable
4. *USB Cable
5. *Audio Cable/RCA
6. *RJ45 Cable
7. Power Cord
8. *VGA Output Cable
9. *DC to DC Cable
10. *Audio Output Cable
11. *Audio Input Cable
Installation

Connect to Video Sources

> Some regions may have different accessories.

(*) Optional accessory

1. .................................................. *15-Pin to 3 RCA Component/HDTV Adaptor
2. .......................................................... *HDMI Cable
3. .......................................................... *Audio Cable/RCA
4. .......................................................... *Audio Cable
5. ........................................................................ Power Cord
6. .......................................................... *Composite Video Cable
7. .......................................................... *Audio Cable/RCA
8. .......................................................... *Audio Input Cable

DVD Player, Set-top Box, HDTV receiver

Audio Output

Microphone

Composite Video Output

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Installation

Powering the Projector On / Off

Powering On the Projector

1. Securely connect the power cord and signal cable. When connected, the POWER/STANDBY LED will turn Orange.

2. Turn on the lamp by pressing “0” button either on the projector or on the remote. At this moment, the POWER/STANDBY LED will now turn Blue. The startup screen will display in approximately 10 seconds. The first time you use the projector, you will be asked to select the preferred language and power saving mode.

3. Turn on and connect the source that you want to display on the screen (computer, notebook, video player, etc). The projector will detect the source automatically. If not, push menu button and go to “OPTIONS”. Make sure that the “Source Lock” has been set to “Off”.

> When the power mode is in standby mode (power consumption < 0.5W), the VGA output/input and audio will be deactivated when the projector is in standby.

> If you connect multiple sources at the same time, press the “INPUT” button on the control panel or direct source keys on the remote control to switch between inputs.

> Turn on the projector first and then select the signal sources.
Powering Off the Projector

1. Press the “०” button on the remote control or on the control panel to turn off the projector. The following message will be displayed on the screen.

   ![Power Off Message]

Press the “०” button again to confirm otherwise the message will disappear after 10 seconds. When you press the “०” button for the second time, the fan will start cooling the system and will shut down.

2. The cooling fans continue to operate for about 4 seconds for cooling cycle and the POWER/STANDBY LED will flash Orange. When the POWER/STANDBY LED lights solid Orange, the projector has entered standby mode.

   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 “०” button to restart the projector.

3. Disconnect the power cord from the electrical outlet and the projector.

Warning Indicator

When the warning indicators (see below) come on, the projector will automatically shutdown:

- “LAMP” LED indicator is lit red and if “POWER/STANDBY” indicator flashes amber.
- “TEMP” LED indicator is lit red, this indicates the projector has overheated. Under normal conditions, the projector can be switched back on.
- “TEMP” LED indicator flashes red and if “POWER/STANDBY” indicator flashes amber.

Unplug the power cord from the projector, wait for 30 seconds and try again. If the warning indicator light up again, please contact your nearest service center for assistance.
Adjusting the Projected Image

Adjusting the Projector’s Height

The projector is equipped with adjustable feet for adjusting the image height position.

1. Locate the foot you want to adjust on the underside of the projector.

2. Turn the adjustable foot counter-clockwise to move it outwards or clockwise to move it inwards. Repeat with the remaining feet as needed.
Installation

Adjusting the Projector’s Focus

To focus the image, slide the focus switch to left/right until the image is clear.

> The projector will focus at distances (lens to wall) from 1.59~1.87 feet (0.49~0.57 meters)
Adjusting Projection Image Size (Diagonal)

<table>
<thead>
<tr>
<th>Diagonal size (inches)</th>
<th>Image size</th>
<th>Projection distance</th>
<th>Offset</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mm</td>
<td>inches</td>
<td>mm</td>
</tr>
<tr>
<td>W H</td>
<td>W H D D</td>
<td>mm inches</td>
<td>mm inches</td>
</tr>
<tr>
<td>100</td>
<td>2214 1245</td>
<td>87.2 49.0 305 12.0</td>
<td>322 12.7 325 12.8</td>
</tr>
</tbody>
</table>

> This table is for user’s reference only.
Using the Control Panel

<table>
<thead>
<tr>
<th>Control</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>POWER</td>
<td>Refer to the “Power On/Off the Projector” section on pages 13-14.</td>
</tr>
<tr>
<td>Enter</td>
<td>Press “Enter” to confirm your item selection.</td>
</tr>
<tr>
<td>INPUT</td>
<td>Press “INPUT” to select an input signal.</td>
</tr>
<tr>
<td>MENU</td>
<td>Press “MENU” to launch the on-screen display (OSD) menu. To exit OSD, press “MENU” again.</td>
</tr>
<tr>
<td>Four Directional Select Keys</td>
<td>Use ▲ ▼ ◀▶ to select items or make adjustments to your selection.</td>
</tr>
<tr>
<td>LAMP LED</td>
<td>Refer to the LED indicator of the projector light source status.</td>
</tr>
<tr>
<td>TEMP LED</td>
<td>Refer to the LED indicator of the projector temperature status.</td>
</tr>
<tr>
<td>ON/STANDBY LED</td>
<td>Refer to the LED indicator of the projector power status.</td>
</tr>
</tbody>
</table>
## Remote Control

### Using the Remote Control

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrared transmitter</td>
<td>Sends signals to the projector.</td>
</tr>
<tr>
<td>LED</td>
<td>LED Indicator.</td>
</tr>
<tr>
<td>Power</td>
<td>Refer to the “Power On/Off the Projector” section on pages 15-16.</td>
</tr>
<tr>
<td>Exit</td>
<td>Press “Exit” to close the OSD menu.</td>
</tr>
<tr>
<td>Zoom in</td>
<td>Zoom in the projector display.</td>
</tr>
<tr>
<td>Reset</td>
<td>Return the adjustments and settings to the factory default values. (except for lamp counter)</td>
</tr>
<tr>
<td>Zoom out</td>
<td>Zoom out the projector display.</td>
</tr>
<tr>
<td>OK</td>
<td>Confirm your item selection.</td>
</tr>
<tr>
<td>Source</td>
<td>Press “Source” to select an input signal.</td>
</tr>
<tr>
<td>Auto</td>
<td>Automatically synchronizes the projector to the input source.</td>
</tr>
<tr>
<td>Four Directional Select Keys</td>
<td>Use ▲ ▼ ◀▶ to select items or make adjustments to your selection.</td>
</tr>
<tr>
<td>Keystone +/-</td>
<td>Adjust image distortion caused by tilting the projector.</td>
</tr>
<tr>
<td>Volume +/-</td>
<td>Adjust the volume.</td>
</tr>
<tr>
<td>Aspect ratio</td>
<td>Use this function to choose your desired aspect ratio.</td>
</tr>
<tr>
<td>Menu</td>
<td>Press “Menu” to launch the on-screen display (OSD) menu. To exit OSD, press “Menu” again.</td>
</tr>
</tbody>
</table>
# User Controls

## Using the Remote Control

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank</td>
<td>Momentarily turns off/on audio and video (black screen on/off).</td>
</tr>
<tr>
<td>Image</td>
<td>Select the display mode from Bright, PC, Movie, Game, and User.</td>
</tr>
<tr>
<td>Aspect</td>
<td>Select the desired image format.</td>
</tr>
<tr>
<td>VGA1</td>
<td>Press “VGA1” to choose VGA IN 1 connector.</td>
</tr>
<tr>
<td>Freeze</td>
<td>Pause the screen image. Press again to resume the screen image.</td>
</tr>
<tr>
<td>HDMI1</td>
<td>Press “HDMI1” to choose HDMI IN 1 connector.</td>
</tr>
<tr>
<td>VGA2</td>
<td>Press “VGA2” to choose VGA IN 2 connector.</td>
</tr>
<tr>
<td>Video</td>
<td>Press “Video” to choose Composite video source.</td>
</tr>
<tr>
<td>HDMI2</td>
<td>Press “HDMI2” to choose HDMI IN 2 connector.</td>
</tr>
</tbody>
</table>
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.

