NOVASTAR MCTRL R5 LED Display Controller User Manual

MX40 Pro
LED Display Controller
User Manual
MX40 Pro LED Display Controller User Manual

Contents

MX40 Pro LED Display Controller

Change History

Document Version	Release Date	Description
V1.0_02	2021-09-25	l Updated the application diagrams. l Updated the LCD home screen diagram.
V1.0_01	2021-09-01	First release

Overview

NovaStar's flagship 4K LED display controller, the MX40 Pro, offers rich video input connectors (HDMI 2.0, DP 1.2 and 12G-SDI) and 20 Ethernet output ports. It can work with the brand-new VMP screen configuration software to provide users with the ultimate experience.

- VMP software as a perfect fit to configure screens easily and efficiently
  – Regular or irregular screens, they can be configured extremely fast.
  – Advanced Setup mode or simple Launch mode, they can be freely switched to meet different needs.
  – Topology area or properties area, there are big differences and a lot of features to explore.
  – A single device or grouped devices, all are under control.
- Innovative hardware architecture design to make wiring easy and flexible
  – Cascaded devices are controlled via Ethernet and operation commands can be received as soon as they are sent.
  – High bit depth inputs do not reduce the loading capacity by half and blank configurations do not occupy any capacity, using the Ethernet port bandwidth to the full potential.
- Not only a controller but also a processor with a built-in color adjustment system
  – True 12bit, HDR, wide color gamut, high frame rate, and 3D display technologies are all included.
  – The color replacement and color calibration features can faithfully reproduce the colors.
  – The XR function, LED Image Booster, and Dynamic Booster features can present a smooth image.
  – Work with the calibration system to realize pixel-level brightness and chroma calibration and full-grayscale calibration, enabling high brightness consistency and chroma consistency.

Appearance

2.1 Front Panel

Name	Description
Running Indicator	l Flashing red: Standby l Solid red first and solid blue at last: The device is being powered on. l Solid green: The device is running normally.
Power Button	l Press the button to power on or power off the device. l Hold down the button for 5s or longer to restart the device.
USB 2.0	A maintenance port used to send cabinet configuration files and export the diagnostic re sult
TFT Screen	Display the device status, menus, submenus and messages.
Knob	l On the home screen, press the knob to enter the main menu screen. l On the main menu screen, rotate the knob to select a menu item or adjust the paramete r value. Press the knob to confirm the operation. l Hold down the knob and **BACK** buttons simultaneously for 5s or longer to lock or unlock the buttons.
BACK	Exit the current menu or cancel the operation.

2.2 Rear Panel

Inputs (INPUT area)		
Connector	**Qty**	**Description**

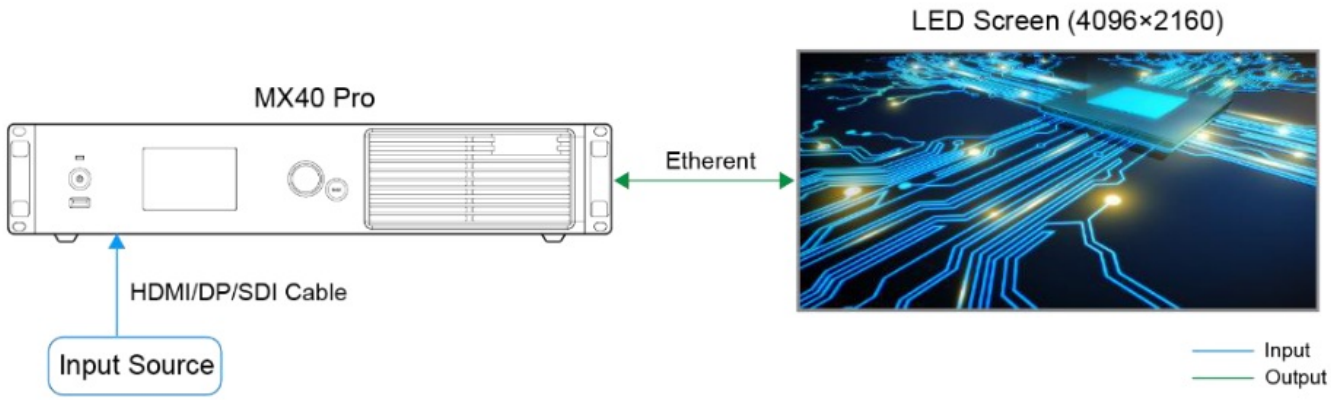
HDMI 2.0 -1 IN	1	•Maximum resolution: 4096×2160@60Hz/8192×1080@60Hz (Forced) Minimum resolution: 800×600@60Hz •Support custom input resolutions. Maximum width: 8192 (8192×1080@60Hz) Maximum height: 8192 (1080×8192@60Hz) •Support common standard resolutions, up to 3840×2160@60Hz. •Supported frame rates:
		23.98242529.97/30147.95/48/50/59.94160/71.93/7225/100/119.88/120/143.86/144/150/179.82/180/191.81/192200/215.78 216/239.76/240 Hz •Support the HDR fie-Kt:on. •Support EDID management. •Support HDCP 2.2. backwards compatible with HDCP 1.411.3. •Support 48kHz dual channel audio transmission. (Reserved) •Do NOT support interlaced signal itput.
HDIN 2.0-2 IN	1	•Maximum resolutico:4098•2160@60ftr/8192•1080$260Hz (Forced) Minimum resolution: 800•600@60Hz •Support cistern input resolutions. Maximum width: 8192 (8192.1080460Hz): maximum height: 7680 (1080•7680(%60Hz) •Support common standard resolutions. up to 3840•2160$}60Hz. •Supported frame rates: 23.98242529.97130/47.95/48150/59.94160/71.93/7225/100/119.88/120/143.88/144/150/179.82/180/191.81/192/200215.78/216239.76240 Hz •Support EDID management. •Support HDCP 2.2. backwards compatible with HDCP 1.4/1.3. •Support 48 kHz dual channel audio transmission. (Reserved) •Do NOT support interlaced signal input.
DP 1.2	1	•Maximum resolutico:4096•2160g60Hz/8192•1080$160Hz (Forced) Minimum resolution: 800•600@60Hz •Support eastern input resolutions. Maximum width: 8192 (8192•1080©60Hz) Maximum height 8192 (1080•8192©60Hz) •Support common standard resolutions. up to 3840•2160§60Hz. •Supported frame rates: 23.98/242529.97/30147.95/48/50/59.94160/71.93/72/75/100/119.881120/143.88/144/150/179.82/180/191.81/192/200/215.78/216/239.76/240 Hz •Support EDID management. •Support HDCP 1.3. •Do NOT support interlaced signal ilp.rt.
12G-SDI IN	1	•Maximum resolution: 4096•2160g60Hz •Support ST-2082 (12G). ST-2081 (6G). ST-424 (3G) and ST-292 (IC) standard video inputs. •Support 3G-Level A/Level B (DS mode). •Do NOT support input resolution settings. •Support frame rates up to 60Fir •DeOterlacin processing supported (Reserved)
Outputs (OUTPUT area		
Connecter	Oty	Description

1-20	20	20x Neubik Gigabit Ethernet ports •Capacity per port up to 650.000 pixels (8bit). 480.000 pixels (10bit). or 320.000 pixels (12bit). •Support redundancy between Ethernet ports. When the green and yellow indicators stay on simultaneously. the Ethernet port is connected to a Gigabit Ethernet cable and the connection is available.
OPT 1-4	4	Four 10G optical ports
		When the four optical ports we used for output simultaneously. they support cop y mode: •OPT 1 copies and outputs the data on Ethernet pons 1-10. •OPT 2 copies and outputs the data on Ethernet pals 11-20. •OPT 3 is the copy channel of OPT 1 or Ethernet ports 1-10 •OPT 4 is the copy channel of OPT 2 or Ethernet Kris 11-20
HDM 2.0-1 LOOP	1	An HDMI loop output connector
HON 2.0-2 LOOP	1	M HDRU loop output connector
12G-SDI LOOP	1	M SDI loop output connector
SPDIF OUT		A digital audio output connector (Reserved)
Control (CONTROL area)		
Connector	Oty	Description
ETHERNET	2	Zr Ethernet control ports They can be connected to the control PC or used for device cascading control.
GENLOCK	1	A pair of Genixk signal connectors. Support Bi-Level. Tfi-Level and Black burst. •IN: Accept the sync si;nal. •LOOP: Loop the sync signal. For standard Genlock signal generators. up to 10 MX40 Pro devices can be cas caded.
AUX	1	M auxiliary connector that can be connected to the central control device (RS23 2) or 3D synchronizer (Reserved)
Pawer		
100-240V-. 50/60H z. 2A	1	MAC power input connector and switch

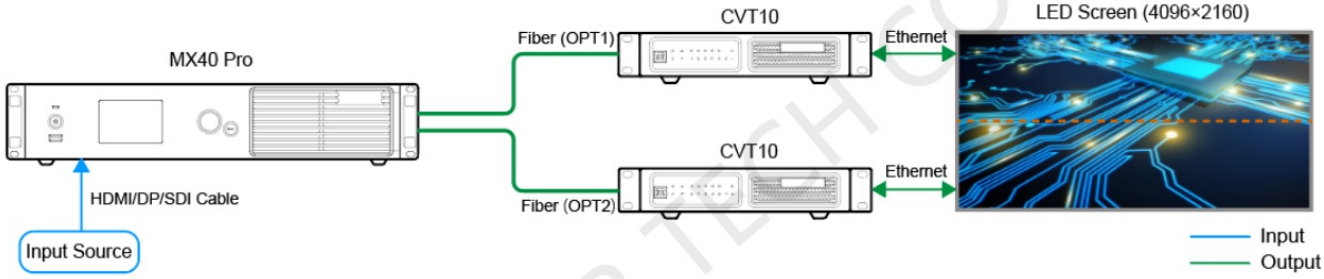
Applications

The MX40 Pro has two typical application scenarios as shown below. In those application examples, the LED screen size is 4096×2160 and the fiber converter used is NovaStar's CVT10.

