

boland

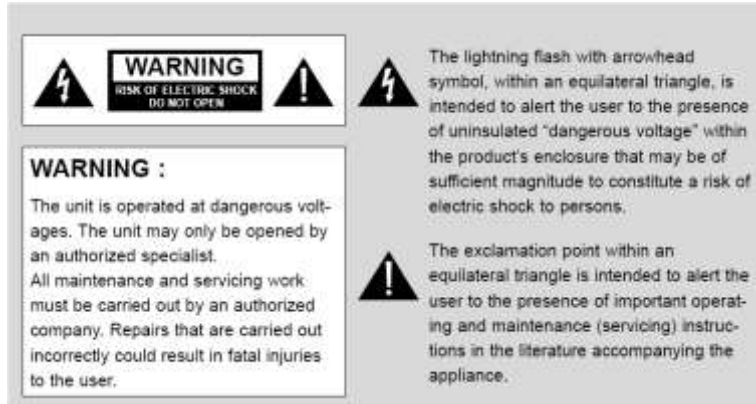


# ***4K Resolution User Manual***

- v1.05 -

**All manual are subject to change without notification.**

## **WARNING**



***Before operating the monitor, please read this manual carefully.***

### **WARNING:**

To reduce the risk of electric shock does not remove cover (or back). No user serviceable parts inside. Refer servicing to qualified service personnel. To prevent fire or shock hazard, do not expose the monitor to direct rain or condensing moisture. Do not rub or strike the Active Matrix LCD with anything hard as this may scratch, mark, or damage the LCD surface permanently.

### **CAUTION:**

Unauthorized tampering with the inside of the monitor invalidates the warranty. The manufacturer shall not warrant for any damage caused by improper maintenance and/or repair work by third parties.

### **Important safeguards for you and your new product:**

Your product has been manufactured and tested with your safety in mind. However, improper use can result in potential electrical shock or fire hazards. To avoid defeating the safeguards that have been built into your new product, please read and observe the following safety points when installing and using your new product and save them for future reference.

#### **1. Read Instructions**

#### **2. Follow Instructions**

All operating and use instructions should be followed.

#### **3. Retain Instructions**

The safety and operating instructions should be retained for future reference.

#### **4. Heed Warnings**

All warnings on the product and in the operating instructions should be adhered to.

#### **5. Cleaning**

Disconnect the unit from the electricity supply before cleaning. Do not use abrasive cleaners. Use a damp cloth for cleaning cabinet and screen.

## **WARNING** *(cont)*

### **6. Water and Moisture**

Do not use this apparatus near water.

### **7. Transporting Product**

A product and cart combination should be moved with care. Quick stops, excessive force and uneven surfaces may cause the product and cart combination to overturn.

### **8. Attachments**

Do not use attachments not recommended by Boland Communications, as they may cause hazards.

### **9. Ventilation**

Do not block any of the ventilation openings.  
Install in accordance with the manufacturer's instructions.

### **10. Power Sources**

This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your facility, consult your electric company.

### **11. Power Lead Polarization**

This product is equipped with a three-wire grounding-type cord. This is a safety feature. Do not defeat the safety purpose of the grounding-type cord.

### **12. Power Cord Protection**

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles and the point where they exit from the product.

### **13. Earthing the Equipment**

This product must be earthed properly to comply with the safety regulations in the country of use. If you are unsure of these regulations, please consult a qualified electrician.

## **WARNING** (cont)

### **17. Servicing**

Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltages or other hazards. Refer all servicing to qualified service personnel. If the monitor does not operate properly, switch it off and call your dealer or visit [www.bolandcom.com](http://www.bolandcom.com).

### **18. Damage Requiring Service**

Remove the product from the electricity supply and refer servicing to qualified service personnel under the following conditions:

- a. If the power-supply cord or plug is damaged.
- b. If the glass LCD front has been damaged.
- c. If there is ingress of water between the glass and the LCD screen.
- d. If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in extensive work by a qualified technician to restore normal operation.
- e. If the product has been dropped or the cabinet has been damaged.
- f. If the product exhibits a distinct change in performance.

### **19. Safety Check**

Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition and the cabinet is intact.

### **20. Mounting**

The product should be mounted on a wall only as recommended in the instructions.

### **21. Power**

This set operates on an AC supply; the voltage is as indicated on the label on the Manual. This appliance must be earthed at all times so that the chassis is well grounded via the power lead.

### **22. Location**

Do not install on an unstable location with support area smaller than the DID set.  
Please secure enough space for safety use.

## **WARNING** (cont)

Note



This product is designed and manufactured with high quality materials and components which can be recycled and reused. This symbol means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from your household waste. Please, dispose of this equipment at your local community waste collection/recycling centre. In the European Union there are separate collection systems for used electrical and electronic product. Please, help us to conserve the environment we live in!

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## ● Model Configuration

	Part Name	Description
DID Series	DID xx (xx=size)	- Supports PIP (At the request of the buyer) - Supports Basic display functions.
	DIDxxSDI	- Supports Basic display functions. - HD Serial Digital Interface (input) included, SMPTE formats. - IP Network control option

## ● REMOTE CONTROL KEY ARRANGEMENTS





## ● Front/Back panel LED Operations

Status	Color	Operation
Power Off	Red	On
Normal	Green	On
No signal	Green	Blink
Sleep	Red	Blink
F/W Download	Green	Fast Blink

## ● 7 Keys type User Keyboard Descriptions

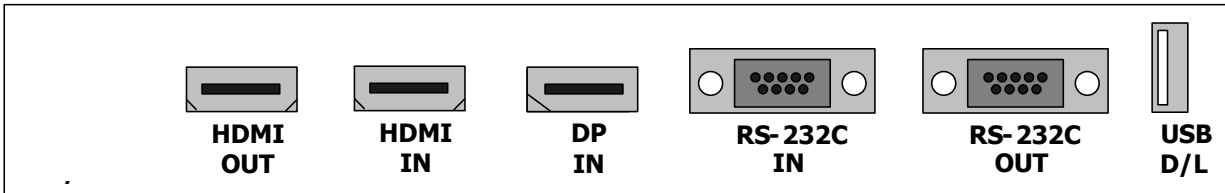
Key Name	Operation
Power Key	▶ Power On/Off.
Menu Key	<ul style="list-style-type: none"><li>▶ Activates main OSD (On Screen Display) menu.</li><li>▶ Navigates higher menu in main OSD menu.</li><li>▶ Stops auto frequency searching.</li><li>▶ Exits OSD menu.</li></ul>
Select Key	<ul style="list-style-type: none"><li>▶ Activates OSD menu of input source selection.</li><li>▶ Changes input source by selecting.</li><li>▶ Executes functions (by OSD help commands) in main OSD menu.</li></ul>
Up Key	<ul style="list-style-type: none"><li>▶ Navigates input source.</li><li>▶ Executes function (by OSD help commands) in main OSD menu.</li><li>▶ Navigates previous menu in main OSD menu.</li></ul>
Down Key	<ul style="list-style-type: none"><li>▶ Navigates input source.</li><li>▶ Executes function (by OSD help commands) in main OSD menu.</li><li>▶ Navigates next menu in main OSD menu.</li></ul>
Left Key	<ul style="list-style-type: none"><li>▶ Decreases sound volume of speaker/headphone (if Speaker option).</li><li>▶ Executes function (by OSD help commands) in main OSD menu.</li><li>▶ Decreases values of user menu in main OSD menu.</li></ul>
Right Key	<ul style="list-style-type: none"><li>▶ Increases sound volume of speaker/headphone (if Speaker option).</li><li>▶ Executes function by OSD help commands in main OSD menu.</li><li>▶ Increases values of user menu in main OSD menu.</li></ul>

## ● IR Remote Control Description

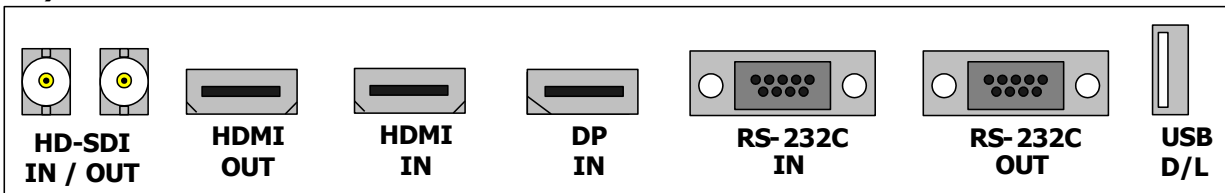
Key Name	Description
Power	▶ Power On/Off (toggle)
F1	▶ Power On (Only On)
Menu	▶ Same as "Menu" key on keypad.
Up	▶ Same as "Up key" on keypad
Down	▶ Same as "Down key" on keypad
Right	▶ Same as "Right key" on keypad
Left	▶ Same as "Left key" on keypad
Enter	▶ Same as "Select key" on keypad
EXIT	▶ Exit OSD menu
Info	▶ Displays input source information
Sleep	▶ Set minimum sleep timer value more than current sleep timer value when sleep timer OSD activated ▶ If sleep timer is maximum value, disables sleep timer
Mute	▶ Toggles sound status of speaker/headphone in mute (if Speaker option).
Source	▶ Activates OSD of source change. ▶ Deactivates OSD of source change.
ARC	▶ Activates OSD of aspect ratio (video format screen shape) control. ▶ Deactivates OSD of aspect ratio control.
STILL	▶ Toggles picture status between motion and still image (freeze).
0~9	▶ Enter digit value to Active SET ID (if Serial/IP Remote Control).
BLUE	▶ Set Active SET ID (if Serial/IP Remote Control).
RED	▶ Delete Active SET ID (if Serial/IP Remote Control).

