NovaLCT

V5.7.1

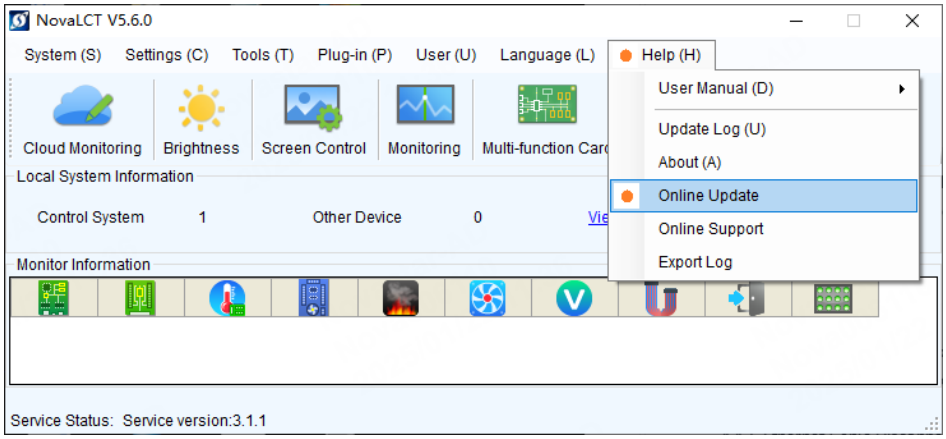
Release Notes

Contents

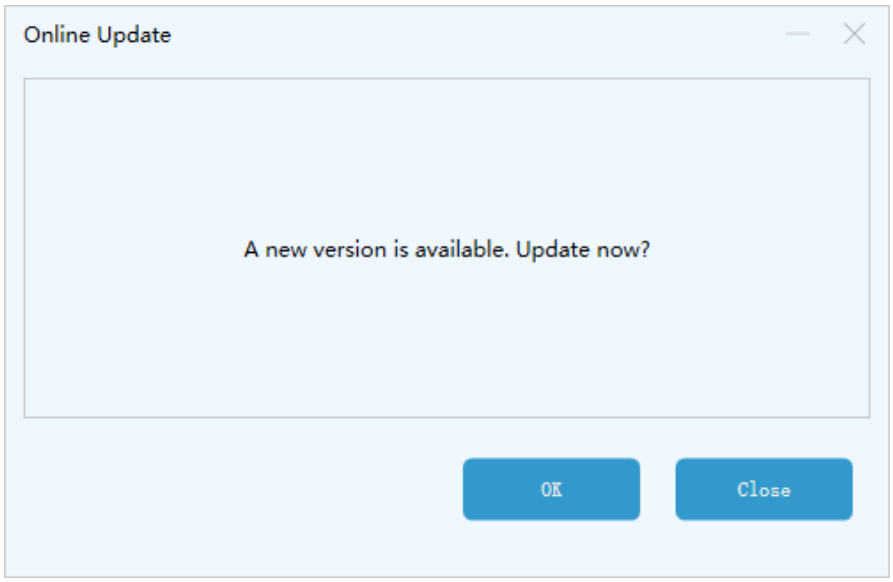
1 Update Instructions

1.1 Online Upgrade

Step 1 From the menu bar, choose **Help** > **Online Update**.



Step 2 Confirm the update.



1.2 Local Update

Step 1 Visit the "Downloads" page on the NovaStar website and download the NovaLCT V5.7.1 installation package.

Step 2 Double-click to run the package and proceed with the installation.

2 Key Features

2.1 Image Booster Upgrade

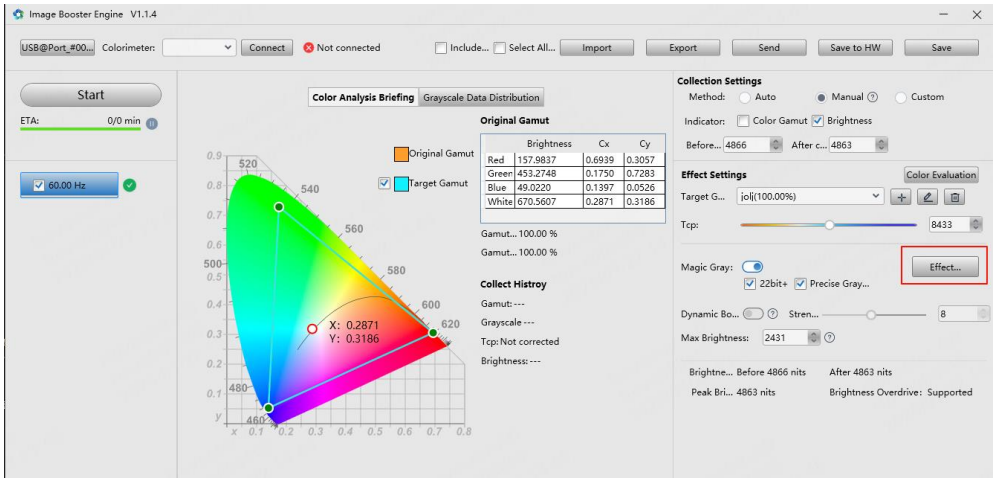
- Added adjustable parameters for Magic Gray.

