



XI'AN NOVASTAR TECH CO., LTD

# User's Manual

LED Display Video Controller VX Series

## Statement

Welcome to use the product from Xi'an NovaStar Tech Co., Ltd. (hereinafter referred to as "Novastar" ). It is our great pleasure to offer this manual to help you understand and use the product. We have striven for precision and reliability during the compilation of this manual. Contents of this manual are subject to change without notice. If you have any problem or suggestion in use, please feel free to contact us according to the contact information provided in this manual. We will do our utmost to satisfy your needs. We would like to express our sincere appreciation and make an assessment of your suggestions for adoption as soon as possible.

## Copyright

No part of this manual may be reproduced or transmitted in any form or by any means without prior written consent of NovaStar.

## Trademark

**NOVA STAR** is the registered trademark of NovaStar.

## Safety Notice

To avoid potential hazards, please use this unit according to the regulations. In case of damages, non-professionals are not allowed to disassemble it for maintenance. Please contact the after-sales department of NovaStar.



High voltage danger: The operating voltage range of this product is 100-240V AC.



Grounding: This product is grounded through grounding cord of power supply. Please keep the grounding conductor well grounded.



Electromagnetic interference: The product should be kept far away from magnets, motors and transformers.



Moisture proof: Keep the product in a dry and clean environment. In the event of liquid immersion, please pull the plug immediately.



Keep away from flammable and explosive dangerous substances.



Prevent liquid or metal fragments from being dropped into the product to avoid safety accidents.

---

# Contents

<b>1 Model Description .....</b>	<b>1</b>
<b>2 Appearance.....</b>	<b>1</b>
Front Panel.....	1
Rear Panel.....	2
<b>3 Signal Connection.....</b>	<b>5</b>
<b>4 Installation Dimensions .....</b>	<b>6</b>
<b>5 Operating Motion Instruction.....</b>	<b>7</b>
<b>6 Main Interface.....</b>	<b>7</b>
<b>7 Operation Instruction.....</b>	<b>8</b>
Step1: Input Settings .....	8
Step2: Screen Settings.....	9
Setp3: Brightness .....	10
Setp4: Output Settings.....	10
Image Mosaic.....	12
Advanced Settings.....	13
USB Play Settings.....	18
Factory Reset.....	19
Communication Settings.....	19
Language.....	19
<b>8 Specifications .....</b>	<b>19</b>
<b>9 FAQs .....</b>	<b>20</b>

# 1 Model Description

Model	Description (inputs)
VX2	DVI×1, VGA×3, CVBS×2, HDMI×1, DP×1
VX2U	DVI×1, VGA×2, CVBS×2, HDMI×1, DP×1, USB×1
VX4	DVI×2, VGA×3, CVBS×3, HDMI×1, DP×1
VX4S	DVI×1, VGA×2, CVBS×2, HDMI×1, DP×1, SDI×1
VX4U	DVI×1, VGA×2, CVBS×2, HDMI×1, DP×1, USB×1

*Tip: The number, types, functions and specifications of the interfaces of VX series are basically the same. In this manual, VX4U is described as an example.*

## 2 Appearance

### Front Panel



#### ① : Power switch

#### ② : Operation screen(Please see details in the Chapter: **Main Interface**.)

③ : **Knob**: Pressing the knob means Enter or OK and rotating the knob represents selection or adjustment.

④ : **ESC**: Escape current operation or selection.

#### ⑤ : **Four control shortcuts**

**PIP**: Enable/Disable PIP. The indicator light on denotes PIP is enabled, otherwise, PIP is disabled.

**SCALE**: Enable/Disable screen scaling. The indicator light on denotes scale function is enabled, otherwise, it is unavailable.

**MODE**: Shortcut menu for loading or saving models. The indicator light is on when entering the model or shortcut menu. The indicator light is off after exiting.

**TEST**: Shortcut for enabling or disabling test patterns. In the event of entering test picture, the indicator light is on, otherwise, the light is off.

⑥ : **Shortcuts for switching of 8 signal input sources.**

Press the key to set corresponding source as main screen input source, and long press to set as PIP input source. The result can be viewed on the operation screen while setting.

Functions of shortcuts while in USB play mode:

CVBS1: Stop                      HDMI: Play/Pause            DVI: Fast rewind  
 VGA1: Fast forward    CVBS2: Previous            DP: Next

⑦ : **Function keys**

**TAKE:** Shortcut for screen switching. After pressing TAKE key, PIP will be enabled. Switching between MAIN and PIP will be realized after it is enabled.

