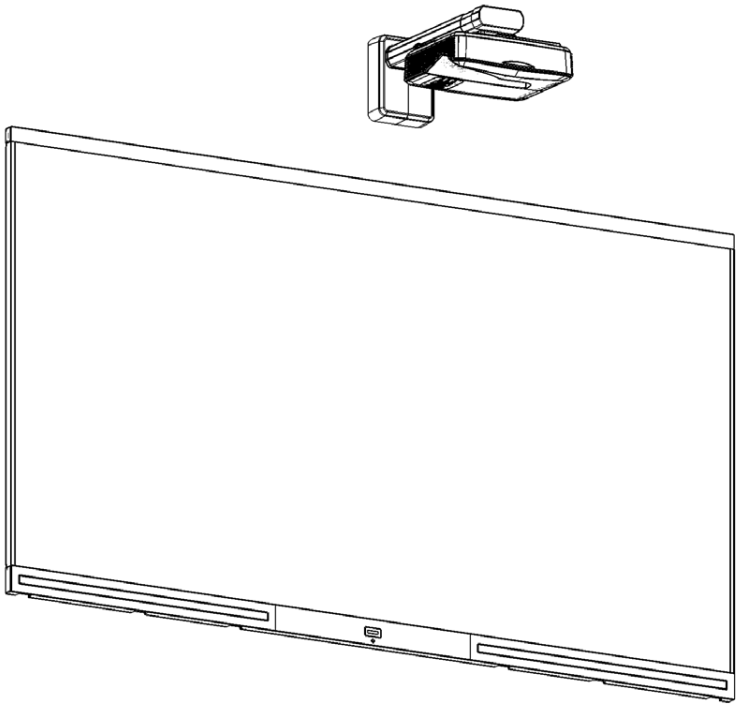
# Nureva™ Wall System
# WM408i



## User manual

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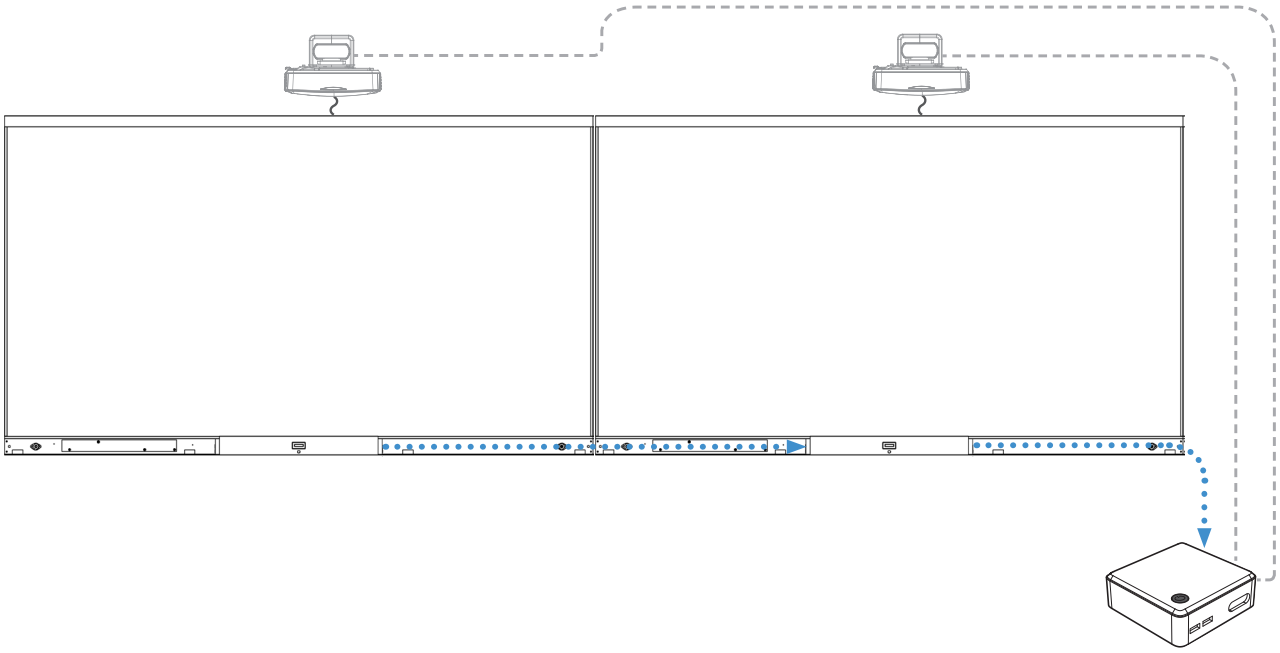
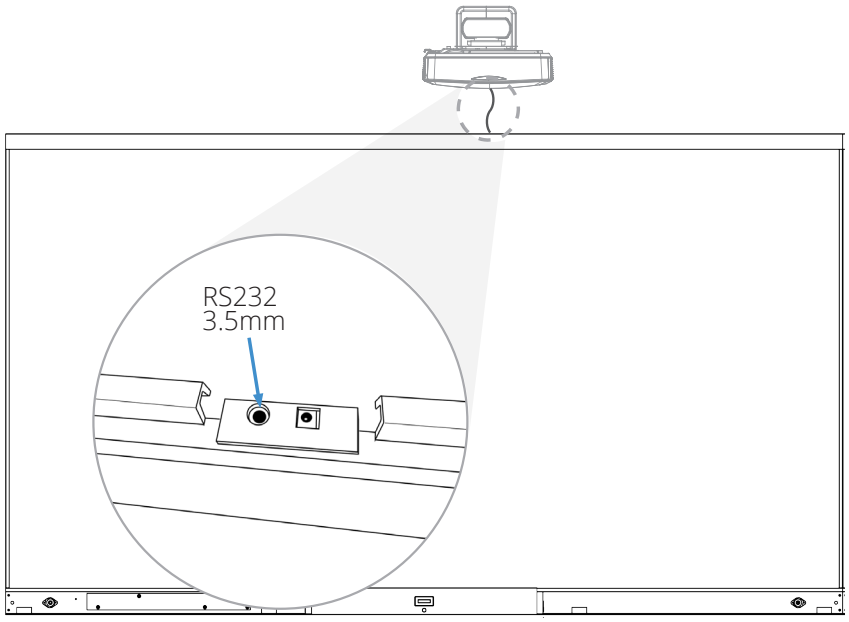
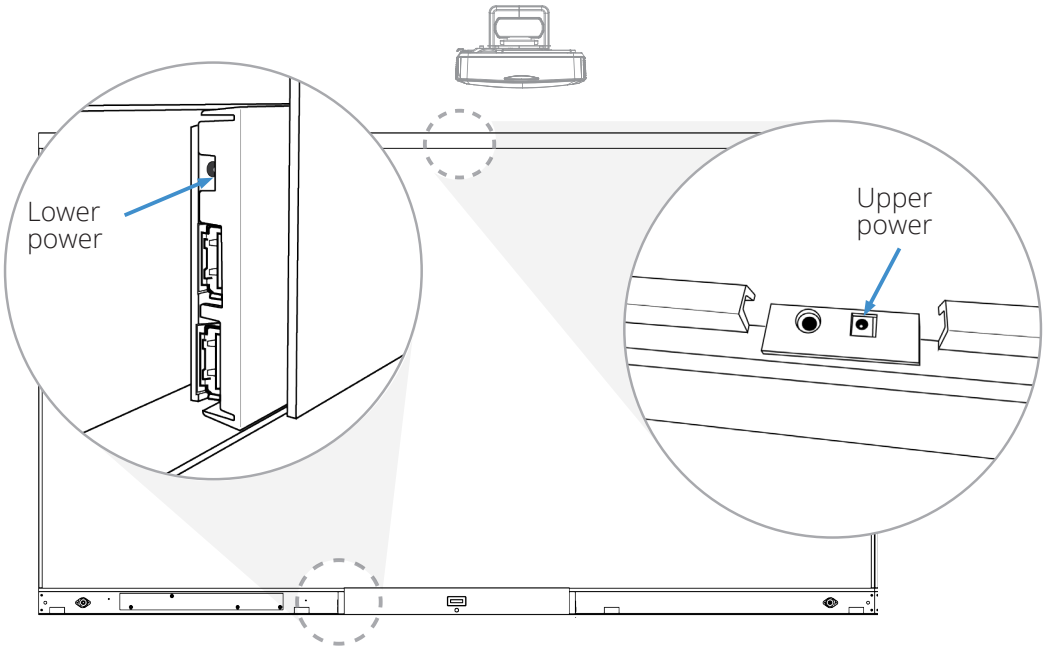
# Touch panel



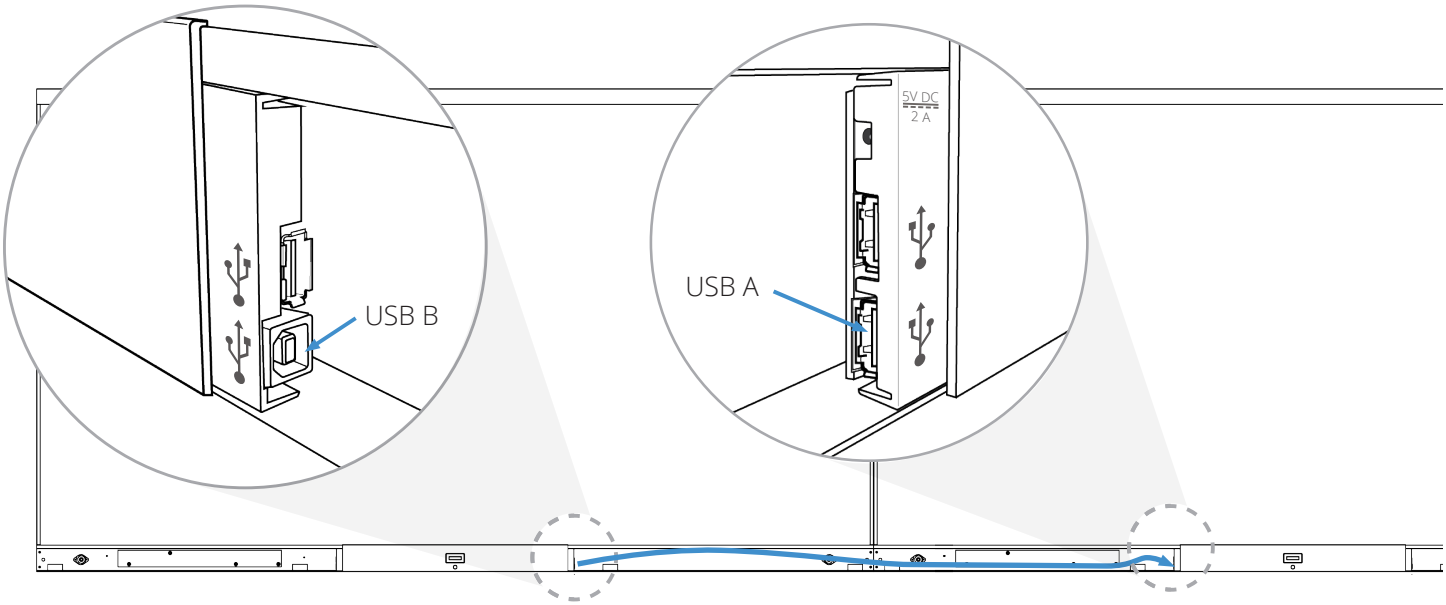
## Touch panel features




**RS232 - 3.5 mm**
Provides projector-control from the Nureva control module panel presence-detect and power button.

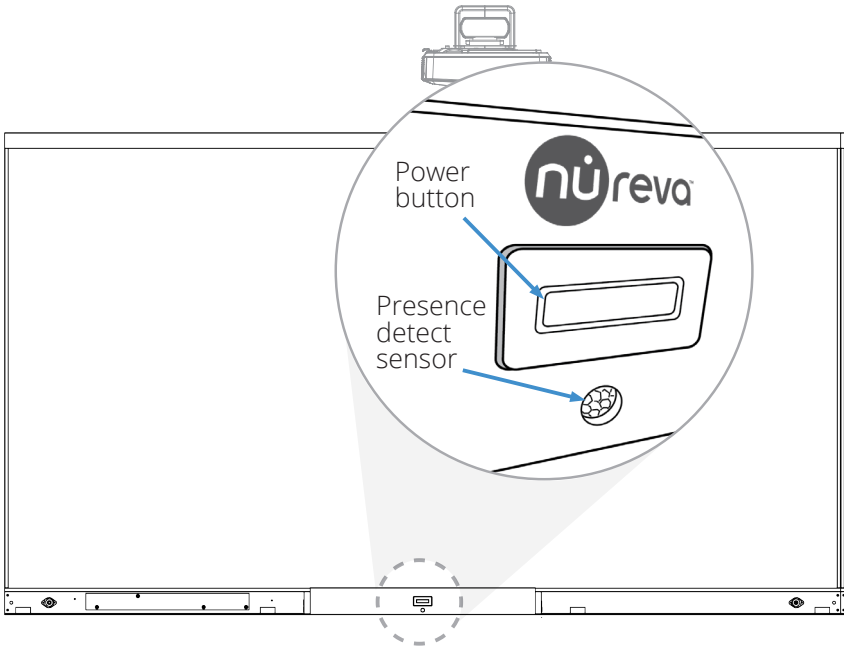



**+5VDC**
Provides power to the Nureva control module. There is an alternate power connection port along the bottom connection panel.




