

User's Manual

LED Display Control System M3

Rev 4.4.1 NS110100029

Statement

Dear users:

Welcome to use M3 LED Display control system. We are pleased to offer this manual to help you understand and use the product. In the preparation of the manual, we try to make it accurate and reliable, yet Nova does not assume any responsibility for the accuracy of information in the manual. Nova may revise and alter the contents of the manual at any time without notice. If you have any problems in the use, or you have any suggestions, please inform us in accordance with the contact provided in this manual. For the problems you encounter in the use, we will do our best to provide support. For your suggestions, we would like to express our thanks and make assessment as soon as possible for adoption.

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1 Introduction to NovaLCT-Mars

Nova M3 series LED screen control system, taking the software NovaLCT-Mars as operating platform, cooperating with sending card and receiving card, monitoring card and multi-function card, realizes smart setting, brightness control, power control, LED error detection, screen calibration and hardware monitoring of LED screen, so the user can easily control all the key information of the screen in front of a computer to perfectly reveal your screen at any time. Nova M3 series control system has the important performances as follows:

- High grey scale and high refresh rate: universal chip, with high grey scale, high refresh rate and high performance;
- Point-by-point chroma correction: correct color of every lamp, eliminate chroma difference among batches of LEDs ;
- Comprehensive status monitoring: supervising work status, temperature, humidity, smog, supply voltage of switch, fan rotating speed and single lamp open and short circuit of every cabinet ;
- Infinite area load: unique cascade and synchronization technology, and huge stable and reliable load without black out, jitter or stutter;
- Perfect anomalous type support: arbitrary cabling, arbitrary point extraction, arbitrary point insertion, anomalous plate, anomalous cabinet, anomalous screen and easy load;
- Low grey scale with richness and smoothness: first-class build-up of luminance, and grey scale of 16bit, which makes the image of the screen fine and smooth;
- Green, energy saving, and environmental protection: low voltage, low power consumption, low radiation, and easily passing EMI/EMC;

- Overall chip supported: support TI, Toshiba, MBI, SITI, ENE, MY, Ri yue cheng, Microblock and \geqslant other series of products, and supportTLC59282, TLC5929, TLC5944, DM13A, DM13H, P2510, SUM2016, SUM2017, MBI5020/5024/5034/5035/5042/5050/5152, SUM2032, MY9221/9262, RT5924, 16158, 5122, 5929, 5266, 5166and other IC;
- \triangleright

.e.

1.1 Configuration list

Product name	Type/Version No.	Functions	Remarks
NovaLCT-Mars	V4.4.1	Operating platform	Standard configuration
	MSD300		Selectable
	/ MSD600		
Sending board	/MCTRL300	Transmitting data	
Sending board	/MCTRL500	Transmitting data	
	/MCTRL600		
	MCTRL610		$\sim 0^{10}$
	MRV200/MRV210		Standard configuration
	MRV220/MRV300/	Being connected with the	
Receiving card	MRV320/MRV330	screen to deliver control	
	MRV340/MRV350	information to the screen	
	MRV360/MRV365		
	MON300	Monitoring the status of	Selectable
Monitoring card	JA	the hardware	
	MFN300	Monitoring temperature,	Selectable
Multifunctional		humidity and the light	
card		inditionally and the light	
		sensor	
	Photoelectric		Selectable
	converter	Remote transmission	
Accessories	Light sensor	Detecting environmental	
		brightness	

1.2 System architecture

The system is under two situations: with sending board or no sending board; when it has no sending board, the computer is directly connected with the receiver card through the Ethernet cable.



Fig.1-2 Diagram of system architecture with no Sending Board

2 Working environment requirements

In order to guarantee stability and safety during system operation process, the working environment is provided with the following advices:

Hardware environment

Client (minimum configuration requirement): Celeron 1Gabove, and internal storage of 256M or

above.

Software environment

Client operating system: Win2000 PRO, 98, XP, win7 etc.

Network environment

The screen shall be connected with internet to perform on-line correction.

3 Installation of NovaLCT-Mars

The installation of NovaLCT-Mars is the same as other common software applications. One thing need to be mentioned is that if the installation process is blocked by any anti-virus or firewall application, please select the option that allows the installation operation to do what it needs to do. Because what is blocked is usually the installation or update operation of the serial ports driver.

4 Main Interface of NovaLCT-Mars

After running NovaLCT-Mars, Click "User" \rightarrow "Advanced Login", the User login window will

appears shown in Fig.4-1.

🖳 User Login	-	×
Passw		
Login	Cancel	

Fig. 4-1 Advanced Login

Input the initial password "admin" for first , and then enter the NovaLCT-Mars main interface for

advanced users. Shown in Fig.4-2.

The main interface does not display monitoring data.

MovaLCT-Mars V4.4.1			
System(S) Settings (C)	Tools(T) Plug-in (P) User	(U) Language(L) Help(H)	
i 🗖 🤅	i 📭 🖸		
Screen Configuration Brigh	tness Calibration Screen	Control Monitoring Multi-fu	nction Card Cloud Monitoring
- Local System Information			
Control System 1	Other Device	Unknown <u>View Deta</u>	ils of Device
Monitor Information			
la l			
	•		
			·
Service Status: Service version	:3.0		:

Fig. 4-2 The main interface for advanced users

4.1 Update password

User can modify the code after login, as shown in the following figure:

0 NovaLCT-Mars V4.4.				1	-	- • ×
System(S) Settings	(C) Tool:	s(T) Plug-in (P)	User(U)	Language(L)	Help(H)	
			Chai	nge Password(U)		
Q	्रम्		Logo	ut(E)		
Screen Configuration	Brightnes	s Calibration	Screen Cont	rol Monitoring	Multi-function Card	Cloud Monitoring
-Local System Informatio	n					
Control System	1	Other Dev	ice	Jnknown <u>V</u>	/iew Details of Device	
Monitor Information						
i de la companya de l						
•		•		۲	r.U	
Service Status: Service v	ersion:3.0					.:
	Chi	ange PassWord	1		×	
		inge i assiriore				
		Original Passw	vord			
				×		
		New Passw	/ord			
		Confirm Paceu	ord			
		Committe assw				
		OF OF		Cancel		
		Fig.	4-3 Updat	e Password		

4.2 Main Menu

System

Reconnect

This is used to reconnecting the NovaLCT-Mars to the LED display control system.

- Setting
 - Screen Config

Only accessible by advanced users. This is used for configuration of the LED display control system. Details about this operation will be given in a later part of this manual.

• Brightness

This is used for adjusting the LED display brightness. There are two ways for brightness adjustment, automatic brightness and manual brightness. Details about brightness adjustment will be given in a later part of this manual.

• Multi-function Card

This is used to open the page for multifunction card configuration. Details will be given in a later part of this manual.

• Multiple Screen Management

Only accessible by advanced users. This is used to open the page for combination display configuration. It makes the management of brightness control and monitoring of multiple LED displays easier when these LED displays are combined together. Details will be given in a later part of this manual.

• Hardware Information

This is used to check the information about the current LED display control system.

Prestore Screen

Enter the restore screen, booting screen and no signal (including the disconnected network cable and no DVI signal) screen settings can be conducted.

• Advanced color configuration

Factory Setting (current gain, RGB brightness).

Configuration color space (original color space , target color space).

Color temperature table.

• My NovaiCare

Register the display screen to the user in NovaiCare.

• Module Flash

View correction coefficients of the receiving card and module;

Save correction coefficients in the receiving card and module;

Test whether Flash is normal .

• Receiving card relay

Set parameters for the receiving card relay;

Reset the time of the receiving card.

- Configure information management(M)---Import/Export config.
- Set initial position---Set the initial coordinates.
- Tools
 - Calibration

Only accessible by advanced users. Select this item to open the calibration page. Details about calibration will be given in a later part of this manual.

- Screen Control
 - > Black out--- Show nothing on the LED display.
 - > Lock --- Always show the current image frame of the LED display.
 - **Run** --- Switch the LED display back to normal from Kill or Lock.
 - > Self Test --- show the test images generated by the receiver card for LED displays aging

test or error detecting.

• Monitor

This is used to open the page for system monitoring. Details will be given in a later part of this manual.

• Led Error Detection

This is used to open the page for Led Error Detection (LED lights open/short circuit status checking).

• Multi-batch adjustment

Adjust the brightness of the display according to the batches of cabinet.

• Controller Cabinet Configuration File import

Add/Delete configuration files;

Modify file name ;

Save the configuration file in controller.

• Quickly Adjust Dark or Bright lines

Adjust dark or bright lines caused by box splicing, and recovery for cabinet.

• Video control

Input setting, output setting and stitching management of video processor.

- Plug-in Tool
 - **Test Tool** --- To open the page which all test tools (test content) for LED displays testing are in.
 - **Calculator** --- A shortcut to the calculator application of Microsoft Windows. Click on this item will open the Microsoft Windows calculator.
 - **External Program** ---a shortcut to add frequently used programs.

User

- Advanced Login---This is for user login. The initial password for advanced users is admin, after login, user can update the password.
- Enter Demonstration mode--- The password is "admin", and user can experience a part of the function of LCT without connection to the hardware.

■ Language

This is used to switch the language of the NovaLCT-Mars application. Languages available now

have ten languages.

Help

- User Documents---User Manual.
- Updating log---The description of function upgrading.
- **About** --- To check the version information about the NovaLCT-Mars application.

4.3 Tool Bar



Screen Configuration --- the same as **Tools**->**Screen Config** in the main menu.



Brightness --- the same as **Tools->Brightness** in the main menu.



Calibration --- the same as **Tools**->**Calibration** in the main menu.



Screen Control --- the same as **Tools**->**Display Control** in the main menu.



Monitor --- the same as **Tools**->**Monitor** in the main menu.



Multi-function Card --- the same as **Tools**->Function Card in the main menu.



Cloud Monitoring --- Register the display screen to the user in NovaiCare.

5 Main Functions of NovaLCT-Mars

When in the mode with no sending board, the control system software will have no sending board operation page, all the parameter setting related to the sending board shall be omitted, and other operations are the same as having sending board.

5.1 Start the LED Displays

5.1.1 Start with System Configuration Files

The advantage of using system configuration files to configure LED displays is that the configuration procedure is very simple and easy, and no manual configuration operation is required.

To configure a LED display with system configuration files, click **Screen Config** button from the tool bar or select **Tools**->**Screen Config** from the main menu of the NovaLCT-Mars application main interface to open the Screen Config window. Shown in Fig.5-1 is the Screen Config window.

🖳 Screen Config	
-Select communication	port
Current operation	сом5 🗸
	COM5 Realtek PCIe GBE Family Controller
Confia Screen	
Load Config File	Browse
	Next Close

Fig. 5-1 The Screen Config window

Step 1: Set the Current Operation Communication Port

This is the port that connects the sending board (controller) to be configured to the control computer. If only one serial port of the computer is used to connect the LED display control system, the used serial port will be automatically set as the current serial port. Otherwise, if multiple serial ports are used to connect control systems to the computer (one serial port for one control system), the serial port that is used to connect the control system which is to be configured should be set as the current serial port.