**Fn:** Custom shortcut key.

⑧ : **Flat mouth** (Type A USB) is USB interface for connecting USB drive;

**Square mouth** (Type B USB) is USB control interface to connect PC for communication.

**Rear Panel**

VX4U



VX2U



**Inputs**

Audio	1 Set of Audio Input
DP	1 DP Input
HDMI	1 HDMI Input
USB	1 USB Input
DVI	1 DVI Input
CVBS1~CVBS2	2 PAL/NTSC TV Composite Video Inputs
VGA1~VGA2	2 VGA Inputs

**Outputs**

DVI LOOP	DVI LOOP Output
Monitor -VGA OUT	VGA Monitoring Interface
Monitor -DVI OUT	DVI Monitoring Interface
LED Out 1, 2, 3, 4	4 Ethernet Outputs

**Control**

ETHERNET	Ethernet Control (Communicating with PC, or accessing network)
Type B USB	USB Control (Communicating with PC, or cascade IN)
Type A USB	USB Cascade OUT

**Power**

AC 100-240V ~ 50/60HZ AC Power Interface

*Note: Type A USB interfaces on both the front and rear panel are not allowed to connect PC directly. VX2U have two output interfaces: LED OUT 1, 2.*

VX2



**Inputs**

Audio	1 Set of Audio Input
DP	1 DP Input
HDMI	1 HDMI Input
DVI	1 DVI Input
VGA1~VGA3	3 VGA Inputs
CVBS1~CVBS2	2 PAL/NTSC TV Composite Video Inputs

**Outputs**

Monitor -VGA OUT	VGA Monitoring Interface
Monitor -DVI OUT	DVI Monitoring Interface
LED Out 1, 2	2 Ethernet Outputs

**Control**

ETHERNET	Ethernet Control (communicating with PC, or accessing network)
Type B USB	USB Control (communicating with PC, or cascade IN)

**Power**

AC 100-240V ~ 50/60HZ AC Power Interface

*Note: Type A USB interface on the front panel is not allowed to connect control computer directly.*

**VX4**



**Inputs**

Audio	1 Set of Audio Input
DP	1 DP Input
HDMI	1 HDMI Input
DVI-1~DVI-2	2 DVI Input
VGA1~VGA3	3 VGA Inputs
CVBS1~CVBS3	3 PAL/NTSC TV Composite Video Inputs

**Outputs**

DVI LOOP	DVI Loop Output
Monitor -VGA OUT	VGA Monitoring Interface
Monitor -DVI OUT	DVI Monitoring Interface
LED Out 1, 2, 3, 4	4 Ethernet Outputs

**Control**

ETHERNET	Ethernet Control (communicating with PC, or accessing network)
Type B USB	USB Control (communicating with PC, or cascade IN)
Type A USB	USB Cascade Out

**Power**

AC 100-240V ~ 50/60HZ AC Power Interface

*Note: Type A USB interfaces on both the front and rear panel are not allowed to connect PC directly.*

**VX4S**

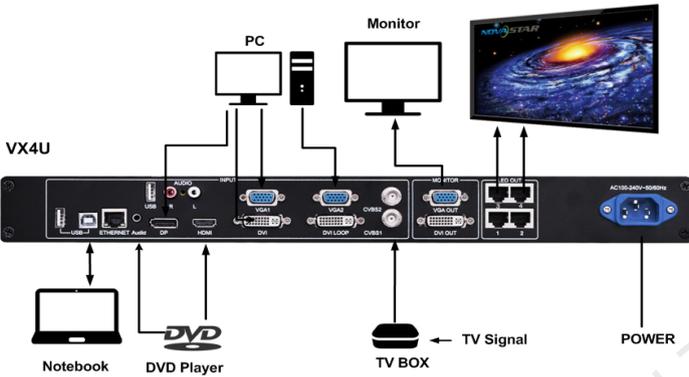


<b>Inputs</b>	
Audio	1 Set of Audio Input
DP	1 DP Input
HDMI	1 HDMI Input
SDI IN	1 SDI Input
DVI	1 DVI Input
VGA1~VGA2	2 VGA Inputs
CVBS1~CVBS2	2 PAL/NTSC TV Composite Video Inputs
<b>Outputs</b>	
DVI LOOP	DVI Loop Output
SDI LOOP	SDI Loop Output
Monitor -VGA OUT	VGA Monitoring Interface
Monitor -DVI OUT	DVI Monitoring Interface
LED Out 1, 2, 3, 4	4 Ethernet Outputs
<b>Control</b>	
ETHERNET	Ethernet Control (communicating with PC, or accessing network)
Type B USB	USB Control (communicating with PC, or cascade IN)
Type A USB	USB Cascade Out
<b>Power</b>	
AC 100-240V ~ 50/60HZ	AC Power Interface

*Note: Type A USB interfaces on both the front and rear panel are not allowed to connect PC directly.*

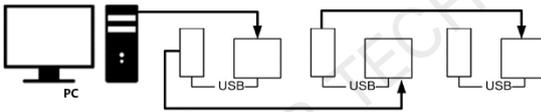
### 3 Signal Connection

Connect the required hardware equipments referring to the interface description of the previous chapters.



