



C-Link LED Screen Config Tool



Synchronization Control System User Manual

Revision History

Number	Revised Content	Revised Date	Version
1	First release	2021/10/11	V1.0
2	Optimize some known bugs and add some new features	2025/06/24	V2.0
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Content

1 Software Introduction	1
Easy Installation	1
Wide Range of Applications	1
2 Software Installation	2
Installation Method	2
Installation Result	2
3 Device Connection	3
3.1 Connecting PC to Sending Card	3
3.2 Connecting C-Link to Sending Card	4
4 Screen Configuration	6
4.1 Set Input Source	6
4.2 Quick Screen Adjustment	7
4.3 Manual Screen Adjustment to Light Up the Panel	10
Operation Scenario	10
Configure the receiving card parameters to activate the new light panel	10
Applicable Products	10
Prerequisites	10
Related Information	10
Operation Steps	11
5 Cabinet Setup	15
Operation Scenario	15
Prerequisites	15
Related Information	15
Operation Steps	15
Configure Regular Design Rule Cabinets	15
Configure Advanced Design Irregular Cabinets	16
6 Display screen connection	18
Operation Scenario	18
Prerequisites	18
Related Information	18

6.1 Standard Display Connection Steps	18
Related Information	21
6.2 Advanced Display Connection Steps	21
Related Operation	24
7 Redundancy Backup	25
Operation Scenario	25
Prerequisites	25
Related Information	25
Operation Steps	25
Step 3 Click "Set Device Backup".	25
8 Performance Configuration Settings	27
Operation scenario	27
Operation Steps	27
9 Brightness Adjustment Settings	29
9.1 Brightness Information	29
9.2 Gamma	29
9.3 Custom Gamma	30
10 Calibration	32
Operation scenario	32
Prerequisites	32
Operation Steps	32
10.1 Complementary Color Adjustment	33
Related Operations	33
10.2 Color Temperature	34
Related Operations	34
10.3 Coefficient Management	34
Prerequisites	34
Related Operations	35
10.4 Seam Repair	36
Operation scenario	36
Prerequisites	36

Related Operations	36
10.5 Advanced Calibration	37
Operation scenario	37
Prerequisites	37
Related Operations	38
10.6 Color Gamut	40
Related Operations	40
11 Multi-function Card	42
Operation scenario	42
Compatible Products	42
Prerequisites	42
Related Operations	42
11.1 Relay Management	42
11.2 Sensor Management	43
12 Function	46
Operation scenario	46
Applicable Products	46
Prerequisites	46
Related Operations	46
12.1 Disconnect Display	46
12.2 Fan Control (Requires Custom Firmware)	47
13 Hardware Information	48
13.1 Hardware Information	48
13.2 Sending Card Upgrade	48
13.3 Receiving Card Upgrade	49
13.4 Multi-function Card Upgrade	50
14 Tools	52
Related Operations	52
14.1 Test Tools	52
15 Settings	53
Operation scenario	53

Related Operat	tions	53
16 Language		54
Operation Scer	nario	54
Related Operat	tions	54
17 Help		55
Operation Scer	nario	55
Related Operat	tions	55

1 Software Introduction

The LED display control system is divided into synchronous control systems and asynchronous control systems. In a synchronous control system, the display screen plays and controls content in real-time synchronization with the video source (e.g., a PC, camera, etc.).

For synchronous control system, the display screen plays and controls content independently of the video source. Calibration data can be pre-stored locally and played according to a predetermined schedule.

C-Link is an application software designed for Windows 10, serving as a fundamental tool for configuring display screens. It has the following features:

Easy Installation

You can download the latest version of the installation package from Magnimage Technology's official website at any time: (https://magnimage.com.cn/article/clink). The installation process is simple and quick.

Practical Features

It provides common functions such as display configuration, redundant backup, brightness adjustment, light/dark line adjustment, multi-function card management, and other configuration options. These features help optimize the display performance while making the screen easier to manage and maintain.

Wide Range of Applications

It supports configuration for both synchronous and asynchronous control system products from Magnimage, catering to the diverse needs of display manufacturers, engineering contractors, distributors, rental clients, and end-users.

High Configuration Efficiency

Once the PC is connected to the C-Link control system, users can perform all necessary operations directly from the computer. C-Link automatically adapts to different hardware models and firmware versions, displaying the corresponding functions and parameters. During configuration, various preset files can be used for quick setup. Once the settings are saved to the hardware, they remain intact even after a power loss.

2 Software Installation

Installation Method

- 1. Before installing C-Link, ensure you have a PC running Windows 10 and temporarily disable any antivirus software.
- 2. Download the C-Link software package, extract the files, and run the "C-Link.exe" executable. Follow the installation wizard prompts to complete the setup. If a firewall warning appears, select Allow to proceed.

Installation Result

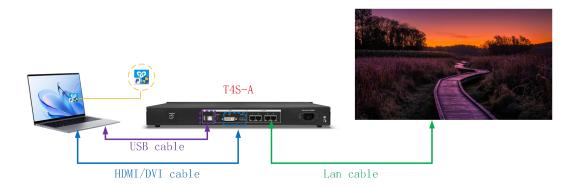
Note: When the installation is successful, the following shortcut will be displayed on the desktop.



3 Device Connection

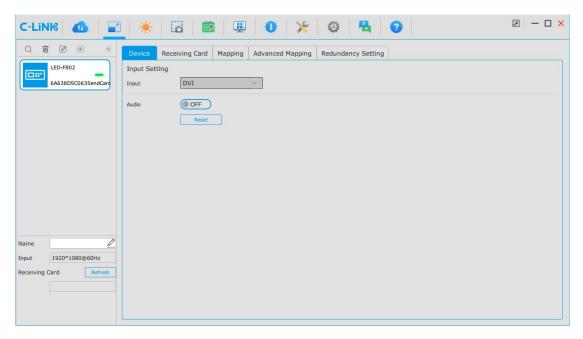
3.1 Connecting PC to Sending Card

- The PC with C-Link installed connects to the sending card via a control cable (USB or Ethernet cable), as shown in Figure 3-1. Here, the T4S model is used as an example of the sending card.
- 2. All control commands, parameters, and configuration files are transmitted via the control cable.
- 3. The PC connects to multiple sending cards individually via control cables (USB/Ethernet) or network cables. In C-Link, simply select a target communication port to operate the corresponding device.
- 4. The PC can also connect to and control multiple sending cards in a grouped cascade configuration via a local area network (LAN).



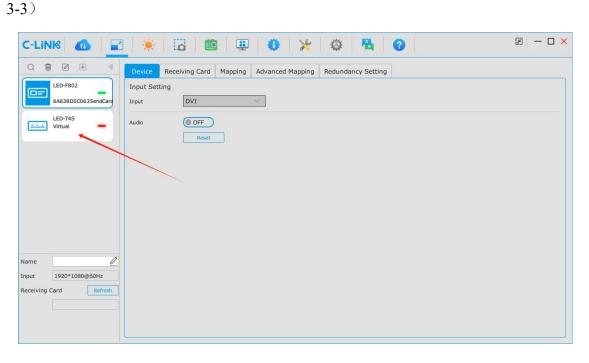
3.2 Connecting C-Link to Sending Card

When the hardware connection is properly established and the sending cards are functioning normally, launching C-Link will automatically detect and display the number of connected sending cards. (As shown in Figure 3-2)



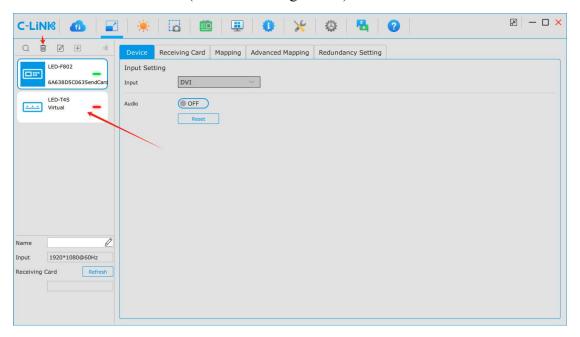
3-2

Adding Virtual Devices Typically for Demo Purposes (As shown in Figure





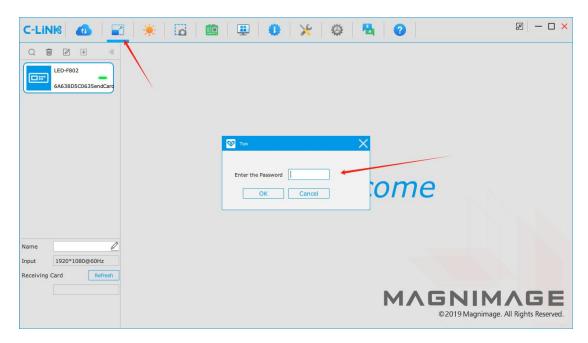
Delete Device (As shown in Figure 3-4)



4 Screen Configuration

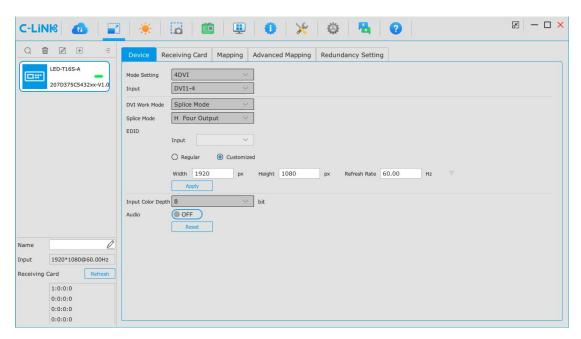
4.1 Set Input Source

Step 1: Click "Screen Configuration" and a box will pop up, enter 666 or 888 to proceed. (As shown in Figure 4-1)