Reason for Change

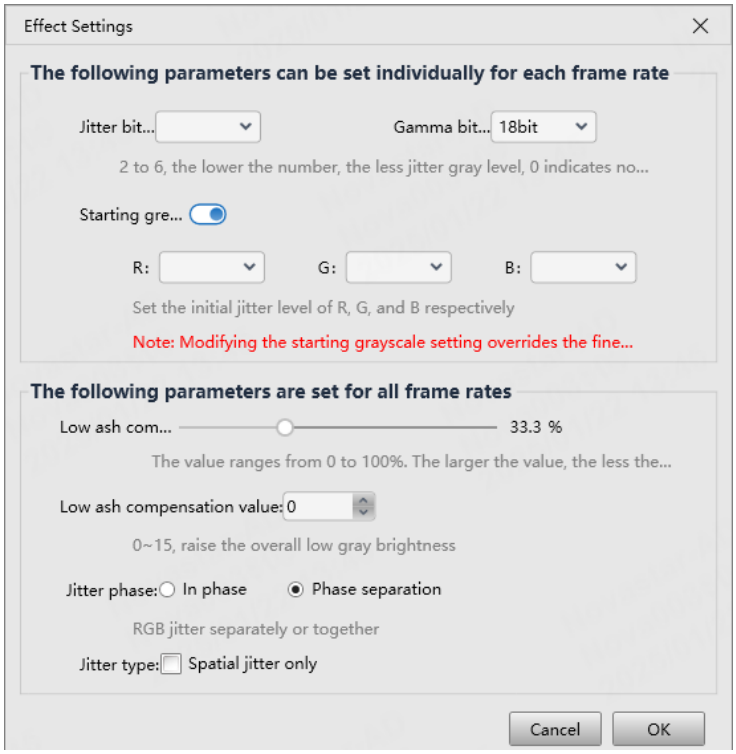
- Allows the Magic Gray jitter effect to be adjusted for better compatibility with various display scenarios.
- Supported by A10s Pro receiving card V1.4.3.0 and later.

Function

- Starting from NovaLCT V5.7.1, you can access the **Effect Settings** within the **Image Booster** interface.



- Click the **Effect Settings** button to access the corresponding interface.



Jitter bit width (gamma bit depth): Controls the range of low-grayscale jitter, adjustable between 2 and 6 grayscale levels. Users can set this based on their specific needs.

Starting grayscale: Set the starting jitter grayscale level for R, G, and B separately.

Low-grayscale slope coef: Controls the slope of the low-grayscale section of the gamma curve. A higher value results in fewer gray shades in the low-grayscale section and reduced jitter.

Low-grayscale compensation: Raises the overall low-grayscale section to bypass problematic initial grayscale levels.

Jitter phase: Option to jitter R, G, B separately or together.

Jitter type: Enable spatial jitter only.

2.2 Newly Supported Devices

No.	Device Model
1	MCTRL700 Pro
2	TU40 Pro
3	T16 Pro
4	TB10 Plus
5	TB20 Plus
6	TCC160
7	TU4K Pro
8	TV4
9	KT20
10	VX2000 Pro

3 Newly Supported Chips

No.	Manufacturer	Model
1	ICN	ICND7001
2	MBI	MBI5756
3		MBS7752
4	CFD	CFD955C

5		CFD455J
6	LS	LS9932
7		LS9952
8	SM	SM16399
9		SM16269S
10		SM16386SH
11		SM16269SW
12		SM16189SC
13		SM16510SC
14	FM	FM6565E
15		FM6373C
16	LYD	LYD2200

4 New Features

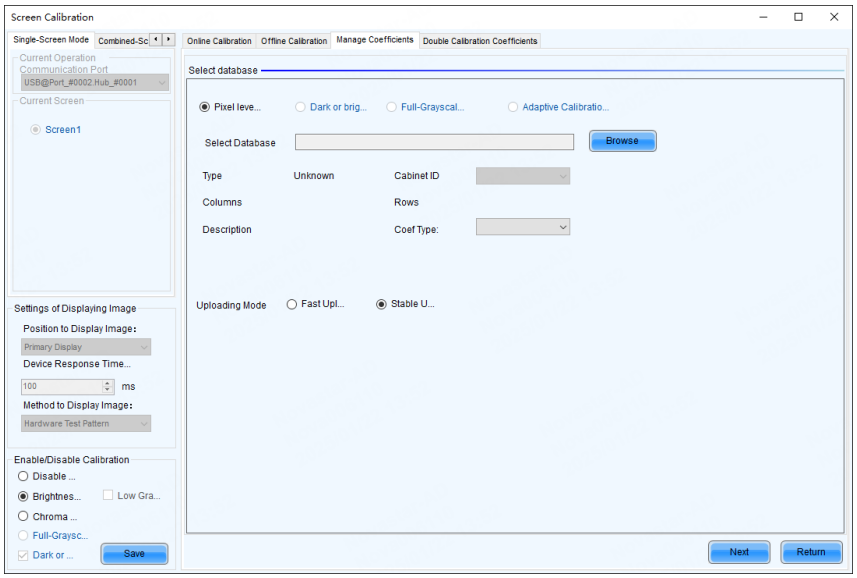
4.1 Calibration

4.1.1 Calibration Process Acceleration

Reason for Change

- Enhance the efficiency of the calibration database parsing to speed up the entire calibration process.
- Compatible with the CC3 V3.2.0 and later.