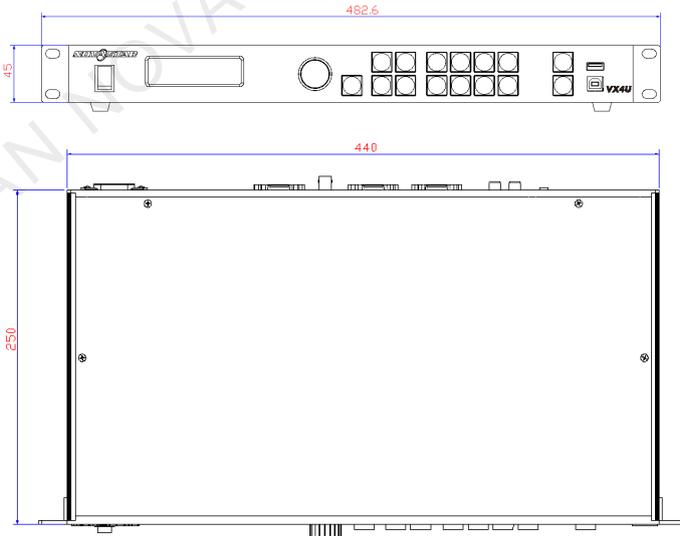
VX4U Signal connection diagram

If it is required to control more sets of VX4U units, please connect them according to the figure below.



Multiple units connection

## 4 Installation Dimensions



VX4U dimensions (Unit:mm)

## 5 Operating Motion Instruction

Knob:

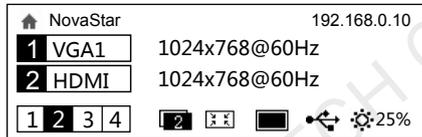
- Press the knob while in the main interface to enter menu operation;
- Rotate the knob to select menus or press the knob to select current menu or enter submenus;
- Rotate the knob to adjust the parameters after selecting a menu with parameter; press the knob again for confirmation after adjustment.

ESC: Return key, exit current menu or operation.

Key lock/unlock: long press the knob and **ESC** key simultaneously.

## 6 Main Interface

After starting the controller, the main interface of OLED display is as follows:



**First row:** company name; the name and IP of the product are shown alternately;

**Second row:** main screen 1; signal source; input signal format;

**Third row:** PIP 2; signal source; input signal format;

**Forth row:** status bar. The meanings of all icons are shown below.

	Ethernet output (Port 2 is selected as current output and in primary mode. Bckup status is shown as <b>2</b> ).
	PIP disabled.
	PIP enabled.
	Current effect is point-to-point display.
	Scale down
	Scale up
	Image Mosaic is not enabled.
	Image Mosaic is enabled.
	USB control
	Ethernet control
	Current brightness is 25%.

	Key lock marking. When this icon appears at the main interface, keys and knob are locked.
	Single loop mode
	List loop mode
	No USB drive is inserted.
	USB drive is inserted.
	USB drive is inserted but its format is not supported.

## 7 Operation Instruction

VX4U has powerful functions and is easy to operate. All operations can be completed through a knob and a return key. The design of shortcut keys makes the operations more efficient.

Generally, LED display can work normally, and the brightness is moderate after following four steps: **Input Settings** → **Screen Settings** → **Brightness** → **Output Settings**. Other menus such as display control and advanced settings can help users better control LED displays.

See the following section for detailed operation.

### Step1: Input Settings

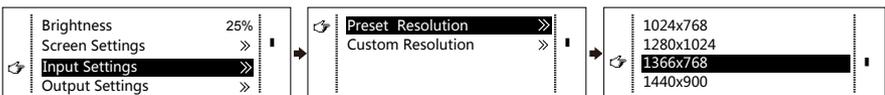
Set resolution of input signal. Resolution can be directly set and changed for input interfaces of DVI, HDMI and DP. Resolution of other sources can only be changed through front-end input devices.

Input resolution can be set through two methods:

#### I: Preset Resolution.

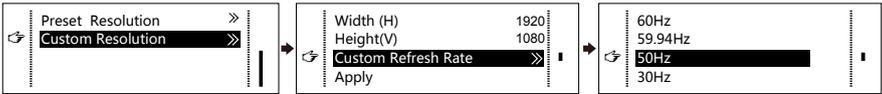
Choose a proper resolution from the standard resolutions(@60Hz) preset on the controller. If there is no the resolution you want, please move on to method **II**:

#### Customize Resolution.



#### II: Custom Resolution.

Set Height, Width and Custom refresh rate, then select "Apply" and press the knob for application. If not confirmed, custom resolution is invalid.