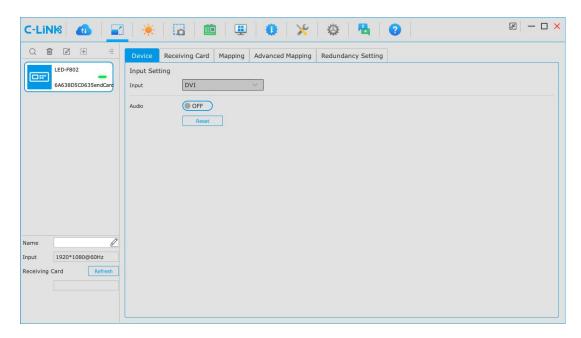


4-1

Step2: Select debugging sending card device.(As shown in Figure 4-2)



- Step 3: Select the default input source for the signal, or manually choose an input source.
- Step 4: Set the corresponding resolution. You can choose a standard mode from the drop-down menu or enter a custom resolution as needed, as shown in Figure 4-3.
- Step 5: The default "Input Color Depth" is 8bit, but you can select 10bit from the drop-down menu.
- Step 6: "Audio" is disabled by default but can be manually enabled.
- Step 7: Click "Apply" to send the configuration to the hardware.

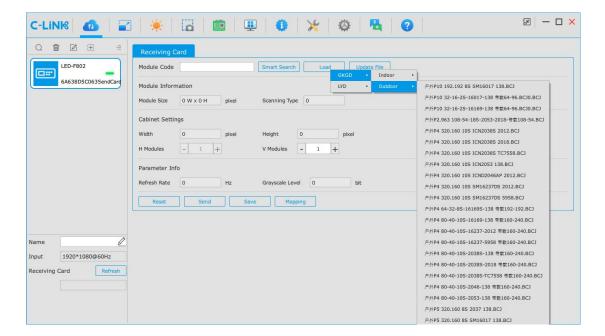


4-3

4.2 Quick Screen Adjustment

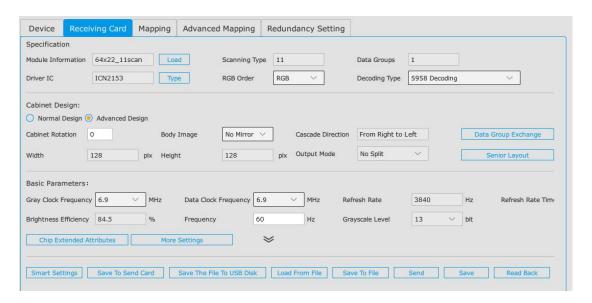
Step 1: Click Enter the password and click "OK". The default passwords are 666 or 888.

Step 2: Intelligently search by entering the module number, or manually load and select from the drop-down menu. (As shown in Figure 4-4)



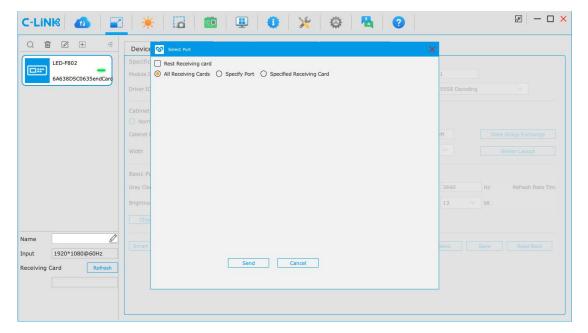
4-4

- Step 3: Adjust the number of vertical modules according to actual requirements.
- Step 4: Click "Advanced Settings" to configure cabinet parameters including load width and height. (As shown in Figure 4-5)



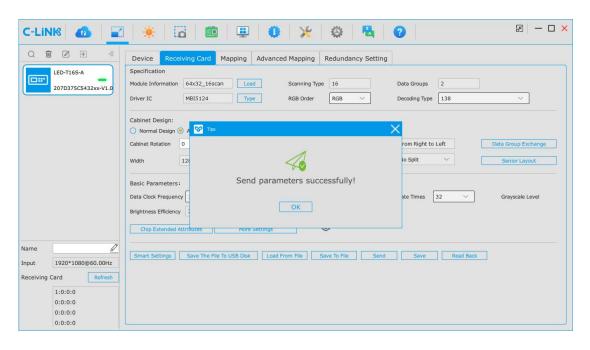
4-5

Step 5: Click "Send Data". (As shown in Figure 4-6)



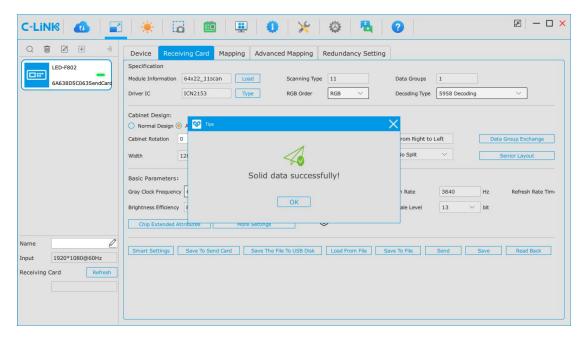
4-6

Step 6: Click "Send". (As shown in Figure 4-7)



4-7

Step 7: Click Click "OK". (As shown in Figure 4-8)



4-8

4.3 Manual Screen Adjustment to Light Up the Panel

Operation Scenario

Configure the receiving card parameters to activate the new light panel.

Applicable Products

Compatible with all Magnimage's receiving cards.

Prerequisites

- The input source configuration is now complete. For detailed operations, please refer to Section 4.1 "Input Source Setup".
- Display settings for the PC have been configured. For reference, the Windows 10 setup is illustrated in Figures 4-9 and 4-10. Note that the PC graphics card resolution must be set equal to or higher than the display screen resolution based on actual requirements.
- The receiving card firmware supports the LED panel driver chips

Related Information

LED panel specifications are provided upon factory shipment. Users may also determine the specifications through the light panel's specifications are provided upon shipment. Users can also determine the specifications by checking the driver chip, decoder chip, and interface definitions on the panel. For example, the light panel in Figure 4-11 reveals the following:

Drive IC: MBI5124

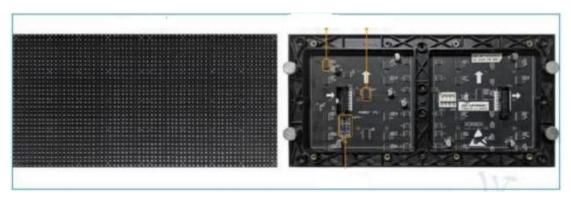
• Data Type: 2-Channel RGB Parallel Data

• Flash Type: Standard Led Panel

• Point: 64 Column 32 ROW

• Decoder IC: 74HC138

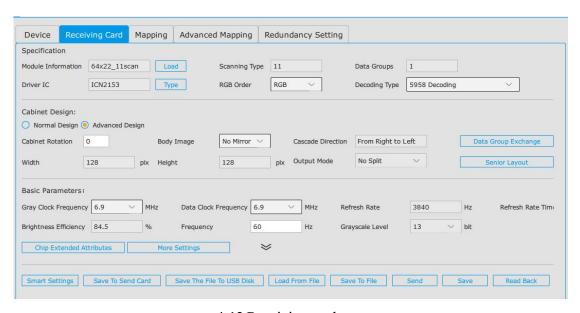
• Interface Type: HUB75E



4-11 Light panel example

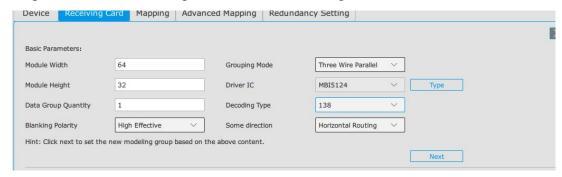
Operation Steps

Step 1: In the "Screen Configuration" dialog, select the "receiving card" tab. (As shown in 4-12)



4-12 Receiving card page

Step 2 Click "Smart Configuration" as shown in Figure 4-13.



4-13 Smart Configuration 1

- "Module Width": Number of LED panel columns.
- "Module Height": Number of LED panel rows.
- "Number of Data Groups": 2 groups
- "Grouping method": Parallel means the three colors RGB are output in parallel, while serial means the three colors RGB are output serially.
- "Driver chip": LED panel driver chip. Click "Type" to view the chip type table. If no specific type is needed, select "Universal chip".
- "Decoding method": The decoding method of the LED panel, which can be selected based on the type of decoding chip.

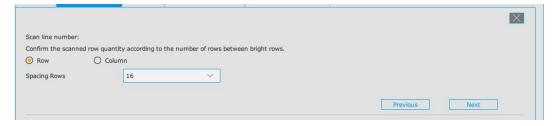
Step 3 Smart Configuration as shown in 4-14



4-14Smart Configuration 2

- If the colors match correctly, click "Next".
- If they do not match, select the corresponding color according to the LED panel's display until they align, then click 'Next'.

