4.7 USB Playback

Play images or videos saved in a USB drive and configure the playback parameters. A USB source can be used as a layer source.

The models of devices that support USB playback and the corresponding output resolutions for USB sources are listed below.

Device Model	USB Source Resolution
VX2000 Pro	3840×2160@60Hz

Note

Press the desired layer button in the LAYER area on the device front panel and then press the U-DISK button to use a USB source to open a layer.

4.7.1 USB Player

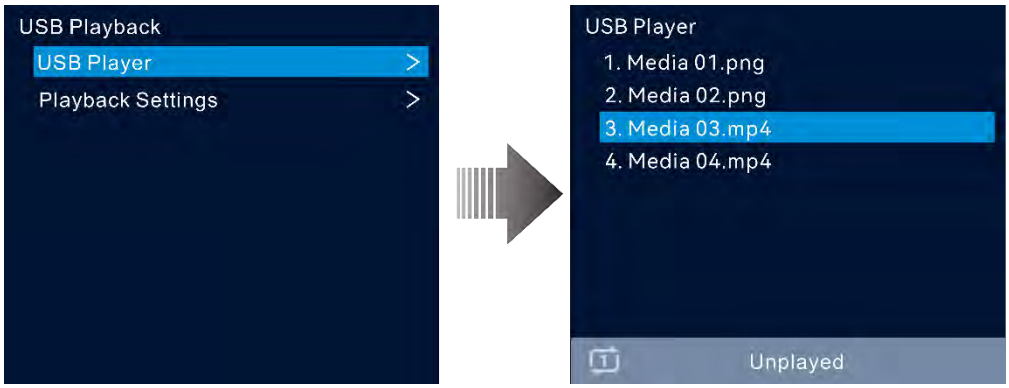
Prerequisites

A USB drive has been inserted and recognized in the U-DISK connector on the front panel.

Notes

Up to 128 files can be displayed in the playlist and the size of each file cannot exceed 128 GB.

Screen Example



Operating Procedure

Step 1 On the main menu screen, go to **USB Playback** > **USB Player** to enter the USB player screen.

Step 2 Rotate the knob to select the desired the file and press the knob to play the file or stop the playback.

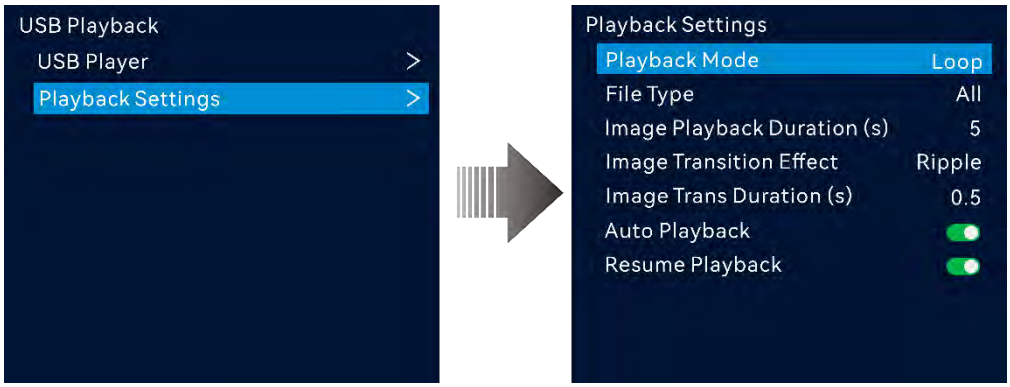
The items displayed on this screen are as follows.

- Media files in compatible formats
- The playback mode
- The playback status
- The volume level

4.7.2 Playback Settings

Configure the playback-related parameters.

Screen Example



Limitations

- Single-partition USB drive supported
- File system: NTFS, FAT32 and exFAT
- Max. width and height of media files

  Width: 3840 pixels, height: 2160 pixels
- Picture format: jpg, jpeg, png and bmp
- Decoded image resolution: 3840×2160 or lower

- Video format: mp4
- Video coding: H.264, H.265
- Max. video frame rate:

  H.264: 3840×2160@30fps, H.265: 3840×2160@60fps
- Audio coding: AAC-LC
- Audio sampling rate: 8kHz, 16kHz, 44.1kHz, 48kHz

Parameter Descriptions

Parameter	Description
Playback Mode	The playback mode of the file • Loop: Play the files in the playlist in order. Once the playback of the last file is completed, replay the first file. • Play in Order: Play the files in the playlist in order. Once the playback of the last file is completed, the screen will display a black image and the playback will stop. • Repeat One: Loop playback of the current file.
File Type	The type of the playback file • Video • Image • All: Video and Image Note After the file type is selected, only the file of the selected type will be displayed in the playlist.
Image Playback Duration (s)	The duration of the image playback The value ranges from 1 to 60 and it defaults to 5. (Unit: s)
Image Transition Effect	The trans effect of the image Supported trans effect: Ripple, zoom in, push, flip, blinds, H wipe, V wipe, cube, dissolve, grid, swapping, scroll, fade in/out, twirl, heart trans, curtains, perspective triangle, disappear, bounce, star rotation
Image Trans Duration (s)	The trans duration of the image The value ranges from 0.5 to 2 and it defaults to 0.5. (Unit: s)
Auto Playback	Set whether to automatically play the USB files after the device is powered off and then power on with a USB drive inserted.

Parameter	Description
	• : On If **Resume Playback** not enabled, replay the files in the playlist in order; If enabled, replay the file being played before power failure from the beginning. • : Off
Resume Playback	• On: If a file is playing before the device power failure, enabling this function allows to replay the file from beginning after the device is powered on with a USB drive inserted. • Off: Replay the files in the playlist in order. Note • Enabling **Resume Playback** will also activate the **Auto Playback** feature at the same time. • After **Resume Playback** is enabled, if the file being played before power failure cannot be found, the files will be played from the beginning of the playlist in order.

4.8 Advanced Settings

4.8.1 End-to-End Backup

The end-to-end backup is supported, including device backup, input source backup and Ethernet port backup test, stable and reliable.

4.8.1.1 Device Backup

The backup between devices and Ethernet ports are both supported.

4.8.1.1.1 Backup Between Devices

Device backup allows you to set the backup relationship between two devices. You can set one of the devices as the primary device or the backup device. When the primary device has a problem or the primary device's Ethernet cable fails, the backup device will take over the responsibilities of the primary device seamlessly and continue to work well to ensure the LED screen will not go black.