Application 1: Synchronous Mosaic

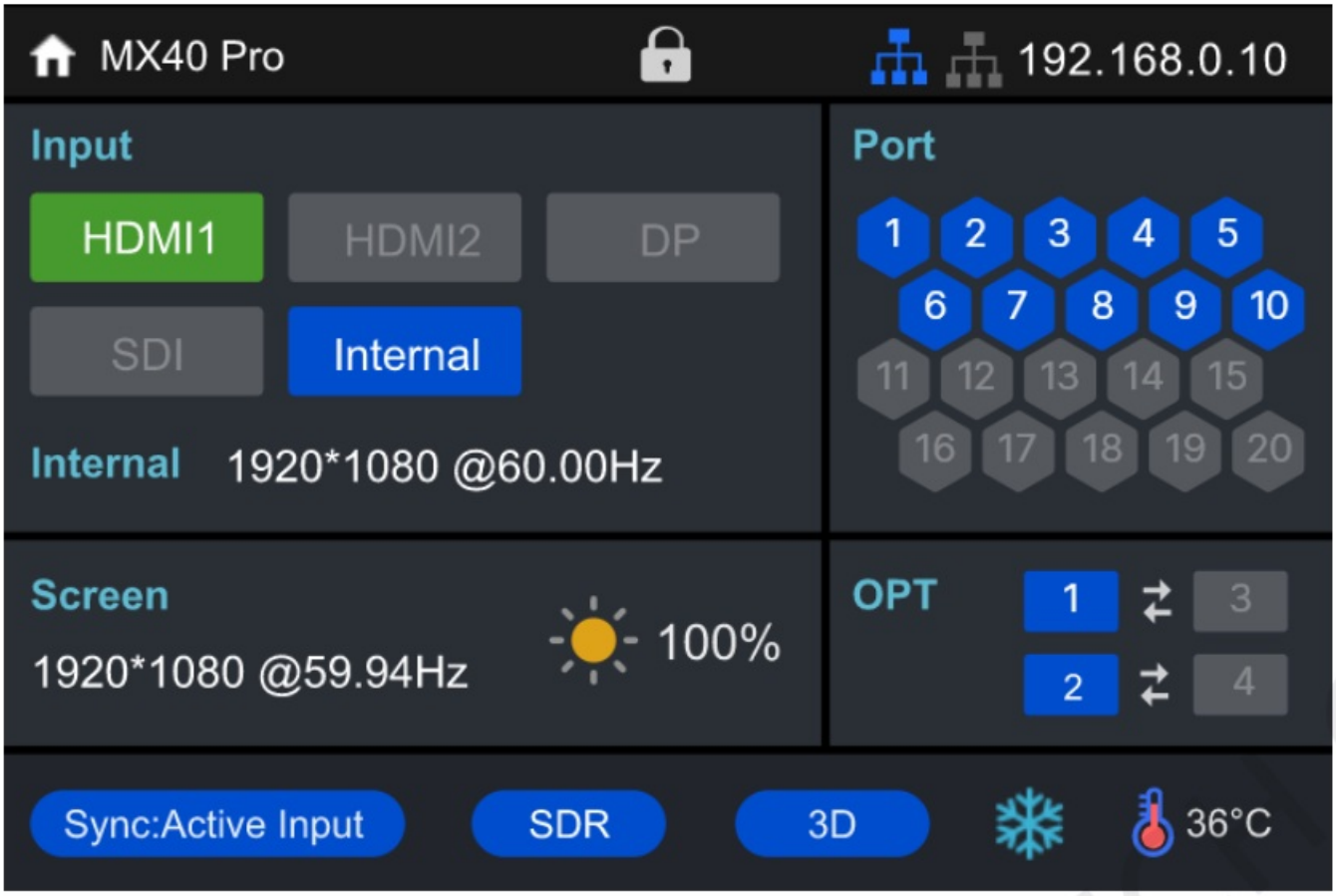


Application 2: Long-Distance Transmission via OPT Ports



Home Screen

After the device is powered on, the home screen is displayed as follows. On the home screen, press the knob to enter the main menu screen.
Figure 4-1 Home screen



The home screen is shown in Figure 4-1 and the home screen descriptions are shown in Table 4-1.
Home screen descriptions

Classification	Content	Description
Top line	MX40 Pro	The device name
		The device buttons are locked. This icon is not displayed when the buttons are unlocked. The buttons will be locked only in the following situations: l Hold down the knob and BACK button simultaneously for 5s or longer. l Operate and control the device in VMP software.
		The connection status of the Ethernet ports l Blue: Connected l Gray: Disconnected
	192.168.0.10	The device IP address For related operations, please refer to 7.2 Set an IP Address.
Input	HDMI1, HDMI2, DP, SDI, Internal	The device input source type and status l Green: The signal is accessed normally. l Blue: The signal is accessed normally, but not used. l Red: The signal is not accessed, or the accessed signal is abnormal. l Gray: The signal is abnormal and not used. For the input source settings, please refer to 5.1.1 Set Input Source.

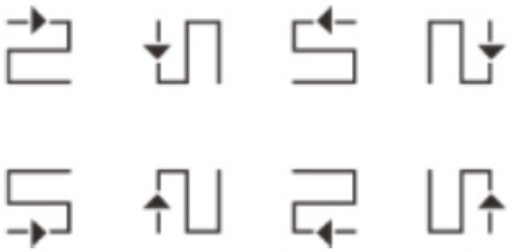
Classification	Content	Description
	Internal 1920*1080@60.00Hz	The resolution and frame rate of the currently available input source If multiple input sources are accessed and available, the resolution and frame rate of each input source will be displayed one by one. For the resolution and frame rate settings, please refer to 6.1.2 Set Resolution and Frame Rate (HDMI1, HDMI2 and DP only).
Screen	1920×1080@59.94Hz	The screen resolution and frame rate
		The screen brightness For the screen brightness settings, please refer to 6.3.1 Adjust Screen Brightness.
Port	1–20	The statuses of the Ethernet ports l Blue: Connected l Gray: Disconnected
OPT	1–4	The statuses of the OPT ports l Blue: Connected l Gray: Disconnected

Bottom line	Sync: Active Input	The sync signal currently used and the signal status l Sync: Active Input: Sync with the frame rate of the current input source l Sync: Genlock: Sync with the frame rate of the Genlock signal l Sync: Internal: Sync with the frame rate of the internal clock of the device Color code: l Blue: The signal is normal. l Red: The signal is abnormal. For the synchronization settings, please refer to **6.3.6 Set Sync Source.**
	SDR	The format of the dynamic range For the HDR-related settings, please refer to **6.1.4 Set HDR (HDMI1 and HDMI2 only).**
	3D	The 3D function is turned on. This icon is not displayed when the 3D function is turned off. For the settings of the 3D functions, please refer to **6.3.3 Enable 3D Function.**
		The output display is frozen. After the screen is blacked out, this icon is not displayed and  is displayed. For the display control settings, please refer to **7.4 Control Display Status.**
		The temperature inside the chassis

Screen Configuration

If the LED screen, cabinets, data flow and cabinets loaded by Ethernet ports can meet the following requirements, you can configure the screen via the device front panel menu; otherwise, screen configuration in VMP will be your ideal choice.

- Screen: The LED screen must be a regular screen.
- Cabinet: The cabinets must be regular ones of the same size, and function well.
- Data flow: The data must run in the same way for all Ethernet ports and the data flow must be one of the followings. The starting position of the data flow is the first cabinet of Ethernet port 1, and the connections are made in sequence according to the serial number of the Ethernet port.



- Cabinets loaded by Ethernet port: If n ports are used to load the cabinets, the number of cabinets loaded by each of the first (n–1) ports must be the same and the integral multiple of the number of cabinet rows or columns, and it must be greater than or equal to the number of cabinets loaded by the last port.