If it's the mode with no sending board, please set the corresponding network port.

Step 2: Load system configuration file

Select **Load Config File** option, use **Browse** button to select the system configuration file to be loaded and then click **Next**. The selected configuration file will be automatically loaded to the LED display system. The LED display system will have been configured when the load operation is finished. Note :

The loaded performance parameters from the configuration file can be adjusted if they are not suitable. Please refer to <u>5.1.4 Adjust the Performance Parameters</u> for details about how to adjust the performance parameters.

5.1.2 Start Manually

5.1.2.1 Smart Setting

Step 1

Ø

Select Config Screen option in the Screen Config window (Fig.5-1), and click Next to open the

window for manual configuration of the LED displays. The window is as shown in Fig.5-2.

🖳 Screen Con	nfig-COM4				x
Sending Board	Scan Board Screer	Connection			
Display Mode Current Dis Sending Resolutio	e splay Mode Board on: 928 x 600	Graphics ou resolution:	tput 1440 x 900	Refresh	
-Set the sen Resolutio Refresh F	nding board display on: <u>640 × 480 p</u> Rate: 50	mode × V Ci Hz	ustom: 928	× 600 ×	
Set 3D: Hot Backup Set the cur	Config Setting rrent device: Se	t Master Device	Set Slave Device	Device	
	master De	ATCG	DIAVE	D01100	
Ma	master De aster Sending Board Index	Master Port Index	Slave Sending Board Index	Slave Port Index	
Ma	Master De aster Sending Board Index	Master Port Index	Slave Sending Board Index	Slave Port Index	
Ma E Refrest	Master De aster Sending Board Index	Master Port Index	Slave Sending Board Index	Slave Port Index Edit Delete	
HDMI Cards	Master De aster Sending Board Index h Send s Settings lect	Master Port Index	Slave Sending Board Index	Slave Port Index Edit Delete	
HDMI Cards	Master De Ister Sending Board Index h Send : Settings lect Input Selection:	Master Port Index	Slave Sending Board Index	Slave Port Index Edit Delete	
HDMI Cards Auto Sel Video I Bit Of I	Master De aster Sending Board Index h Send : Settings lect Input Selection:	Master Port Index Master Port Index	Slave Sending Board Index Add	Slave Port Index Edit Delete Resresh	

Fig. 5-2 The Screen Config window for manual configuration of the LED displays

	Note :
	Make sure the resolutions of the sending board (also named sending board) and the
and a	computer video card are the same, otherwise the LED display may not be able to
er.	work normally. Reset the video card resolution or change that of the sending board if
	their resolutions are not the same. Refer to 5.1.5 Adjust the Resolution and Refresh Rate for
	details about how to change the sending board resolution.

> Step 2

Switch to the Scan Board page and click Smart Setting button to open the Smart Setting dialog.

mart Setting		×
Note:		
(1).Option 1, click 'N	ext' to begin smart setting!	
(2).Option 2 or 3, loa	d module information to softwa	ire.
Option 1:Smart settir	g	··0
💿 Option 2: Load modu	le from file	
File Path:		Browse
💿 Option 3: Load modu	le from database)`
Cabinet Databa		Browse
Selected Module:		Select Module
	View Module Next	Close

Fig. 5-3 The Smart Setting dialog

Select Option 1: Smart setting and click Next to activate smart setting wizard. The Smart

Setting Step 1 window will appear, as shown in Fig.5-4.

Smart Setting Step 1			
Chip Type:			
Data Type:	Concurrent		•
Chip Type:	MBI5036		•
OE Polarity:	Unknown		-
Module Info			
Module Type:		Regular Module	🔘 Irregular Module
Chip Count of each co	olor in one dat	1	
Actual Pixel:		x: 32	y: 16
Data Group:		Unknown	
Decoding Type:		74HC138 Decoding	
Scan Type:		📄 Over 16 Scans	1/2 scan 👻
Module in one receivir	ng card:	Cols: 3 🚔	Rows: 2
Module Cascade Type(From The Front)		
🔘 Left To Right 🧃	Right To Left	🔘 Up To Down	💿 Down To Up
Receiving Card Work M	ode		J
Hub Mode: 🛛 💿 I	Normal 💿 20) Groups 🛛 🔘 24	Groups 💿 28 Groups
Ghost Control Signal F	°olarity: ⊚ ⊢	ligh	© Low
			Next Cancel

Fig. 5-4 Smart Setting Step 1

Chip Type

Select the driver chip type from the list according to what is actually used for the cabinets.

OE Polarity

This option can be **High Effective**, **Low Effective** or **Unknown**.

Module type

The option can be regular module or irregular module. If it is set to be irregular module, the

counts of driver chips for one data set and one color should be given.

Actual Pixel

This is the size of the real pixel array of a module. X represents the width and Y the height.

Decoding type

The options can be Static, 74HC138 Code , Decode595 , LXY695x , Straight Decoding.

Scan Type

The options could be any scan rate between 1 scan and 16 scan or **unknown**.

Rows and columns of the Module in one scan board (also named receiver card)

This is the size of the module array in the cabinet which is being configured by smart setting.

Module Cascade Type

Select the corresponding option according to the module connection routing. Note that the cabinet should be observed from the front when considering the cascade direction.

Working Mode of Receiving Card

- Hub mode: Select the Hub mode of the receiving card, which could be divided into normal,
 20 group, 24 group and 28 group.
- > Afterglow control signal polarity: the polarity of the signal shall be selected according to

the design of the afterglow circuit.

Note :

2)

1) If the module array size is set as the default (1 column, 1 row), the modules in the first rows of the module arrays of all cabinets will be lightened (LED lights on).

Or if the module array size is set as the real numbers, the last module of each first

row of the module arrays of all cabinets will be lightened (LED lights on).

> Step 3

Click Next on the Smart Setting Step 1 window to access Smart Setting Step 2. Shown in

Fig.5-5 is the Smart Setting Step 2 window. Select **All Black** or **Has Contents** according to the module status.

Current Module is:		
💿 Black	◯ Showing	

Fig. 5-5 Smart Setting Step 2



Note :

This step will be skipped if module polarity is known and set in Step 1.

> Step 4

Click **Next** on the **Smart Setting Step 2** window to access **Smart Setting Step 3**. Shown in Fig.5-6 is the Smart Setting Step 3 window.

Select the color for each module statuses (**1**, **2**, **3** and **4**). For example, if the module shows green in statuses 2, choose **Green** in the corresponding com box. The software will switch the module statuses automatically if **Auto switch status** is selected. Select **Manual switch status** to switch the module statuses manually.

Aut	o switch status 🛛 🔿 Manual switch statu	2
ease	choose the module color in each status:	
) 1	Red A	~
) 2	Green	~
) 3	Blue	~
) 4	Red B Or Black	~

> Step 5

Click Next on the Smart Setting Step 3 window to access Smart Setting Step 4. Shown in

Fig.5-7 is the Smart Setting Step 4 window.

Enter the number of LED light rows that are on in a module.

the modu	rows(or les:	corumns) in
8	\$	Row
	C	

Fig. 5-7 Smart Setting Step 4

> Step 6

Click Next on the Smart Setting Step 4 window to access Smart Setting Step 5. Shown in

Fig.5-8 is the Smart Setting Step 5 window.

Enter the number of LED light columns that are on in a module.



Fig. 5-8 Smart Setting Step 5

> Step 7

Click **Next** on the **Smart Setting Step 5** window to access **Smart Setting Step 6**. Shown in Fig.5-9 is the Smart Setting Step 6 window.

Use **Auto Switch Status** or **Manual Switch Status** to switch the module status automatically or manually. And then select the option corresponding to the module statuses (**1** or **2**) under which all lights are on. If all lights are on under both statuses, then any of the two options (**1** and **2**) will be OK.

Auto Switch Status	🔘 Manual Switch State
Please look at the mod	ules.
1 2	
Thich state can ful light the current module(If both, jus choose one):	ly t 1 v
	Next

Fig. 5-9 Smart Setting Step 6

Step 8

Click Next on the Smart Setting Step 6 window to access Smart Setting Step 9. Shown in

Fig.5-10 is the Smart Setting Step 9 window.

Click the corresponding grids according to the position of the lightened lights until no light is lightened any more. A line of the lightened lights routing will be drawn at the same time. A message indicating the finish of the Smart Setting Step 9 will be shown when enough lights

have been processed.



Fig. 5-10 Smart Setting Step 9

Note :

Hold the left button of the mouse and drag, or use Tab and Enter to draw the routing line. Use Automatic button to accomplish drawing routing lines of the same pattern.

> Step 9

æ

Click **Next** on the Smart Setting Step 9 window to open the Save Module dialog which is for saving the settings set for the module through all the smart setting steps. The Save Module dialog is shown in Fig.5-11. Saving the module settings to files (module configuration files or cabinet database files)will make it easier to perform module configuration for another LED displays constructed by modules which require the same settings as the one just set (Choose Option2 or 3 in the Smart Setting dialog (Fig.5-3) in Step 2, select corresponding files and modules and smart setting is done.). Click **Finish** to finish smart setting after saving the settings. Click **Finish** directly if you don' t want to save the settings.

Save Lodule					
Note: You can save mod	lule to file or c	abinet database fo	or later using.		
Module Name:					
📀 Option 1: Save m	odule to file			26	
File Path:				Brows	e
🔘 Option 2: Save m	odule to database	e		CU	
Cabinet Database Path:			Change Dat	abase View	
		View Modul	e Save	Finish	

Fig. 5-11 The Save Module dialog

	Note :	
æg	The saved module settings can be used in Step 2 of Smart Setting to simplify smart	
	setting process.	

5.1.2.2 LED Display Configuration

Select Screen Configuration page in the Screen Config window (Fig.5-2).

If no LED display has been configured, the Screen Configuration page will be as shown in Fig.5-12.

Enter screen number (number of the LED displays to be configured) and click Config button. The

default screen configuration page (page for simple LED display configuration) will open.

The configuration information will be shown on the Screen Configuration page if a LED display

has been configured. Modify the settings and send them to hardware (by clicking Send To HW

button) if necessary.



Fig. 5-12 The Screen Configuration page with no LED display configuration information

Screen Number

This is the number of LED displays that are to be configured.

Config

This button is used to load the Screen Number to the NovaLCT-Mars application.

Read form HW

This is used for the application to read the LED display information from the hardware.

Detect Status

This is used to check whether the communication within the current LED display is good.

Read File

This is used for the application to load the LED display configuration settings from a file.

Save File

This is used to save the LED display configuration settings to a .scr file.

Send to HW

This is used to send the LED display configuration settings to the connected sending board.

Save

This is used to save the settings to a FLASH chip. The saved data won' t be lost even the hardware is powered off.

Screen Type

There are three options for the screen type, which are simple screen, standard screen and complex screen. These options will be shown at the top of each screen page on the Screen Configuration page. Choose a screen type before any configuration operation. Configurations for different type of screen will be given as follow.

> Simple Screen Configuration

The page for simple screen configuration is shown in Fig.5-13.

