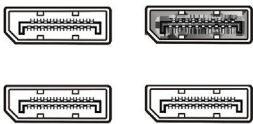


# User Guide



V1.0

## Display Port



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# Important Safety Instructions

1.  To reduce the risk of fire or electric shock, do not expose this appliance to rain or other forms of moisture.
2.  Indoor Use Only
3. Display must not be exposed to liquids via dripping or splashing. Please do not place liquid –filled items such as vases near the display.
4. Use only a properly grounded plug and receptacle.
5. CAUTION – These instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any service other than that contained in the operating instructions unless you are qualified to do so.
6. Do not use a damaged or loose plug.
7. This may cause electrical shock or fire.
8. Operate the display only from a power source (i.e. voltage) indicated in the product specification.
9. Otherwise the product can be damaged, fire can occur or you may be electrocuted. If you are not sure what type of power supply you have, consult a certified electrician.
10. In the presence of thunder and lightning, never touch the power cord and signal cable because it can be very dangerous.
  - ▶ It can cause electric shock.
11. Do not connect several extension cords, electrical appliances or electrical heaters to a single outlet. Use a power strip with a grounding terminal designed for exclusive use with computer.
  - ▶ A fire can break out due to overheating.
12. Do not touch the power plug with wet hands. Additionally, if the cord pin is wet or covered with dust, dry the power plug completely or wipe dust off before plugging in the cord.
  - ▶ Failing to follow the abovementioned steps will increase the risk of electrocution.
13. Insert the power plug firmly so it cannot come loose.
  - ▶ A loose connection can cause fire.
14. When disconnecting the display from an electrical outlet, the plug must be pulled out from the socket.
  - ▶ Do not remove power cord from outlet by pulling from the cord. Pull from the plug head.
15. Hold the plug when pulling out the power cable. Do not pull the plug out by the wire. Do not bend the power cord with excessive force or put heavy objects on the power cord.
  - ▶ The power line can be damaged, which may cause electric shock or fire.
16. Do not insert metal or other conductive materials into the product openings. Additionally, do not touch the power cable right after plugging into the wall input terminal.
  - ▶ You may be electrocuted.
17. The appliance coupler is used as the disconnect device.
18. Please make sure the device is installed near the wall outlet to which it is connected and that the outlet is easily accessible.
19. Do not unplug the power cord while the product is in use.
  - ▶ Electrical shock can damage the product.
20. As long as this unit is connected to the AC wall outlet, it is not disconnected from the AC power source even if the unit is turned off.
21. Do not remove ground prong from three-pronged plugs. If your outlet will not accept three-pronged plugs, consult an electrician for replacement.
22. Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions
23. This is a Class A digital device

**CAUTION**  
**RISK OF ELECTRIC SHOCK**  
**DO NOT OPEN**



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

## Thank you for purchasing a GPO Display NEX-Series Video Wall

This manual describes how to use the product and provides safety guidelines and best practices. Please read the manual carefully before installing or using the product. After reading this manual, please retain for future reference. If you have any questions or a problem occurs, please contact either the company you purchased this product from or an authorized service center.

- ✓ **Displaying static images for an extended period may cause a “burn-in” effect.**
- ✓ **“Burn-in” effect and the faults in brightness and picture elements caused by extended display of static images are not subject to warranty coverage.**

### Accessories



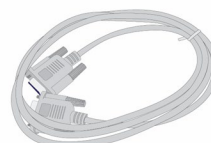
DP Cable (6ft)



Remote Controller



Batteries (AAA x 2)



RS232C cable(6ft)



Power Cable (6ft)

### Dimensions & BTU

Model	Net		Gross (Packed)		Power Consumption		Amp (Max+20%)	BTU/h
	W x H x D (in)	weight (lbs)	W x H x D (in)	weight (lbs)	Typ	Max		
NEX49MLU	42.42x23.93x3.25	51lbs	46x29x8	63lbs	90W	110W	1.1	375
NEX55MLU	47.77x26.94x3.31	64lbs	53.5x33x12	80lbs	130W	150W	1.5	512
NEX55HLU	47.77x26.94x3.31	64lbs	53.5x33x12	80lbs	230W	230W	2.3	784
NEX55MLE	47.69x26.86x3.49	54lbs	53.5x33x12	70lbs	150W	180W	1.8	614
NEX55MLX	47.69x26.86x3.49	54lbs	53.5x33x12	70lbs	150W	180W	1.8	614
NEX55HLE	47.69x26.86x3.49	54lbs	53.5x33x12	70lbs	200W	230W	2.3	784
NEX55MLR	47.68x26.84x3.51	52lbs	53.5x33x12	68lbs	200W	230W	2.3	784
NEX55HLR	47.68x26.84x3.51	52lbs	53.5x33x12	68lbs	230W	250W	2.5	853

# Handling Precautions

To ensure safety, please read this manual carefully before installation and follow the instructions herein. Store this installation guide in a secure place for future reference.

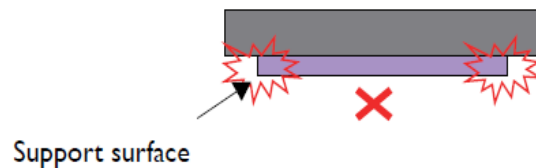
- The video wall must be installed on a flat and level surface which is strong enough to bear its weight.
- Make sure mounting brackets are tightened and secured on the wall
- The Liquid Crystal Display (LCD) panel of the display has a very thin protective layer of coating which is susceptible to marking or scratching and cracking if struck or pressured. Please cover and protect the displays if there is construction or other work being conducted at the installation site.
- Transport and handle displays by holding the handles on the back of the display. Do not touch the LCD panel surface directly to avoid possible scratches and backlight leakage
- Leave a slight (>0.5mm) gap between displays in order to protect your LCD screens from the damage through the direct transfer of weight. See *Checking the safe distance between displays on page 6 for details.*

## Notes on handling/transporting displays:

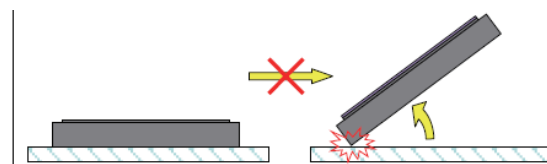
LCD video wall monitors have limited mechanical strength. To prevent the display from performance failure caused by line defects, front bezel bending, glass scratch/broken, light leakage, etc., handle with care.

- At least two (2) adults are required to move & carry displays.
- Retain the original shipping box and packaging in storage for use in the future, when you may need to transport the product.
- When placing the display face (panel side) down:
  - Prepare a flat, level, horizontal surface that is larger than the display and spread a thick protective sheet/foam on it. (Fig. 1) – Lay the display down gently and horizontally.
- When you want to place the display in an upright position:
  - Lift the display up horizontally by holding the two (2) handles at the top/rear with one hand per person and supporting the bottom bezel with the remaining hand. **Do not allow the display to rest/put weight on bezel edges and corners**
  - Be careful not to scratch any parts of the display when placing the display upright. (Fig. 3)
  - Stand the display vertically to make sure the its weight spread evenly throughout the bottom bezel.

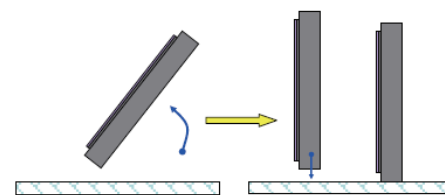
\* Do not rest on corners or lean forward/back. (Fig.4)



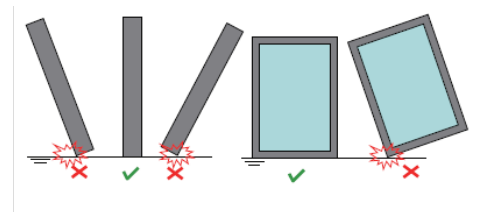
[Fig. 1]




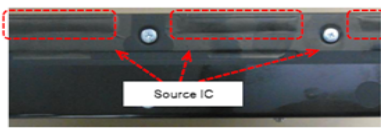
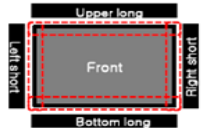
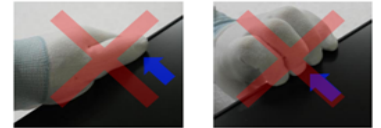
[Fig. 2]



[Fig. 3]



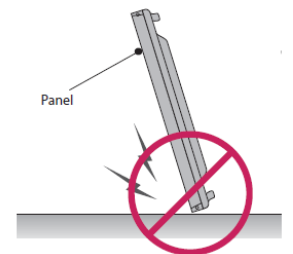
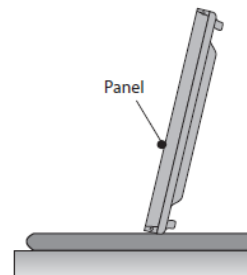
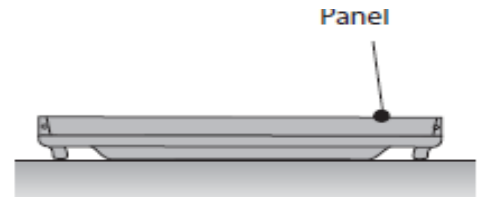
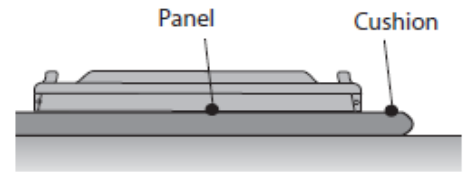
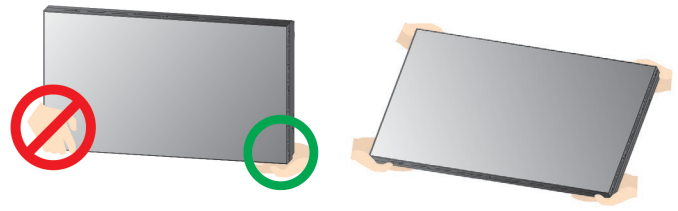
[Fig. 4]

Position	Diagram/Photo	Precaution	Possible Damage
		<p><b>DO NOT APPLY PRESSURE TO THESE AREAS</b></p>	<p>IC damage and COF Lead Crack</p>
		<p><b>DO NOT BEND/APPLY PRESSURE</b></p>	<p>Backlight leakage, deformation of bezel</p>

# Installation Precautions

## How to carry the product

- ✓ At least two people are required to carry the display. When carrying the product upright, please hold the handles on the rear as well as the bottom of the display simultaneously for stability. When carrying the product with the panel positioned upwards as shown below, please hold as shown in the diagram.
- ✓ When laying down the product, lay a cushion on a flat floor. Put the product on it with the panel the product facing down.
- ✓ If there is not a cushion available, ensure the floor is clean and then lay the product down carefully with the panel facing either upward or downward. While panel is lying on the floor, take care so that objects not to fall on the panel.
- ✓ If the product needs to be set upright, hold both sides of the product, and tilt backward carefully. Do not let the panel touch the floor (see diagram on right). If the product is tilted forward onto the bezel, the bottom of the panel may be damaged.

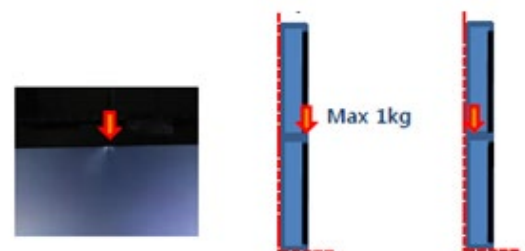


- ✓ **A minor gap between monitors is strongly recommended**  
High temperatures can cause slight expansion of panels. If there is no space between panels, damage may occur as a result of pressure resulting from the expansion of adjacent panels into one another.



\* Recommended gap between displays: 0.5mm

- ✓ If more than 1kg of weight is applied to the top bezel of a panel (as illustrated to the right), backlight leakage will result. This is a sign that the mounting alignment/angle must be adjusted, or other countermeasures must be applied.

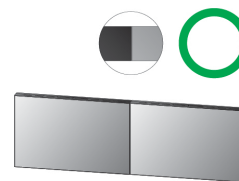


# Installation Precautions

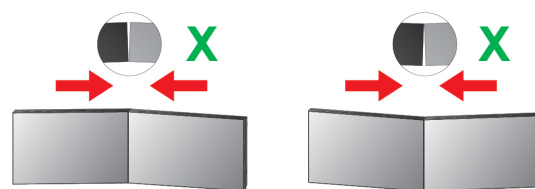
- ✓ Bottom of product: When resting panel on any surface (padded table, floor), do not tilt panel forwards as shown in the diagram below. The weight of the display applied in an uneven manner can result in damage.



- ✓ During installation, do not apply pressure to any surface of the panel. Damage to the panel may result from external pressure or even minor impact to the panel. Physical and cosmetic damage to displays is not covered under warranty.



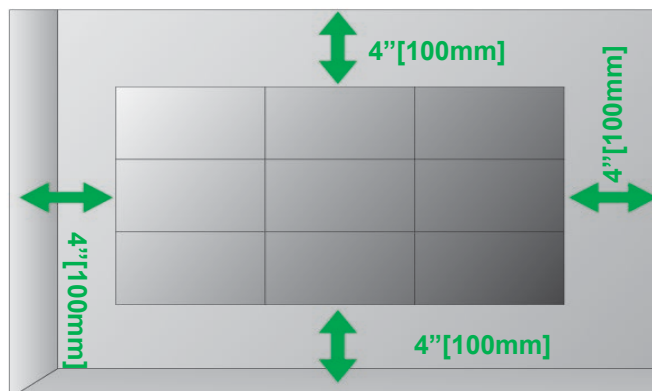
- ✓ Please ensure alignment on the Z-axis for a level plane across adjacent panels (as shown in the diagram to the right). If precautions are not heeded, GPO Display will not accept responsibility for any failure or damage resulting from such installation errors.



- ✓ Do not cover fan ventilation holes. Carefully install NEX-series displays so as not to cover the fan air holes with any structural object. If the holes are covered with anything, the inner temperature can increase rapidly, causing malfunction.

## ✓ Dimensions below are minimum required for proper ventilation

- Ventilation space must not be covered or closed off at the front of the opening. If for some reason the opening needs to be covered, other means of ventilation will need to be incorporated into the design. Contact GPO Display for design review and recommendations.
- Please secure minimum clearance as shown in the picture for adequate ventilation and technical service.
- Ventilation space in front of NEX-Series displays must be furnished for heat dispersion. If the area in front of NEX-series displays must be sealed, there must be consideration for the heat dispersion on the rear side of NEX-series to compensate.