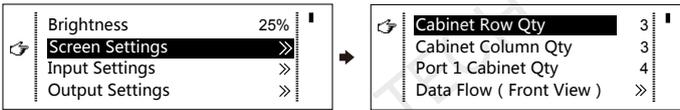


## Step2: Screen Settings

The preconditions of quick screen settings is that the screen and cabinets must be regular (not special-shaped) and the load of each cabinet is same.

Operating steps of screen settings:

- Step 1 Switch on the screen. If cabinets display normally, move on to Step 2. If the cabinets display abnormally, load cabinet file first and save it to receiving card. See detailed operation in **Advanced Settings** ;
- Step 2 Return to “Screen Settings” sub-menu. Rotate the button to switch to sub-menus of other options respectively for configuration, as shown in the following figures:



- Step 3 Set Cabinet Row Qty and Cabinet Column Qty according to the actual situation of the screen;
- Step 4 Set Port1 Cabinet Qty. The device has some limitations on the cabinet quantity of ports. For details, see precautions for screen settings;

Set Data Flow (Front View). Pay attention to precautions for screen settings c), d) and e) below.

### Precautions for screen settings:

(a) If the number of ports with loads is  $n$  ( $n \leq 4$ ), the first  $n-1$  ports must load the same number of cabinets, which must also be an integral multiple of the number of cabinet rows or columns and be greater than or equal to the number of cabinets for the  $n$ th ports.

Example:

For example, if port 1, port 2, port 3 have loads, port 1 and port 2 must have the same number of cabinets, which must also be an integral multiple of the number of cabinet rows or columns. Therefore, you only need to set port 1 cabinet Qty according to the actual situation when setting the screen. The number of receiving cards port 3 loads must be smaller than or equal to port 1.

(b) In the case of special-shaped cabinets, different cabinet sizes and special-shaped screen, NovaLCT-Mars is required to be used to configure the screen.

(c) During Data Flow setting, you can rotate the knob to see the results of different data flow on the screen in real time. If you are satisfied with the result, you must press the button to save the setting. You can press the ESC to exit from current operation.

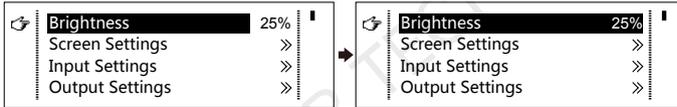
(d) During Data Flow setting, you must ensure that the data flow of each port is downward in the same direction.

(e) During Data Flow setting, you must ensure that Port 1 is the start position of the whole data flow connection.

VX4U can load 2.3 million (2048x1152@60Hz) pixels in maximum. The width of horizontal load can reach 3840 pixels in maximum (3840x600@60Hz); the vertical load can reach 1920 pixels in maximum (1920 x1200@60Hz).

### Setp3: Brightness

Return to the main menu interface. Press the knob to select corresponding value of Brightness. You can rotate the Knob to adjust the value now.

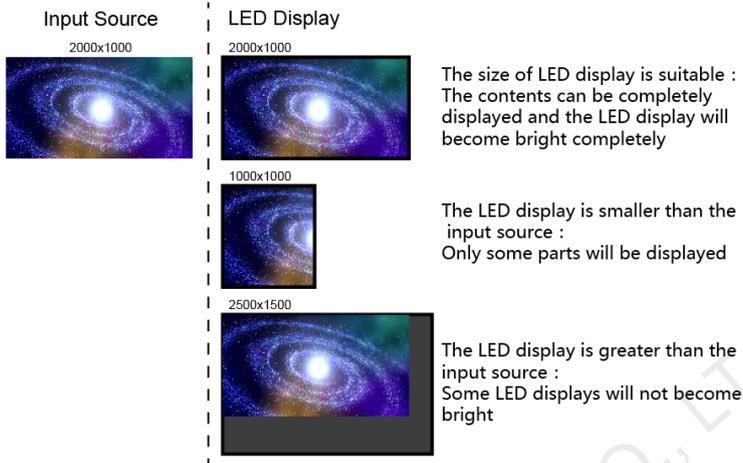


### Setp4: Output Settings

Output settings are divided into three cases:

**I: Scaling disabled**, i.e., the sizes of output image and input image are the same, and output is based on original scale. If tinput resolution is smaller than the LED display in one direction, LED display may not become bright in this direction; if the input resolution is greater than the LED display in one direction, the input contents may not be displayed completely in this direction. This option is applicable to the application scenarios requiring point-to-point display. Horizontal offset and vertical offset of images can be set according to the needs, and at this time the displayed contents may move to the left or top at the LED display.

In this case, **[Scaling]** is disabled.



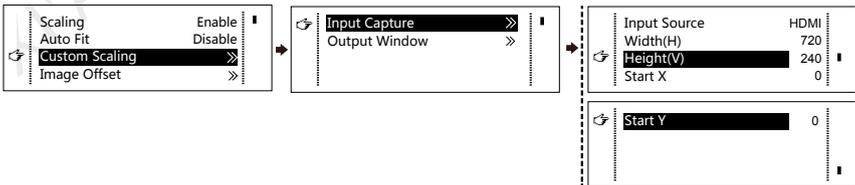
**II: Auto Fit.** In this case, [Scaling] is enabled, and [Auto Fit] is enabled.

