RGBlink® Video {processing} for any scale

# Q16pro Gen2

# Quick Start


- Each module support 8 screens spanning the output port without occupying layers
- 12 bit input and output, RGB 4:4:4 color space
- Dual independent OSD rolling subtitles
- Multi-window monitoring for inputs and outputs
- i signal output supported
- LOGO overlay
- Seamless switch between signals and scenes
- Dual power module backup

## Content

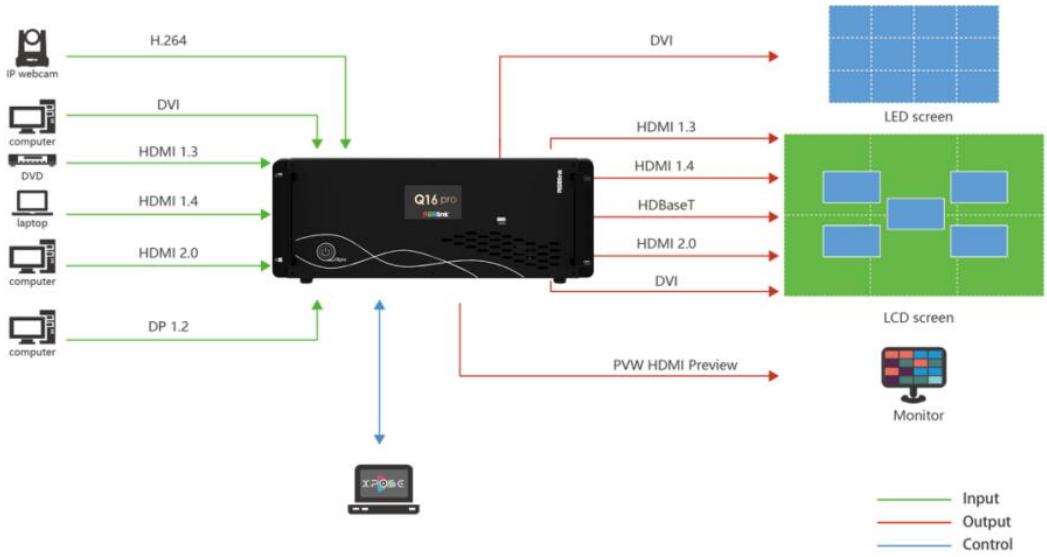
# Product Overview

Q16pro adopts a high-performance video image processing system with a pure hardware wire-speed processing architecture, which is suitable for education and scientific research, government announcements, information publishing, administrative management, military command, exhibitions, security monitoring, commercial sales and other industries.

The modular input and output card structure is adopted, and the arbitrary mixing function of the input card is realized at the same time. Not only can it easily access the common HDMI/DVI/VGA/SDI and other multiple signals, but also support DP 1.2, HDMI 2 .0 and other ultra-high resolution 4K/8K signal input and output, easily realize 4K multi-screen point-to-point splicing.

## System Connection

RGBlink offers solutions to demanding technical problem. Any application questions, or required further information, please contact with our customer Support Engineers.