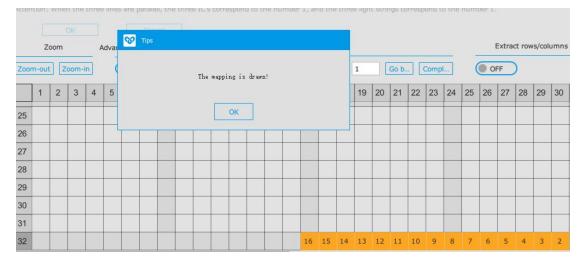
Step 4 Smart Configuration as shown in 4-15



4-15Smart Configuration3

- "Set the parameter according to the currently lit rows (or columns) of the LED panel, then click 'Next'."Step 5 "In the Smart Setup Wizard (Figure 4-16), click the corresponding grid on the interface to mark the flashing dot in the first row of the LED panel. Typically, this involves marking dots in the first row. If the flashing dot appears in other rows or columns, perform the marking accordingly based on the actual situation."
- "Auto Generate": Quickly completes all marking points for the first row.
- "Undo": Clears the last marked point.
- "Reset Points": Clears all marked points.
- "Zoom Out": Reduce the size of the grid.
- "Zoom In": Enlarge the grid.
- "Insert Dummy Point": If a flashing dot on the LED panel stops blinking, insert dummy points until the flashing dot resumes blinking. Once it flashes again, no more dummy points are needed.



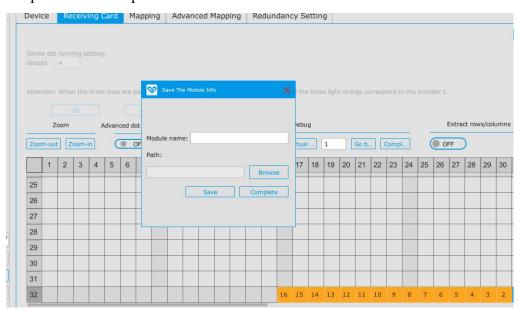


4-16 Smart Configuration 4

Step 6 Click"OK"

- Step 7 "(Optional) Enter the LED panel name to save its configuration file. Users can later load this file to quickly activate LED panels of the same specifications (As shown in Figure 4-17)."
- "Module Name": Enter the name of the LED panel.
- "Browse": Select the save path for the LED panel module configuration file.

Step8 Click"Complete"



4-17

5 Cabinet Setup

Operation Scenario

• Set the current receiving card's loaded cabinet size and the cascading direction of the light panels within the cabinet.

Prerequisites

- The light panel has been lit. For detailed operations, please refer to section 4.3.1 lighting the light panel.
- To configure an irregular cabinet, you need to prepare either a module light panel file (.MCJ) or a receiving card configuration file (.BCJ).

Related Information

• A cabinet is considered regular if it is rectangular and all its light panels are of the same specification. Otherwise, it is classified as an irregular cabinet.

Operation Steps

Step 1 In the "Screen Configuration" dialog cabinet, select the "Receiving Card" tab.

Step 2 In the "Cabinet Information" section, perform the corresponding operations according to the cabinet type.



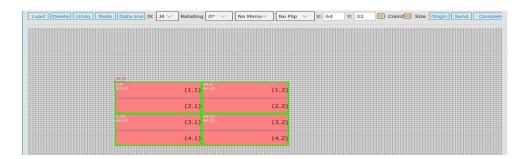
5-1

Configure Regular Design Rule Cabinets

- Select "Regular Design" to set the cabinet width, height, and cascade direction.
- Select "Cabinet Rotation" to set the cabinet orientation to 0°, 90°, 180°,
 270°, as well as horizontal mirroring or vertical mirroring of the display.
- Select "Output Mode" to adjust the splitting configuration (e.g., 2-split, 3-split, 4-split, 5-split, etc.) based on the actual load requirements.
- Select "Data Group Swap" to exchange video outputs between paired data groups.
 This must be configured after completing intelligent setup and only supports regularly designed cabinets.

Configure Advanced Design Irregular Cabinets

- Select "Advanced Design," click on "Advanced Layout," and a dialog cabinet will pop up as shown in Figure 5-2.
- If there is a module configuration file (.BCJ) or a light panel file (.MCJ), click "Add" to quickly configure the cabinet.
- "Edit": Based on the actual debugging data group, click the cabinet after "JX" to select the data group.
- The loaded light panel supports keyboard shortcuts: "Ctrl+C" (Copy), "Ctrl+A" (Select All), "Ctrl+V" (Paste), and "Delete".
- "Delete": Remove the light panel file.
- "Undo": Reverts the previous operation.
- "Redo": After performing an undo operation, click "Redo" to revert to the original step.
- "Adjust Light Panel Position": Align the light panel with the actual dimensions of the cabinet.
- Double-click the light panel after selecting the data group sequentially to establish the connection.
- "Right-click to disconnect": Right-click any single key to cancel/terminate the connection.



5-2 Construct Irregular Cabinet

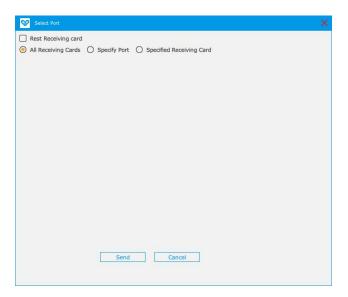
Step 3 To set cabinet rotation, click "Rotate" and select the rotation angle. Skip this step if not required.

Step 4 After completing the setup, click "Debug." In the pop-up dialog box, select "All Receiving Cards" or specify a receiving card, then click "Send" in the pop-up window.

"All Cards": Sends the receiving card configuration information to all receiving cards currently loaded by the sending card. If "Reset Receiving Cards" is checked, the starting

coordinates of all receiving cards will be reset to (0,0), meaning all receiving cards will display the top-left corner of the input source.

• "Specified Receiving Card": Sends the receiving card configuration information to the designated receiving card, as shown in Figure 5-3



5-3 Send Parameters to Receiving Card

Step 5 After successful sending, click "OK" to close the prompt box, which will activate all receiving cards connected to the sending card. Then, click "Finish".

Step 6 "Save Configuration" - Click "OK."

Step 7 (Optional) Click "Save Configuration" to save the settings as a receiving card configuration file (.BCJ) or export a "USB File" (.DTR).

6 Display screen connection

Operation Scenario

• Logically connect the receiving card. Typically, one cabinet is driven by a single receiving card, so this is also referred to as connecting the cabinet.

Prerequisites

• The cabinet setup is complete. For detailed operations, refer to "5 Cabinet Configuration."

Related Information

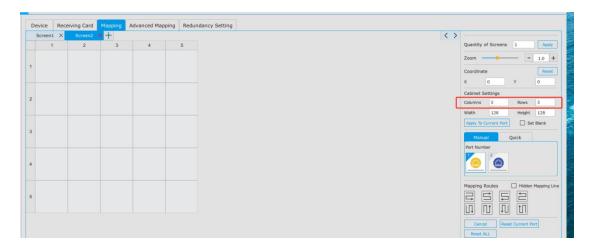
- C-LINK supports a maximum configuration of 20 screens.
- For complex screen configurations, it is recommended to first set up a standard screen and then modify it into a complex screen for improved efficiency.

6.1 Standard Display Connection Steps

Step 1 In the "Screen Configuration" dialog, select the "Standard Display Connection" tab.

Step 2 Set the number of displays and click "Apply".

Step 3 On the "Standard Display" interface, configure the number of columns and rows for the receiver cards, as illustrated in Figure 6-1.



6-1 Number of receiver card columns and rows

Step 5 Configure the receiving card wiring and load size.

- Custom Wiring: Click or drag the mouse in the table to select an area for customized receiving card routing.
- Manual wiring method: Click a quick wiring style, then drag the mouse to select an area in the table. During wiring, the load size defaults to the current value, which can be modified by adjusting the load width and height on the left side of the interface if needed. Right-click on the receiving card to cancel its configuration.

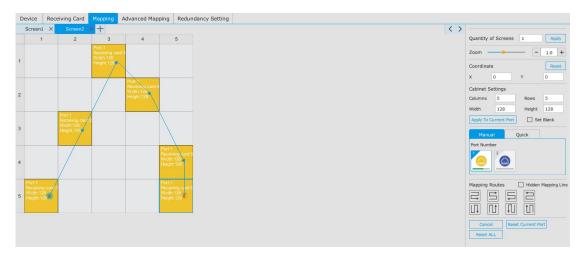


Figure 6-2 Receiving Card Wiring and Load Size

- Apply to current network port: Apply the current width and height to all transmitting cards connected to the output port.
- "Reset All": Clear all wiring and blank areas on the receiving card.
- "Hide Wiring": Hide the wiring of the receiving card.
- "Undo": Revert the previous wiring step.
- "Zoom": Scale the receiving card interface.
- "Bandwidth Expansion": Enable single network port to support a load of 1 million pixels (requires both transmitter and receiving card support).
- "Quick Wiring": Set the number of horizontal and vertical cabinets per network port, as well as the number of horizontal and vertical network ports. For example, see Figure 6-3.



6-3 Quick Wiring

Step 6 "Set Blank Area and Size for Receiving Card": Configure the blank area and its dimensions for the receiving card, as shown in Figure 6-4. If no blank area is needed, skip this step.

- Click on a receiving card and check the "Position as Blank" option to mark it as a blank area. Continue clicking or dragging the mouse over other cabinet units to set additional blank areas.
- "Blank-configured receiving cards can assist in achieving complex display layouts.
 These cards do not drive any screen modules and will not display any content."