Function



- When uploading coefficients, both accelerated and non-accelerated database formats are supported.
- During coefficient readback, it is saved by default in the accelerated format.
- Databases in the new format cannot be loaded with older versions of NovaLCT. You'll need to use the data format conversion tool to convert them for compatibility.

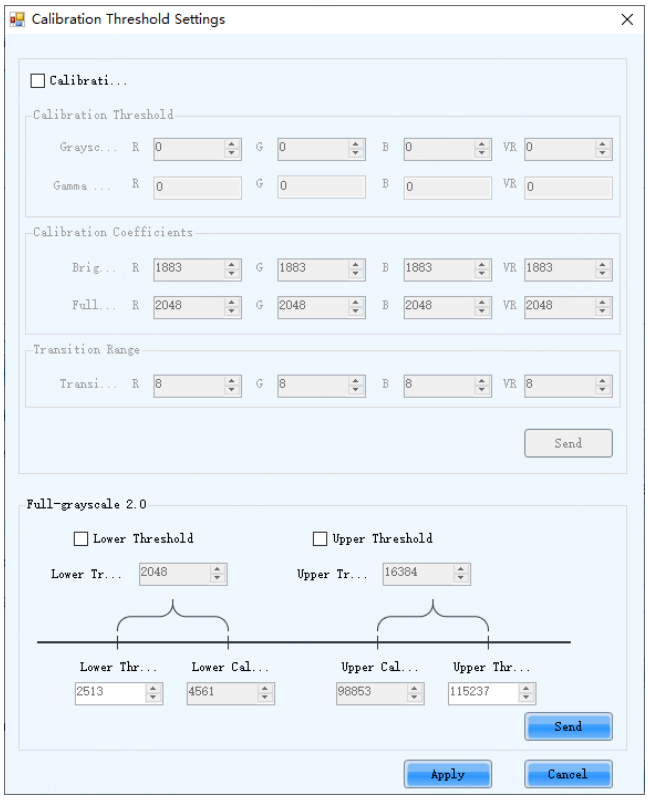
4.1.2 Support for Full-grayscale Calibration 2.0

Reason for Change

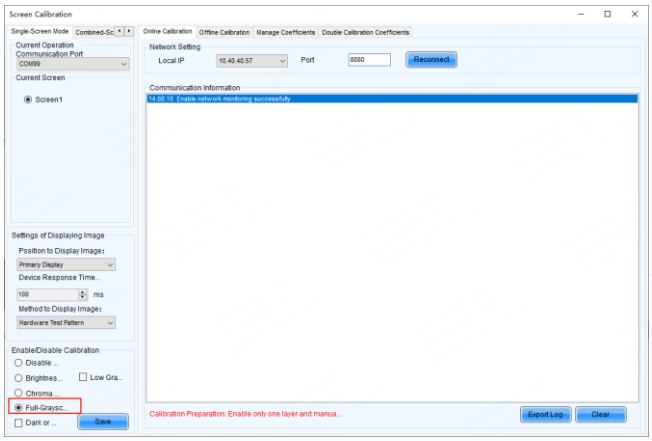
- Supports full-grayscale 2.0, allowing for the optimal calibration policy based on the LED screen's performance.

Function

- Online calibration now supports full-grayscale calibration 2.0 and works alongside the CC3 to complete the process.
- Coefficient upload, readback, and erase operations all support full-grayscale calibration 2.0.
- Calibration threshold settings allow you to independently enable or disable the upper and lower thresholds. It also lets you set the transition range for effects below the lowest and above the highest calibration grayscale levels.



- Full-grayscale calibration 2.0



4.1.3 Coefficient Upload Support for Combined Screens

Reason for Change

- Coefficient uploads are no longer limited to a single screen.
- Support uploading calibration coefficients for large screens in a single batch.

Function

- When uploading coefficients, users can select combined screens to upload all calibration coefficients at once.

4.2 Display Effect Adjustment

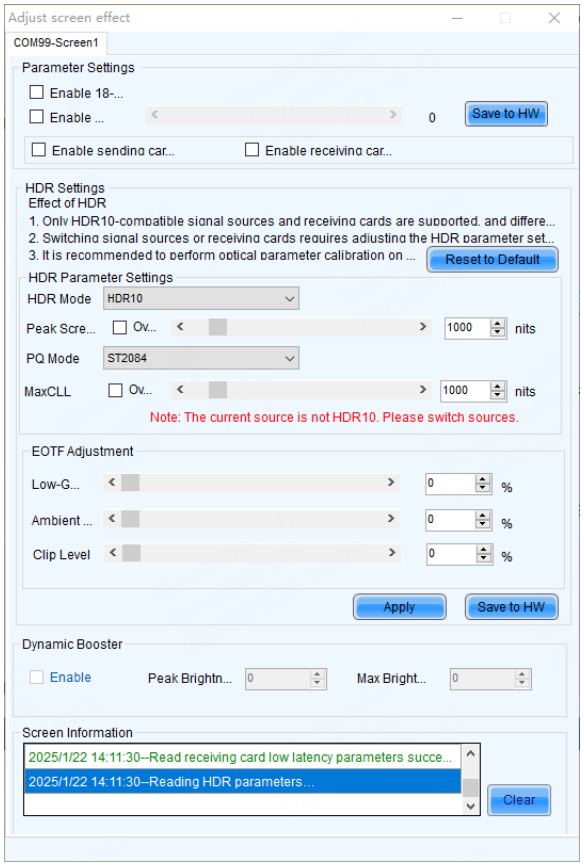
4.2.1 Support for New HDR Algorithm

Reason for Change

- Introduces support for a new HDR algorithm to accommodate user-adjustable HDR settings.