Screen Config-USB@Port_#0003.Hub_#0003
Sending Card Receiving Card Screen Connection
Screen N 3
Screen1 Screen2 Screen3
screen lype: I Simple Screen Standard Screen Complex Screen
Note: There is one sending card per screen. Every receiving card must have the same configuration!
Basic Information
Connection Setting
Scan Bo, Colum
Sendina#:
$\forall ertical: \bigcirc \left\lfloor \downarrow \right\rfloor \bigcirc \downarrow \left\lfloor \downarrow \right] \bigcirc \left\lfloor \downarrow \downarrow \right] \bigcirc \left\lfloor \downarrow \downarrow \right\rfloor$
Port 1 Lo (16≤x≤64, and must be integer multiples of the columns of receiving cardi)
Advanced
Detect Status Read File Save File Read from HW Send To HW
Factory Restore Save Configuratio Save Close

Fig. 5-13 Simple screen configuration page

Location

This is the upper-left corner of a rectangular area of the computer display. The rectangle area of the computer display is called mapping area. Content inside the mapping area will be shown on the LED display. The default location is (0,0), which is actually the upper-left corner of the computer display.

Virtual Mode

Specify the pixel mode of the LED display. The option could be real pixel or virtual 3 lights or virtual 4 lights.

Select the **Start** to launch the virtual mode, click **I** to enter into the setting interface of the virtual mode. Select the layout type of the lights on the top right corner of the window, and drag the mouse on the left side of the window to change the arrangement of the lights.

For example, if the Erected Triangle Interaction is selected, the changed positions are as follows:



Fig. 5-14 Positions of the virtual lights before change



Fig. 5-15 Positions of the virtual lights after change

Enable Multiple device output synchronous: Only video controller has this option, if synchronization is enabled here and sent to the hardware, the video controller will enable

"Mosaic" function, but the software is unable to read video controller' s latest configuration on "Mosaic".

3D Enable

Select this item, System will support the 3D products.

Scan Board Columns/Rows

These are the numbers of columns and rows of the scan boards (receiver cards) array of the LED display.

Scan Board Width/Height

These two parameters in the Scan Board Info panel refer to the width and height of the pixel array driven by a scan board (receiver card). They must be set the same as those set in the Scan Board page.

Sending

This parameter is used to specify the current sending board (sending Card). The sending board of the chosen index is will be set as the current sending board. And all relating settings are for this sending board.

Connecting Mode

Select the connecting mode of cable.

Port 1 Loaded

Set the number of scan boards that port 1 loaded.

Advance

If the connecting mode of each port is different, click the link to enter advance mode.

> Standard Screen Configuration

The page for standard screen configuration is shown in Fig.5-16.

Screen Config-USB@Port_#0003.Hub_#0003	
Sending Card Receiving Card Screen Connection	
Screen1 Screen2 Screen3	Screen N 3 – Configuratio .
Screen Type: 🔘 Simple Screen	Standard Screen
Basic Information Location: X: 0 Y: 0	Virtual Mo 🔲 Enable 🥊 📄 Enable Sync 🛛 screen area 128 🛛 🗴 128
The current network port operations Sending Card Index	Receiving Card Colum 3 Card Rows: 3 ResetAll Hide Line
1	1 2 3 Sending Card:1 Sending Card:1 Port:1 Port:1 Port:1 Port:1 Port:1 Receiving
Port Index	Card:1 Card:2 Card:3 Width:128 Width:128 Width:128 Sending Card:1 Sending Card:1 Sending Card:1 Port:1 Port:1 Port:1
Connect to d	2 Receiving Boosiving Receiving Card:6 Card:5 Card:4 Width:128 Width:128 Width:128 Sending Card:1 Sending Card:1 Sending Card:1
Back Clear Port	Port:1 Port:1 Port:1 3 Receiving Receiving Card:7 Card:8 Card:9 Width:128 Width:128
Width: 128	J r
Height: 128	
	Note: Click or drag the left mouse button to configure
Detect Status	Read File Save File Read from HW Send To HW
Factory Restore	Save configuratio Save Close

Fig. 5-16 Standard screen configuration page

Location

This is the upper-left corner of a rectangular area of the computer display. The rectangle area of the computer display is called mapping area. Content inside the mapping area will be shown on the LED display. The default location is (0,0), which is actually the upper-left corner of the computer display.

Virtual Mode

Specify the pixel mode of the LED display. The option could be real pixel or virtual 3 lights or virtual 4 lights.

Select the **Start** to launch the virtual mode, click to enter into the setting interface of the virtual mode. Select the layout type of the lights on the top right corner of the window, and drag the mouse on the left side of the window to change the arrangement of the lights.

For example, if the Erected Triangle Interaction is selected, the changed positions are as follows:



Fig. 5-17 Positions of the virtual lights before change

YII CUAL	lode					
				Layout		
				Rectangle		
				 Erected Tr 	iangle Interaction	
				Inverted Tr	riangle Interaction	
				Preview		
					• •	
rompt Infc	Dragging roui	nd object v	vith the mouse ca	1		
	Red LED		Green LED			
	Blue LED		Virualred LED	ОК	Cancel	

Fig. 5-18 Positions of the virtual lights after change

Scan Board Columns/Rows

These are the numbers of columns and rows of the scan board (receiver card) array of the LED display. A sketch map of the scan board array will be shown in this page after these two parameters are set.

Reset All

This button is used to reset all cabinet settings and connection settings.

Sending Board Index

This parameter is used to specify the current sending board (sending board). The sending board of the chosen index is will be set as the current sending board. And all relating settings are for this sending board.

Port Index

This is to specify which Ethernet port of the current sending board will be used for data output.

Connect to deconcentrator: If the system is connected with deconcentrator, tick this option to
configure the deconcentrator internet access.

When deconcentrator is connected, tick "Connect to deconcentrator" on the software screen, and then click "Config" to popup the window for configuration of deconcentrator internet

Screen Config-USB@Port_#0003.Hub_#0003					
Sending Card Receiving Card Screen Connection					
Screen1 Screen2 Screen3			Screen N 🕃	s 🗸 Confi	iguratio
Screen Type: 💿 Simple Screen	Standard Screen	Complex {			
Basic Information Location: X: 0 Y: 0	Virtual Mo 📄 Enable	📄 🔲 Enable Sync	screen area 128	x 128	
The current network port operations Sending Card Index 1 Port Index 1 Connect to d Internet access number of deconcentrator None One Two Back Clear Port Detect Status	Internet access of decond Sending Card Index 1 Sending card internet access model: None One	entrat	tesetAll Hide Lin ard: cess of rator: Card: ard: cess of rator: Card: ard: cess of rator: Card: ard: cess of rator: Card: ard: Card: Rea	3 Sending Port: Internet a deconcer Receiving Sending Port: Internet a deconcer Receiving Models-o Sending Port: Internet a deconcer Receiving Models-o Sending Port: Internet a deconcer Receiving Models-o Sending Port: Internet a deconcer Receiving Models-o Sending Port: Sending Port: Internet a deconcer Receiving Models-o Sending Port: Internet a deconcer Receiving Models-o Sending Port: Sending Port: Internet a deconcer Receiving Models-o Sending Port: Sending Port: Internet a deconcer Receiving Models-o Sending Port: Sending Port: S	E d To HW
Factory Restore		Save co	onfiguratio	ive Clo	ose

Fig. 5-19 Configuration of deconcentrator internet access

Set the number of sending card, number of sending card internet access and the internet access

model respectively.

None: directly connect the on-load or off-load receiving card;

One split to eight: One port of sending board connect to input port of deconcentrator (port A),

and split to eight ports.

Two split to four: Two ports of sending board connect to input ports of deconcentrator(port A and port B) , and split to eight ports(each port split to four).

Example 1: Port 1 and Port 2 of sending board 1 are set as" two"; then internet access model of port 1 and port 2 of sending board 1 shall be set as " two ". After the setup is finished, it shall be like the following figure, port 1 corresponds to: A1, A2, A3 and A4; and port 2 corresponds to B1, B2, B3 and B4.

iding Board Scan Board Screen Connection						
icreen1					Screen N 1	Config
Screen Type: Simple Screen Basic Information Location: X: 0 Y: 0	Stand Vir	lard Screen Itual Mo 🔲 En	Complex Scr	een		
Operate Port Sending Board Index	Scan Boar Columns:	d 4	Scan Board 4 Rows: 4	Reset/	🔟 🛅 Hide Line	
1 2 3 4 5 6 7 8 9 1 Port Index	1	1 Sending#. Port Internet access of deconcentrator	2 Sending#: Port Internet access of deconcentrator	3 Sending#. Port Internet access of deconcentrator	4 Sending#: Port Internet access of deconcentrator	
1 2 3 4	2	Sending#: Port Internet access of deconcentrator:	Sending#: Port Internet access of deconcentrator:	Sending# Port Internet access of deconcentrator:	Sending#: Port: Internet access of deconcentrator:	F
Connect	3	Sending#: Port: Internet access of deconcentrator:	Sending#: Port Internet access of deconcentrator:	Sending#. Port Internet access of deconcentrator:	Sending#: Port: Internet access of deconcentrator:	
None One Two	• •	Sending# Port Internet access of deconcentrator	Sending#: Port Internet access of deconcentrator	Sending#. Port: Internet access of deconcentrator:	Sending#: Port Internet access of deconcentrator:	
Back Clear Port Scan Board Size Width: 128						
Detect Status			F	tead File	Save File Read from	HW Send To HW

					Screen N 1	- Config
Screen Type: Simple Screen Basic Information Location: X: O Y: O	Stand Vir	ard Screen tual Mo 🕅 En	© Complex Scr able	reen		ŀ
Operate Port Sending Board Index	Scan Boar Columns:	d 4	Scan Board Rows: 4	Reset/	Hide Line	
1 2 3 4 5 6 7 8 9 1 Port Index	1	1 Sending#: Port Internet access of deconcentrator	2 Sending#: Port Internet access of deconcentrator	3 Sending#: Port Internet access of deconcentrator	4 Sending#: Port Internet access of deconcentrator	
1 2 3 4	2	Sending#: Port Internet access of deconcentrator:	Sending#: Port Internet access of deconcentrator:	Sending#: Port Internet access of deconcentrator:	Sending#: Port: Internet access. of deconcentrator:	
Connect	3	Sending# Port Internet access of deconcentrator:	Sending#. Port Internet access of deconcentrator.	Sending#: Port Internet access of deconcentrator:	Sending# Port Internet access of deconcentrator)*^
deconcentrator None One Two A1/B1 A2/B2 A3/B3 A4/B4	J > 4	Sending#: Port Internet access of deconcentrator.	Sending#: Port Internet access of deconcentrator:	Sending#: Port Internet access of deconcentrator	Sending#: Port Internet access of deconcentrator:	
Back Clear Port Scan Board Size Width: 128			2	E		
Detect Status		X	F	Read File	Save File Read f	rom HW Send To HV

Fig. 5-20 Example 1 Configuration of internet access

Example 2: Internet access 1 of sending board 2 is set as "one ", and port 2 is directly connected with scan board. The internet access model of port 1 of sending board 2 is set as "one " and the internet access model of port 2 is set as "None".