6-4 Receiving Card Blank Area

Step 7 Click "Send" to transmit the configuration to the hardware, or click "Save" to store the settings as a file if needed.

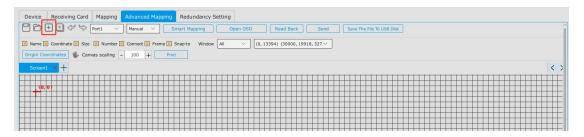
Step 8 After completing the setup, click "Burn In" to permanently write the configuration into the hardware.

Related Information

- "Smart Mapping": Enable this feature to display cabinet numbers and connected network ports directly on LED modules, providing real-time visual feedback for receiver card wiring verification.
- "Read back": Retrieves the current configuration settings from the hardware.
- "Coordinates": Set Display Starting Position
- "Load": Load Saved Tiling Configuration File

6.2 Advanced Display Connection Steps

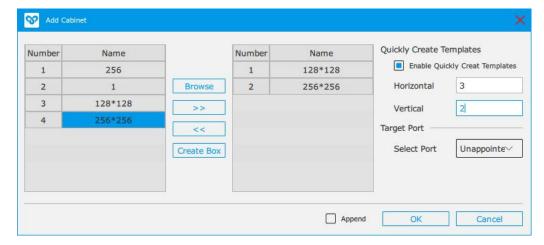
Step 1 In the "Screen Configuration" dialog, select the "Advanced Display Connection" tab. (Refer to Figure 6-5.)



6-5 Advanced Mapping

Step 2 Click "Add Cabinet" as shown in Figure 6-6.

- "Browse": Load a receiving card cabinet configuration file.
- "Horizontal Quantity": Specifies the number of cabinets to add horizontally.
- "Vertical Quantity": Sets the number of cabinets to add vertically.
- "Select Network Port": Assigns the added cabinets to a specific network port for signal transmission.
- "Append": Merge new cabinet configuration files into the existing cabinet.



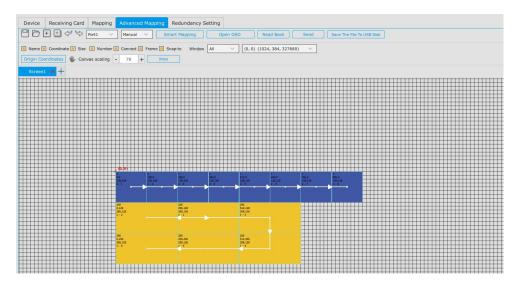
6-6 Add Cabinet

Step 3 Click "OK".

Step 4 Click the "Network Port" button to establish signal connections (As shown in Figure 6-7)

- "Manual Mode": Click or drag the mouse within the table to select a specific area for configuration.
- "Auto Mode": Click a predefined wiring template, then drag to select the target area in the table for automated configuration.
- "Coordinates": Displays the X/Y position values of individual display cabinet units within the overall video wall layout.
- "Name": Displays the identifier label of individual cabinet units.
- "Smart Mapping": Displays the connection order index of network ports.
- "Size": Displays the physical pixel density (in millimeters) of the cabinet module.
- "Connect": Displays the visual topology map of all transmitter-receiver card signal connections.
- "Frame": Toggles the visibility of outline frames around individual LED cabinet units in the layout preview.
- "Snap-to": When dragging a cabinet near others, it automatically aligns to adjacent units' edges.
- "Enable the bandwidth expansion": A single network port can support a load of 1 million (requires the support of a sending card and a receiving card).

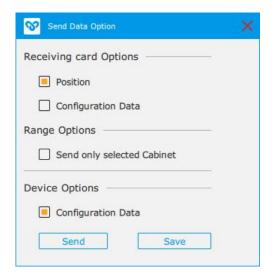
- "Window": Display the network port coordinates and the total load points supported by the sending card.
- "Undo": "Undo the previous operation"
- "Redo": Need to click undo, then click redo to return to the original step.
- "Append File"; Add a display configuration file to the existing display connection.
- The loaded light panel supports keyboard shortcuts: Ctrl+C, Ctrl+A, Ctrl+V, and Delete



6-7 Ethernet cable cabinet connection

Step 5 Click "Send Data", as shown in Figure 6-8.

- "Position": The position of the receiver card box.
- "Receiving card Configuration": Configuration file data for the receiving card enclosure.
- "Send Only selected Cabinet": Select specific enclosures to send data.



6-8

Step 6 Click "Send" to confirm "Burn". This will permanently write the configuration data to the hardware. If needed, click "Save" to store the configuration as a file.

Related Operation

- "Smart Mapping": The Smart Labeling function displays the enclosure number and connected network port directly on the enclosure, providing visual receiving card wiring information.
- "Read Back": Read current configuration data from hardware
- "Load": Load saved video wall configuration file

7 Redundancy Backup

Operation Scenario

 Configure redundant backups to ensure high system reliability for applications such as stage rentals and conference centers.

Prerequisites

• The hardware connections for redundancy backup have been completed. Before configuring backup redundancy and network port redundancy between devices, ensure all devices are properly connected and online.

Related Information

 Hot Backup Verification allows direct testing of backup port validity through live network cable insertion/removal.

Operation Steps

- Step 1 In the "Screen Configuration" dialog, select the "Redundancy Settings" tab.
- Step 2 For network port backup, directly click "Send" to confirm. (As shown in Figure 7-1.)



7-1 Network Backup

Step 3 Click "Set Device Backup".

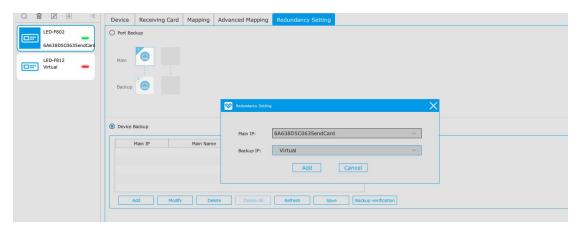
- Step 4 Click "Add" to select the primary and backup transmitter cards. (Refer to Example Figure 7-2.)
- Step 5 After adding, close the window and click "Send" to confirm.

"Modify": Set the correspondence between the primary device network port and the backup device network port.

"Delete": "Remove selected devices added above".

[&]quot;Delete All": "Remove all added devices".

"Refresh ": "Refresh backup devices"



8 Performance Configuration Settings

Operation scenario

• Set the performance parameters of the enclosure to achieve better display

Operation Steps

- Step 1 In the "Screen Configuration" dialog, select the "Receiver Card" tab, as shown in Figure 8-1.
- Step 2 Click "Read Back" to retrieve the latest configuration information.
- Step 3 If a receiver card configuration file (.BCJ) is available, click "Load" to quickly complete the setup. If no configuration file exists, proceed with the following steps to manually configure the screen.
- Step 4 In the "Performance Configuration" section, set the performance parameters.



8-1 Performance Settings

For different driver ICs, the performance parameters displayed on the interface vary, mainly including the following:

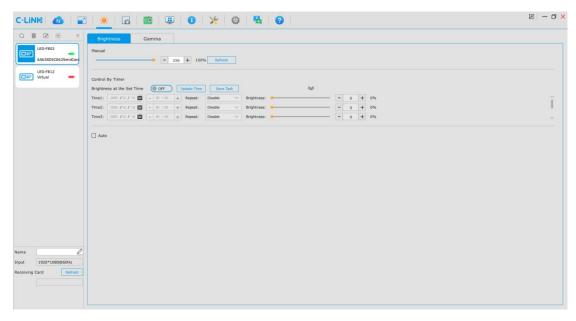
- "Refresh Rate": The speed at which the display updates the image. Increasing the refresh rate reduces screen flicker.
- "Grayscale Levels": A parameter indicating the display's luminance gradation. Higher grayscale levels result in finer brightness gradations on the screen.
- "Display Mode": The grayscale rendering method, configurable for brightness presentation.
- "Data Clock": The frequency of the data clock signal.
- "Grayscale Clock": Adjust the grayscale clock rate to modify the refresh frequency.
- "Refresh Multiplier": The frequency multiplier for visual refresh rate.

- Duty Cycle": The duty cycle of the shift clock, typically set to 50%.
- "Data Clock Phase": Adjust this parameter to eliminate image misalignment or flickering pixels.
- "Line Blanking Time": Adjusts scanning screen afterglow. Increase this value if severe afterglow occurs.
- "Line Break Timing": Coordinates with the Line Blanking Time to fine-tune scanning afterglow.
- "Discharge Time": Works in conjunction with Line Blanking Time to adjust scanning afterglow.
- "Frame Blanking Time": Used to optimize black field calibration for mobile photography.
- "Grayscale Mode": Includes low-Gray enhancement mode with configurable image denoising settings.
- "Frame Rate": Default 60Hz, adjustable as needed.
- "Minimum OE Pulse Width": Read-only parameter, calculated based on other performance settings.
- "Luminance Efficiency": Read-only parameter, calculated from other performance metrics.
- Step 5 After configuration, click "Send Data" to transmit the performance parameters to all receiver cards.
- Step 6 After achieving the desired display effect, click "Save Configuration" to permanently write the performance parameters to the receiver card's hardware.