Function

- In the **Adjust Screen Effect** interface, where the visibility of the HDR settings is determined by system features.
- HDR adjustments are divided into two sections: HDR parameters and EOTF adjustments.



- HDR parameters: Users can configure HDR mode, override peak brightness values, set PQ mode, and override max content light level (MaxCLL).
- EOTF adjustment: Allows for adjustments in low-grayscale compensation, ambient light compensation, and chip level adjustment in HDR mode.

4.2.2 Dynamic Booster

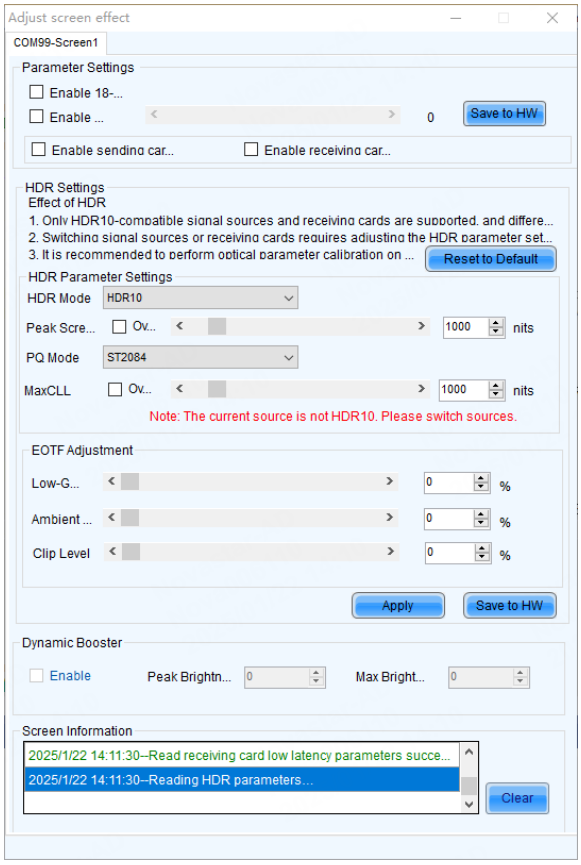
Reason for Change

- Enhances display contrast by dynamically adjusting based on the content being displayed.

Function

- In the **Adjust Screen Effect** interface, where the visibility of the **Dynamic Booster** settings is determined by system features.

- Parameters in the interface: Enabling it turns on the dynamic booster feature, with peak brightness and maximum brightness reflecting parameters pre-stored in the NCP.



4.3 Screen Configuration

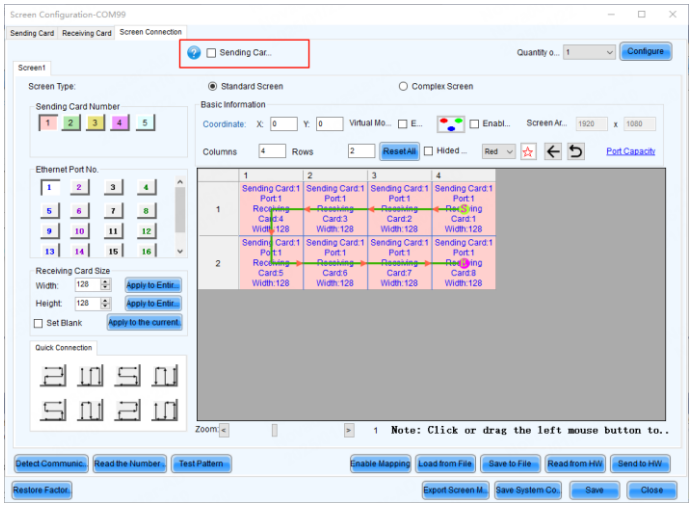
4.3.1 Screen Configuration Optimization

Reason for Change

- When connecting to a TCC160 device, users can now select a pure sending card mode.
- Automatically adapts to device resolution when connecting to asynchronous devices, simplifying user operations.

Function

- The function visibility depends on the sending card feature list.



- When sending screen configuration data, it automatically sets the device source resolution according to the current screen's resolution, simplifying the user's task.

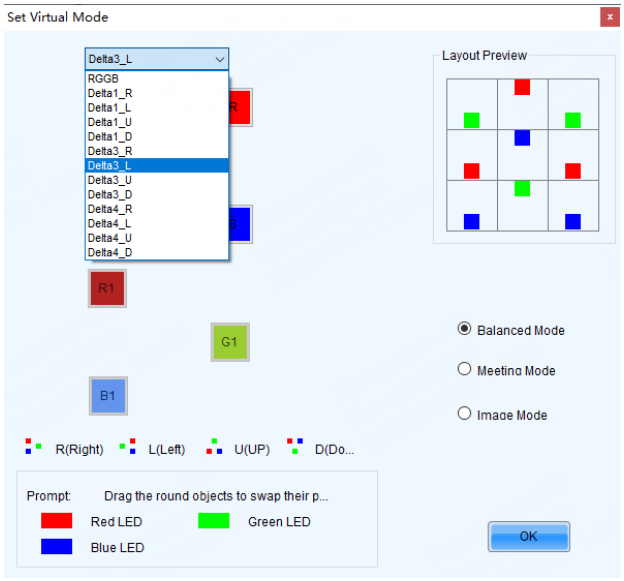
4.3.2 Virtual/Real Pixel Interface Optimization

Reason for Change

- Supports the latest virtual pixel arrangements with configurations for three, four, six, and eight LEDs.