Prerequisites

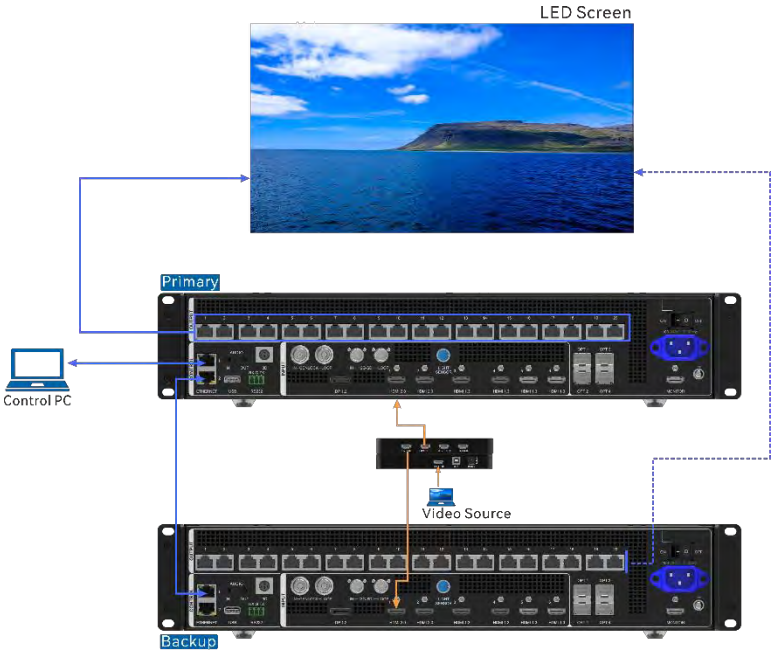
- Before creating a backup relation, make sure that both the primary and backup devices are on the same LAN.
- In a backup relation, the models and device versions of the primary and backup devices must be the same.

Notes

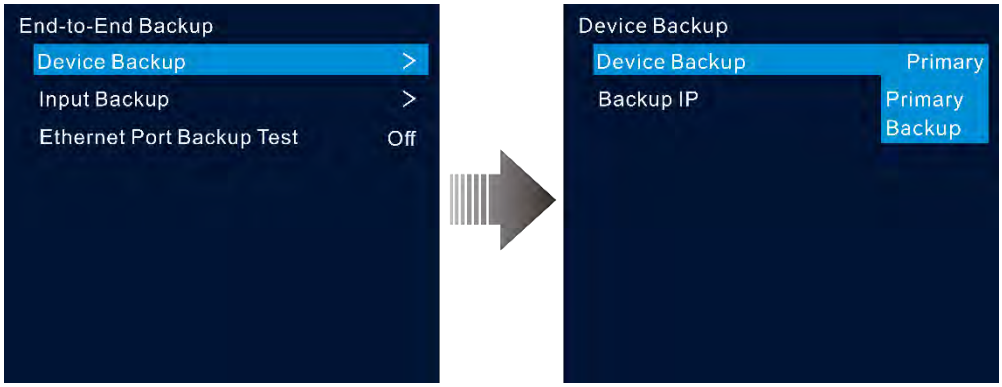
- You have three options to create a backup relation: NovaLCT, Unico web page, or the device LCD menu. However, be aware that these methods do not synchronize with each other. Using more than one can lead to data problems. To prevent issues, choose only one method for setting up your backup. If you do mix them, you'll need to reset the device to factory settings and start over with just one method.
- In the device backup mode, the quantity of the cabinets loaded by each Ethernet port on both the primary and backup devices must be the same, but their data flow must be in a reversed way.

Hardware Connections

The diagram takes the VX2000 Pro as an example.



Screen Example



Operating Procedure

Step 1 On the main menu screen, go to **Advanced Settings** > **End-to-End Backup** > **Device Backup** to enter the device backup screen.

The available devices on the same LAN will be automatically searched.

Step 2 Set the primary device.

Step 3 Rotate the knob to select **Backup IP** and press the knob to display the backup IP list. Select the desired IP address of a device to be set as a backup one.

Note

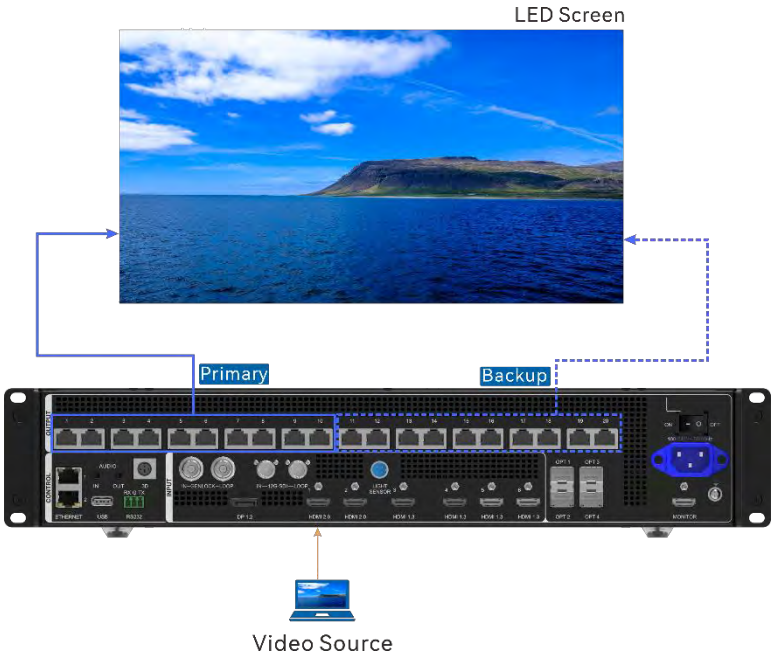
After a backup relation is created, the configuration parameters (except communication settings) of the primary device will be automatically synchronized to the backup device.

4.8.1.1.2 Backup Between Ethernet Ports

Ethernet port backup allows you to set the backup relationship between two Ethernet ports. When the primary port has a problem or the primary port's Ethernet cable fails, the backup port will take over the responsibilities of the primary port seamlessly and continue to work well to ensure the LED screen will not go black. When setting the backup between the Ethernet ports, you need to complete it in NovaLCT.