How to operate

1. To open the OSD menu, press “Menu” on the Remote Control or Projector Keypad.
2. When OSD is displayed, use the ▲▼ keys to select any item in the main menu. While making a selection on a particular page, press the ► or “Enter” key to enter sub menu.
3. Use the ▲▼ keys to select the desired item and adjust the settings using the ◄► key.
4. Select the next item to be adjusted in the sub menu and adjust as described above.
5. Press “Enter” 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

**Color Mode**

There are many factory presets optimized for various types of images. Use the ◄ or ► button to select the item.

- Bright: For brightness optimization.
- PC: For meeting presentation.
- Movie: For playing video content.
- Game: For game content.
- User: Memorize user’s settings.

**Wall Color**

Use this function to obtain an optimized screen image according to the wall color. You can select from “White”, “Light Yellow”, “Light Blue”, “Pink”, and “Dark Green”.

**Brightness**

Adjust the brightness of the image.

- Press the ◄ button to darken image.
- Press the ► button to darken image.

**Contrast**

The Contrast controls the difference between the lightest and darkest parts of the picture. Adjusting the contrast changes the amount of black and white in the image.

- Press the ◄ button to decrease the contrast.
- Press the ► button to increase the contrast.
User Controls

**Sharpness**
Adjust the sharpness of the image.
> Press the ◄ button to decrease the sharpness.
> Press the ► button to increase the sharpness.

**Saturation**
Adjust a video image from black and white to fully saturated color.
> Press the ◄ button to decrease the amount of saturation in the image.
> Press the ► button to increase the amount of saturation in the image.

**Hue**
Adjust the color balance of red and green.
> Press the ◄ button to increase the amount of green in the image.
> Press the ► button to increase the amount of red in the image.

**Gamma**
This allows you to adjust the gamma value to obtain the better image contrast for the input.

**Color Temp**
This allows you to adjust the color temperature. At higher temperature, the screen looks colder; at lower temperature, the screen looks warmer.

**Color Settings**
Use these settings for advanced adjustment of the individual Red, Green, Blue, Cyan, Magenta and Yellow Colors.
User Controls

Screen

**Aspect Ratio**
- **Auto**: Keep the image with original width-height ratio and maximize the image to fit native horizontal or vertical pixels.
- **4:3**: The image will be scaled to fit the height of the screen and the width adjusted to display the image using a 4:3 ratio.
- **16:9**: The image will be scaled to fit the width of the screen and the height adjusted to display the image using a 16:9 ratio.
- **16:10**: The image will be scaled to fit the height of the screen and the width adjusted to display the image using a 16:10 ratio.

**Phase**
Synchronize the signal timing of the display with the graphic card. If the image appears to be unstable or flickers, use this function to correct it.

**Clock**
Adjust to achieve an optimal image when there is a vertical flicker in the image.

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

**V. Position**
- Press the ◄ button to move the image down.
- Press the ► button to move the image up.
**Digital Zoom**

- Press the ◄ button to reduce the size of an image.
- Press the ► button to magnify an image on the projection screen.

**V Keystone**

Press the ◄ or ► button to adjust image distortion vertically. If the image looks trapezoidal, this option can help make the image rectangular.

**Orientation**

- Front: The image is projected straight on the screen (default for dnpA3000HDS).
- Front Ceiling: The image is projected upside/down (default for dnpA3000HDI).
- Rear: When selected, the image will appear reversed.
- Rear Ceiling: When selected, the image will appear reversed in upside down position.
**Settings**

**Language**
Choose the multilingual OSD menu. Press the ◀ or ► button into the sub menu and then use the ▲ or ▼ button to select your preferred language. Press ► on the remote control to finalize the selection.

**Menu Location**
Choose the menu location on the display screen.

**Closed Caption**
Use this function to enable close caption menu. Select an appropriate closed captions option: Off, CC1, CC2, CC3, and CC4.

**VGA Out (Standby)**
Choose “On” to enable VGA OUT connection.
LAN (Standby)
Choose “On” to enable LAN connection. Choose “Off” to disable LAN connection.

VGA-2 (Function)
> Input: Choose “Input” to let the VGA port works as a VGA input function.
> Output: Choose “Output” to enable the VGA Out function once the projector is powered on.

Test Pattern
Display a test pattern.

Reset
Choose “Yes” to return the parameters on all menus to the factory default settings.
User Controls

**Volume**

**Speaker**
- Choose “On” to enable the speaker.
- Choose “Off” to disable the speaker.

**Line Out**
- Choose “On” to enable the line out function.
- Choose “Off” to disable the line out function.

**Microphone**
- Choose “On” to enable the microphone.
- Choose “Off” to disable the microphone.

**Mute**
- Choose “On” to turn mute on.
- Choose “Off” to turn mute off.

**Volume**
- Press the ◀ button to decrease the volume.
- Press the ► button to increase the volume.

**Microphone Volume**
- Press the ◀ button to decrease the microphone volume.
- Press the ► button to increase the microphone volume.
User Controls

Options

_Logo_
Use this function to set the desired startup screen. If changes are made they will take effect the next time the projector is powered on.
- Default: The default startup screen.
- User: Use stored picture from “Logo Capture” function.

_Logo Capture_
Press ► button to capture an image of the picture currently displayed on screen.

> For successful logo capture, please ensure that the on-screen image does not exceed the projector’s native resolution.
> “Logo Capture” is not available when 3D is enabled.
> Before activating this function, it is recommended that “Aspect Ratio” is set to “Auto”.

_Auto Source_
- On: The projector will search for other signals if the current input signal is lost.
- Off: The projector will only search current input connection.

_Input_
Press ► button to enable/disable input sources. The projector will not search for inputs that are not selected.
User Controls

Auto Power Off (Min)
Sets the countdown timer interval. The countdown timer will start, when there is no signal being sent to the projector. The projector will automatically power off when the countdown has finished (in minutes).

Laser Settings
See next page.

High Altitude
  > On: The built-in fans run at high speed. Select this option when using the projector at altitudes above 2500 feet/762 meters or higher.
  > Off: The built-in fans automatically run at a variable speed according to the internal temperature.

Filters Remind (Hour)
  > Filters Remind (Hour): Set the filter reminder time.
  > Cleaning Up Remind: Select “Yes” to reset the dust filter hour counter after replacing or cleaning the dust filter.

Information
Display the projector information for model name, SNID, source, resolution, software version, and aspect ratio on the screen.
Options | Laser Settings

**Laser Hours Used (Normal)**
Display the projection time of normal mode.

**Laser Hours Used (ECO)**
Display the projection time of ECO mode.

**Laser Power Mode**
- Normal: Normal mode.
- ECO: Use this function to dim the projector lamp which will lower power consumption and extend the lamp life.
User Controls

3D

> “Frame Sequential” is supported the DLP Link 3D input signals from VGA / HDMI connector.