Function

- The function can be accessed based on system capabilities.



- Users can select modes and adjust pixel arrangement order according to actual requirements.
- Offers three effect modes: **Balanced**, **Meeting**, and **Image**.
- Balanced mode: Default mode suitable for various display content.
- Image mode: Ideal for viewing pictures or videos, offering vibrant visuals that appeal to the human eye.

- Meeting mode: Designed for displaying documents where there is a stark contrast between foreground and background, preventing eye strain.

4.4 Bit Error Detection

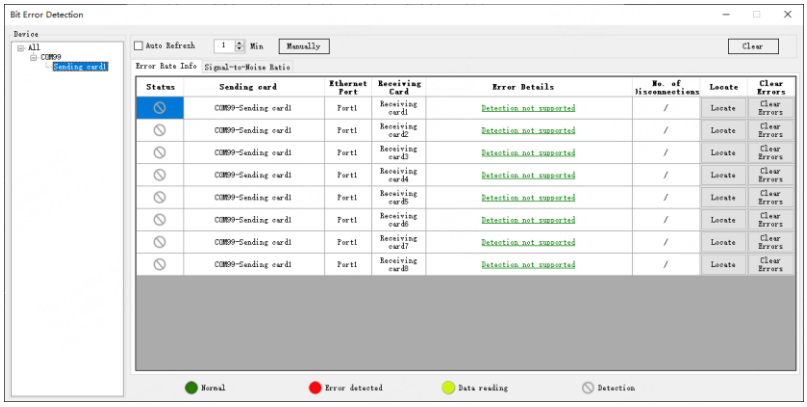
4.4.1 Ethernet Cable Disconnection Count

Reason for Change

- Supports detection of Ethernet cable disconnection counts to assess and troubleshoot system stability.
- Supported by receiving card A10s Pro V1.4.3.0 and later.

Function

- Access through **Tools** > **More** > **Bit Error Detection**. Visibility is based on system capabilities.



- If the system supports it, the count of Ethernet cable disconnections will be displayed upon refreshing.

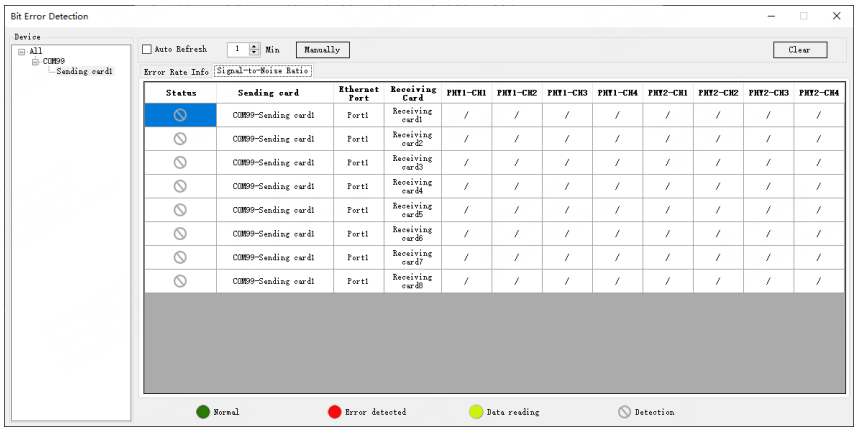
4.4.2 Signal-to-Noise Ratio Information

Reason for Change

- Supports detection of the signal-to-noise ratio of the PHY chip in the receiving card's Ethernet port to evaluate system stability.
- Supported by receiving card A10s Pro V1.4.3.0 and later.

Function

- Access through **Tools** > **More** > **Bit Error Detection**. Visibility is based on system capabilities.



- Offers both manual and automatic refreshing options, with the values shown within the software after refreshing.

4.5 Brightness

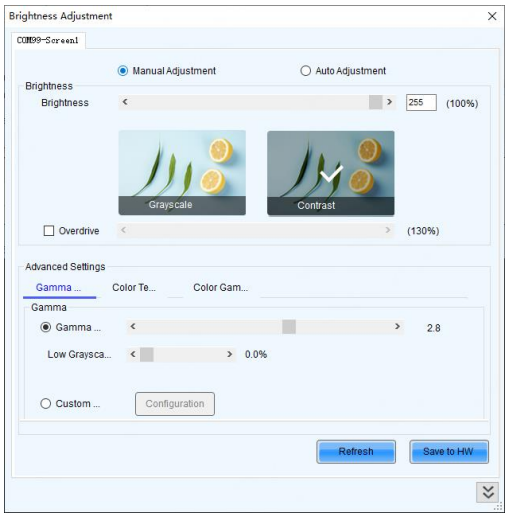
4.5.1 Brightness Overdrive

Reason for Change

- Increases peak screen brightness to accommodate a wider range of user scenarios.
- Supported by receiving card A10s Pro V1.3.0.0 and later.