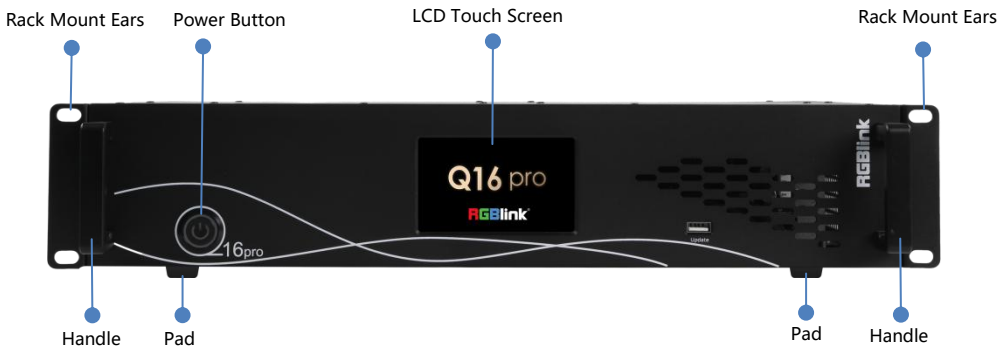



Q16pro Gen2 4U System Connection Diagram

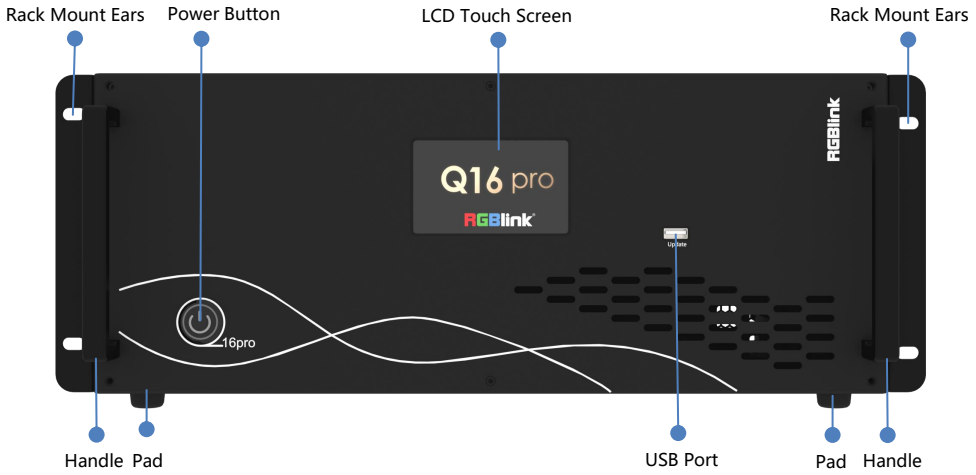
# Hardware Orientation

## Q16pro Front Panel

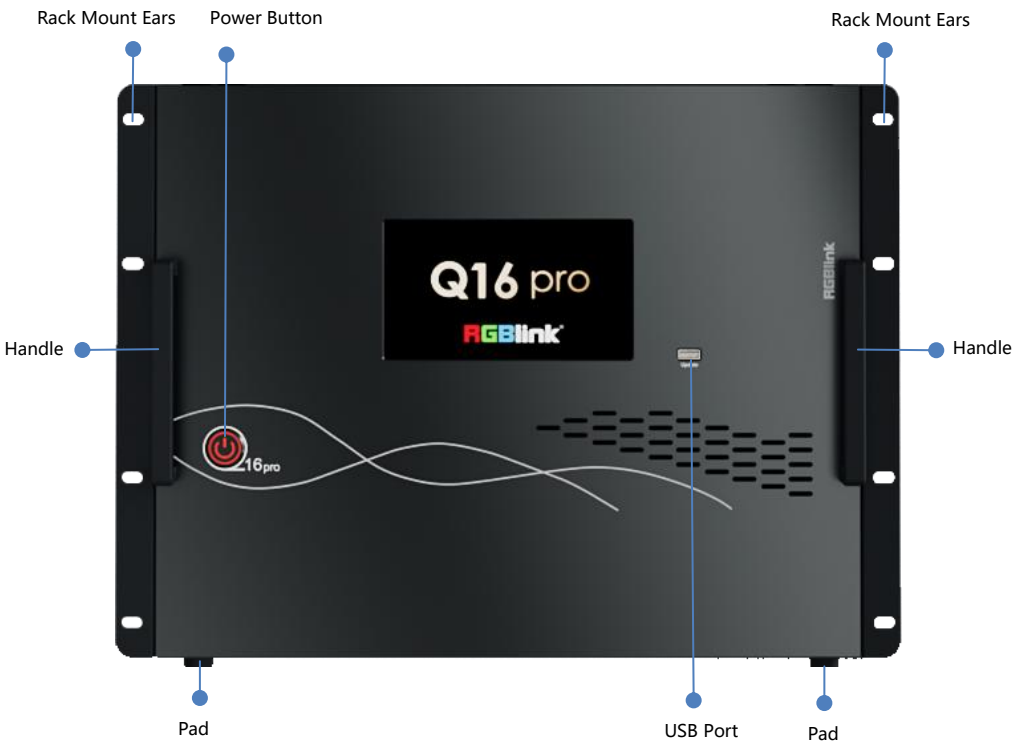
### Q16pro Gen2 2U




### Q16pro Gen2 4U



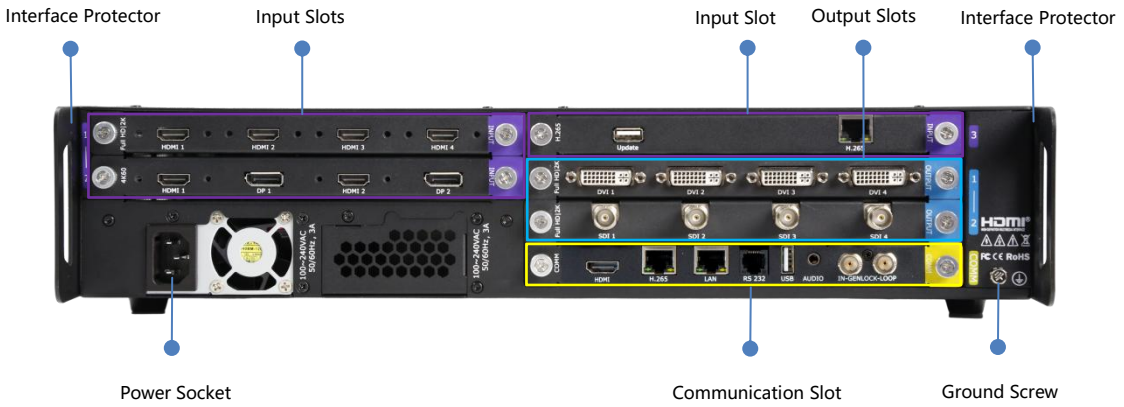
## Q16pro Gen2 8U



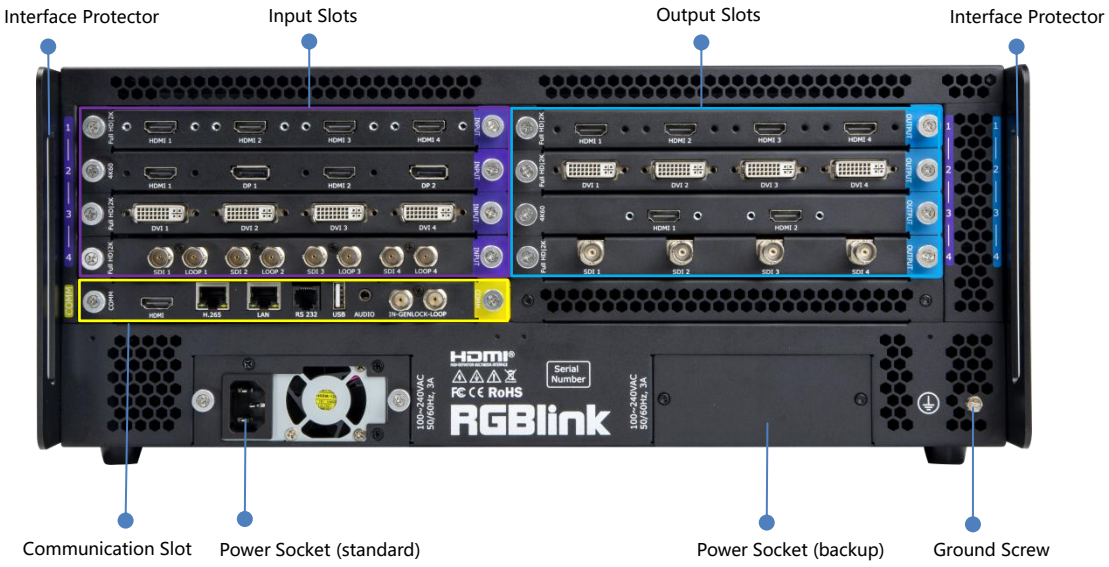

| Name | Description |
|---|---|
| LCD Touch Screen | • Display current status of the device.<br>• For menu operation. |
| Power Button | • Press the button to power on or power off the device.<br>• Button light turns red when powered on. |
| USB Port | Used for device upgrade. |
| Handles | For carrying device. |
| Rack Mount Ears | Use with the load-bearing screws to fix device on the rack. |
| Pad | Support device and enhance shock absorption capability. |

# Q16pro Rear Panel

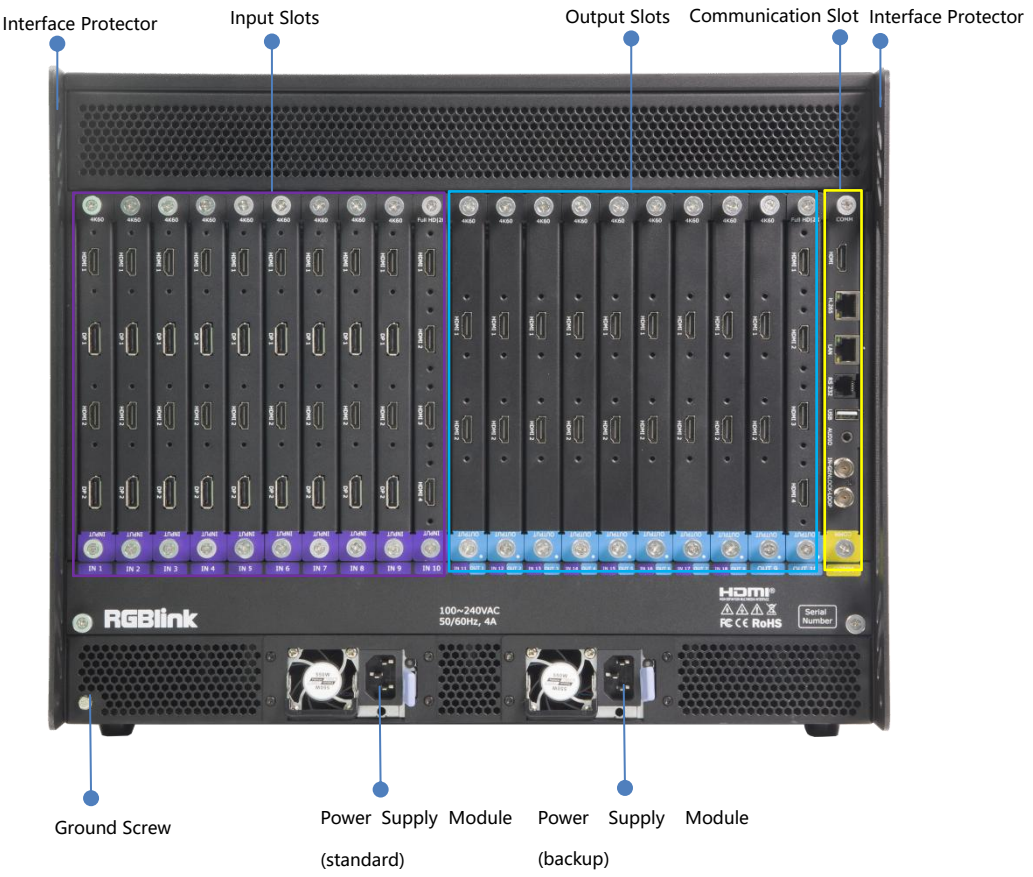
## Q16pro Gen2 2U




## Q16pro Gen2 4U



## Q16pro Gen2 8U



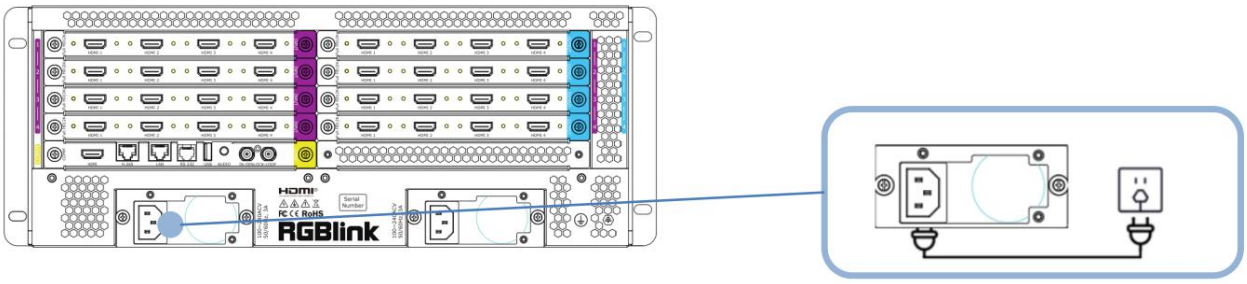

| Name | Description |
|---|---|
| Input Slots | • Support quad HDMI 1.3, quad DVI, quad 3G SDI (LOOP), dual HDMI 2.0 & DP 1.2, single IP, dual HDMI 1.3 & dual DVI and other optional input modules<br>• purple tip indicates input |
| Output Slots | • Support quad HDMI 1.3, quad 3G SDI, quad DVI, dual HDMI 2.0, single IP, dual HDMI 1.3 with Dante, single LAN & single USB 3.0 & single Type-C and other optional output modules<br>• Support input modules<br>• blue tip indicates output |
| Communication Slot | • Standard with communication module with PVW<br>-1 × PVW (HDMI port) for multi-window monitoring<br>-1 × IP (H.265 port) for remote control and IP echo<br>-1 × LAN for software control and device upgrade<br>-1 × RS232 serial port for software control |

| | |
|---|---|
| | -1 × USB port for device upgrade<br>-1 × TRS audio jack for monitoring<br>-1 × IN-GENLOCK-LOOP for connecting to a synchronization signal<br>•  yellow tip indicates communication |
| Power Socket | IEC power socket (1 * standard & 1* backup) |
| Interface Protector | Used to pull out device, fix cables and protect interfaces from collision |
| Ground Screw | Increase the safety and reliability, and avoid accidents such as fire and explosion caused by static electricity. |