When enabling [Auto Fit], the input contents will be fully zoomed to the size of LED display, and the input contents will be adaptive to the size of LED display. This mode is suitable for full-screen playback of the contents.

**III: Custom Scaling.** In this case, [Scaling] is enabled, while [Auto Fit] is disabled.

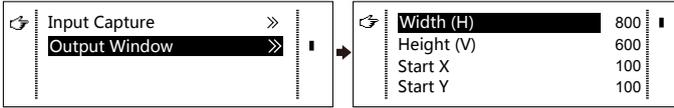
The following steps should be followed for custom scaling:

Step 1 Set Input Capture, i.e., capture part of screen you interested in from one start point of input image and display it on LED display. It is generally required to set Horizontal Res (smaller than or equal to the horizontal resolution of input source), Vertical Res (smaller than or equal to the vertical resolution of input source), horizontal X and vertical Y.

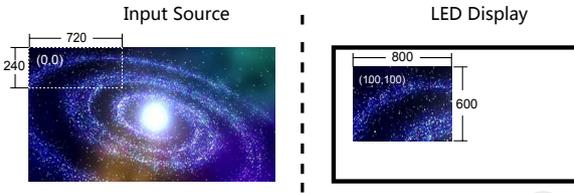


Step 2 Set Output Window. The size of window is smaller than or equals to the size of LED display. After the settings of window is done, the images can only be adaptive to the displayed size within the range of window. This option is applicable to the application scenarios requiring reserving border at the LED display or restricting playing area.

Step 3



After setting according to the above two steps, the captured contents will only be input and displayed at the specified area on the LED display, as shown below:



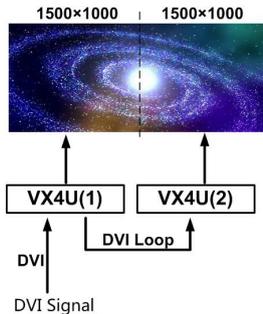
### Image Mosaic

If the resolution of an LED display exceeds the loading capacity of a single VX4U unit, it is required to use Image Mosaic. The total loading area of all cascaded VX4U units is the resolution of the whole LED display.

Choose the method of Image Mosaic: Equal Division, Unequal Division.

- Equal Division: Each VX4U has same load area. It is only required to set total pixels, rows, columns of the LED display and the serial No. of each VX4U.
- Unequal Division: Each VX4U could have different load area . It is required to set the total pixels and the load area size as well as load area start position of each VX4U.

**Example:** The total number of pixels of LED display is 3000×1000, exceeding the loading capacity of a single VX4U unit. Two VX4U units are used for Image Mosaic. The connection method is shown in the figure below.



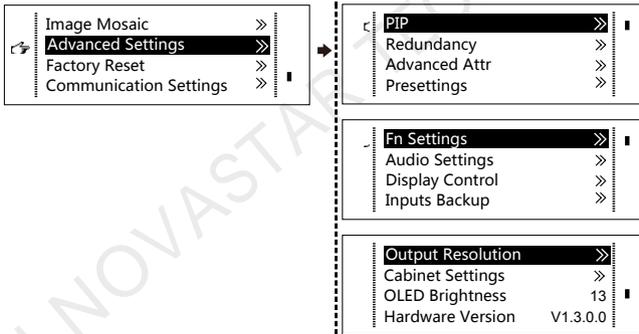
Please choose Equal Division or Unequal Division while setting detailed parameters. The specific parameter settings are shown in the following tables.

Equal Division		
	VX4U( 1 )	VX4U ( 2 )
Total Width Pixels	3000	
Total Height Pixels	1000	
Mosaic Row Qty	1	
Mosaic Column Qty	2	
Load Area Position	1	2
—	—	—

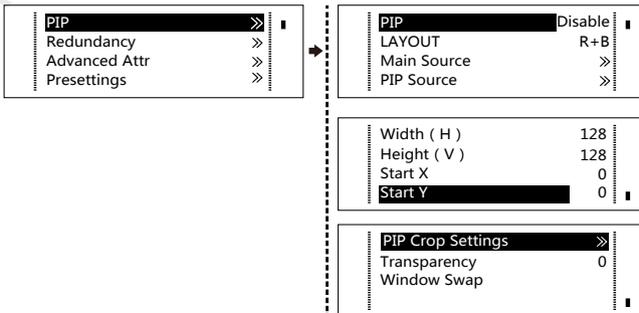
Unequal Division		
	VX4U ( 1 )	VX4U ( 2 )
Total Width Pixels	3000	
Total Height Pixels	1000	
Load Area Width	1500	1500
Load Area Height	1000	1000
Load Area Start X	0	1500
Load Area Start Y	0	0

## Advanced Settings

Several setting options of main functions are included in advanced settings, as shown in the figure below. Operation of each function will be detailed for users in the following chapters.