Function

- Accessed via the main interface under **Brightness**. An NCP file is required for this feature.



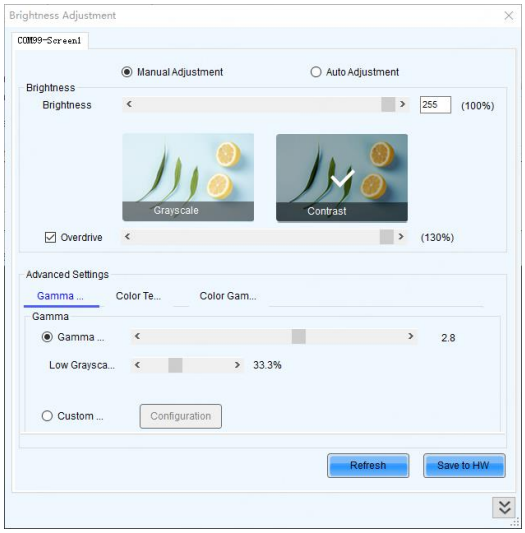
- When enabled, the brightness slider automatically sets to 100%, and the overdrive brightness slider becomes adjustable.
- The screen may sacrifice some uniformity in exchange for maximum brightness enhancement.
- Adjusting the brightness slider will automatically disable the brightness overdrive feature.

4.5.2 Gamma Optimization

Reason for Change

- Enhances the low-grayscale display performance of the Shixin chip.

Function



- Implements the latest gamma algorithm to support Shixin chip features, improving low-grayscale display quality.

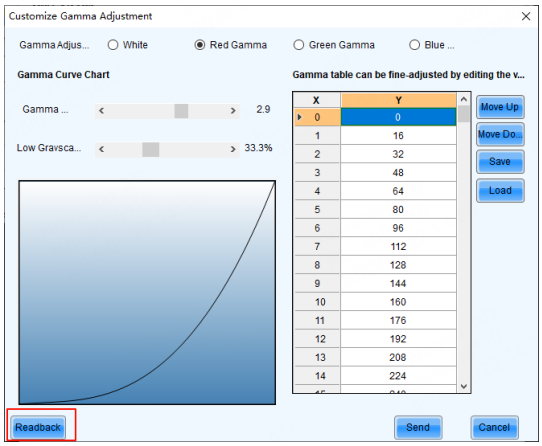
4.5.3 Custom Gamma

Reason for Change

- Allows for the reading and displaying of the gamma table.

Function

- The custom gamma interface now includes a button to read back the gamma table.



4.6 Demonstration Mode

4.6.1 Device Selection Support

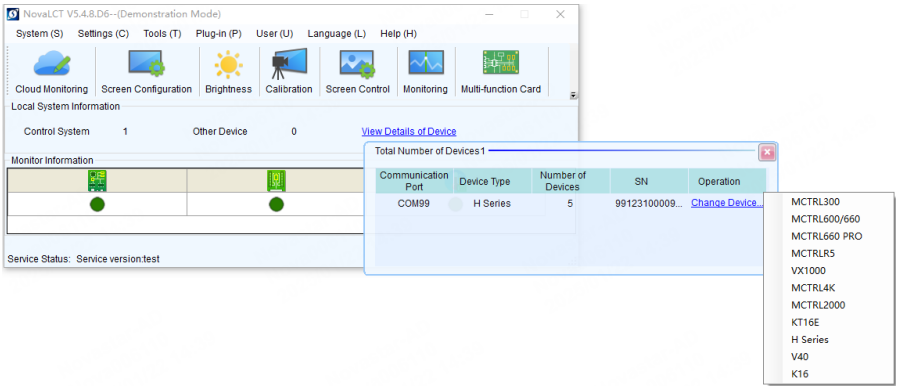
Reason for Change

- Allows for screen configuration in offline mode, enabling users to import pre-made configuration files during on-site implementation.

- Users can select different device types for screen configuration, with the H series as the default.

Function

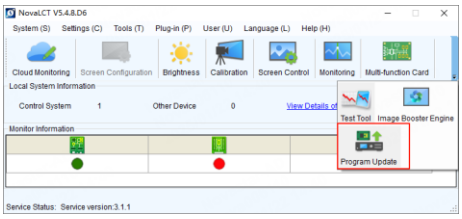
- Access via **Login** > **Demonstration Mode** > **View Details of Device** > **Change Device Type**.