5.1 Quick Screen Configuration via Front Panel Screen

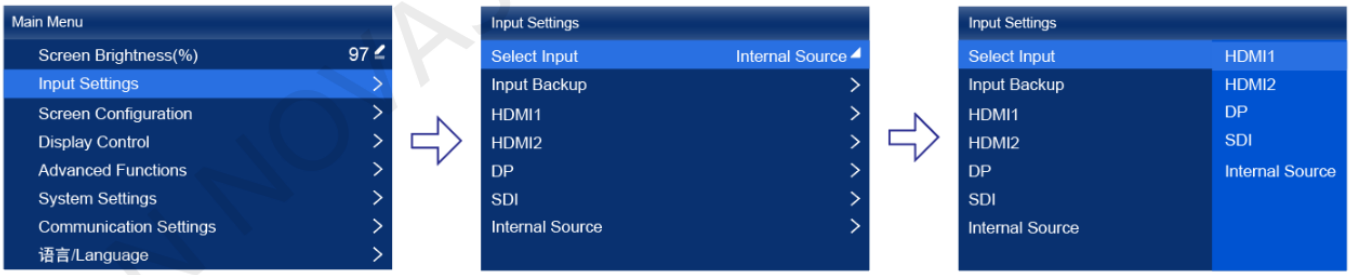
5.1 Quick Screen Configuration via Front Panel Screen

5.1.1 Set Input Source

Select the desired input source and complete the related settings, such as resolution and frame rate. If the resolutions of the input source and screen are the same, the image can be displayed pixel to pixel. A lower frame rate may result in image flickering, while a higher frame rate helps stabilize the display image.

On the main menu screen, choose Input Settings > Select Input to select a video source.

Figure 5-1 Select input source



Perform the corresponding operations for the input source according to the input source type. For the SDI sources, please skip this step.

- External input sources (HDMI1, HDMI2, DP)

a. Choose input source > EDID. The input source is HDMI1, HDMI2 or DP.

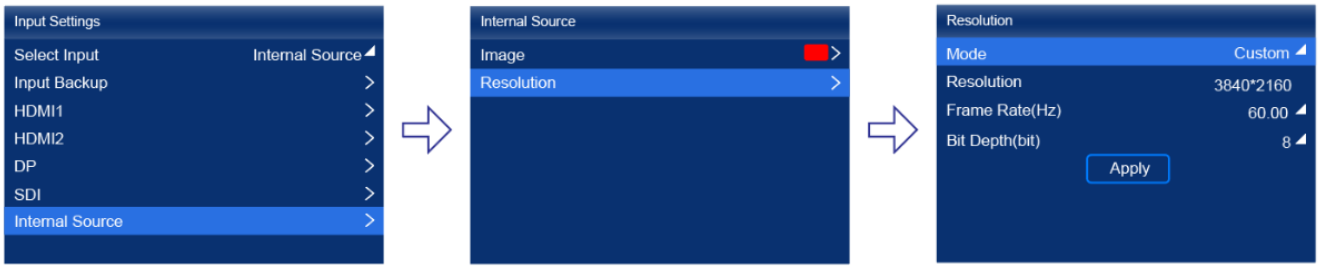
b. Set Mode to Custom or Standard, and then set the resolution and frame rate.

Custom: Set the resolution manually.

Standard: Select the desired resolution from the drop-down options.

c. After the settings are done, click Apply.

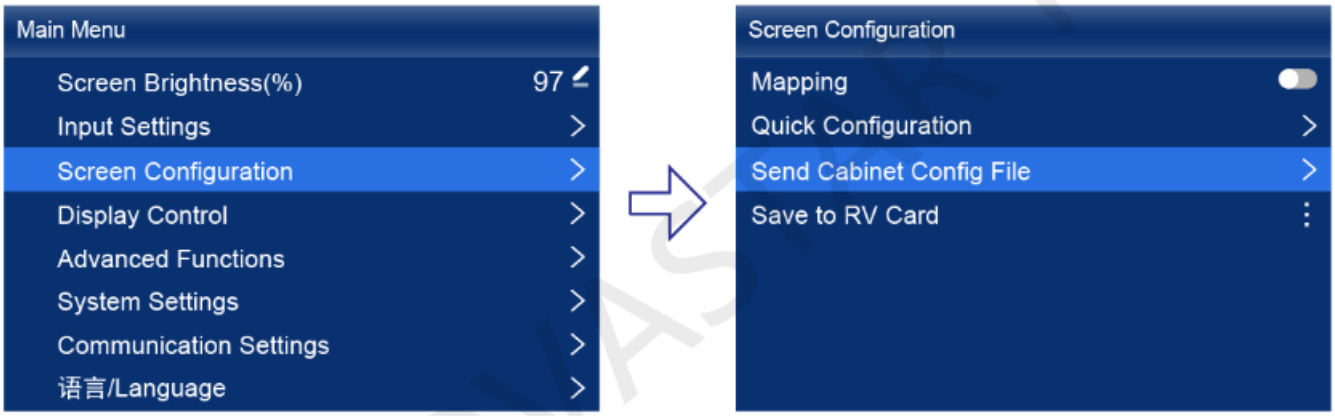
- Internal sources



a. Choose Internal Source > Image, and then select a static picture or a motion picture.
b. When the relevant parameters of the image are displayed, set the parameters according to your actual needs; otherwise, please skip this step.
c. Press the BACK button to go back to the upper-level menu and select Resolution.
d. Set Mode to Custom or Standard, and then set the resolution and frame rate.
e. After the settings are done, click Apply.

5.1.2 (Optional) Send Cabinet Config File

Send the cabinet configuration file to the cabinet(.rcfgx) and save it to display the image normally. Before the the operation, please store the cabinet configuration file in the root directory of the USB drive in advance.
Insert the USB drive into the USB connector on the device front panel.
On the main menu screen, choose Screen Configuration > Send Cabinet Config File.
Figure 5-2 Send cabinet config file

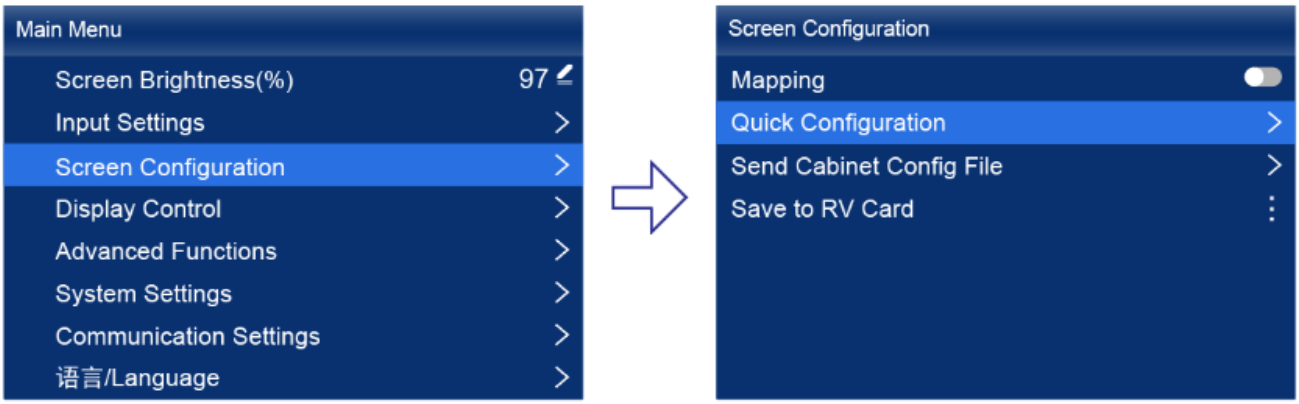


step 3 Select the target configuration file.
step4 Select Yes in the displayed dialog box.
After the configuration file is successfully sent, a message appears on the menu screen and then then you will automatically return to the configuration file screen.
step 5Press the BACK button to go back to the upper-level menu.
step 6 Select Save to RV Card.
step 7Select Yes in the displayed dialog box.
After the configuration file is successfully saved, a message appears on the menu screen.

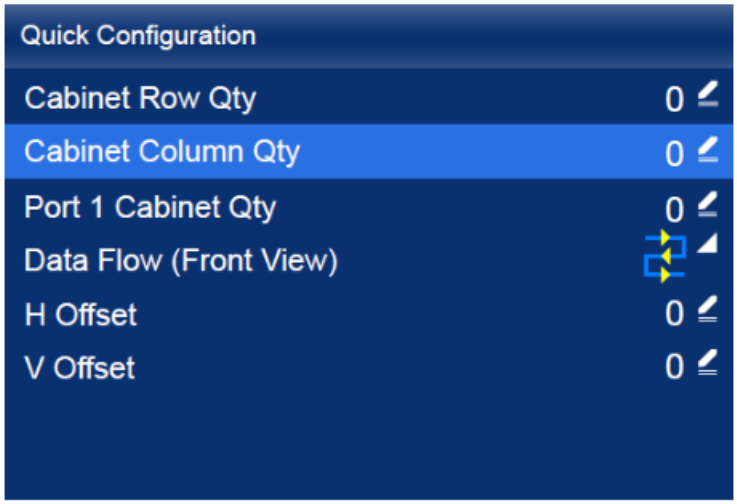
5.1.3 Quick Configuration

step 1 Set the screen configuration parameters to quickly complete the cabinet connection so that the LED screen can display the input source image normally.
On the main menu screen, choose Screen Configuration > Quick Configuration.