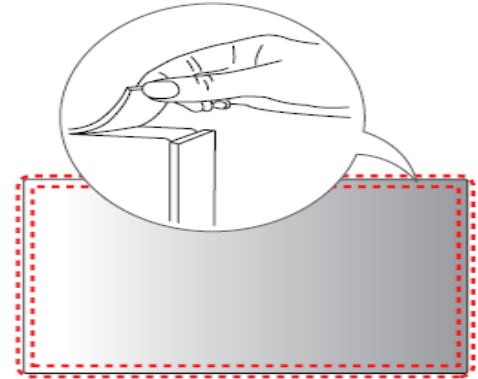


# Setup for Operation

## Remove Protective Pads Before Installation

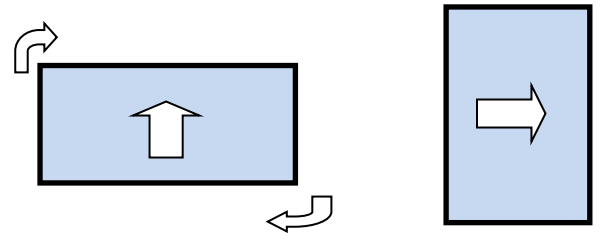
Make sure that the protection pads are carefully and slowly removed from each corner before installing the product. Peel back gently from the corner as shown to the right.

**Note: Only for Extreme Narrow Bezel, or Razor Narrow bezel models (under 2mm combined bezel gap)**



## To Install in Portrait Orientation

When installing in Portrait Orientation, rotate the monitor clockwise 90 degrees (when facing the screen).





GPO Display's video wall displays have a built-in video wall processor that allows for virtually any matrix size of LCD video wall. In this manual, instructions for a 2x2 configuration will be used as an example.

## 1. Installation

To install NEX Series displays in video wall configuration, please read the installation directions carefully before installation is performed. These monitors can be installed for single display/"standalone" operation, in a single row, or in multiple rows. The highest Display Sequence number is 99. Contact GPO Display for arrays comprised of more than 99 displays.

**CAUTION:** Never connect or disconnect cables from the display when the display is powered on as this may cause serious damage.

## 2. Installation Requirement

### 2.1 Structure for the installation

Support structure design and construction for the display installation is the customer's or its installer's responsibility. GPO Display does not take any responsibility on design or construction of installations. The minimum requirements for space, strength of the structure, electronic, heat dissipation and environmental condition is described in the following. If any further information or support is needed from GPO Display, please contact us in advance to ensure ample time for support. We will be glad to help with any recommendations or information. Call 510-659-9855 or e-mail [support@gpodisplay.com](mailto:support@gpodisplay.com).

### 2.2 Power Requirements

Please refer to the specifications for power consumption of displays to be installed (Page 4)

Do not plug more than two units into a given receptacle (example: all displays in 2x2 should not be plugged into quad receptacle). Using more than 70% of current on the AC circuit is strongly discouraged. Clean AC power is required for "noiseless" screen images. Avoid damages inflicted by power glitches or surges- either a power conditioner or surge protector is recommended. Contact your electric power specialist for consultation.

## 3. Heat Dissipation

Recommended LCD operational conditions are:

- Temperature: 32°F -104°F Humidity: 20-80%

## 4. General Information

### 1.1 PC Settings:

PC's need to be set to an appropriate graphics mode that has the same resolution with the panel to have clear screen image. And the vertical refresh rate should be set to 56~75Hz, non-interlaced signal. The controller has been designed to take a very wide range of input signals however to optimize the PC's graphic performance we recommend choosing 60Hz vertical refresh rate: this will prevent screen flicker. If you wish to view 4k2k@60Hz resolution, must use the PC that supported HDMI 2.0 (or DisplayPort 1.2).

### 1.2 Signal Quality:

Signal quality is very important: If there is noise or instability in the PC graphics output, this may result in visible noise on the display. Refer to the graphic modes table in specification section for supported modes. Non-interlaced & interlaced video input is acceptable. Please use the HDMI 2.0 or DisplayPort 1.2 dedicated cable. (4K2K@60Hz)

## Set Up for Operation

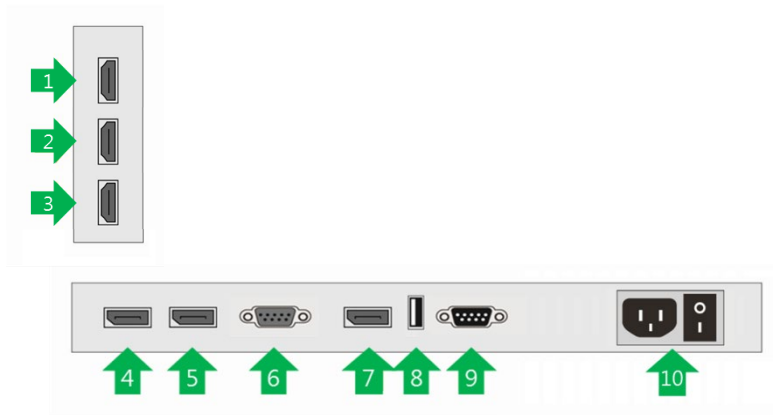
### Note:

- If you turn the monitor on when the set is cold, the screen may flicker. This is normal.
- Sometimes red, green, or blue spots may appear on the screen. This is normal.
- Use a High-Speed HDMI®/TM cable.
- Use a certified cable with the HDMI logo attached. If you do not use a certified HDMI cable, the screen may not display or a connection error may occur.
- Recommended HDMI® Cable Types
  - High-Speed HDMI®/TM Cable
  - High-Speed HDMI®/TM Cable with Ethernet
- Connect the signal input cable and tighten it by turning the screws clockwise (if applicable).
- Avoid displaying static images on the screen for a long period of time to prevent image burn. Use a screensaver if possible.
- Prior to insertion of the next set into neighboring mount, insert cables from the outputs of the first set into the inputs of the second set.
- If you cannot hear any sound in HDMI mode please check your PC settings. Some PCs require you to manually change the default audio output to HDMI.
- Apple computers may require an adapter to connect to this monitor. Call or visit their web site for more information, or consult with GPO Display.

### CAUTION

- Do not press the screen with your finger for a prolonged period as this may result in temporary distortion on the screen
- A wireless communication device near your monitor can affect the image.

## IN/OUT Connectivity

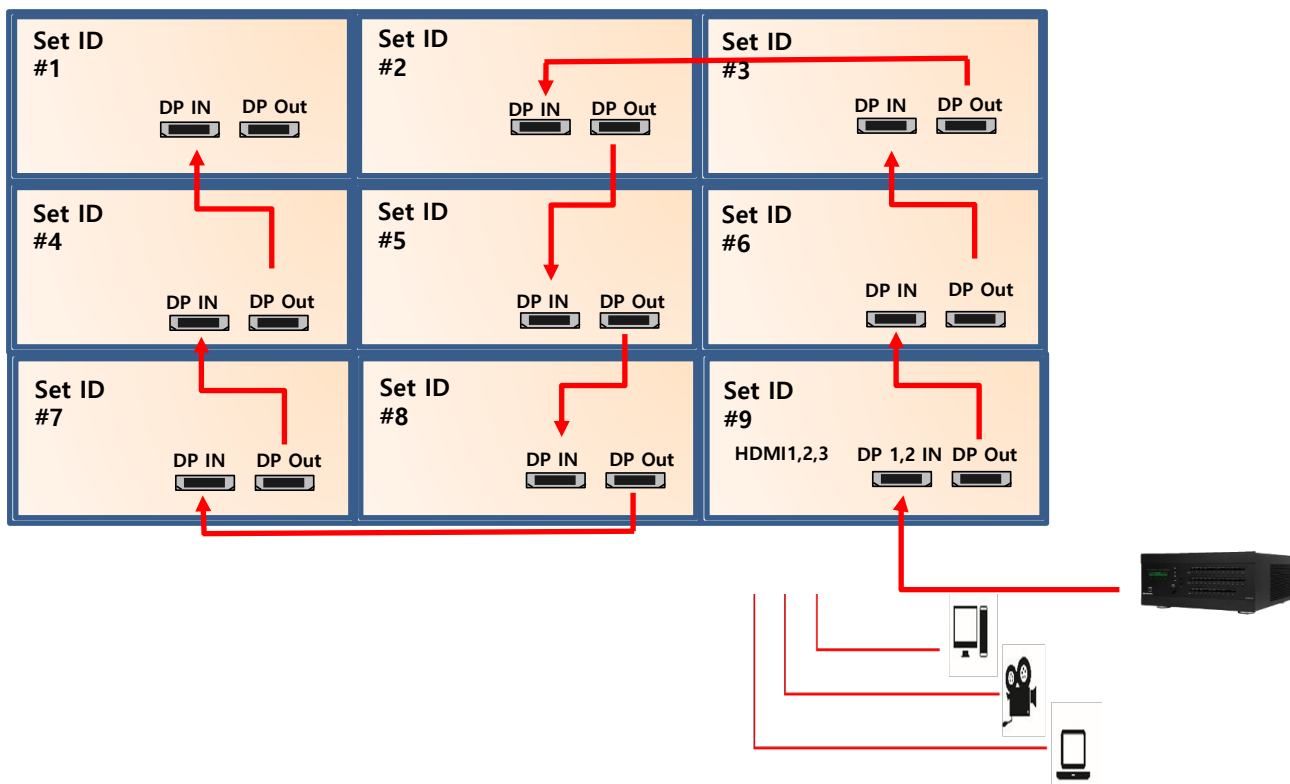
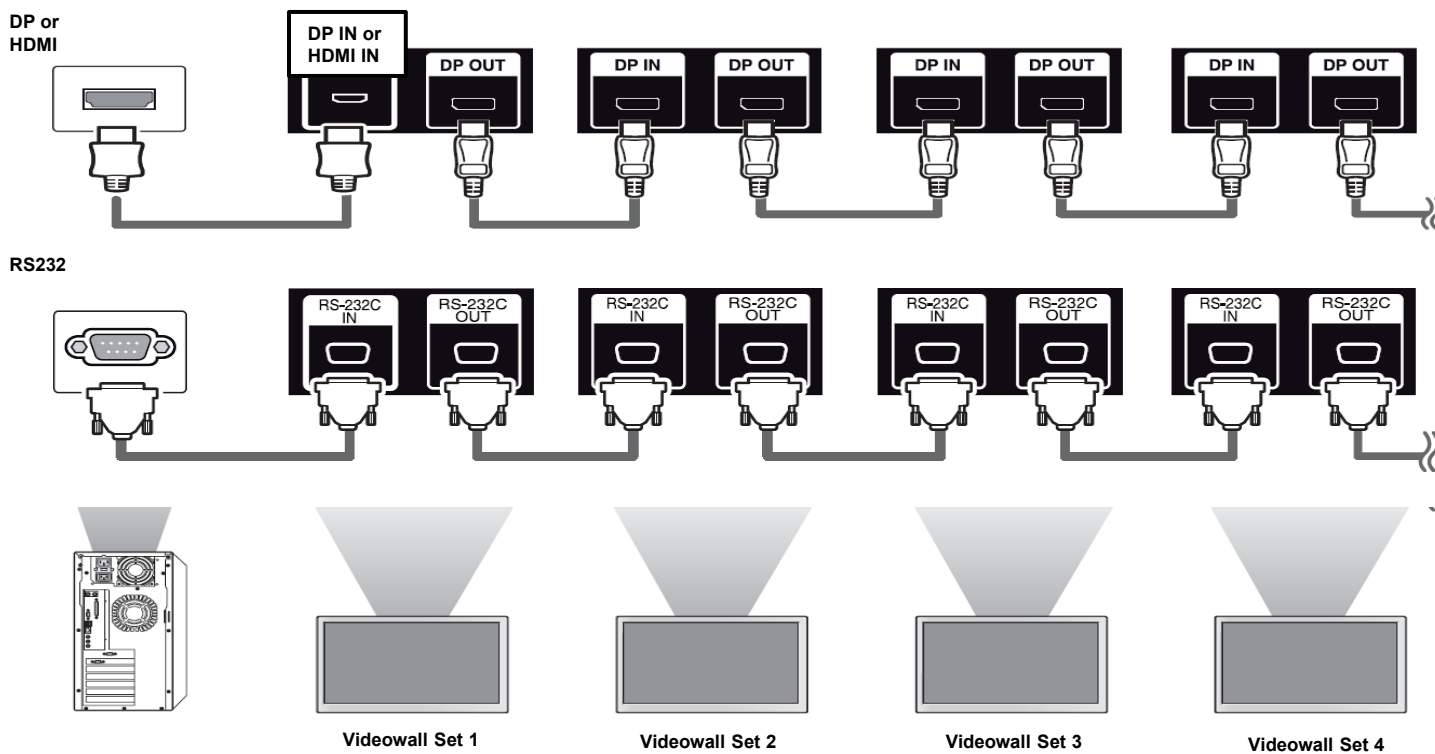


1	HDMI 1 Input	• HDMI Input – up to 3840x2160 @60Hz
2	HDMI 2 Input	• HDMI Input – up to 3840x2160 @60Hz
3	HDMI 3 Input	• HDMI Input – up to 3840x2160 @60Hz
4	DP 1 Input	• Display Port Input – up to 3840x2160 @60Hz
5	DP 2 Input	• Display Port Input – up to 3840x2160 @60Hz
6	RS232 Input	• Serial Control Input
7	DP Output	• DP output for daisy-chain of video input
8	USB	• N/A
9	RS232 output	• Serial Control output for daisy-chain
10	AC Power Inlet & AC S/W	

## LED Operations

Status	Color	Operation
Power Off	Red	On
Normal	Blue	On
Not Connected (No signal)	Blue	Blinking
DPMS	Red	Blinking