Hardware Connections

This diagram takes the VX2000 Pro as an example.



Operating Procedure

Step 1 Run the NovaLCT software. On the menu bar, go to **User** > **Advanced Synchronous System User Login**. Enter the password and click **Login**.

Step 2 Click **Screen Configuration** to enter the screen configuration page.

Step 3 Click **Next** to enter the screen configuration page.

Figure 4-10 Screen configuration



Step 4 Select the **Sending Card** tab, and then click **Add** in the **Redundancy** area.

Step 5 Set the serial numbers of both the primary device and backup device to **1**.

Step 6 Set the serial number of the primary port and the serial number of the corresponding backup port.

Figure 4-11 Ethernet port backup



Step 7 Click **Add** to complete the backup settings of an Ethernet port, and the system will automatically list the primary ports and backup ports.

Figure 4-12 Primary Ethernet ports



Step 8 Repeat Step 6 and Step 7 to complete the backup settings for other Ethernet ports.

4.8.1.2 Input Backup

Input backup allows you to set the backup relationship between two input sources. When one input source has a problem or the input connector fails, the backup source will be used seamlessly and continue to work well to ensure the LED screen will not go black.

Notes

Input backup rules:

- In each backup group, two input sources serve as the backup for each other.
- Only the source from the same type of input connector can be set as the backup source.
- Each primary or backup source can have only one backup or primary source.
- Restrictions on input backup functions:

  Input sources A and B form a hot backup group. The current input source of the layer is input source A.

  - Input A: No signal. Input B: Signal

    The layer input source is switched to input B automatically. When input A resumes and input B still has a signal and **Primary Source Preferred** is not enabled, the layer input source will not be changed.

  - Input A: No signal. Input B: Signal

    The layer input source is switched to input B automatically. When input A resumes, but input B does not have a signal, the layer input source will be changed to input A.

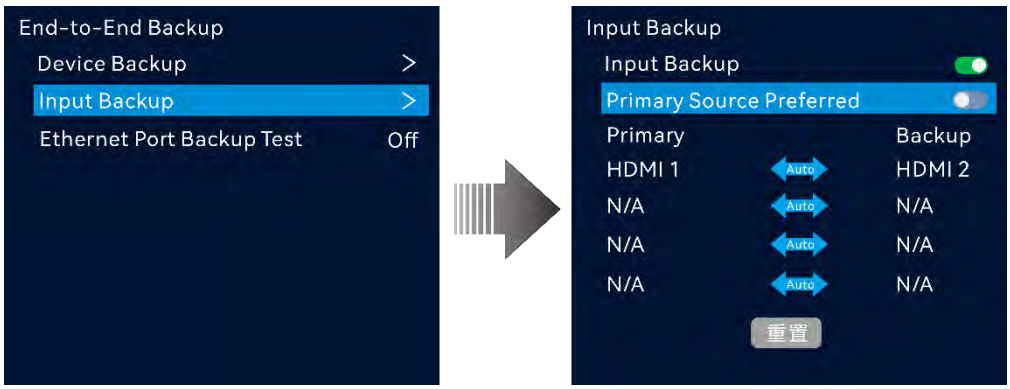
  - Input A: No signal. Input B: No signal

    The layer input source will not be changed.

  - Input A: Signal. Input B: No signal

    If you manually switch the layer input source to input B, the source will automatically switch to input A.

Screen Example



Operating Procedure

Step 1 On the main menu screen, go to **Advanced Settings** > **End-to-End Backup** > **Input Backup** to enter the input backup settings screen.

Step 2 Rotate the knob to select **Input Backup** and press the knob to turn on the function.

Step 3 Rotate the knob to select the desired primary input source on the left side.

Step 4 Rotate the knob to select the desired backup input source on the right side.

Step 5 (Optional) Set the primary source preferred.

- On: The primary source will always be used if there is a signal. When the primary source fails, the layer input source is switched to the backup one automatically. Once the primary source resumes, the layer input source seamlessly switches back to the primary source.
- Off: The layer input source will be switched to the primary source only when the backup one fails and the primary one has a signal.

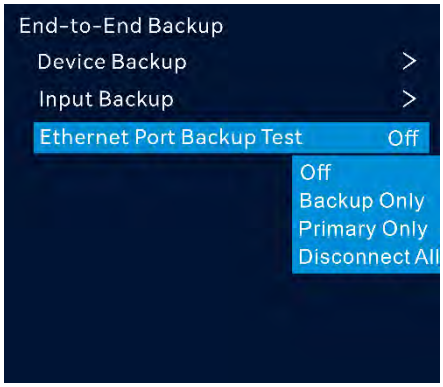
4.8.1.3 Ethernet Port Backup Test

Test whether the pre-stored images, backup Ethernet ports and devices take effect without plugging and unplugging the Ethernet cables.

Prerequisites

The pre-stored images, primary and backup Ethernet ports or primary and backup devices have been configured.

Screen Example



Parameter Descriptions

Parameter	Description
Off	Enable the output of all the Ethernet ports on the current device to complete the test.
Backup Only	Disable the output of the primary Ethernet port on the current device to test whether the backup port or device takes effect.
Primary Only	Disable the output of the backup Ethernet port on the current device to test whether the output of the primary port is normal.
Disconnect All:	Disable the output of all the Ethernet ports on the current device to test whether the pre-stored image takes effect.

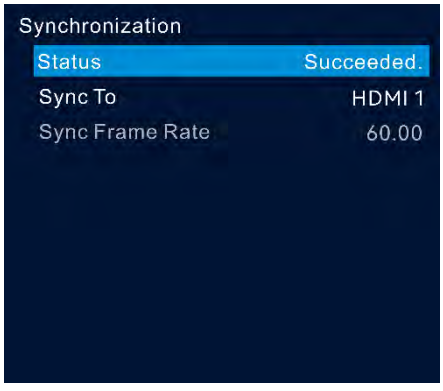
4.8.2 Synchronization

This function allows you to select a synchronization signal to synchronize all the cascaded device units or synchronize the primary and backup devices to display the output images of all the units in sync.

Notes

- The input source with or without signal can be used as a sync source. When a no signal source is used, the sync fails.
- Synchronizing to a DP source is supported by the VX2000 Pro only.
- Before enabling the Genlock sync function, make sure the sync signal has been connected to the Genlock connector of the device.