# Install Your Product

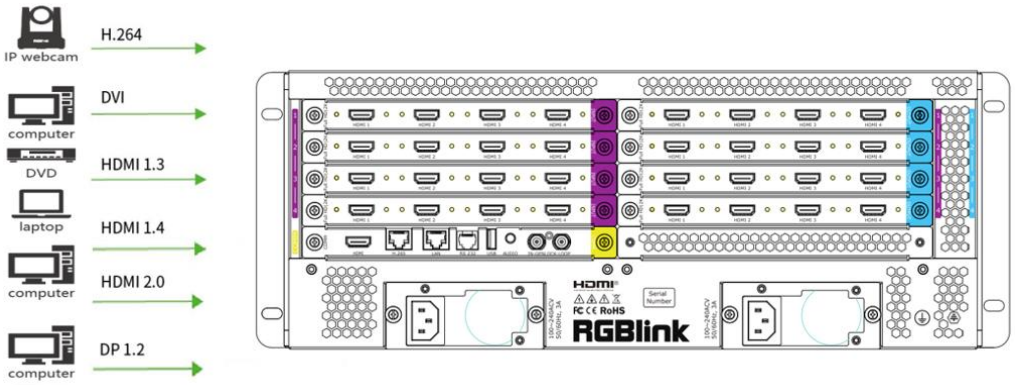
Take Q16pro Gen2 4U as example

## Plug in Power



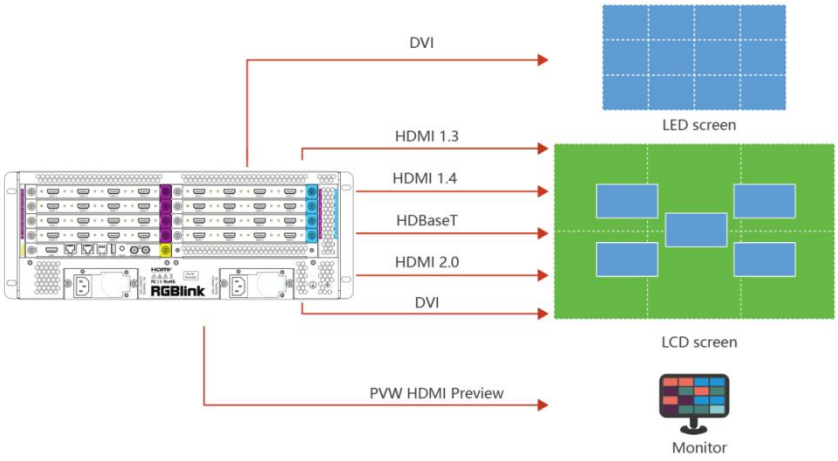
Connect power and Q16pro with standard AC Power Cord.

## Connect Input Signal Source




Q16pro series supports HDMI, DVI, SDI, DP1.2, HDBaseT and other optional input modules.
Connect Q16pro with IP Camera, PC, DVD, laptop and other device as shown in the figure above.

## Connect Output Source



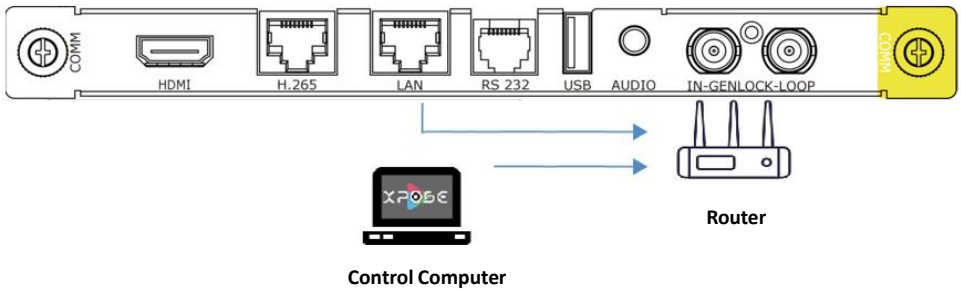

Q16pro Series supports SDI,DVI,HDMI,HDBaseT and other optional output modules.
Connect Q16pro with monitors.

## Connect Control Computer

Q16pro series is operated by XPOSE,so it is necessary to connect device with control computer.

**Direct Connection:** Connect Q16pro with computer via network cable as shown in the figure below. It is suitable for single user to control the device.


**Router/Switch Connection:** Connect control computer and Q16pro with Router or Switch. It supports simultaneous online operation by multiple users.



## Turn on Your Q16pro

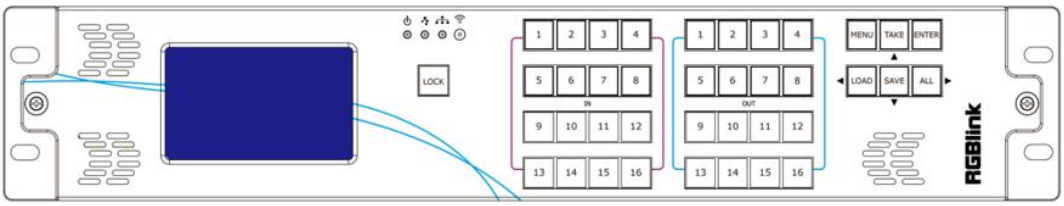

After connection, slightly press the power button in the front panel to turn on Q16pro.

# Use Your Product

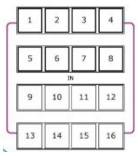
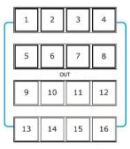
## CPX Controls Q16pro

You can connect two devices to one switch, so that CPX can control two devices at the same time.
This chapter offers a brief introduction of CPX panel and system connection. For more details, please refer to the user manual.

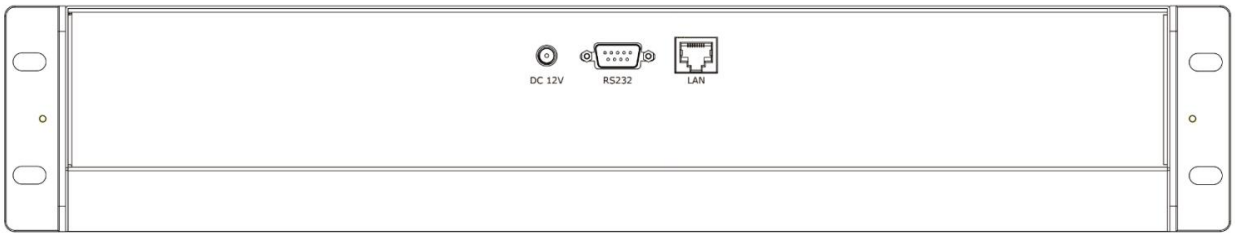
### CPX Front Panel




| Description | |
|---|---|
| | LCD panel for menu operation |
| LOCK | 1.Light ON indicates other buttons are available; Light OFF indicates other buttons are locked.<br>2.LOCK is OFF by default, push and hold the LOCK button to enable or disable other buttons. |
| MENU | 1.Push MENU button to **enter main menu interface** for more functions.<br>2.Used as **BACK button** to return to the previous interface in sub-menu. |
| TAKE | 1.Push to **save presets** in **Scene Switch Mode**.<br>2.Used as direction key **"Up"** in menu interface. |
| ENTER | 1.Push ENTER button to trigger **Switch Mode** in standby mode; In Switch Mode, press OUT 1-16 to select a group of synchronized output ports and then press IN 1-16 to synchronize the input to the selected output ports.<br>ENTER Light on if Switch Mode is triggered. Push ENTER button again to return to Matrix Mode. (more details please refer to 3.1.4.3 Switch Mode)<br>2.Used as confirm button under menu operation. |