creen Type: 💿 Simple Screen Basic Information	Stand	lard Screen	Complex Sci	reen		
Location: X: 0 Y: 0	Vi	rtual Mo 🔟 En	able 🔁	I		
Operate Port Sending Board Index	Scan Boar Columns:	d 4	Scan Board Rows: 4	Reset/	📕 🗐 Hide Line	17
1 2 3 4 5		1	2	3	4	
6 7 8 9 1		Sending#: Port	Sending#: Port	Sending#: Port	Sending#: Port	
	1	Internet access	Internet access	Internet access	Internet access	
Port Index		deconcentrator:	deconcentrator:	deconcentrator:	deconcentrator:	
		Sending#:	Sending#:	Sending#:	Sending#:	
		Port:	Port	Port	Port.	
	2	of	of	of	of	
		deconcentrator:	deconcentrator:	deconcentrator.	deconcentrator;	
Config		Sending#: Port	Sending#: Port:	Sending#. Port	Sending#: Port	
Connect	3	Internet access	Internet access	Internet access	Internet access	
Internet access number of		deconcentrator.	deconcentrator:	deconcentrator	deconcentrator.	
deconcentrator		Sending#.	Sending#;	Sending#.	Sending#:	
O None O One O Two		Port.	Port	Port.	Polt: Internet access	
A1 A2 A3 A4		of	of	of	of	
A5 A6 A7 A8		deconcentrator:	deconcentrator	decoricentrator,	deconcentrator;	
	* I					
Back Clear Port						
Scan Board Size						
Width: 128						
Detect Status			F	Read File	Save File Read from	n HW Send To
tory Restore				Save Con	fig File Save	Close

Inding Board Scan Board Screen Connection					Screen N 1	Config
Screen Type: Simple Screen Basic Information Location: X: 0 Y: 0	Stand Vir	ard Screen tual Mo 🕅 En	Complex Scr	een		
Operate Port Sending Board Index	Scan Board Columns:	d 4	Scan Board Rows:	Reset/	III Hide Line	
1 2 3 4 5 6 7 8 9 1 Port Index	1	1 Sending#: Port Internet access of deconcentrator:	2 Sending#: Port Internet access of deconcentrator:	3 Sending#, Port Internet access of deconcentrator	4 Sending# Port Internet access of deconcentrator	
1 2 3 4	2	Sending#: Port: Internet access of deconcentrator:	Sending#: Port Internet access of deconcentrator:	Sending#: Port Internet access of deconcentrator:	Sending#. Port Internet access of deconcentrator	
Connect Config	3	Sending#: Port Internet access of deconcentrator:	Sending#: Port Internet access of deconcentrator:	Sending#: Port Internet access of deconcentrator	Sending# Port Internet access of deconcentrator.	
deconcentrator None One Two	▶ 4	Sending#: Port Internet access of deconcentrator:	Sending#: Port Internet access of deconcentrator	Sending# Port Internet access of deconcentrator.	Sending#: Port Internet access of deconcentrator:	
Back Clear Port Scan Board Size Width: 128			R			
Detect Status			F	Read File	Save File Read from	HW Send To HW

Fig. 5-21 Example 2 Configuration of internet access



Back

This button is used to clear all settings related to the last set sending board.

Clear Port

This button is used to clear all settings related to the current Ethernet port.

Width/Height (Scan Board Size)

These are the width and height of the pixel array of the current receiver card.

Apply to port

Click this button to set the pixel array sizes of all receiver cards connected to the current Ethernet port the same as that of the current receiver card.

Set Blank

Select this if the current position (pixel array of the current receiver card) needs to be left unset. The configuration operation is easy. First, if the deconcentrator is not connected , set the index as 1 for the receiver card (scan board) directly connected to a sending board through an Ethernet port, if the deconcentrator is connected, define the receiving card connected with the A1 internet access of the deconcentrator as the first one, and input values for other parameters. And then set the index as 2 for the receiver card which is connected to the first (index 1) receiver card and also input values for other parameter for the No.2 receiver card. Do the same configuration operation until all receiver cards are set. The configuration is completed by then. The pixel array sizes of the receiver cards can be different from each other, select and then the pixel can be changed. and can also be left unset. After configuration , click corresponding button to send the configuration information to the sending board or save it in the computer.

Note :

For different sending boards, the background colors of the grids are different.

For different Ethernet ports, the font colors are different.

The right button of the mouse can be used to clear the settings for the current sending board.

> Complex Screen Configuration

🛃 So	reen	Config-CO E 19						
Sendi	ing Board	Scan Board Sc	reen Connection					
						80	reen N	Config
	-							
Sci	reen1							
	Screen	Type: 🔘 Sim	ple Screen	Standard So	creen 💿 O	omplex Screen		
	- Scan E	Board Setting						
		Sending#	Port	Scan Bo.	Start X	Start Y	Width	Height
	Þ	1	1	3	500	0	128	128
		1	1	2	628	0	128	128
		1	1	1	756	0	128	128
		1	1	4	500	128	128	128
		1	1	5	628	128	128	128
		1	1	6	756	128	128	128
								+)
				200.5				
	Virtua	I M 📃 Enable	—	3D E		Add	Edit	Clear
				C				
	Det	lect Status		2	Read File	Save File	Read from	HW Send To HW
Fa	actory R	estore	~			Save Config File	Save	Close

The page for complex screen configuration is shown in Fig.5-20.

Fig. 5-22 Complex screen configuration page

Add

Click **Add** to access the window for receiver cards information setting, such as index of its host sending board, Ethernet output ports, mapping areas, pixel array sizes and so on. The setting will be shown in the list.

Edit

To edit the information that has been set for receiver cards.

Delete

To delete the selected receiver card from the receiver cards list.

Clear

To delete all receiver cards from the list.

5.1.3 Set the Cabinet Info

Select Scan Board page in the Screen Config window (Fig.5-2). Shown in Fig.5-23 is the Scan

Module Info Chip: Common C	Size:	32W×32H	Scan Type:	1/16 scan	
Direction: Horizontal	Decode Type:	74HC138 Decoding	Data Group:	2	>>
Cabinet Info			X		
		1			
Regular		O Irregul	ar		
Pixel Width: 90 🗸	<=96 Plea make s	sure	. ?? Heidn nd error, Please adi	t: ?? ust perfor	Please A make sure
Pixel Height: J2 V	<=256 the wi	dth eight Co	nstruct V	iew Cabinet	the width and height
module Gase High to con					
Performance Setting		9			
Group Swap More Settin	9				
Refresh Rate: 240	✓ Hz	Accelerate R 4	×	~ 0	
Gray Scale: Normal 16384	~	Grav Mode: G	rav First 🗸	~	
Data Clock: 12.5		Data Duty:		(25~75) %	
	✓ MHZ	Low Croy Co	,	(23-13) /	
Clock Phase: 3	*	Low Gray Co 1	Ŷ		
Blanking Time: 25	🗘 (=2.00us)	Gnost Contro 20	\$	(1~24)	
Line Change T 3	\$ (0~19)				
Brightness Effi 52.31%		Min OE: 24	Lns		

Fig. 5-23 The Scan Board page

Board page.

Cabinet Info

Pixel array size and module cascade direction can be set in this panel. Note that the Regular panel is for regular cabinets parameters setting and the Irregular panel is for irregular cabinets parameters setting. Shown in Fig.5-24 is the Regular Cabinet Info panel which is circled and marked as area 1 in Fig.5-23.



Fig. 5-24 The Regular Cabinet Info panel

Width/Height

These two items specify the width and height of the cabinet pixel array. Note that the two numbers circled in Fig.5-24 are the maximum values that can be set, which is also named as Maximum Width and Maximum Height.

Maximum Width

Maximum width varies with parameters of refresh rate, gray scale levels, and shift clock frequency. Normally, the higher the refresh rate is and the finer the gray scale levels are, the smaller the maximum width will be; while the higher the shift clock frequency is, the larger the maximum width can be. But as the shift clock frequency is limited by driver chips and module design, the maximum width is also limited.

Maximum Height

The Maximum Height depends on the module design.



Note

If the module cascade direction is from left to right or from right to left, then

as mentioned above, the Maximum Width depends on the parameters such as refresh rate, gray scale levels and shift clock frequency, and the Maximum Height depends on the module design.
If the module cascade direction is from top to bottom or from bottom to top, then, factors affect the Maximum Width and Height are just switched. The Maximum Height depends on the parameters such as refresh rate, gray scale levels and shift clock frequency, and the Maximum Width depends on the module design.

5.1.4 Adjust the Performance Parameters

To achieve the best performance, performance parameters should be set properly. Performance parameters setting can be through the performance setting panel.

Shown in Fig.5-25 is the Performance Setting panel which is circled and marked as area 2 in

Fig.	5-2	3.
i ig.	5 2	J.

Performance Settin	g More Setting				
Refresh Rate:	240 🗸	Hz	Accelerate R	4	1
Gray Scale:	Normal 16384 💌		Gray Mode:	Gray First 🗸	
Data Clock:	12.5 💌	MHz	Data Duty:	50	(25~75) %
Clock Phase:	3 🗸		Low Gray Co	1	
Blanking Time:	25	(=2.00us)	Ghost Contro	20	(1~24)
Line Change T	3	(0~19)			
Brightness Effi	52.31%		Min OE:	24 ns	
Smart Setting			Load File	Save File F	Read From HW Send To HW

Fig. 5-25 The Performance Setting panel

Clear Afterglow: Some of chips are supporting the functions of eliminating afterglow, and the

software defaults to be ticked.

Iodule Info					
Chip: SUM20	17 Size:	32W×32H	Scan Type:	1/16 scan	>>
Direction: Horizon	tal Decode Type:	74HC138 Decoding	Data Group:	2	
Cabinet Info					
Regular		🔘 Irregul	ar		
Pixel Width: 128	=128	Please Vidth:	: ?? Heiaht	??	Please
Pixel Height: 256		e width	na error. Please adiu	st perform	make sure the width
Module Casc Right	to Left 👻 and	d height 👻 Co	nstruct Vi	ew Cabinet	and height
Performance Setting					
Group Swap	ore Setting	Clear Afferglow			
Refresh Rate: 480	▼ H7	Accelerate R	•		
Grav Scale: Norm	al 4006 —	Cray Mode:	afrach Data First -		
Data Olaski	114030 +	Data Dutr			
Data Clock. 12.5	▼ MHz	Data Duty.		(25~75) %	
Clock Phase: 2	•	Low Gray Co 0	T I I I I I I I I I I I I I I I I I I I		
Blanking Time: 25	=2.00us)	Ghost Contro 20		(1~24)	
Line Ohenne T	(0~19)				
Line Change I 3					
Line Change I 3					
Brightness Effi 68.24	%	Min OE: 80	Jins		

Data group exchange: adjust the order of the data groups; click **Group Swap** to compare with

the original arrangement sequence of the screen.

Fig. 5-27 Data group exchange

More settings:

Symmetrical/Data Group Extension
Output Mode Symmetrical Output Three Doors Output Four Doors Output
Data Group Extension Twenty Data Grou Twenty Four Data Twenty Eight Data D signal is taken as the second way clock to
Ghost Control Signal Signal Switch: Open Close Signal Polarity: High Low
Hub Mode Normal © 20 Gourps 24 Groups © 28 Groups
Graphics Output Scan Direction Reverse Sca
OK

Fig. 5-28 More settings

Output Mode ۶

Symmetrical Output

If selected, the two 50pin output ports of a scan board will work for the left and the right half of the cabinet pixel array respectively.