9 Brightness Adjustment Settings

9.1 Brightness Information

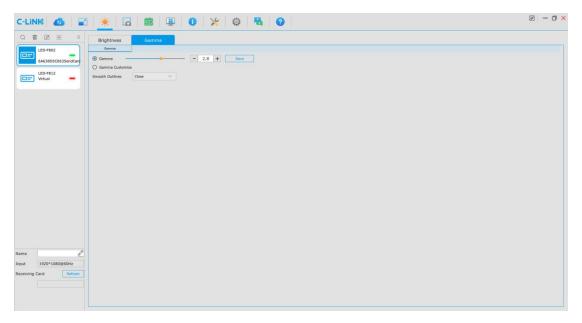
- Manual Adjustment: Allows real-time modification of display brightness and chromaticity performance to meet environmental conditions and user requirements.
 (Refer to Figure 9-1)
- Scheduled Adjustment: Automatically regulates display brightness and chromaticity through pre-set timers (requires CR2032 coin cell battery installation in combodevices), adapting to environmental conditions and user requirements in real-time.
- Auto Adjustment: Enables automatic or scheduled brightness/chromaticity regulation via multi-function card (MF-Card) to dynamically adapt to environmental conditions and user requirements. [Optional: Can be enhanced with ambient light sensor for realtime adaptive brightness control]



9-1 Brightness Adjustment

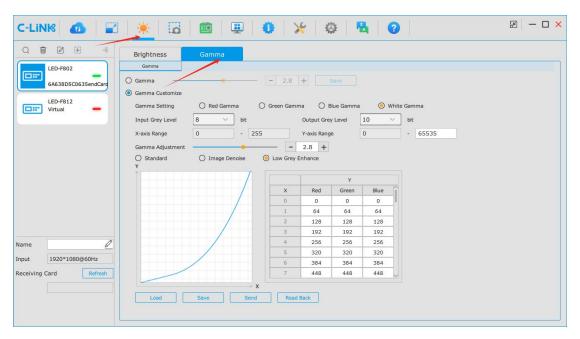
9.2 Gamma

- Step 1 In the "Brightness" dialog, select the "Gamma" tab (refer to Figure 9-2).
- Step 2 Drag the slider to modify the Gamma value *(Default: 2.8 | Adjustable range: 1.0-4.0)
- Step 3 After completing the configuration, click "Save" to permanently store the settings.



9-2 Gamma

9.3 Custom Gamma



9-3 Custom Gamma

- Step 1 On the "Brightness" page, select the "Gamma" tab to customize the Gamma, as shown in example figure 9-3.
- Step 2 If the control system supports independent Gamma settings, select White to synchronize and adjust the Gamma curves for red, green, and blue simultaneously, or choose R Gamma, G Gamma, or B Gamma to adjust the Gamma curve for a single color.

- If the control system does not support independent Gamma settings, skip this step.
- Step 3 Depending on your requirements, perform the corresponding operation below to configure the Gamma curve.
- Step 4 Click "Read" to retrieve the Gamma settings from the receiving card.Load
 Gamma Configuration File. Click "Load" to import a Gamma configuration file.
 Manually Adjust Gamma, Drag the slider to modify the Gamma value. Manually
 Edit Gamma Table, Double-click the Y-axis value in the Gamma table to edit it.
- Step 5 After completing the settings, click "Send" to transmit the configuration data to the hardware.
- Step 6 (Optional) Click "Save" to export the Gamma settings as a configuration file.

10 Calibration

Operation scenario

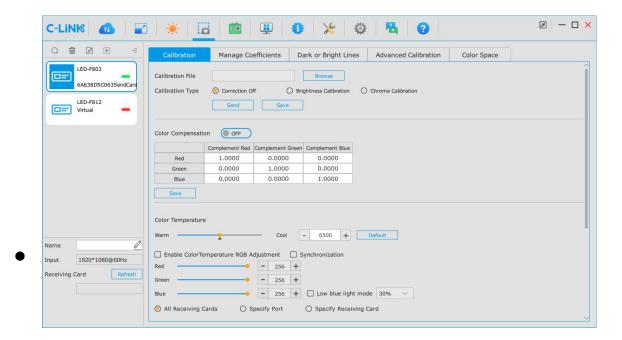
• Calibrate via camera to ensure uniform brightness across LED cabinets for applications like stage rental and conference centers.

Prerequisites

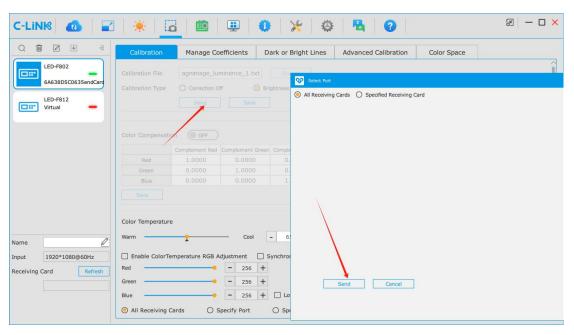
- The calibration coefficient collection is completed, and the brightness/chromaticity calibration coefficients for the display screen have been obtained.
- Before sending the corresponding calibration coefficients, ensure the display connections are properly configured. Establish the display connection with the correct size, then send and permanently store the data to the transmitting device.

Operation Steps

- Step 1 In the "Calibration" dialog, select the "Calibration" tab, as shown in Figure 10-1.
- Step 2 Click "Browse" to load the corresponding coefficients generated by the camera (distinguished between brightness and chromaticity coefficients).
- Step 3 Select the calibration mode (Brightness Calibration or Chromaticity Calibration) by choosing the corresponding coefficient type.
- Step 4 Click "Send" (as shown in Figure 10-2) to select all cards or specified cards.
- Step 5 Click "Burn-In" to permanently write the correction coefficients to the corresponding receiving cards.



10-1 Calibration



10-2 Send

10.1 Complementary Color Adjustment

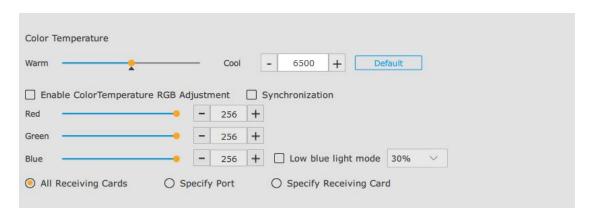
Related Operations

- Step 1 In the Calibration dialog, select the Correction Coefficients tab (refer to Figure 10-1).
- Step 2 Locate the "Complementary Color Adjustment" button
- Step 3 Open Complementary Color Adjustment
- Step 4 Adjust the red, green, and blue complementary color parameters according to on-site conditions.

10.2 Color Temperature

Related Operations

- Step 1, In the "Calibration" dialog, select the "Calibration Factor" tab, as shown in Figure 10-1.
- Step 2, Locate the color temperature adjustment page as shown in Figure 10-3.
- Step 3, You can adjust the color temperature by dragging the slider, using RGB adjustment, or enabling the system-provided low blue light mode (enabling low blue light mode requires activating RGB adjustment).
- Step 4, Select the target for adjustment based on the actual situation—either all receiving cards, a specific network port, or a designated receiving card.

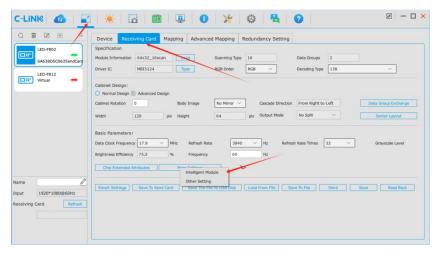


10-3 Color Temperature

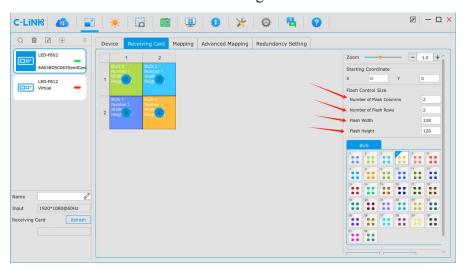
10.3 Coefficient Management

Prerequisites

• To save to the light panel's Flash, the receiving card firmware must support Flash programming, and the module must have a Flash memory chip. Additionally, configure the Bus diagram settings in the smart module as shown in Figures 10-4 and 10-5.



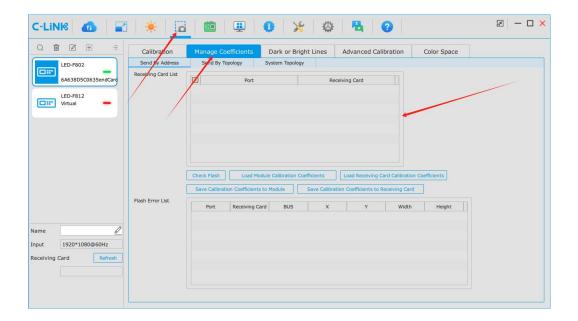
10-4 Intelligent Module



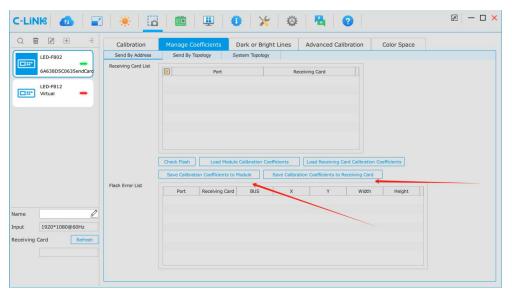
10-5 Bus Settings

Related Operations

- Step 1 In the "Calibration" dialog, select the "Coefficient Management" tab, as shown in Figure 10-6.
- Step2 Three sending methods are available: by physical address, by topology, or via system topology map. Choose the one that best suits your preference.
- Step 3 Receiver Card List Allows you to select all receiver cards or specify a single card to view its corresponding calibration coefficients or LED panel coefficients
- Step 4 (Requires completing module Bus mapping transmission) Proceed with flash storage operations only if no flash errors are detected.
- Step 5 Type MIGLED (case-insensitive) as shown in Figure 10-7, then click "Burn to Receiver Card Coefficients" or "Burn to LED Panel Coefficients".
- Step 6 View Receiver Card Calibration Coefficients / View LED Panel Calibration
 Coefficients(To view LED panel coefficients, follow Steps 4-5 first.)