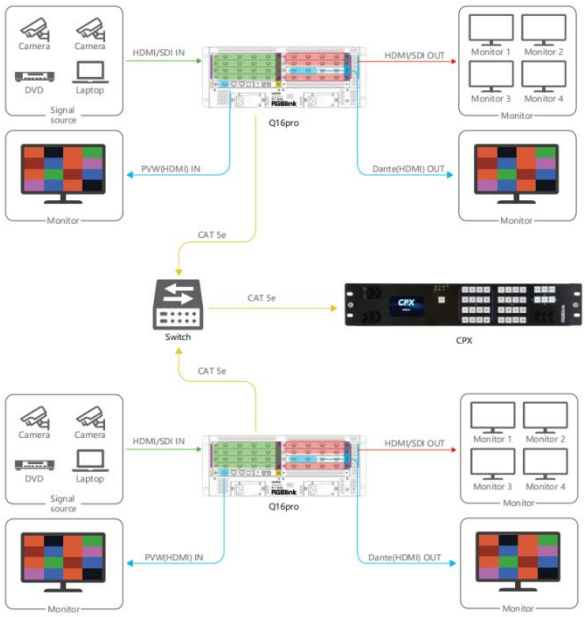
| | |
|---|---|
| LOAD | 1.Push LOAD button to trigger **Scene Switch Mode** in standby mode. Press OUT 1-16 to load saved presets. (Notice: only ONE scene can be selected at the same time)<br>LOAD Light on if Scene Switch Mode is triggered. Push LOAD button again to return to Matrix Mode. (more details please refer to 3.1.4.4 Scene Switch Mode)<br>2.Used as direction key **"Left"** under menu operation. |
| SAVE | 1.Push SAVE button to trigger **OSD Mode** in standby mode. Press IN 1-16 to load OSD 1 or OUT 1-16 to load OSD 2 to selected output port.<br>SAVE Light on if OSD Mode is triggered. Push SAVE button again to return to Matrix Mode. (more details please refer to 3.1.4.2 OSD Mode)<br>2.Used as direction key **"Down"** under menu operation. |
| ALL | 1.**Default to enter the Matrix Mode** after power on.<br>2.Initial state: All input and output button lights are OFF. Users need to choose one input button first and then the corresponding output button light will be ON. Users can press other output buttons for matrix switch.<br>3.Non-initial state ( matrix has been switched): One input has been selected, and the corresponding output button light is ON. Users can press other output buttons for matrix switch.<br>4Used as direction key **"Right"** under menu operation. |
|  | 1. Indicate Input Ports 1-16 under Matrix Mode and Switch Mode.<br>2. Indicate Page 1-16 under Scene Mode.<br>3. Press IN 1-16 to load OSD 1 to selected output port under OSD Mode. |
|  | 1. Indicate Output Ports 1-16 under Matrix Mode and Switch Mode.<br>2. Indicate Scene 1-16 under Scene Mode.<br>3. Press OUT 1-16 to load OSD 2 to selected output port under OSD Mode.<br>4. Used as Numeric Keys under menu control; 1-9 indicate number 1-9, 10 indicates number 0. |

## CPX Rear Panel




| Description | |
|---|---|
| DC 12V | DV 12V power socket |
| RS232 | RS 232 port |
| LAN | Connect two Q16pro devices to the same switch, and CPX can control two devices simultaneously. |

## Connect CPX and Q16pro

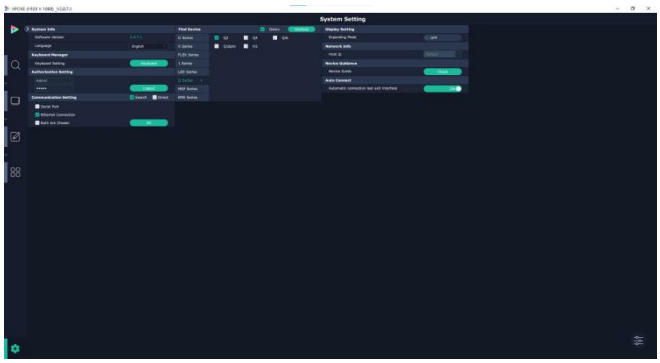



After successful connection, power on Q16pro and CPX. (Use the standard 12V power adapter to connect CPX and power socket in order to boot up CPX.) User should firstly choose Q16pro as the controlled device.

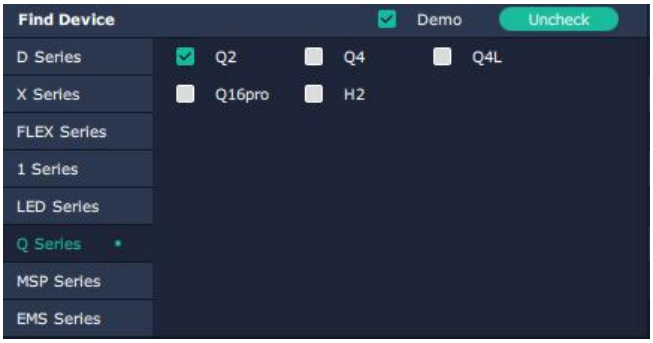
Please refer to following steps for **device selection**：【Menu】-->>【Search】-->>【Select Device】-->>【Q16pro】

## Search Device

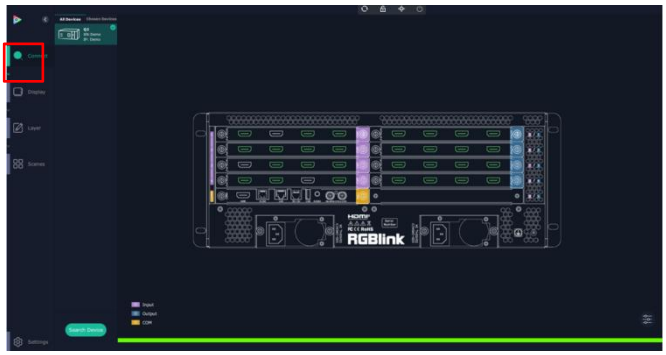
1. Click  to enter <System Setting> interface.



2. **Find Device：** New version of XPOSE 2.0 is blank default in Find Device. Users are supposed to choose the device needed in System Setting.

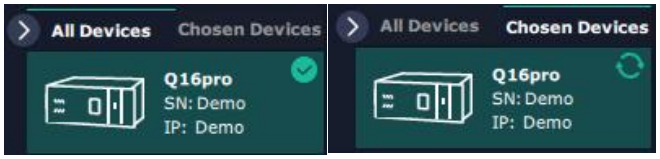



3. Click  to enter interface as shown in the right figure:




4. Click  the device you need in the <All Devices> list.

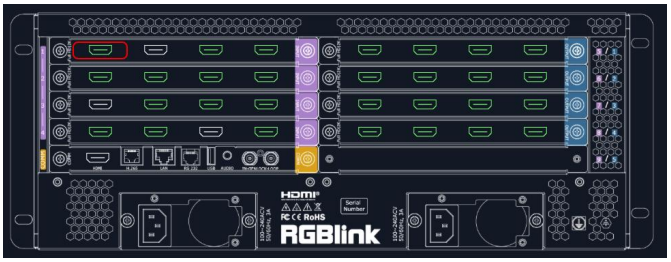
5. Click  in the <Chosen Device>.



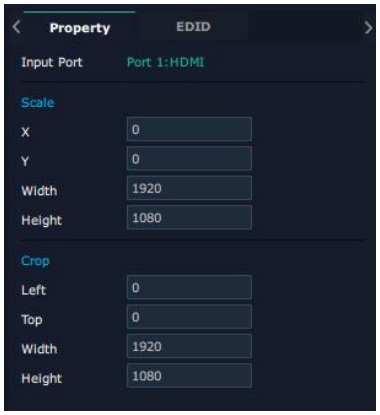
# Input Setting

Click any input port, the board where the port locates is selected. Users can do settings to the port now.

A red rectangle flashes around the chosen port when it is clicked.



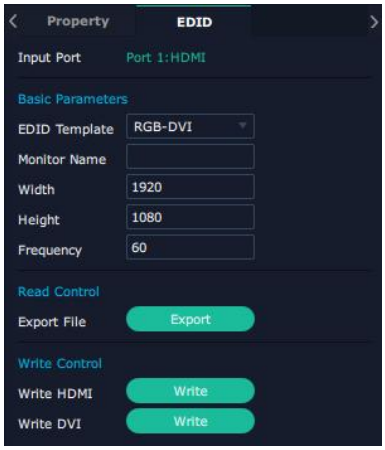
User can set **<Property>** and **<EDID>**.




## Property Setting

**Input Port：** chosen port
**Scale:**
**X/Y：** the starting horizontal and vertical position
**Width/Height :** the horizontal and vertical size of scale.
**Crop:**
Support cropping for position, height and width.

## EDID




**Input Port：** chosen port
**Basic Parameters:**
**EDID Template：** RGB-DVI or RGB-HDMI
**Monitor Name：** type the monitor name
**Width/Height/Frequency：** type in custom parameters

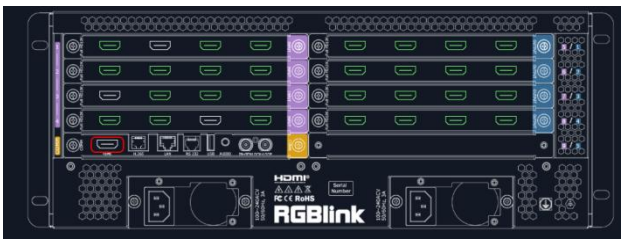
**Q16pro's modules which support EDID are as follows:**

- Quad HDMI 1.3 Input Module
- HDMI 2.0 & DP 1.2 4K@60 Input Module (to be published)
- Quad DVI Input Module (to be published)

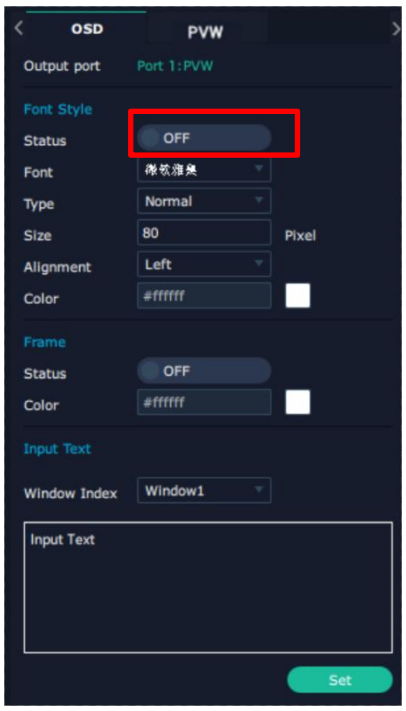
**Order Codes of modules please refer to 4.2**

**Communication Board with PVW**

When there is communication Board with PVW input module installed on Q16pro, you can click HDMI port for following operations.