- **Three doors output:** being optional, and after being selected, the loaded box will be divided into three parts from left to right.
- Four doors output: being optional, and after being selected, the loaded box will be divided into four parts from left to right.
- MOM Topology
- Fig.5-29 is the physical connection schematic diagram of Flash. According to that diagram, the sequence number of BUS is determinedly selector. Users shall consult HUB board designer for connection of the flash module to confirm the sequence number of BUS. One BUS can be cascaded with multiple modules. The MOM Topology can be set on the software according to the actual order of connection.



Fig. 5-29 Physical connection schematic diagram of Flash

As shown in Fig. 5-30, to set MOM Topology on the software, firstly set FLASH row and column

numbers, and then click anywhere on the right side of the window, select the corresponding BUS,

and based on the actual route, click the left button of the mouse or press the arrow key to set

each piece of Flash information according to the order (control size and coordinates).

Select a BUS and set Flash control size, and then click "Apply to current BUS"; the size of Flash with BUS connection will be modified as the current value.

After Flash Control Size is set, click "Reset All", and then all Flash Control Sizes will be reset as the size set currently.

MOM Physical Setting			-				
Flash Cols: 4	Flash	Rows: 4				Back	ResetAll
BUS		1	2	3	4		
1 2 3 4 5 6 7 8	1	BUS:1 Number:3 Width:52 Height:16	BUS:1 Number:2 Width:32 Height:16	BUS:1 Number:1 Width:32 Height:16	BUS:1 Number:0 Width.22 Height:16		
9 10 11 12 13 14 15 16	2	BUS:2 Number:0 Width:52 Height:16	BUS:2 Number:1 Width:32 Height:16	BUS:2 Number:2 Width:32 Height:16	BUS:2 Numbor:3 Width.2 Height:16		
17 18 19 20 21 22 23 24 25 26 27 28	3	BUS:3 Number:3 Width: 82 Height 16	BUS:3 Number:2 Width:32 Height:16	BUS:3 Number:1 Width:32 Height:16	BUS:3 Number:0 Width:32 Height:16		
29 30 31 32 Flash Control Size	• 4	Number:4 Width:32 Height:16	Number:5 Width:32 Height:16	Number:6 Width:32 Height:16	Number:7 Width:52 Height:16		
Width: 32 文 Height: 16 文							
Apply to BUS							
Start Y: 48							
Note:Click or drag let mouse button to cance!	ft mouse 1!	: button ·	to config	screen, 1	right	Submit	Cancel

Fig. 5-30 MOM Physical Setting

> Data Group Extension

• Twenty data group mode

If selected, the scan board will provide 20 sets of output data for the cabinet. This mode

and **D clock as the second road extended to 32** sets of data can't be selected at the same time.

• Twenty Four data group mode

If selected, the scan board will provide 24 sets of output data for the cabinet. This mode and **D clock as the second road extended to 32** sets of data can't be selected at the same time.

• Twenty Eight data group mode

If selected, the scan board will provide 28 sets of output data for the cabinet. This mode and **D clock as the second road extended to 32** sets of data can't be selected at the same time.

• D clock as the second road extended to 32 sets of data

If selected, the scan board will provide 32 sets of output data for the cabinet. This mode and **Twenty Data Group Mode** can't be selected at the same time.

> Ghost Control Signal

- Signal Switch : the On or Off could be selected;
- **Signal Polarity** : the polarity of the signal could be selected according to the design of the afterglow circuit;
- Hub Mode: select the Hub mode of the receiving card, which could be divided into normal,
 20 groups, 24 groups or 28 groups.
- Graphics Output: the output in the scanning direction or the output in the reverse direction could be selected.

Monitoring Card Data Line Adjustment: If the monitoring corresponding signals are

mismatched when the monitoring card HUB is connected to the receiving card, the corresponding signal of each monitoring data line can be adjusted manually.

kdj	usti	ment of ∎onitorin	g Data Line	×	
	E	Enable Adjustment of	Monitoring Data Line		
			Transfer Data Line Sign	al	
	•	Data Line 1	Red	~	
		Data Line2	Green	~	
		Data Line 3	Blue	~	
		Data Line 4	Vitual Red	*	
		0	K Cancel		
				C	

Fig. 5-31 Monitoring Card Data line Adjustment

> Additional Function : eliminate the afterglow of the insolated points, and shut down the

indicators of the receiving card, Shorten the synchronization time, Brightness slowly brighten,

and EMC Function.

Additional Function	X
Isolated Point Afterglow Indicator Light of Rec Shorten the synchroni Brightness slowly brig	 Clear Close Open Enable
EMC Function:	🔲 Enable
ОК	Cancel

Fig. 5-32 Additional Function

Refresh Rate

This is the rate that images shown on a LED display are update. The higher the refresh rate is, the

more stable the video is for watching.

Gray Scale

Normally, 256 levels of gray scale is enough for two-color LED displays, 4096 levels enough for indoor full color LED displays, and 16384 levels enough for outdoor full color LED displays. And apparently, the more levels the gray scale is divided into, the more exquisite the shown images will be.

Gray Mode

There are four options for Gray Mode, Brightness First, Refresh Rate First ,Gray Firsthand Performance balance.

Brightness First: Brightness First mode is for normal use and it has lower brightness loss.

Refresh Rate First : image refresh rate can be greatly increased, but the cost is 8% of brightness loss.

Gray First : Gray First mode will cost 50% brightness to get a better gray when display with low bright.

Performance balance : Balance between gray scale and refreshing, and promote refresh rate of low gray level.

Accelerate Rate

This parameter is used to increase the refresh rate. If N is selected, the refresh rate will be increased by N times.

Data Clock

This is the shift clock frequency. The shift clock frequency depends on the performance of driver chips and the circuit design of the modules. The higher the driver chip performance is and the better the module circuit is designed, the higher the shift clock frequency can be. A higher shift clock frequency will results in a larger pixel array, more gray levels or higher refresh rate that a receiver card can support.

Data Duty

This is the duty cycle for the shift clock. The shift clock frequency can be increased by changing this parameter. Normally, the duty cycle should be set as 50%.

Data Phase

By phase here refers to the time relation between the shift clock and the corresponding data to be shifted. This parameter can be used to eliminate the errors due to the phase, such as image dislocation and flashing pixels.

Low Gray Compensation

For driver chips that cannot respond to narrow pulse signals, the Low Gray Compensation parameter can be used to improve the image quality of low gray levels.

Blanking Time

This is the line blanking interval. This parameter can be used to weaken the decoy. Increase the value of this parameter if decoy is serious.

Ghost Control

This refers to the time to end the process for weakening decoy. It is used in conjunction with Blanking Time and Line Change Time to weaken the decoy.

Line Change Time

This parameter refers to the time to switch to the next row. It is used in conjunction with Blanking

Time to weaken the decoy of scan mode LED displays.

The steps of performance parameters adjustment are as follow.

> Step 1

Adjust the parameters in the Performance Setting panel (Fig.5-25) until the Maximum Width and Height shown in the Cabinet Info panel (Fig.5-24) are larger than the pixel array size of the cabinet. Then click the **Send To HW** button on Fig.5-23.



> Step 2

If all parameter settings are acceptable, the dialog as shown in Fig.5-33 will appear after clicking

the Send To HW button.



Fig. 5-33 The dialog for specifying receiver cards to send the parameter settings to

All Scan Boards

When this option is selected, parameter settings will be sent to all receiver cards (scan boards)

that are connected to the current serial port through the sending boards that are connected with

the current serial port.

Reset the start position of scan boards

This option is available when **All Scan Boards** is selected. When this option is checked, start positions of all relating receiver cards (receiver cards that are connected to the current serial port through the sending boards that are connected with the current serial port.) will be set as (0,0). Thus all relating receiver cards will show (on their pixel arrays) the upper left corner image of the computer display.

Specified Scan Boards

This option is for sending parameter settings to specific receiver cards. There are two ways for sending parameter settings to specific receiver cards,by address and by sketch map. Corresponding pages are shown in Fig.5-34 and Fig.5-35.

	Sending#	Port		Scan Bo.	
*	Dentering.				
Inde 1. If the f 2. If the f	x start from 1,'* the position of scan irst sending board; the position of scan irst port in the fir	•eans 'all'. board is:1-*-*,it me board is:1-1-*,it me st sending board; board is:1-1-1 it s	ans all the s ans all the s eans the firs	can boards of can boards of t scan board	

Fig. 5-34 The Send by Address page

Shown in Fig.5-34 is the Send by Address page. The Sending#, Port and Scan Bo are used to

specify the receiver cards to which the settings will be sent. Set these three parameters according

Specified S	can Boards					
end By Addre	ss Send By 1	Topolopy				
creen	Screen:1	L Locati	on:X=100), ¥=100	Size:256♥×	128H
Screenl	O Screen	O Pixe	L.	💽 Tope	logy Or List	Select Area On So
	<					>
	(1, 1)	(1, 2)	(1, 3)	(1,4)		Zoom :
	-					_
	(2,1)	(2, 2)	(2,3)	(2,4)		200

to the instructions given at the lower half of the page.

Fig. 5-35 The Send by Topology page

Shown in Fig.5-35 is the Send by Topology page. The sketch of the receiver cards layout is show in this page. Select the receive cards from the sketch. To select multiple scan boards, press the left button and drag the mouse.

> Step 3

Click Send button and the parameter settings will be sent all or the specified receiver cards.

5.1.5 Adjust the Resolution and Refresh Rate

If the resolution or refresh rate of the input DVI video is different from that saved in the sending board which the DVI video is input into, the related LED display may not be able to work normally. For example, the image shown could be zoomed in or out, overlapped, or flashing. To avoid these problems, the resolutions and refreshed rates of the input AVI video and the sending board must be the same. Following are steps to adjust the sending board resolution and refresh rate for the case that it is inconvenient to change the AVI video resolution and refresh rate.

> Step 1

Open the Sending Board page in the Screen Config window. Shown in Fig.5-36 is the Sending Board page. Adjust the parameters in the **Set the sending board display mode** panel as required.

Sending Board So	can Board Screen C	Connection		
Current Display	Mode]
Sending Board Resolution:	d 1440 x 900	Graphics output resolution:	1440 x 900	Refresh
Set the sending	board display mode			
Resolution:	1440 x 900 px	Custom:	1440 🗘 🔊	(900 💠
Refresh Rate:	60	✓ Hz		Set
L				

Fig. 5-36 The Sending Board page

Sending Board Resolution

This is the image resolution saved in the sending board.

Graphics output resolution

This is the image resolution of the output AVI video of the computer graphic card.

Refresh

Click this button to update the Sending Board Resolution and the Graphics output resolution.

Resolution

This is the resolution that is going to be set for the sending board. Select one from the drop-off list.

Refresh Rate

This is the refresh rate that is going to be set for the sending board. Select one from the drop-off

list.