**USB B**
Input: Provides connection either to the PC or for daisy-chaining to the adjacent Touch panel for multi-panel configurations (e.g., dual or triple).

**USB A**
Output: Providesconnection for daisy-chaining to the adjacent Touch panel for multi-panel configurations (e.g., dual or triple).




**Power button**
Provides control for theNureva Touch Panel

- Single press – powers ON the Touch panel and projector
- *P*ress and hold 2 seconds – powers OFF the Touch panel and projector
- Press and hold 10 seconds – enables a factory reset

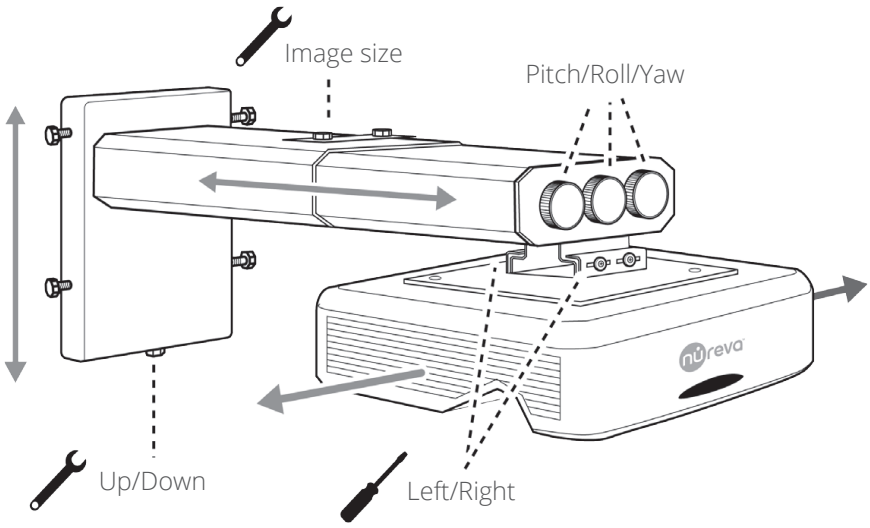
**Presence-detect sensor**
Provides control for auto WAKE/SLEEP functions. Settings are controlled within Nureva Room Manager

**LED backlit**
See the LED state map in the appendix for details.

# Cleaning your touch panel

Use dry-erase cleaner, or a damp cloth to clean the WM408i touch panel. Avoid abrasive cleaning agents such as a scrubbing sponge.

# Wall mount adjustments



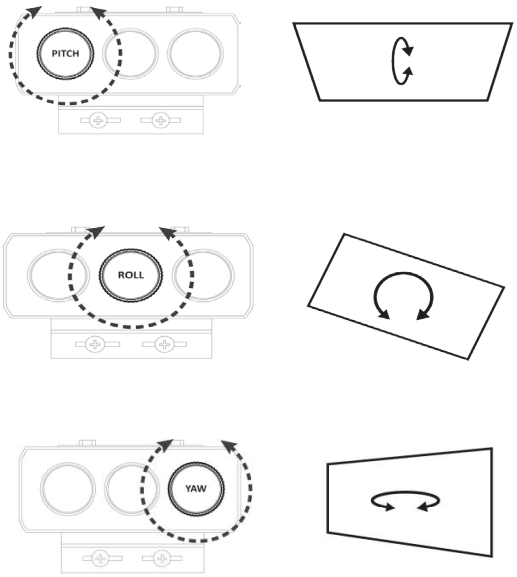




**Image size**
Adjusts the image size (diagonal) by moving the telescopic mount in or out.

**Up/Down**
Adjusts the landed image up or down.

**Left/Right**
Adjusts the left/right position of the landed image.

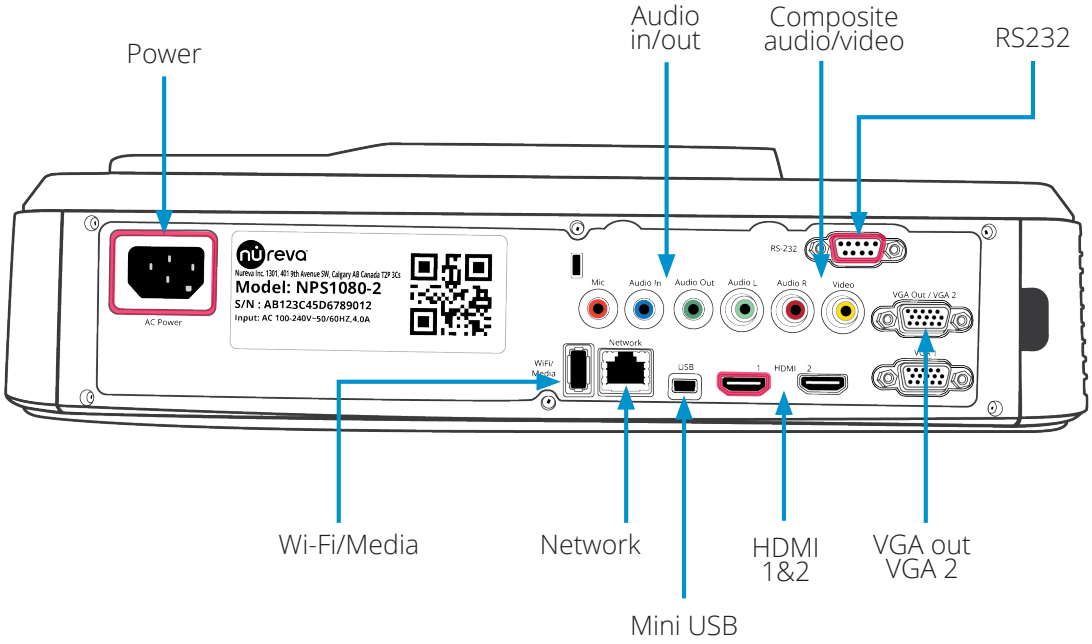
**Pitch**
Adjusts the landed image vertical keystone. Use this adjustment when the top or the bottom of the image is larger or smaller and in a trapezoid shape.

**Roll**
Adjusts the landed image tilt or roll. Use this adjustment when the image appears to be off-level.

**Yaw**
Adjusts the landed image horizontal keystone. Use this adjustment when the left or the right of the image is larger or smaller and in a perspective shape.

**Note:** Once the above mechanical adjustments are complete, use the Wall display system tools in the Nureva Room Manager software to fine-tune the landed image.

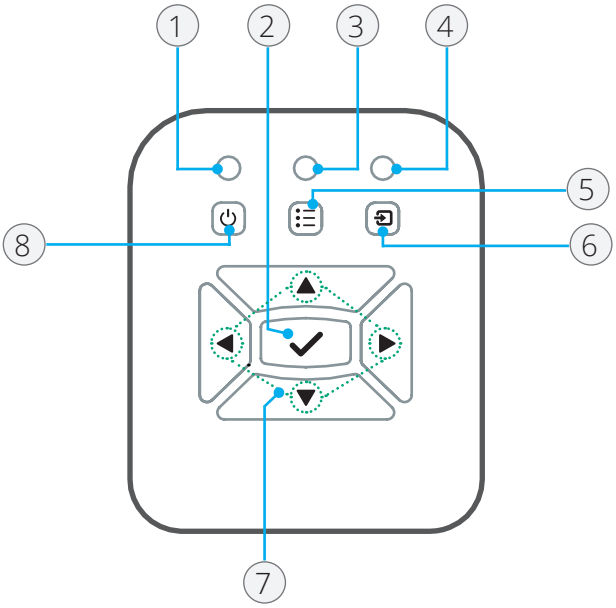
# Projector connections




| Connection | Feature functions |
|---|---|
| Microphone In | Pass through to projector 10W internal speaker |
| Audio In/Out | Loop through |
| Composite video | L/R audio |
| VGA 1 | Video input |
| VGA Out/VGA 2 | Third-party pass-through display |
| HDMI 2 | VIdeo input w. MHL compatibility |
| Mini USB | Service port |
| Network | RJ45 100Base-T bandwidth room-control ready |
| Wi-Fi/media | USB media port |

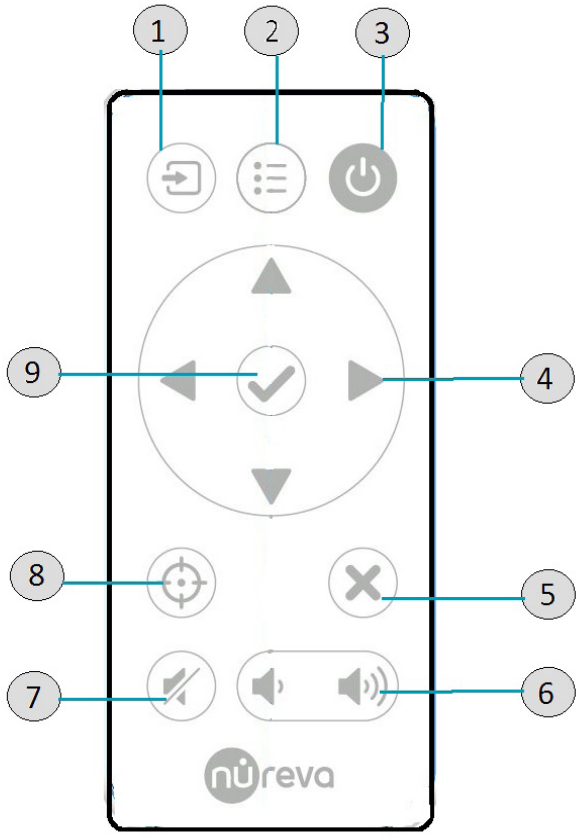
# Control panel

NOTE: Whenever possible, use the buttons on the projector remote control instead of the control panel as this will help prevent shifting or skewing the projected image.




1. **On/standby LED:** Refer to the LED indicator of the projector power status
2. **Enter:** Confirm your item selection
3. **Temp LED:** Refer to the LED indicator of the projector temperature status
4. **SSI LED:** Refer to the LED indicator of the projector light source status
5. **Menu:** Launch the on-screen display menu. To exit the OSD, press the menu button again.
6. **Input:** Select an input signal
7. **Four directional select keys:** Use the arrows to select items or make adjustments to your selections
8. **Power:** Turn the projector on or off

# Remote control




1. **Input source:** Select the input source
2. **Menu:** Launch the on-screen display menu. To exit the OSD, press the cancel button or the menu button again.
3. **Power:** Turn the projector on or off
4. **Four directional select keys:** Select items or make adjustments to your selections
5. **Cancel:** Exit a menu or cancel a selection
6. **Volume:** Adjust the volume level for the projector's speaker
7. **Mute:** Mute the sound from the projector's speaker
8. **Calibrate:** (not yet supported by Nureva Room Manager)
9. **Enter:** Confirm your item selection

# Projector on-screen display menu

The projector has multilingual OSD menus that allow you to make image adjustments and change a variety of settings.