**OSD：**



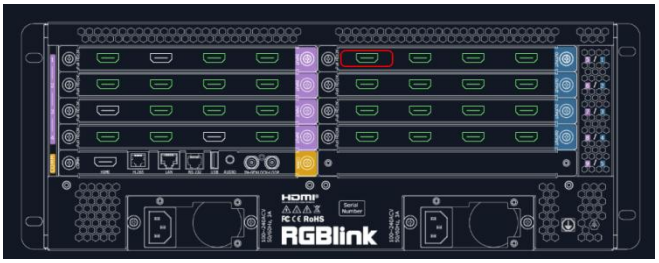

**Output Port：** current HDMI port
**Font Style:** Please turn on Status before setting
To set font, type, size, alignment and color
**Frame:** Turn on status to set frame color
**Input Text:** The exact content of the text
**Window Index:** Select window to display OSD

**PVW:**


**Display Mode：** Preview Input **ONLY**
**Equal：** Select layout you need
**Input Monitor：** Select input signal for each window

# Output Setting

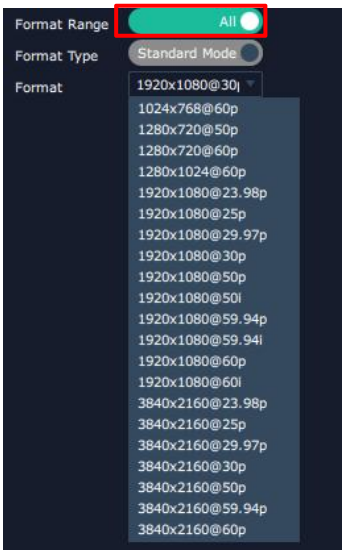
Click any output port, the board where the port locates is selected. Users can do settings to the port now.
A red rectangle flashes around the chosen port when it is clicked.

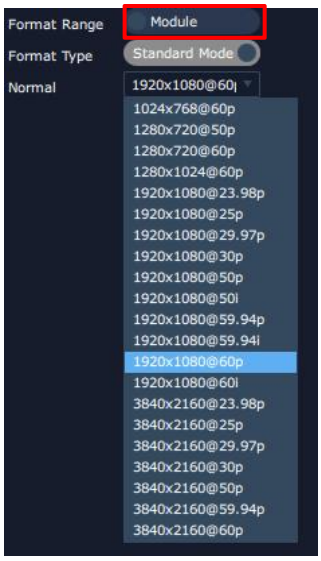



**Resolution**

SDI and HDMI output modules support resolution settings.

Output resolution supports **ALL and MODULE Format Range** optional.
Please refer to the figures in the right.




**DE:**

**Port:** Current Port/All Port
**Type:** DVI/HDMI
**Bits:** Fixed value 8 bits


**OSD:** Please **Turn ON Status** before setting

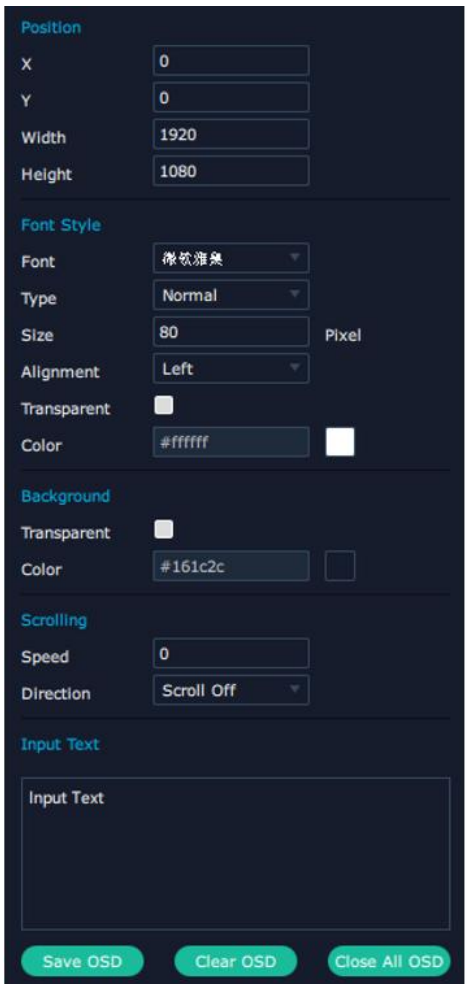
Q16pro output modules which support OSD as shown below:


- ●Quad HDMI 1.3 Output Module
- ●Quad 3G SDI Output Module (to be published)
- ●Quad DVI Output Module (to be published)
- ●Dual HDMI 2.0 Output Module (to be published)
- ●IP Output Module (to be published)

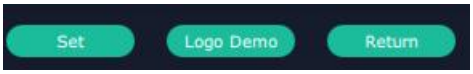
**Order Codes please refer to *4.2 Chapter*.**

**Output Port :** current output port
**Status :** ON/OFF OSD
**X/Y：** the starting horizontal and vertical position
**Width/Height :** the horizontal and vertical size of the text
**Font:** font of the text, all fonts installed in the computer are available
**Font Type :** Normal,Italic,Bold,Bold Italic
**Font Size :** 0-300 pixels
**Alignment：** set alignment type
**Background:** choose transparent background or set background color
**Scroll Speed:** 0-16
**Scroll Direction:** Scroll Off, Scroll Left
**Input Text:** The exact content of the text

After setting, users choose **Save OSD**, **Clear OSD** (If the setting is not desired) or **Close All OSD**.

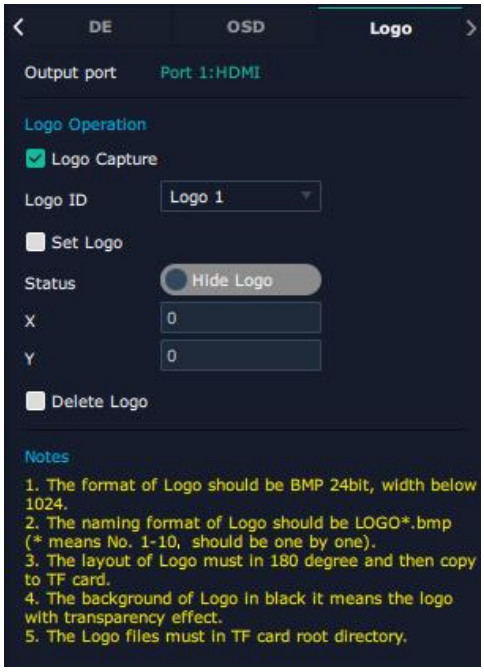



After all settings done, click <Set> and the OSD will be displayed on the screen.



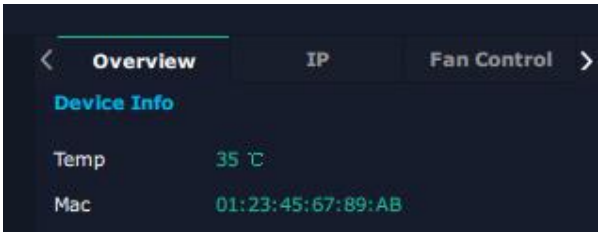

**LOGO:** Users need to **pre-store the Logo** on the SD card for Logo capture.

**Output Port:** current port
**Logo ID:** Load Logo ID been saved
**Status:** Hide/Show Logo
**X/Y:** Horizontal and vertical position of Logo
**Delete Logo:** Clear logo set already



## Overview

Click Return, there are Overview, IP, Fan Control, Factory Setting.



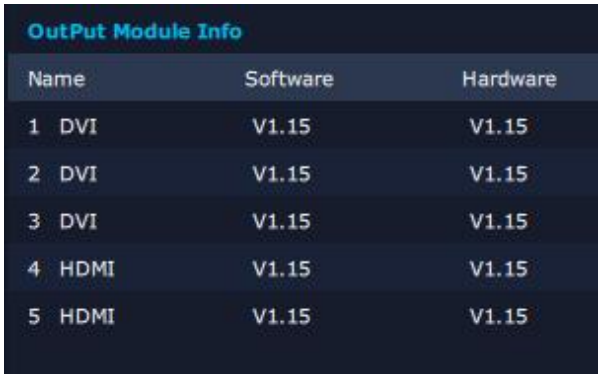

**Device Info：** Users can check current temperature and MAC information

**Input Module Info：** users can check current input module name and MCU version

"...." indicates that there are no input modules,as shown in the right figure.