## ● Input Source Connections

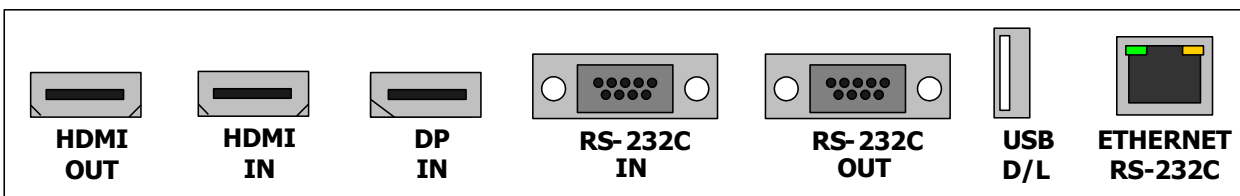
### 1) BASIC MODEL



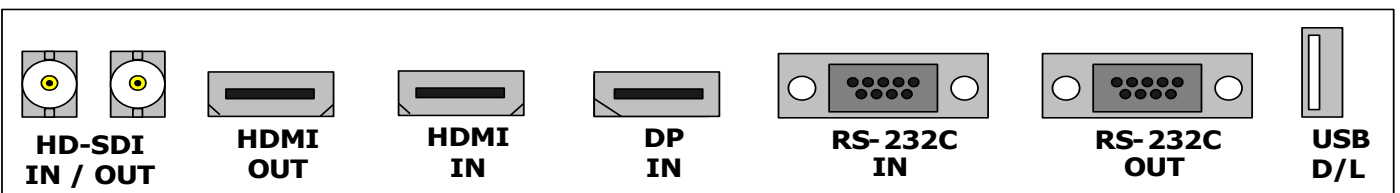
### 2) HD-SDI MODEL



### 3) OPTIONAL ETHERNET (RS232C) MODEL



### 3) HD-SDI + OPTIONAL ETHERNET (RS232C) MODEL



## ● Input Connectors Descriptions

Interface	Description
HDMI OUT	• High Definition Multimedia Output – only output for the HDMI input.
HDMI IN	• High Definition Multimedia Input 2– up to 3840x2160@60Hz (HDMI2.0)
DP	• DISPLAYPORT Input – up to 3840x2160@60Hz (v1.2a)
RS-232 IN	• Facility to control the screen via RS232 protocol Input
RS-232 OUT	• Facility to control the screen via RS232 protocol Output – Please control by using the SET ID.
USB	• Download - software update
HD-SDI IN	• Serial digital Interface Input
HD-SDI Out	• Serial digital Interface Output
ETHERNET (RS-232C)	• RS-232C Communication via Ethernet Port (Optional)

### 1. MENU OVERVIEW

In this menu system, there are several ways to customize the menu settings provided. 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 **OK** button

#### 1) 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.

#### 2) To go to the next level:

Press **OK** (or **Right arrow** button) on the Remote Control.

#### 3) To go back to the previous level:

Press **MENU** (or **Left arrow** button) on the Remote Control.

#### 4) To go to the next menu:

Press **Down arrow** button on the Remote Control.

#### 5) To go to the previous menu:

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

HDMI 1		Resolution : 3840x2160@60Hz
<b>Picture</b>	Contrast	50
Color	Brightness	50
Video Wall	Sharpness	50
HDR	Hue/Saturation	
Audio	Aspect Ratio	Full Screen
Heat Control	Auto Dimming Mode	Off
Network	Dimming	100
Timer	Max Ambient	300
Other Setting	Min Ambient	100
	Ambient	0



HDMI 1		Resolution : 3840x2160@60Hz
Picture	<b>Contrast</b>	50
Color	Brightness	50
Video Wall	Sharpness	50
HDR	Hue/Saturation	
Audio	Aspect Ratio	Full Screen
Heat Control	Auto Dimming Mode	Off
Network	Dimming	100
Timer	Max Ambient	300
Other Setting	Min Ambient	100
	Ambient	0

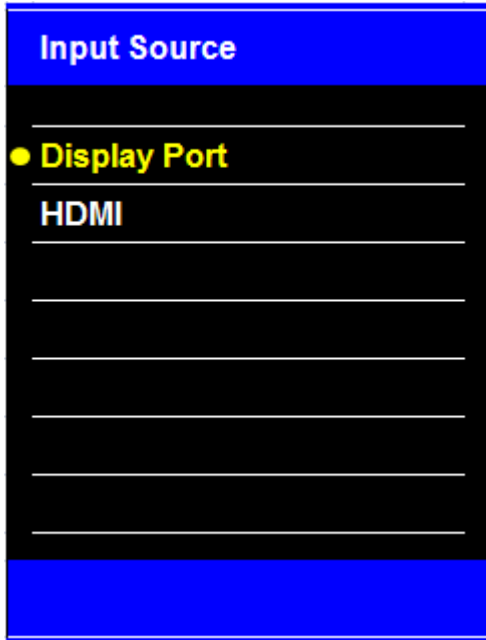


HDMI 1		Resolution : 3840x2160@60Hz
Picture	Color Temperature	9300K
<b>Color</b>	Red Gain	243
Video Wall	Green Gain	222
HDR	Blue Gain	214
Audio	Gamma	2.2
Heat Control	Input Color Format	Auto Select
Network	Color Range	Auto Select
Timer		
Other Setting		

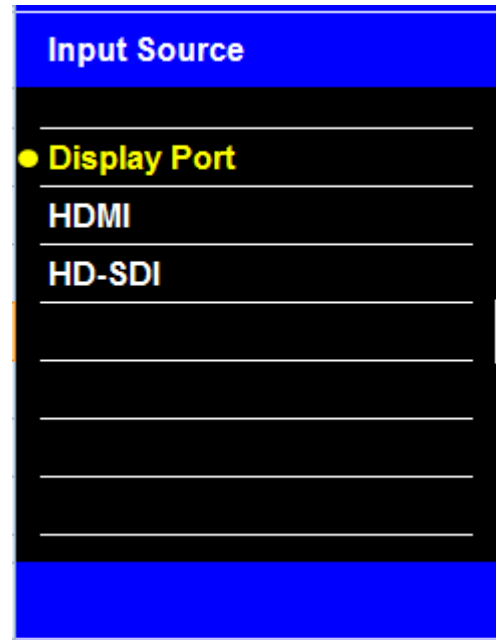
## 1) How to Select Video Source by OSD

- Default source : Display Port, HDMI (HD-SDI : Optional)

1. Press the **SOURCE** button and then ▲/▼ button to select each video source.
2. Press the **OK** button to go to desired video source



[BASIC MODEL]



[HD-SDI MODEL]

### 3. PICTURE Settings - Customizing Settings Contrast / Brightness / Sharpness / Hue / Saturation

HDMI 1		Resolution : 3840x2160@60Hz
Picture	Contrast	50
Color	Brightness	50
Video Wall	Sharpness	50
HDR	Hue/Saturation	
Audio	Aspect Ratio	Full Screen
Heat Control	Auto Dimming Mode	Off
Network	Dimming	100
Timer	Max Ambient	300
Other Setting	Min Ambient	100
OLED	Ambient	0

HDMI 1		Resolution : 3840x2160@60Hz
Picture	Contrast	50
Color	Brightness	50
Video Wall	Sharpness	50
HDR	Hue/Saturation	
Audio	Aspect Ratio	Full Screen
Heat Control	Auto Dimming Mode	Off
Network	Dimming	100
Timer	Max Ambient	300
Other Setting	Min Ambient	100
OLED	Ambient	0

Contrast

HDMI 1		Resolution : 3840x2160@60Hz
Picture	Contrast	50
Color	Brightness	50
Video Wall	Sharpness	50
HDR	Hue/Saturation	
Audio	Aspect Ratio	Full Screen
Heat Control	Auto Dimming Mode	Off
Network	Dimming	100
Timer	Max Ambient	300
Other Setting	Min Ambient	100
OLED	Ambient	0

Brightness

HDMI 1		Resolution : 3840x2160@60Hz
Picture	Contrast	50
Color	Brightness	50
Video Wall	Sharpness	20
HDR	Hue/Saturation	
Audio	Aspect Ratio	Full Screen
Heat Control	Auto Dimming Mode	Off
Network	Dimming	100
Timer	Max Ambient	300
Other Setting	Min Ambient	100
OLED	Ambient	0

Sharpness

HDMI 1		Resolution : 3840x2160@60Hz
Picture	Contrast	50
Color	Brightness	
Video Wall	Sharpness	
HDR	Hue/Saturation	
Audio	Aspect Ratio	
Heat Control	Auto Dimming Mode	
Network	Dimming	
Timer	Max Ambient	
Other Setting	Min Ambient	
OLED	Ambient	

Hue

HDMI 1		Resolution : 3840x2160@60Hz
Picture	Contrast	
Color	Brightness	50
Video Wall	Sharpness	
HDR	Hue/Saturation	
Audio	Aspect Ratio	
Heat Control	Auto Dimming Mode	
Network	Dimming	
Timer	Max Ambient	
Other Setting	Min Ambient	
OLED	Ambient	

Saturation

- Adjust the picture appearance to suit your preference and viewing situations.

1. Press the MENU button to select the **PICTURE** mode.
2. Press the OK button or ► button to select **Contrast** menu.  
(Press the ▲ / ▼ button to select the other menu.)
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to make appropriate adjustments.
5. Press **MENU** button or ◀ button to return to the previous menu.  
Or In order to come out at a time, press the **EXIT** button.

- Hue /Saturation : Only becomes effective in YCbCr input.

## 2) Aspect Ratio



- Selects the screen size.

1. Press the MENU button to select the **PICTURE** mode.
2. Press the OK button (or ► button) and then ▼ button to select **Aspect Ratio** menu.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option:  
**[ Full Screen, Auto, 4:3, 5:4, 16:9, 1:1 ]**
5. Press MENU button or ◀ button to return to the previous menu.  
Or In order to come out at a time, press the **EXIT** button.



## 3) Auto Dimming



- Automatic dimming controls by light sensor in Dimming menu.

1. Press the MENU button to select the **PICTURE** mode.
2. Press the OK button (or ► button) and then ▼ button to select **Auto Dimming Mode** menu.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option:
  - Off** : Adjust the dimming level by the manual operation.
  - On** : Adjust the dimming level by the data of light sensor.  
(Light Ambient Sensor Option only)
  - ECO** : Adjust the dimming level of 50.
5. Press MENU button or ◀ button to return to the previous menu.  
Or In order to come out at a time, press the **EXIT** button.

## 4) Dimming



- Manually adjust the brightness of the screen. (Auto Dimming Mode – Off)  
(The ability to adjust the Backlight of Panel)

1. Press the MENU button to select the **PICTURE** mode.
2. Press the OK button (or ► button) and then ▼ button to select **Dimming** menu.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option:
5. Press MENU button or ◀ button to return to the previous menu.  
Or In order to come out at a time, press the **EXIT** button.

### 5) Max Ambient / Min Ambient

HDMI 1		Resolution : 3840x2160@60Hz
Picture	Contrast	50
Color	Brightness	50
Video Wall	Sharpness	20
HDR	Hue/Saturation	
Audio	Aspect Ratio	Full Screen
Heat Control	Auto Dimming Mode	Off
Network	Dimming	100
Timer	Max Ambient	300
Other Setting	Min Ambient	100
	Ambient	0

HDMI 1		Resolution : 3840x2160@60Hz
Picture	Contrast	50
Color	Brightness	50
Video Wall	Sharpness	20
HDR	Hue/Saturation	
Audio	Aspect Ratio	Full Screen
Heat Control	Auto Dimming Mode	Off
Network	Dimming	100
Timer	Max Ambient	300
Other Setting	Min Ambient	100
	Ambient	0

- Adjusts detected light ambient to set the maximum(minimum) dimming

1. Press the MENU button to select the **PICTURE** mode.
2. Press the OK button (or ► button) and then ▼ button to select **Max(Min) Dim Ambient** menu.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option:

**Max Ambient** : The maximum dimming is changed to 100 units.

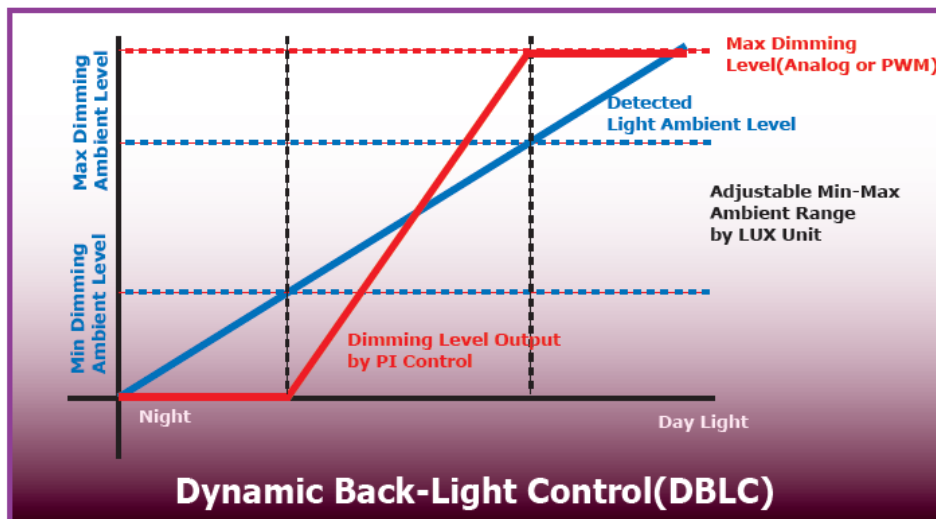
**Min Ambient** : The minimum dimming is changed to 10 units.