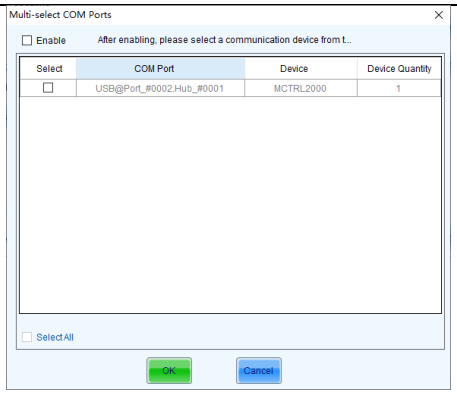
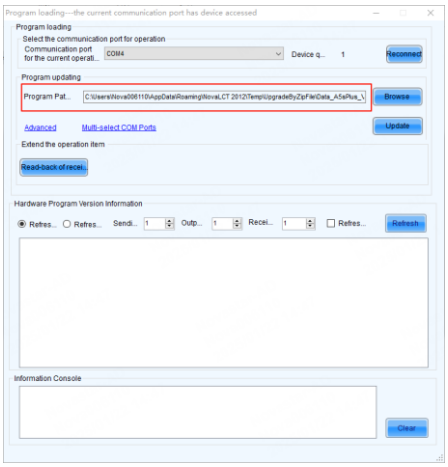


- Supported device types include: MCTRL300, MCTRL660, MCTRL660 Pro, MCTRL R5, VX1000, MCTRL4K, MCTRL2000, KT16E, H series, V40, and K16.
- Once a device is selected, the software will remember the choice upon restart.
- The number of Ethernet ports in the configuration interface will be displayed according to the capabilities of the selected device.

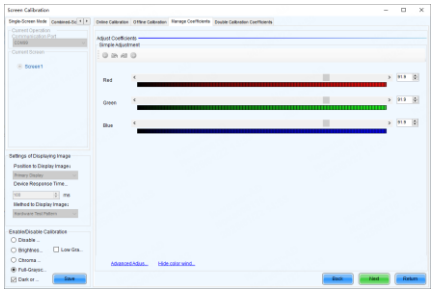
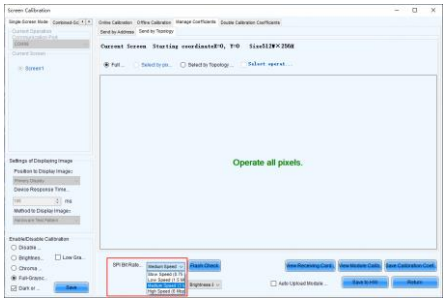
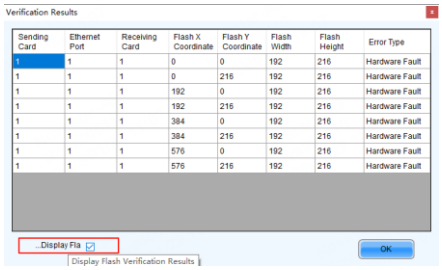
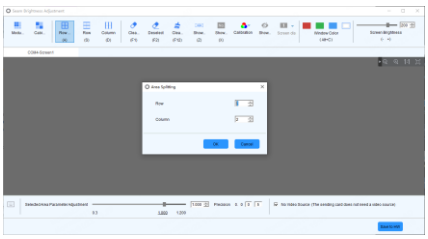
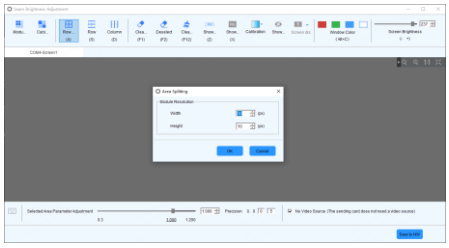
5 Improvements

5.1 Program Update

Changes	Before	After
Function Access	Access was only possible through the secret code 666888.	Now accessible via both an interface icon and the secret code. 
Multi-select Communication Ports	Only one communication port could be selected for updates. With multiple IPs, each had to be selected separately.	Supports selecting multiple ports for updates simultaneously.

		
Load from PC	After loading a program, the interface closure did not retain the last loaded.	Saves the state of the loaded program before closing. 
Receiving Card Program Readback	Readback files from the receiving card were saved in a folder.	Now saves the readback as a zip file.

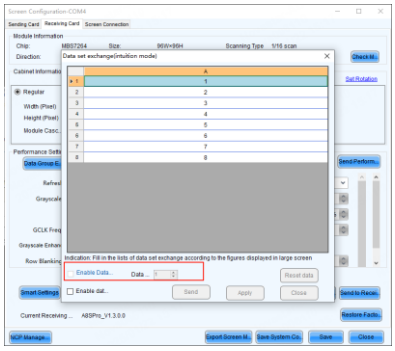
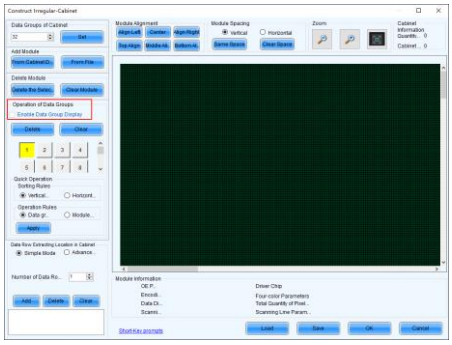
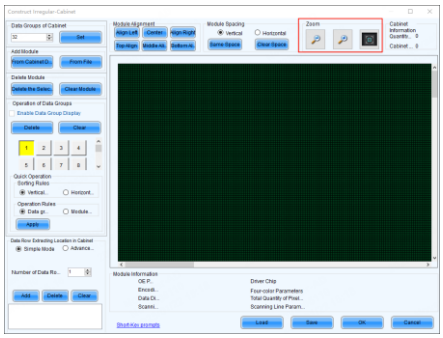
5.2 Calibration