Custom

Check this option to customize the sending board resolution.

Step 2

Click **Set** button in the **Set the sending board display mode** panel to send the new set resolution and refresh rate to the sending board.

> Step 3

Switch the graphic card mode from duplicate or extend to single display and then switch back. This operation is to avoid physical reconnecting DVI cable for the graphic card to update sending board info.

> Step 4

If refresh rate is changed, parameters settings on the Scan Board page must be resent. If it is not sent, the receiving card may self-adapt to the refresh rate; when the refresh rate is too high and exceeds the on-load range, the receiving card will not self-adapt to the refresh rate, then the new refresh rate must be sent to the receiving card.

If the resolution of the final DVI video is different from that of the computer which is use to configure the Mars serial LED display control system, the sending board resolution must be set as that of the final DVI video when the configuration operation is finished. If the refresh rate of the final DVI video is different from that of the computer which is use to configure the Mars serial LED display control system, the sending board refresh rate must be set as that of the final DVI video when the

configuration operation is finished. And don't forget to resend the parameters settings on the Scan Board page.

5.1.6 **3D Config**

As shown below, click "Config" to allow the 3D parameter configuration. The option will be shown when 3D sending board connect to the system.

The video modes are Side By Side, Frame Packing and Top And Button. The phase control covers

Left Eye First and Right Eye First.

Click "Send" to send the parameters to the hardware. Note: The sent parameters are only

available after the "Enable 3D" is ticked off.

Sending Board Scan Board Screen Connection
Display Mode Current Display Mode Sending Board Resolution: 928 x 600 Graphics output resolution: 1440 x 900 Refresh
Set the sending board display mode
Resolution: 640 x 480 px 🗸 Custom: 928 🐳 x 600 🐳
Refresh Rate: 50 Hz Set
Set 3D: Config Hot Backup Setting Set the current device: Set Master Device Set Slave Device
Master Device Slave Device
Master Sending Board Index Master Port Index Slave Sending Board Index Slave Port Index
Refresh Send Add Edit Delete
Refresh Send Add Edit Delete HDMI Cards Settings Auto Select Auto Se
Refresh Send Add Edit Delete HDMI Cards Settings Auto Select Video Input Selection: DVI
Refresh Send Add Edit Delete HDMI Cards Settings Image: Cards Setings Image: Cards Settings Image: C
Refresh Send HDMI Cards Settings Auto Select Video Input Selection: DVI Audio Input Selection: External Bit Of Input Source: 8 Bit Send

Configure 3D paramete	rs	x
📝 Enable 3D		
Video parameter		
Video mode:	Side by Side - Top and Button Frame Packing Side by Side	
Phase control:	✓ Left eye first 📄 Right eye first	
	Send	

Fig. 5-37 Configure 3D parameters

5.1.7 Set Hot Backup for Receiver Cards

The hot backup setting makes the connection of relating the receiver cards into a loop. In the case that some Ethernet cable within the loop is disconnected by accident, a slave device will take over the receiver cards behind the disconnection point and keep the LED display working normally.

Shown in Fig.5-38 is panel on the Sending Board page for Hot Backup Setting.

-Hot Bad	ckup Setting			
	Master De	evice	Slave D	evice
	Master Sending Board Index	Master Port Index	Slave Sending Board Index	Slave Port Index
• 1	1	1	1	4
Refre	sh Send		Add	Edit Delete

Fig. 5-38 The Hot Backup Setting panel

Master Device

Master Sending Board Index --- this is the index of the sending board which is to be set as a

master device.

Master Port Index --- this is the index of the Ethernet port of a master device (sending board)

that is used to output data.

Slave Device

Slave Sending Board Index --- this is the index of the sending board which is to be set as a slave

device.

Slave Port Index --- this is the index of the Ethernet port of a slave device (sending board) that is

used to output data.

Refresh

To update the current hot backup information.

Send

To send the hot backup settings to hardware.

New

To add a new record into the hot backup info list.

Edit

To edit a record in the hot backup info list.

Delete

To delete a record in the hot backup info list.

> Step 1

Click Add button to open the dialog for adding a hot backup record. The dialog is as shown in

Fig.5-39.

Master Sending Board Index:	1	\$ Slave Sending Board Index:	1	Ŷ
Master Port Index:	1	\$ Slave Port Index:	2	*

Fig. 5-39 The Hot Backup Setting dialog

Step 2

Enter the indexes as required and click the **Add** button on the dialog.

	1.	Only for the sending boards that are in the same cascade chain can master-slave
		hot backup relation be set.
	2.	Ethernet ports of the same sending board can also be set as hot backup of each
		other. As in Fig.5-34, the Ethernet port 2 is the hot backup of the Ethernet port 1.
	3.	Hot backup can be set between the Ethernet ports of a sending board.
al	4.	A slave device can't be set as a master device when it is the hot backup of
and		another sending board. To clear the slave status of a sending board, delete the
		record indicating it as a slave device and click Send button in the Hot Backup
		Setting panel to change the hardware settings.
	5.	The sending board that is used for LED display configuration (refer to $5.1.2.2$ LED
		Display Configuration) can't set as a slave device unless the LED display
		configuration information on it has been deleted.

> Step 3

Click **Send** button to send the hot backup settings to the hardware.

5.1.8 HDMI Settings (MSD600/MCTRL600/MCTRL610)

Audio Input S	External	~		
Video Input S	DVI	*		
Bit Of Input S	8 Bit	*	Send	Resresh

Sending cards supporting HDMI interface need to set this option.



Automatic input mode: Select "Auto Select" to enter into the automatic input mode, and the

system will automatically detect and select the corresponding port with video input.

Manual input mode:

- > Video input options: DVI input or HDMI HD input can be opted;
- > Audio Input Options: external audio or HDMI audio input can be opted;
- > The digits of input source: 8 digits or 12 digits.

After setting the above options, click on the "Send" to send the parameters to the hardware.

5.1.9 Save Settings to FLASH

Once data is saved in the FLASH chips of the hardware, the saved data won't be lost even the hardware is powered off. To save the settings to FLASH, click the **Save** button at the lower right corner of the **Screen Config** window.

Note :

Please save the settings to FLASH (click the **Save** button) after sending settings of the LED display configuration, performance parameters and hot backup to hardware.

5.1.10 Save/Load Configuration Files

There are four types of configuration files at present, the module configuration file, the receiver

card configuration file, the LED display configuration file and the system configuration file.

Module Configuration File

Saved in a module configuration file are the settings of modules. Module configuration files can be used for quick configuration of modules requiring the same kind of settings.

Receiver Card Configuration File

Saved in a receiver card configuration file are the settings of receiver cards. Receiver card configuration files can be used for quick configuration of cabinets requiring the same kind of settings.

LED Display Configuration File

Saved in a LED display configuration file are the information of how receiver cards are put together to construct a LED display. The LED display configuration files can be used for quick construction of a LED display.

System Configuration File

Saved is a system configuration file is the complete setting information of a LED display control system. it can be used to quickly recover a LED display control system from error, or to quickly start a LED display.

> Save a module configuration file

There are two ways to save a module configuration file.

The first is to save it at the last step of smart setting (please refer to 5.1.2.1 Smart Setting -> Step <u>9</u>for details). Shown in Fig.5-41 is the dialog for saving module settings to a module configuration file.

fote: You can save modu	le to file or cabinet database for later using.
Module Name:	
⊙ Option 1: Save mo	dule to file
File Path:	Browse
🔵 Option 2: Save mo	dule to database
	Change Database View

Fig. 5-41 The dialog for saving module setting to a module configuration file

The other way is to click button in the **Module Info** panel of the **Receiver Card** page. The module settings can be saved to a module configuration file through the opened dialog. Shown

in Fig.5-42 is **Module Info** panel of the **Receiver Card** page that the button is on.

nding Board	Scan Board Scre	en Connection				
Aodule Info-						
Chip:	Common C	Size:	16W×16H	Scan Type:	Static	
Direction:	Horizontal	Decode Type:	74HC138 Decodina	Data Group:	8	
Direction:	Horizontal	Size: Decode Type:	74HC138 Decodina	Data Group:		8

Fig. 5-42 The Module Info panel

> Load a module configuration file

In smart setting step 2 (Please refer to 5.1.2.1 Smart Setting -> Step 2), select Option 2: Load

module from file on the Smart Setting dialog and follow the instructions.

> Save a receiver card configuration file

To save settings to a receiver card configuration file, click the **Save File** button at the bottom of the **Scan Board** page on the **Screen Config** window and follow the instructions. Shown in Fig.5-43 is the **Scan Board** page.

💀 Screen Config	-COII19						
Sending Board Scan B	oard Screen Con	inection					
Module Info							
Chip: C	Common C	Size:	32W×32H	Scan Type:	1/16 scan	>>	
Direction: H	Iorizontal	Decode Type:	74HC138 Decod	ing Data Group:	2		
Cabinet Info							
Regular			🔘 Irre	egular]
Pixel Width:	90 🗘 <	=96 Plea	ise 🔺 Wi	dth: ?? Heiaht	: ??	Please	
Pixel Heiaht:	32 🗘 <	=256 the wi	dth	adino error. Please adiu	ust perfor	make sure	
Module Casc	Right to Left	and he	eight 🔽	Construct	ew Cabinet	and height	
Performance Setting	n		J []
Group Swap	More Setting						
Defeat Date	0.0		Accelerate R				
Refresh Rate:	240	✓ HZ		4			
Gray Scale:	Normal 16384	*	Gray Mode:	Gray First 👻			
Data Clock:	12.5	✓ MHz	Data Duty:	50 🗸	(25~75) %		
Clock Phase:	3	~	Low Gray Co	1			
Blanking Time:	25	(=2.00us)	Ghost Contro	20	(1-24)		
Line Obence T	-			20	(1~24)		
Line Change I	3	(0~19)					
D.:	50.249/		W- 05				
Brightness Effi	52.31%		MIN OE:	24 hs			
Omart Catting						Dond To LINK	_
Smart Setting			Load File	Save File		Send TO HW	
				Save Config	File Sa	ave	losé

Fig. 5-43 The Scan Board page

> Load a receiver card configuration file

To load a receiver card configuration file, click the **Load File** button at the bottom of the **Scan Board** page on the **Screen Config** window and follow the instructions.

> Save a LED display configuration file

To save settings to a LED display configuration file, click the Save File button at the bottom of the

Screen Configuration page of the Screen Config window and follow the instructions. Shown in

Fig.5-44 is the Screen Configuration page.