## Daisy-Chaining Monitors



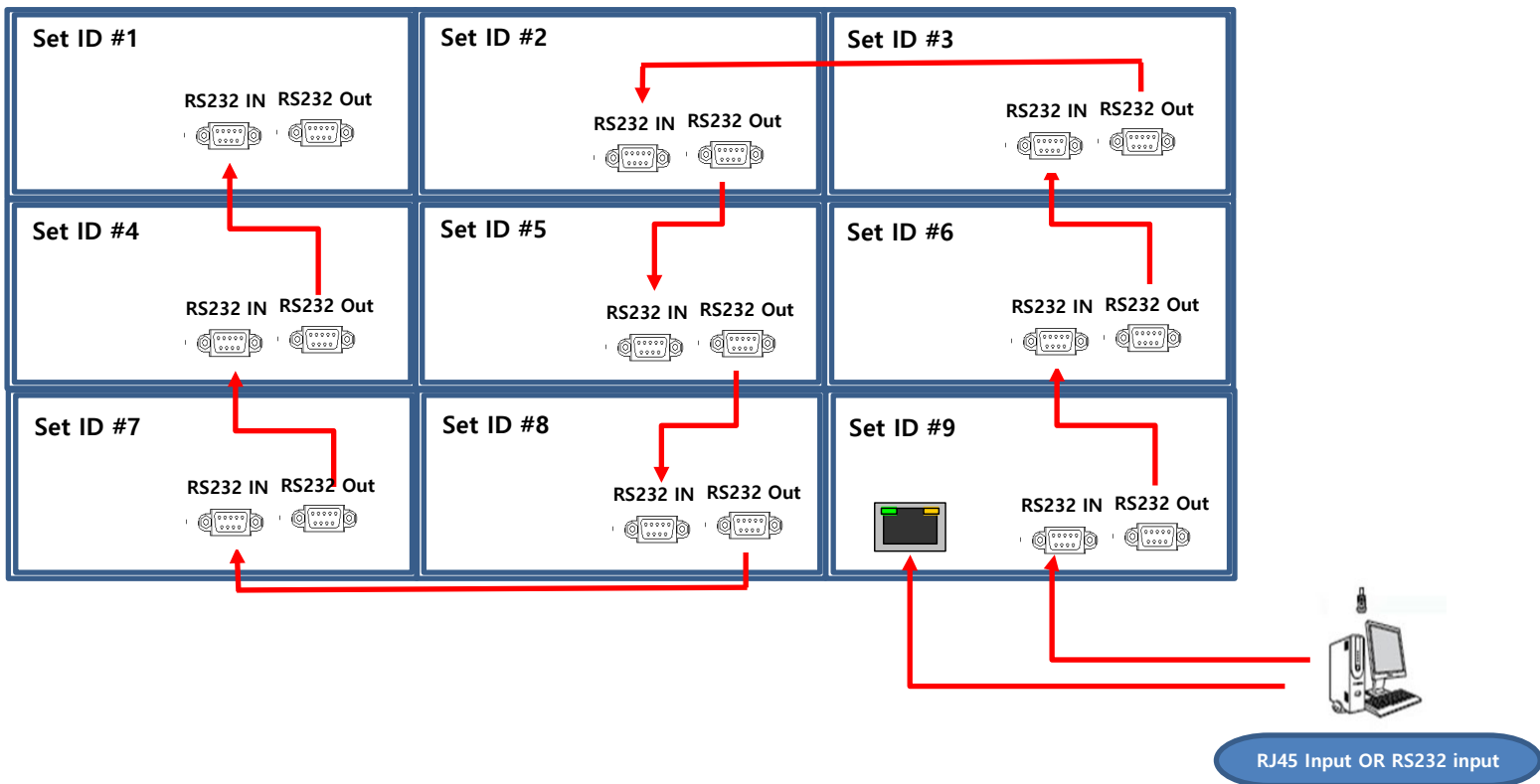
**Note:**

- If the signal cable between the product and your PC is too long, make sure to use a signal booster or optical cable.

## Connect RS-232 Cables\*

\*See pg.43-44 for network control setup instructions.

1. While mounting display, insert any cables used for Power, video inputs or outputs into the set.
2. Prior to insertion of the next set into neighboring Wall Unit, insert cables (including RS-232) from the outputs of the first set into the inputs of the second set.
3. Repeat steps 1-2 for next set, if necessary.
4. The RS-232 daisy chain limitation is listed as 30 displays, although theoretically more units can be accommodated.
5. Daisy-chaining can be initiated from any unit but **it is strongly recommended that you start with a display on the bottom row** for ease of access. There is no terminator at the end of the unit. It is always recommended to record/make note of the chaining diagram as it is crucial to diagnosing issues with communication.



## Connect Video Cables

1. Immediately prior to mounting display, insert any cables used for Power, inputs or outputs into the set.
2. Prior to insertion of the next set into neighboring mount, insert cables from the outputs of the first set into the inputs of the second set.
3. Insert any cables which are to be connected to the third set into the outputs of the second set. Connect these cables into the inputs of the third set.
4. Repeat steps 1-3 for fourth set, if necessary.

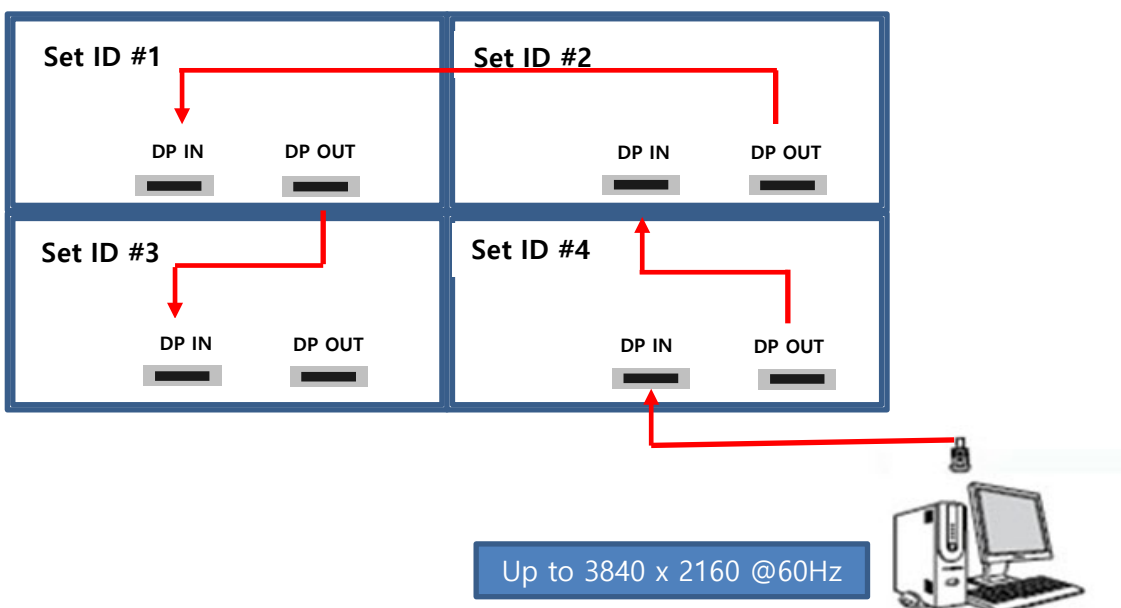
- Supports HDMI 4K x 2K input – HDMI, DP
- Supports the daisy chain mode of 4K2K resolution. (HDMI input only)
- Recommended HDMI Cable Types
  - High-Speed HDMI®/TM Cable
  - High-Speed HDMI®/TM Cable with Ethernet
- Some installation sites have a high level of Electric Noise which may appear onscreen, especially with HDMI.
- Digital noise may appear due to poor quality HDMI cabling. If the video signal needs be delivered from a distance, electric noise must be accounted for. If the signal cable between the product and your PC is too long, make sure to use the Booster or optical cable.
- HDMI and DisplayPort are HDCP-compliant.

HDCP 2.2 Compliant    HDMI 2.0 Compliant    Display Port v1.2a Compliant

- **Signal-looping specifications (Only HDMI input / DP port doesn't support daisy-chain function)**

Input Resolution	SPEC	Remarks
3840x2160@60Hz	Supports up to 12 units	
3840x2160@30Hz	Supports up to 25 units	
1920x1080@60Hz	Supports up to 25 units	

**•Image quality cannot be guaranteed when daisy chain connection limit is exceeded.**



## Matrix Configuration

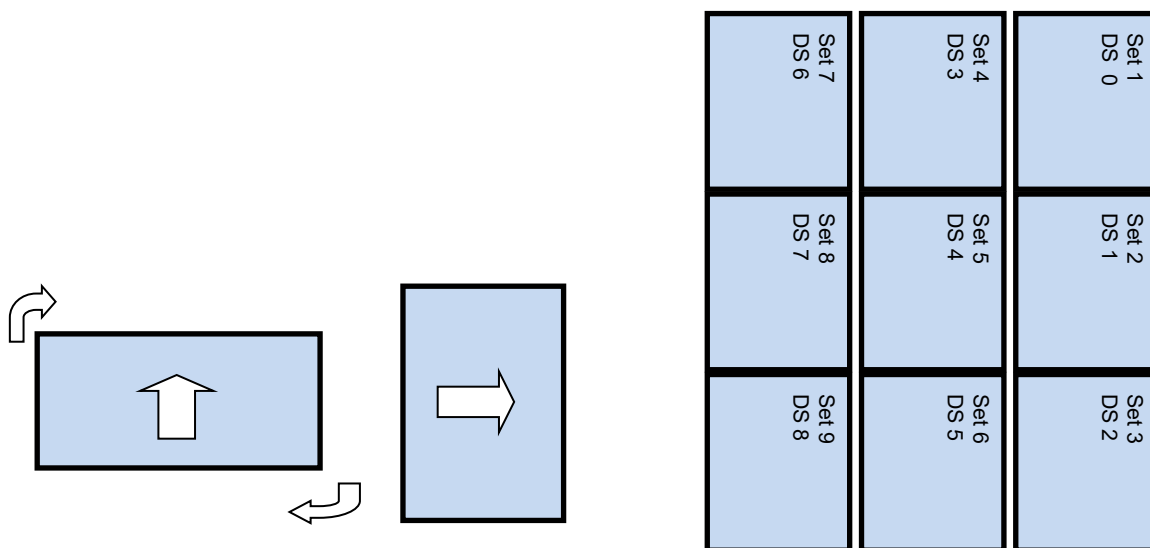
### Landscape

1. This is most common configuration, as it retains the native HD aspect ratio of 16:9.  
The number of units in rows and columns should be the same (N x N) to maintain 16:9 aspect ratio.
2. If the number of units in rows and columns are different (ex: 2x5), the content must be arranged to match the screen format accordingly. Images will be stretched according to the number of Horizontal & Vertical Set counts if content from a particular input is shown on the entire wall.

### Portrait

1. Rotate units 90° clockwise to install in portrait mode.
2. The Display Sequence number should be set as if it is configured in landscape mode.
3. The Horizontal Set Count is the number of rows and Vertical Set Count is number of columns in this configuration.
4. The input image should can rotated clockwise 90°.

\*GPO Display provides both landscape and portrait wall mount systems separately. Before ordering, please verify which orientation is compatible with your system.



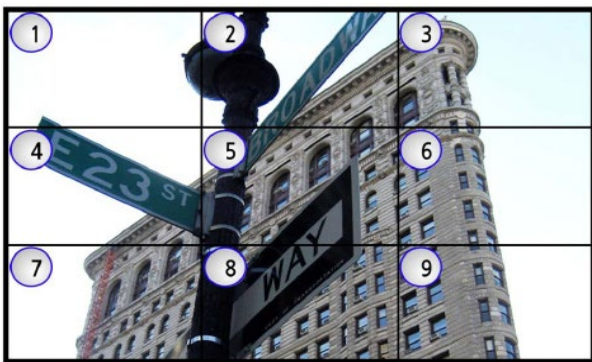
Note: If an external video processor is employed, please refer to your video processor's manual.

## Configuration of units for video wall display

1. Make sure the main power switch on each display is ON (The main power switch is located on the back of the display where the power cord connects)
2. Power on the 3x3 display by turning power on to each display individually
3. Set up each display's Video Wall settings => Enter OSD menu mode by pressing the MENU button on the IR remote controller while pointing remote controller at display's IR receiver.
4. Set the Display Sequence, Horizontal Set Count and Vertical Set count for all of the units as shown in the table below:

### Tips:

- Set ID : Assign prior to installation for ease of control
- SICP software is recommended for changing the values below:



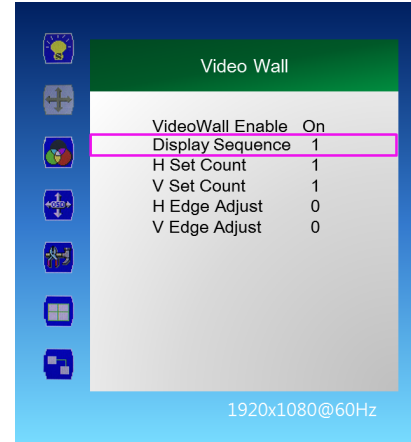
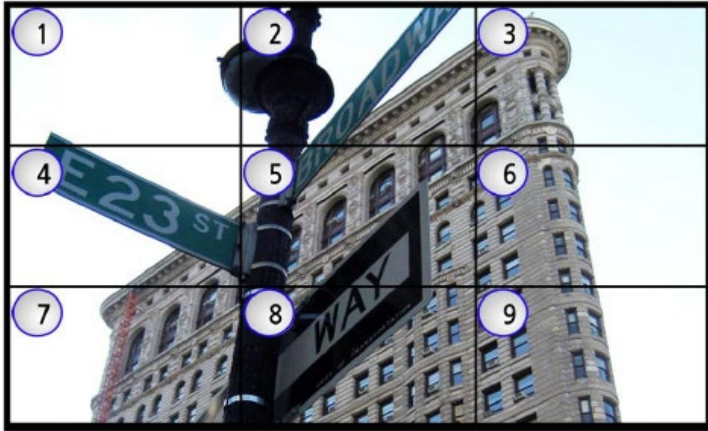
Video Wall	
VideoWall Enable	On
Display Sequence	1
H Set Count	1
V Set Count	1
H Edge Adjust	0
V Edge Adjust	0

	Set 1	Set 2	Set 3	Set 4	Set 5	Set 6	Set 7	Set 8	Set 9
Display Sequence (DS)	1	2	3	4	5	6	7	8	9
H Set Count	3	3	3	3	3	3	3	3	3
V Set Count	3	3	3	3	3	3	3	3	3
H Edge Adjust	0	0	0	0	0	0	0	0	0
V Edge Adjust.	0	0	0	0	0	0	0	0	0
Set ID	1	2	3	4	5	6	7	8	9



## \* Display Sequence

Set the panels to display the contents (1-99)



1. Press the [MENU] button.
  2. Press the ▲ / ▼ button to move to the "Video Wall" menu and press the [Enter] button.
  3. Press the ▲ / ▼ button to move to "Display Sequence" and press the [Enter] button.
  4. Press the ◀ / ▶ button to adjust the value and press the [Enter] button.
  5. Press the [EXIT] button to exit the OSD menu.
- Display Sequence: Display setting of multi vision (1 ~ 100)

## \* H Set count

Assign horizontal set count

Example: Horizontal set count below: 3

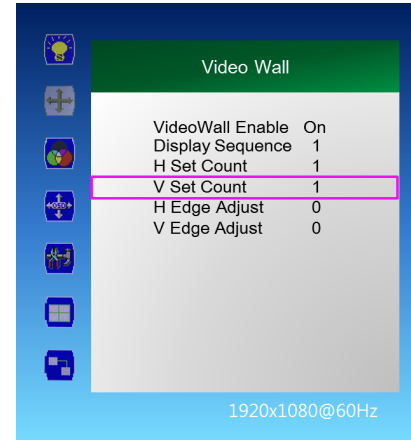


1. Press the [MENU] button.
  2. Press the ▲ / ▼ button to move to the "Video Wall" menu and press the [Enter] button.
  3. Press the ▲ / ▼ button to move to "H Set Count", and then press the [Enter] button.
  4. Press the ◀ / ▶ button to adjust the value and press the [Enter] button.
  5. Press the [EXIT] button to exit the OSD menu.
- H Set Count (Horizontal Set Count): Set horizontal size of video wall