Screen Example



Operating Procedure

Step 1 On the main menu screen, go to **Advanced Settings** > **Synchronization** to enter the synchronization settings screen.

Step 2 Rotate the knob to select **Sync To** and press the knob to display the sync source list. The options include **Internal**, **HDMI X/DP/SDI** and **Genlock**. ("X" represents the input source number and its format may vary depending on the actual setup.)

- Internal: The frame rate of the output image
- HDMI X/DP/SDI: Sync with the frame rate of the selected input source. After a sync source is selected, the sync frame rate will be displayed.
- Genlock: Sync with the frame rate of the Genlock signal.

Step 3 (Optical) If **Internal** is selected, you can manually set the output frame that defaults to 60Hz.

Once the synchronization is successful, the screen will show **Succeeded.**

4.8.3 Audio Settings

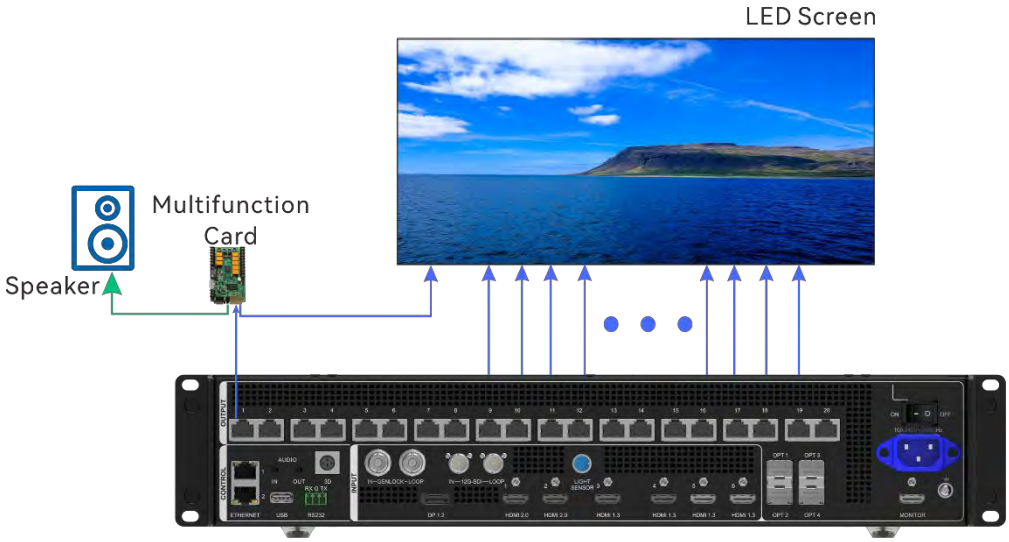
This function allows you to set the audio status, output audio and volume.

Hardware Connections

The diagram takes the VX2000 Pro as an example.

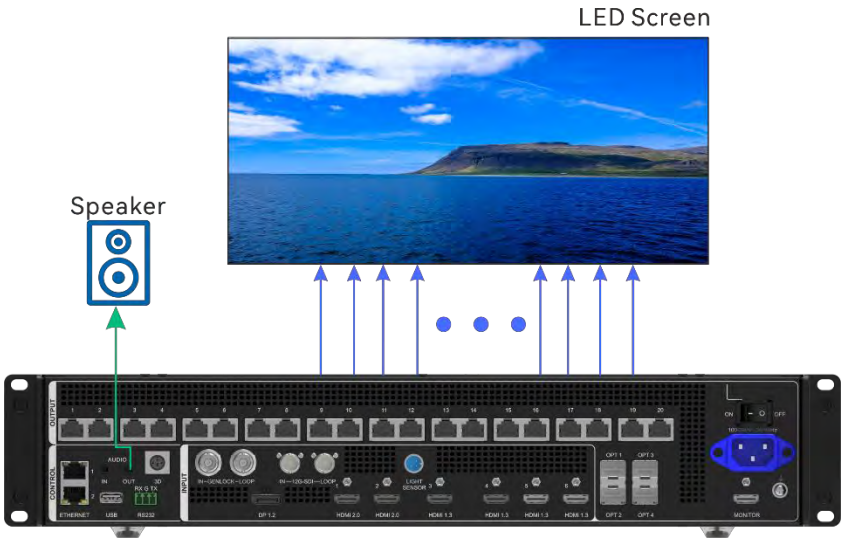
- Via a multifunction card

  Connect the Ethernet port 1 or 2 to a multifunction card, and then connect the multifunction card to an external speaker.

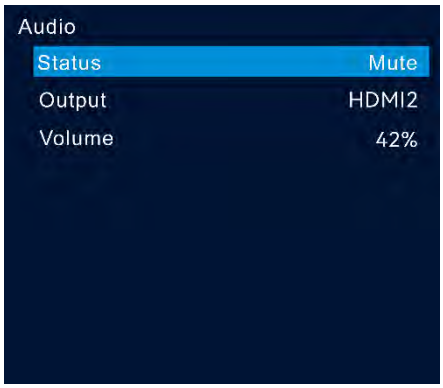


- Via the audio output connector

  Connect the audio output connector to an external speaker.



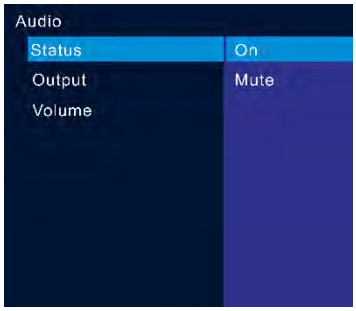
Screen Example



4.8.3.1 Set Audio Status

Turn on or turn off the audio, and adjust the output and volume settings as needed.

Screen Example



Operating Procedure

Step 1 On the main menu screen, go to **Advanced Settings** > **Audio** to enter the audio settings screen.

Step 2 Rotate the knob to select **Status** and press the knob to confirm.

Step 3 Rotate the knob to select **On** or **Mute** to turn on or turn off the audio.

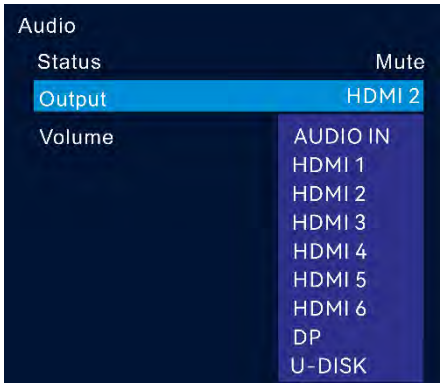
4.8.3.2 Select Output Audio

Set to play which audio on the external audio.