Figure 5-3 Quick configuration



Step 2 Select Yes in the displayed dialog box.
Step 3 Set the following parameters as required.
Figure 5-4 Screen configuration parameters



- Cabinet Row Qty: Set the number of cabinet rows.
- Cabinet Column Qty: Set the number of cabinet columns.
- Port 1 Cabinet Qty: Set the quantity of the cabinets loaded by Ethernet port 1.
- Data Flow (Front View): Select the data flow for the cabinets loaded by Ethernet port 1.
- H Offset: Set the horizontal offset of the displayed image.
- V Offset: Set the vertical offset of the displayed image.

5.2 Free Screen Configuration via VMP

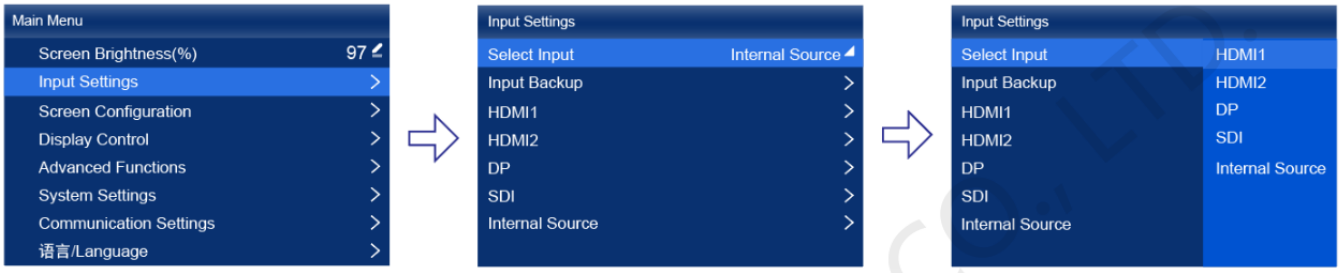
The VMP software can be used to configure either the regular screens or complex screens and supports free wiring of the cabinets, plus the ability to calculate the used loading capacity according to the cabinets that are actually loaded. For the details of performing the free screen configuration, please refer to VMP Vision Management Platform User Manual.

Display Effect Adjustment

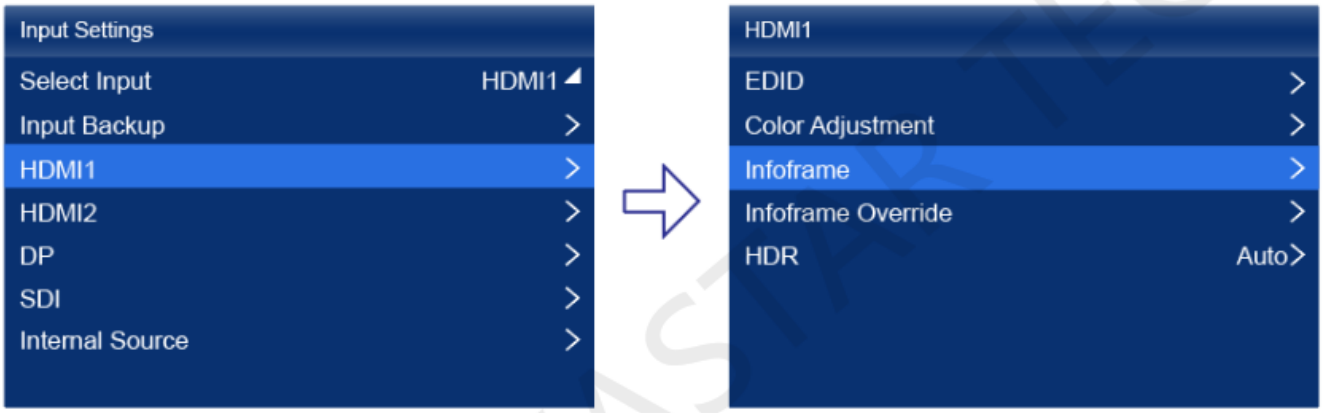
6.1 Set External Input Source Parameters

6.1.1 View Input Source Information

View the attribute values of the input source, including the resolution, frame rate, bit depth, color gamut, etc.
On the main menu screen, choose Input Settings > Select Input to select an external video source (HDMI1, HDMI2, DP or SDI). Figure 6-1 Select Input LTD.



Step 2 Choose input source > Info frame. The input source is the video source you selected in the previous step.
Figure 6-2 Input source information



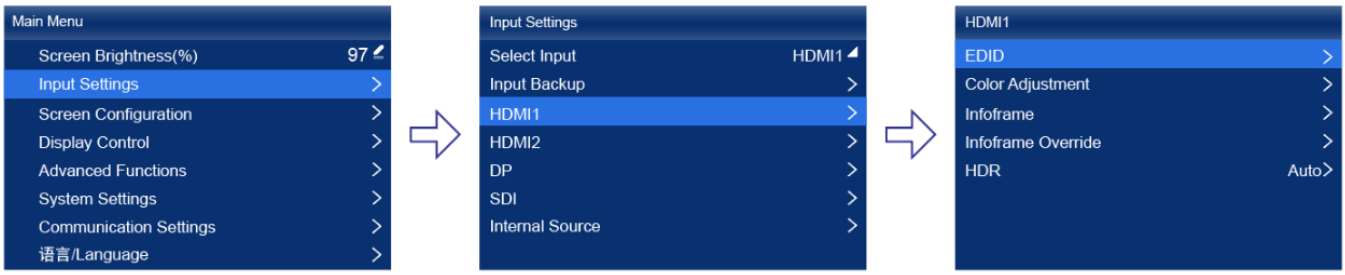
Step 3 View the input source information.

6.1.2 Set Resolution and Frame Rate (HDMI1, HDMI2 and DP only)

Set the resolution and frame rate of the input source. If the resolutions of the input source and screen are the same,
the image can be displayed pixel to pixel. A lower frame rate may result in image flickering, while a higher frame rate
helps stabilize the display image.

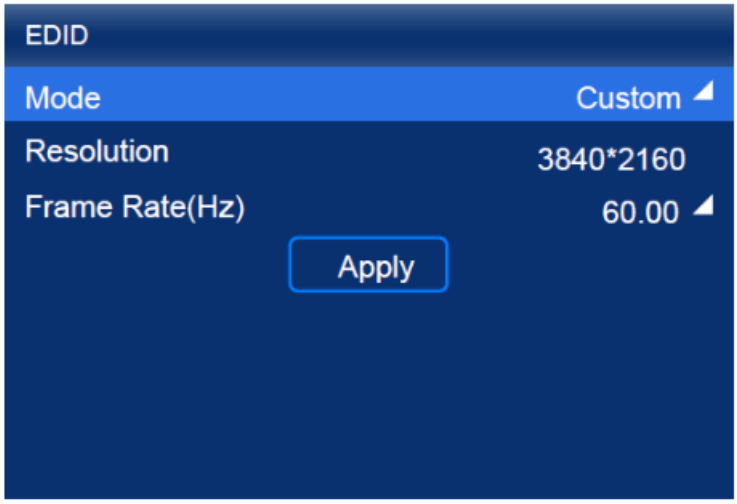
Step 1 On the main menu screen, choose Input Settings > input source > EDID. The input source is HDMI1, HDMI2 or DP.

Figure 6-3 EDID



Step 2 Set Mode to Custom or Standard, and then set the resolution and frame rate.

Figure 6-4 EDID parameters



- Custom: Set the resolution manually.
- Standard: Select the desired resolution from the drop-down options.

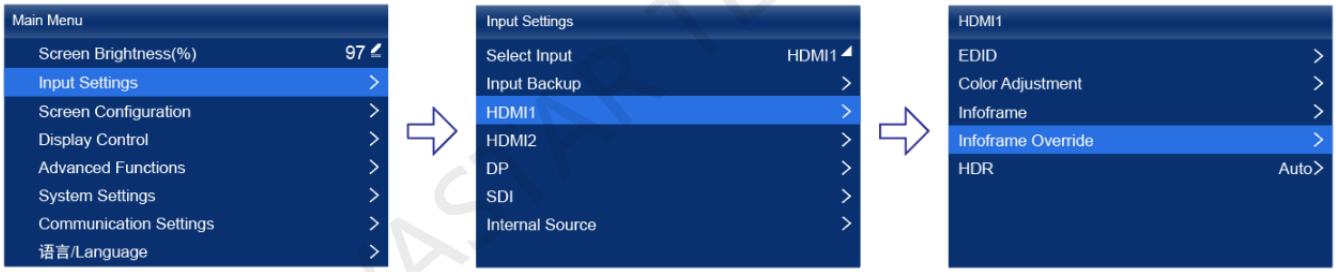
Step 3 After the settings are done, click Apply.

6.1.3 Adjust Color

Set the input source override parameter and adjust the color. The override parameter will be used in the calculation of color adjustment. If the value of this parameter is not set manually, the value that comes with the input source can be used.