> “Frame Sequential” / “Field Sequential” are supported the HQFS 3D input signals from Composite/S-Video connector.

> “Frame Packing” / “Side-by-Side(Half)” / “Top and Bottom” are supported from HDMI 1.4a 3D input signals.

3D

> Auto: When a HDMI 1.4a 3D timing identification signal is detected, the 3D image is selected automatically.

> Choose “On” to enable the 3D function.

> Choose “Off” to disable the 3D function.

3D Invert

If you see a discrete or overlapping image while using DLP 3D glasses, you may need to execute “Invert” to get the best match of left/right image sequence to get the correct image.

3D Format

Use this feature to select the 3D format. Options are: “Frame Packing”, “Side-by-Side (Half)”, “Top and Bottom”, “Frame Sequential”, and “Field Sequential”.

1080p@24

Use this feature to select 96 or 144Hz refresh rate as using 3D glasses in the 1080p @ 24 frame packing.
User Controls

**Blending mode**

**Brightness**
For user to manually adjust the brightness of projectors used in blending mode.

**Color Temp**
For user to manually map the color temperature of projectors used in blending mode.

**Blending application**

**Example of system architecture**

- Laptop, Switch and Camera is for image calibration only
- Laptop Source: Image source
- Blending Box
- Multiple projectors (here two)
- For more details, please check the blending HW/SW specifications
User Controls

Interactive

Interactive Settings

> Choose “On” to enable the Interactive function.
> Choose “Off” to disable the Interactive function.

Use the Mini USB cable to connect PC/laptop and projector. Connect before using the interactive function. After you complete the Interactive Settings in OSD, use the Mini USB cable to connect a NB/desktop to the projector.

IR Pen

Usage Notice

Please follow all warnings, precautions and maintenance as recommended in this user’s manual.

Precautions

IR camera on the projector receives infrared signal illuminated from IR pen. To operate normally:
> IR camera should face the projected image on the wall.
> Remove any obstacle between the IR camera and the projected image.
> Do not place other infrared communication devices, lighting equipments, residential heating equipments, etc. nearby.
> Use the enclosed USB cable (maximum length: 5m).
> To extend the USB cable length over 5m, a certified active extension USB cable is required.

> Please note that the Interaction function is only for the HDI model. The interactive function is not available in the HDS model.
> The Interactive function is available when displaying graphic source from HDMI/VGA input. Other sources are not supported.
> If “3D” or “Dynamic Black” function is enabled the “Interactive” feature is disabled.

>
User Controls

Step 1: Install Utility Software

A. System requirements

To ensure normal operation of the interactive function follow below requirements:

<table>
<thead>
<tr>
<th>System requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating system</td>
</tr>
<tr>
<td>Microsoft Windows XP (SP3)/Windows 7</td>
</tr>
<tr>
<td>(32bit/64bit)/Windows 8/ Windows 8.1</td>
</tr>
<tr>
<td>(. NET Framework 4.0 must be installed)</td>
</tr>
<tr>
<td>Mac OS X(10.7~10.10)</td>
</tr>
<tr>
<td>CPU</td>
</tr>
<tr>
<td>Intel® Core™ i3 or above</td>
</tr>
<tr>
<td>Memory</td>
</tr>
<tr>
<td>2GB or more</td>
</tr>
</tbody>
</table>

B. Download the latest version of the software from www.dnp-screens.com and install on the PC.

C. A utility icon indicator as below will appear in the Windows/Mac OS taskbar when running software utility.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Finger/Stylus mode" /></td>
<td>Finger/Stylus mode</td>
</tr>
<tr>
<td><img src="image" alt="Active Pen mode" /></td>
<td>Active Pen mode</td>
</tr>
<tr>
<td><img src="image" alt="Disconnected" /></td>
<td>Disconnected</td>
</tr>
</tbody>
</table>

D. Connect the PC to the projector with the enclosed USB cable and a signal cable before proceeding.

Step 2: Operation Mode

Windows 7 and Windows 8 operating systems support multi-point touch control (not available for Windows XP and Mac OS X).

Select Finger/Stylus Mode ( ![Finger/Stylus mode](image) ) for multi-point touch if using the LaserCurtain (optional accessory). Select Active Pen Mode ( ![Active Pen mode](image) ) when using the light pen (IR pen).
User Controls

IR pen operation mode is for single-point-touch only.

Step 3: Touch Area Setting
A. Select Auto Touch Area Setting:

Note:
> Quit all software applications
> Reduce ambient light
> Do not obstruct or shake the lens during Touch Area Setting
User Controls

> Check if the projected image is clear. If not, adjust the focus to sharpen the image
> If an error message pops up after auto setting, check surroundings and redo
> If the error message continues to pop up, switch to Manual Touch Area Setting

B. Select Manual Touch Area Setting:

B-1. After the camera captures the projected image, a Touch Area window will pop up. The working touch area is defined by a green frame. If the captured image is not clear enough, re-select “Ambient light mode selection” from “Auto” to “Bright” or “Dim” according to the actual ambient light conditions.

NOTE! The captured image shows the actual camera view, which may be reversed from the projected image (depending on projector positioning). P1 could be lower right corner, P2 lower left corner etc.
B-2. Touch Area Boundary Fine-tuning

**Step 1:** Click on P1; use the mouse to drag the green corner P1 just outside the corner of the projected white frame.

**Step 2:** Adjust P2 to P4 accordingly; ensure that the adjustable green zone (the working touch area) completely covers the projected white frame.

**Step 3:** Double-check that the green frame is perfectly outside the projected white frame. If not, fine-tune again.

B-3. When the Touch Area is correctly set click exit.
Step 4: Calibration
A. Select Auto Calibration to automatically calibrate. Do not obstruct the camera view while auto-calibrating.

Note:
If the Auto Calibration was not successful, follow below steps to trouble-shoot and run the Auto Calibration again.

> Close all software applications
> Reduce ambient light
> Do not obstruct or shake the lens during calibration
> Check if the projected image is clear. If not, adjust the focus to sharpen the image

If you are not satisfied with the calibration result or if an Auto Calibration error message continues to pop up on the screen, switch to Manual Calibration.
User Controls

B. Select Manual Calibration to manually adjust the touch accuracy:

Note: Manual Calibration is suggested for better accuracy.

Multiple on-screen calibration points are used to adjust the touch accuracy.

Use finger or pen, depending on operation mode, to calibrate.

Step 1: The calibration target is displayed on the screen (start in upper left corner).

Step 2: Press and hold in the center of the target until the center changes color, which indicates the point is set.

Step 3: Release. The next calibration target will display.

Step 4: Redo steps 2 and 3 until calibration is complete.
If calibration is not successful do the following:

- Close all software applications
- Reduce ambient light
- Do not obstruct or shake the lens during calibration
- Check if the projected image is clear. If not, adjust the focus to sharpen the image
- Check that the Touch Area completely covers the screen

### Step 5: Touch Sensitivity

When touch function is unresponsive or writing is intermittent. You can adjust the sensitivity by adjusting Touch Sensitivity level:

- Default: 4
- Max.: 10 (most sensitive)
- Min.: 0 (least sensitive)

**Note:** Touch Sensitivity is not adjustable under Active Pen Mode.
Step 6: Trouble-shooting Viewer

Sometimes infrared light (IR light) from ambient light sources interfere with touch performance. The troubleshooting viewer shows real time images for debugging purposes. Any light interference is marked in green. If a green obstacle appears within the image area locate the source and prevent it from interfering.