Notes

Only the VX2000 Pro supports output of the accompanied audio that comes from a DP connector.

Screen Example



Operating Procedure

Step 1 On the main menu screen, go to **Advanced Settings** > **Audio** > **Output** and press the knob to display the output audio list.

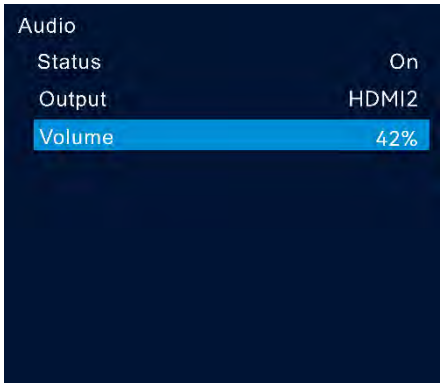
Step 2 Select the desired output audio and press the knob to confirm.

- AUDIO IN: Output the analog audio that comes from an external audio device.
- HDMI: Output the accompanied audio that comes from an HDMI connector.
- DP: Output the accompanied audio that comes from a DP connector.
- U-DISK: Output the audio of a USB source.

4.8.3.3 Set Output Volume

Adjust the output volume.

Screen Example



Operating Procedure

Step 1 On the main menu screen, go to **Advanced Settings** > **Audio** to enter the audio settings screen.

Step 2 Rotate the knob to select **Volume** and press the knob to confirm. Then rotate the knob again to adjust the audio volume and press the knob to confirm.

Parameter Descriptions

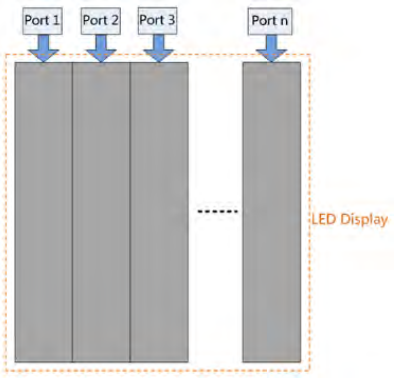
Parameter	Description
Volume	The output volume The value ranges from 0 (silent) to 100 (loudest) and defaults to 50.

4.8.4 Low Latency

When the input source travels from where it comes to the processing device, sending device and then the receiving card, latency exists inevitably. Turning on this function can effectively help to reduce the latency from the input to output.

Notes

To enable low latency, please make sure all Ethernet ports load the cabinets vertically and share the same Y coordinate. Free screen configuration (for example, Ethernet port 2 loads cabinets horizontally, or its Y coordinate is different from that of Ethernet port 1) will reduce the load capacity.



Operating Procedure

On the main menu screen, go to **Advanced Settings** > **Low Latency** and press the knob to confirm. Then rotate the knob again to turn on or turn off the function and press the knob to confirm.

4.8.5 3D

Directly connect a third-party 3D emitter using the device's built-in 3D connector, or connect to the EMT200 emitter via the device's Ethernet port. Then, use the compatible 3D glasses to achieve a 3D display effect.

Prerequisites

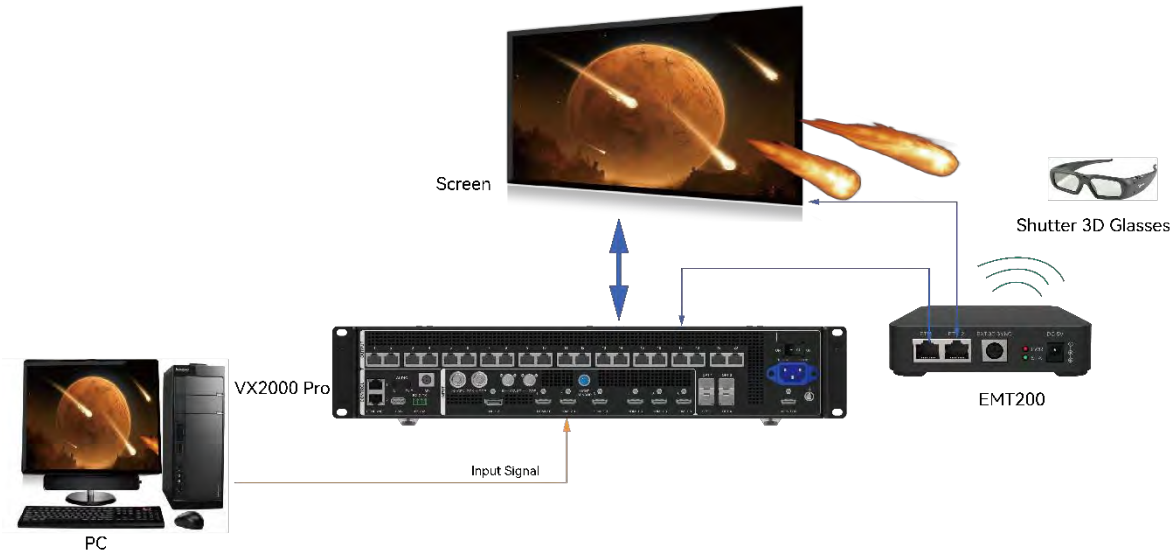
- Video source format: Side-by side, top-and-bottom or frame sequential
- When paired with the EMT200, it is recommended to use a 3D source of 60Hz to enjoy an optimal experience.

Notes

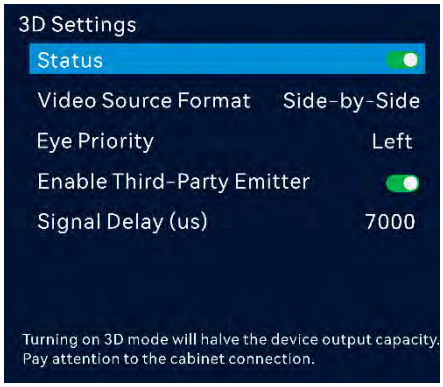
- Enabling the 3D function will halve the device output capacity.
- The 3D function and input cropping cannot be enabled at the same time.
- After enabling the 3D function on the advanced settings screen, 3D switches of all the layers will be toggled on. If you want to use a 2D layer, please toggle off the 3D switch of the desired layer on the layer settings screen.
- The 3D effect follows the layer. The output area where a 3D layer is located always displays the 3D effect.