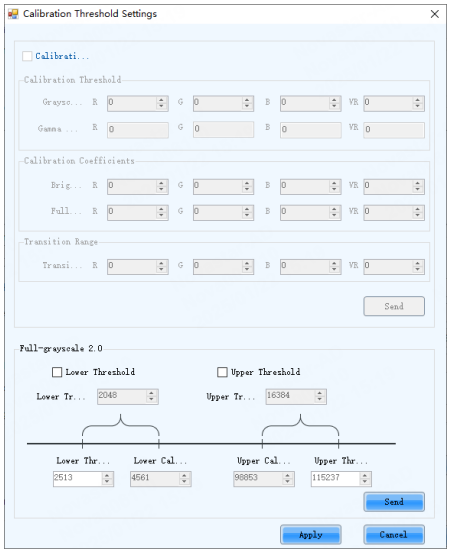
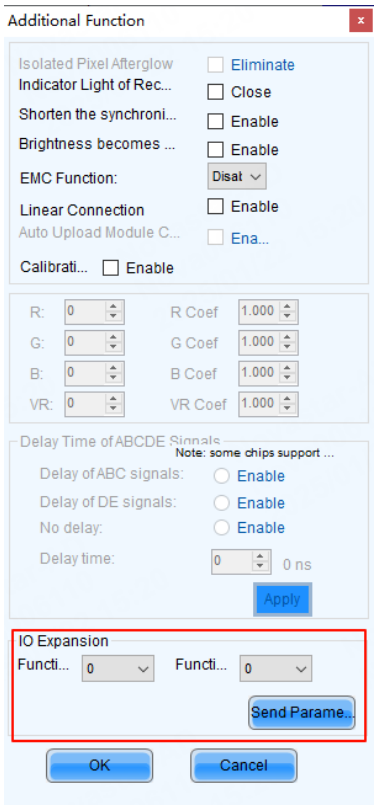
Changes	Before	After
Coefficient Adjustment	Brightness and full-grayscale coefficient adjustments were slow when entering the interface and dragging the sliders.	Improved speed for both entering the adjustment interface and moving the sliders. 
Module Flash	SPI speed settings were labeled 1, 2, 3, 4, which were unclear in meaning.	Now displays speed and corresponding values for clarity. 
	The software showed flash verification results but couldn't pinpoint the faulty module quickly.	Added a **Display Flash Verification Results** feature that, when enabled, shows malfunctioning modules in bright white. 
Seam Correction	There were no prompts, making it unclear whether adjustments referred to rows, columns, or resolution. 	Displays prompts indicating that adjustments pertain to module resolution. 

5.3 Brightness

Changes	Before	After
Brightness Adjustment Speed	Brightness adjustments had a slow response time.	Improved the speed of brightness adjustments for quicker responsiveness.

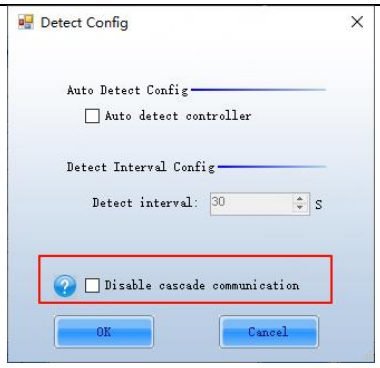
5.4 Screen Configuration - Receiving Card

Changes	Before	After
Data Group Exchange	Requires software and a connected device source to display data groups on the screen.	Allows data group display to be completed through the receiving card alone. 
Irregular Cabinet Configuration - Data Group Display		When configuring irregular cabinets, a new data group display feature has been added. Once enabled, selecting a data group will highlight the corresponding section on the screen, aiding in proper data group input. 
Irregular Cabinet Configuration - Zoom Function	The minimum zoom level was 1:2.	Modified the minimum zoom ratio to allow scaling down to 1:1 pixel on a computer, with an added one-click option to minimize. 

More Settings - Calibration Threshold		Introduced new calibration threshold settings. 
IO Extension Functionality		Added IO extension functionality, which can be displayed through configuration as an extra feature. 

5.5 Discover Device

Changes	Before	After
Device Discover Speed	With 91 units of MCTRL4K connected via Ethernet ports, discovery took 1 minute and 51 seconds.	After enabling the option, discovery time is reduced to 14 seconds.

		 Note: This feature is disabled for the H series and MCTRL700 Pro.

6 Bug Fixes

Item	Description	Note
Configure Screen	Fixed occasional screen configuration data loss.	
Demonstration Mode	Fixed the issue that there is no screen configuration data upon first entering demo mode.	
	Fixed issues with exporting RCFGX files when modifying registers in demo mode.	
Monitoring	Fixed the issue of irregular cabinet topology data being abnormal when uploaded to the cloud.	
Program Update	Fixed the error when loading program packages while the software is in English settings.	
Calibration	Fixed abnormal upload of calibration coefficients when mixing daughter cards in H-series devices.	
Installation	Fixed occasional installation error messages.	

7 Important Notes

- If you notice brightness differences on the screen when loading configuration files for the ICND2165, ICND1069, and ICND2055S chips, you can manually adjust the current gain to fix it.
- For the DP3264, DP3265, DP3269, DP3265I, DP3356, DP3368, SM16389, and SM16389SF chips, if you experience a gamma overexposure issue when loading configuration files, you can resolve it by selecting the Active Low Gamma Mode option in the extended properties menu.

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