Note: Interactive function is disabled under trouble-shooting viewer, use mouse to click exit.
# Appendix : Specification

## I. General Specifications

| Calibration          | Auto Calibration  
|----------------------|--------------------
|                      | Manual Calibration |

### Multi-touch
- 10-touch points (Win 7 and Win8 compliant)

### Display mode
- Support Ceiling mode only

## II. Installation Software

### System Requirements

### Processor Type
- Intel Core™ i3 or above

### RAM
- 2GB or More
User Controls

**LAN**

---

**Status**
Display the network connection status.

**DHCP**
Configure the DHCP settings.

- **On**: Choose “On” to let the projector obtain an IP address automatically from your network.
- **Off**: Choose “Off” to assign IP, Subnet Mask, Gateway, and DNS configuration manually.

**IP Address**
Display an IP address.

**Subnet Mask**
Display the subnet mask number.

**Gateway**
Display the default gateway of the network connected to the projector.

**DNS**
Display the DNS number.

**MAC Address**
Display the MAC address.
User Controls

__Group Name__
Display the group name.

__Projector Name__
Display the projector name.

__Location__
Display the projector location.

__Contact__
Display the contact information.
How to use a web browser to control your projector

You can control the projector remotely via a web browser on your controlling device. You can connect directly or via a network.

1. When making LAN connection from your computer to the projector:

   Step 1: Turn on DHCP to allow a DHCP server to automatically assign an IP, or manually enter the required network information.

   Step 2: Then choose apply and press OK button to complete the configuration process.

   Step 3: Find the IP Address from the LAN function of the projector as below.

1) Connect to LAN with DHCP server, please select DHCP ON and go to Step 10
2) Connect to PC directly, please select DHCP OFF
Step 4: Select apply and press “Enter” button to submit function or press “menu” key to exit.

Step 5: To open Network Connections, click Start, click Control Panel, click Network and Internet Connections, and then click Network Connections. Click the connection you want to configure, and then, under Network Tasks , click Change settings of this connection.

Step 6: On the General tab, under This connection uses the following items, click Internet Protocol (TCP/IP), and then click “Properties.”

Step 7: Click Use the following IP address, and type in as below:
1) IP address: 10.0.21.100
2) Subnet mask: 255.255.0.0
3) Default gateway: 10.0.0.254

Step 8: To open Internet Options, in IE web browser, click Internet Options, click the Connections tab and click “LAN Settings...”.

Step 9: The Local Area Network (LAN) Setting dialog box appears. In the Proxy Server area, uncheck Use a proxy server for your LAN, then click “OK” button twice.

Step 10: Open your web browser and type in the IP address in the URL and press “Enter”.
2. **When making Wi-Fi connection between your computer and the projector**

**Step 1: Setup the WiFi connection**

- Insert a WiFi dongle (optional/accessory) in the USB socket in the projector.
- Go to Input → Multimedia → Settings → WiFi.
- Define SSID/AP name and password in the AP settings menu. Note! The password must be minimum 8 characters. Press exit on the remote control to exit the virtual keyboard to be able to save the settings.
- You are now ready to connect your wireless device directly to the projector (AP mode).
- If you want to connect via a WiFi network (client mode) you must connect the projector and the wireless device to a common WiFi network and ensure that the network allows connected units to see each other.
- Turn ON the AP list to see available wireless networks (Client mode only).
- Connect the projector to the desired wireless network (Client mode only).
- Exit Settings

**Step 2: Connect to the projector (AP Mode only)**

- Go to Input → Multimedia → Mobile/Tablet or Laptop (depending on device)
- On your mobile/tablet or laptop: Open the list of available wireless networks and connect to the listed AP using the displayed password
Open your web browser and type in the IP address 192.168.111.1 in the URL then press “Enter”.

**Projector Information**
User can retrieve the Projector Information in this page and select the content display in different languages.
User Controls

LAN Setting
User can configure LAN parameters and edit the projector information in this page.

Wi-Fi
User can install EZView for different platforms and operating systems.
User Controls

Projector Status and Control
User can control the projector in this page.

<table>
<thead>
<tr>
<th>User Controls</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Web Management</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Projector Status and Control</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Projector Status</strong></td>
<td>On</td>
<td></td>
</tr>
<tr>
<td><strong>Input</strong></td>
<td>MULTIMEDIA</td>
<td></td>
</tr>
<tr>
<td><strong>Lamp</strong></td>
<td>Default</td>
<td></td>
</tr>
<tr>
<td><strong>Operation</strong></td>
<td>ON</td>
<td></td>
</tr>
<tr>
<td><strong>High Position</strong></td>
<td>Off</td>
<td></td>
</tr>
<tr>
<td><strong>Auto Rescue</strong></td>
<td>Off</td>
<td></td>
</tr>
<tr>
<td><strong>Monitor Mode</strong></td>
<td>Normal</td>
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</tr>
<tr>
<td><strong>Auto Power Off (Min)</strong></td>
<td>0</td>
<td>(5-120)</td>
</tr>
<tr>
<td><strong>Image Control</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Color Mode</strong></td>
<td>PC</td>
<td></td>
</tr>
<tr>
<td><strong>Aspect Rate</strong></td>
<td>Auto</td>
<td></td>
</tr>
<tr>
<td><strong>Video Mode</strong></td>
<td>Off</td>
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</tr>
<tr>
<td><strong>Brightness</strong></td>
<td>75</td>
<td>[Submit]</td>
</tr>
<tr>
<td><strong>Contrast</strong></td>
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</tr>
<tr>
<td><strong>Sharpness</strong></td>
<td>0</td>
<td>[Submit]</td>
</tr>
<tr>
<td><strong>Phase</strong></td>
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<td><strong>Saturation</strong></td>
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<td>[Submit]</td>
</tr>
<tr>
<td><strong>Fine</strong></td>
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<td>[Submit]</td>
</tr>
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<td><strong>Sharpness</strong></td>
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<td>[Submit]</td>
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<tr>
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</tr>
<tr>
<td><strong>H. Position</strong></td>
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</tr>
<tr>
<td><strong>V. Position</strong></td>
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<tr>
<td><strong>V. Keystone</strong></td>
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</tr>
<tr>
<td><strong>Digital Zoom</strong></td>
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<td>[Submit]</td>
</tr>
<tr>
<td><strong>Audio Control</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Volume</strong></td>
<td>15</td>
<td>[Submit]</td>
</tr>
<tr>
<td><strong>Microphone volume</strong></td>
<td>10</td>
<td>[Submit]</td>
</tr>
</tbody>
</table>
User Controls

E-mail Alert
User can assign the email address and categorize alert notice.

Password Setting
User can set the password to get access to web management.

Crestron control: See page 73 on how to control the projector via Crestron flash UI.
EZView

EZView is an APP and software that can wirelessly transfer content from a smart phone, tablet, laptop, desktop, etc. and have it displayed on a LaserPanel projector. There is a limitation to what you can do via the APP whilst using the software has no other limitation than a maximum resolution of 720p.

**EZView APP features:**

- Support local photo, document (PDF and Office files) gallery and do sketch
- Support local video
- Display Web pages and support sketch function as well
- Streaming image data from camera
- Support Web Video like Youtube
- Support Dropbox

**Screen Display via EZView APP or software**

Step 1: Install the EZView tool on your device according to the device operating system.