Hardware Connections

The diagram takes the VX2000 Pro as an example.



Screen Example



Operating Procedure

Step 1 On the main menu screen, go to **Advanced Settings** > **3D Settings** > **Status** to turn on the function.

Step 2 Select the 3D format of the video source. The options include **Side-by-Side**, **Top-and-Bottom** and **Frame Sequential**.

Step 3 Set the eye priority. The options include **Left** and **Right**.

Step 4 (Optional) Turn on the **Enable Third-Party Emitter** switch.

Step 5 Set the signal delay duration.

The value ranges from 0 to 20000 and defaults to 7000. (Step: 1, unit: us)

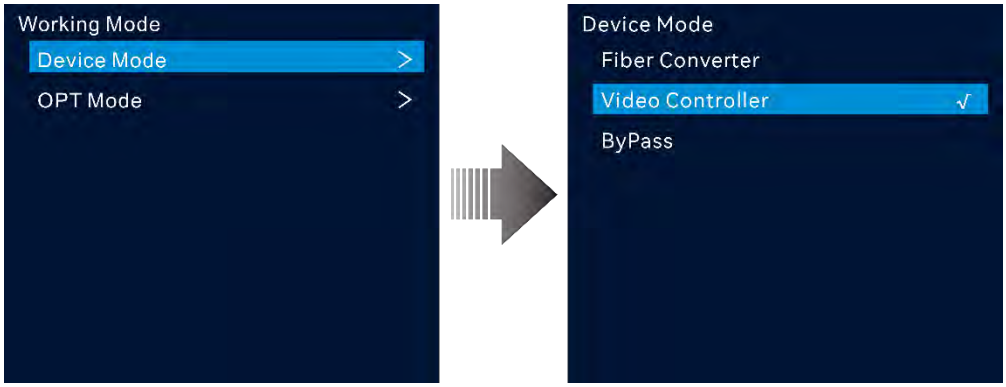
4.8.6 Working Mode

Setting device and OPT wording modes are both supported.

4.8.6.1 Device Working Mode

Three working modes are supported, including **Video Controller**, **Fiber Converter** and **ByPass**.

Screen Example



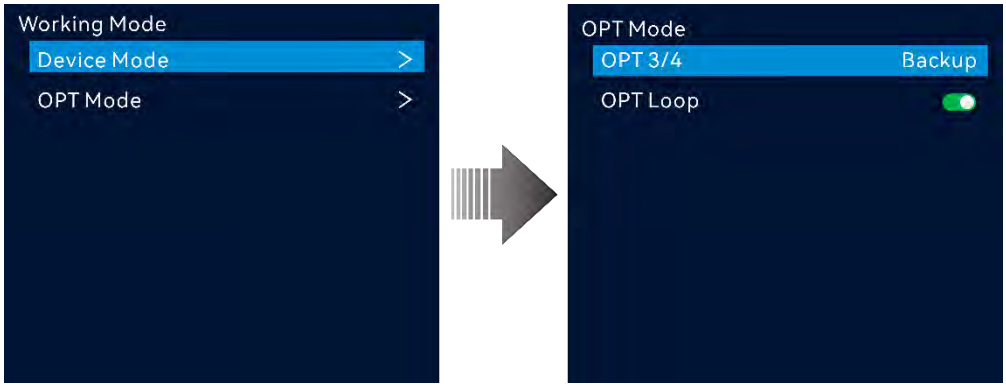
Parameter Descriptions

Device Model	Parameter	Description
VX2000 Pro	Fiber Converter	Optical fiber ports are used for input, and Ethernet ports are used for output. • OPT 1~4 are used for input, and Ethernet ports are used for output. • OPT 1 and OPT 2 serve as the primary connectors. The Ethernet ports 1~10 transmit OPT 1 data, and Ethernet ports 11~20 transmit OPT 2 data. • OPT 3 and OPT 4 serve as the backup connectors.
VX2000 Pro	Video Controller	• OPT 1 and OPT 2 can be used as an input or output connector depending on the connected devices. • OPT 1 and OPT 2 send the output on Ethernet ports 1~10 and 11~20 respectively. OPT 3 and OPT 4 copy or back up the output on Ethernet ports 1~10 and 11~20 respectively.
VX2000 Pro	ByPass	Under this mode, the device works as an independent controller with no support for video processing functions.

4.8.6.2 OPT Mode

Supports settings of both the OPT working mode and loop mode.

Screen Example



Hardware Connections

The diagram takes the VX2000 Pro as an example.