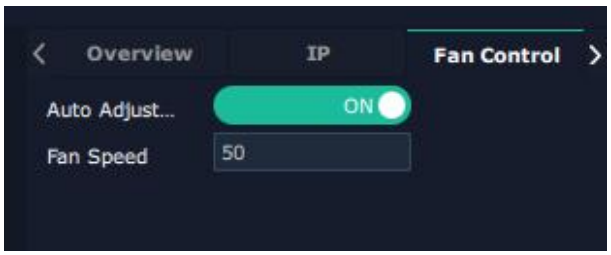

**Output Module Info：** users can check current output module name and MCU version

"...." indicates that there are no output modules,as shown in the right figure.




**IP：** Support auto/manual setting. Show IP Address, Netmask, Gateway


**Fan Control:** Support auto/manual setting.
Fan Speed: 0-100



**Factory Setting**

Remove EDID: Clear the previous EDID parameter

Save IP: No change of IP after reset

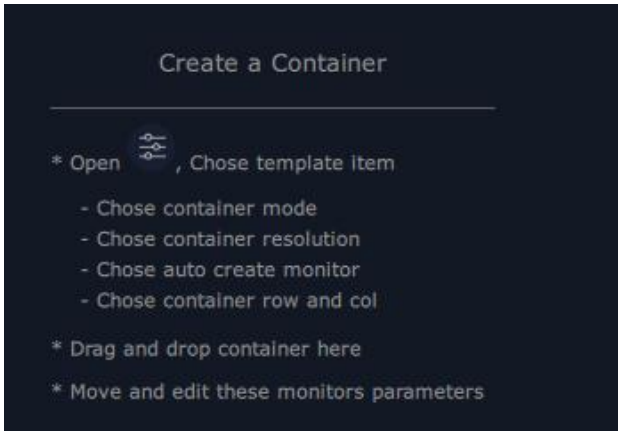

## Display Management

Display System is for users to set layout of outputs.

 Click this icon first and then click  enter the interface.

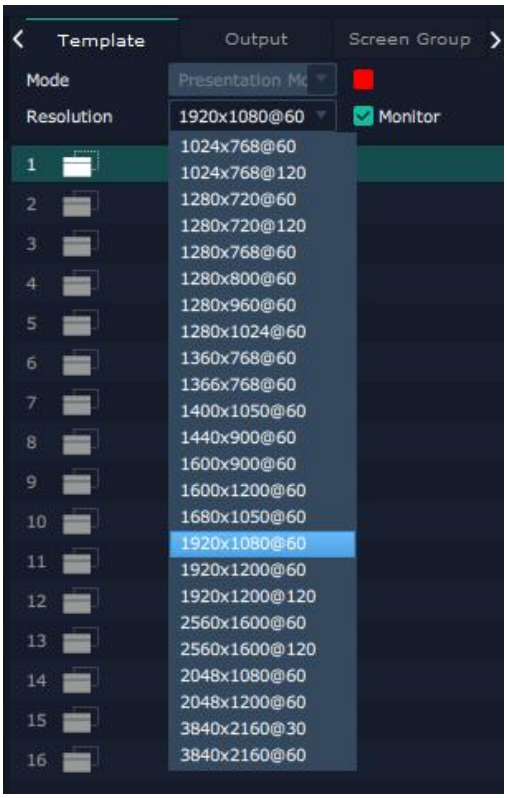
**Container**

Container here means the Display Area.



## Template

There are **16** templates provided to be regarded as layout of output.




## Resolution

Users can choose output resolution as shown in the figure.

## Mode

**Split Mode** and **Matric Mode** (by default) optional.

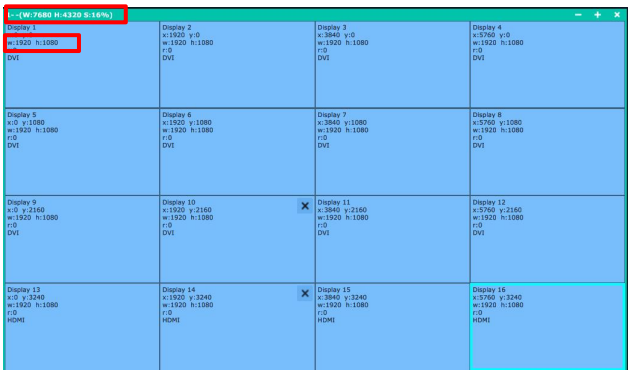
## Customize Container

Click this icon at the bottom of template list.

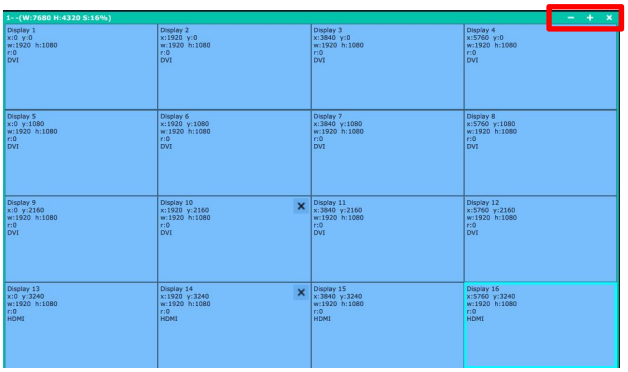
**Monitor Layout**: Auto or Manual


**Steps of create container are as follows:**

1. Fill in H Total/V Total and Row/Column,it will calculate H item and V item automatically.
2. Click <**Create**>,the container will display in the interface, and shows the width and height of each Display.
3. Click<**Save**> to save the container.



## Container Adjustment



1. **Move**：Drag the boarder of the display area to move its place in the interface.

2. **Scale**：Click icon to shrink,Click to enlarge the proportion of display area on interface.

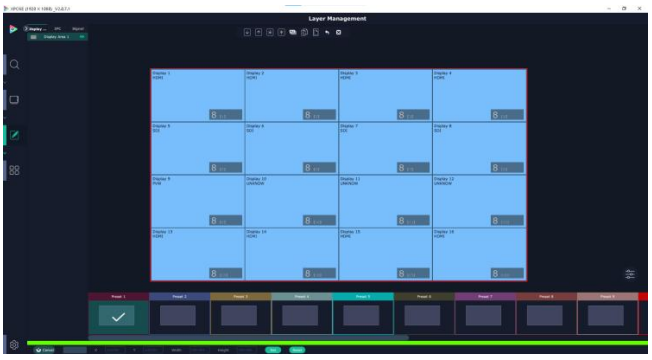
3. **Cancel**：Long pressing the to cancel the screen group.

## Display

**Output List**：
White one：available
Gray one：unavailable
**Operation Steps**：
Left-mouse click the output and drag it to the display of the set container.
**Replacement**：
Drag and drop the output into the corresponding display. The output being replaced will turn from gray to white in the list.

# Layer Management

Layer Management is designed to manage the layer of each monitor. Click to enter the interface:

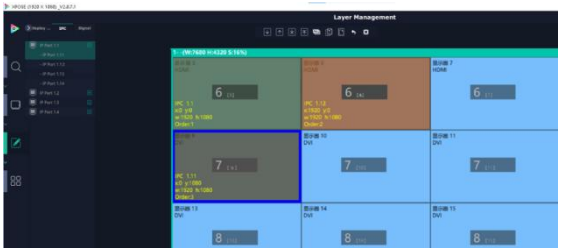


### Display Area


When enter Layer Management interface, the window is blank. The screen group created in Display System shall be dragged from the **Display Area.**

## IPC

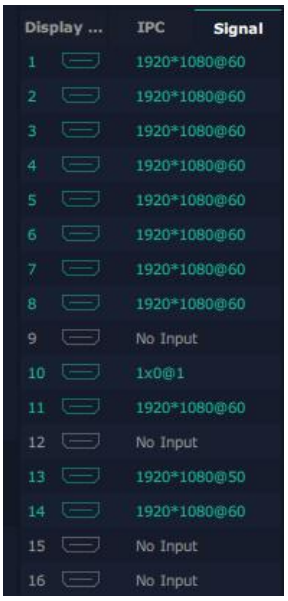
IPC is short for IP Camera, that is, the signal of IP camera accessed through IP input module are displayed here.



## Signal

Signal list, showing all input signals and resolutions currently. Drag the signal to the display.

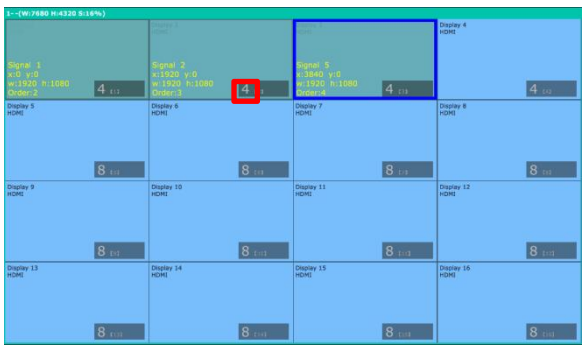
click ,users can rename the input signal and then click to confirm.