Step 2: Start EZView on the device by clicking below icon.

![EZView icon](image)

on PC or Laptop, ![EZView icon](image) on tablet or smart phone.
Multimedia

EZView on PC or Laptop

Step 1: Connect your PC/Laptop to the projector (AP mode) or connect both the PC/Laptop and the projector to a common WiFi or LAN network (Client mode)

Step 2: Start EZView on the device by clicking below icon on PC or Laptop and access Multimedia mode on the projector.

Step 3: Enter the IP address. (choose either from Wi-Fi or LAN connection)
Multimedia

Step 4: For screen display function, select mirror mode or extension mode to project the image from the device.

1. The selection of image position (1/4, 1/2 or 1/1 of screen)
2. Mirror Mode Display
3. Extension Mode Display
4. Link to Web management page (AP mode and client mode via LAN network only)
5. Exit
6. Display Mode: Video or Graphic
7. Compatible Mode
8. Audio On/Off
9. Media Streaming mode for playing video application
10. Start playing video
11. Stop playing video
12. Choosing video streaming file
Multimedia

EZView on Tablet or Smart phone
Step 1: Connect your mobile/tablet to the projector (AP mode) or connect both the mobile/tablet and the projector to a common WiFi or LAN network (Client mode).
Step 2: Start EZView on the device by clicking below icon on tablet or smart phone.

Step 3: Start EZView APP and go to multimedia → mobile/tablet on the projector.

Step 4: Enter the connection password shown on the screen.

Step 5: Select the way to stream to the projector via the EZView APP.
Accessing Multimedia Files

This projector supports two methods to project media files (photos, videos, music, documents) stored on following devices:

a. via Wireless dongle (see above) - wirelessly access the media files stored on your mobile phone, tablet PC, notebook, or desktop.

b. via USB flash drive - directly access the media files stored on the device.

How to access Multimedia mode

1. Plug a wireless dongle or a USB flash drive into the USB connector at the back of the projector.

2. Turn on the projector.

3. Press “INPUT” on the remote control or on the control panel and press the ▲ ▼ keys to select “Multimedia” and the “Enter” key to confirm.
**Multimedia**

**Mobile Display**
To access the media files stored on your mobile device or tablet PC, do the following:

1. In the *Multimedia* menu, select *Mobile/Tablet*.

2. On your mobile device or tablet PC: Install the “EZview” application for your operating system.

3. Enable your mobile device or tablet PC WiFi function, and search the AP name listed in the Wi-Fi network list.

4. On the initial connection, you will be prompted to enter a password. Enter the password.

5. Launch the “EZview” application (see above) and enter the login code.

6. Wait until the connection is established. The media files on your mobile device or tablet PC can now be streamed to the projector.
Laptop Display

To access the media files stored on your laptop/notebook, do the following:

1. In the Multimedia menu, select **Laptop**.

2. Enable your laptop/notebook WiFi function, and search the AP name listed in the Wi-Fi network list.

3. At initial connection, you will be prompted to enter a password. Enter the password.

4. Open your web browser and enter the IP address. Then select “Wifi” on the left side of the screen and install the EZView application for your operation system.

5. Launch the “EZview” application (see above) and enter the login code.
6. Wait until the connection is established. The media files on your laptop/notebook can now be streamed to the projector.

**Desktop Display**

To access the media files stored on your desktop, do the following:

1. In the *Multimedia* menu, select *Desktop*.

2. Open your web browser and enter the IP address displayed on the screen. Then select “Wifi” on the left side of the screen and install the EZView application for your operation system.
3. Launch the “EZview” application (see above) and enter the login code.
4. Wait until the connection is established. The media files on your desktop can now be streamed to the projector.

**USB Storage Display**

To access the media files stored on your USB flash drive, do the following:

**Supported File Formats**

<table>
<thead>
<tr>
<th>Multimedia Category</th>
<th>File Formats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Photo</td>
<td>BMP, JPG</td>
</tr>
<tr>
<td>Music</td>
<td>MP3, WMA</td>
</tr>
<tr>
<td>Video</td>
<td>AVI, MOV, MP4, RM, RMVB, DAT, MPG, ISO, TS, MKV, VOB, and WMV</td>
</tr>
<tr>
<td>Document</td>
<td>WORD, EXCEL, PPT, PDF</td>
</tr>
</tbody>
</table>

1. In the **Multimedia** menu, select **USB Disk**.

2. Use the ▲ ▼ keys to select the file category and press the “Enter” key.
Multimedia

3. Use the ▲ ▼ keys to select the file to view/play and press the “Enter” key to confirm.

Configuring Multimedia Settings
To change the settings, do the following:
1. In the Multimedia menu, select Settings.
2. Use the ▲ ▼ keys to select the desired menu option and press the “Enter” key to enter the submenu.

> System: Select this option to view the firmware version and update firmware.
> Video: Select this option to change the display ratio and set the repeat mode.
> Photo: Select this option to change the display ratio, slideshow pattern, and slideshow duration.
> Music: Select this option to set the repeat mode.
> WiFi: Select this option to configure the Wi-Fi connection.

3. Use the ▲ ▼ keys to select the adjust/select the setting and press the “Enter” key to confirm.
Installing and Cleaning the Optional Dust Filter

We recommend you clean the dust filter every 500 hours of operation, or more often if you are using the projector in a dusty environment.

When the warning message appears on the screen, do the following to clean the air filter:

> The optional dust filter should be used in dusty environments.
> If the dust filter is installed properly, maintenance will prevent overheating and projector malfunction.
> The dust filter is optional.

**Air Filter Cleaning Procedure:**

1. Switch off the power to the projector by pressing the “O” button.
2. Disconnect the power cord.
3. Pull out the dust filter, as shown in the illustration. 1
4. Carefully remove the dust filter. Then clean or change the filter. 2

To install the filter, reverse the previous steps.