5. Press MENU button or ◀ button to return to the previous menu.

Or In order to come out at a time, press the **EXIT** button.

◆ Ambient

- It displays the ambient brightness data. (If the light sensor is connected.)



### 4. Color Settings

#### 1) Color Temperature

HDMI 1		Resolution : 3840x2160@60Hz
Picture	<b>Color Temperature</b>	9300K
	Red Gain	169
Video Wall	Green Gain	164
HDR	Blue Gain	163
Audio	Gamma	2.2
Heat Control	Input Color Format	Auto Select
Network	Color Range	Auto Select
Timer		
Other Setting		



HDMI 1		Resolution : 3840x2160@60Hz
Picture	<b>Color Temperature</b>	3200K
Color	Red Gain	5600K
Video Wall	Green Gain	6500K
HDR	Blue Gain	7800K
Audio	Gamma	9300K
Heat Control	Input Color Format	User
Network	Color Range	
Timer		
Other Setting		

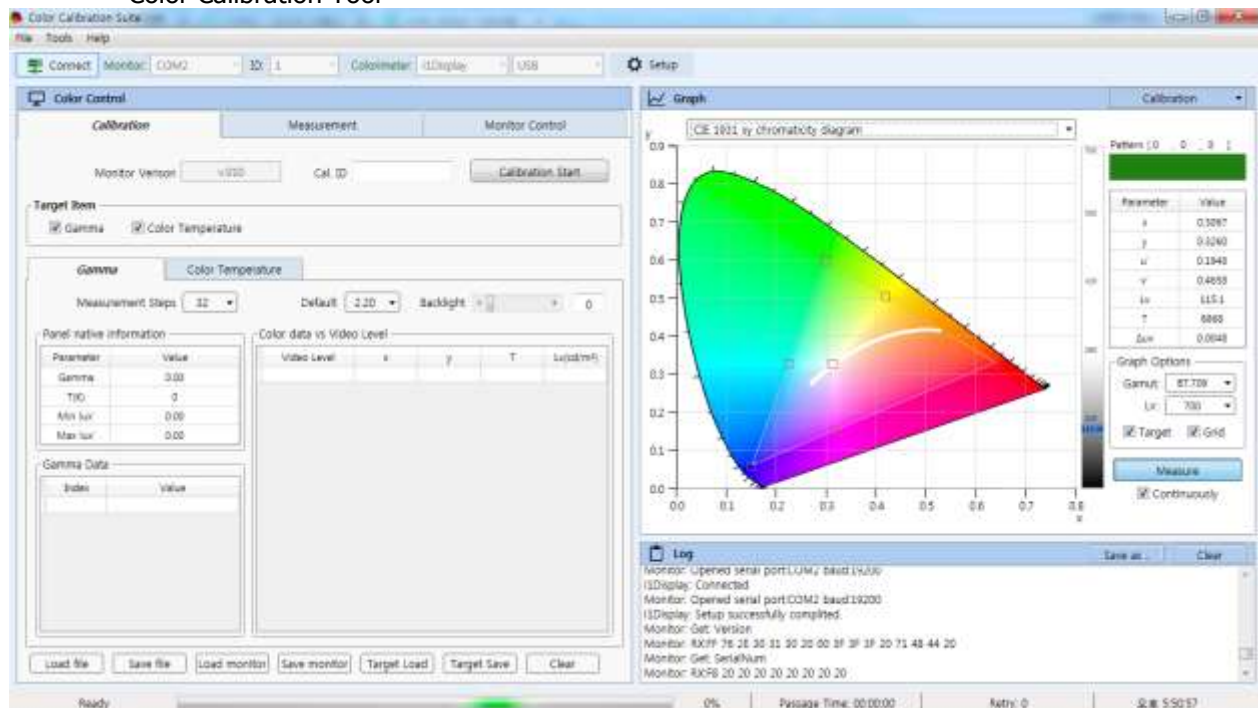
- Choose one of four automatic color adjustments. Set to warm to enhance hotter colors such as red, or set to cool to see less intense colors with more blue.

1. Press the MENU button and then ▼ button to select the **Color**.
2. Press the OK button (or ► button) and then ▼ button to select **Color Temperature** menu.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option:  
[ 3200K, 5600K, 6500K, 7800K, 9300K, User ]
5. Press **MENU** button or ◀ button to return to the previous menu.

Or In order to come out at a time, press the **EXIT** button.

- If you change the GAIN value, automatically switches to the User mode.

#### - Color Calibration Tool



### 2) Red/Green/Blue Gain

HDMI 1		Resolution : 3840x2160@60Hz
Picture	Color Temperature	User
Color	Red Gain	255
Video Wall	Green Gain	255
HDR	Blue Gain	255
Audio	Gamma	2.2
Heat Control	Input Color Format	Auto Select
Network	Color Range	Auto Select
Timer		
Other Setting		



HDMI 1		Resolution : 3840x2160@60Hz
Picture	Color Temperature	User
Color	Red Gain	255
Video Wall	Green Gain	255
HDR	Blue Gain	255
Audio	Gamma	2.2
Heat Control	Input Color Format	Auto Select
Network	Color Range	Auto Select
Timer		
Other Setting		

– Adjust the color on the screen.

1. Press the MENU button and then ▼ button to select the **Color**.
2. Press the MENU button and then ▼ button to select the **Red/Blue/Green Gain**.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option.  
→ If you change the value of the item, the contents of the Color Temperature will automatically change to User.
5. Press **MENU** button or ◀ button to return to the previous menu.  
Or In order to come out at a time, press the **EXIT** button.

### 3) Gamma

HDMI 1		Resolution : 3840x2160@60Hz
Picture	Color Temperature	User
Color	Red Gain	243
Video Wall	Green Gain	222
HDR	Blue Gain	214
Audio	Gamma	2.2
Heat Control	Input Color Format	Auto Select
Network	Color Range	Auto Select
Timer		
Other Setting		

- Set your own gamma value.
- High gamma values display whitish images and low gamma values display blackish image

1. Press the MENU button and then ▼ button to select the **Color**.
2. Press the MENU button and then ▼ button to select the **Gamma**.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option. [2.0, 2.2, 2.35, 2.4, 2.6]  
→ To set the correct gamma value, please complete the calibration
5. Press **MENU** button or ◀ button to return to the previous menu.  
Or In order to come out at a time, press the **EXIT** button.

### 4) Input Color Format



- Check the color space of the input signal, to adjust the screen.  
[ RGB / YPbPr422 (YPbPr444) ]

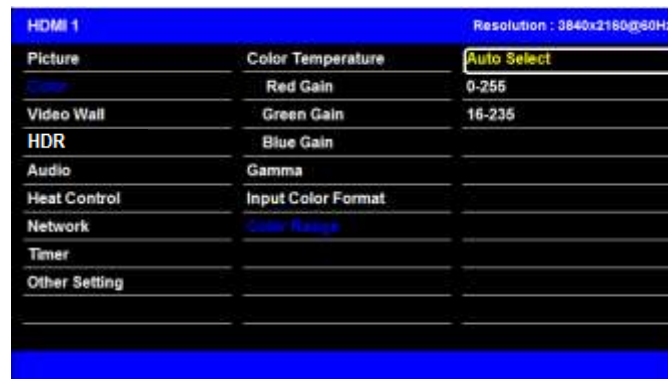
1. Press the MENU button and then ▼ button to select the **Color**.
2. Press the OK button (or ► button) and then ▼ button to select **Input Color Format** menu.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option.

[ RGB, YPbPr, Auto Select ]

5. Press **MENU** button or ◀ button to return to the previous menu.

Or In order to come out at a time, press the **EXIT** button.

### 5) Color Range



- Check the color space of the input signal, to adjust the screen. [0~255, 16~235]
- This function is internally automatically converted, please do not be adjusted without special reason.
- 

1. Press the MENU button and then ▼ button to select the **Color**.
2. Press the OK button (or ► button) and then ▼ button to select **Color Range** menu.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option.

[ Auto Select, 0-255, 16-235 ]

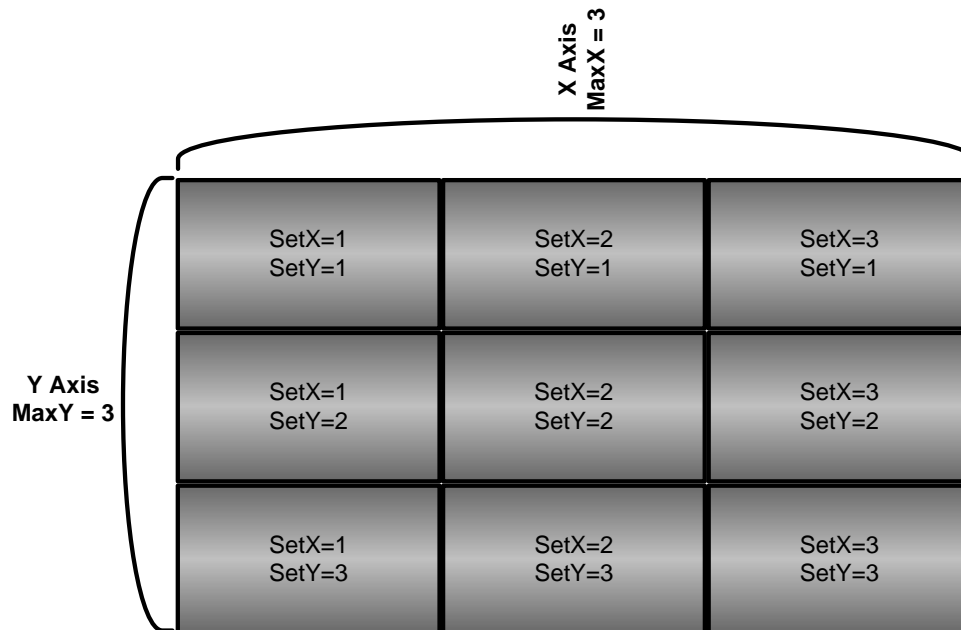
## 5. Video Wall Settings

- This menu item is for MULTI VISION model.