## PIP



Enable or disable PIP. Set the input source of main screen and PIP, as well as parameters of PIP.

**LAYOUT:** The position of PIP relative to main screen, including eight types of layouts such as Custom, Left Top, Left Bottom, Right Top, etc. When any type except Custom is selected, the values of horizontal and vertical offset of PIP will be automatically adjusted to the corresponding values of the selected layout . The meaning of each layout type is introduced below:

- Custom refers to that the size and position of PIP can be set.
- Left Top, Left Bottom, Right Top, Right Bottom, Center refer to that PIP overlaps with the top-left corner, bottom-left corner, top-right corner, bottom- right corner and center of main screen. Now the size of main screen will become full-screen while the size of PIP does not change.
- Top Bottom, Left Right refer to that main screen and PIP are distributed from top to bottom or left to right.

**Main source/PIP source:** Input source switching of main screen and PIP is the same as the role of input source switching on the front panel.

Horizontal Res: Horizontal offset of PIP

Vertical Res: Vertical offset of PIP

Horizontal X: Horizontal width of PIP

Vertical Y: Vertical height of PIP

**PIP Crop Settings:** Picture is cropped from the set starting position and is displayed on PIP and its size is set horizontal width and vertical height.

Enable this function and then set horizontal width, vertical height, horizontal X and vertical Y.

**Transparency:** The transparency of PIP

**Window Swap:** Swap the content of main screen and PIP.

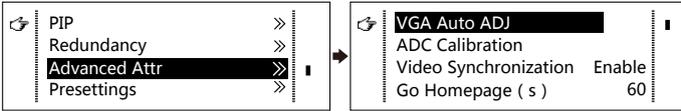
The Conflict List of PIP Signal Sources (VX4U)

HDMI		Input Source of Main Channel							
		HDMI	DVI	VGA1	VGA2	CVBS1	CVBS2	USB	DP
PIP Input Source	HDMI	x	x	√	√	√	√	√	√
	DVI	x	x	√	√	√	√	√	√
	VGA1	√	√	x	x	√	√	√	√
	VGA2	√	√	x	x	√	√	√	√
	CVBS1	√	√	√	√	x	x	√	√
	CVBS2	√	√	√	√	x	x	√	√
	USB	√	√	√	√	√	√	x	√
	DP	√	√	√	√	√	√	√	x

**Redundancy**

Set this controller as primary or backup.

## Advanced Attribute



- **VGA Auto ADJ:** Sampling parameters of VGA input signal are automatically adjusted so that the VGA picture is clear and complete. Select this menu and then press the knob once and perform VGA automatic adjustment once. (VGA1 of VX4 does not support this function)
- **ADC Calibration:** Controllers without ADC calibration may cause abnormalities such as color cast or picture dark while accessing analog signal. VX4U can automatically perform ADC calibration based on input analog signal (including CVBS and VGA) to solve the problems above. Select this menu and then press the knob once and perform ADC calibration once.
- **Video Synchronization:** Keep the input in sync with output.(This function is not compatible with image mosaic.)
- **Go Homepage(s):** A certain period of time, if the system remains on current page for the certain period of time without any operation, then it will go back to homepage automatically.

## Presettings

Save current configuration parameters as Presettings. The Presettings can be directly loaded next time, and 10 Presettings are saved by default.

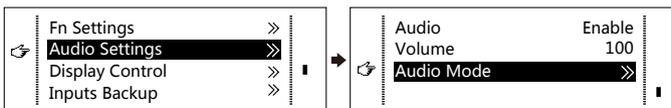
## Fn Settings

Customize the function of Fn key, including Black Out, Freeze, VGA Auto ADJ, Video Synchronization. Press **Fn** and the corresponding function will kick in.

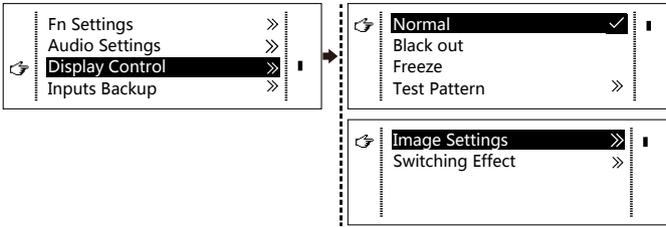
## Audio Settings

Enable/disable audio function and control volume and audio mode.

For example, when using Audio In port to input audio, it is required to enable audio function first and then set audio mode to fixed. When using the audio from HDMI, set audio mode to accompanied after enabling audio function and then switch source to HDMI. Now the audio we hear comes from HDMI.