## Navigating the menu

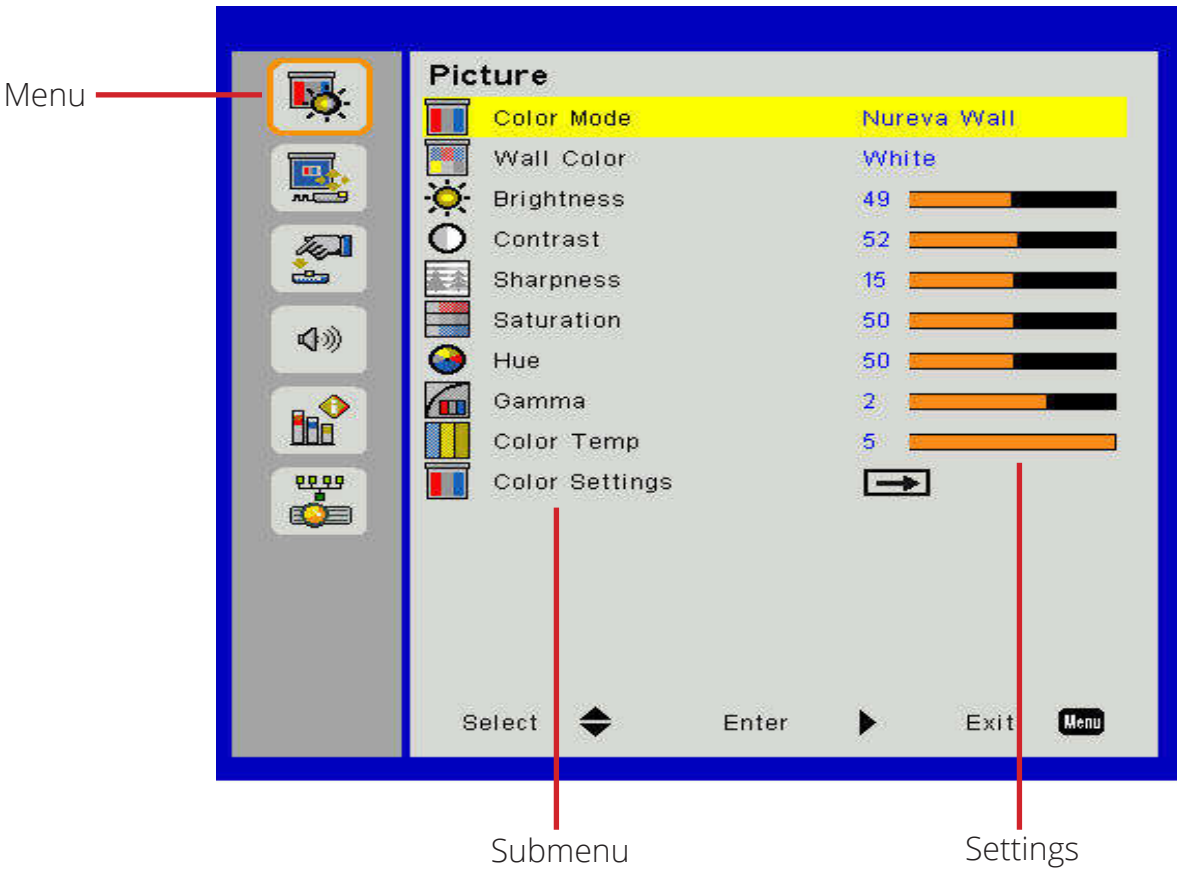
To access the OSD, press the menu button on the projector remote control or control panel.

Use the arrow buttons on the projector remote or control panel to navigate the main menu on the left-hand side. Press the enter button or the right arrow key to enter a submenu.

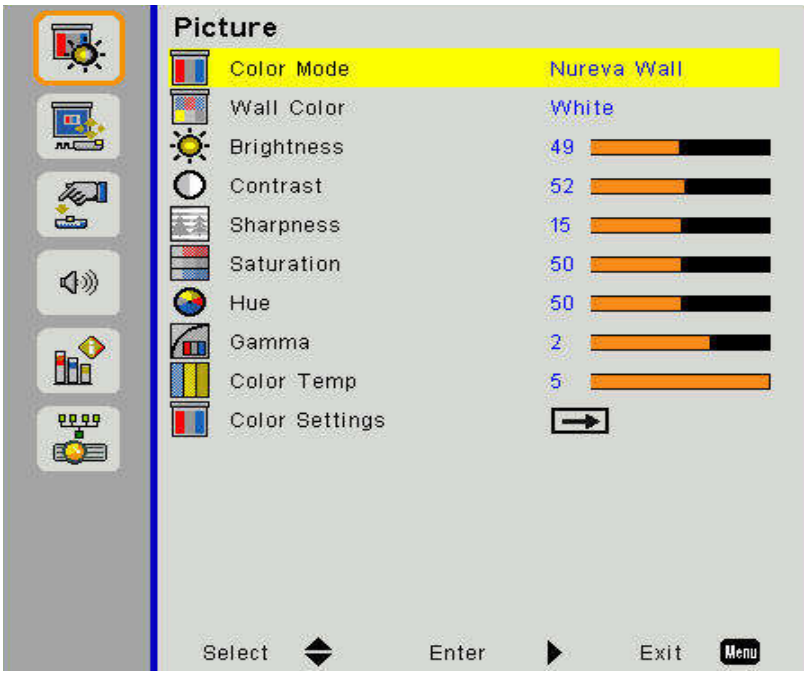
Use the up and down arrow keys to select the desired item in the submenu and the left and right arrow keys to adjust the settings.

Once you have completed the necessary adjustments in the submenu, press the menu button again to return to the menu.

To exit the OSD, press the menu button again or cancel. The new settings will automatically be saved.



# Picture




**Color mode**
Choose from the factory pre-set options or set your own custom color mode:

- Nureva Wall – Color matching for dual displays (default)
- Bright – for brightness optimization
- PC – For meeting presentation
- Movie – For playing video content
- Game – For game content
- User – Custom user settings

**Wall color**
The WM408i default color is white.

**Brightness**
Use the left and right arrows to adjust the brightness of the image.

**Contrast**
Adjust the contrast to control the difference between the lightest and darkest parts of the picture.

**Sharpness – video mode only**
Use the left and right arrows to adjust the sharpness of the image.

**Saturation** – *video mode only*
Adjust the image from fully saturated color to black and white using the left and right arrows.

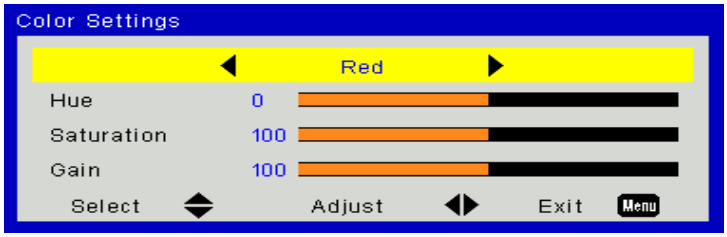
**Hue** – *video mode only*
Adjust the color balance of red and green:

- Press the left arrow to increase the amount of green in the image
- Press the right arrow to increase the amount of red in the image

**Gamma**
Adjust the gamma value to obtain better image contrast for the input.

**Color temp**
Adjust the white balance in 300K increments.

# Color settings




The color settings are sensitive and easy to unbalance. Adjust the picture settings before considering these adjustments.

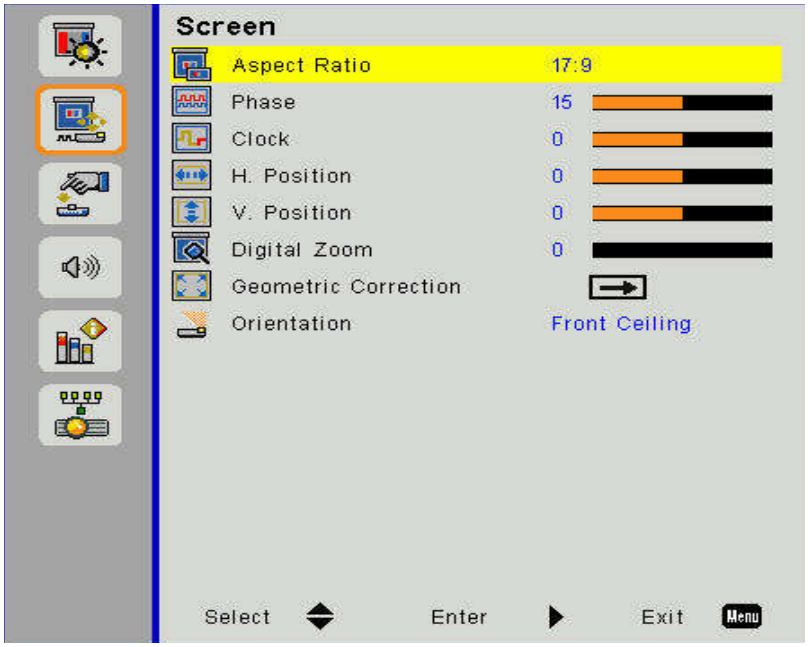
**Color**
Choose which color to adjust on the screen (Red, Green, Blue, Cyan, Magenta or Yellow).

**Hue**
Adjust the RGB levels of the selected color using the left and right arrows.

**Saturation**
Adjust the intensity of the selected color using the left and right arrows.

**Gain**
Adjust the brightness of the selected color using the left and right arrows.

# Screen




**Aspect ratio**

*Auto* – Keep the image's original width-height ratio and maximize the image to fit native horizontal or vertical pixels

17:9 – The default aspect ratio for the Nureva Wall image mode

4:3 – The image will be scaled to fit the screen and displayed 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

**Phase**

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

**Clock**

Adjust to achieve an optimal image when there is vertical flickering.

**Note:** Phase, clock, H. position and V. position are only available for RGB-type (VGA) video input and will be greyed out for HDMI video input.

**H. Position**

Adjust the horizontal position of the image using the left and right arrows. The range of movement will depend on the image source.

**V. Position**

Adjust the vertical position of the image using the left arrow to bring the image up and the right arrow to bring the image down. The range of movement will depend on the image source.

**Digital Zoom**

Use the left arrow to zoom out and the right arrow to zoom in.

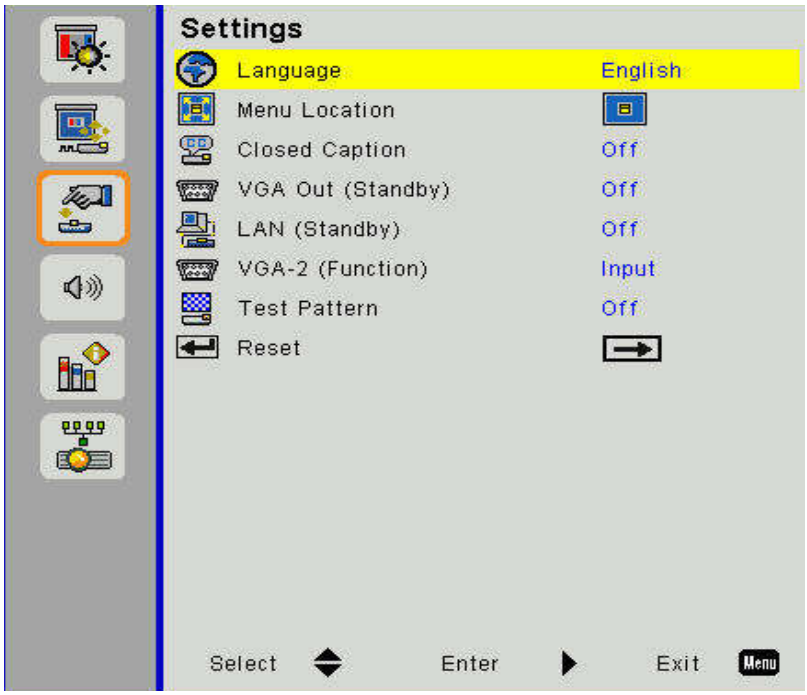
**Geometric correction**

Allows the image to be digitally adjusted via a four-corner independent control.