HDMI 1		Resolution : 3840x2160@60Hz
Picture	X MAX	1
Color	Y MAX	1
<b>Video Wall</b>	X Position	1
HDR	Y Position	1
Audio	X Gap	0
Heat Control	Y Gap	0
Network	SET ID	11
Timer		
Other Setting		

1. Press the MENU button and then ▼ button to select the **Video Wall Settings**.
2. Press the OK button (or ► button) and then ▼ button to select **Second Settings**.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option.
5. Press **MENU** button or ◀ button to return to the previous menu.  
Or In order to come out at a time, press the **EXIT** button.

- **Video Wall Layout Settings**



- X Max** : Maximum number of column tiles to divide video image. (Support up to 11step)
- Y Max** : Maximum number of row tiles to divide video image. (Support up to 11step)
- X position** : Coordinate of video image's column position.
- Y position** : Coordinate of video image's row position.

- **Setting the Bezel Corrections for Natural Tiled Image**

**X Gap** : Proportional Value of Vertical Bezel to Panel size by Per-mil unit.

**Y Gap** : Proportional Value of Horizontal Bezel to Panel size by Per-mil unit.

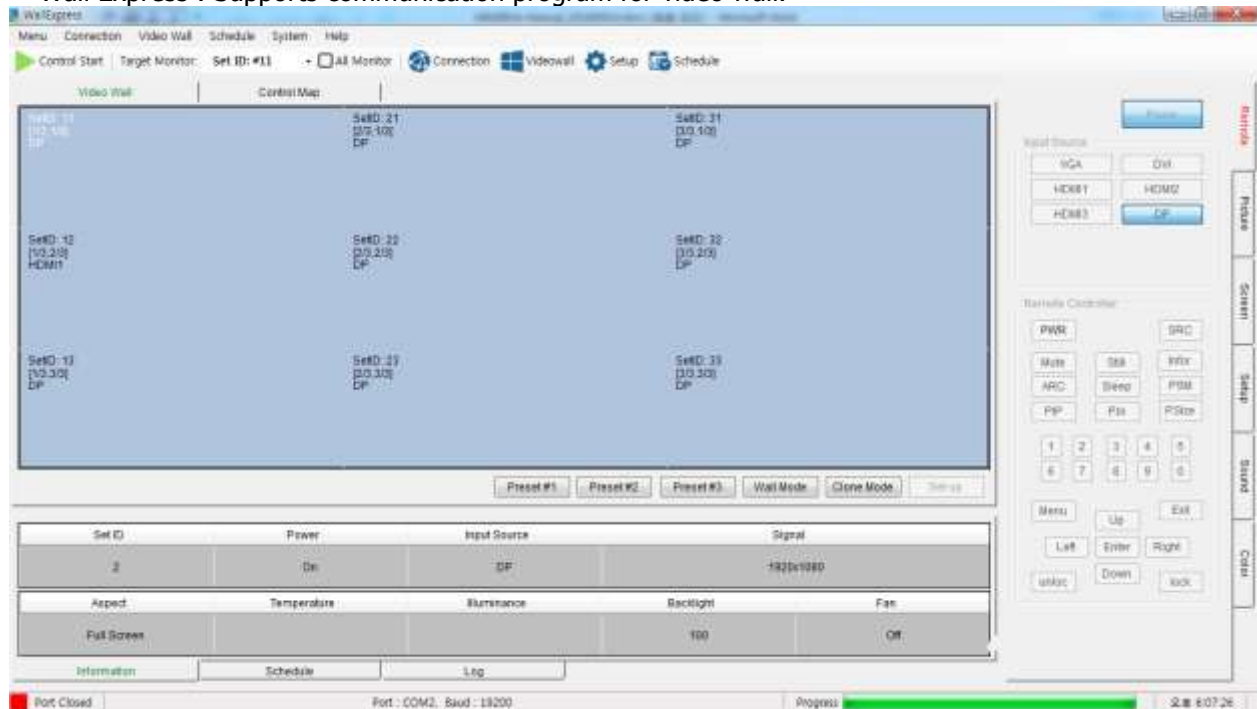
- **Set ID & Active Set ID**



- Set Active SET ID number Before Control each Board by Remote control or RS-232 (TCP/IP)
- If control only 15<sup>th</sup> Board, Active SET ID must set 15.

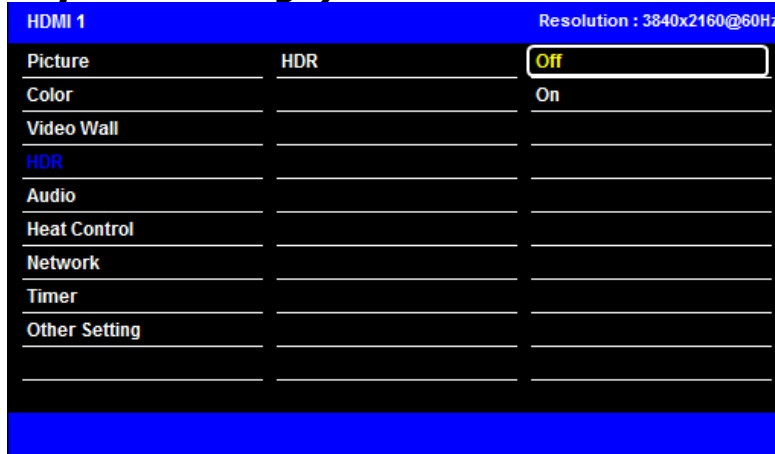
1. Press the **BLUE** button and then use 0~9 button to select the **Active SET ID**.
2. If Press the **RED** button, delete ID number.

- Wall Express : Supports communication program for video wall.





## 6. HDR (High Dynamic Range)



Off

On

HDR (High Dynamic Range) is a technology that expands the dynamic range so that people are looking closer to what they see in real time by making lights brighter and darker.

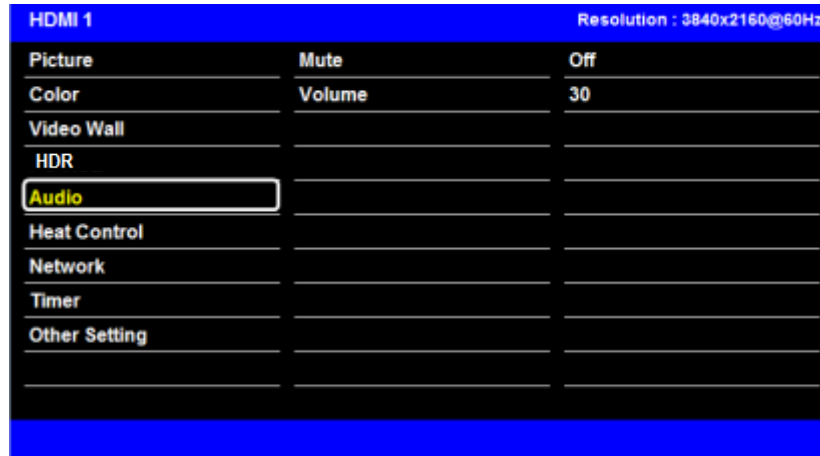
1. Press the MENU button and then ▼ button to select the **Audio Settings**.
2. Press the OK button (or ► button) and then ▼ button to select **Second Settings**.
3. Press the OK button or ► button to select **Adjustment** menu.

- \* This feature is only supported on the high version model.  
(The basic model does not support HDR functionality.)
- \* Equipment and contents must support HDR.

On : If the input image is HDR, it automatically replays the HDR screen.

Off : Always turn off the HDR function.

## 6. Audio



1. Press the MENU button and then ▼ button to select the **Audio Settings**.
2. Press the OK button (or ► button) and then ▼ button to select **Second Settings**.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option.
5. Press **MENU** button or ◀ button to return to the previous menu.  
Or In order to come out at a time, press the **EXIT** button.

## 7. Heat Control Settings

### 1) Fan Control



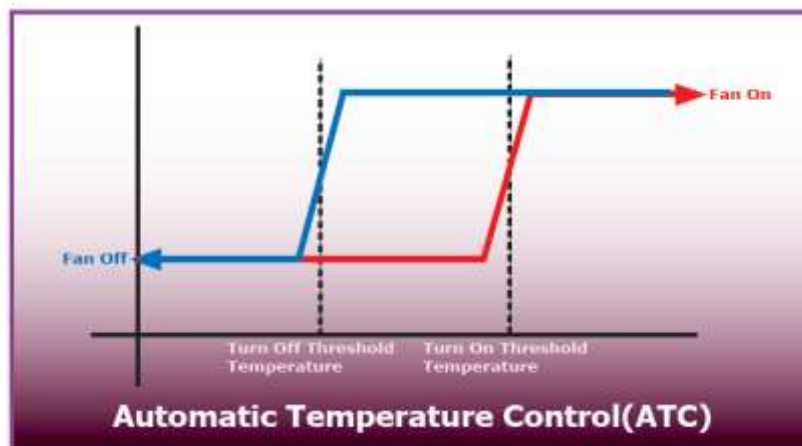
1. Press the MENU button and then ▼ button to select the **Heat Control Settings**.
2. Press the OK button (or ► button) to select **Fan Control** menu.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option.
5. Press **MENU** button or ◀ button to return to the previous menu.

Or In order to come out at a time, press the **EXIT** button.

**Off** : Set the fan is always off, regardless of the value of the temperature sensor.

**On** : Set the fan is always on, regardless of the value of the temperature sensor.

**Auto** : Fan is automatically driven according to the temperature setting.



### 2) Heat Control



HDMI 1		Resolution : 3840x2160@60Hz
Picture	Fan Control	Auto
Color	Fan Active Temperature	60.0°C
Video Wall	Hysteresis	2.0°C
HDR	Shutdown	85.0°C
Audio	Temperature	37.0°C
Heat Control		
Network		
Timer		
Other Setting		

1. Press the MENU button and then ▼ button to select the **Heat Control Settings**.
2. Press the OK button (or ► button) and then ▼ button to select **Second Settings**.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option.
5. Press **MENU** button or ◀ button to return to the previous menu.

Or In order to come out at a time, press the **EXIT** button.

**Fan Active Temperature** : Adjusts fan driving temperature by Celsius degree. It works only when the **Fan Control** setting is **Auto**.

**Hysteresis** : Variable range of Fans on/off interval.

**Shutdown** : Adjust shutdown mode temperature by Celsius degree.

when current temperature reaches the shutdown temp, the monitor enters power down mode.