## Display Control

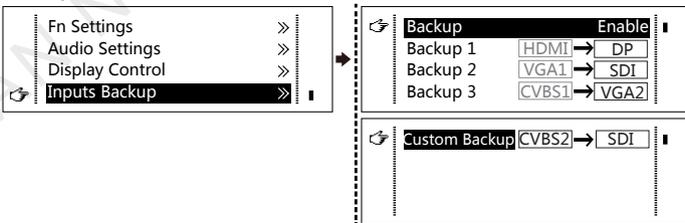


- **Normal:** Normal display.
- **Black Out:** Display is blank
- **Freeze:** Current screen is frozen.
- **Test Pattern:** There are eight types of test patterns in total, including pure color and lines.
- **Image Settings:** Contrast, Saturation, Hue, Color Temperature, Red, Green, Blue and Gamma value can be set as required. After they are adjusted to satisfaction, the parameters should be saved.
- **Switching Effect:** Set the effect when switching screens, including Quick switch, Fade, Shrink Center, Shrink Left Top, Zoom Center, Zoom Left Top and turning off. After selecting the desired effect, it will take effect after pressing the knob.

**Tip:** When PIP function is enabled, the switching effect will automatically disabled. Only when PIP function is disabled, the special effects of channel switching can take effect.

### Inputs Backup

Specify the backup of input source. It will switch to backup source automatically if the signal of input source has faults, which makes it more reliable.

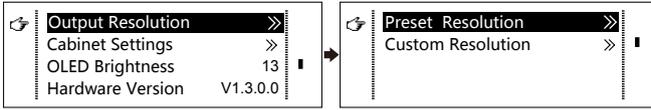


**HDMI** → **DP** denotes that DP has been set as the backup of HDMI. Main input source (unable to be changed) is in left side of the arrow while backup (able to be changed) is in the right side.

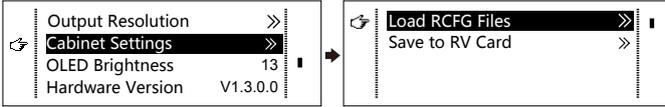
Both main input source and backup can be customized in Custom mode.

### Output Resolution

This function can be used to set the output resolution of monitoring. Users can set the function according to actual use and choose either Reset Resolution or Custom.



## Cabinet Settings

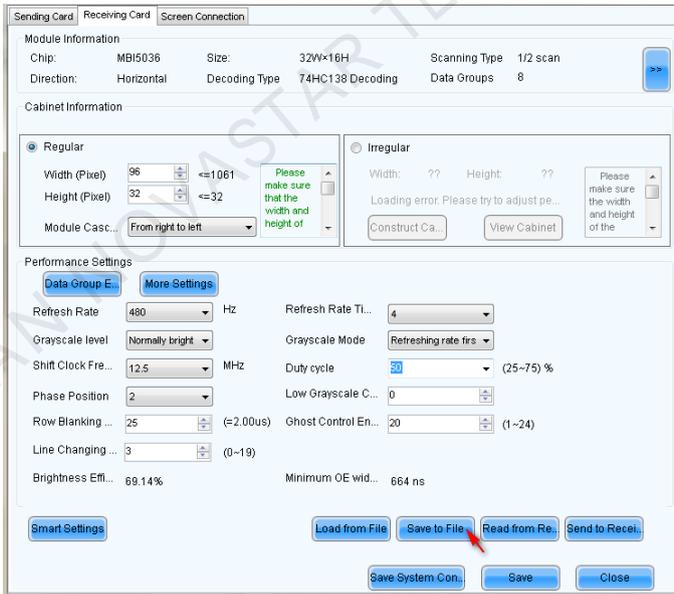


## Load Cabinet Files

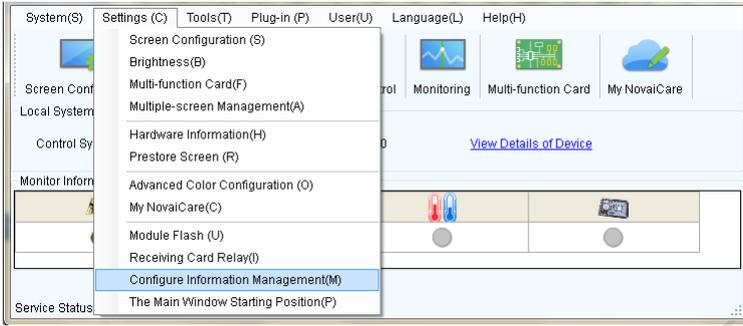
VX4U is connected with PC. Run NovalCT-Mars on PC and import the cabinet configuration files saved before into the controller.

- 1) Save cabinet configuration files.