**Ceiling Mount**

Front – The image will project straight on the screen
Front ceiling – Default selection. When selected the image will turn upside down.
Rear – The image will reverse
Rear ceiling – Image will reverse and flip upside down

# Settings




**Language**
Switch the OSD to a different language:

- Press the right arrow to enter the submenu
- Use the up and down arrows to select the language
- Press the right arrow to finalize the selection

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

**VGA Out (Standby)**
Choose ***On*** to enable VGA Out connection.

**LAN (Standby)**
Choose ***On*** to enable LAN connection. Choose ***Off*** to disable LAN connection.

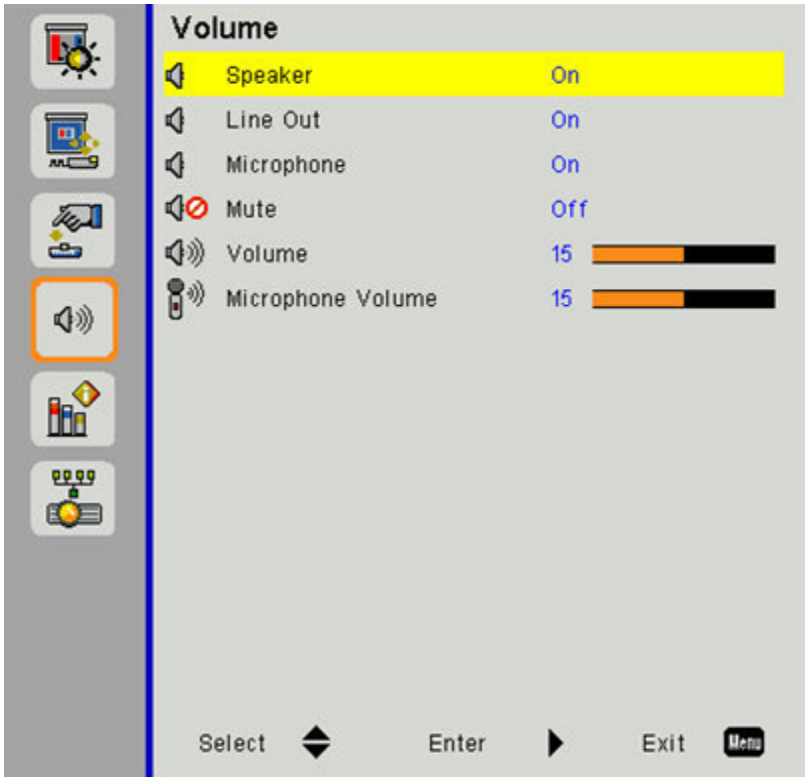
**VGA 2 (Function)**
Input – Choose ***Input*** to allow the VGA port to work as a VGA input function.

Output – Choose ***Output*** to enable the VGA Out function once the projector is powered on.

**Test Pattern**
Display a test pattern.

**Reset**
Return all parameters on all submenus in the OSD to the factory default settings.

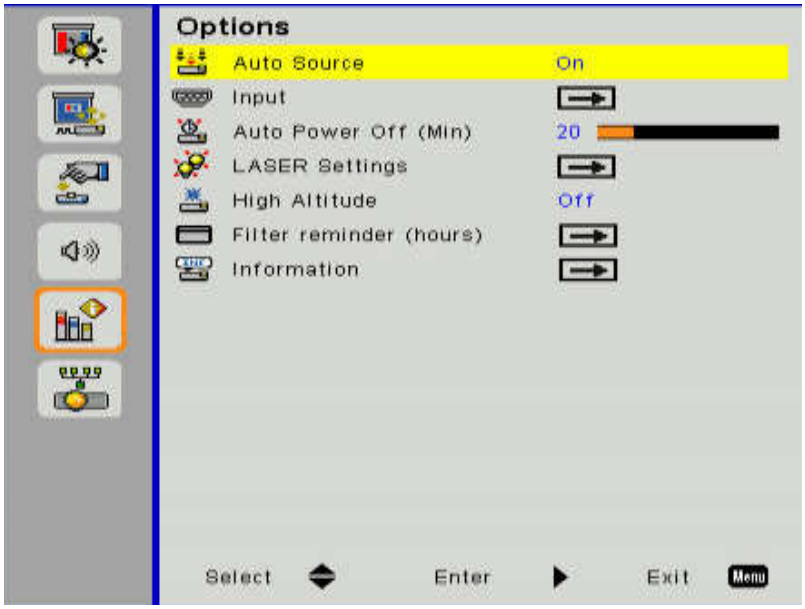
# Volume




**Volume**
Control the following:

- Speaker
- Line out
- Microphone
- Mute
- Volume
- Microphone Volume

# Options




**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**

Click on the arrow to enable or disable input sources. The projector will not search for inputs that are not selected.

**Auto Power Off (Min)**

Set the countdown timer interval. The countdown timer will start once the projector stops receiving signals. When the countdown is finished, the projector will automatically power off.

**LASER Settings**

SSI Hours Used (Normal) – Displays the number of hours the projector has been run in normal mode

SSI Hours Used (ECO) – Displays the number of hours the projector has been run in ECO mode

SSI Power Mode – Choose between normal and ECO mode – ECO mode will dim the projector lamp to lower power consumption and extend the lamp life.

**High Altitude**

On – The built-in fans run at high speed. Select this option when using the projector at altitudes above 2,500 ft. (762 m) or higher.

Off – The built-in fans automatically run at a variable speed according to the internal temperature

**Filters Reminder (Hour)**

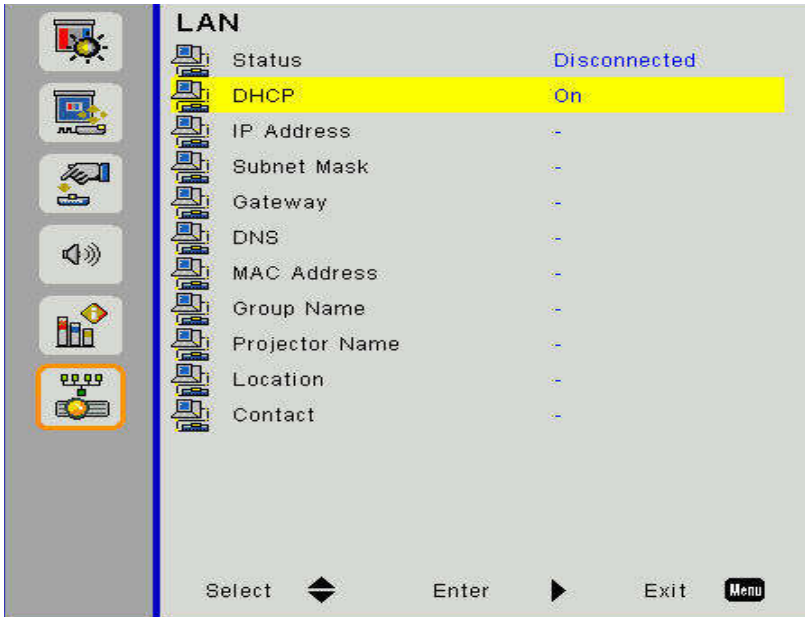
Filters Remind (Hour) – Set when you would like to be reminded to change the filter

Cleaning up Reminder – Select Yes to reset reminder after replacing or cleaning the filter

**Information**

Display the projector information. View the model name, SNID, source, resolution, software version and aspect ratio on the screen.

# LAN




**Status**
Display the network connection status

**DHCP**
Configure the DHCP settings. Choose ***On*** to let the projector obtain an IP address automatically from your network. 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

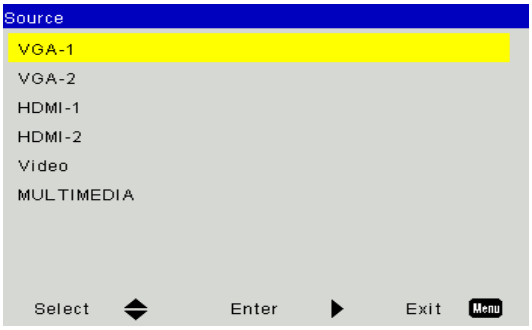
**Group Name**
Display the group name

**Projector Name**
Display the projector name

**Location**
Display the projector location

**Contact**
Display the contact information

# Source




**Source**

Access the input Source menu by pressing the Input Source button on the remote or projector control panel.

- VGA-1
- VGA-2
- HDMI-1
- HDMI-2
- Video
- Multimedia

# Multimedia

Project media files (photos, videos, music, documents) stored on the following devices:

- **Nureva-approved wireless dongle** (available through your reseller) – Wirelessly access the media files stored on your mobile phone, tablet, PC, notebook or desktop
- **USB flashdrive** – Directly access the media files stored in the device

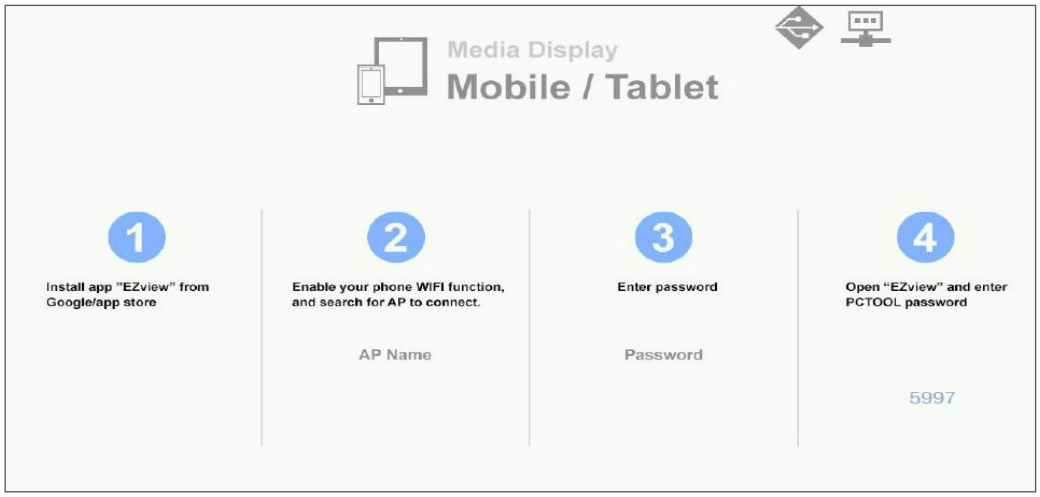
**How to access multimedia mode:**

1. Plug the wireless dongle for your system (available from through your reseller), or USB flash drive into the USB connector at the back of the projector
2. Press the input button on the remote control or on the control panel to turn on the projector. When the input menu appears, press the arrow keys to select the Multimedia, and then the Enter key to confirm.