## \* V Set count

Assign Vertical Set Count

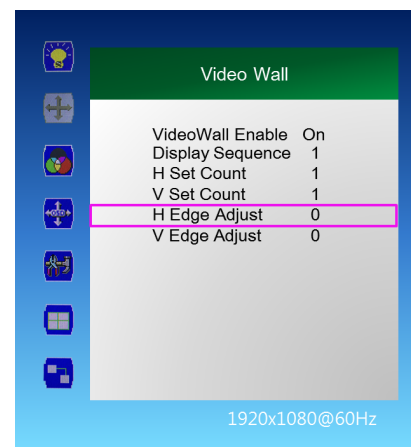
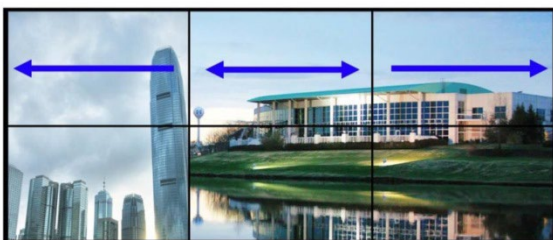
Example: Horizontal set count value below is 3



1. Press the [MENU] button.
  2. Press the ▲ / ▼ button to move to the "Video Wall" menu and press the [Enter] button.
  3. Press the ▲ / ▼ button to move to "V Set Count" and press the [Enter] button.
  4. Press the ◀ / ▶ button to adjust the value and press the [Enter] button.
  5. Press the [EXIT] button to exit the OSD menu.
- V Set Count (Vertical Set Count): Vertical size setting of video wall

## \*H Edge Adjust

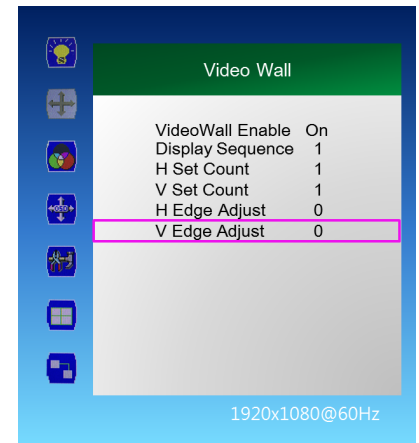
Horizontal Edge Adjust: Horizontal Gap setting of multivision (0 ~ 70)



1. Press the [MENU] button.
2. Press the ▲ / ▼ button to move to the "Video Wall" menu and press the [Enter] button.
3. Press the ▲ / ▼ button to move to "H Edge Adjust", and then press the [Enter] button.
4. Press the ◀ / ▶ button to adjust the value and press the [Enter] button.
5. Press the [EXIT] button to exit the OSD menu.

## \* V Edge Adjust

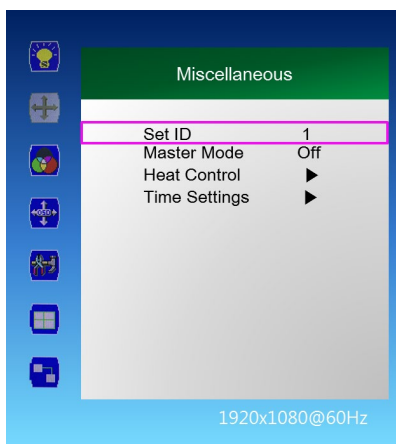
Vertical Edge Adjust: Multi Vision vertical Gap setting (0 ~ 70)



1. Press the [MENU] button.
2. Press the ▲ / ▼ button to move to the "Video Wall" menu and press the [Enter] button.
3. Press the ▲ / ▼ button to move to "V Edge Adjust", and then press the [Enter] button.
4. Press the ◀ / ▶ button to adjust the value and press the [Enter] button.
5. Press the [EXIT] button to exit the OSD menu.

## \* Set ID

Enter/Adjust the Set ID (for control) of the product (1 ~ 100):



1. Press the [MENU] button.
2. Press the ▲ / ▼ button to move to the "Miscellaneous" menu and press the [Enter] button.
3. Press the ▲ / ▼ button to move to "Set ID" and press the [Enter] button.
4. Press the ◀ / ▶ button to adjust the value and press the [Enter] button.
5. Press the [EXIT] button to exit the OSD menu.



1. SOURCE : Selects Input Source
2. POWER : Turns the LCD Display On and Off
3. UP : Controls the UP cursor in the menu
4. LEFT : Controls the LEFT cursor in the menu
5. RIGHT : Controls the RIGHT cursor in the menu
6. ENTER : Controls the ENTER cursor in the menu
7. DOWN : Controls the DOWN cursor in the menu
8. MENU : Displays the main On-Screen menu
9. EXIT : Exit the On-Screen menu

# MENU OVERVIEW

Most menus consist of three levels to set up the options, but some require greater depth for the variety of settings. If you press the **MENU** button, up to the third level of the menu system will appear on the monitor screen. The fourth level can be displayed by pressing the **OK** button

- To show and remove the Menu:
 

Press the **MENU** button on the Remote Control to display the menu. A second press of the **MENU** button or a press of the **EXIT** button will take you back to monitor viewing.
- To go to the next level:
 

Press **OK** (or **Right arrow** button) on the Remote Control.
- To go back to the previous level:
 

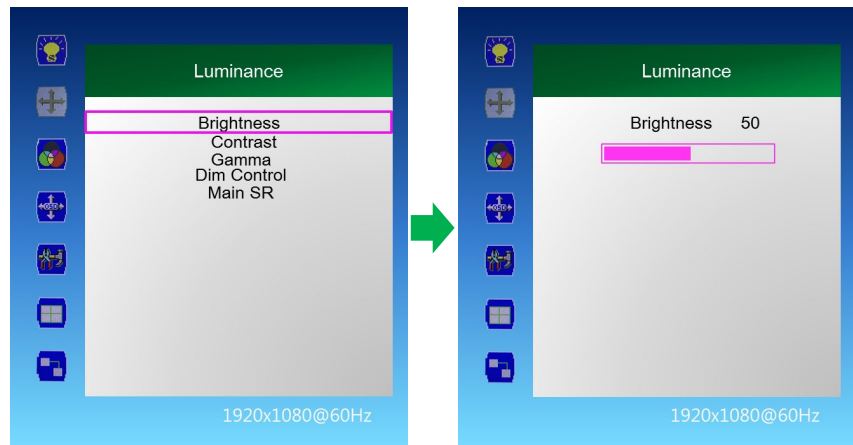
Press **MENU** (or **Left arrow** button) on the Remote Control.
- To go to the next menu:
 

Press **Down arrow** button on the Remote Control.
- To go to the previous menu:
 

Press **Up arrow** button on the Remote Control

## Luminance > Brightness

1. Press the [MENU] button.
2. Press the [Enter] button to move to the "Luminance" menu.
3. Press the [Enter] button to move to "Brightness", and then press the [Enter] button.
4. Press the ◀ / ▶ button to adjust the value and press the [Enter] button.
5. Press the [EXIT] button to exit the OSD menu.

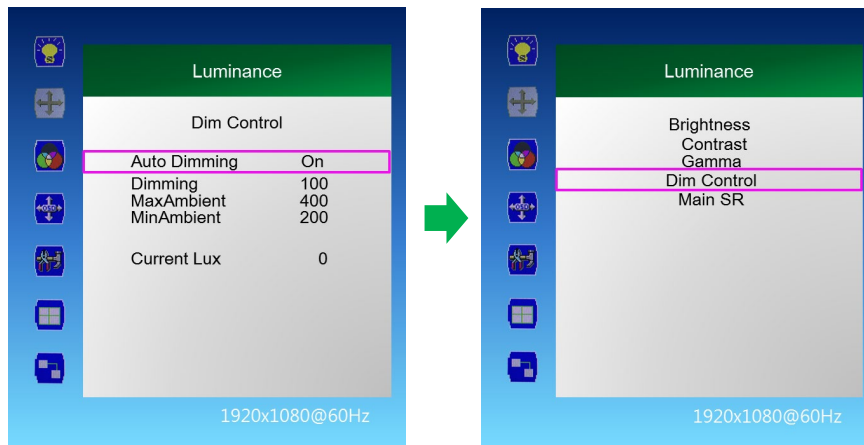


## Luminance > Contrast

1. Press the [MENU] button.
2. Press the [Enter] button to move to the "Luminance" menu.
3. Press the ▲ / ▼ button to move to "Contrast" and press the [Enter] button.
4. Press the ◀ / ▶ button to adjust the value and press the [Enter] button.
5. Press the [EXIT] button to exit the OSD menu.



## Luminance > Dim Control



1. Press the [MENU] button.
  2. Press the [Enter] button to move to "Dim Control" and press the [Enter] button.
  3. Dim Control Setting: On - Off
    - 3-1 Press ▲ / ▼ button to go to "Auto Dimming".
    - 3-2 Press ◀ / ▶ button to adjust to desired setting value and press [Enter] button.
      - On: automatically adjusts the Dim level according to the measured value of a LUX sensor (optional).
      - Off: AUTO Dimming operation Off
  4. Monitor displays the current dimming value  
 "Dimming": Display the current dimming value of the monitor (can be adjusted when Auto Dimming Off)
  5. Maximum ambient brightness setting
    - 5-1 Press ▲ / ▼ button to move to "MaxAmbient"
    - 5-2 Press ◀ / ▶ button to adjust to desired setting value and press [Enter] button.
  6. Minimum ambient brightness setting
    - 6-1 Press ▲ / ▼ button to move to "MinAmbient".
    - 6-2 Press ◀ / ▶ button to adjust to desired setting value and press [Enter] button.
  7. Lux sensor measurement display  
 "Current Lux": Displays the measured brightness of the LUX sensor.
  8. Press the [EXIT] button to exit the OSD menu.
- Ex) Auto Dimming Setting: On Setting
- Max Ambient : 400 settings
  - Min Ambient : 100
  - Current Lux 100 or less : Minimum Brightness,
  - Current Lux 400 or higher: Maximum Brightness
  - Current Lux 300 : Display brightness proportional to the ratio between 100 and 400

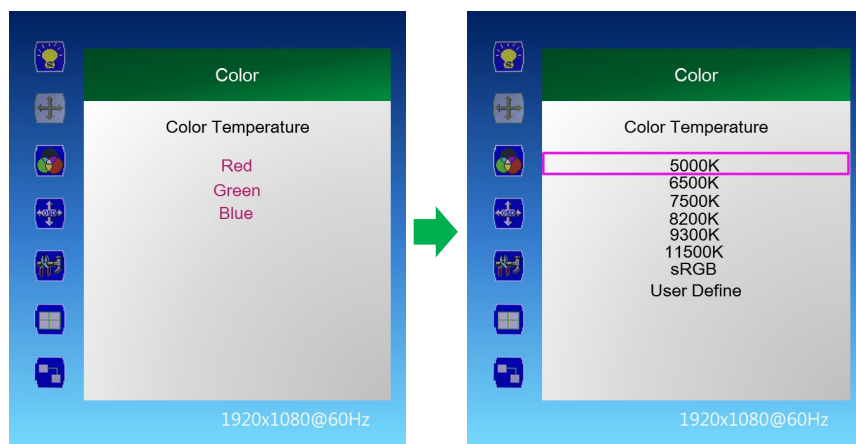
## Luminance > Main SR ( Sharpness )

1. Press the [MENU] button.
2. Press the [Enter] button to move to the "Luminance" menu.
3. Press the ▲ / ▼ button to move to "Main SR" and press the [Enter] button.
4. Press the ▲ / ▼ buttons to select the desired setting, then press the [Enter] button.



## Color

1. Press the [MENU] button.
2. Press the ▼ / ▲ button to move to the "Color" menu.
3. Press the [Enter] button to move to "Color Temperature", and then press the [Enter] button.
4. Press the ▲ / ▼ button to select the desired screen mode and then press the [Enter] button.  
5000K, 6500K, 7500K, 8200K, 9300K, 11500K, sRGB, User Define
- 4-1 When "User Define" mode is selected, Red, Green, Blue can be adjusted to the desired setting value.
- 4-2 Press ◀ / ▶ button to adjust to the desired setting value and press [Enter] button.
5. Press the [EXIT] button to exit the OSD menu.



## OSD Settings

1. Press the [MENU] button.
2. Press the ▲ / ▼ button to move to the "OSD Settings" menu and press the [Enter] button.
3. Press the ▲ / ▼ button to move to the desired menu and press the [Enter] button.
4. Press the ◀ / ▶ button to adjust the value and press the [Enter] button.

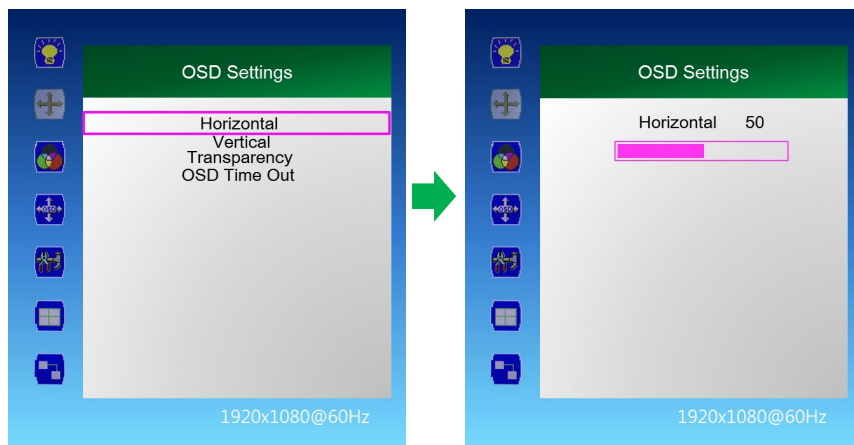
- Horizontal: Adjust the position of the OSD menu screen to the left and right.

- Vertical: Adjusts the position of the OSD menu screen up and down.

- Transparency: OSD menu screen transparency adjustment.