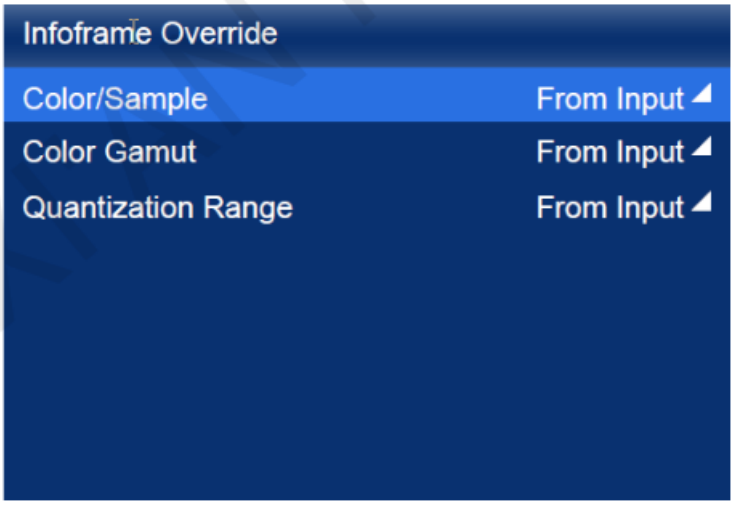
Step 1 On the main menu screen, choose Input Settings > input source > EDID. The input source is HDMI1, HDMI2, DP or SDI.

Figure 6-5 Infoframe override



Step 2 Set the following parameters as required.

Figure 6-6 Override parameters



Select From Input and the device will read the attribute value that comes with the input source

Step 3 Press the BACK button to go back to the upper-level menu.

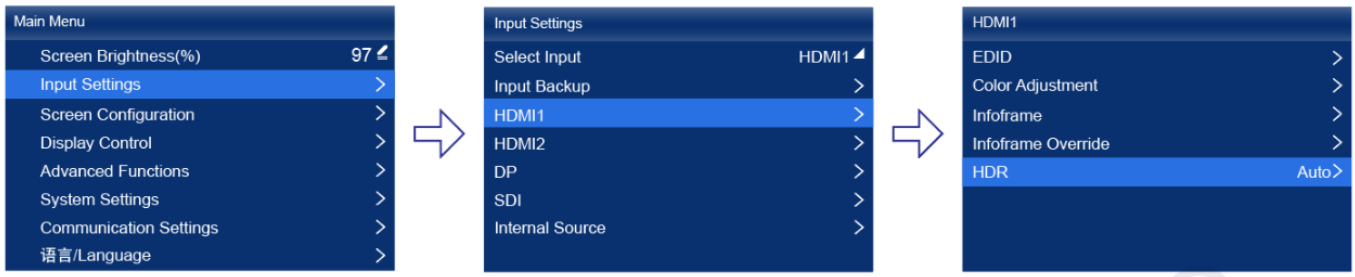
Step 4 Select Color Adjustment.

Step 5 Set the related parameters.

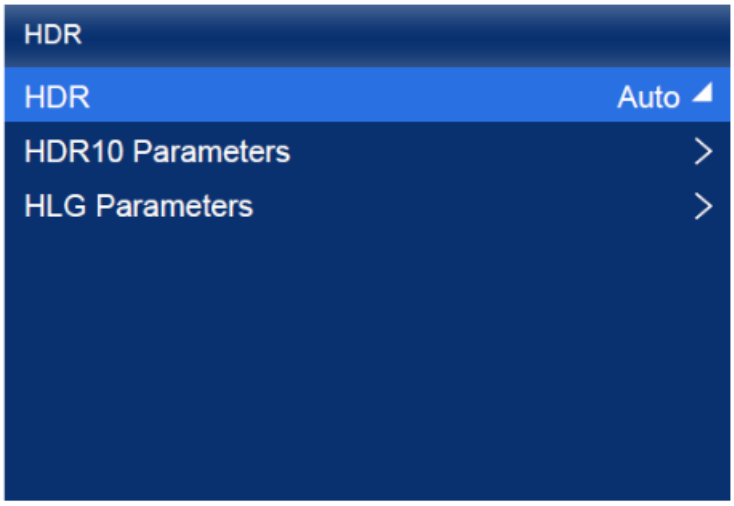
Black level is used to adjust the contrast of the dark areas of the image.

6.1.4 Set HDR (HDMI1 and HDMI2 only)

Set the parameters used during the process of parsing HDR video sources.
Step 1 On the main menu screen, choose Input Settings > input source > HDR. The input source is HDMI1 or HDMI2.
Figure 6-7 HDR



Step 2 Select HDR and select the HDR format from the listed options.
Select Auto and the device will read the attribute value that comes with the input source.
Figure 6-8 HDR parameters



Step 3 Select HDR10 Parameters or HLG Parameters to complete the related settings. If the HDR format is SDR here, no parameters need to be set.
HDR-related parameters include:

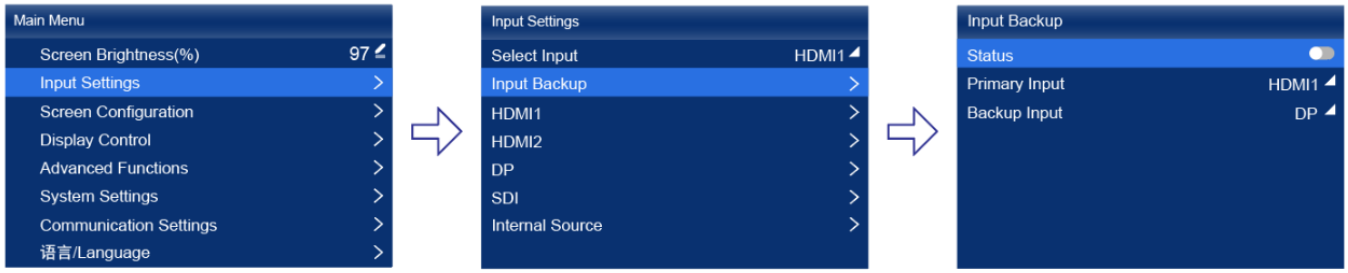
- PQ MaxCLL (nits): The peak screen brightness, which will take effect only when PQ MaxCLL Override is set to  .
- Ambient Illuminance (Lux): The ambient light intensity
- Low-Grayscale Compensation: The compensation for the grayscale in low grayscale conditions, allowing for more precise grayscale

  The HLG-related parameters include HLG Level only.

  If you want to restore the parameters to the defaults, select Reset.

6.1.5 Input Source Backup

Set the backup source so that when the primary source is unavailable, the backup source can replace the primary source to function seamlessly.
Step 1 On the main menu screen, choose Input Settings > Input Backup.
Figure 6-9 Input backup

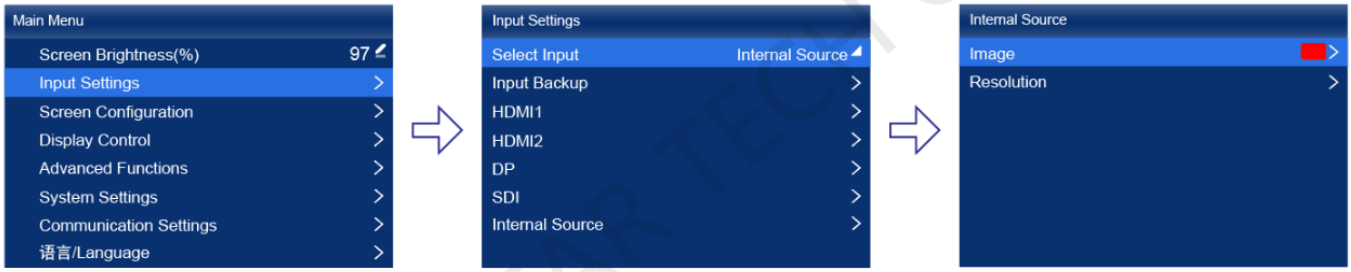


Step 2 Turn on the backup function by toggling on this switch .
Step 3 Select Primary Input and then select a video source (HDMI1, HDMI2, DP or SDI) from the drop-down options.
Step 4 Select Backup Input and then select another video source from the drop-down options.

6.2 Set Internal Input Sources

Select the internal source stored in the device and set the related parameters for screen testing and troubleshooting.
On the main menu screen, choose Input Settings > Internal Source.

Figure 6-10 Internal source



Step2 Select Image.
Step3Select a static picture or a motion picture.
Step4 When the relevant parameters of the image are displayed, set the parameters according to your actual needs; otherwise, please skip this step.
Step5Press the BACK button to go back to the upper-level menu and select Resolution.
Step6Set Mode to Custom or Standard, and then set the resolution, frame rate and bit depth.
Figure 6-11 Resolution parameters

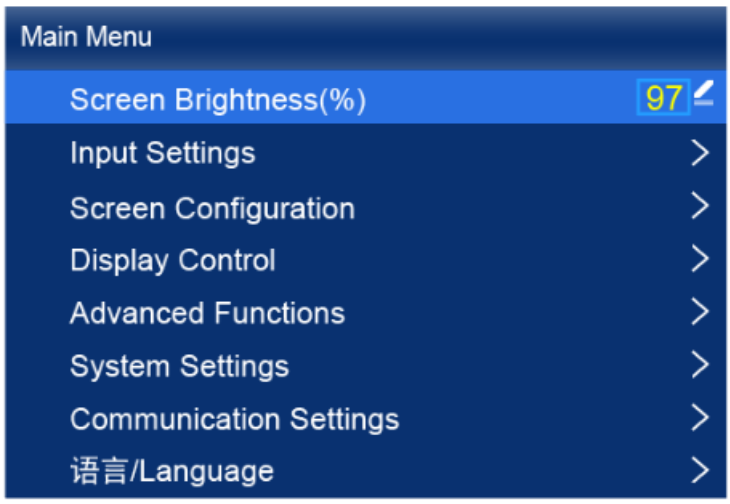
- Custom: Set the resolution manually.
- Standard: Select the desired resolution from the drop-down options.