10-6 Manage Coefficients



10-7 Save Calibration Coefficients to Receiving card

10.4 Seam Repair

Operation scenario

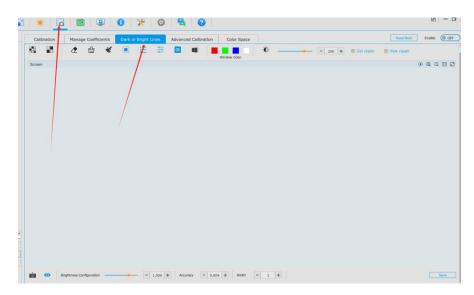
• Seam correction can resolve brightness/darkness lines between modules during installation in fixed engineering projects or high-end stage rental projects.

Prerequisites

• The corresponding receiver card parameters and display connection settings must be properly configured in the display configuration page.

Related Operations

- Step1 In the "Calibration" dialog, select the "Seam Adjustment" tab, as shown in Figure 10-8.
- Step 2 Read Back Click the "Read Back" button to load your display connection settings, with the Seam Repair function enabled by default.
- Step 3 Click LED Panel Mode (i.e., module-to-module unit, suitable for fixing brightness/darkness lines between modules within a cabinet or receiver card).or Cabinet Mode (i.e., unit-based by cabinet/receiver card load, suitable for fixing brightness/darkness lines between cabinets or receiver cards).
- Step 4 Press and hold Ctrl with your left hand, then click to select the brightness/darkness lines needing correction. Set Gap Width to 1 (refers to the number of brightness/darkness lines between adjacent cabinets).
 Adjust brightness coefficients until the lines blend uniformly with the cabinet's brightness.
- Step 5 Click "Burn" to complete the seam correction process.



10-8 Seam Repair

10.5 Advanced Calibration

Operation scenario

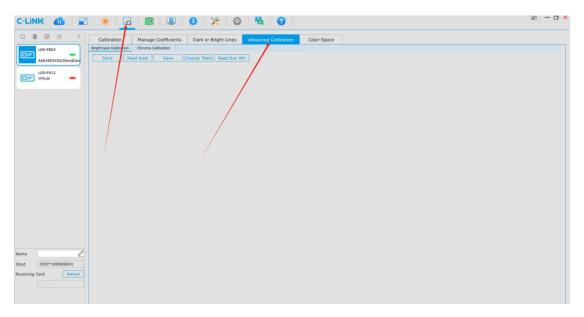
• Read back the brightness correction coefficients or chromaticity correction coefficients of a single receiver card for manual adjustment.

Prerequisites

 Complete standard display configuration (e.g., screen refresh) and send/burn correction coefficients to the receiver card. Advanced correction requires the receiver card to store these coefficients for readback.

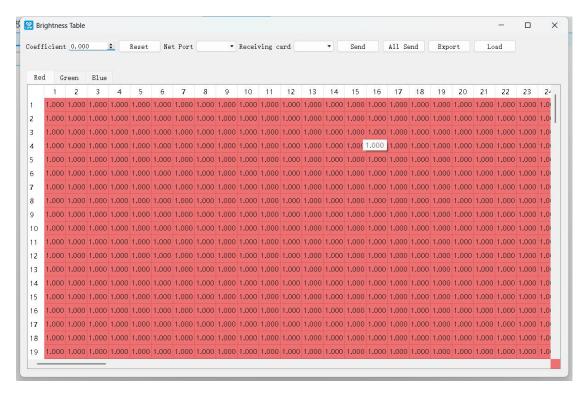
Related Operations

• Step 1 In the "Calibration" dialog, select the "Advanced Calibration" tab as shown in Figure 10-9



10-9 Advanced Calibration

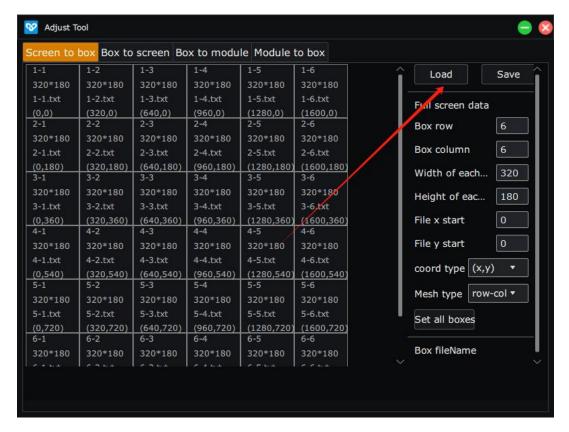
- Step 2 Select the corresponding operation to perform, such as Advanced Calibration or Advanced Chromaticity Correction.
- Step 3 Click "Read Box WH"— proceed to the next step upon a successful read prompt.
- Step 4 Read Back Click "Read Back", then enter the corresponding network port and receiver card number as prompted. Proceed to the next step after a successful readback confirmation.
- Step 5 Click The button will open your readback calibration coefficients in a pixels-to-pixel manner, as shown in Figure 10-10.



10-10

- Step 6 Modify the coefficients for any RGB color as needed, adjust them to your desired values, then click "Send" or "Send All".
- Step 7 Click You can export the modified coefficients to generate a corresponding advanced calibration file. Or click Load a previously generated advanced correction file to send to the specified receiver card.
- Step 8 "Exit" to close the table display page. Click the "Save" button to permanently save the modified advanced coefficients to the receiver card.
- Step 9 To use the calibration tool, click "Chromaticity Correction".

 Click Adjust Tool
 The Adjust Tool page will pop up, as shown in Figure 10-11.



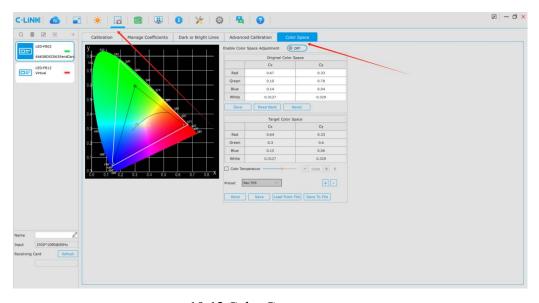
10-11

• Step10 The Calibration Tool provides four coefficient conversion methods—select the appropriate one based on your requirements.

10.6 Color Gamut

Related Operations

• Step 1 In the "Calibration" dialog, select the "Gamut" tab as shown in Figure 10-12.



10-12 Color Gamut

- Step 2 Connect the chromaticity measurement device (skip this step if a Gamut file is already available).
- Step 3 Set the source Gamut (white triangle = original color range). When configuring the target Gamut, base it on the source Gamut.Recommended: Use a colorimeter to measure the display's source Gamut and accurately input the parameters.
- Step 4 Perform any of the following operations as needed to set a custom Gamut:
- 4-1:To use a standard Gamut, click the preset dropdown menu and select one of the six options (e.g., NTSC, PAL, etc.).
- 4-2: Select an existing custom color Gamut: If a custom color Gamut is available, click to select it directly; if not, click "Open Configuration" to import a custom color Gamut or click "+" to create a new custom color Gamut, then click to select it
- 4-3 Manually adjust the color Gamut: Drag the black triangle in the left color Gamut diagram to adjust the target color range.
- 4-4 Manually adjust color Gamut values: Modify the parameters on the right to precisely adjust the target color Gamut.
- Step 5 After configuration is complete, check "Enable Color Gamut Adjustment" to apply the target color Gamut, then click "Send" to transmit the configuration data to the hardware.
- Step 6 Click "Save to Hardware" to permanently store the configuration settings.

11 Multi-function Card

Operation scenario

• Configure the multi-function card for relay management and Sensor Management.

Compatible Products

 Magnimage Visionton All-in-One Series, Denon Video Wall Controller Network Output Chassis

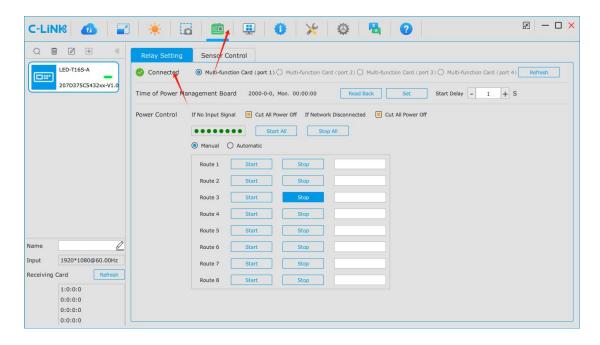
Prerequisites

• The hardware connection of the multi-function card has been completed.