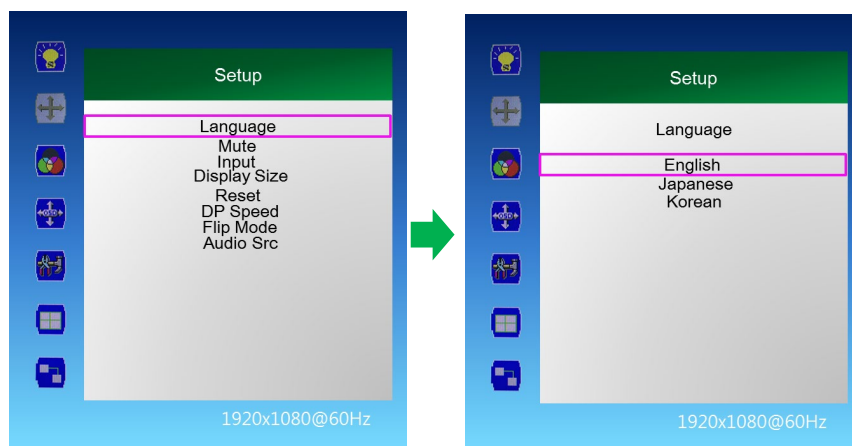
- OSD Time Out: OSD menu screen hold time.

5. Press the [EXIT] button to exit the OSD menu



## Setup > Language

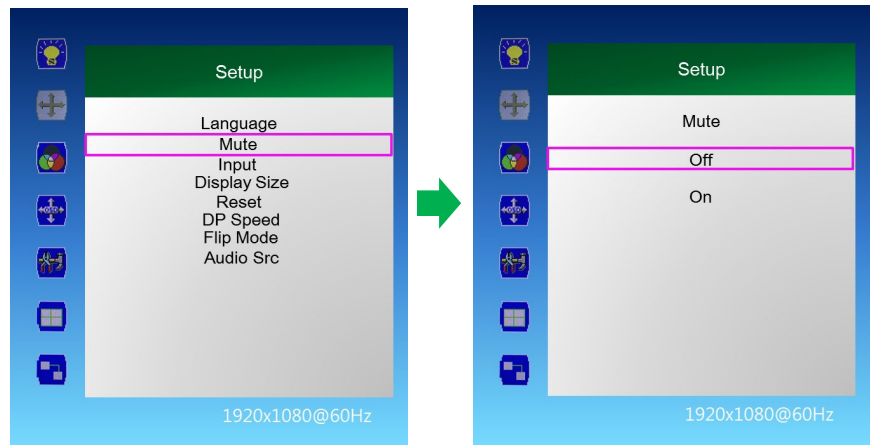
1. Press the [MENU] button.
2. Press the ▲ / ▼ button to move to the "Setup" menu and press the [Enter] button.
3. Press the ▲ / ▼ button to move to "Language" and press the [Enter] button.
4. Press the ▼ / ▲ button to select the desired language.
5. Press the [EXIT] button to exit the OSD menu.





### Setup > Mute(N/A for Videowall)

1. Press the [MENU] button.
2. Press the ▲ / ▼ button to move to the "Setup" menu and press the [Enter] button.
3. Press the ▲ / ▼ button to move to "Mute" and press the [Enter] button.
4. Press the ▲ / ▼ buttons to select the desired setting, then press the [Enter] button.  
Off, On
5. Press the [EXIT] button to exit the OSD menu.



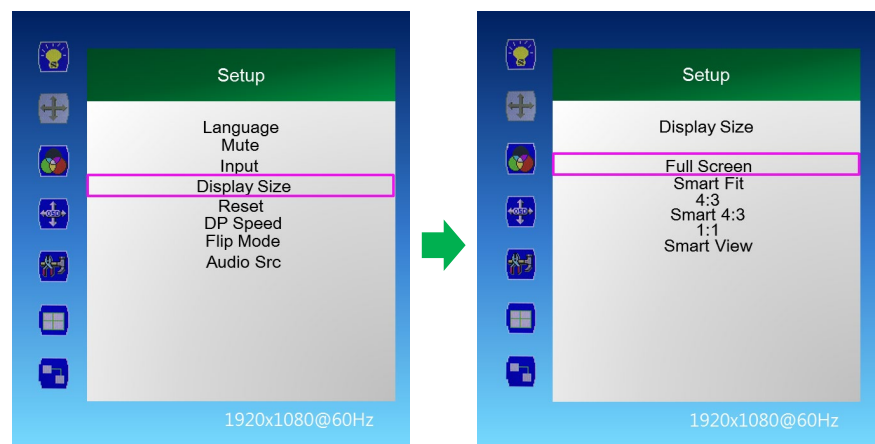
### Setup > Input

1. Press the [MENU] button.
2. Press the ▲ / ▼ button to move to the "Setup" menu and press the [Enter] button.
3. Press the ▲ / ▼ button to move to "Input" and press the [Enter] button.
4. Press the ▲ / ▼ button to select the desired input signal and press the [Enter] button.  
HDMI 1, HDMI 2, HDMI 3, DP 1, DP 2
5. Press the [EXIT] button to exit the OSD menu.



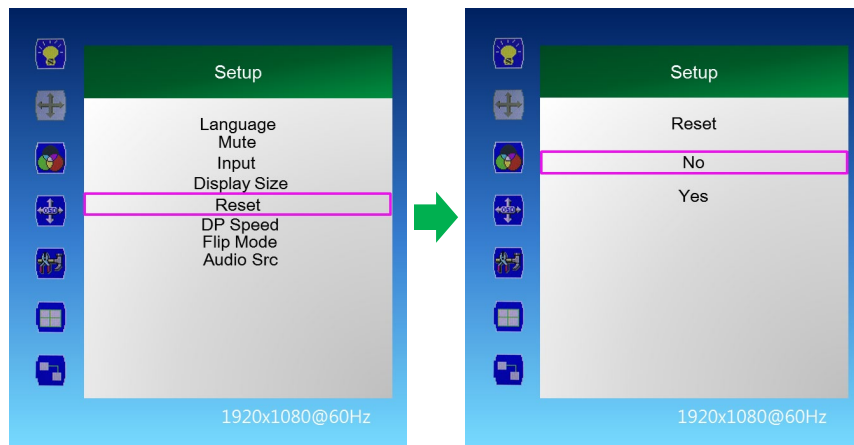
### Setup > Display Size

1. Press the [MENU] button.
2. Press the ▲ / ▼ button to move to the "Setup" menu and press the [Enter] button.
3. Press the ▲ / ▼ button to move to "Display Size" and press the [Enter] button.
4. Press the ▲ / ▼ button to select the desired screen size and then press the [Enter] button.  
Smart Screen, Smart Fit, 4: 3, Smart 4: 3, 1: 1, Smart View
5. Press the [EXIT] button to exit the OSD menu.



### Setup > Reset

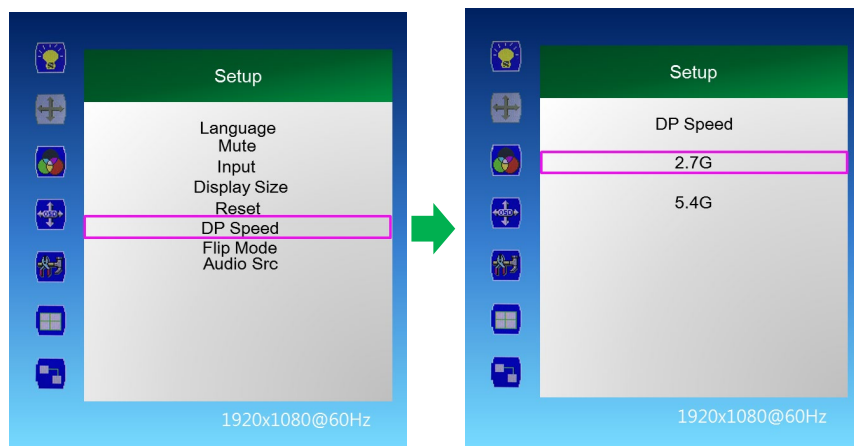
1. Press the [MENU] button.
2. Press the ▲ / ▼ button to move to the "Setup" menu and press the [Enter] button.
3. Press the ▲ / ▼ button to move to "Reset" and press the [Enter] button.
4. Press the ▲ / ▼ buttons to select the desired setting, then press the [Enter] button. No, Yes
5. Press the [EXIT] button to exit the OSD menu



### Setup > DP Speed

1. Press the [MENU] button.
2. Press the ▲ / ▼ button to move to the "Setup" menu and press the [Enter] button.
3. Press the ▲ / ▼ button to move to "DP Speed" and press the [Enter] button.
4. Press the ▲ / ▼ buttons to select the desired setting, then press the [Enter] button. 2.7G, 5.4G
5. Press the [EXIT] button to exit the OSD menu.

※ Caution: When using video wall, DP Speed should be set to 2.7G.

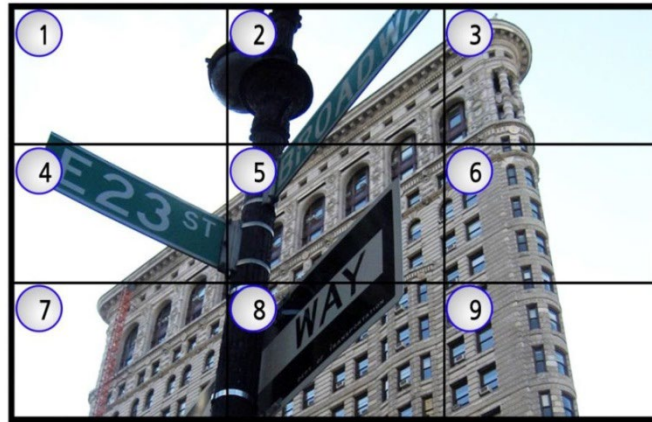
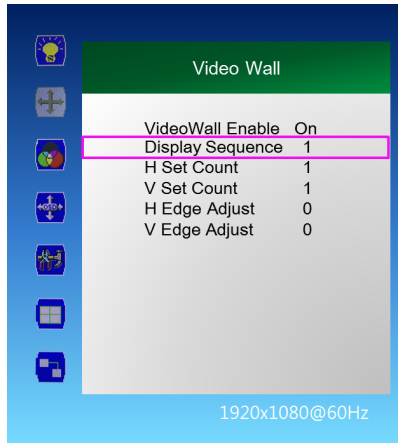


### Setup > Audio Src

1. Press the [MENU] button.
2. Press the ▲ / ▼ button to move to the "Setup" menu and press the [Enter] button.
3. Press the ▲ / ▼ button to move to "Audio Src" and press the [Enter] button.
4. Press the ▲ / ▼ buttons to select the desired setting, then press the [Enter] button.  
HDMI 1, HDMI 2, HDMI 3, DP 1, DP 2
5. Press the [EXIT] button to exit the OSD menu.



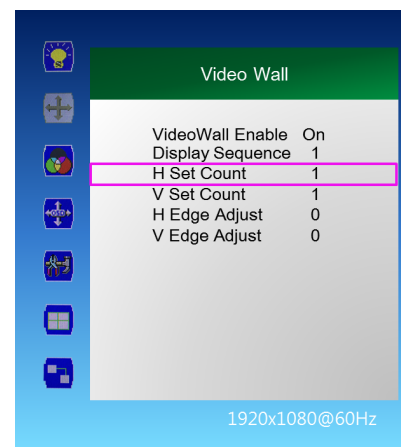
## Display Sequence



1. Press the [MENU] button.
  2. Press the ▲ / ▼ button to move to the "Video Wall" menu and press the [Enter] button.
  3. Press the ▲ / ▼ button to move to "Display Sequence" and press the [Enter] button.
  4. Press the ◀ / ▶ button to adjust the value and press the [Enter] button.
  5. Press the [EXIT] button to exit the OSD menu.
- Display Sequence: Display setting of multi vision (1 ~ 100)

## H Set Count

1. Press the [MENU] button.
  2. Press the ▲ / ▼ button to move to the "Video Wall" menu and press the [Enter] button.
  3. Press the ▲ / ▼ button to move to "H Set Count", and then press the [Enter] button.
  4. Press the ◀ / ▶ button to adjust the value and press the [Enter] button.
  5. Press the [EXIT] button to exit the OSD menu.
- H Set Count (Horizontal Set Count): Set horizontal size of multi vision (1 ~ 10)



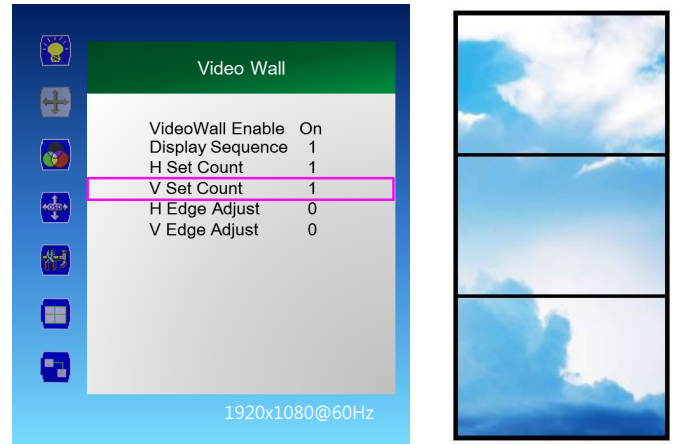
ex) In the following figure, H Set Count: 3



## V Set Count

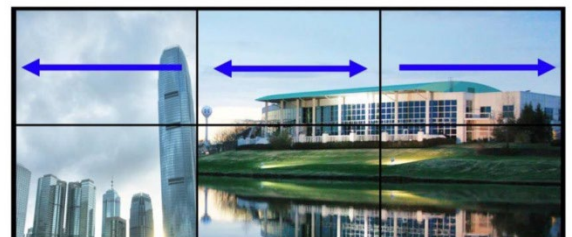
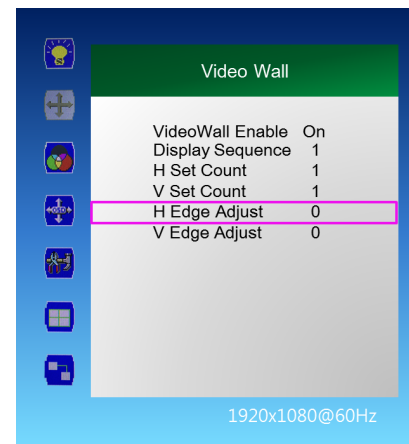
1. Press the [MENU] button.
  2. Press the ▲ / ▼ button to move to the "Video Wall" menu and press the [Enter] button.
  3. Press the ▲ / ▼ button to move to "V Set Count" and press the [Enter] button.
  4. Press the ◀ / ▶ button to adjust the value and press the [Enter] button.
  5. Press the [EXIT] button to exit the OSD menu.
- V Set Count (Vertical Set Count): Vertical size setting of Multi Vision (1 ~ 10)

ex) In the right figure, V Set Count: 3



## H Edge Adjust

1. Press the [MENU] button.
  2. Press the ▲ / ▼ button to move to the "Video Wall" menu and press the [Enter] button.
  3. Press the ▲ / ▼ button to move to "H Edge Adjust", and then press the [Enter] button.
  4. Press the ◀ / ▶ button to adjust the value and press the [Enter] button.
  5. Press the [EXIT] button to exit the OSD menu.
- H Edge Adj (Horizontal Edge Adjust): Horizontal Gap setting of multivision (0 ~ 70)