**Supported file formats**

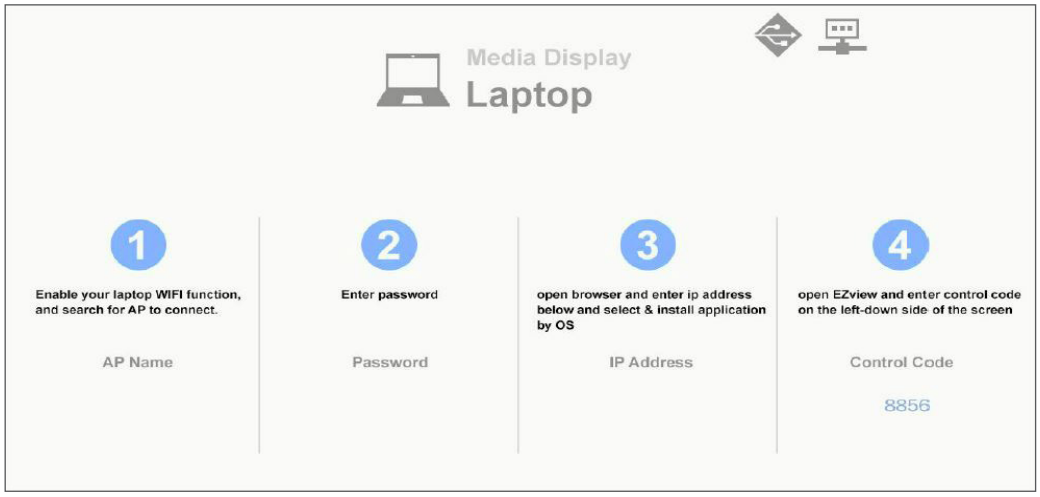
Photo – BMP, JPG, JPEG, PNG
Music – MP3, WMA
Video – AVI, MOV, MP4, RM, RMVB, DAT, MPG, ISO, TS, MKV, VOB AND WMV
Document – Word®, Excel®, PPT®, PDF

# Mobile display




1. On the multimedia menu, select *Mobile/Tablet*
2. On your mobile device or tablet PC, download the EZ-view application from the App Store (iOS) or the Play Store (Android™)
3. Enable your mobile device or tablet PC's Wi-Fi function, and search the AP name listed in the Wi-Fi network list.
4. Enter the password when prompted
5. Launch the EZ-view application and enter the PCTOOL password
6. Wait until the connection is established. Now the media files on your mobile device or tablet PC can be accessed using the projector.

# Laptop display

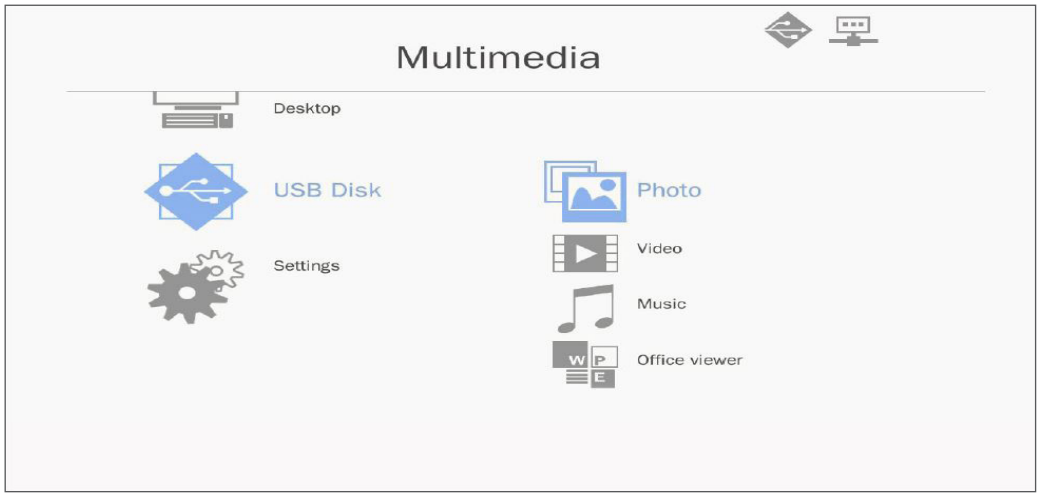



1. On multimedia menu, select ***Laptop***
2. Enable your laptop or notebook Wi-Fi function, and search the AP name listed in the Wi-Fi network list
3. Enter the password when prompted
4. Open your web browser and enter the IP address
5. Select ***Wi-Fi*** on the left side of the screen and install the application required by the operating system
6. Launch the EZview application and enter the control code shown on the bottom right side of the screen
7. Wait until the connection is established. The media files on your laptop or notebook can now be accessed using the projector.

# Desktop display

1. On the multimedia menu, select ***Desktop***
2. Open your web browser and enter the IP address
3. Then select Wi-Fi on the left side of the screen and install the application required by your operating system
4. Launch EZview application and enter the control code shown on the bottom right side of the screen
5. Wait until the connection is established. The media files on your desktop can now be accessed using the projector.

# USB storage display




1. On the multimedia menu, select ***USB Disk***
2. Use the arrow keys to select the file category and press ***Enter***
3. Use the arrow keys to select the file to view or play and press ***Enter*** to confirm

# Configuring multimedia display settings

1. On the multimedia menu, select ***Settings***
2. Use the arrow keys to choose the desired menu option and press ***Enter*** to access the submenu for your selection

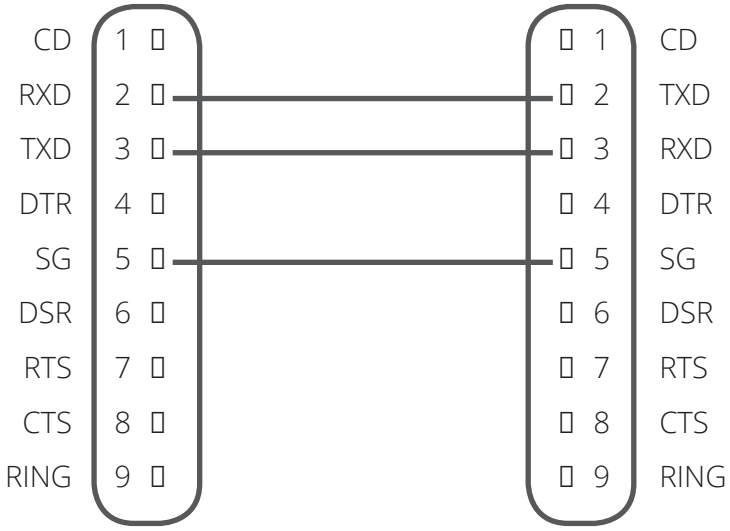
   Menu options:
   - System – View the firmware version and update firmware
   - Video – Change the display ratio and set the repeat mode
   - Photo – Change the display ratio, slideshow pattern and slideshow duration
   - Music – Set the repeat mode
   - Wi-Fi – Configure the Wi-Fi connection
3. Use the arrow keys to select or adjust the setting, and press ***Enter*** to confirm

# RS232 commands

## RS232 port setting

| Items | Method |
|---|---|
| Communication method | Asynchronus communication |
| Bits per seconds | 19,200 |
| Data bits | 8 bits |
| Parity | None |
| Stop bits | 1 |
| Flow control | None |

## RS232 signals connection



# Commands set list

### Control command syntax
[Command][Space][Value]
Note : There is a <CR> after all ASCII commands, 0x0D is <CR> in ASCII code

### UART connection settings
Baud rate : 19200
Data bits : 8
Parity : None
Stop bits : 1

Control command example : Power on
#0100 1 (ASCII code)

### Projector return
Pass : P
Fail : F

## Write commands

| Command description | ASCII command | Value (n) | Projector response | Resulting control |
|---|---|---|---|---|
| Projector power control | #0100 n | 0 / 1 | P / F | "0 : Off<br>1 : On" |
| Remote Control emulator | #0101 n | 1 ~ 10 | P / F | 1: Up<br>2: Left<br>3: Right<br>4: Down<br>5: Menu<br>6: Source<br>7: Keystone +<br>8: Keystone –<br>9: Volume +<br>10: Volume -" |
| Video Mute (Blank) | #0103 n | 0 / 1 | P / F | 0: On<br>1: Off" |
| Video Freeze (Image) | #0104 n | 0 / 1 | P / F | 0: Unfreeze<br>1: Freeze" |
| Input Source | #0105 n | | P / F | 1 : VGA 1<br>2 : VGA 2<br>3 : HDMI 1<br>4 : HDMI 2<br>5 : Video<br>6 : Multimedia" |
| Color Mode | #0110 n | 1 ~ 6 | P / F | 1 : Bright<br>2 : PC<br>3 : Movie<br>4 : Game<br>5 : Nureva Wall<br>6 : User" |
| Brightness | #0111 n | 0 ~ 100 | P / F | |
| Contrast | #0112 n | 0 ~ 100 | P / F | |
| Sharpness | #0113 n | 0 ~ 31 | P / F | |
| Aspect Ratio | #0120 n | 1 ~ 4 | P / F | 1: Auto<br>2: 4:3<br>3: 16:9<br>4: 17:9" |

| Write commands | | | | |
|---|---|---|---|---|
| Command description | ASCII command | Value (n) | Projector response | Resulting control |
| Zoom In/Out | #0121 n | 0 / 1 | P / F | "0: Zoom -<br>1: Zoom +" |
| Keystone settings | #0122 n | -40 ~ 40 | P / F | |
| Display orientation | #0123 n | 1 ~ 4 | P / F | 1 : Front<br>2 : Rear<br>3 : Front Ceiling<br>4 : Rear Ceiling" |
| Language | #0130 n | 1 ~ 19 | P / F | 1 : English<br>2 : German<br>3 : Swedish<br>4 : French<br>5 : Arabic<br>6 : Dutch<br>7 : Norwegian<br>8 : Danish<br>9 : Simplified Chinese<br>10 : Polish<br>11 : Korean<br>12 : Russian<br>13 : Spanish<br>14 : Traditional Chinese<br>15 : Italian<br>16 : Portuguese<br>17 : Turkish<br>18 : Japanese<br>19 : Czech" |
| Menu Location | #0131 n | 1 ~ 5 | P / F | "1: Top Left<br>2: Top Right<br>3: Center<br>4: Bottom Left<br>5: Bottom Right" |
| Factory Reset | #0132 n | 1 | P / F | |
| Volume - Mute | #0140 n | 0 / 1 | P / F | "0 : Off<br>1 : On" |
| Volume - Setting | #0141 n | 0 ~ 30 | P / F | |
| Volume - Microphone | #0142 n | 0 ~ 30 | P / F | |
| Auto Power Off (min) | #0150 n | 0 ~ 120 | P / F | Step increments = 5 |
| High Altitude setting | #0151 n | 0 / 1 | P / F | "0 : Off<br>1 : On" |
| Touch calibration | #0161 n | 1 | P / F | Initiate |
| "4-corner adjustment<br>(x/y co-ordinates)" | #0170 n | "0000 0000<br>1919 0000<br>1919 1015<br>0000 1015" | P / F P / F | "top-left,<br>top-right,<br>bottom-right,<br>bottom-left " |
| "4-corner Reset<br>(x/y co-ordinates)" | #0171 n | 1 | P / F | Reset according to<br>Aspect ratio |

| Read commands | | | | |
|---|---|---|---|---|
| Command description | ASCII command | Value (n) | Projector response | Resulting control |
| Aspect Ratio | #01120 n | 1 | Okn | n = 1; Auto<br>n = 2; 4:3<br>n = 3; 16:9<br>n = 4; 17:9″ |
| Input Source | #01160 n | 1 | Okn | n = 0; None<br>n = 1; VGA1<br>n = 2; VGA2<br>n = 3; HDMI1<br>n = 4; HDM2l<br>n = 5; Video<br>n = 6; Multimedia″ |
| Sofware Version | #01161 n | 1 | Okddd | ddd = FW version |
| System information | #01162 n | 1 | Okabbbbbccdddee | a = Power Status<br>b = LD Hours<br>c = Input Source<br>d = Firmware Version<br>e = Color mode (1- Bright; 2 - PC; 3 - Movie; 4 - Game; 5- Nureva Wall; 6 - User)″ |
| Projector serial number | #01163 n | 1 | Okaaaaaaaaaaaaaaa | Serial number |
| Projector power state | #01164 n | 1 | Okn | n = 0; Off<br>n = 1; On″ |
| 4-corner co-ordinates | #01170 n | 1 | Okn | n = 0000 0000 1919 0000 1919 1015 0000 1015 |

# Wake-on-LAN (WOL) requirements

## Room controller configurations

In compliance with the new industry low-power standby power consumption requirements for products which support LAN function (Regulatory ErP Lot 26 Tier 3), the Standby power consumption drops from 3W to 2W. The Nureva projector supports a AM8250 Multimedia/LAN control chip which has a STDBY mode >2W, and to abide by this requirement, the chipset functionality requires a WOL (Wake On LAN) command prior to the Crestron/Extron commands for LAN standby mode.