Step7 After the settings are done, click Apply.

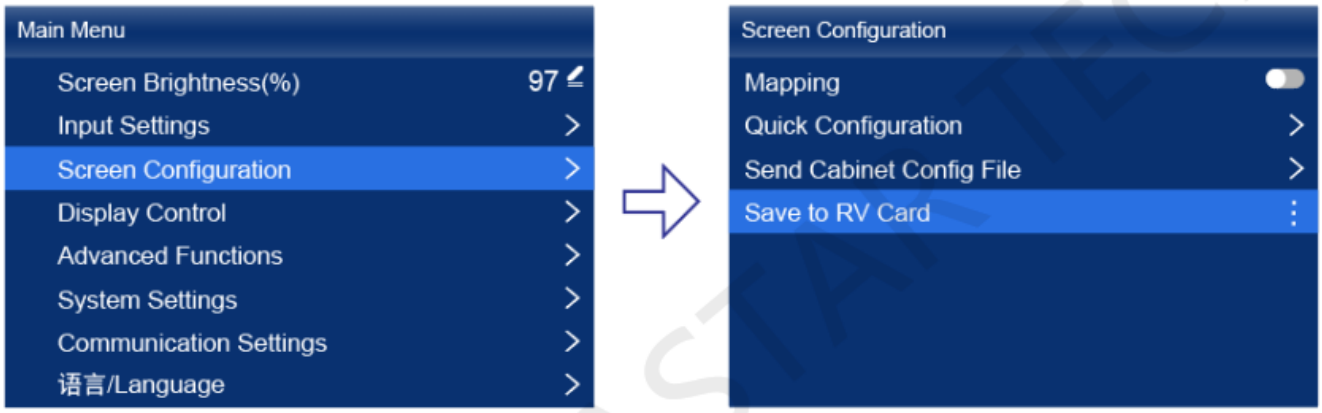
6.3 Set Output Parameters

6.3.1 Adjust Screen Brightness

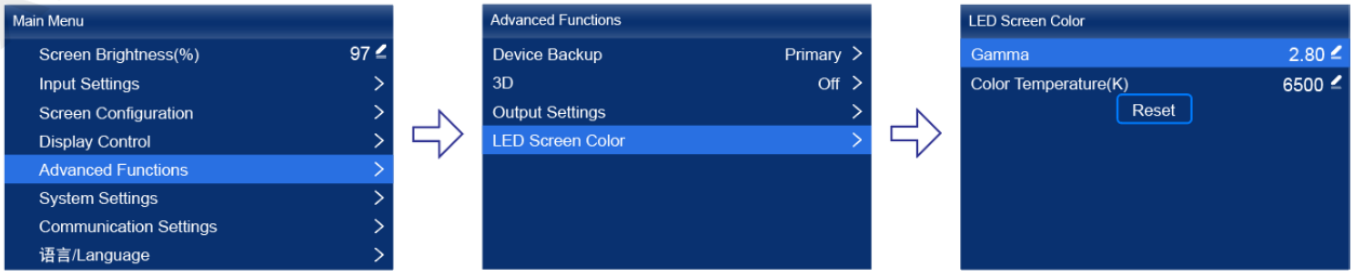
Adjust and save the screen brightness.
Step 1 On the main menu screen, select Screen Brightness, and then the brightness value becomes edita
Figure 6-12 Screen brightness



Step 2 Rotate the knob to adjust the brightness to the target value, and then press the knob to confirm.
Step 3 Choose Screen Configuration > Save to RV Card.
Figure 6-13 Save to RV card



Step 4 Select Yes in the displayed dialog box.
After the brightness value is successfully saved, a message appears on the menu screen.
6.3.2 Adjust Gamma and Color Temperature
Adjust and save the Gamma and color temperature.
Step 1On the main menu screen, choose Advanced Functions > LED Screen Color.
Figure 6-14 LED screen color



Step 2 Adjust the Gamma value.

1. Select Gamma and then the value becomes editable.
2. Rotate the knob to adjust the Gamma to the target value, and then press the knob to confirm.

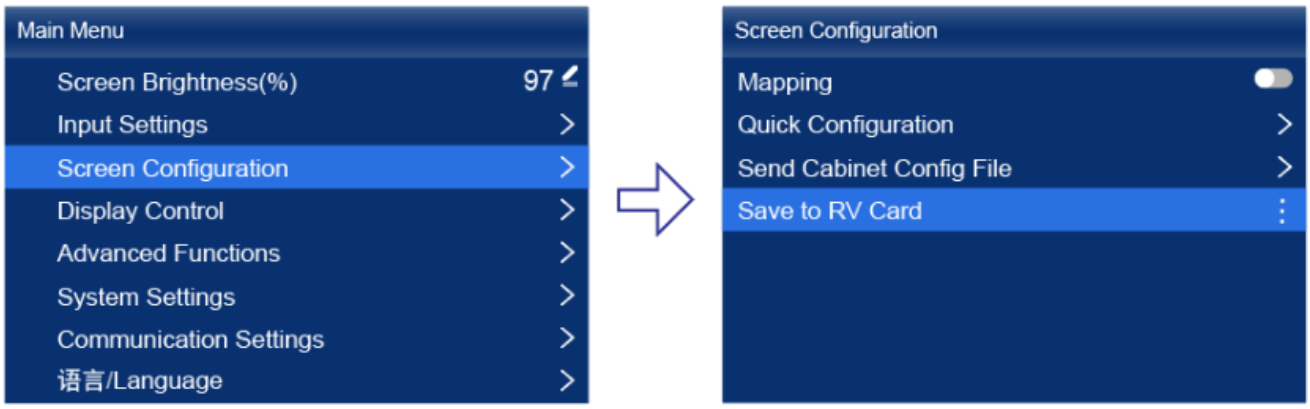
Adjust the color temperature value.

1. Select Color Temperature and then the value becomes editable.
2. Rotate the knob to adjust the temperature to the target value, and then press the knob to confirm.

If you want to restore the parameters to the defaults, select Reset.

Step 4 Press the BACK button to go back to the main menu, and then choose Screen Configuration > Save to RV Card.

Figure 6-15 Save to RV card



Step 5 Select Yes in the displayed dialog box.

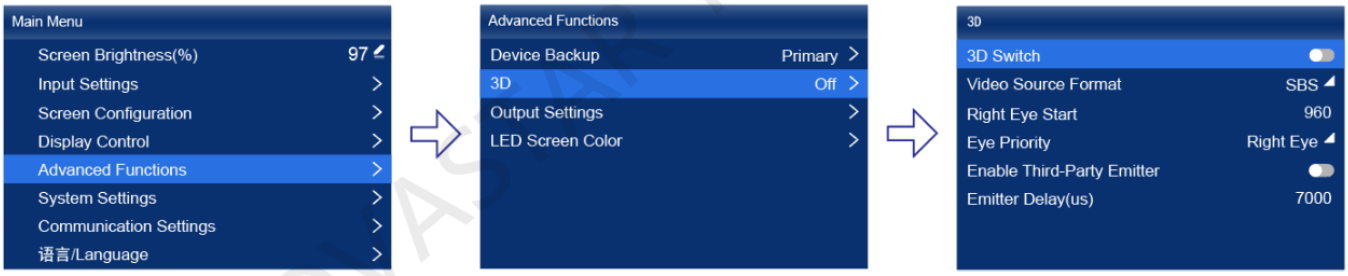
After the values are successfully saved, a message appears on the menu screen.

6.3.3 Enable 3D Function

Turn on the 3D function and set the related parameters.

Step 1 On the main menu screen, choose Advanced Functions > 3D.

Figure 6-16 3D



Step 2 Turn on the 3D function by toggling on this switch .

Step 3 Set the related parameters.

- Video Source Format: Set the format of the 3D video source. Set the format to SBS, TAB or Frame SEQ according to the format of the accessed video source.
- Right Eye Start: Set the start position of the right eye image. When the video source format is SBS or TAB, and the left and right eye images are provided, this parameter can be set.
- Eye Priority: Set which image is sent first, the right eye image or the left eye image. Wear the 3D glasses to watch the display. If the display is abnormal, set the parameter value to the other one. If the display is normal, the setting is done.
- Enable Third-Party Emitter: When a third-party 3D signal emitter is used, set the switch to .
- Emitter Delay: Set the delay time of sending the synchronization signal from the 3D signal emitter to the 3D glasses. This setting ensures that the switching between left and right eye images of the 3D glasses is in sync with the switching between the left and right eye images on the display. This parameter applies to both the NovaStar and third-party emitters.