5. Turn on the projector and reset the filter usage counter after the dust filter is replaced.
## Compatibility Modes

### VGA Analog

<table>
<thead>
<tr>
<th>Modes</th>
<th>Resolution</th>
<th>V. Frequency [Hz]</th>
<th>H. Frequency [Hz]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VGA</strong></td>
<td>640x480</td>
<td>60</td>
<td>31.5</td>
</tr>
<tr>
<td></td>
<td>640x480</td>
<td>67</td>
<td>35.0</td>
</tr>
<tr>
<td></td>
<td>640x480</td>
<td>72</td>
<td>37.9</td>
</tr>
<tr>
<td></td>
<td>640x480</td>
<td>75</td>
<td>37.5</td>
</tr>
<tr>
<td></td>
<td>640x480</td>
<td>85</td>
<td>43.3</td>
</tr>
<tr>
<td><strong>IBM</strong></td>
<td>720x400</td>
<td>70</td>
<td>31.5</td>
</tr>
<tr>
<td><strong>SVGA</strong></td>
<td>800x600</td>
<td>56</td>
<td>35.1</td>
</tr>
<tr>
<td></td>
<td>800x600</td>
<td>60</td>
<td>37.9</td>
</tr>
<tr>
<td></td>
<td>800x600</td>
<td>72</td>
<td>48.1</td>
</tr>
<tr>
<td></td>
<td>800x600</td>
<td>75</td>
<td>46.9</td>
</tr>
<tr>
<td></td>
<td>800x600</td>
<td>85</td>
<td>53.7</td>
</tr>
<tr>
<td><strong>Apple, MAC II</strong></td>
<td>832x624</td>
<td>75</td>
<td>49.1</td>
</tr>
<tr>
<td><strong>XGA</strong></td>
<td>1024x768</td>
<td>60</td>
<td>48.4</td>
</tr>
<tr>
<td></td>
<td>1024x768</td>
<td>70</td>
<td>56.5</td>
</tr>
<tr>
<td></td>
<td>1024x768</td>
<td>75</td>
<td>60.0</td>
</tr>
<tr>
<td></td>
<td>1024x768</td>
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<tr>
<td></td>
<td>1024x768</td>
<td>120</td>
<td>99.0</td>
</tr>
<tr>
<td><strong>Apple, MAC II</strong></td>
<td>1152x870</td>
<td>75</td>
<td>68.7</td>
</tr>
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<td><strong>SXGA</strong></td>
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<td>64.0</td>
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<tr>
<td></td>
<td>1280x1024</td>
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<tr>
<td></td>
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<td>80.0</td>
</tr>
<tr>
<td><strong>QuadVGA</strong></td>
<td>1280x960</td>
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<td>60.0</td>
</tr>
<tr>
<td></td>
<td>1280x960</td>
<td>75</td>
<td>75.2</td>
</tr>
<tr>
<td><strong>SXGA+</strong></td>
<td>1400x1050</td>
<td>60</td>
<td>65.3</td>
</tr>
<tr>
<td><strong>UXGA</strong></td>
<td>1600x1200</td>
<td>60</td>
<td>75.0</td>
</tr>
</tbody>
</table>
### Appendices

#### b. Extended wide timing

<table>
<thead>
<tr>
<th>Modes</th>
<th>Resolution</th>
<th>V. Frequency [Hz]</th>
<th>H. Frequency [Hz]</th>
</tr>
</thead>
<tbody>
<tr>
<td>WXGA</td>
<td>1280x720</td>
<td>60</td>
<td>44.8</td>
</tr>
<tr>
<td></td>
<td>1280x800</td>
<td>60</td>
<td>49.6</td>
</tr>
<tr>
<td></td>
<td>1366x768</td>
<td>60</td>
<td>47.7</td>
</tr>
<tr>
<td></td>
<td>1440x900</td>
<td>60</td>
<td>59.9</td>
</tr>
<tr>
<td>WSXGA+</td>
<td>1680x1050</td>
<td>60</td>
<td>65.3</td>
</tr>
</tbody>
</table>

#### c. Component signal

<table>
<thead>
<tr>
<th>Modes</th>
<th>Resolution</th>
<th>V. Frequency [Hz]</th>
<th>H. Frequency [Hz]</th>
</tr>
</thead>
<tbody>
<tr>
<td>480i</td>
<td>720x480 (1440x480)</td>
<td>59.94(29.97)</td>
<td>15.7</td>
</tr>
<tr>
<td>576i</td>
<td>720x576 (1440x576)</td>
<td>50(25)</td>
<td>15.6</td>
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<td>480p</td>
<td>720x480</td>
<td>59.94</td>
<td>31.5</td>
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<tr>
<td>576p</td>
<td>720x576</td>
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<td>1080i</td>
<td>1920x1080</td>
<td>60(30)</td>
<td>33.8</td>
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<tr>
<td></td>
<td>1920x1080</td>
<td>50(25)</td>
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<tr>
<td>1080p</td>
<td>1920x1080</td>
<td>23.98/24</td>
<td>27.0</td>
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<tr>
<td></td>
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<td>60</td>
<td>67.5</td>
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<tr>
<td></td>
<td>1920x1080</td>
<td>50</td>
<td>56.3</td>
</tr>
</tbody>
</table>
## Appendices

### HDMI Digital

#### a. PC signal

<table>
<thead>
<tr>
<th>Modes</th>
<th>Resolution</th>
<th>V. Frequency [Hz]</th>
<th>H. Frequency [Hz]</th>
</tr>
</thead>
<tbody>
<tr>
<td>VGA</td>
<td>640x480</td>
<td>60</td>
<td>31.5</td>
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<td>640x480</td>
<td>67</td>
<td>35.0</td>
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<td></td>
<td>640x480</td>
<td>72</td>
<td>37.9</td>
</tr>
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<td></td>
<td>640x480</td>
<td>75</td>
<td>37.5</td>
</tr>
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<td></td>
<td>640x480</td>
<td>85</td>
<td>43.3</td>
</tr>
<tr>
<td>IBM</td>
<td>720x400</td>
<td>70</td>
<td>31.5</td>
</tr>
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<td></td>
<td>800x600</td>
<td>56</td>
<td>35.1</td>
</tr>
<tr>
<td></td>
<td>800x600</td>
<td>60</td>
<td>37.9</td>
</tr>
<tr>
<td></td>
<td>800x600</td>
<td>72</td>
<td>48.1</td>
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<td>800x600</td>
<td>75</td>
<td>46.9</td>
</tr>
<tr>
<td></td>
<td>800x600</td>
<td>85</td>
<td>53.7</td>
</tr>
<tr>
<td>Apple, MAC II</td>
<td>832x624</td>
<td>75</td>
<td>49.1</td>
</tr>
<tr>
<td>XGA</td>
<td>1024x768</td>
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<td>1024x768</td>
<td>70</td>
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<td>85</td>
<td>68.7</td>
</tr>
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<td></td>
<td>1024x768</td>
<td>120</td>
<td>99.0</td>
</tr>
<tr>
<td>Apple, MAC II</td>
<td>1152x870</td>
<td>75</td>
<td>68.7</td>
</tr>
<tr>
<td>SXGA</td>
<td>1280x1024</td>
<td>60</td>
<td>64.0</td>
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<td>1280x1024</td>
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<tr>
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<td>1280x1024</td>
<td>75</td>
<td>80.0</td>
</tr>
<tr>
<td>QuadVGA</td>
<td>1280x960</td>
<td>60</td>
<td>60.0</td>
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<td></td>
<td>1280x960</td>
<td>75</td>
<td>75.2</td>
</tr>
<tr>
<td>SXGA+</td>
<td>1400x1050</td>
<td>60</td>
<td>65.3</td>
</tr>
<tr>
<td>UXGA</td>
<td>1600x1200</td>
<td>60</td>
<td>75.0</td>
</tr>
</tbody>
</table>
b. Extended wide timing