Nureva has tested and recommends the following approach:

*In the projector OSD*

1. Go to the Settings page
2. Set LAN (Standby) to ON (see page 11)
3. Go to the LAN page
4. Set DHCP to ON (see page 14)
5. Record the IP address and Mac address. Also, reserve the IP address (static) in your router or server.

*Within the third-party controller*

Send a WOL command (aka 'Magic packet') using the MAC Address via the User Datagram Protocol (UDP). Do not send the standard "ON" command as this will not Wake the projector due to the new EuP requirements.

Once the projector is ON, the normal command set will function.

- • The command syntax is used for both RS232 & RJ45 LAN
- • RJ45 LAN protocol is supported by ANY third-party control application (not just the few we highlight)
- • WOL is required for each instance of bringing the projector out of STDBY; due to updated ErP Lot 26 Tier 3 power regulations
- • The following TCP / UDP port socket connections apply:

| Crestron | Extron | AMX | TELNET |
|---|---|---|---|
| Port: 41794 | Port: 2023 | Port: 1023 | Port: 23 |

To help with WOL compatibility, consider turning off your Nureva Wall presence detection feature.

# Crestron® room control

Crestron RoomView™ is a program that monitors each projector, including the projector's online status, system power, network setting and hardware faults, plus any custom attributes defined by the administrator.

For more information on Crestron, including purchasing or downloading RoomView, go to

http://www.crestron.com or www.crestron.com/getroomview.

**Note:** RoomView's function is set according to the products' models and specifications.

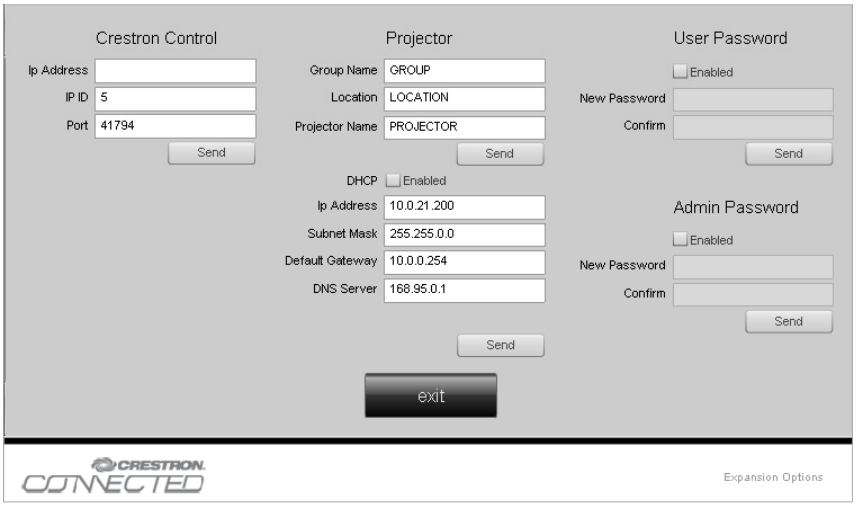
**Note:** In the Nureva Wall WM408i configuration, the RS232 port is used for projector-level control assigned to the Nureva Touch Panel for presence-detect WAKE/SLEEP. Therefore the RJ45 port must be used for extended Crestron-ready room control commands.

## Main page

**Settings**

- Power
- Volume –
- Volume +
- Mute
- VGA–1
- VGA–2
- Composite
- Multimedia
- HDMI–1
- HDMI–2
- Enter
- Menu
- Up, Down, Left, Right
- Freeze
- Contrast
- Brightness
- Color
- Sharpness

# Tool page

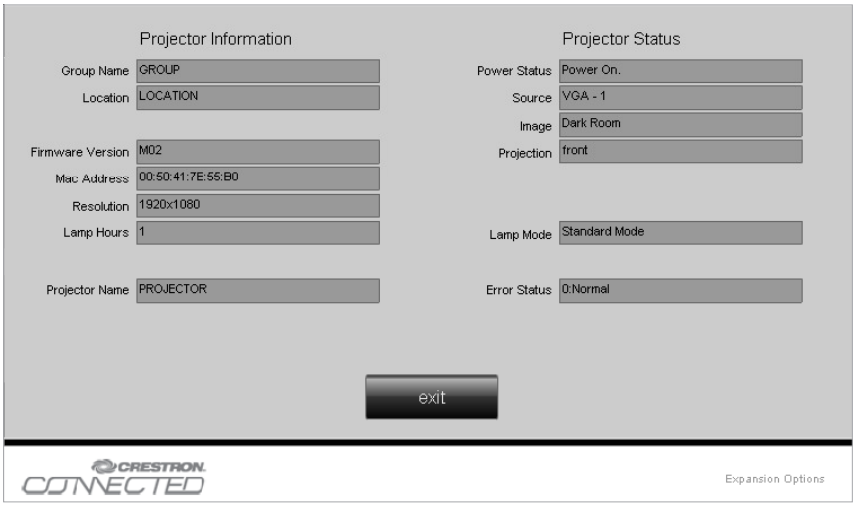



**Settings**

- IP Address
- IP ID
- Port
- Group Name
- Location
- Projector Name
- DHCP
- IP Address
- Subnet Mask
- Default Gateway
- DNS Server
- User Password
- Admin Password

**Note:** LAN 9standby) must be st to ON (see page 7) to allow the projector to communicate over the network when in standby mode.

# Information page




**Settings**

- Group Name
- Location
- Firmware Version
- Mac Address
- Resolution
- SSI Hours
- Projector Name
- Power Status
- Source
- Image
- Projection
- Error Status

# Web browser projector control

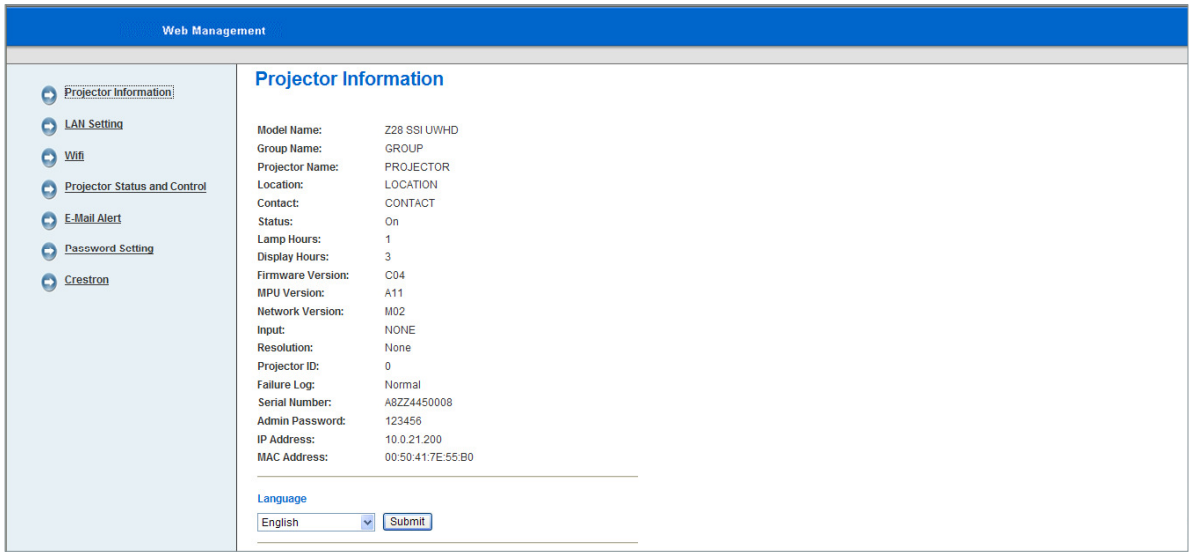
## Enable web browser control on the projector

Manage your projector settings over a web graphic user interface (GUI) using the steps in this section.

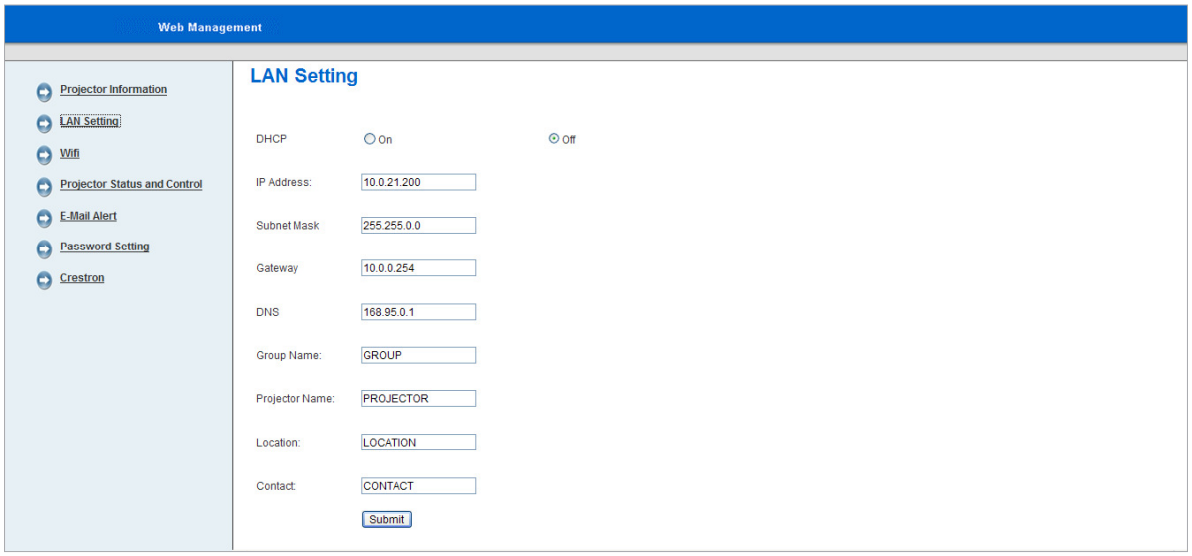
**Note:** This feature requires connection to a network through the RJ45 port.

1. On the Network settings page in the projector's OSD, turn on DHCP
2. Open your browser and type in the IP address assigned to the projector as shown in the Network Settings in the OSD