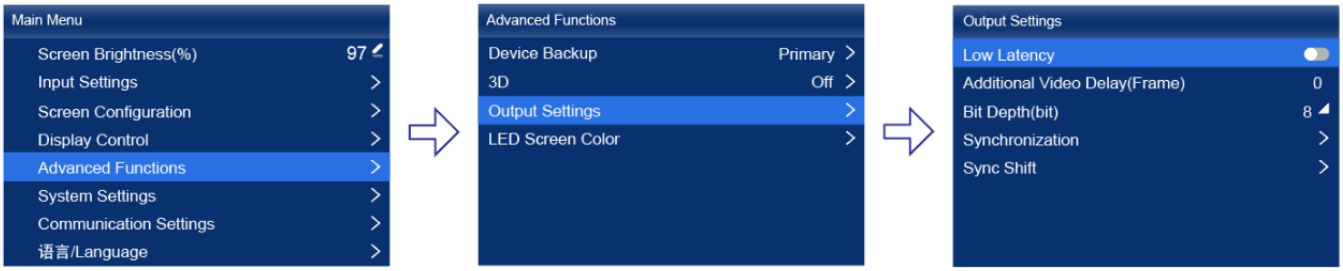
6.3.4 Set Low Latency

Turn on the low latency function to reduce the delay at the sending card, or increase the delay when the device

is used with high-latency equipment.

Step 1 On the main menu screen, choose Advanced Functions > Output Settings.

Figure 6-17 Low latency



Step 2 Perform any of the following operations as required.

- Enable low latency Set the Low Latency switch to  to enable the low latency function.
- Set additional frame delay

  a. Select Additional Video Delay and then the value becomes editable.

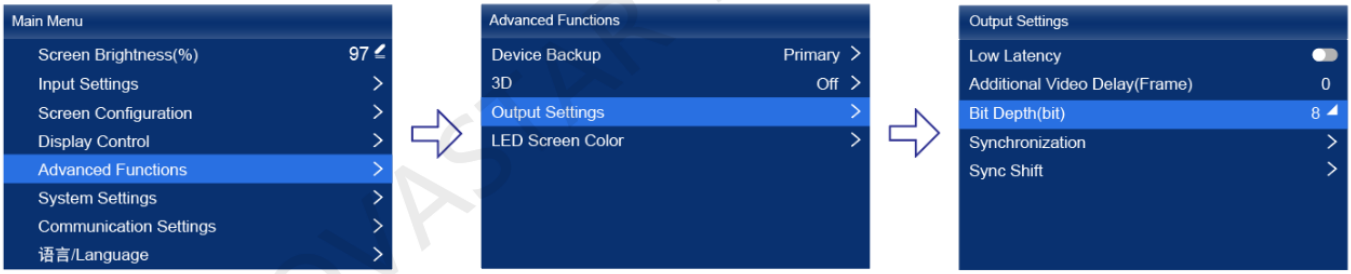
  b. Rotate the knob to adjust the parameter to the target value, and then press the knob to confirm.

6.3.5 Set Bit Depth

Set the output bit depth of the input source.

On the main menu screen, choose Advanced Functions > Output Settings.

Figure 6-18 Bit depth



Step 2 Select Bit Depth and then select the desired bit depth value from the drop-down options.

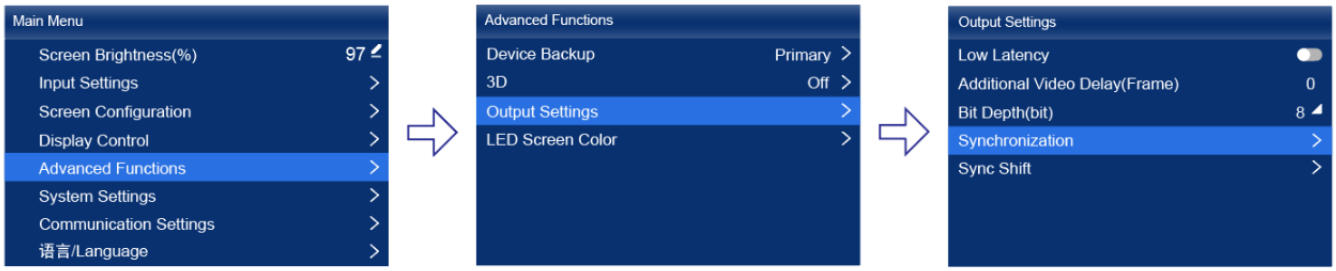
If Auto is selected, the output bit depth is the same as the input bit depth.

6.3.6 Set Sync Source

Select a synchronization signal for the display frame rate and set the phase offset.

Step 1On the main menu screen, choose Advanced Functions > Output Settings > Synchronization.

Figure 6-19 Synchronization



Step 2 Select Sync Source and then select the desired sync source from the drop-down options.

- Current Input: Sync with the frame rate of the current input source.
- Genlock: Sync with the frame rate of the Genlock signal.
- Internal: Sync with the frame rate of the controller’s internal clock.

Step 2 Press the BACK button to go back to the upper level menu.

Step 3Select Sync Shift.

Step 5Choose Adjustment Mode and then select the desired mode from the drop-down options. When you select Phase Angle or Percentage, please set the corresponding value.

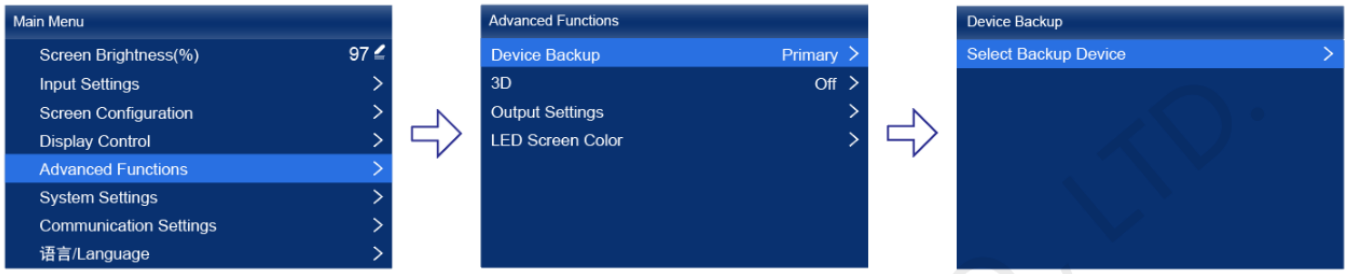
Device Management

7.1 Set a Backup Device

Specify a backup device for the current device so that the backup device can take over the master device when it fails.

On the main menu screen, choose Advanced Functions > Device Backup.

Figure 7-1 Device backup



Step 2 Choose Select Backup Device.

Step 3 Select a device from the devices found.

Step 4 Select Yes in the displayed dialog box.

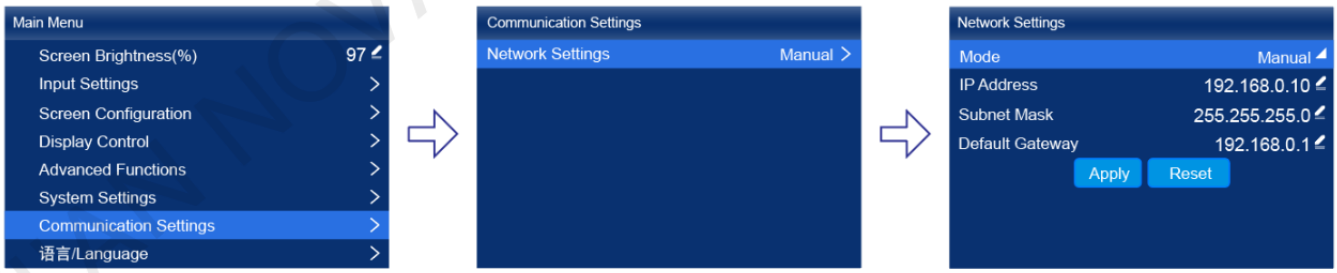
A prompt will be displayed after the operation is successful.

7.2 Set an IP Address

Manually set a static IP address for the device or set up the device to automatically obtain an IP address.

Step 1 On the main menu screen, choose Communication Settings > Network Settings.

Figure 7-2 Network settings



Step 2 Choose Mode and then select a mode from the drop-down options.

- Manual: Manually set a static IP address for the device.
- Auto: The device automatically obtains an IP address.

Step 3 If the manual mode is selected, set an IP Address, Subnet Mask and Default Gateway and select Apply.