**Temperature** : The internal temperature data by the temperature sensor.

### 8. Network

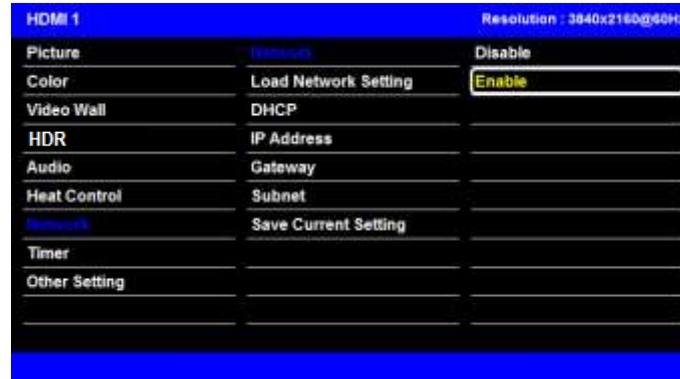
HDMI 1		Resolution : 3840x2160@60Hz
Picture	Network	Enable
Color	Load Network Setting	
Video Wall	DHCP	On
HDR	IP Address	174.168.10.7
Audio	Gateway	174.168.10.1
Heat Control	Subnet	255.255.255.0
<b>Network</b>	Save Current Setting	
Timer		
Other Setting		

When apply the LAN sub board, it is possible to serial communication by Ethernet.



- LAN to Serial sub board -

### 1) Network



1. Press the MENU button and then ▼ button to select the **Network**.
2. Press the OK button (or ► button) and then ▼ button to select **Network**.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option.
5. Press **MENU** button or ◀ button to return to the previous menu.  
Or In order to come out at a time, press the **EXIT** button.

**Disable** : Communication connection via a DSUB-9P of Board without the use of a NETWORK.

**Enable** : Communication connection using a NETWORK.

### 2) Load Network Setting



1. Press the MENU button and then ▼ button to select the **Network**.
2. Press the OK button (or ► button) and then ▼ button to select **Load Network Setting**.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press **MENU** button or ◀ button to return to the previous menu.  
Or In order to come out at a time, press the **EXIT** button.

**Enter** : Get the network information that is stored in the LAN sub board.

### 3) DHCP

HDMI 1		Resolution : 3840x2160@60Hz
Picture	Network	Off
Color	Load Network Setting	On
Video Wall	DHCP	
HDR	IP Address	
Audio	Gateway	
Heat Control	Subnet	
Network	Save Current Setting	
Timer		
Other Setting		

1. Press the MENU button and then ▼ button to select the **Network**.
2. Press the OK button (or ► button) and then ▼ button to select **DHCP**.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option.
5. Press **MENU** button or ◀ button to return to the previous menu.

Or In order to come out at a time, press the **EXIT** button.

**On : It is possible to get the IP information of monitor from the Server.**

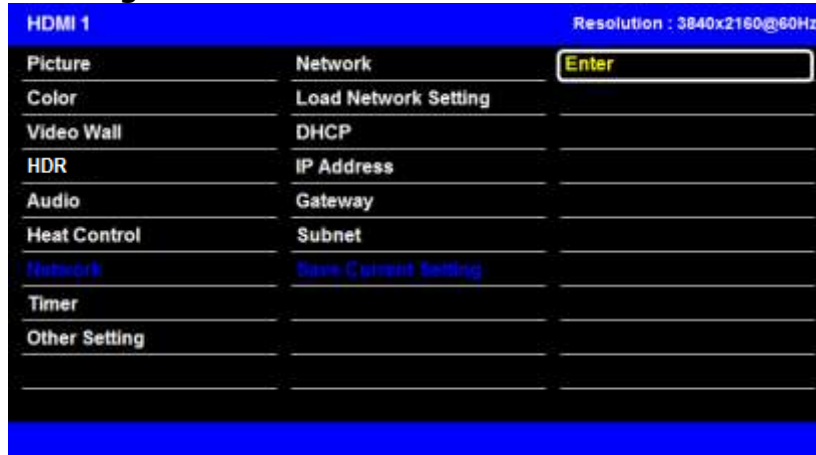
- To avoid IP address conflicts.

**Off : The user can enter the IP address directly.**

### 4) Network Information

HDMI 1		Resolution : 3840x2160@60Hz
Picture	Network	Enable
Color	Load Network Setting	
Video Wall	DHCP	On
HDR	IP Address	174.168.10.7
Audio	Gateway	174.168.10.1
Heat Control	Subnet	255.255.255.0
Network	Save Current Setting	
Timer		
Other Setting		

## 5) Save Current Setting



1. Press the MENU button and then ▼ button to select the **Network**.
2. Press the OK button (or ► button) and then ▼ button to select **Save Current Setting**.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option.
5. Press **MENU** button or ◀ button to return to the previous menu.  
Or In order to come out at a time, press the **EXIT** button.

- To save the current setting to LAN sub board.



## 9. Timer Settings

### 1) Current Time



- If current time setting is wrong, reset the clock manually
- When the AC POWER is OFF, current time will be initialized.

1. Press the MENU button and then ▼ button to select the **Timer Settings**.
2. Press the OK button (or ► button) and then ▼ button to select **Second Settings**.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option.
5. Press **MENU** button or ◀ button to return to the previous menu.  
Or In order to come out at a time, press the **EXIT** button.

### 2) Timer Settings

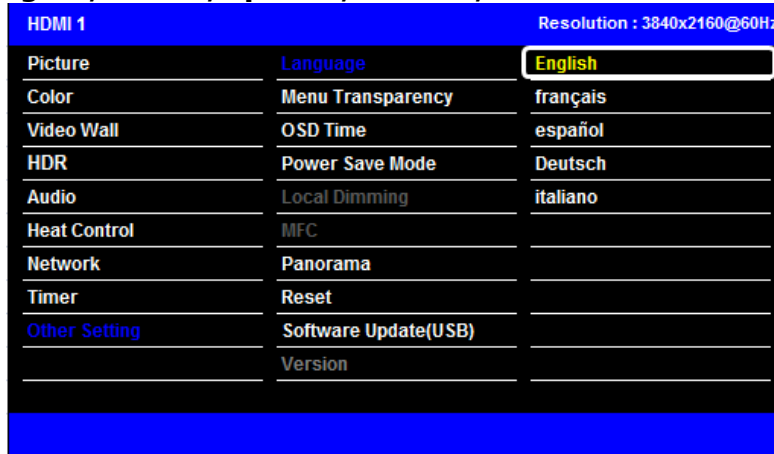


1. Press the MENU button and then ▼ button to select the **Timer Settings**.
2. Press the OK button (or ► button) and then ▼ button to select **Second Settings**.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option.
5. Press **MENU** button or ◀ button to return to the previous menu.  
Or In order to come out at a time, press the **EXIT** button.

- On Time** : Set the time to start automatically.
- Off Time** : Set the power off time automatically.

## 10. Other Settings

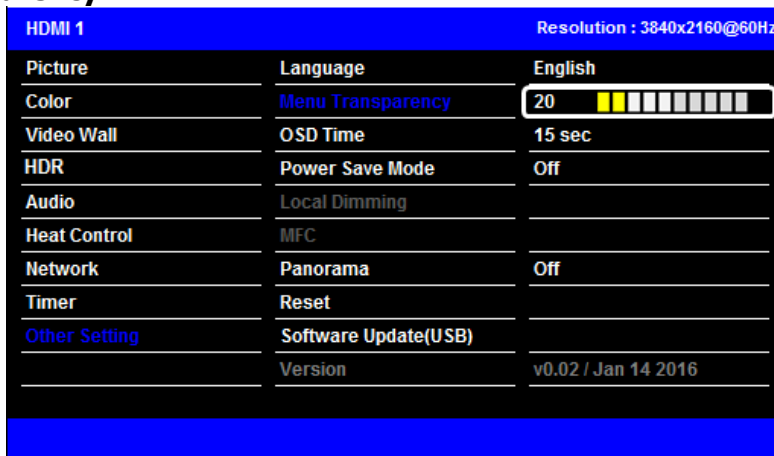
### 1) Language - English, French, Spanish, German, Italian



- Language might be changed according to the specification of the buyer.

1. Press the MENU button and then ▼ button to select the **Other Settings**.
2. Press the OK button (or ► button) to select **Language** menu.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option.
5. Press **MENU** button or ◀ button to return to the previous menu.  
Or In order to come out at a time, press the **EXIT** button.

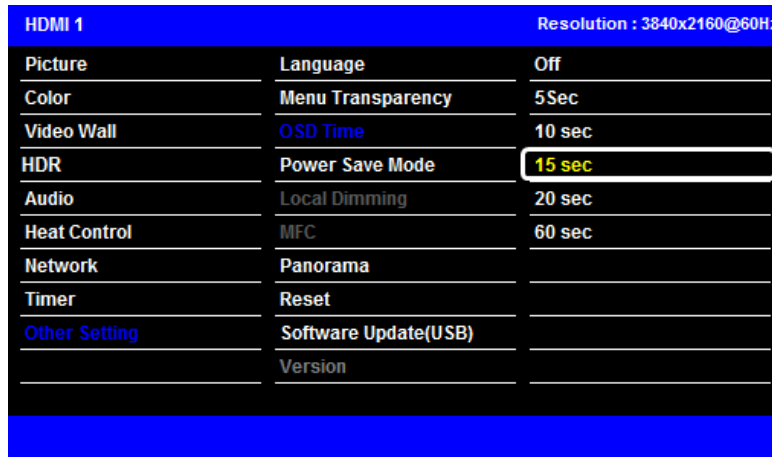
### 2) Menu Transparency



- Set the OSD transparency.

1. Press the MENU button and then ▼ button to select the **Other Settings**.
2. Press the OK button (or ► button) and then ▼ button to select **Menu Transparency** menu.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option.
5. Press **MENU** button or ◀ button to return to the previous menu.  
Or In order to come out at a time, press the **EXIT** button.

### 3) OSD Timeout

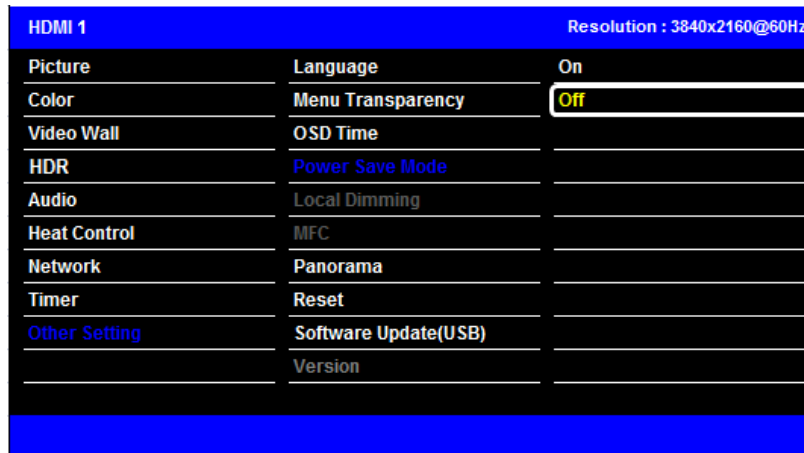


HDMI 1		Resolution : 3840x2160@60Hz
Picture	Language	Off
Color	Menu Transparency	5Sec
Video Wall	OSD Time	10 sec
HDR	Power Save Mode	15 sec
Audio	Local Dimming	20 sec
Heat Control	MFC	60 sec
Network	Panorama	
Timer	Reset	
Other Setting	Software Update(USB)	
	Version	

- Set the screen duration time of OSD

1. Press the MENU button and then ▼ button to select the **Other Settings**.
2. Press the OK button (or ► button) and then ▼ button to select **OSD Timeout** menu.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option.
5. Press **MENU** button or ◀ button to return to the previous menu.  
Or In order to come out at a time, press the **EXIT** button.