🖳 Screen Config-COM3			
Sending Board Scan Board Screen Connection			
		Screen N	3 🗸 Config
Screen1 Screen2 Screen3			
Screen Type: 💿 Simple Screen	Standard Screen (🖻 Complex Screen	
- Basic Information			*
Location: X: 0 Y. 0	Virtual Mode: 📃 Enab	le 📑 🔲 3D E	
The current network port operations	Scan Board Columns: 3 Ro	an Board ws: 2 Reset.	All 🔲 Hide Line
1	1 1	2 3	
	Sending#:1 S Port:1 F	Sending#:1 Sending#:1 Port:1 Port:1	
Port Index	Width:128 V Height:28 F	Vidth:128 Width:128 Height:128 Height:128	E
	Sending#:1 S Port:1 F	Sending#:1 Sending#:1 Port:1 Port:1	
Connect to d	2 Scan B04 ► 0 Width:128 V Height:128 F	Vidth:128 Vidth:128 Height:128 Height:128	
Back		C	
Scan Board Size			
Width: 128			
Height: 128			
Detect Status	Rea	d File Save File Re	ad from HW
Factory Restore	R	Save Config File	close

Fig. 5-44 The Screen Configuration page

> Load a LED display configuration file

To load a LED display configuration file, click the Read File button at the bottom of the Screen

Configuration page on the Screen Config window and follow the instructions.

> Save a system configuration file



Fig. 5-45 Overall Button of Screen Configuration Window

To save settings to a system configuration file, click the Save Config File button at the bottom of

the Screen Config window and follow the instructions.

> Load a system configuration file

Please refer to 5.1.1 Start with System Configuration Files for details.

5.2 Advanced color configuration

Advanced color configuration includes the exit-factory configuration, color space configuration and color temperature table configuration, the target color space plan and color temperature table configured here can be called directed when adjusting brightness.

🚺 Nov	aLCT-N	Mars V4.4.1					1.0	_			
Syste	m(S)	Settings (C)	Tools(T)	Plug-in (P)	User(U)	La	nguage(L)	Help(H))		
		Screen	Configuratior) (S)				5	19 00		
		Brightne	Brightness(B)				$\sim \sim$				
Scree	en Conf	Multi-fur	Multi-function Card(F)				Monitoring	Multi-fu	Inction Card	Cloud Mor	nitoring
-Local S	System	Multiple	screen Mana	agement(A)							
Cor	atrol Sv	Hardwa	re Informatio	n(H)		Unkr	nown	View Details of Device			
	nior oy	Prestore	e Screen (R)			1110	101111	<u></u>			
Monito	r Inforn	Advance	d Color Con	figuration (O)							
	Å	Cloud M	lonitoring(C)							6.0	
	(Module	Flash (U)								
		Receivir	ng Card Rela	y(l)							
		Configu	re Informatio	n Managemer	nt(M)	D					
Service	Status	The Mai	n Window St	arting Position	n(P)						.::

dvanced Colo	r Configuration	Sec. Sec.	Train Install Lotson in	Warner - Stationer	
Screen	USB@Port_#0003.Hub_#0003-Scree	en1 🔻 Import	Export		Refresh
Factory Setting	Configure Color Space Color Temp	erature Table			
Current G	}ain				
R	•			4	101.54 %
G	•			۴	101.54 %
в	<			4	101.54 %
🔲 S	ynchronize			De	fault Value
- RGB Brig	phness				
R	4			4	255 (100.0%)
G	<				255 (100.0%)
в	<				255 (100.0%)
🔲 S	ynchronize				
		XP			Save to HW
016/1/11 17:0)2:26The screen information has	been read successfully			
e screen info	ormation has been read successfu	ully			

Fig. 5-46 Advanced color configuration

Factory Setting

Current Gain : some chips support current gain control;

Default Value

: Default Value: click to restore the default values.

RGB Brightness : adjusts brightness of R/G/B colors respectively, or check "synchronization" to

adjust the three colors synchronously;



: Save the current gain and brightness to hardware;



: Import local color configuration file;

Export

: Export current color configuration and save on local disk.



1) Color space configuration

Original color space : It is suggested to use a light gun to measure current CIE coordinates and brightness and fill out properly, use original color space as basis for adjusting color temperature.

Target color space : The black triangle in the color space on left side of the interface is target

color space, drag your mouse to change four-color target pixel $\ {\ }$

It's also allowed to directly change all coefficients of the target color space, when adjusting the

target color space, preview the adjustment results on the LED screen until satisfaction.

PAL/NTSC : Standard system, click the button with your mouse, the target space will be set to either PAL or NTSC system.

Enable color space adjustment : After being checked, the target color space values can be applied to the entire LED display.

* Add color space information, save current color space as a customized color space information to be called at any time in the future. The operation is shown in the picture below.




Fig. 5-47 Add customized color space information

EX : Delete selected customized color space information. Select customized color space

information to be deleted, click this button, the color space information will be deleted.



: Send current calibrated color space and target space to LED display.

: Save current calibrated color space and target space to hardware.

2) Color temperature table

: add color temperature segments, the operation is shown in the picture

below.

reen COM3-s	Screen1	•	Import	Export			Refresh
tory setting Configu	re color space Color	temperature table	e				
Operation prompts							
The color temperat	ture name box of se	lected color ten	nperature section is	yellow			
'Add' - add color ten	nperature section						
'Delete' - delete the	selected color temp	perature sectior	1				
'Edit' - to edit the se	elected color tempe	rature section (i	ncluding the deletio	n of the selected rov	w, clear the informatior	n in the current color	temperature sectio.
Color temperature	Brightness value	R gain	G gain	B gain	R brightness	G brightness	B brightness
	100%	100.00%	100.00%	100.00%	255(100.0%)	255(100.0%)	255(100.0%)
	90%	100.00%	100.00%	100.00%	229(89.8%)	229(89.8%)	229(89.8%)
9100	80%	100.00%	100.00%	100.00%	204(80.0%)	204(80.0%)	204(80.0%)
	100%	100.00%	100.00%	100.00%	255(100.0%)	255(100.0%)	255(100.0%)
	90%	100.00%	100.00%	100.00%	229(89.8%)	229(89.8%)	229(89.8%)
	80%	100.00%	100.00%	100.00%	204(80.0%)	204(80.0%)	204(80.0%)
8600	70%	100.00%	100.00%	100.00%	178(69.8%)	178(69.8%)	178(69.8%)
	60%	100.00%	100.00%	100.00%	4.53(60.00()	1	
		100.00 %	100.00 %	100.00%	153(60.0%)	153(60.0%)	153(60.0%)
			100.00 %	100.00 %	153(60.0%)	153(60.0%)	153(60.0%)
Add	Delete		100.00 %	100.00 %	153(60.0%)	153(60.0%)	Saved to loca
Add Edit 5/9/29 14:33:35Ci	Delete C	Clear	100.00 %	100.00 %	153(00.0%)	153(60.0%)	Saved to loca
Add Edit 5/9/29 14:33:35Ci 5/9/29 14:33:35Ci	Delete C OM3-Screen1 Set si OM3-Screen1 Set si	Xlear uccessful uccessful	10.00 %	100.00 %		153(60.0%)	Saved to loca
Add Edit 5/9/29 14:33:35Ci 5/9/29 14:33:35Ci	Delete C OM3-Screen1 Set si OM3-Screen1 Set si	Xlear uccessful uccessful	100.00 %	100.00 %		153(60.0%)	Saved to loca
Add Edit 5/9/29 14:33:35Ci 5/9/29 14:33:35Ci	Delete C OM3-Screen1 Set si OM3-Screen1 Set si	Xear uccessful uccessful	100.00 %	100.00 %		153(60.0%)	Saved to loca
Add Edit 5/9/29 14:33:35Ci 5/9/29 14:33:35Ci	Delete C OM3-Screen1 Set si OM3-Screen1 Set si	ilear uccessful uccessful	100.00 %	100.00 %		153(60.0%)	Saved to loca
Add Edit 5/9/29 14:33:35Ci 5/9/29 14:33:35Ci	Delete C OM3-Screen1 Set si OM3-Screen1 Set si	Xear uccessful uccessful	10.00 %	100.00 %		153(60.0%)	Saved to loca
Add Edit 5/9/29 14:33:35Ci 5/9/29 14:33:35Ci	Delete C OM3-Screen1 Set si OM3-Screen1 Set si	Xear uccessful uccessful	100.00 %	100.00 %			Saved to loca
Add Edit 5/9/29 14:33:35Ci 5/9/29 14:33:35Ci	Delete C OM3-Screen1 Set si OM3-Screen1 Set si	Xlear uccessful uccessful					Saved to loca
Add Edit 5/9/29 14:33:35Ci 5/9/29 14:33:35Ci	Delete C OM3-Screen1 Set si OM3-Screen1 Set si	vlear uccessful uccessful					153(60.0%)
Add Edit 5/9/29 14:33:35Ci 5/9/29 14:33:35Ci	Delete C OM3-Screen1 Set s OM3-Screen1 Set s	Xear uccessful uccessful					Saved to loca
Add Edit 5/9/29 14:33:35Ci	Delete C OM3-Screen1 Set si OM3-Screen1 Set si	lear uccessful uccessful					Saved to loca
Add Edit 5/9/29 14:33:35Ci 5/9/29 14:33:35Ci	Delete C OM3-Screen1 Set s OM3-Screen1 Set s	viear uccessful uccessful					Saved to loca

A	Add color temperature information							
	Color tempera	atur 8100						
	Brightness	Red gain	Green gain	Blue gain	Red brightness	Green brightness	Blue brightness	Add brightness
	100%	100.00%	100.00%	100.00%	255(100	255(100	255(100	Edit
	90%	100.00%	100.00%	100.00%	229(89.8	229(89.8	229(89.8	
	80%	100.00%	100.00%	100.00%	204(80.0	204(80.0	204(80.0	Delete
								Clear
							CO	ОК Exit
		Add bright	ness informa	tion			×	

	Set color temperature information Brightnes 70 %	
	Current Gain	
	R 4	- %
	6 4 +	- %
		- %
	Synchronize	
	Brightness component	
N'P	R 178 🚔 (6	39.80%)
	G ≺ 178 🚖 (E	39.80%)
	B < 178 ⊕(6	39.80%)
	Synchronize	
	Add	
Edit	Compile calested color temperature comparts	
	. Complie selected color temperature segment,	

: Delete selected color temperature segment;

Delete



: Clear all color temperature segment;

Save the color temperature table to local space.

5.3 Adjust the brightness, Gamma and Current Gain

Click **Brightness** button from the tool bar or select **Setting**->**Brightness** from the main menu of the NovaLCT-Mars application main interface to open the **Display Adjustment** window for brightness, Gamma and color temperature adjustment.

There are two methods to adjust the brightness: manual adjustment and automatic adjustment,

after adjustme	ent i	s done, click Saved to hardwa and save the adjustment results to hardware.
	No	otes :
	1)	During surveillance operation, the software adjusts the LED display
		brightness in accordance with user configuration.
	2)	When surveillance is interrupted or serial control pot is disconnected, the
		hardware will automatically take over brightness adjustment.
F)	3)	Display combinations do not support hardware adjustment
	4)	The prerequisite of hardware adjustment is: the light sensor must be
i P		connected to the first sending board of LED display, or other devices
		connected to this card.
	5)	All devices in one serial port have the same hardware adjustment mechanism,
		and the latest adjustment parameters prevail.

5.3.1 Manual Adjustment

Select Manual in the Adjustment Mode panel to open manual adjustment page. Shown in

Fig.5-48 is the manual setting page of the **Display Adjustment** window.