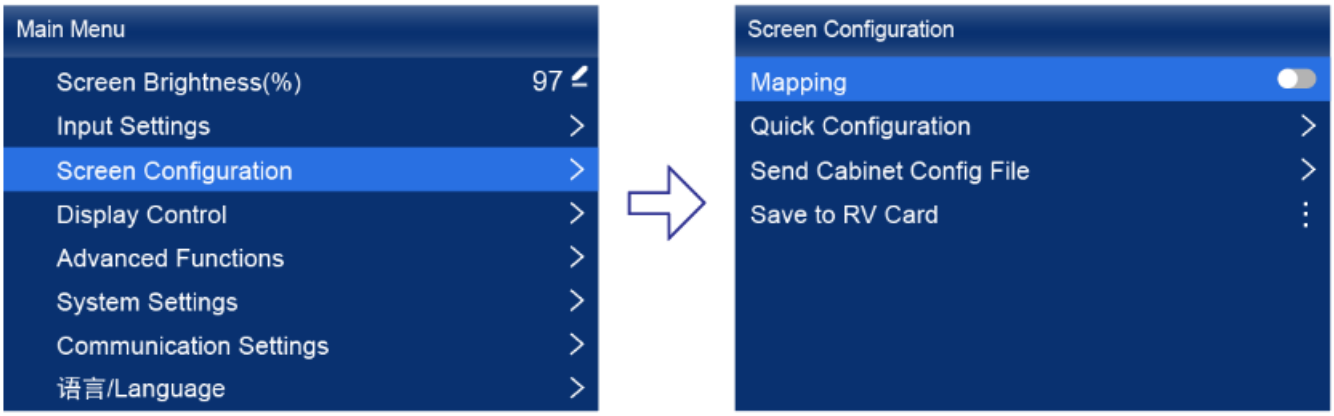
If the automatic mode is selected, this step is not required.

If you want to reset the IP address to the default, select Reset.

7.3 Enable Mapping

After the Mapping function is enabled, cabinets can display the controller number, Ethernet port number and receiving card number, allowing users to easily obtain the locations and connection topology of receiving cards.

Step 1 On the main menu screen, choose Screen Configuration > Mapping.



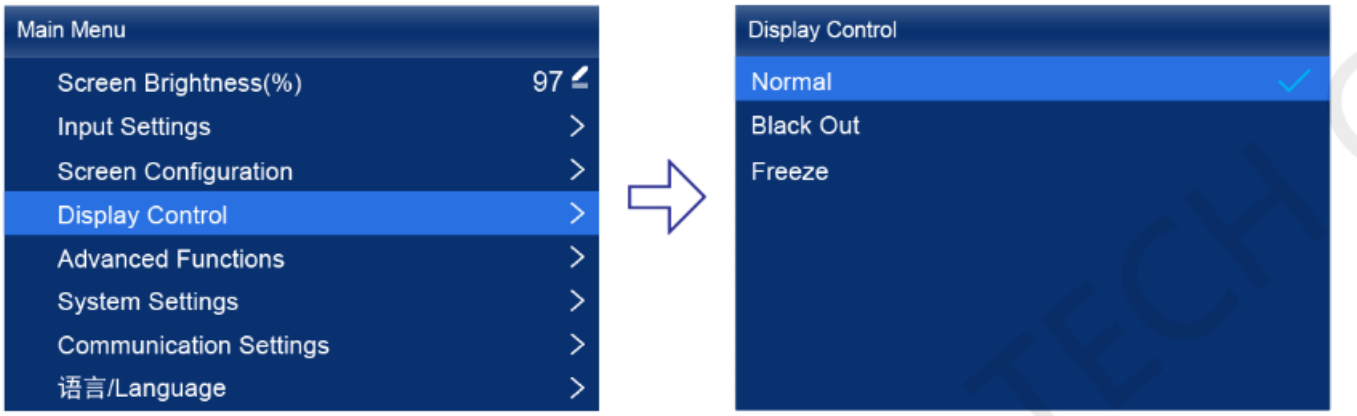
Step 2 Enable the Mapping function by toggling on this switch .

7.4 Control Display Status

Set the display loaded by the controller to a black screen or frozen status.

Step 1 On the main menu screen, choose Display Control.

Figure 7-4 Display control



Step 2 Select a display status as required.

- Normal: Display the normal output screen.
- Freeze: Make the output screen always display the current frame. The input source is played normally.
- Blackout: Make the output screen go black. The input source is played normally.

7.5 Diagnostics

Perform device diagnostics, then view and export the result.

Step 1 On the main menu screen, choose System Settings > Diagnostics.

Figure 7-5 Diagnostics

Step 2 Select Yes in the displayed dialog box.

Step 3 After successful diagnostics, do any of the following as required.

- View the diagnostic result

  a. Select View Results to enter the report page.

  b. View the information of MCU, FPGA, motherboard voltage, the temperature inside the device, and more.

- Export the diagnostic result to a USB drive

  a. Insert the USB drive to the USB port on the front panel of the device.

  b. Select Export to USB Drive.

  A prompt will be displayed after the operation is successful.

7.6 View the Firmware Version

View the current firmware program version of the device.

On the main menu screen, choose System Settings.

Figure 7-6 Firmware version

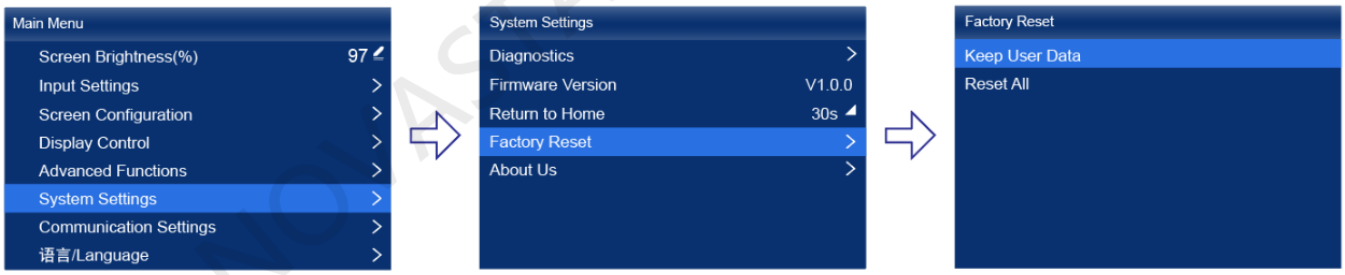
Step 2 View the current firmware program version next to Firmware Version.

7.7 Reset to Factory Settings

Reset part or all of the device data to the factory settings.

Step 1 On the main menu screen, choose System Settings > Factory Reset.

Figure 7-7 Factory reset



Step 2 Do any of the following according to the data you want to reset.

- Reset part of the data

  Reset all the data except the imported files, network parameters, language settings, and device name.

  a. Select Keep User Data.

  b. Select Yes in the displayed dialog box.

  The device restarts automatically while the data is being reset.

- Reset all the data (This action cannot be undone.)

  Reset all the data to factory settings.

  a. Select Reset All.

b. Select Yes in the displayed dialog box.

The device restarts automatically while the data is being reset.

Basic System Settings

8.1 Set Language

Change the system language of the device.

On the main menu screen, choose /Language.

Figure 8-1 Language

Step 2 Choose English or as required.

8.2 Set Session Timeout

Specify a certain amount of time for session timeout. The LCD will return to the home screen automatically after the specified amount of time if no action is performed during the time specified.

Step 1On the main menu screen, choose System Settings > Return to Home.

Figure 8-2 Session timeout value

Step 2 Select 30s, 1min or 5min from the drop-down options as required.

8.3 View Service Information

View the service information of NovaStar, allowing users to ask questions and give feedback.

Step 1 On the main menu screen, choose System Settings > About Us.

Figure 8-3 About us

Step 2View the official website, technical support email address and service hotline of NovaStar.

Specifications

Electrical Specifications	Power input	100-240V~, 50/60Hz, 2A
	Maximum power consumption	70W
Operating Environment	Temperature	–20ºC to +60ºC
	Humidity	0% RH to 80% RH, non-condensing
Storage Environment	Temperature	–30ºC to +80ºC
	Humidity	0% RH to 95% RH, non-condensing
Physical Specifications	Dimensions	482.6mm × 94.2mm × 467.0mm
Packing Information	Packing box	660.0 mm × 570.0 mm × 210.0 mm, kraft paper box
	Accessory box	408.0mm × 290.0mm × 50.0mm, white cardboard box
	Accessories	l 1x Power cord l 1x Ethernet cable l 1x HDMI cable l 1x DP cable l 1x Quick Start Guide
IP Rating	IP20 Please prevent the product from water intrusion and do not wet or wash the product .	

The amount of current and power consumption may vary depending on factors such as product settings, usage, and environment.

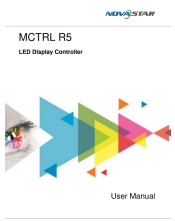
Statement

Thank you for choosing NovaStar's product. This document is intended to help you understand and use the product. For accuracy and reliability, NovaStar may make improvements and/or changes to this document at any time and without notice. If you experience any problems in use or have any suggestions, please contact us via the contact information given in this document. We will do our best to solve any issues, as well as evaluate and

implement any suggestions.

official website
www.novastar.tech
oomorta support
support@novastar.tech

Documents / Resources

	**NOVASTAR MCTRL R5 LED Display Controller** [pdf] User Manual MCTRL R5, LED Display Controller, Display Controller, LED Controller, Controller, MCTRL R5