### 4) Power Save Mode

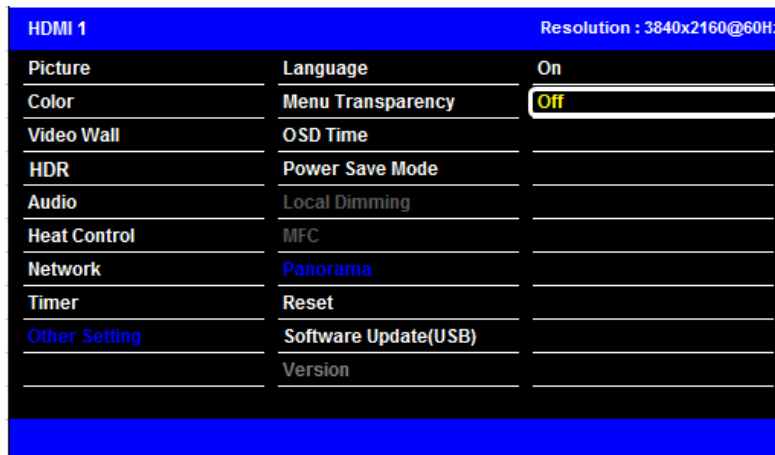


HDMI 1		Resolution : 3840x2160@60Hz
Picture	Language	On
Color	Menu Transparency	Off
Video Wall	OSD Time	
HDR	Power Save Mode	
Audio	Local Dimming	
Heat Control	MFC	
Network	Panorama	
Timer	Reset	
Other Setting	Software Update(USB)	
	Version	

- Shut off the panel power after the input source has been unused for some time, to save power.

1. Press the MENU button and then ▼ button to select the **Other Settings**.
2. Press the OK button (or ► button) and then ▼ button to select **Power Save Mode** menu.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option.
5. Press **MENU** button or ◀ button to return to the previous menu.  
Or In order to come out at a time, press the **EXIT** button.

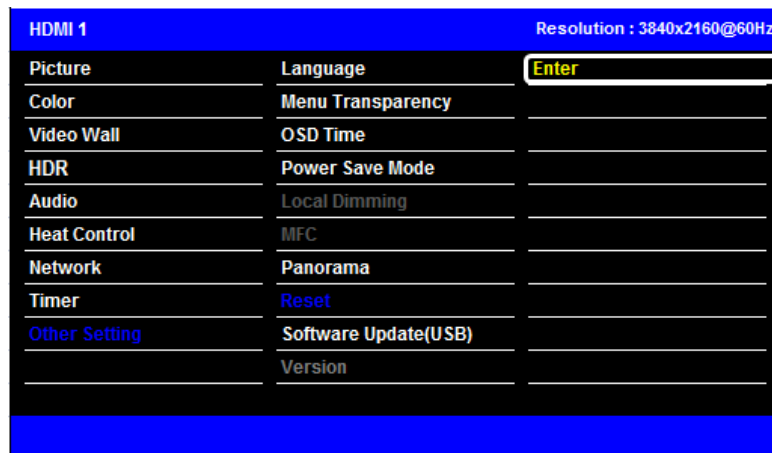
## 5) Panorama



- Can be used on the stretch panels. (For example, 1920x480 resolution panel.)

1. Press the MENU button and then ▼ button to select the **Other Settings**.
2. Press the OK button (or ► button) and then ▼ button to select **Panorama** menu.
3. Press the OK button or ► button to select **Adjustment** menu.
4. Press the ▲ / ▼ button to select desired option.
5. Press **MENU** button or ◀ button to return to the previous menu.  
Or In order to come out at a time, press the **EXIT** button.

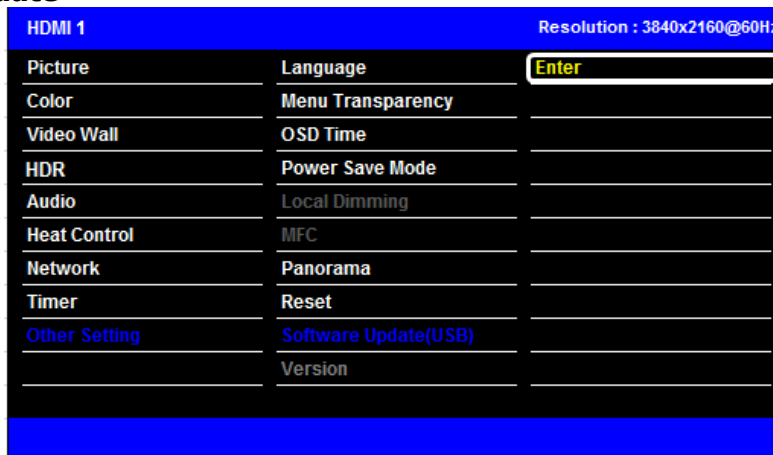
## 6) Reset



- Initialize that have changed settings on OSD

1. Press the MENU button and then ▼ button to select the **Other Settings**.
2. Press the OK button (or ► button) and then ▼ button to select **Reset** menu.
3. Press the OK button or ► button to select **Enter**.
4. Press the OK button to select.

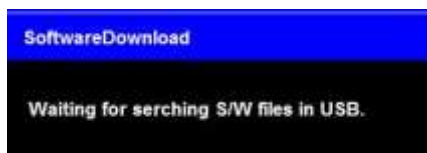
## 7) Software Update



- Software update function using the USB MEMORY.
- It can also be updated via serial communication. (Using ASP tool)
- It can also be updated via serial communication. (It is available in LAN to Serial board model.)

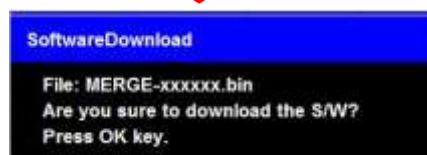
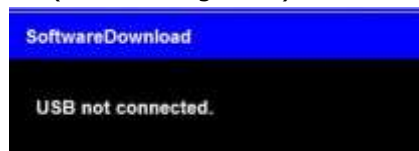
1. Save the update file to a USB stick. (ex) mergy\_151223.bin
2. Insert the USB stick into the socket for download.
3. Press the MENU button and then ▼ button to select the **Other Settings**.
4. Press the OK button (or ► button) and then ▼ button to select **Software Update** menu.
5. Press the OK button to select **Enter**.

### 6. Normal Progress



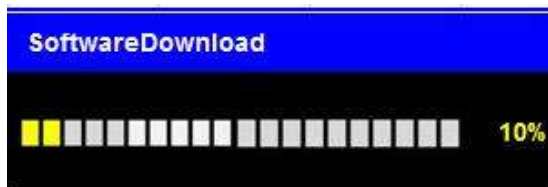
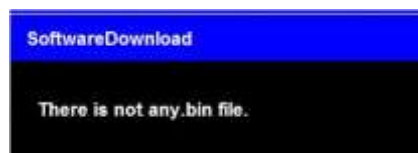
Please check the USB stick.

USB stick do not plugged in the socket.  
(Not be recognized.)



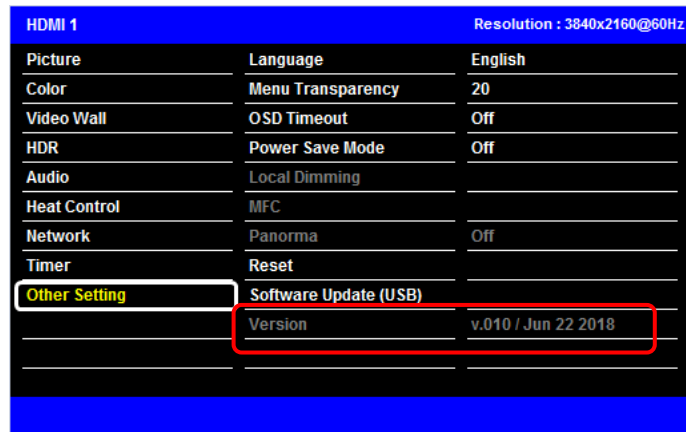
Please check download file.

File for download is not in the USB stick.



7. When the update is successfully completed, the set is automatic reset.

### 8) Version



HDMI 1		Resolution : 3840x2160@60Hz
Picture	Language	English
Color	Menu Transparency	20
Video Wall	OSD Timeout	Off
HDR	Power Save Mode	Off
Audio	Local Dimming	
Heat Control	MFC	
Network	Panorma	Off
Timer	Reset	
<b>Other Setting</b>	<b>Software Update (USB)</b>	
	Version	v.010 / Jun 22 2018

- Check the information of the current software.

1. Press the MENU button and then ▼ button to select the **Other Settings**.  
( Version / Generated date )

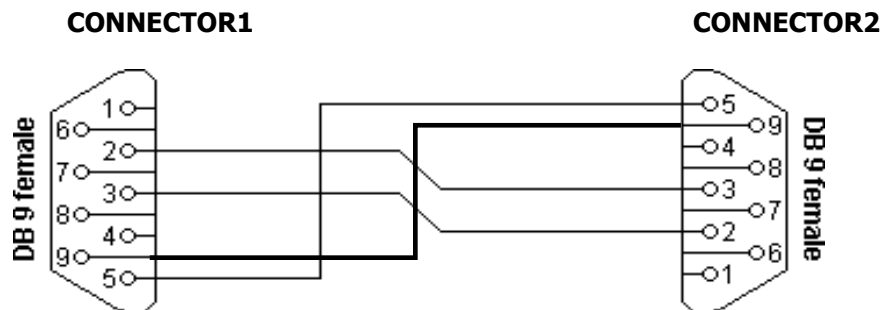
## 11. SERIAL CONTROL PROTOCOL.