Figure 4-13 Copy mode

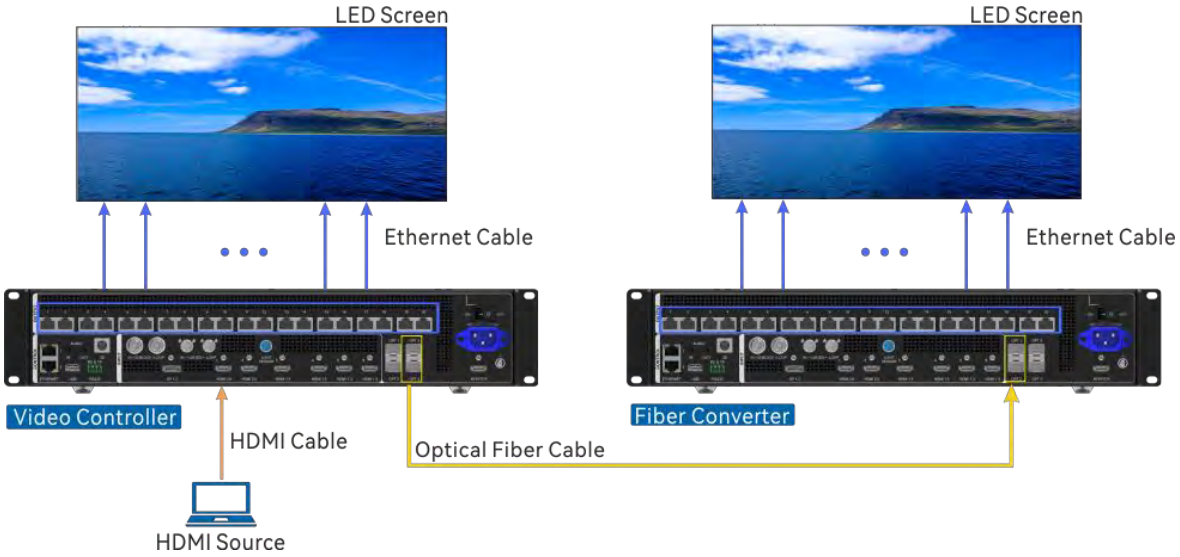


Figure 4-14 Backup between Ethernet and OPT ports

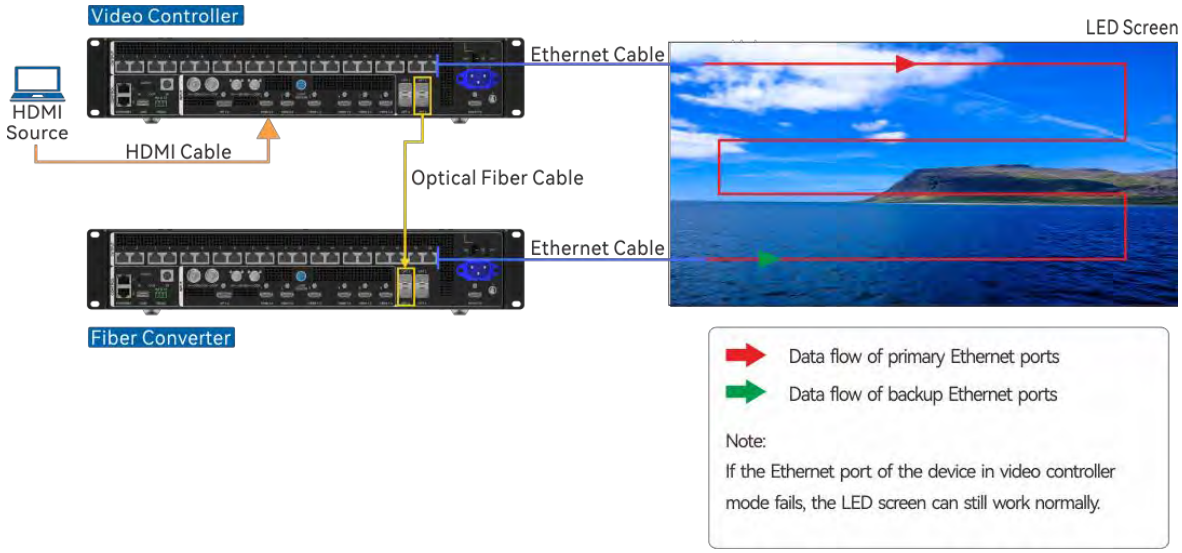
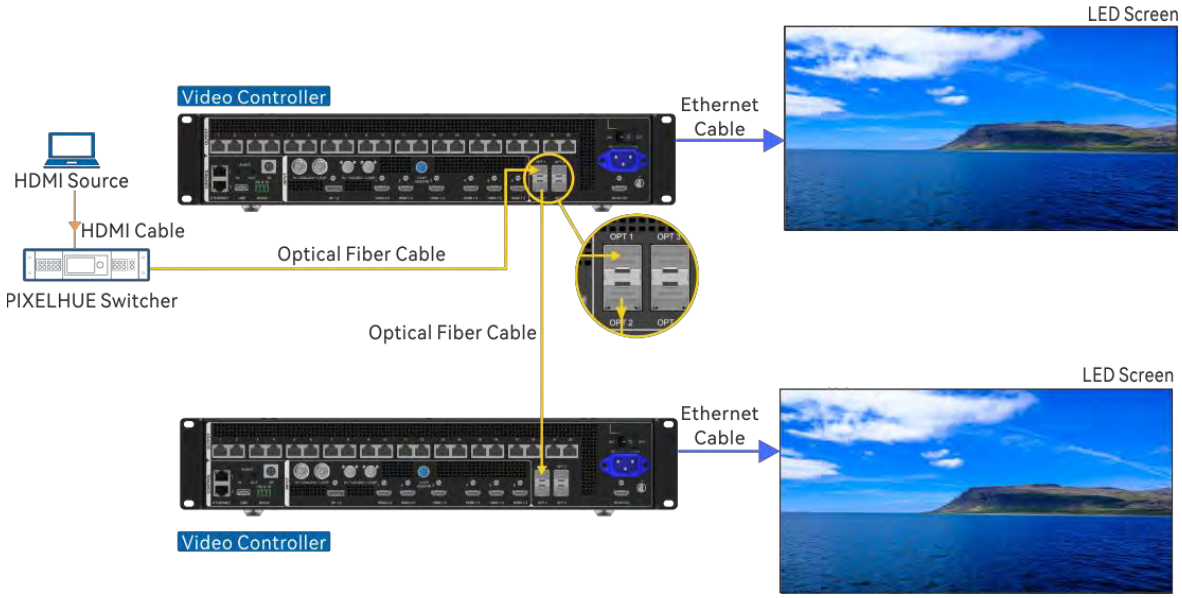


Figure 4-15 OPT loop mode



Parameter Descriptions

Device Model	Parameter	Description
VX2000 Pro	OPT 3/4	• Copy: OPT 3 copies the output on Ethernet ports 1~10, and OPT 4 copies the output on Ethernet ports 11~20. • Backup: OPT 3 backs up the output on Ethernet ports 1~10, and OPT 4 backs up the output on Ethernet ports 11~20.
VX2000 Pro	OPT Loop	Loop out the video signal accessed by OPT 1 via OPT 2 for device mosaic.

Device Model	Parameter	Description
		• : Enable the loop mode. • : Disable the loop mode.

4.8.7 HDCP Status

High-bandwidth Digital Content Protection (HDCP) is a form of digital copy protection to prevent copying of digital audio and video content as it travels across connections. When the accessed input source is an HDCP-encrypted one, you need to turn on this function to enable the device to transmit and process the source.

Parameter Descriptions

Parameter	Description
HDCP Status	Turn on or turn off the function. • : On • : Off

4.8.8 Monitor Settings

Real-time display of the output image via the monitor connected is supported. You can monitor whether the output is normal and adjust the display ratio of the monitoring image on the monitor to avoid image distortion.

Notes

The output resolution of the monitor connector is fixed at 1920×1080@60Hz.