# Projector information

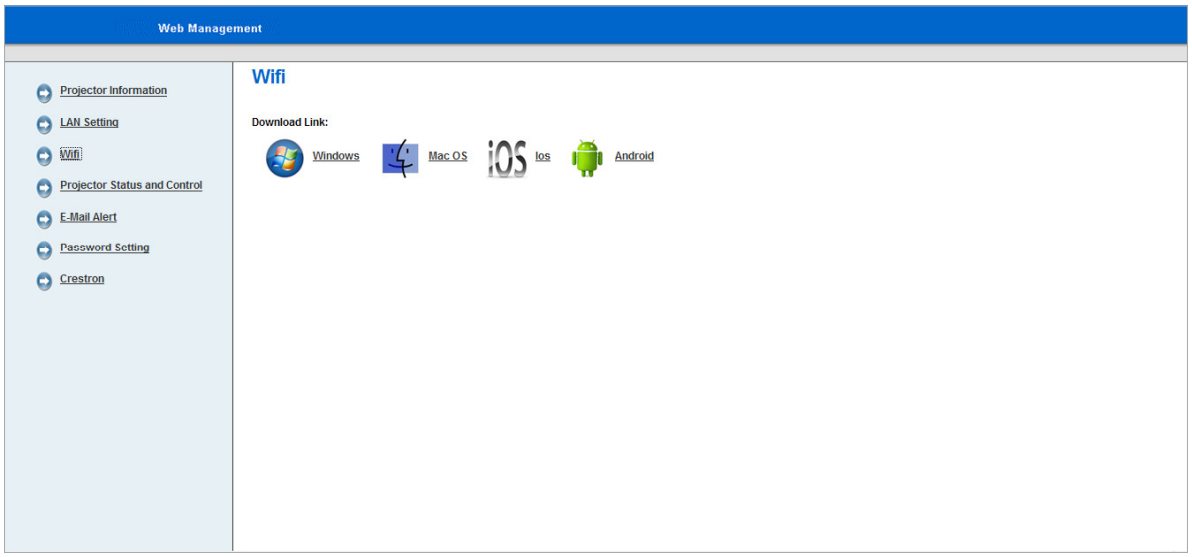


# LAN setting



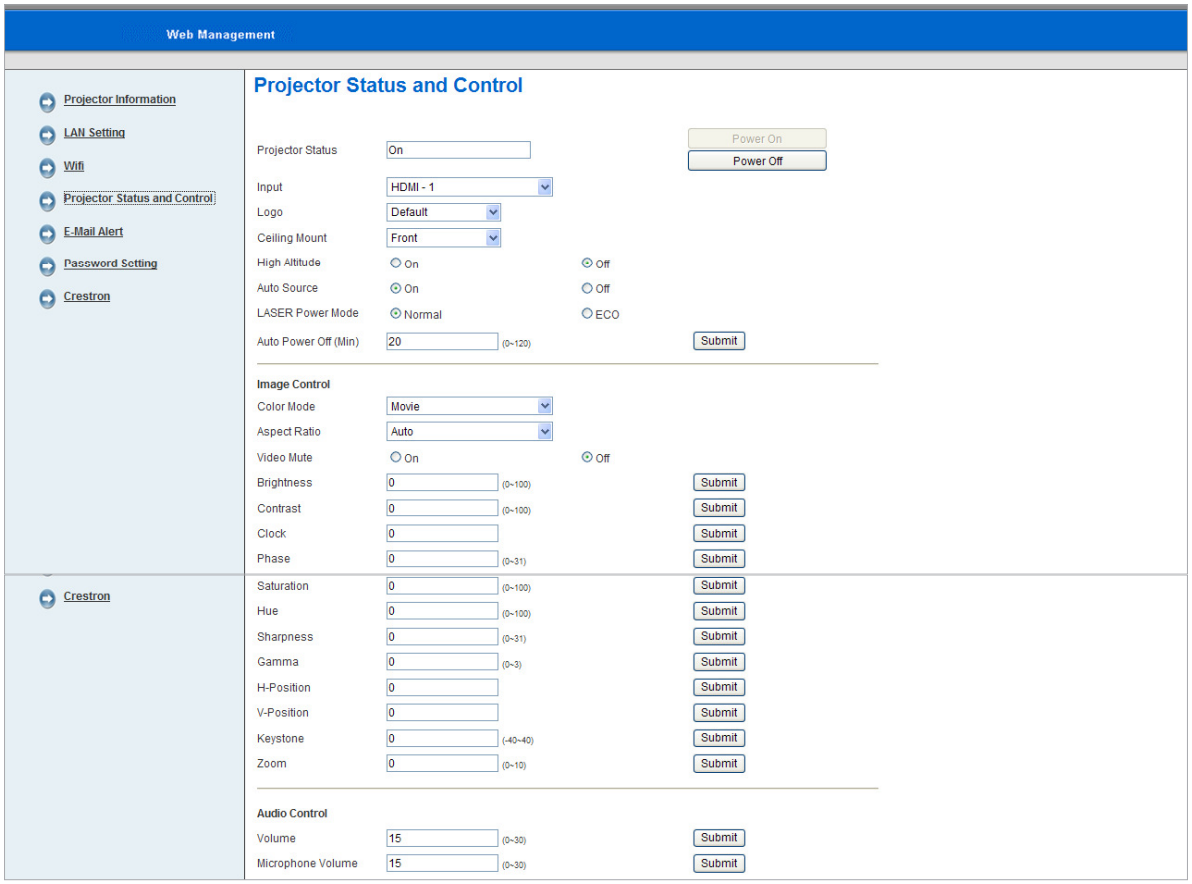

| Setting | Default |
|---|---|
| DHCP | Off |
| IP Address | 10.0.21.200 |
| Subnet Mask | 255.255.0.0 |
| Gateway | 10.0.0.254 |
| DNS | 0.0.0.0 |
| Group name | GROUP |
| Projector name | PROJECTOR |
| Location | LOCATION |
| Contact | N/A |

# Wi-Fi



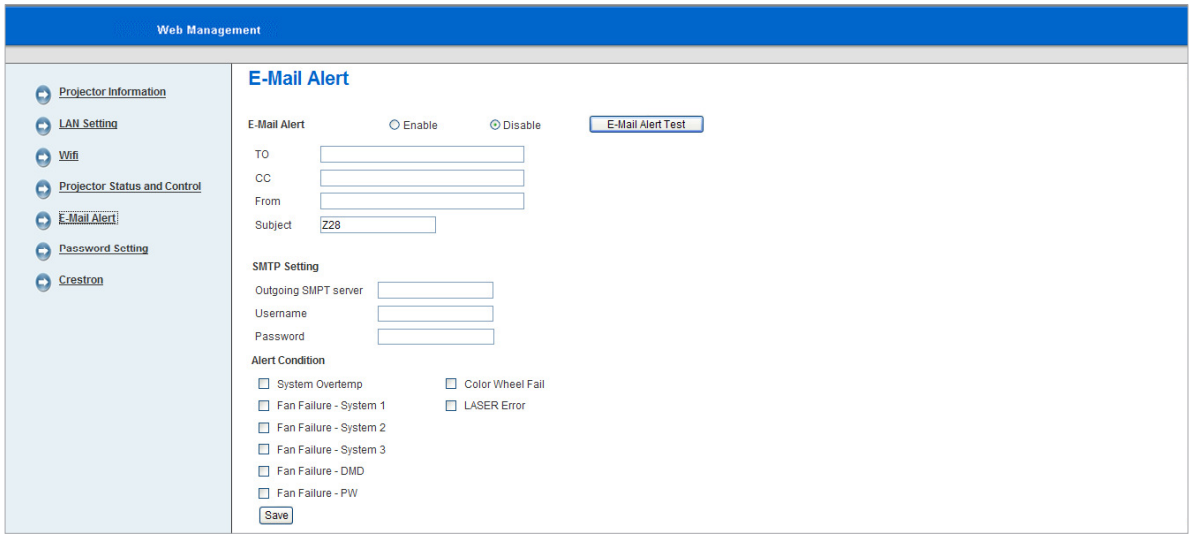

| Setting | Value/Range |
|---|---|
| App download link | Windows™/MacOS/iOS/Android (for multimedia only) |

# Projector status and control



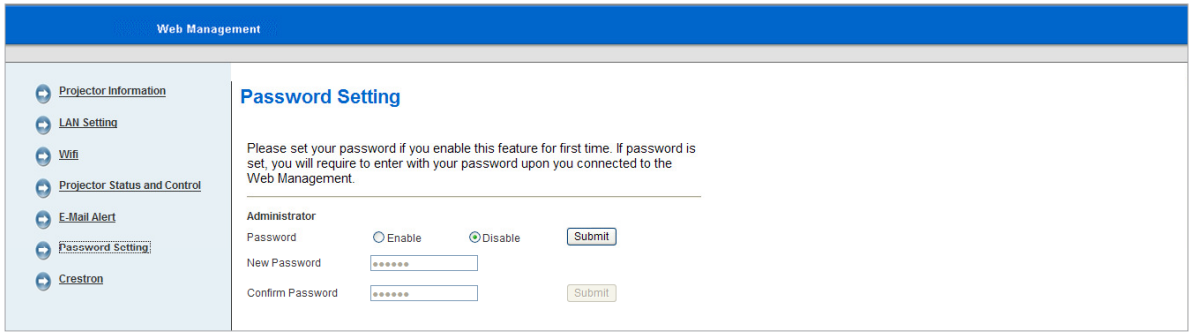

| Setting | Value/range | Default |
|---|---|---|
| Projector Status | On/Off/Powering/Cooling | Off |
| Input | HDMI1/HDMI2/VGA1/VGA2/Composite/Multimedia | |
| Logo | Default/User | Default |
| Ceiling Mount | Front/Front ceiling/Rear/Rear ceiling | Front ceiling |
| High Altitude | On/Off | Off |
| Auto Source | On/Off | On |
| LASER Power Mode | Normal/ECO | Normal |
| Auto Power Off (min) | 0~120 (step: 5) | 20 |
| Color Mode | PC/Bright/Movie/Game/User | PC |
| Aspect Ratio | Auto/4:3/16:9/16:10/Ultrawide | Auto |
| Video Mute | On/Off | Off |
| Brightness | 0~100 | 50 |
| Contrast | 0~100 | 50 |
| Clock | Depend on source | |
| Phase | Depend on source | |
| Saturation | 0~100 | 50 |
| Hue | 0~100 | 50 |
| Sharpness | 0~31 | 16 |
| Gamma | 0~3 | |
| H-Position | Depend on source | |
| V-Position | Depend on source | |
| Keystone | -40~40 | 0 |
| Zoom | 0~10 | 0 |
| Volume | 0~30 | 15 |
| Microphone Volume | 0~30 | 15 |

# Email alert




| Setting | Default |
|---|---|
| E-mail alert | Disabled |
| TO | |
| CC | |
| From | |
| Subject | |
| Outgoing SMPT server | |
| Username | |
| Alert Condition | Empty |

# Password setting




| Setting | Default |
|---|---|
| Password | Enable/Disable |
| New Password | |
| Confirm Password | |

# Video compatibility modes

## VGA analog

| a. PC signal | | | |
|---|---|---|---|
| Modes | Resolution | V. Frequency (Hz) | H. Frequency [Hz] |
| VGA | 640 x 480 | 60 | 31.5 |
| | 640 x 480 | 67 | 35.0 |
| | 640 x 480 | 72 | 37.9 |
| | 640 x 480 | 75 | 37.5 |
| | 640 x 480 | 85 | 43.3 |
| IBM | 720 x 400 | 70 | 31.5 |
| SVGA | 800 x 600 | 56 | 35.1 |
| | 800 x 600 | 60 | 37.9 |
| | 800 x 600 | 72 | 48.1 |
| | 800 x 600 | 75 | 46.9 |
| | 800 x 600 | 85 | 53.7 |
| Apple®, MAC II | 832 x 624 | 75 | 49.1 |
| XGA | 1024 x 768 | 60 | 48.4 |
| | 1024 x 768 | 70 | 56.5 |
| | 1024 x 768 | 75 | 60.0 |
| | 1024 x 768 | 85 | 68.7 |
| | 1024 x 768 | 120 | 99.0 |
| Apple, MAC II | 1152 x 870 | 75 | 68.7 |
| SXGA | 1280 x 1024 | 60 | 64.0 |
| | 1280 x 1024 | 72 | 77.0 |
| | 1280 x 1024 | 75 | 80.0 |
| QuadVGA | 1280 x 960 | 60 | 60.0 |
| | 1280 x 960 | 75 | 75.2 |
| SXGA + | 1400 x 1050 | 60 | 65.3 |
| UXGA | 1600 x 1200 | 60 | 75.0 |

## VGA analog continued

| b. Extended wide timing | | | |
|---|---|---|---|
| Modes | Resolution | V. Frequency (Hz) | H. Frequency [Hz] |
| WXGA | 1280 x 720 | 60 | 44.8 |
| | 1280 x 800 | 60 | 49.6 |
| | 1366 x 768 | 60 | 47.7 |
| | 1440 x 900 | 60 | 59.9 |
| WSXGA X + | 1680 x 1050 | 60 | 65.3 |

| c. Component signal | | | |
|---|---|---|---|
| Modes | Resolution | V. Frequency (Hz) | H. Frequency [Hz] |
| 480i | 720 x 480 (1440 x 480) | 59.94 (29.97) | 15.7 |
| 576i | 720 x 567 (1440 x 576) | 50 (25) | 15.6 |
| 480p | 720 x 480 | 59.94 | 31.5 |
| 576p | 720 x 576 | 50 | 31.3 |
| 720p | 1280 x 720 | 60 | 45.0 |
| | 1280 x 720 | 50 | 37.5 |
| 1080i | 1920 x 1080 | 30 (30) | 33.8 |
| | 1920 x 1080 | 50 (25) | 28.1 |
| 1080p | 1920 x 1080 | 2398/24 | 27.0 |
| | 1920 x 1080 | 60 | 67.5 |
| | 1920 x 1080 | 50 | 56.3 |