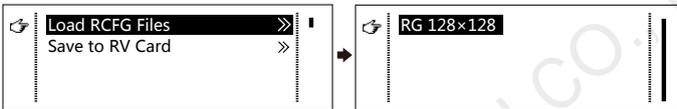
After receiving card is configured, click **Save to File** and save cabinet configuration files (.rcfg) to local file on PC.



- 2) Import cabinet configuration file into VX4U.



3) Load RCFG Files.



**Save to RV Card**

All current configurations related the receiving card of VX4U are saved into receiving card and will not be lost after power fault.

**OLED Brightness**

Adjust the grayscale of OLED display.

**Hardware Version**

Check the hardware version of VX4U. If new version has been published, LCT-Mars can be connected via PC to upgrade hardware programs.

**USB Play Settings**

Voice	On/Off
Volume	0~100
TRK	Track type
Loop Mode	Single/List

Function keys of USB play			
CVBS1	Stop	HDMI	Play/Pause
DVI	Fast rewind	VGA1	Fast forward
CVBS2	Previous	DP	Next

**Browsing and selecting the contents of USB drive**

Press **USB** key to select USB drive as input source. Press the key again to enter the operation of USB play. Now the indicator lights of six function keys are on, which will be reused as six operation keys for playback. Press Pause key(**HDMI**) to browse the contents of USB drive on LED display, then rotate the knob

to select media files.

When USB drive is selected as input, the controller will automatically detect and play the files that can be played in the USB drive. Users can switch through Previous and Next keys or view the files in the USB drive and select files to be played.

## Factory Reset

Reset to factory default settings.

## Communication Settings

Set the communication mode and network parameters of VX4U.

The communication modes include USB priority and LAN (Local Area Network) priority. When VX4U is connected to USB and Ethernet control interfaces simultaneously, USB control will be used if it is set to USB priority, otherwise, LAN control will be used if it is set to LAN priority.

Network parameters can be set both manually and automatically. Ensure that the IP address is not conflict with other devices when setting parameter manually.

## Language

Change UI language.

# 8 Specifications

Inputs		
Port	Qty	Resolution Specification
VGA	2	VESA Standard, max. supported input 1920×1200@60Hz
DVI	1	VESA Standard (supports 1080i input), supports HDCP
CVBS	2	PAL/NTSC
HDMI	1	EIA/CEA-861 standard, in accordance with HDMI-1.3 standard, support HDCP
DP	1	VESA Standard
		Multimedia file formats: avi, mp4, mpg, mkv, mov, vob
USB	1	Multimedia coding formats: MJPEG, MPEG-1, MPEG-2, MPEG-4, DivX, H.264, Xvid

Outputs		
Port	Qty	Resolution Specification
DVI LOOP	1	The same as DVI input

VGA	1	<p>Max. output 1280×1024@60Hz (2.3 million pixels)</p> <p>Customized output resolution (Bandwidth optimization)</p> <p>Max. horizontal resolution 3840 pixels</p> <p>Max. vertical resolution 1920 pixels</p>
DVI	1	

## 9 FAQs

Problems	Solutions
LED display seems blackout	<p>Check whether the power connection is correct and the switch is turned on;</p> <p>Use test patterns to confirm whether the connections of LED display is correct and work normally;</p> <p>Check whether the controller has output signal and it is set as black out;</p> <p>Check whether the mode and parameters of screen configuration are correct.</p>
Monitoring port output is abnormal	<p>Check whether there is image input in input channel and whether it is correctly displayed;</p> <p>Check whether PIP has been enabled, whether there is signal input in Channel 2 and the input signal is correctly displayed;</p> <p>Check whether the connection of monitoring output is correct and not loose;</p> <p>Please confirm whether Monitor supports the output resolution of the controller;</p> <p>Try to cut off the power of the unit and restart it. Then reset the controller and try again.</p>
Phase of VGA input offset	<p>Perform VGA Auto ADJ.</p>
PIP is abnormal	<p>Check whether there is signal input in channel 2 and it is normally displayed;</p> <p>Check PIP and confirm whether parameter settings are correct.</p>
Fade is abnormal	<p>Check whether switching effect is enabled.</p>
Image Mosaic is abnormal	<p>Check whether Image Mosaic is enabled and whether Image Mosaic parameter settings are correct;</p> <p>Check whether input signal source is normal.</p>

---

Sound is abnormal	Check whether the volume setting is appropriate; Check whether the Audio mode is correct; Confirm the controller is well connected to multifunction card, and the corresponding output port icon on the main interface is highlighted; Make sure whether the audio output mode of multifunction card is in HDMI mode (It is required to connect LCT for confirmation and settings).
-------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

---

Please troubleshoot the devices according to above steps. If problems cannot be solved, please contact our local dealers or customer service department.

Since there are components with high voltage inside the unit, please do NOT maintain it by yourself for the sake of your safety.

XI'AN NOVASTAR TECH CO., LTD.

## FCC Caution

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.