### 1) Serial Setup

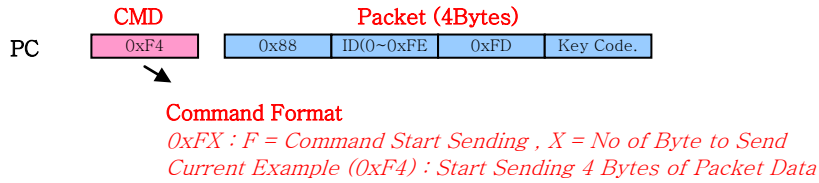
Item	Settings
Baud rate	19200bps
Data Bit	8bit
Stop Bit	1bit
Parity Bit	None
Stream Control	None

### 2) Serial Cable between PC and AD BOARD (simple null modem cable)

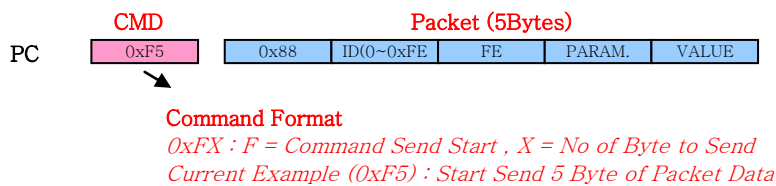
CONNECTOR1	CONNECTOR2	FUNCTION	
2	3	RX	TX
3	2	TX	RX
5	5	SIGNAL GROUND	
9	9	IR BYPASS SIGNAL	



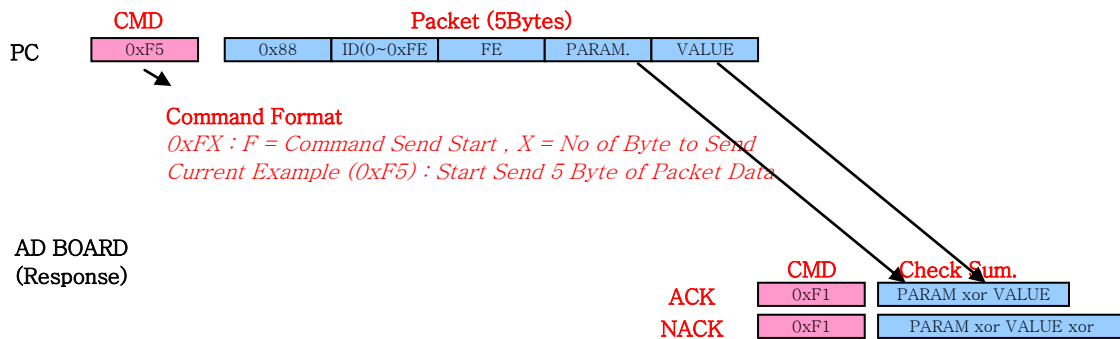
### 1) Protocols - By DSUB9P Serial Port Virtual Remote Control



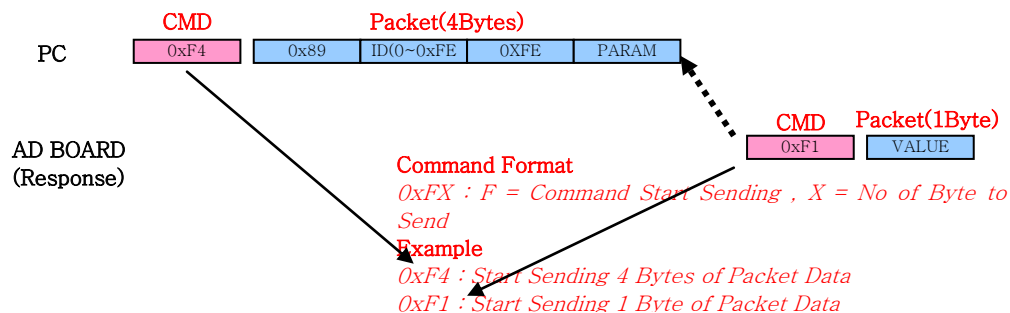
### Setting Parameters to AD BOARD



### Data setting only ( Not adjust function for speed)



### Read Parameters from AD BOARD





### 2) Protocols - By Ethernet Port (Option - Network Sub Board)

To set up the parameters to monitor, transfer the following instruction.

- Transport Layer : TCP
- Port : 5000
- Command : DCOM (Ethernet CMD) + Serial CMD
  - > ASCII : DCOM
  - HEX : 0x44 0x43 0x4F 0x4D

#### Virtual Remote Control



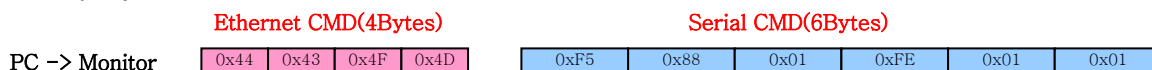
#### Example ) Key Power - Set ID 01



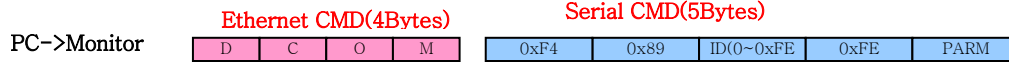
#### Setting Parameters to AD BOARD



#### Example ) Switch to DP source - Set ID 01



### Read Parameters from AD BOARD



### Example ) Check Current Source - Set ID 01 (DP)



### 3) Control Command Packet

Virtual RCU (Remote Control Unit) : Emulates the Infra Red Remote Control

CMD	Data1	Data2	Data3	Description	Data4
Command	Target	ID	CMD		Key Code
<b>0xF4 (Start Sending)</b>	<b>0x88</b>	<b>0xFF (0x00~0 xFE)</b>	<b>0xFD (RCU)</b>	KEY_POWER	<b>0x11</b>
				KEY_INPUT	<b>0x13</b>
				KEY_MENU	<b>0x43</b>
				KEY_EXIT	<b>0x50</b>
				KEY_UP	<b>0x47</b>
				KEY_DOWN	<b>0x4B</b>
				KEY_LEFT(VOL -)	<b>0x57</b>
				KEY_RIGHT(VOL +)	<b>0x53</b>
				KEY_ENTER	<b>0x04</b>
				KEY_MUTE	<b>0x03</b>
				KEY_STILL	<b>0x0A</b>
				KEY_INFO	<b>0x06</b>
				KEY_SLEEP	<b>0x0B</b>
				SET ID	<b>0x51</b>
				SET ID EXIT	<b>0x55</b>

### System Parameter Direct Settings/Read Packet

CMD	Data1	Data2	Data3	Data4	Data5	Description	Range (HEX)	
Command	Target	ID	CMD	Param	Value			
<b>0xF5</b> (Start Set)  <b>0xF4</b> (Start Get)	<b>0x88</b> (Set)  <b>0x89</b> (Get)	<b>0xXX</b> (0x00~0xFE)	<b>0xFE</b> Set / Get Param.	<b>0x00</b>		LANGUAGE	0	English
							1	Français
							2	Español
							3	Deutsch
							4	Italiano
				<b>0x01</b>		MINERVA [0 ~ 5] LINKER [1 ~ 2] LINKER 2 [1 ~ 4 : 4 - HDBaseT]	0	VGA
							1	DP
							2	HDMI1
							3	HDMI2
							4	HDMI3
				<b>0x03</b>		COLOR TEMP	0	3200K
							1	5600K
							2	6500K
3	7800K							
4	9300K							
<b>0x04</b>		CONTRAST	0	0				
			64	100				
<b>0x05</b>		BRIGHTNESS	0	0				
			64	100				
<b>0x06</b>		HUE (Only YPbPr Input)	0	0				
			64	100				
<b>0x07</b>		SHARPNESS	0	0				
			64	100				
<b>0x0F</b>		Aspect Ratio	0	Full Screen				
			1	Auto				
			2	4:3				
			3	5:4				
			4	16:9				
<b>0x10</b>		User Red Gain	0	0				
			FF	255				
<b>0x11</b>		User Green Gain	0	0				
			FF	255				
<b>0x12</b>		User Blue Gain	0	0				
			FF	255				
<b>0x13</b>		PIP [HIGH Version]	0	PIP Disable				
			1	PIP Enable				

<b>0xF5</b> (Start Set)  <b>0xF4</b> (Start Get)	<b>0x88</b> (Set)  <b>0x89</b> (Get)	<b>0xXX</b> (0x00~0xFE)	<b>0xFE</b> /0xFC Set /Get Param.	<b>0x14</b>	<b>0x00~0xFF</b> (By Min-Max) <b>Not Send</b> <b>in Get Mode</b>	PIP Input [HIGH Version]	0	DP
				PIP Input [HIGH Version]		1	HDMI	
				<b>0x15</b>		PIP Type [HIGH Version]	0	PIP
				PIP Type [HIGH Version]		1	PBP	
				<b>0x16</b>		PIP Position [HIGH Version]	0	Right Down
							1	Right Up
							2	Left Up
							3	Left Down
				<b>0x17</b>		Mute	0	MUTE ON
							1	MUTE OFF
				<b>0x1B</b>		VOLUME	0	0
							64	100
				<b>0x23</b>		ON HOUR	0	0
							17	23
				<b>0x24</b>		ON MINUTE	0	0
							3B	59
				<b>0x25</b>		ON TIMEON OFF	0	Off
							1	On
				<b>0x27</b>		OFF HOUR	0	0
							17	23
				<b>0x28</b>		OFF MINUTE	0	0
							3B	59
				<b>0x29</b>		OFF TIME OFF	0	Off
							1	On
<b>0x2A</b>	SETID	0	0					
		63	99					
<b>0x2F</b>	POWER SAVE MODE	0	Off					
		1	On					
<b>0x32</b>	CURRENT HOUR	0	0					
		17	23					
<b>0x33</b>	CURRENT MINUTE	0	0					
		3B	59					
<b>0x35</b>	KEY LOCK	0	Off					
		1	On					
<b>0x36</b>	REMOTE LOCK	0	Off					
		1	On					
<b>0x37</b>	ILLUMINANCE <sup>(8)</sup>							
<b>0x38</b>	MAX_ILLUMINANCE <sup>(2)</sup>	2	200					
		FF	25000					
<b>0x39</b>	MIN_ILLUMINANCE <sup>(3)</sup>	1	10					
		FF	2550					
<b>0x3A</b>	AUTO_DIM	0	Off					
		1	On					

<p>0xF5 (Start Set)</p> <p>0xF4 (Start Get)</p>	<p>0x88(Set)</p> <p>0x89(Get)</p>	<p>0xFF (0x00~0xFF)</p>	<p>0xFE Set /Get Param.</p>	0x3B	<p>0x00~0xFF (By Min-Max) Not Send in Get Mode</p>	DIM_LEVEL <sup>(4)</sup>	0	0
						64	100	
				0x3C		CURTEMP_READ <sup>(5)(8)</sup>		
				0x3E		FAN ACTIVE TEMP <sup>(5)</sup>	3C	0
							B4	60
				0x3F		FAN HYSTERESIS	0	0
							14	10
				0x40		FAN_CONTROL	0	Off
							1	On
							2	Auto
				0x42		X POSITION	1	1
							0B	11
				0x43		Y POSITION	1	1
							0B	11
				0x44		X MAX	1	1
							0B	11
				0x45		Y MAX	1	1
							0B	11
				0x46		XGAP <sup>(9)</sup>	0	0
							64	100
				0x47		Y GAP <sup>(9)</sup>	0	0
							64	100
				0x48		TEMP_SHUTDOWN <sup>(5)</sup>		TBD
								TBD
				0x49		3200K Red Gain	0	0
							FF	255
				0x4A		3200K Green Gain	0	0
							FF	255
0x4B	3200K Blue Gain	0	0					
		FF	255					
0x4F	5600K Red Gain	0	0					
		FF	255					
0x50	5600K Green Gain	0	0					
		FF	255					
0x51	5600K Blue Gain	0	0					
		FF	255					
0x55	6500K Red Gain	0	0					
		FF	255					
0x56	6500K Green Gain	0	0					
		FF	255					
0x57	6500K Blue Gain	0	0					
		FF	255					