# HDMI digital

| d. PC signal | | | |
|---|---|---|---|
| Modes | Resolution | V. Frequency (Hz) | H. Frequency [Hz] |
| VGA | 640 x 480 | 60 | 31.5 |
| | 640 x 480 | 67 | 35.0 |
| | 640 x 480 | 72 | 37.9 |
| | 640 x 480 | 75 | 37.5 |
| | 640 x 480 | 85 | 43.3 |
| IBM | 720 x 400 | 70 | 31.5 |
| SVGA | 800 x 600 | 56 | 35.1 |
| | 800 x 600 | 60 | 37.9 |
| | 800 x 600 | 72 | 48.1 |
| | 800 x 600 | 75 | 46.9 |
| | 800 x 600 | 85 | 53.7 |
| Apple, MAC II | 832 x 624 | 75 | 49.1 |
| XGA | 1024 x 768 | 60 | 48.4 |
| | 1024 x 768 | 70 | 56.5 |
| | 1024 x 768 | 75 | 60.0 |
| | 1024 x 768 | 85 | 68.7 |
| | 1024 x 768 | 120 | 99.0 |
| Apple, MAC II | 1152 x 870 | 75 | 68.7 |
| SXGA | 1280 x 1024 | 60 | 64.0 |
| | 1280 x 1024 | 72 | 77.0 |
| | 1280 x 1024 | 75 | 80.0 |
| Quad VGA | 1280 x 960 | 60 | 60.0 |
| | 1280 x 960 | 75 | 75.2 |
| SXGA + | 1400 x 1050 | 60 | 65.3 |
| UXGA | 1600 x 1200 | 60 | 75.0 |

# HDMI digital continued

| e. Extended wide trimming | | | |
|---|---|---|---|
| Modes | Resolution | V. Frequency (Hz) | H. Frequency [Hz] |
| WXGA | 1280 x 720 | 60 | 44.8 |
| | 1280 x 800 | 60 | 49.6 |
| | 1366 x 768 | 60 | 47.7 |
| | 1440 x 900 | 60 | 59.9 |
| WSXGA + | 1680 x 1050 | 60 | 65.3 |

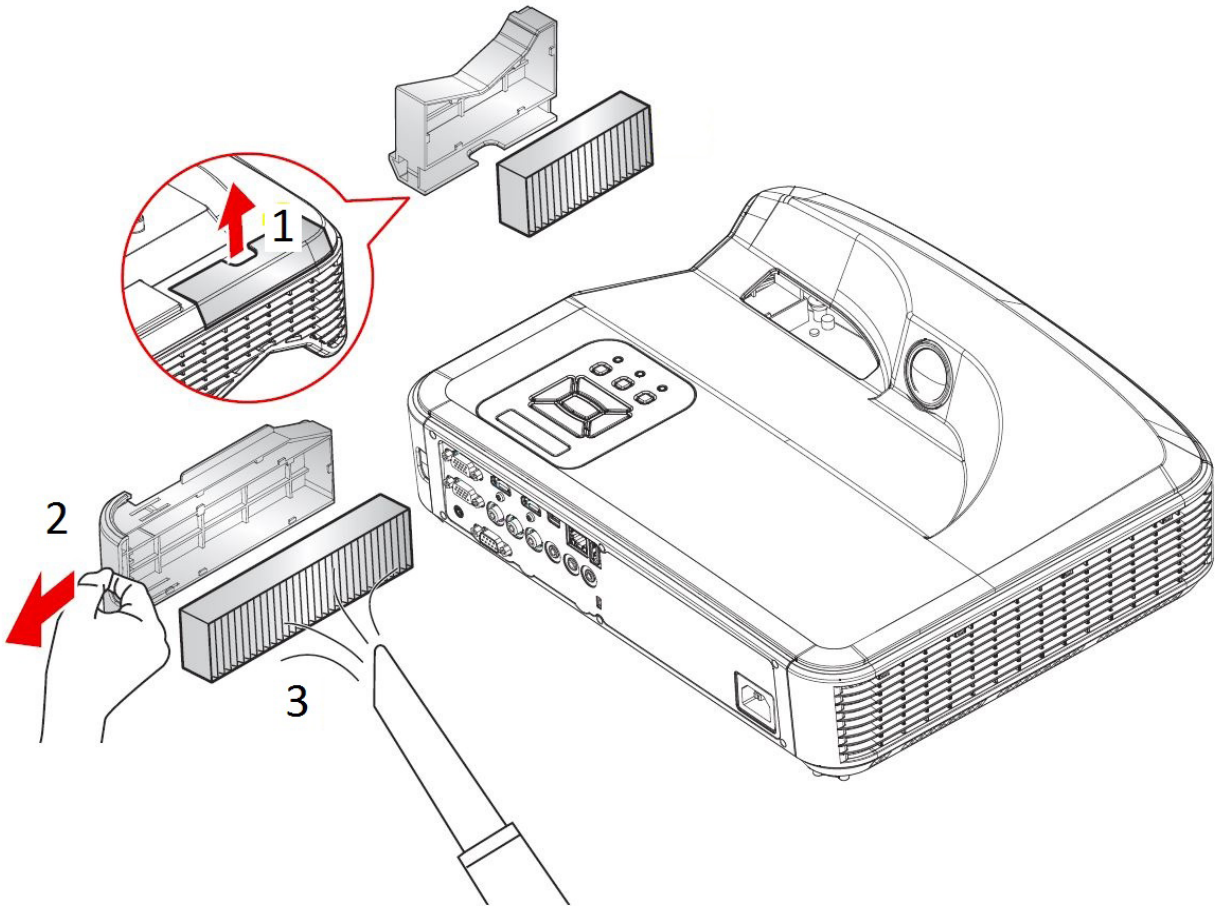
| f. Video signal | | | |
|---|---|---|---|
| Modes | Resolution | V. Frequency (Hz) | H. Frequency [Hz] |
| 480p | 640 x 480 | 59.94/60 | 31.5 |
| 480i | 720 x 480 (1440 x 480) | 59.94 (29.97) | 15.7 |
| 576i | 720 x 576 (1440 x 576) | 50 (25) | 15.6 |
| 480p | 720 x 480 | 59.94 | 31.5 |
| 576p | 720 x 576 | 50 | 31.3 |
| 720p | 1280 x 720 | 60 | 45.0 |
| | 1280 x 720 | 50 | 37.5 |
| 1080i | 1920 x 1080 | 60 (30) | 33.8 |
| | 1920 x 1080 | 50 (25) | 28.1 |
| 1080p | 1920 x 1080 | 23.98/24 | 27.0 |
| | 1920 x 1080 | 60 | 67.5 |
| | 1920 x 1080 | 50 | 56.3 |

| g. HDMI 1.4a mandatory 3D timing - video signal | | | |
|---|---|---|---|
| Modes | Resolution | V. Frequency (Hz) | H. Frequency [Hz] |
| Frame packing | 720p | 50 | 31.5 |
| | 720p | 59.94/60 | 15.7 |
| | 1080p | 23.98/24 | 15.6 |
| Side-by-side (half) | 1080i | 50 | 31.5 |
| | 1080i | 59.94/60 | 31.3 |
| Top and bottom | 720p | 50 | 45.0 |
| | 720p | 59.94/60 | 37.5 |
| | 1080p | 23.98/24 | 33.8 |

# Installing and cleaning the dust filter

We recommend cleaning the filter annually. If you are operating the projector in a dusty environment, we recommend cleaning the filter after every 2,500 hours of use.

New filters can be ordered via orders@nureva.com using the service part number SRV-FILTER.




Before you begin, turn the projector off and unplug the power cord.

1. Pull the dust filter container out from the projector
2. Carefully remove the dust filter from the dust filter container
3. Either clean the filter or replace it with a new filter
4. Put the dust filter container back inside the projector and press the power button to turn the projector on
5. Press the menu button to enter the OSD, select the options menu and use the Filters Remind option to reset the counter

# Regulation and safety notices

## 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/*Remarque à l'intention des utilisateurs Canadiens*

This Class B digital apparatus complies with Canadian ICES-003.
*Cet appareil numerique de la classe B est conforme a la norme NMB-003 du Canada.*

# Regulation and safety notices

## 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

## WEEE Statement

To return any product for proper treatment and recycling, contact your local authority or your local reseller.

## SAFETY WARNINGS AND IMPORTANT INFORMATION

**WARNING:** Never operate this system if it is damaged. Do not open or modify the parts or accessories. Do not use with parts or accessories not recommended by the manufacturer. Contact your reseller with questions regarding replacement parts.

**WARNING:** The projector is a Class 2 laser device. Do not stare into projector beam. The bright light may result in permanent eye damage.

**IMPORTANT:** This projector is a Class 2 laser device that conforms to IEC 60825-1: 2007 and CFR 1040.10 and 1040.11. Except for deviations to Laser Notice No.50 dated June 24 2007.

**IMPORTANT:** Carefully inspect installation area.

- Avoid areas with high temperatures, humidity or concentration of dust (such as near vents or air conditioners)
- Ensure the projector gets adequate ventilation
- Do not install on walls subject to vibrations and shocks

**IMPORTANT:** Do not use chemical or abrasive cleaners on the equipment

**IMPORTANT:** Avoid touching the optical components to prevent scratches

# PRÉCAUTIONS DE SÉCURITÉ INFORMATION IMPORTANT

**AVERTISSEMENT:** Ne faites jamais fonctionner ce système s'il est endommagé. N'ouvrez ni modifiez jamais lescomposants de l'appareil. Ne modifiez pas les accessoires ni l'utiliser avec les composants non recommandés par le fabricant. Contactez votre revendeur si vous avez des questions à l'égard des pièces de remplacement.

**AVERTISSEMENT:** Ceci est un appareil à laser de classe 2. Ne pas regarder directement dans le rayon de lumière émit par le projecteur. La lumière intense peut entraîner des dommages oculaires permanents.

**IMPORTANT:** Ce projecteur est un appareil laser de Classe 2, qui conforme à la norme CEI 60825- 1: 2007 et CFR 1040. 10 et 1040. 11 ; sauf à l'exception des déviations d'avertissement laser No.50 datée du 24 juin 2007.

**IMPORTANT:** Inspectez soigneusement la zone de montage.

- Évitez les zones à hautes températures, d'humidité, ou tenant une haute concentration de poussière (par exemple près des évents ou des climatiseurs)
- S'assurer que le projecteur recevra une ventilation adéquate
- N'installez pas sur des murs inclinés ou ceux sensibles aux vibrations et aux chocs

**MPORTANT:** Ne pas utiliser des nettoyants chimiques ni abrasifs sur l'équipement

**MPORTANT:** Eviter de toucher les composants optiques pour eviter les rayures

# Appendix

## LED state map

| | Projector SSI (all models) | | | WM408i |
|---|---|---|---|---|
| **Operating mode** | **Power indicator** | **Temperature indicator** | **SSI indicator** | **Control Module NTP-1** |
| Stand-by | Red - Solid | | | White - Solid |
| Start-up | Red - Blink | | | Blue - Blink |
| Operational | Blue - Solid | | | Blue - Solid |
| Shutdown | Red - Blink | | | White - Blink* |
| Mute | | | | |
| **Bootloader Updater mode** | | | | |
| F/W update | Red - Solid | Red - Solid | Red - Solid | White/Blue - Blink |
| **Error Diagnostics** | | | | |
| Colour wheel | | Red - Flicker | | |
| LD Overheat | | Red - Solid | | |
| Power failure | | Red - Solid | Red - Solid | |
| LD Voltage | | | Red - Solid | |
| No Touch | | | | |
| LCM Alignment | | | | |
| General Error | | | | |
| No USB enumeration | | | | Red - Solid |
| No RS232 projector | | | | Red - Solid |
| No Service | | | | Red - Blink |
| +5 VDC disconnected | | | | Off |
| System Reset | | | | Red/Green/Blue - Blink** |