<table>
<thead>
<tr>
<th>Modes</th>
<th>Resolution</th>
<th>V. Frequency [Hz]</th>
<th>H. Frequency [Hz]</th>
</tr>
</thead>
<tbody>
<tr>
<td>WXGA</td>
<td>1280x720</td>
<td>60</td>
<td>44.8</td>
</tr>
<tr>
<td></td>
<td>1280x800</td>
<td>60</td>
<td>49.6</td>
</tr>
<tr>
<td></td>
<td>1366x768</td>
<td>60</td>
<td>47.7</td>
</tr>
<tr>
<td></td>
<td>1440x900</td>
<td>60</td>
<td>59.9</td>
</tr>
<tr>
<td>WSXGA+</td>
<td>1680x1050</td>
<td>60</td>
<td>65.3</td>
</tr>
</tbody>
</table>

c. Video signal

<table>
<thead>
<tr>
<th>Modes</th>
<th>Resolution</th>
<th>V. Frequency [Hz]</th>
<th>H. Frequency [Hz]</th>
</tr>
</thead>
<tbody>
<tr>
<td>480p</td>
<td>640x480</td>
<td>59.94/60</td>
<td>31.5</td>
</tr>
<tr>
<td>480i</td>
<td>720x480</td>
<td>59.94(29.97)</td>
<td>15.7</td>
</tr>
<tr>
<td></td>
<td>(1440x480)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>576i</td>
<td>720x576</td>
<td>50(25)</td>
<td>15.6</td>
</tr>
<tr>
<td></td>
<td>(1440x576)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>480p</td>
<td>720x480</td>
<td>59.94</td>
<td>31.5</td>
</tr>
<tr>
<td>576p</td>
<td>720x576</td>
<td>50</td>
<td>31.3</td>
</tr>
<tr>
<td>720p</td>
<td>1280x720</td>
<td>60</td>
<td>45.0</td>
</tr>
<tr>
<td></td>
<td>1280x720</td>
<td>50</td>
<td>37.5</td>
</tr>
<tr>
<td>1080i</td>
<td>1920x1080</td>
<td>60(30)</td>
<td>33.8</td>
</tr>
<tr>
<td></td>
<td>1920x1080</td>
<td>50(25)</td>
<td>28.1</td>
</tr>
<tr>
<td>1080p</td>
<td>1920x1080</td>
<td>23.98/24</td>
<td>27.0</td>
</tr>
<tr>
<td></td>
<td>1920x1080</td>
<td>60</td>
<td>67.5</td>
</tr>
<tr>
<td></td>
<td>1920x1080</td>
<td>50</td>
<td>56.3</td>
</tr>
</tbody>
</table>

d. HDMI 1.4a mandatory 3D timing- Video Signal

<table>
<thead>
<tr>
<th>Modes</th>
<th>Resolution</th>
<th>V. Frequency [Hz]</th>
<th>H. Frequency [Hz]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame Packing</td>
<td>720p</td>
<td>50</td>
<td>31.5</td>
</tr>
<tr>
<td></td>
<td>720p</td>
<td>59.94/60</td>
<td>15.7</td>
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<tr>
<td></td>
<td>1080p</td>
<td>23.98/24</td>
<td>15.6</td>
</tr>
<tr>
<td>Side-by-Side(Half)</td>
<td>1080i</td>
<td>50</td>
<td>31.5</td>
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<tr>
<td></td>
<td>1080i</td>
<td>59.94/60</td>
<td>31.3</td>
</tr>
<tr>
<td>Top and Bottom</td>
<td>720p</td>
<td>50</td>
<td>45.0</td>
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<td>720p</td>
<td>59.94/60</td>
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</tr>
<tr>
<td></td>
<td>1080p</td>
<td>23.98/24</td>
<td>33.8</td>
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Appendices

RS232 Commands and Protocol
Function List

> RS232 Port Settings

<table>
<thead>
<tr>
<th>Items</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication Method</td>
<td>Asynchronous Communication</td>
</tr>
<tr>
<td>Bits per seconds</td>
<td>19200</td>
</tr>
<tr>
<td>Data bits</td>
<td>8 bits</td>
</tr>
<tr>
<td>Parity</td>
<td>None</td>
</tr>
<tr>
<td>Stop bits</td>
<td>1</td>
</tr>
<tr>
<td>Flow control</td>
<td>None</td>
</tr>
</tbody>
</table>

> RS232 Signals Connection

Computer COM Port
(D-Sub 9pin connector)  Projector COM Port
(D-Sub 9pin connector)
## Commands Set List

<table>
<thead>
<tr>
<th>Command Description</th>
<th>ASCII Code</th>
<th>Projector Return</th>
<th>n value</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>#0000 n</td>
<td></td>
<td>0 : Off</td>
<td>1 : On</td>
</tr>
<tr>
<td>Emulate Remote</td>
<td>#0001 n</td>
<td></td>
<td>1 : Up</td>
<td>2 : Left</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 : Right</td>
<td>4 : Down</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 : Menu</td>
<td>6 : Source</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7 : Keystone+</td>
<td>8 : Keystone-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9 : Volume+</td>
<td>10 : Volume-</td>
</tr>
<tr>
<td>Resync</td>
<td>#0002 1</td>
<td></td>
<td></td>
<td>VGA only</td>
</tr>
<tr>
<td>AV Mute (Blank)</td>
<td>#0003 n</td>
<td></td>
<td>0 : Off</td>
<td>1 : On</td>
</tr>
<tr>
<td>Freeze</td>
<td>#0004 n</td>
<td></td>
<td>0 : Unfreeze</td>
<td>1 : Freeze</td>
</tr>
<tr>
<td>Input Source</td>
<td>#0005 n</td>
<td></td>
<td>1 : VGA 1</td>
<td>2 : VGA 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 : HDMI 1</td>
<td>4 : HDMI 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 : Video</td>
<td>6 : Multimedia</td>
</tr>
<tr>
<td>Color Mode</td>
<td>#0010 n</td>
<td></td>
<td>1 : Bright</td>
<td>2 : PC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3 : Movie</td>
<td>4 : Game</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 : User</td>
<td></td>
</tr>
<tr>
<td>Brightness</td>
<td>#0011 n</td>
<td></td>
<td>0~100</td>
<td></td>
</tr>
<tr>
<td>Contrast</td>
<td>#0012 n</td>
<td></td>
<td>0~100</td>
<td></td>
</tr>
<tr>
<td>Sharpness</td>
<td>#0013 n</td>
<td></td>
<td>0~31</td>
<td>Video only</td>
</tr>
</tbody>
</table>
| Aspect Ratio | #0020 n | 1 : Auto  
2 : 4:3  
3 : 16:9  
4 : 16:10 |
|-------------|---------|---------|
| Zoom        | #0021 n | 0 : Zoom-  
1 : Zoom+ |
| Keystone    | #0022 n | -40~40  |
| Orientation | #0023 n | 1 : Front  
2 : Rear  
3 : Front Ceiling  
4 : Rear Ceiling |
| Language    | #0030 n | 1 : English  
2 : German  
3 : Swedish  
4 : French  
5 : Arabic  
6 : Dutch  
7 : Norwegian  
8 : Danish  
9 : Simplified Chinese  
10 : Polish  
11 : Korean  
12 : Russian  
13 : Spanish  
14 : Traditional Chinese  
15 : Italian  
16 : Portuguese  
17 : Turkish  
18 : Japanese |
| Menu Location | #0031 n | 1 : Top Left  
2 : Top Right  
3 : Center  
4 : Bottom Left  
5 : Bottom Right |
| Reset       | #0032 1 |  |
| Mute        | #0040 n | 0 : Off  
1 : On |
<p>| Volume      | #0041 n | 0~30  |</p>
<table>
<thead>
<tr>
<th>Microphone Volume</th>
<th>#0042 n</th>
<th>0~30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto Power Off (min)</td>
<td>#0050 n</td>
<td>0~120</td>
</tr>
<tr>
<td>High Altitude</td>
<td>#0051 n</td>
<td>0 : Off</td>
</tr>
<tr>
<td>Color Mode Read</td>
<td>#00110 1</td>
<td>Okn</td>
</tr>
<tr>
<td>Aspect Ratio Read</td>
<td>#00120 1</td>
<td>Okn</td>
</tr>
<tr>
<td>Input Source (curr. src)</td>
<td>#00160 1</td>
<td>Okn</td>
</tr>
<tr>
<td>Software Version</td>
<td>#00161 1</td>
<td>Okddd</td>
</tr>
<tr>
<td>Information</td>
<td>#00162 1</td>
<td>Okabbbcccddd</td>
</tr>
</tbody>
</table>
Crestron

User can control the projector via Crestron flash UI.