<b>0xF5 (Start Set)</b>  <b>0xF4 (Start Get)</b>	<b>0x88(Set)</b>  <b>0x89(Get)</b>	<b>0xFF</b>  <b>(0x00~0xFF)</b>	<b>0xFE</b>  <b>Set / Get Param.</b>	<b>0x5B</b>	7800K Red Gain	0	0
					FF	255	
				<b>0x5C</b>	7800K Green Gain	0	0
					FF	255	
				<b>0x5D</b>	7800K Blue Gain	0	0
					FF	255	
				<b>0x61</b>	9300K Red Gain	0	0
					FF	255	
				<b>0x62</b>	9300K Green Gain	0	0
					FF	255	
				<b>0x63</b>	9300K Blue Gain	0	0
					FF	255	
				<b>0x64</b>	Red Offset	0	0
					FF	255	
				<b>0x65</b>	Green Offset	0	0
					FF	255	
				<b>0x66</b>	Blue Offset	0	0
					FF	255	
				<b>0x67</b>	PC AUTO ADJUST [For MINERVA MENU]	1	On
				<b>0x6A</b>	MFC [For MINERVA MENU]	0	OFF
					1	LOW	
					2	MIDDLE	
					3	HIGH	
				<b>0x6C</b>	GET H RESOLUTION		
				<b>0x6D</b>	GET V RESOLUTION		
				<b>0x6E</b>	RESET	1	
				<b>0x6F</b>	Frame Lock	0	On
					1	50Hz	
	2	60Hz					
<b>0x77</b>	HDR [Only HDR Model]	0	OFF				
	1	ON					
<b>0xE5</b>	VIDEO WALL SET <sup>(10)</sup>						
<b>0xE6</b>	VIDEO WALL GAP <sup>(11)</sup>						
<b>0xE7</b>	MULTI SOURCE <sup>(12)</sup>						
<b>0xE8</b>	MULTI REMOTE KEY <sup>(13)</sup>						
<b>0xE9</b>	MULTI PARAM <sup>(14)</sup>						
<b>0xFE</b>	POWER	0	Off				
	1	On					

### Notice

#### (1) CURSOURCE Setting Value

#### (2) MAX\_ILLUMINANCE Settings

Setting Value = Ambient Level (by LUX) / 100

Ex) Desired Ambient is 10000 Lux, Setting is 100 (= 10000 / 100)

#### (3) MIN\_ILLUMINANCE Settings

Setting Value = Ambient Level (by LUX) / 10

Ex) Desired Ambient is 200 Lux, Setting is 20 (= 200 / 10)

#### (4) DIM\_LEVEL Settings

Dimming is controlled by Brightness Settings.

#### (5) TEMPERATURE Settings

Setting Value = Desired temperature(by Celsius) x 2 + 60

Ex) Desired temperature is 60°C, Setting is 180 (= 60 x 2 + 60)

#### (6) TEMP\_HYSTERESIS Settings

Setting Value = Desired Hysteresis(by Celsius) x 2

Ex) Desired Hysteresis is 2°C, Setting is 4 (= 2 x 2)

#### (8) Read only Command

#### (9) Gap Settings

Setting Value =(int) (1000 \* Gap / Active)

#### (10) VIDEOWALL:

Send a set command of the Video wall settings(Xmax,Ymax, XPos, YPos) to several monitors at once.

Format : 0xFn(Start : n = Send Bytes) + 0x88 + 0x00(Set ID: All) + 0xFE + 0xE5(Param) + 0xFF(Target SetID) + 0xXY(X: XMax Y:YMAX) + 0xy(x: XPos, y:YPos) .....

START: Total Sending Bytes. Ex) 0xFF + 0x05 =Send 20Bytes

SET ID: must be 0x00(All)

Ex) Target Set ID: 0x01, Xmax:2, Ymax:2, Xpos:0, Ypos:0

Target Set ID: 0x02, Xmax:2, Ymax:2, Xpos:1, Ypos:0

Target Set ID: 0x03, Xmax:2, Ymax:2, Xpos:0, Ypos:1

Target Set ID: 0x04, Xmax:2, Ymax:2, Xpos:1, Ypos:1

0xFF(Start) + 0x01(16 Byte) + 0x88(Set) + 0x00(All: Fixed) + 0xFE + 0xE5(Param)

+ 0x01(Target SetID:) + 0x22(XMax:2, YMAX:2) + 0x00( XPos:0, YPos:0)

+ 0x02(Target SetID) + 0x22(XMax:2, YMAX:2) + 0x10( XPos:1, YPos:0)

+ 0x03(Target SetID) + 0x22(XMax:2, YMAX:2) + 0x01( XPos:0, YPos:1)

+ 0x04(Target SetID) + 0x22(XMax:2, YMAX:2) + 0x11( XPos:1, YPos:1)

#### (11) VIDEOWALL GAP:

Send a set command of the Video wall Gap settings(XGap,YGap) to several monitors at once.

Format : 0xFn(Start : n = Send Bytes) + 0x88 + 0x00(Set ID: All) + 0xFE + 0xE6(Param) + 0xFF(Target SetID) + 0xXX(XGAP) + 0xXX(YGAP)

START: Total Sending Bytes. Ex) 0xFF + 0x0A =Send 25Bytes

SET ID: must be 0x00(All)

Ex) Target Set ID: 0x01, XGAP:2, YGAP:2,

Target Set ID: 0x02, XGAP:3 YGAP:3

Target Set ID: 0x03, XGAP:3, YGAP:3

Target Set ID: 0x04, XGAP:2, YGAP:2

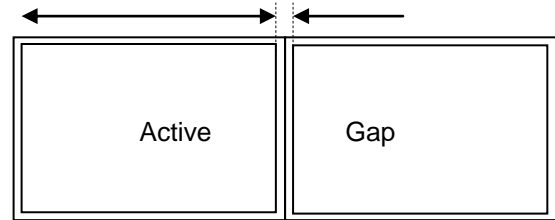
0xFF(Start) + 0x01(16 Byte) + 0x88(Set) + 0x00(All: Fixed) + 0xFE + 0xE6(Param)

+ 0x01(Target SetID:) + 0x02(XGAP:2) + 0x00( YGAP:2)

+ 0x02(Target SetID) + 0x03(XGAP:3) + 0x00( YGAP:3)

+ 0x03(Target SetID) + 0x03(XGAP:3) + 0x00( YGAP:3)

+ 0x04(Target SetID) + 0x02(XGAP:2) + 0x00( YGAP:2)





### (12) MULTIPLE SOURCE:

Send a set command of the Input Source to several monitors at once.

Format : 0xFn(Start : n = Send Bytes) + 0x88 + 0x00(Set ID: All) + 0xFE + 0xE7(Param) + 0xFF(Target SetID) + 0xFF(Input Source)

START: Total Sending Bytes. Ex) 0xFF + 0x01 = Send 16 Bytes

SET ID: must be 0x00(All)

INPUT SOURCE: Refer to (1)

Ex) Target Set ID: 0x01, INPUT SOURCE: 11(DVI)

Target Set ID: 0x02, INPUT SOURCE: 12(HDMI)

Target Set ID: 0x03, INPUT SOURCE: 11(DVI)

Target Set ID: 0x04, INPUT SOURCE: 10(PC)

0xFC(Start 12 Byte) + 0x88(Set) + 0x00(All: Fixed) + 0xFE + 0xE7(Param)

+ 0x01(Target SetID:) + 0x0B(INPUT SOURCE: 11 DVI)

+ 0x02(Target SetID) + 0x0C(INPUT SOURCE: 12 HDMI)

+ 0x03(Target SetID) + 0x0B(INPUT SOURCE: 12 HDMI)

+ 0x04(Target SetID) + 0x0A(INPUT SOURCE: 10 PC)

### (13) MULTIPLE REMOTE KEY:

Send a set command of the Remote Key Code to several monitors at once.

Format : 0xFn(Start : n = Send Bytes) + 0x88 + 0x00(Set ID: All) + 0xFE + 0xE8(Param) + 0xFF(Target SetID) + 0xFF(Remote key)

START: Total Sending Bytes. Ex) 0xFF + 0x03 = Send 18 Bytes

SET ID: must be 0x00(All)

REMOTE KEY: Refer to Virtual remote item.

Ex) Target Set ID: 0x01, Remote Key: 0x43(MENU Key)

Target Set ID: 0x02, Remote Key: 0x43(MENU Key)

0xF8(Start 8 Byte) + 0x88(Set) + 0x00(All: Fixed) + 0xFE + 0xE8(Param)

+ 0x01(Target SetID:) + 0x43(Remote key: Menu)

+ 0x02(Target SetID) + 0x43(Remote key: Menu)

### (16) MULTIPLE PARAM

Send a set command of the Parameter to several monitors at once.

Format : 0xFn(Start : n = Send Bytes) + 0x88 + 0x00(Set ID) + 0xFE + 0xE9(Param) + 0xFF(Target SetID) + 0xFF(Param) + 0xFF(Value)

START: Total Sending Bytes. Ex) 0xFF + 0x00 = Send 15 Bytes

SET ID: must be 0x00(All)

PARAM: Refer to 3.2 System parameter

Ex) Target Set ID: 0x01, PARAM: 0x05(Brightness), Value: 0x32(50)

Target Set ID: 0x02, PARAM: 0x05(Brightness), Value: 0x32(50)

Target Set ID: 0x03, PARAM: 0x05(Brightness), Value: 0x32(50)

Target Set ID: 0x04, PARAM: 0x05(Brightness), Value: 0x32(50)

0xFF(Start) + 0x01(16 Byte) + 0x88(Set) + 0x00(All: Fixed) + 0xFE + 0xE9(Param)

+ 0x01(Target SetID:) + 0x05(Param: Brightness) + 0x32(Value: 50)

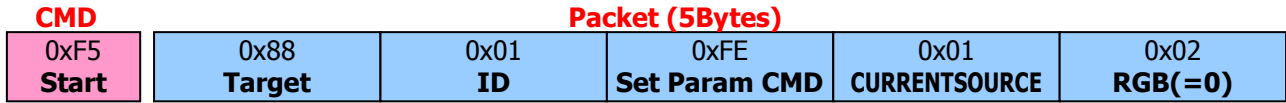
+ 0x02(Target SetID) + 0x05(Param: Brightness) + 0x32(Value: 50)

+ 0x03(Target SetID) + 0x05(Param: Brightness) + 0x32(Value: 50)

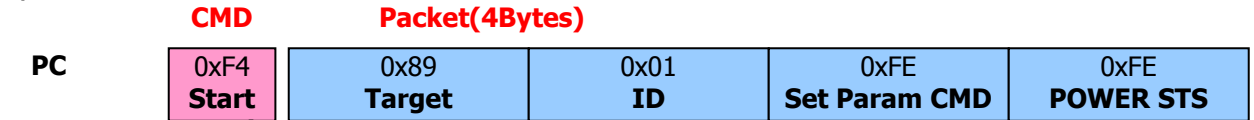
+ 0x04(Target SetID) + 0x05(Param: Brightness) + 0x32(Value: 50)

4) Control Command Packet

5-1) Set Input Source to HDMI Input



5-2) Read Power State



**AD**  
(Response)