## Layer

**Layer number：** Numbers in the corner is to show how many layers at present allowed to put in the output.

The number in the red rectangle on the right figure represents the number of layers that can be placed at the output.



**Layer Adjustment：**

there are two ways to adjust layer.

**1. Use the bar under the interface**

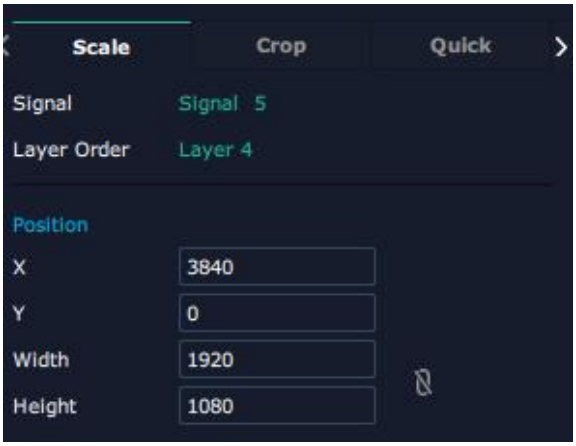
Choose one layer and the bar shows its signal source, type in position and size. click **Set** to confirm.

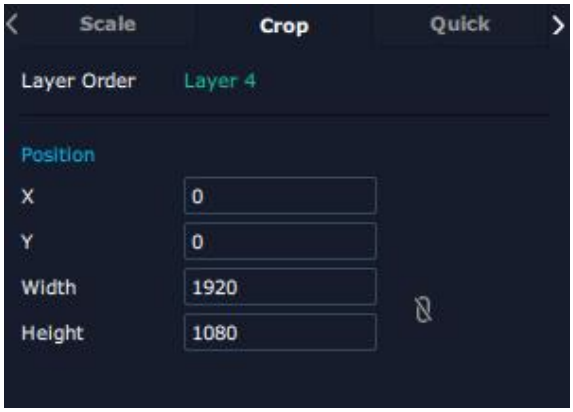
**2. Layer Scale and Crop**

Choose one layer needed to be adjusted,and type in its position and size.

this icon means data related, when width is changed, height will be changed as same proportion.

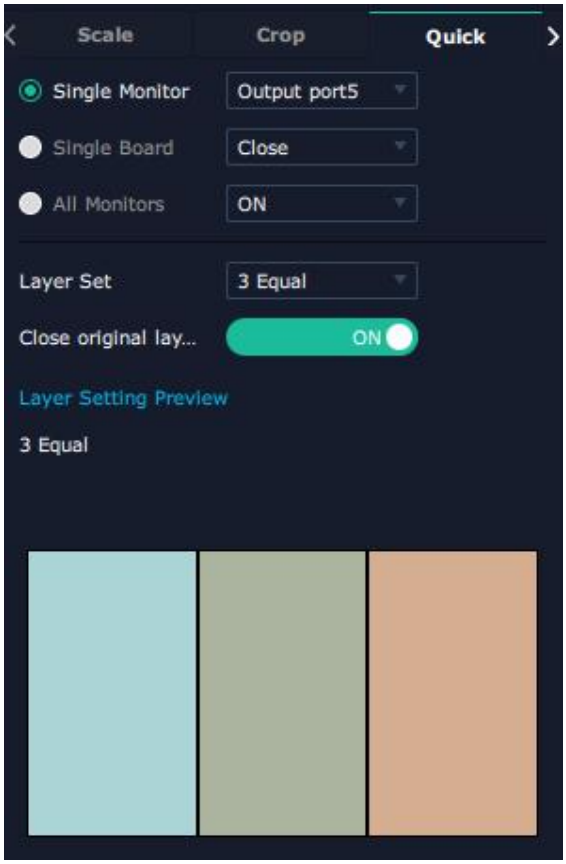
this icon means data not related, width and height need to be filled respectively.



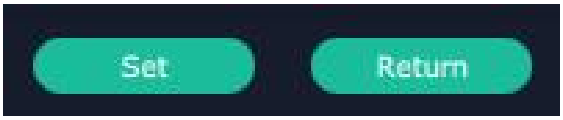

**Quick** is to set layer layout quickly.

1. **Single Monitor：** choose the **output port**
2. **Single Board：** choose the **output board**
3. **All Monitors:** set close or on
4. **Layer Set:** set layer layout




Drag and drop the source from the Signal List.

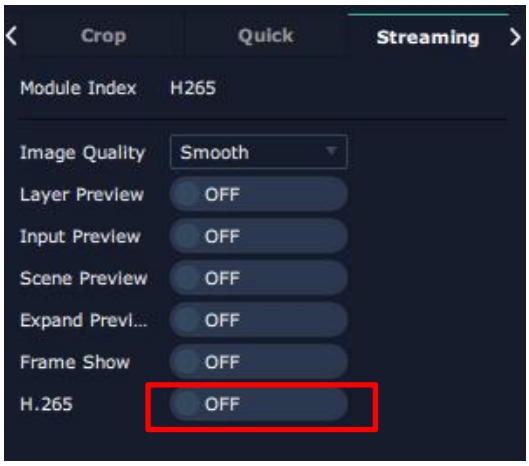
After setting,click **<Set>** to confirm.



**Stream**

H.265 Module supports to preview image.

Users can turn on Layer Preview, Input Preview, Scene Preview or Expand Preview according to the actual need and then turn on H.265 switch.




**Note: H.265 is the master switch. If the user turns on H.264 first, it cannot be set successfully.**

**Layer Movement**

Moving the mouse to drag the layer.

**Layer Remove**

Click the cross on the top right of the layer to remove the layer if needed.


**Layer Set**

:to crop the layer


:to lock the layer


:max to cover up the monitor


: cover up all monitors in the same screen group with the one signal.


**Layer Copy**

Press Ctrl and mouse left at the same time, move the mouse the layer selected can be copied and place in any monitor in the same Display Area but it doesn't work when cross over display area.

### Other Operation on Layer

 Use the tools bar on top of window to do such operations.

| | | | | | |
|---|---|---|---|---|---|
|  | Layer Backward |  | Layer to Top |  | Paste Selected |
|  | Layer Forward |  | Select All |  | Cancel Selected |
|  | Layer to Bottom |  | Copy Selected |  | Delete Selected |

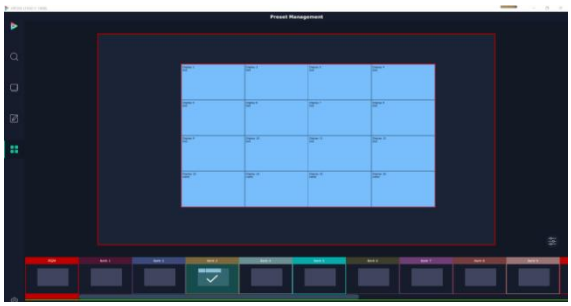
## Preset Management

Preset Management is designed to switch bank.

Preset Management Mode:
1. Manual Mode  2. Schedule Mode

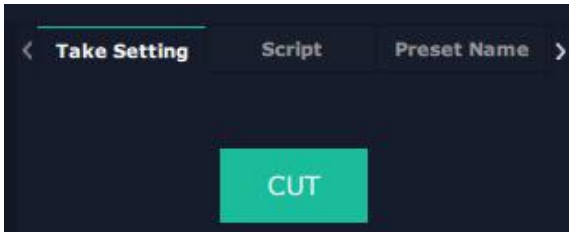
#### 1. Manual Mode

The chosen scene will be displayed in the main interface, and the PGM screen is in the first in the Bank Column.



#### Cut

Cut, switch from PVW to PGM immediately .

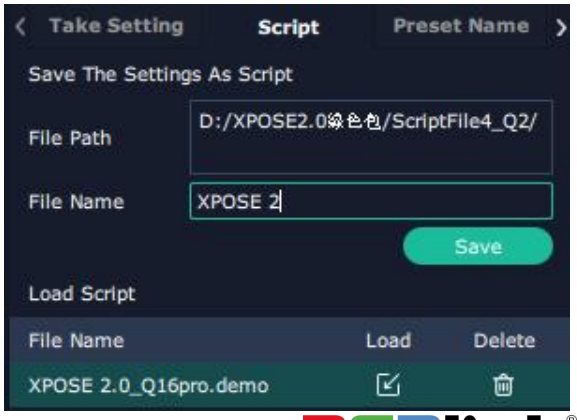



#### Script

Click<**Script**>, fill in the file name and click **"Save"**,the file can be seen in the <**Load Script**>

Click **Load**  to load the file into XPOSE.