Parameter Descriptions

Parameter	Description
Monitor Settings	The options include **Keep Ratio** and **Full Screen** (default). • Keep Ratio: Keep the ratio of the original output image to display. • Full Screen: Display the output image in full screen. Note

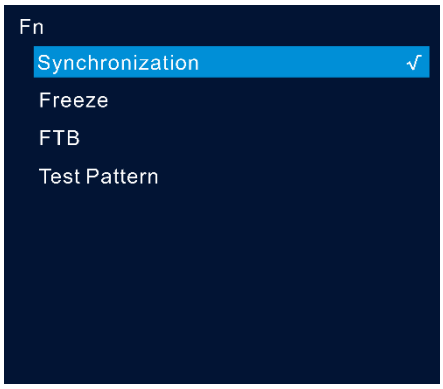
Parameter	Description
	When **Keep Ratio** is selected, the blank area that the output image cannot cover the entire monitor screen will be automatically filled with solid black.

4.9 System Settings

4.9.1 Fn

This function allows you to set a shortcut button for an assigned function. By using the Fn button, you can quickly navigate to the target menu screen and never need to access a specified menu item by entering the menus level by level.

Screen Example



Operating Procedure

Step 1 On the main menu screen, go to **System Settings** > **Fn** press the knob to enter the Fn button settings screen.

Step 2 Rotate the knob to select the desired function and press the knob to confirm.

4.9.2 Return to Home

Operating Procedure

Step 1 On the main menu screen, go to **System Settings** > **Return to Home** and press the knob to confirm.

Step 2 Rotate the knob to select the desired time value and press the knob to confirm.

Parameter Descriptions

Parameter	Description
Return to Home	You can set the period when the system stays at the current screen before returning to the homepage automatically when there is no operation performed. The value ranges from 60s to 3600s

4.9.3 Diagnostics

The diagnostics function helps you to diagnose the system and troubleshoot the malfunctioned device components. When the device fails, you can run the diagnostics function to test the device. You can send your test to our technical support staff for problem locating and processing. For daily maintenance, you can run the diagnostics function to do the routine health check for the system.

Notes

Running diagnostics will transiently disrupt the output, and the output will resume after the diagnostics are completed.

Operating Procedure

Step 1 On the main menu screen, go to **System Settings** > **Diagnostics** and press the knob to enter the diagnostics screen.

Step 2 Rotate the knob to select **Run Diagnostics** and press the knob to confirm,

Step 3 In the popup dialog, rotate the knob and select **Yes** and press the knob to confirm.

4.9.4 Export Logs

Export the device logs to a USB drive to quickly identify issues.

Prerequisites

Before exporting logs, you have inserted a USB drive into the USB port on the device.

Operating Procedure

Step 1 On the main menu screen, go to **System Settings** > **Log Export** to enter the log exporting screen.

Step 2 Rotate the knob to select **Apply** and press the knob to confirm. The log file will be exported to the root directory of the USB drive.

4.9.5 Update Device

Import the update file saved in a USB drive to the device for quick update.

Notes

During the update process, power-off and all operations are NOT allowed.

Operating Procedure

Step 1 On the main menu screen, go to **System Settings** > **Update** to enter the device update screen.

Step 2 Rotate the knob to select the update file and press the knob to confirm.

Step 3 In the popup dialog box, rotate the knob to select **OK** and press the knob to confirm. Then wait for the device to automatically complete the update.

4.9.6 Cascading ID

Set the device cascading ID which is the unique identification when the device is in a cascading link.

Notes

- The cascading ID defaults to **1** and can be changed manually. You need to set an ID for each cascading device in order.

- After you set IDs successfully, connect devices using Ethernet cables based on the set ID.

Parameters Description

Parameter	Description
Cascading ID	When multiple devices are cascaded, you need to set a virtual ID for each device, ensuring that the devices displayed in NovaLCT match with actual devices.

4.9.7 About Us

Under this menu item, you can view the firmware version, device SN, official website and email address. On our official website, you can check the latest device information and the updates for this device. You can also send your feedback or suggestion to us for improvements via the supplied email address.

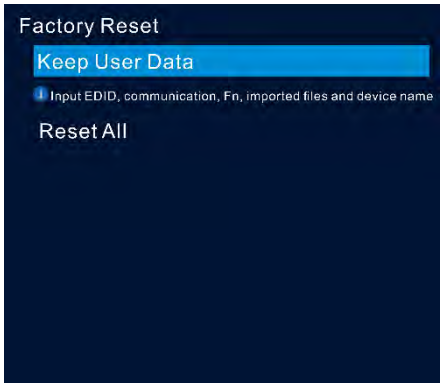
Screen Example



4.10 Factory Reset

Factory reset function allows you to reset all the parameter settings of the device to factory defaults after the device update or when you think the parameters are improperly set.

Screen Example



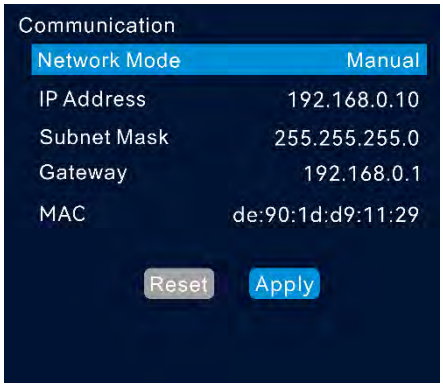
Parameter Descriptions

Parameter	Description
Keep User Data	Reset the parameter settings to factory defaults, except for the Input EDID, communication, Fn, imported files and device name.
Reset All	Reset all the parameter settings to factory defaults.

4.11 Communication Settings

You can set the communication and network information to enable the device to communicate with the control PC smoothly.

Screen Example



Operating Procedure

Step 1 On the main menu screen, rotate the knob to select **Communication** and press the knob to enter the communication settings screen.

Step 2 Select **Network Mode** and press the knob to confirm.

The options include **Manual** and **Automatic**.

- Manual: Set the device IP address, subnet mask and gateway manually.
- Automatic: The system automatically assigns an IP address for the device. When the device and control PC are connected to the same router or switch, set this option to **Automatic**.

Step 3 When the **Manual** option is selected, you must manually set the device IP address, subnet mask and gateway.

Step 4 Rotate the knob to select **Apply** to make the settings take effect; otherwise, select Reset to reset the settings to defaults.

4.12 Language

The language options include English and Simplified Chinese. You can switch to your preferred language.