Related Operations

11.1 Relay Management

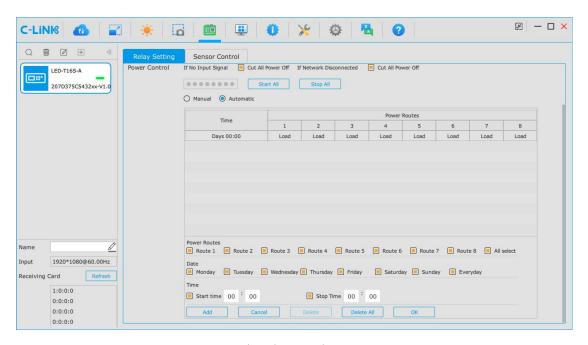
• Step 1 In the Multi-function Card" dialog, select the "Relay Settings" tab, as shown in Figure 11-1.



11-1 Multi-function card

- Step2 Click Refresh button Read the quantity and status of multi-function cards connected to each network port.
- Step 3 Click Read Back button Get the current time of the multi-function card. If the time is incorrect, click the "Set" button to synchronize the card's time with the PC.
- Step 4 Power control: Option to turn off all power when there is no signal input or when the network cable is disconnected.
- Step 5 Manual control: Manually turn on or off a specific circuit switch.

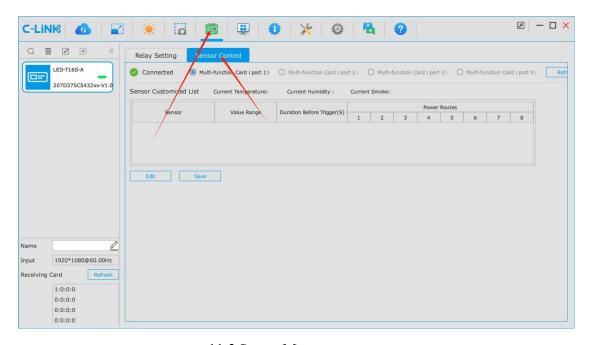
• Step 6 Timed Control Editable Time Task Edit to start or stop a certain path at a specific time Also allows deletion or editing of added time tasks As shown in Figure 11-2



11-2 Timed Control

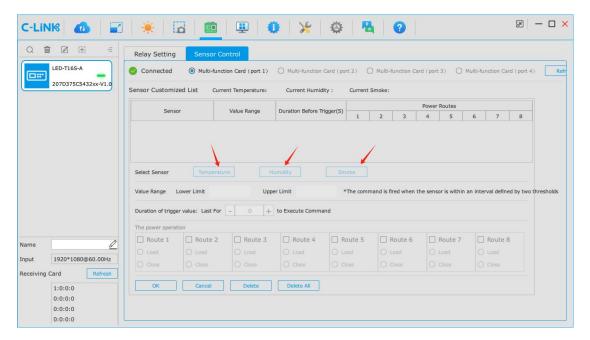
11.2 Sensor Management

• Step 1 In the "Multi-function Card" dialog, select the "Sensor Management" tab, as shown in Figure 11-3.



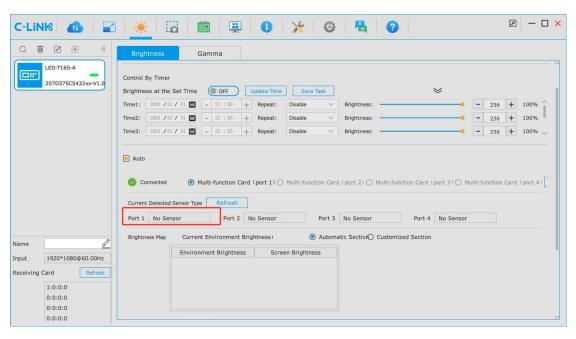
11-3 Sensor Management

- Step 2 Click the Refresh button to read the quantity and status of each Ethernet port connected to the multi-function card.
- Step 3 Click the Edit button, as shown in Figure 11-4.



11-4 Sensor Management

- Step 4 Select the corresponding sensor (e.g., a temperature sensor) and configure its trigger values. For example: choose the temperature sensor, set the lower limit to X degrees and the upper limit to Y degrees; when the sensor detects that the current temperature falls within the X-Y range, the command will be triggered.
- Step 5 Configure the brightness sensor (click the Brightness option → Auto Adjust),
 as shown in Figure 11-5.



11-5 Auto Brightness

• Step 6 Configure the brightness sensor: Click Quick Segmentation, set the upper limit, lower limit, and number of segments. After configuration, click Confirm to enable automatic brightness adjustment, as shown in Figure 11-6.



11-6 Auto Brightness

12 Function

Operation scenario

• For testing the receiving card's image display, no-input detection, and other functions to troubleshoot input or combo-related abnormalities.

Applicable Products

Magnimage full series receiving cards

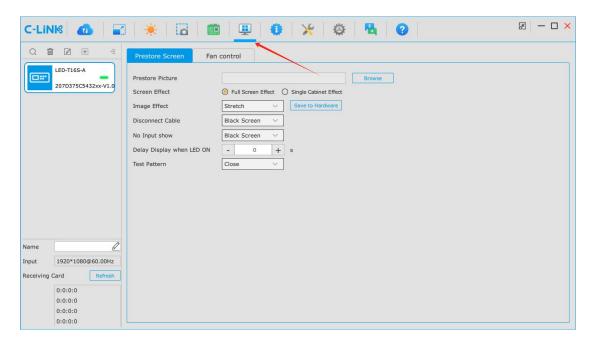
Prerequisites

 Before using this function, complete the receiving card parameter configuration. Fan control requires a customized program.

Related Operations

12.1 Disconnect Display

• Step 1 In the "Functions" dialog, select the "Disconnect Display" tab, as shown in Figure 12-1



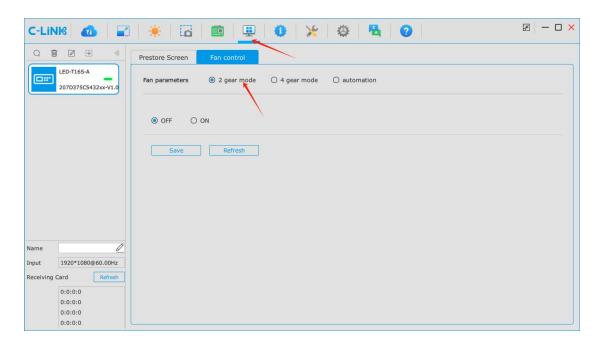
12-1 Disconnect Display

- Step 2 Select the desired function.
- 2.1 Preset Image: Click Browse to locate and select the desired image.
- 2.2 Screen Effect: Optional modes include Single-Box Effect or Full-Screen Effect.
- 2.3 Image Effect: Options include Center, Tile, or Stretch.

- 2.4 Display When Network Disconnected: Controls the screen behavior when the receiving card is unplugged. Options: Black Screen / Standby Image (pre-saved) / Last Frame.
- 2.5 When there is no input signal, it displays: Used to show the effect when the sending device has no signal or when the input signal is disconnected in a 2-in-1 device. Options include black screen\standby image\last frame (the standby image is a pre-stored picture).
- 2.6 Power-on delay display for LED: Used to address inconsistent startup times when the LED screen is powered on.
- 2.7 Test Pattern: Equivalent to the test button on the receiving card, used to diagnose input signal abnormalities or grayscale output issues from the graphics card.

12.2 Fan Control (Requires Custom Firmware)

• Step 1 In the "Functions" dialog, select the "Fan Control" tab, as shown in Figure 12-2.



12-2

• Step 2 Provides three-speed control. Click Send to adjust the fan speed on the chassis.

13 Hardware Information

13.1 Hardware Information

• Step 1: In the "Hardware Information" dialog, select the "Hardware Information" tab (As shown in Figure 13-1).

"Sending Card Information": View the FPGA and MCU program versions of the sending card.

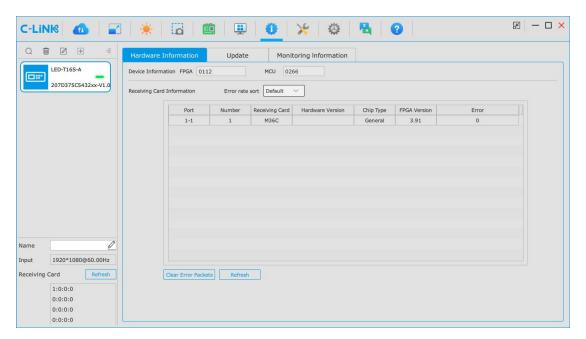
"Bit Error Rate Sorting": Default (Sorted by network port order by default); Ascending (From low to high bit error rate); Descending (From high to low bit error rate)

"Cable Detection": Enable error packet detection.

"Hardware Info Table": Receiver card version, chip type, latency, error packets, total packets.

"Clear Error Packets": Reset error packet count to 0.

"Refresh": Update the content of the hardware info table.

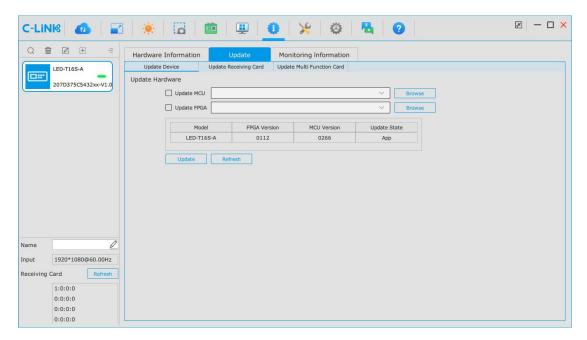


13-1

13.2 Sending Card Upgrade

- Step 1 In the "Hardware Information" dialog, select the "Factory Settings / Sending Card Upgrade" tab (Refer to Figure 13-2).
- Step 2 Choose"FPGA "and"MCU".