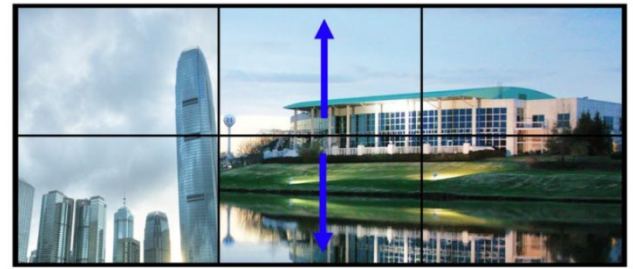
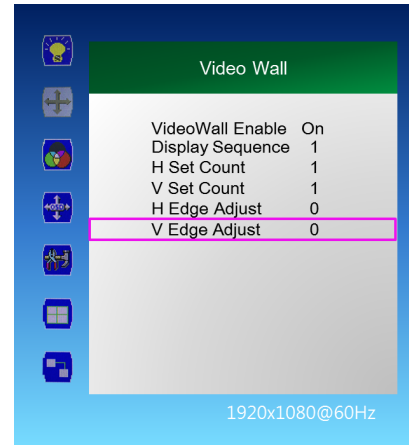


# Multi-vision (Optional) Videowall Daisy-chain Function



## V edge Adjust

1. Press the [MENU] button.
  2. Press the ▲ / ▼ button to move to the "Video Wall" menu and press the [Enter] button.
  3. Press the ▼ / ▲ button to move to "V Edge Adjust", and then press the [Enter] button.
  4. Press the ◀ / ▶ button to adjust the value and press the [Enter] button.
  5. Press the [EXIT] button to exit the OSD menu.
- V Edge Adj (Vertical Edge Adjust): Multi Vision vertical Gap setting (0 ~ 70)



## Miscellaneous > Set ID

1. Press the [MENU] button.
  2. Press the ▲ / ▼ button to move to the "Miscellaneous" menu and press the [Enter] button.
  3. Press the ▲ / ▼ button to move to "Set ID" and press the [Enter] button.
  4. Press the ◀ / ▶ button to adjust the value and press the [Enter] button.
  5. Press the [EXIT] button to exit the OSD menu.
- Set ID: Set control ID of the product (1 ~ 100)



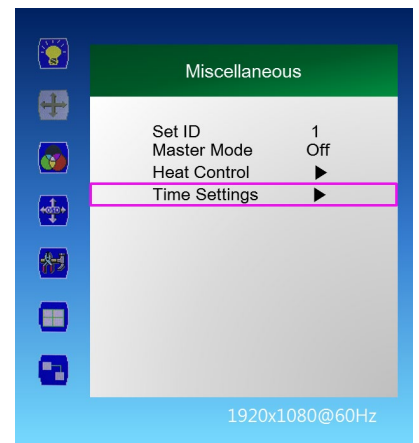
## Miscellaneous > Master Mode

1. Press the [MENU] button.
  2. Press the ▲ / ▼ button to move to the "Miscellaneous" menu and press the [Enter] button.
  3. Press the ▲ / ▼ button to move to "Master Mode" and press the [Enter] button.
  4. Press the ◀ / ▶ button to adjust the value and press the [Enter] button.
    - 4-1. On: Every display except the "Master" Set has its IR receiver locked. Also automatically adjusts the brightness of the rear monitor according to the Dimming value of Master Set. When the Master Set Powers On/Off, all other displays in RS-232 daisy-chain Power On/Off
    - 4-2. Off: Disable Master Mode ⇒ Monitors can be individually controlled.
  5. Press the [EXIT] button to exit the OSD menu.
- ✘ **Note:** The Master Set must be the display at the beginning of the RS-232 control daisy-chain.



## Miscellaneous > Time Setting

1. Press the [MENU] button.
2. Press the ▲ / ▼ button to move to the "Miscellaneous" menu and press the [Enter] button.
3. Press the ▲ / ▼ button to move to "Time Settings" and press the [Enter] button.
4. Current Time Setting: "Current Time" "Hour - Minute - Second"
  - 4-1. Press the ▲ / ▼ button to move to "00: 00: 00" in "Current Time" and press the [Enter] button.
  - 4-2. Press the ▲ / ▼ button to adjust the value and press the [Enter] button.
5. On Time Setting: "On Time" "Hour - Minute - Second"
  - 5-1. Press the ▲ / ▼ button to move to "On Time" and press the ◀ / ▶ button to adjust to the desired setting value. On, Off
  - 5-2. Press the ▲ / ▼ button to move to "00: 00: 00" and press the ◀ / ▶ button to adjust to the desired setting value.
6. Off time setting: "Off Time" "hour - minute - second"
  - 6-1. Press the ▲ / ▼ button to move to "Off Time" and press the ◀ / ▶ button to adjust to the desired setting value. On, Off
  - 6-2. Press the ▲ / ▼ button to move to "00: 00: 00" and press the ◀ / ▶ button to adjust to the desired setting value.
7. Press the [EXIT] button to exit the OSD menu.



## No image is displayed

Problem	Action
Is the product power cord connected?	Check if the power cord is correctly plugged into the power outlet.
Does the "Invalid Format" message appear?	The signal from the PC (graphics card) is out of the vertical or horizontal frequency range of the product. Adjust the frequency range by referring to the specifications in this manual.
Does the "No Signal" message appear?	The signal cable between PC and product is not properly connected. Check cable. Press the INPUT button on the remote Control to check the input signal.

## The screen image looks abnormal

Problem	Action
Does the screen position appear to be incorrect?	Check if the graphics card output resolution and frequency are supported by the product. If the frequency is out of range, set to the recommended resolution in the Control Panel "Display Setting" menu.
The screen is displayed abnormally.	The proper input signal is not connected to the port. Connect a cable that matches with the source input signal.

## Faint traces of a static image are visible

Problem	Action
Faint static images are visible regardless of content being played	If a static image is displayed for a long time, the pixels may be damaged. Use the screen-saver function to prevent this. When a dark image is displayed on the screen after an image with high contrast (black and white or gray), this may cause image sticking. This is normal for LCD screen products.

## Screen color is abnormal

Problem	Action
Screen has poor color depth (16 colors).	Set the number of colors to more than 24 bits (true color). Select Control Panel - Display - Settings - Color Table menu in Windows.
Screen color is unstable or monochromatic	Check the connection status of the signal cable. Or, re-insert the PC graphics card.
Do black spots appear on the screen?	Several pixels (red, green, white, or black color) may appear on the screen, which can be attributed to the unique characteristics of the LCD panel. This is not a malfunction of the LCD.

## The operation does not work normally.

Problem	Action
Display suddenly powers off	Is the <b>Timer</b> set? Check the DPMS Mode Check the power control settings. Power interrupted.

 **CAUTION**

- Image sticking/image retention does not occur when using constantly changing images but may occur when using a fixed/static image for an extended period. Therefore, it is recommended that you use the instructions below to decrease the likelihood of image sticking occurring when displaying a static image. It is recommended that you change the screen content at least once every **12 hours** at minimum. When done more frequently, the prevention of image sticking is more effective.

## Recommended operating conditions

- 1) Change the background and the character colors using the abovementioned time interval.
- 2) Change the image using the abovementioned time interval



## Input/Output Port Description

Items		Specifications
HDMI 1		H Frequency Range : 20 ~ 82kHz
		V Frequency Range : 55 ~ 75kHz
		Maximum resolution : 3840x2160@60Hz
		Maximum pixel rate : 594 MHz
HDMI 2		H Frequency Range : 20 ~ 82kHz
		V Frequency Range : 55 ~ 75kHz
		Maximum resolution : 3840x2160@60Hz
		Maximum pixel rate : 594 MHz
HDMI 3		H Frequency Range : 20 ~ 82kHz
		V Frequency Range : 55 ~ 75kHz
		Maximum resolution : 3840x2160@60Hz
		Maximum pixel rate : 594 MHz
DP1 [1.2a]		H Frequency Range : 20 ~ 82kHz
		V Frequency Range : 55 ~ 75kHz
		Maximum resolution : 3840x2160@60Hz
		Maximum pixel rate : 594 MHz
DP2 [1.2a]		H Frequency Range : 20 ~ 82kHz
		V Frequency Range : 55 ~ 75kHz
		Maximum resolution : 3840x2160@60Hz
		Maximum pixel rate : 594 MHz
DP Out [1.2a]		H Frequency Range : 20 ~ 82kHz
		V Frequency Range : 55 ~ 75kHz
		Maximum resolution : 3840x2160@60Hz
		Maximum pixel rate : 594 MHz
Input Connection	HDMI	3
	DP	2
	RS232C	1 / 9 Pin Female Type
	RJ45(LAN)	1
Output Connection	DP	1
	RS232C	1/ 9 Pin Male Type

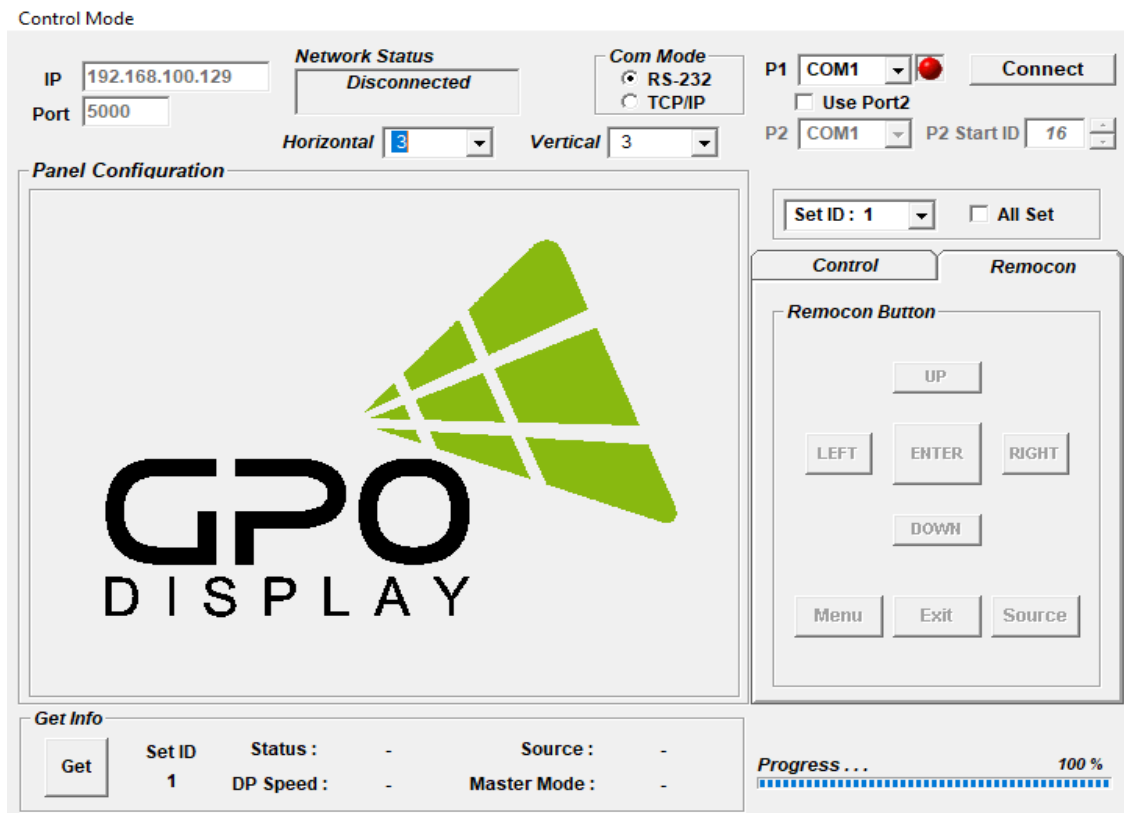
## Timing Modes

Resolution	H Frequency (Khz)	Pixel Clock( Mhz)
640x480@60Hz	31.5	25.1
640x480@75Hz	37.5	31.5
800x600@56Hz	35.1	36.0
800x600@60Hz	37.9	40.0
800x600@75Hz	46.9	49.5
1024x768@60Hz	48.4	65.0
1024x768@70Hz	56.5	75.0
1024x768@75Hz	60	78.75
1152x864@75Hz	67.5	108.0
1280x960@60Hz	60	108.0
1280x1024@60Hz	64	108.0
1280x1024@75Hz	80	135.0
1360x768@60Hz	47.7	86.5
1440x900@60Hz	55.5	88.75
1680x1050@60Hz	64.7	119.0
1600x1200@60Hz	75	162.0
1920x1080@60Hz	67.5	148.5
1920x1200@60Hz	74	154.0
2560x1600@60Hz	98.7	268.5
3840x2160@30Hz	65.9	338.75
3840x2160@60Hz	133.3	533.25

- Operating Temperature : 32 °F ~ 104 °F.
- Specifications are subject to change without prior notification

# SICP User Manual

## [NEX series Videowall]



*\*NOTE: For IP control/network configuration info, see p.g. 9-10.*

## ◆ SICP (Serial Interface Communication Protocol)

This document defines all the command and messages exchanged between the Master (a PC or the other controller) and the Slave (the displays).  
It also describes the ways to send or read the commands or the messages.

### 1. Protocol definition

SICP stands for “Serial Interface Communication Protocol”.

The protocol is specifically designed to allow data communication in half duplex multi-point environments, but it can also be used for half duplex point-to-point RS-232C communication.

### 2. Communication characteristics

A half duplex communication is implemented starting from the concept of a master-slave structure, where the display is the slave.

The first action is always taken by the master, which can be either a PC or any controlling device (acting as server) interfaced to the monitor. After sending a command or a request in the appropriate format the master receives from the slave an acknowledgement, which tells the transmitter whether the command is not valid (or not executable, anyway) or it is accepted. In case of a request, the requested information is sent back and it becomes the acknowledgement by itself.

### 3. How to connect external equipment

Female Pin number	Male Pin number
2 <----->	2
3 <----->	3
5 <----->	5

### 4. Hardware Protocol

Baud rate : 9600 bps  
Data bits : 8 bit  
Parity bits : None  
Stop bits : 1 bit  
Handshake : None

## Introduction

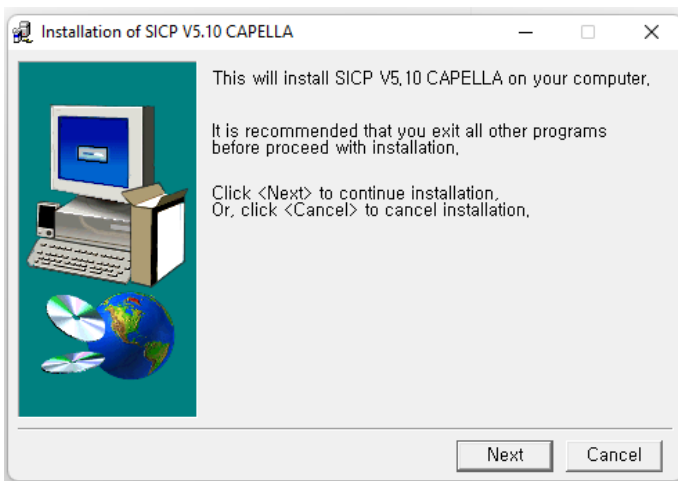
This manual booklet describes how to manage and utilize the product (Video Wall set) through remote control via RS232 protocol. This will introduce SICP V5.20 (Software that enables you to control the Video Wall via serial) and various applications will be possible with this software. As per different way of customizing, the functions and specifications of each product may vary.