Based on Crestron flash UI for the input-string in [tools] tab, the limitation for Input-Length is in the below list ("space" and the other punctuation key included):

<table>
<thead>
<tr>
<th>Category</th>
<th>Item</th>
<th>Input-Length (characters)</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>2</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>9</td>
</tr>
<tr>
<td></td>
<td>Assigned To</td>
<td>9</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>15</td>
</tr>
<tr>
<td></td>
<td>Confirm</td>
<td>15</td>
</tr>
<tr>
<td>Admin Password</td>
<td>Enabled</td>
<td>(N/A)</td>
</tr>
<tr>
<td></td>
<td>New Password</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Confirm</td>
<td>15</td>
</tr>
</tbody>
</table>
Crestron RoomView Control Tool

Crestron RoomView™ provides a central monitoring station for 250+ control systems on a single Ethernet network (more are possible, the number depends on the combination of IP ID and IP address). Crestron RoomView monitors each projector, including projector’s online status, system power, lamp life, network setting and hardware faults, plus any custom attribute as defined by the Administrator. The Administrator can add, delete, or edit room information, contact information and events, which are logged automatically by the software for all users. (Operation UI as following image)

1. Main Screen

![Main Screen](image)

2. Edit Room

![Edit Room](image)
3. Edit Attribute

![Attribute Display Window]

4. Edit Event

![Event Display Window]

For further information, please visit:
Ceiling Mount Installation

For ceiling mount operation use the dnp LaserPanel mount.

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

⚠️ Warning:
1. Be sure to keep at least 10 cm gap between the ceiling and the bottom of the projector.
2. Avoid installing the projector near a heat source.
Trouble-shooting

Q1 Why can the PC not boot when connected to the projector by the USB cable?
A:
1. Unplug USB cable from PC; or
2. Go to BIOS setup page of PC and modify the “Boot priority order.” Choose Hard disk as top priority, save the change and reboot PC.

Q2 What to do when the operating system cannot identify the USB device?
A:
1. Unplug/re-plug in the USB cable and check again.
2. Switch to another USB port and check again.
3. Restart your computer and check again.
4. Go to Power Options in the Control Panel, check the USB selective suspend settings status in USB settings under Advance Settings. Switch to “Disabled”.
5. Go to the official website of the laptop/PC manufacturer, and update the USB driver to the latest version.
6. Use the USB cable included with your projector and check again. If an USB extension is needed, please contact your distributor.
7. The USB port of your computer may not work properly. Please contact your IT staff.

Q3 Why is the utility icon red (🔴), not green (🟢/🔵)?
A: A red icon (🔴) indicates a failed connection. This may be caused by the following:

1. Check if the interactive function is enabled in the OSD.

2. Unplug/re-plug in the USB cable and check again.

3. Switch to another USB port and check again.

4. Restart your computer and check again.

5. Go to Power Options in Control Panel; check the USB selective suspend settings status in USB settings under Advance Settings. Switch to "Disabled".

6. Go to the official website of the laptop/PC manufacturer, and update the USB driver to the latest version.

7. Go to the official website of the laptop/PC manufacturer, and update the BIOS driver to the latest version.
8. Use the USB cable included with your projector and check again. If an USB extension is needed, please contact your distributor.

9. The USB port of your computer may not work properly. Please contact your IT staff.

Q4 What to do when there is only single touch point?
A:
1. Re-plug USB cable from PC.
2. Go to “Control Panel” and make sure “Tablet PC Components” is selected.

Q5 When should Calibration and Touch Area Setting be done?
A: Please perform Calibration and Touch Area setting during first installation. If projector or screen is moved, Touch Area Setting and Calibration should be performed again.
- When Laptop/PC resolution is changed, calibrate again.
- For better accuracy, please do Manual Calibration.
- If an overlarge offset is observed, please perform Manual Calibration and see Step 5 Calibration for troubleshooting.

Q6 What to do when Auto Calibration and Auto Touch Area Setting both failed?
Appendices

A:

1. Check “orientation” OSD setting first. The interactive function supports Ceiling Mode only

When a projector OSD message is shown, this may result in failure to Auto Calibrate and Auto Touch Area Setting. Wait until the OSD message disappears before performing Auto Calibration and Auto Touch Area Setting.

Please follow below trouble-shooting steps to perform Auto Calibration and Auto Touch Area Setting again.

a. Quit all software applications
b. Reduce ambient light
c. Do not obstruct or shake the lens during Calibration
d. Check if the projected image is clear. If not, adjust the focus to sharpen the image.

e. If the “Auto Touch Area Setting failed” or the “Auto Calibration failed” messages pop up on the screen again, switch to Manual Mode for Touch Area Setting and Calibration.

2. Check the Projector Lamp Power Mode selection. Lower lamp brightness (ECO mode) may affect both Auto Touch Area Setting and Auto Calibration. Switch to Normal mode to complete Touch Area Setting and Calibration.
3. Check the Projector Color Mode selection. To ensure accuracy of both Auto Touch Area Setting and Auto Calibration, it is suggested to switch Color mode to Bright Mode.

<table>
<thead>
<tr>
<th>Color Mode</th>
<th>Bright</th>
<th>PC</th>
<th>Movie</th>
<th>Game</th>
<th>User</th>
</tr>
</thead>
</table>

Q8 What to do when the mouse cursor (_visible) flashes or jumps on the screen, or when the Touch function does not work well at a certain projection area?

A:
1. Check if there is strong light shown on the screen. If yes, turn off the light.
2. Check if there is any foreign objects on the screen. If yes, remove the object.
3. Refer to Step 4 Touch Area Setting for detailed procedures, check if the Manual Touch Area frame is set properly.

Q9 What to do when the projection area corner is insensitive or intermittent lines are observed?

A:
1. Adjust the level of Touch Sensitivity to enhance sensitivity, see Step 6 Touch Sensitivity for trouble-shooting.
2. If the Touch function remains insensitive, check the camera lens condition. If dust or particles are observed, gently clean the optical port with dust blower.

Q10 What to do when the Touch function is not accurate?

A: Touch accuracy may be impacted when Windows default display setting under Windows has been changed.
1. Go to the setting page <Start menu/Control Panel/Appearance and Personalization>
Appendices

2. Select “Smaller - 100%(Default)” and click “Apply”.

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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.
Appendices

**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)

**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.
Appendices

Safety notice

> This projector is a Class 2 laser device that conforms with IEC 60825-1:2007 and CFR 1040.10 and 1040.11.

> Class 2 laser product, Do Not Stare Into Beam.

> This projector has built-in Class 4 laser module. Disassembly or modification is very dangerous and should never be attempted.

> Any operation or adjustment not specifically instructed by the user’s guide creates the risk of hazardous laser radiation exposure.

> Do not open or disassemble the projector as this may cause damage by the exposure of laser radiation.

> Do not stare into beam when the projector is on. The bright light may result in permanent eye damage.

> Without following the control, adjustment or operation procedure may cause damage by the exposure of laser radiation.

> Adequate instructions for assembly, operation, and maintenance, including clear warnings concerning precautions to avoid possible exposure to laser and collateral radiation in excess of the accessible emission limits in Class 2.