- Step 3"Browse" the sending card FPGA and MCU upgrade file, then click "Open".
- Step 4 Click "Upgrade" to confirm.
- Step 5 Reboot sending card



13-2 Sending Card Upgrade

13.3 Receiving Card Upgrade

• Step 1 In the "Hardware Information" dialog, select the "Factory Settings / Receiver Card Firmware Update" tab (Refer to Figure 13-3).

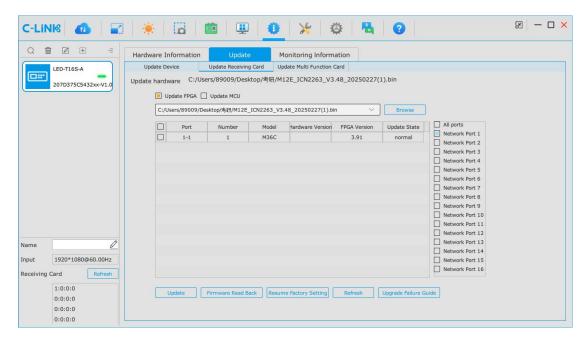
"Firmware Readback": Read back the receiving card's FPGA firmware.

"Restore Factory Settings": Revert to the original FPGA firmware version pre-installed at the factory.

"Refresh": Update the receiving card list information.

- Step 2 Check "FPGA".
- Step 3 Browse" the receiving card FPGA upgrade directory folder, then click "Open".
- Step 4 Click to select "Network Port" or an individual receiver card.
- Step 5 "Click 'Upgrade' to confirm."

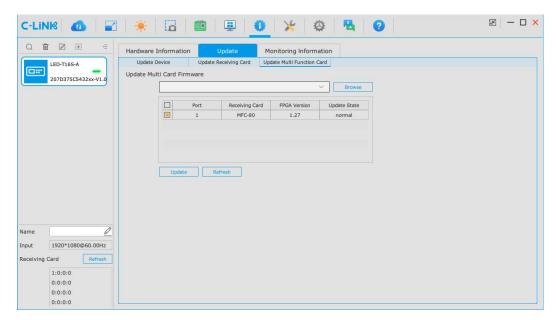
• Step 6 "Power-cycle the receiving card".



13-3 Update Receiving card

13.4 Multi-function Card Upgrade

- Step 1 In the "Hardware Information" dialog, select the "Multi-function Card Upgrade" tab (Refer to Figure 13-4).
- Step 2 Select Network Port
- Step 3 "Browse" to locate the corresponding multi-function card firmware, then click "Open".
- Step 4 "Click 'Upgrade' to confirm."
- Step 5 Reboot Multi-function card.



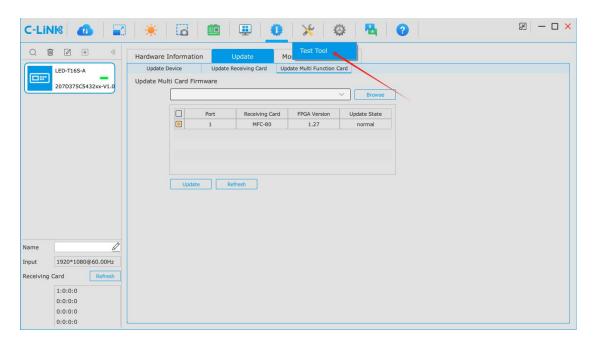
13-4 Update Multi-function card

14 Tools

Related Operations

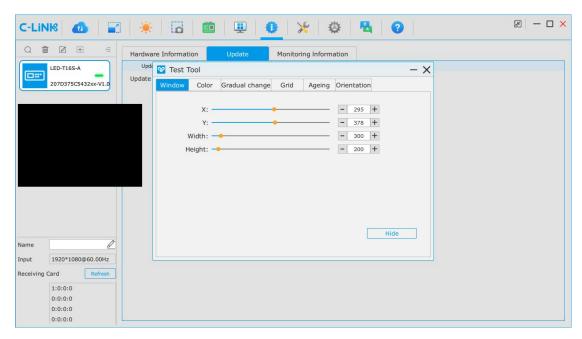
14.1 Test Tools

• Step 1 In the "Tools" dialog, select the "Test Tools" tab (Refer to Figure 14-1).



14-1 Testing Tools

• Step 2 "After launching the test tool, the interface will appear as shown in Figure 14-2."



14-2 Testing Tools

• Step 3 "Configurable test parameters include window size, color settings, etc."

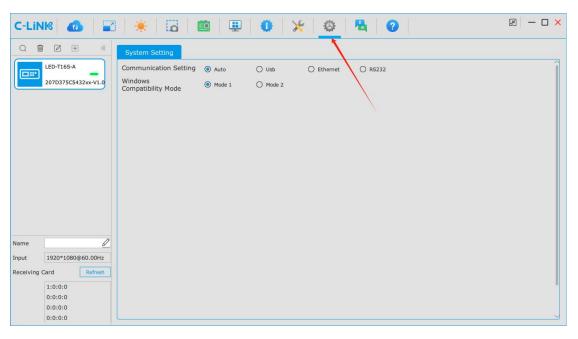
15 Settings

Operation scenario

 This is used to modify the connection method between CLINK and Magnimage Vision's two-in-one device, as well as the compatibility mode between CLINK and the Windows system.

Related Operations

• Step 1 Open the CLINK software, click the "Settings" tab as shown in Figure 15-1.



15-1

- Step 2 Automatic: The Clink software automatically detects the connection. USB:
 USB communication only (Network & RS232 unavailable). Network: IP
 communication only (USB & RS232 unavailable). RS232: RS232 communication
 only (Network & USB unavailable).
- Step 3 Used for software crashes or system incompatibility. Supports Mode 1 and Mode 2 switching—the software will restart automatically after switching.

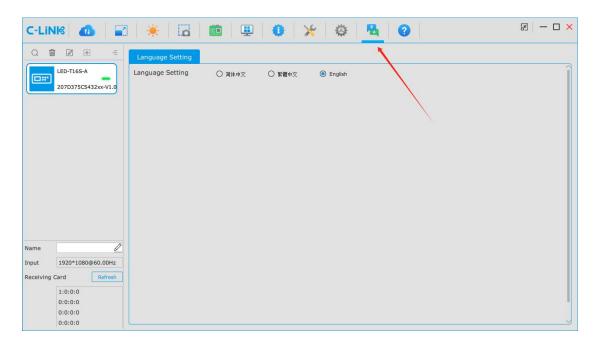
16 Language

Operation Scenario

 Support switching between Chinese, English, and Traditional Chinese for overseas markets and compatriots in Hong Kong, Macau, and Taiwan, facilitating technical personnel debugging, spamming, and other operations.

Related Operations

• Step 1 Open the CLINK software, click on the "Language" tab, as shown in Figure 16-1.



16-1

• Step 2 Click on the desired language to switch (e.g., from Chinese to English). After clicking, the software will restart automatically. Upon reopening, CLINK's language will be set to English.

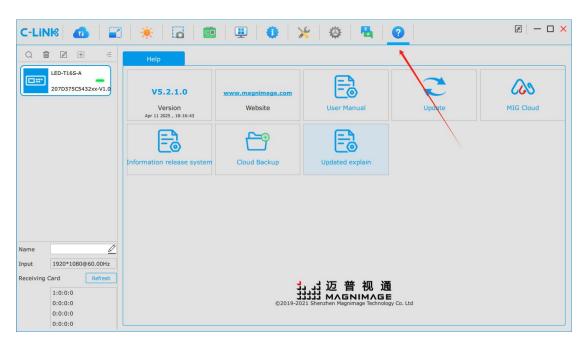
17 Help

Operation Scenario

• For viewing the Clink version, Clink documentation, accessing the official website, Clink update notes, and other related help information.

Related Operations

• Step 1 Open the CLINK software and click the "Help" tab, as shown in Figure 17-1.



17-1

- Step 2 You can access all related functions directly on this page after opening.
- "Version": Vs.2.1.0

 Version Current version: V5.2.1.0
- "Website": Click to visit the Magnimage Vision official Chinese website for downloading specifications and host software for various products.
- "User Manual": Click to jump to the User Manual PDF document
- "Update Online": Click "Online Update" to download the latest CLINK host software version (e.g., v4.3.8.0). The system will automatically retrieve the most recent available version.

- "Magnimage Cloud": Click "Magnimage Cloud" to access the Maipu Cloud Information Management Platform, where you can manage Yc-series boxes.
- "Information Release": For connecting to the cloud publishing box.
- "Cloud Backup": Click "Cloud Backup", log in with your account information, and you can upload the cabinet configuration files along with other parameter files.
- "Update notes": Record the update logs related to the CLINK software, such as adding support for a certain series of ICs in this version, optimizing advanced multi-screen connectivity, etc. All such details will be documented.

400-6868-203

Shenzhen Magnimage Technology Co., Ltd.



Address:801, Bld. G2, TCL International E City,#1001 Zhongshan Park Road, Nanshan, Shenzhen, China, 518052Tel: 0755-86647651 Fax: 0755-86647650

Website: www.magnimage.com