**Notice:** Please extract VBRunTimesR7.zip and install the program on VISTA, WIN7/8/10 before installing SICP.

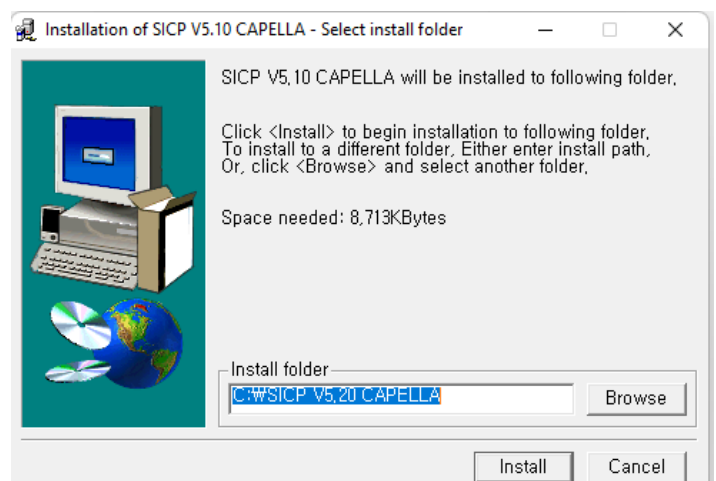
## Installing SICP V5.20

Run the file named “SICP 5.20 Set up.exe” and follow the instruction below.

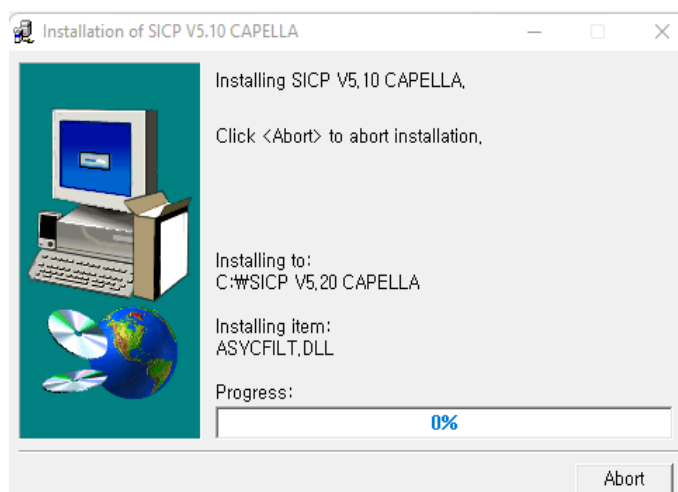
If you have SICP program installed previously, delete the previous one and re-install the new one.



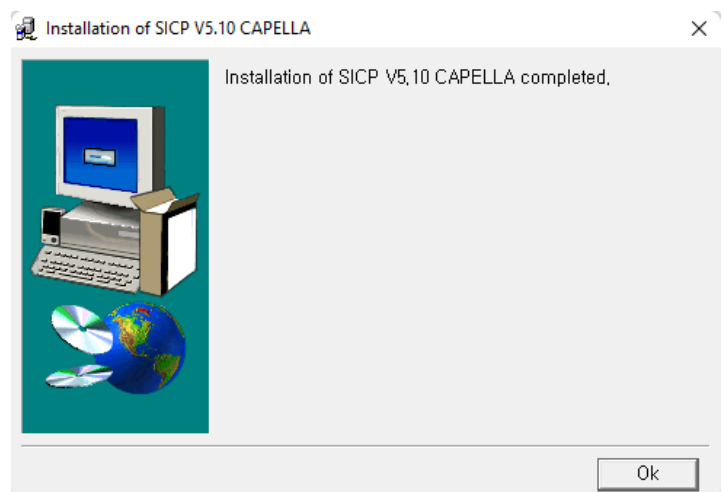
Press “Next”



Select the folder in which you wish to save the file.  
Press “Install” after selecting the desired folder.



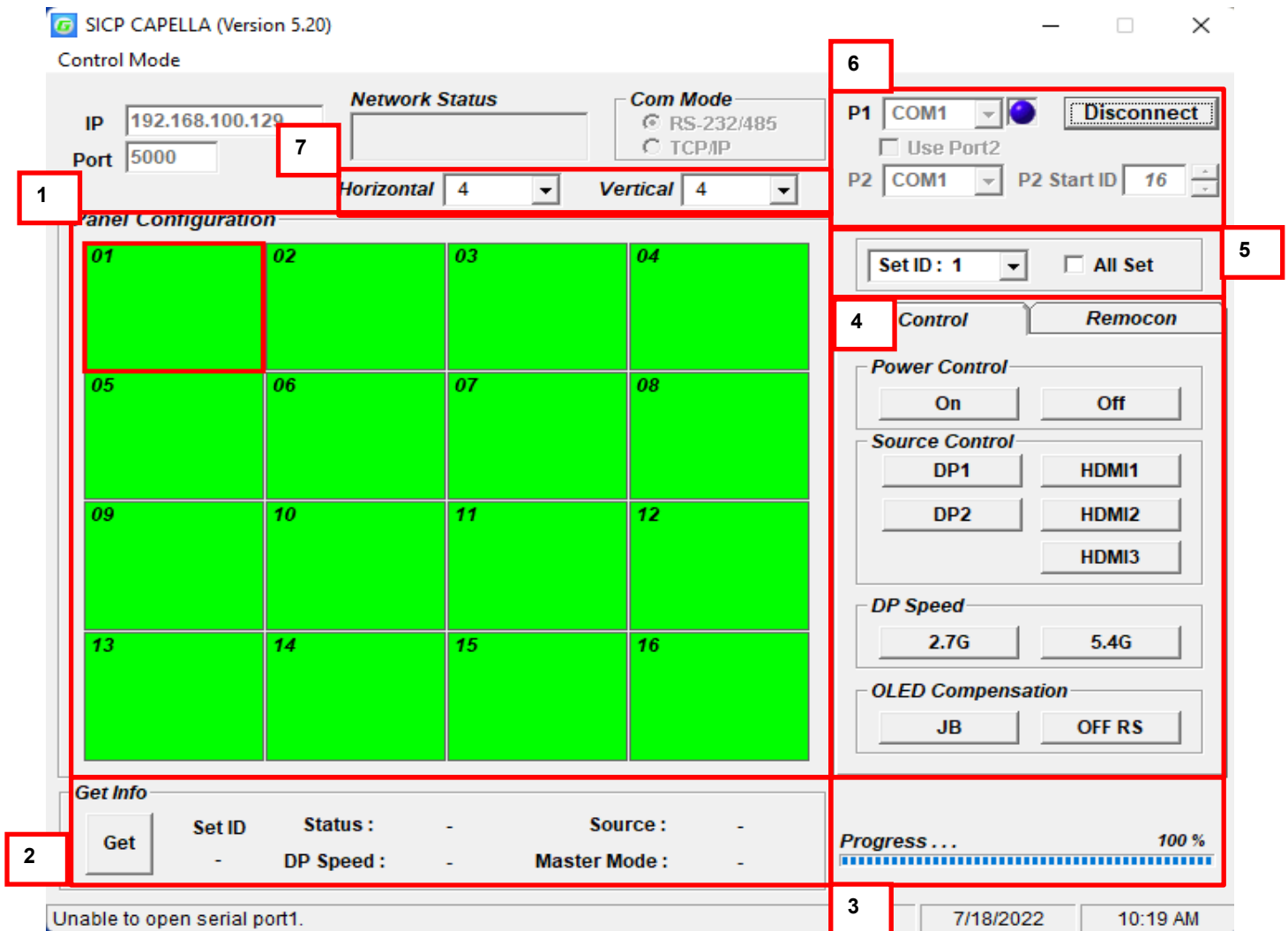
Wait until the installation is complete.



Once installation is complete, go to “Start” Menu -> Programs -> SICP V5.20 to run the program

## Running SICP V5.20 and Structure

Go to “Start” Menu -> Programs -> SICP V5.20 to run the program.



1. Panel Configuration : Indicates the information such as display configuration, source, Set ID and sequence number.
2. Get info: Indicates the status of selected video wall display.
3. Progress Bar : Shows the status of RS232 communication.
4. Control Button : Set of control buttons. Can toggle to “Remocon” tab for virtual remote controller.
5. Set ID : Shows the Set ID which is selected for control.
6. Communication : Select the Port connected to the PC.
7. Horizontal & Vertical : Shows the type of display you can select.

## Connect & Disconnect

- Users can connect RS-232 input and control from your PC using an RS232 Cable.
- Select the Port into which PC is connected (refer to #6 in the image on previous page) and click “connect” button.

If connected properly, the indicator in box #6 will turn BLUE (from RED). If not connected properly, one of the following messages will appear below box #2:

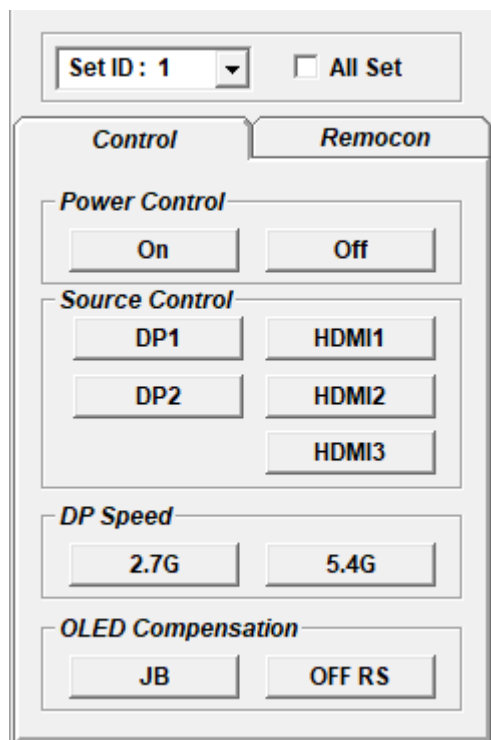
\*“Unable to open serial port”: The port may not be available on your PC, or another program may be running under this port.

\*“Cannot connect with Easy DID System”: RS232 Cable may not be connected properly or Set ID may be incorrect. Re-check on Set ID.

## Multi-vision Control

Users can control each display separately. First, select the display you wish to control by selecting Set ID. You may click on it (Refer to box #1 in the image on the previous page) or select it from the drag-down menu (Refer to box #5 in the image on the previous page). Users may conduct the following functions on the selected set:

### 1) Basic Control

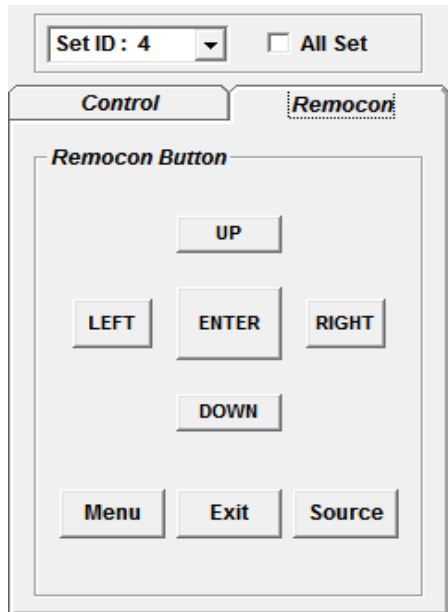


- Select “Control” Tab as shown to the left

**Power Control:** Powers the Set On/Off

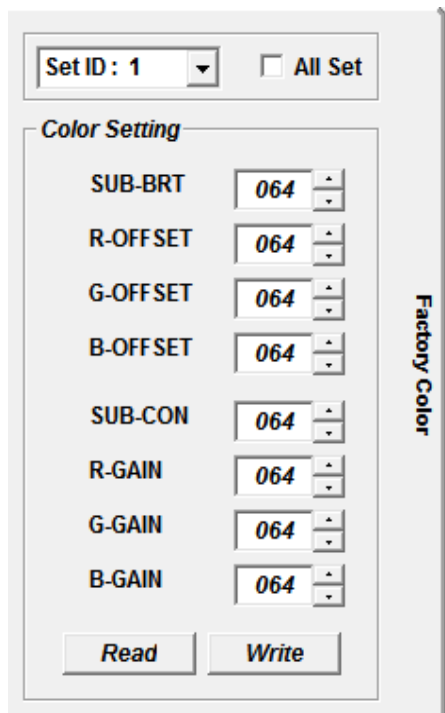
**Source Control:** Selects Source

## 2) Virtual Remote Controller



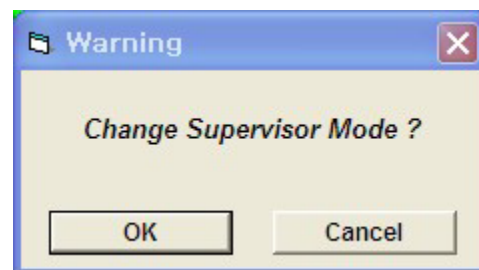
- Select the “Remocon” Tab as shown to the left.
- This virtual remote controller controls sets (displays) via RS-232 in the same manner that a physical IR remote controller would.

## 3) Color Setting



- Users may access the “Color Setting” mode only after entering Supervisor Mode. In order to enter Supervisor mode, go to “Control Mode” in the toolbar (top) and select “Setting Mode”

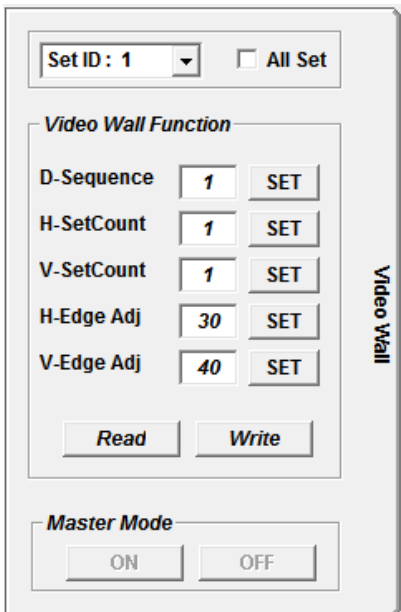
- Hot key: Ctrl+F2.