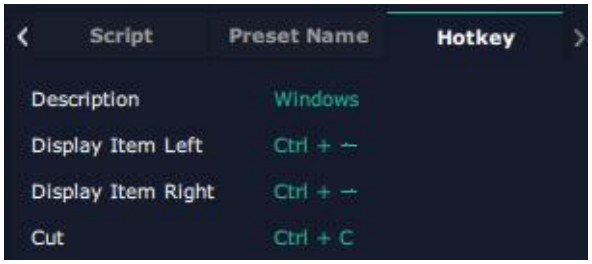
Click **Delete**  to delete saved script.



### Preset Name

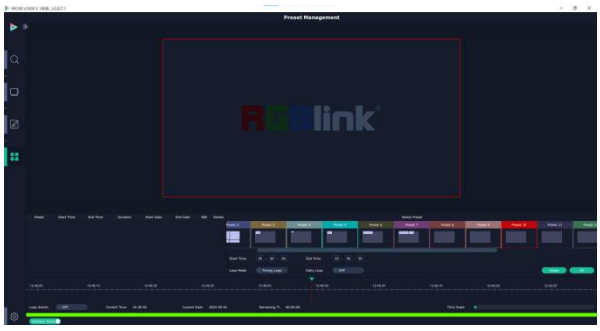

Select a bank and click Preset Name, fill in the blank after New Preset Name to rename a Preset (Bank)
Click the color block after Color Selection and choose a new color for the boarder of chosen bank.

### Hotkey




Use hotkey to let the operation in Preset Management more convenient.

## 2. Schedule Mode

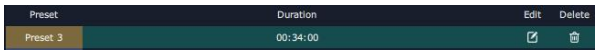


This mode is designed to set auto bank (scene/preset) switch.

**Steps are as follows：**

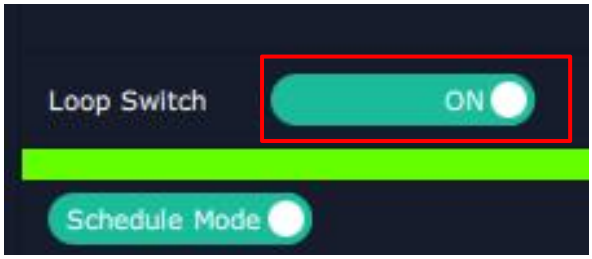
1. Turn on **“Schedule Mode”**

2. Choose **“Times Loop”** in Loop Mode




3. Choose the BANK

4. Fill in the **“Duration”**



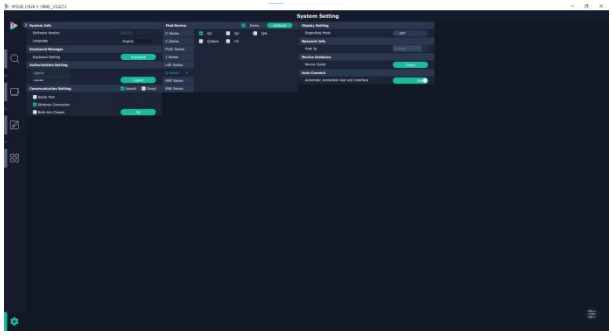

5. Click “**OK**”

Users can click  to edit and  to delete.

After settings done, turn on **Loop Switch**.

# System Setting

Click  to enter **<System Setting>**interface.



**System Info:** Check current software version and choose system language you need.


**Keyboard Management:** click <**Keyboard**> to enter the interface shown in the right.

Drag Input, Output, Layer and Preset from the list to the keys you desired as shown in the figure:

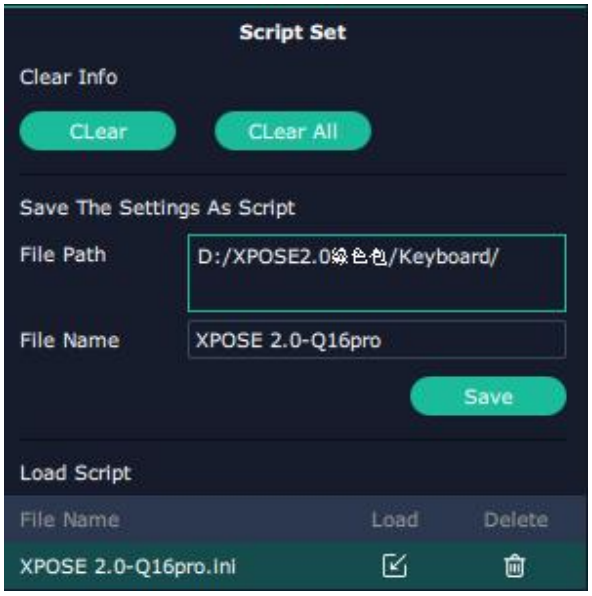
Please note the keyboard area where allows to set short cut keys

If the setting goes wrong or no need for short cut keys any more, click  to **clear** some keys or clear all.

**Clear:** is to clear some keys, the keys need to selected before hand.

**Clear all:** is to remove all already set short cut keys.

Users can also **Save The Keyboard Setting As Script.**




## Scrip Set

**File Path:** Save the current Keyboard Settings in the script to the local path
**File Name:** script file name
**Load Script:** Load/Delete

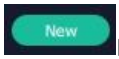
Click Return to back to <System Setting>


**Communication Setting：** The default is **<search>**
Serial Port： search only those connect via serial port.
Ethernet Connection： search only those connect via Ethernet.
Both Are Chosen: both connections change synchronously.


**Novice Guide：**check novice guide for quicker operation of XPOSE software.


### Authorization Setting

Click  to open up the authorization entry.

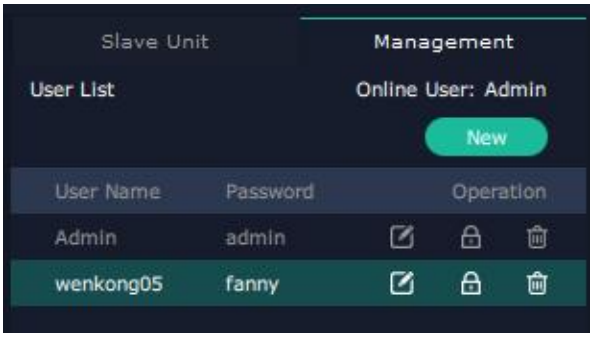


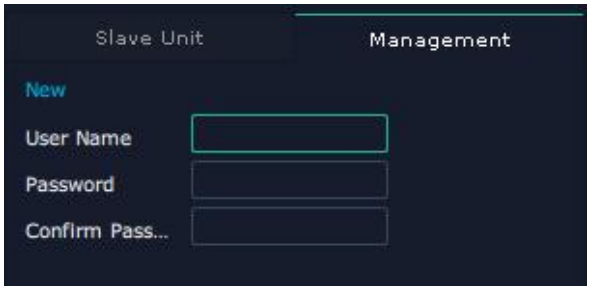
**New**: Add new USER NAME and PASSWORD.


**Edit:** Edit user name and password.

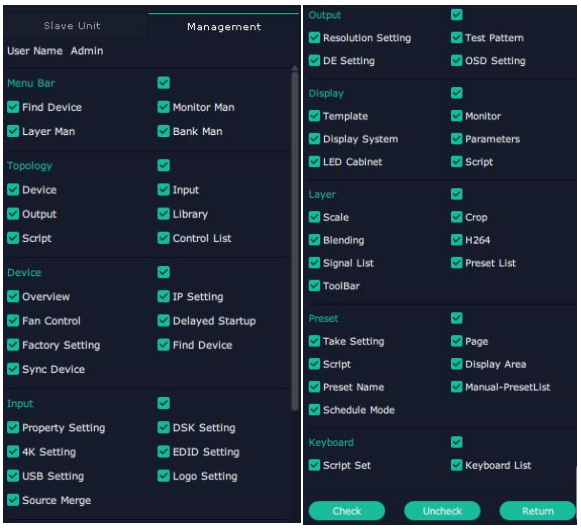

**Delete:** Delete user name and password.


**Permission:** functions on this XPOSE 2.0 on this computer that the users are allowed to operate.



Authorization Set: click on the function that allows other users to take action.




**Slave Unit：**

Slave Unit is to control multiple devices at the same time, which are connected to same network.


1. Set device numbers；
2. Select the IP of the device in the drop-down menu for Device IP;
3. click **ON,**the tow device are connected when the red pot turns to be green one;
4. click **OFF to disconnect,** it could not control two device at the same time.

# Contact Information

## Warranty:

All video products are designed and tested to the highest quality standard and backed by full 1 years parts and labor warranty. Warranties are effective upon delivery date to customer and are non-transferable. RGBlink warranties are only valid to the original purchase/owner. Warranty related repairs include parts and labor, but do not include faults resulting from user negligence, special modification, lighting strikes, abuse(drop/crush), and/or other unusual damages.
The customer shall pay shipping charges when unit is returned for repair.

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- **Customer Hotline:** 4008-592-315
- **Web:** http://www.rgblink.com
- **E-mail:** support@rgblink.com