- Click “OK”
- Adjust color values (0~255). The color will be optimized during production & Quality Assurance. Adjusting color values is not recommended without prior consultation with GPO Display.

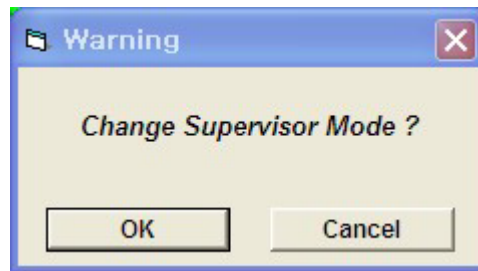


## 4) Edge Setting

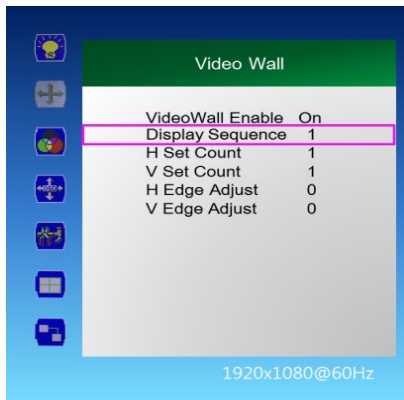


- Users can access “Edge Setting” only after entering Supervisor Mode. In order to enter Supervisor mode, go to “Control Mode” in the tool bar (top) and select “Setting Mode”

- Hot key: Ctrl+F3.



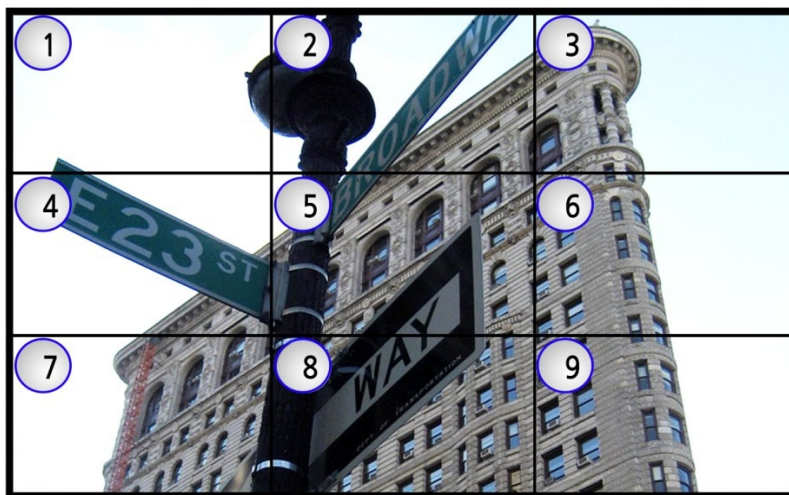
- Click “OK”
- Commands are writable only (not readable).



- OSD Menu interface shown to the left.

### < Others >

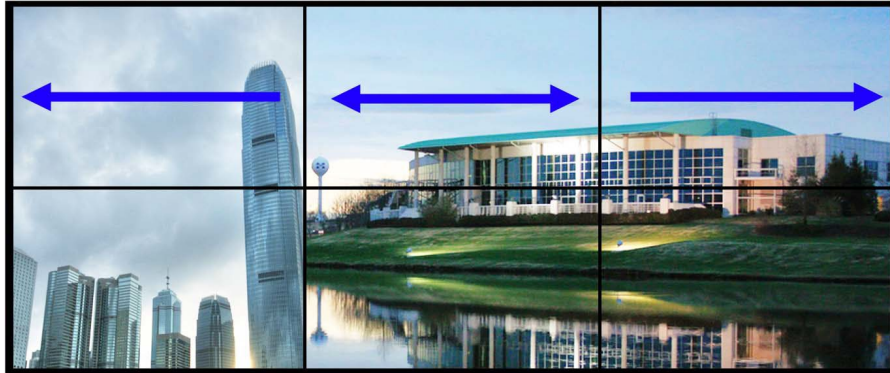
- **Display Sequence:** position of display within context of the array (example below)



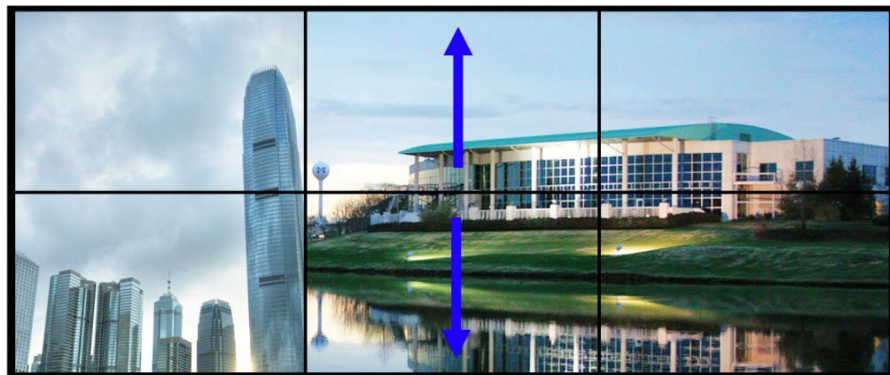
- H-Set Count (Horizontal Set Count): Number of displays in array horizontally (counting left-to-right)  
E.g. Diagram of array on previous page shows H-Set Count of "3"

V-Set Count (Vertical Set Count): : Number of displays in array vertically (counting top-to-bottom)  
E.g. Diagram of array on previous page shows V-Set Count of "3"

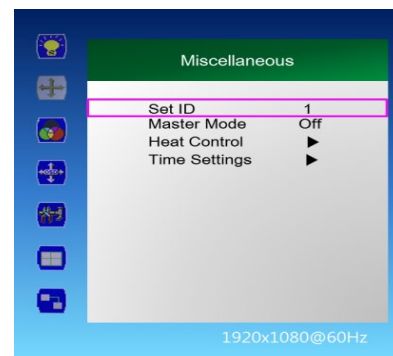
- H-Edge Adj (Horizontal Edge Adjust): Set the horizontal gap between displays in Video Wall (value range: 0~200)



- V-Edge Adj (Vertical Edge Adjust): Set the vertical gap of displays in Video Wall (0~200)



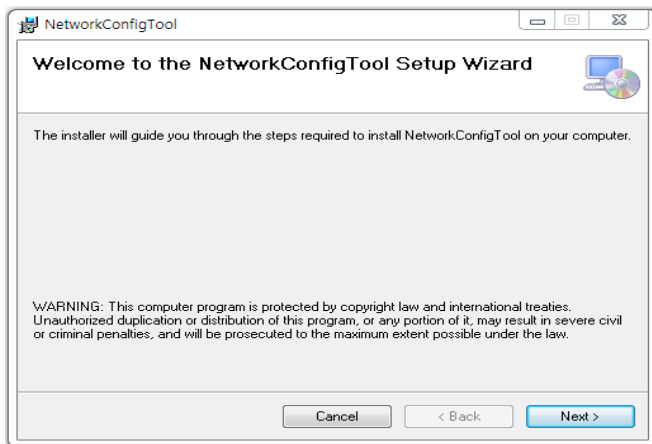
Set ID Setting (Set ID Adjust) : Adjust the Set ID of display (1~100) for control purposes



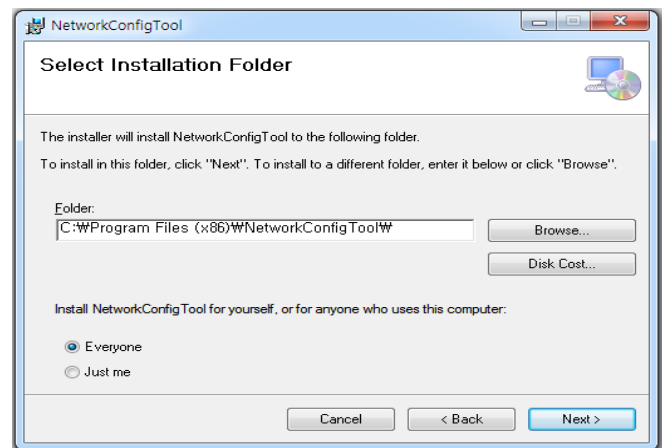
NEX-series displays have an RJ45 input and TCP/IP control option. Follow the instructions below to load the NetworkConfigTool necessary for network control. The commands listed in the serial commands list still apply when controlling via IP. Installation and setup of the Network Config Tool is necessary for the use of NEX-series displays' IP control option. Follow the steps listed below and test network control using SICP software before removing your control PC (if using third-party control system).

## 1. Installing NetworkConfigTool

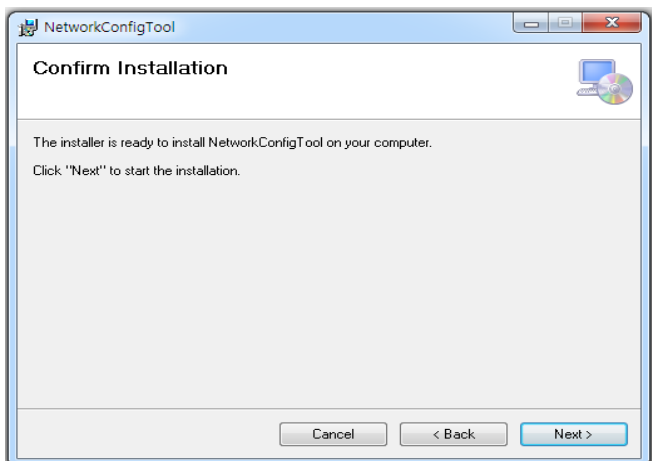
Run the file named "Setup.exe" and follow the instruction below:



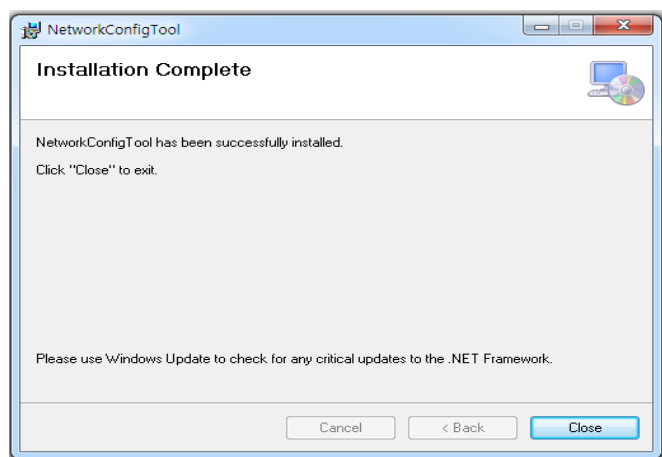
Click "Next"



Select the folder you wish to save the file in. Click "Install" if you are ok with the designated folder.



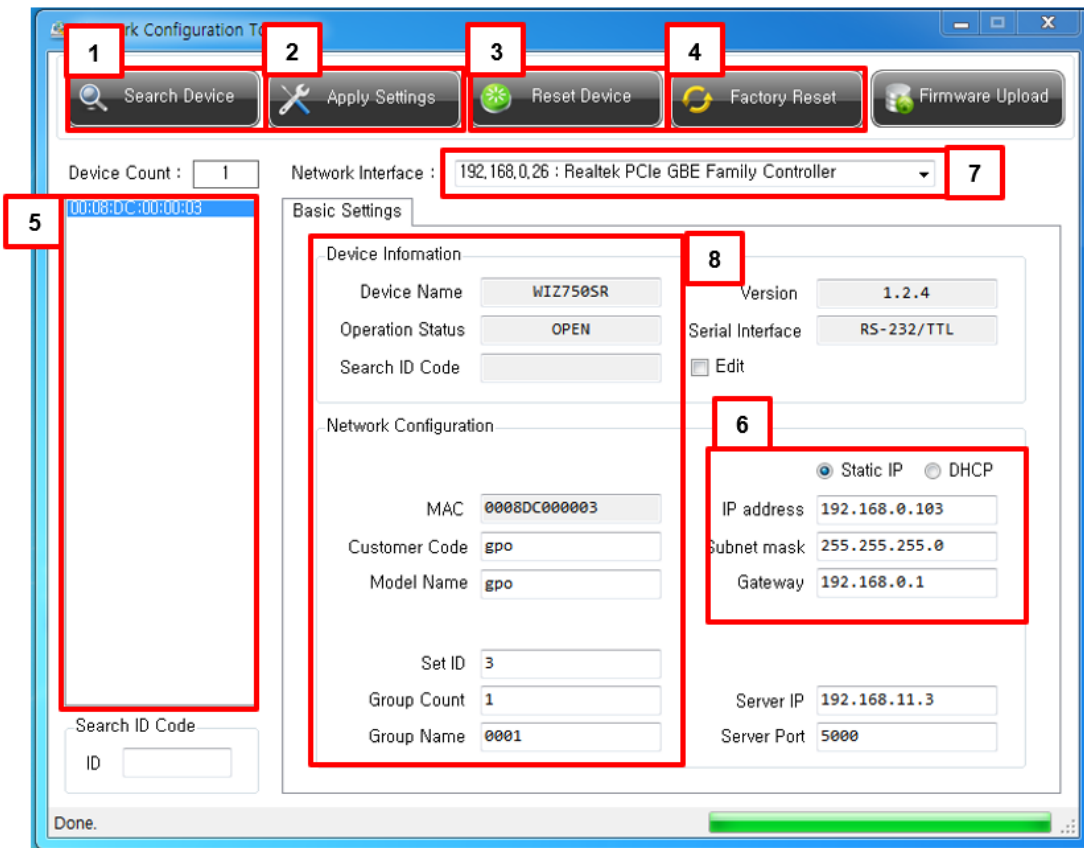
Click "Next".



Once installation is complete, click "Close" to exit.

## 2. Running NetworkConfigTool and Structure

\*Open NetworkConfig Tool application and you will see the window below:



1. Search Device: Search for connected Network devices button.  
(Search after about 10 seconds when the product is turned on or the setting has been changed)
  2. Apply Settings: Save device setting.
  3. Reset Device: Network Device Restart button.
  4. Factory Reset: Network Device setting initialization.  
\* The setting is initialized. Please be careful.
  5. Device Count: List of discovered devices.
  6. IP Setting: Select DHCP or Static IP,  
Can be set when Static IP
  7. Network Interface: Network Device can only be used in the local network.  
If not, check if the network interface, as it will be different.
  8. Device Information & Network Configuration: Do not use as an extension
  9. Open SICP and select TCP/IP control. Test control to verify it is functioning correctly.
  10. Disconnect control PC and commence network control via 3<sup>rd</sup> party control system, if desired.
- \*IMPORTANT: If display is replaced or rearranged in array configuration, user must setup NetworkConfigTool again