COM3-Screen1 COM3-S	creen2 COM3-Screen3		
Brightness	Manually Adjustment	🔘 Automatically Adjustment	
Brightness	•	► 100 (39%)
Contrast		O```	
💿 Gamma Valu	•	2.8	
🔘 Custom	Configuration		
Color Temperature			
Rough Ad	•	► 6500 K	?
	Warm Color	Cool Color	
Precise A	Please use it after configuring color te	mperature table in "Settings" -> "Adv	
Color Space	<u>,0''</u>		
Disa PA	NTSC Cus		2
			Ĩ
		Refresh Save to HV	N



Brightness Adjustment

Brightness can be adjusted by the slide bar. All together there are 256 levels of brightness.

Contrast

Curve Adjust : Check this option to pull the bar, Gamma coefficient can be any value between 1

and 4. And the default value is 2.8.

There are two modes for display quality, **soft mode** and **Enhanced mode**. Use soft mode for the situation that the environment brightness is not very high. Enhanced mode is better when the background is very bright.

ma adjustmer	nt				, °
rayscale bit val	ue <mark>16</mark>	•			
amma table c ljusting Gam	an be generate ma curve	d quickly by	Gamma tabl the values	e can be fine-adjust in Gamma table	ed by editing
(-axis range	0 🚔 _	255 🚔	X	Y	Move u
4-axis range	0 🍦	. 65535 🔶	▶ 0	0	
Gamma		<u> </u>	1	1	Move do
Recommender	Gamma	. 2.1	2	2	Save
	Mada A		3	6	
Original	o ModeA	O Mode A	4	11	Loadir
Picture quality-			5	17	
 Coff modo 		Thomas	6	25	
Solutione		_imance	7	34	
		/	8	46	
			9	58	
	\rightarrow		10	73	
			11	89	
			12	107	
			13	126	
			14	148	
			15	550	
			16	196	
			17	222	
1			18	251	
			10	201	-
			19	281	

Fig. 5-49 Gamma Adjustment

Color Temperature Adjustment

Color temperature adjustment can be done in two ways, **Roughly Adjustment mode and** Accurate Adjustment mode.

Roughly Adjustment : Pull the bar to adjust the color temperature (Enter Setting-> Advanced color configuration -> Configure Color Space interface, fill the value of original color space which must be obtain by light sensor, and send the values to hardware).

Accurate Adjustment : Check this option , then choose color temperature segment. For color temperature segment configuration, please see 5.2 Advanced color configuration 3) color temperature table.

color space

Check **"Enable color space adjustment**", then select certain color space information, the color space will be adjusted in accordance with the parameters of that color space information. For color space information, please see <u>5.2 Advanced color configuration</u> 2) configure color space

5.3.2 Automatic Adjustment

The goal of automatic adjustment is to achieve automatic adjustment at present time, There are two methods of adjustment, they are Advanced Adjustment and Adjust by Light Sensor.

Choose the "Automatically Adjustment" option at LED display adjustment interface, click

l to check current brightness.

Refresh

Brightness Adjustment					
COM5-Screen1 COM5-S	creen2 COM5-Screen3				
⊂Current Brightness-	🔘 ManuallyAdjustmen	t	Automaticall	yAdjustment	
Brightness 255	(100%) R 25	5 G	255 B	255	Refresh
Yo	u haven't configui ck 'Wizard Setting	re automatic s'	adjustment,	please	
	JOVAS	R		Wiz	ard Settings
4					`



Fig. 5-50 Automatic Adjustment

5.3.2.1 Advanced Adjustment

You can configure multiple time points, each point can be configured with specified brightness or environment brightness.

Specified brightness : The brightness of LED display from certain time on designated by the user,

the brightness is fixed.

Environment brightness : The brightness of environment from certain time on designated by

the user, the software will automatically adjust the LED display brightness in accordance with the

parameters set by the users as well as environment brightness information collected by light sensors so that the LED display can exhibit proper brightness under different environment brightness.

Wizard SettingsTime Points	Settings	
- Automatically Adjustment Tab	le	
		Add Clear list
Start Adjusting Time	Adjustment Method	Brightness (%)
		$\sim 0^{11}$
Please Note	c) '	
1. When computer is disconn	ected from hardware automatica	ally, the system will go into hardware adj
2. Only adjust brightness, but	not color temperature and Gam	ma;
3. Do not record brightness a	djustment log;	
4		Previous Finish

Fig. 5-51 Wizard Settings

1) Add specified brightness

Click __________, Set the start time, type of adjustment and designated brightness.

Click More Settings, Choose whether to adjust color temperature, if it's needed to adjust color temperature, you can choose color temperature segment in the drop down list (color temperature table must be configured in advance, please see description of color temperature

table in 5.2 advanced color configuration), check "adjust Gamma", drag scroll bar to adjust Gamma value.

Adj	ust the time	setting]
	Starting ti	14:00	
	Adjust type	Specifie	
	Brightness	10 👻 %	
	More Setting	🖻 🛰 option	
	Adjust t	Not enable	• 7
	Adjust Ga	2.8	
		OK Cancel	

Fig. 5-52 Add a Specified brightness

After parameter configuration is done, click , to add another designated brightness.

2) Add environment brightness

Click

Add , to set start time and type of adjustment

Click More Settings, choose whether to adjust color temperature, if it's needed to adjust color temperature, you can choose color temperature segment in the drop down list (color temperature table must be configured in advance, please see description of color temperature table in 5.2 Advanced color configuration), check "adjust Gamma", drag scroll bar to adjust Gamma value.

Adj	just the time	setting			
	Starting ti	15:00			
	Adjust type	🔵 Specifie	Environme		
	Brightness			%	
	More Setting	s 🔨 option			
	Adjust t	Not enable		•	
	Adjust Ga	<		2.8	
			ОК	Cancel	

Fig. 5-53 Add environment brightness

Note :

The time of the computer on which NovaLCT-Mars is running is the base of the schedule. If the computer time is not correct, the adjustment operation will not be performed at the expected time.

3) Configure light sensors

Environment brightness is detected by light sensors, a system must be equipped with light sensors, and you must configure the light sensor before adding environment brightness.

Wizard SettingsLight Sensor Settings						
-Light Sensor Configu	ration Table	Light Sensor T	Refres	h Cle	ear Failed I	Li
Whether to Enable	Location	Environ Brightne	ment ess	Remark		
Wither to Enable Location Brightness Remark Prompt: Please connect the light sensor to the first sending card or the function card, otherwise the light sensor will be invalid when using hardware adjustment mode (Computer and hardware not co Image: Computer and hardware not co Image: When the light sensor fails, the brightness should b 5 Image: % Brightness Mapping Table (environment brightness screen brightness) Fast Section D						
Environmental Bright	ness (Lux)	Screen Brightnes	ss (%)		<u> </u>	÷
20		40				x
1218		44				
2416		48				
3614		52			*	
	S		Previous		Finish	

Fig. 5-54 Light sensor configuration

Light sensor t... : Detect light sensors connected to sending boards and function card, the light sensors that connected to function card must be set as the external device.

Refresh : Refresh current light sensor connection conditions to avoid new connection or

disconnecting the light sensor during operation $\ _{\circ}$

When light sensor fails, adjust the brightness to : Enabled after being checked. If not enabled,

when light sensor fails, the brightness will remain at the latest updated brightness value.

Fast section di.

minimum environment brightness into designated equal parts, the portion between the

maximum and minimum LED display brightness is also divided into similar equal parts. The software will adjust the LED display brightness to corresponding section in accordance with the section of current environment brightness.

Quick section division configuration	
Environment brightne	Screen brightness
Up 12000 🚔 Lux (0-65534)	> 80 🛬 %
Subsection linear adjustment is condu	ucted for the values be
Numbe	► 10
Lo 20 🚔 Lux (0-65534)	> <u>40 ×</u> %
	OK Cancel
apping Table (environment brightness scree	en brightness) Fast Section D

Environmental Brightness (Lux)	Screen Brightness (%)	^
20	40	
1218	44	
2416	48	
3614	52	
4012	88	*

Fig. 5-55 Brightness mapping table

Note:

Brightness

NovaLCT-Mars first generates the environment brightness value from measurement results of all available light sensors according to the calculating type. And then NovaLCT-Mars uses the generated environment brightness to adjust the LED display brightness according to the parameter settings, such as

Previous

Finish



4) Save the configuration

After the wizard settings is fished, go back to the main interface of automatically adjustment, you

Save

can click to add some settings of environment brightness or specified brightness ,

it's also be allowed to edit or delete the added brightness settings.

UM5-	Screen1 COM5-Screen2 CO	M5-Screen3		
_	🔘 Manua	ally Adjustment	Automatically Adjust	stment
Cur Br	rent Brightness ightness 255 (100%)	R 255 G	255 🛛 🖪 255	Refresh
Aut	omatically Adjustment Table	R	Add	Clear list
	Start Adjusting Time	Adjustment Method	Brightness (%)	
V	10:00	Environment Brightness		Edit Delete
V	11:00	Specified Brightness	10	Edit Delete
V	12:00	Specified Brightness	10	Edit Delete
	I'AN'			
	ase Note		tically the cyctom will go in	a hardwara adiu

Fig. 5-56 Automatically Adjustment

5.3.2.2 Adjust by Light Sensor

One time point will be generated by LCT automatically, and it will be configured with environment brightness by default.



Fig. 5-57 Adjust by Light Sensor

 If you have not finished configuration of light sensor, it's need to configure the light sensor then, the detailed operation, please refer to the step 3) in 5.3.2.1 advanced adjustment. 3) The environment brightness by Software added automatically as shown in the figure below, according to your need to add specified brightness or environment brightness, or to edit or delete the added Settings.

Brightness Adjustment		****	X						
COM5-Screen1 COM5-Screen2 COM	5-Screen3								
Ourrent Brightness	yAdjustment	Automatical	lyAdjustment						
Brightness 255 (100%)	R 255 G	255 B	255 Refresh						
Automotically Adjustment Table									
			Add Clear list						
Start Adjusting Time	Adjustment Method	Brightness (%)							
00:00	Environment Brightness		Edit Delete						
	STAR								
Please Note									
1. When computer is disconnect	ed from hardware automatic	ally, the system wil	ll go into hardware adju						
2. Only adjust brightness, but no	t color temperature and Gan	nma;							
3. Do not record brightness adju	stment log;								
Light Sensor Co		Wizard St	ettings Save						

Fig. 5-58 The added Light sensor adjustment

4) All operations are finished, click

Save

5.3.2.3 Auto Brightness Time Interval

The following steps are to set the time interval for auto brightness.

Step 1

Click right button on the circled panel icon (as shown in Fig.5-59) and select **Brightness Advance Setting** from the pop-up menu (as shown in Fig.5-60) to open the Advance Setting window (as shown in Fig.5-61).



Fig. 5-59 brightness adjustment icon in the OS interface panel





Enable brightness gradient automatic brightness adjustment information Environment brightnes 60 8 Times of reading envir 5 0 1 Note: Under the automatic brightness adjustment mode, we need to calculate the average value of light sensor after N times of readings before adjusting the brightness of screen, and then adjust the screen brightness according to the curve formed by enviro Save Cancel	Smart Brightness Adjustment
	Enable brightness gradient automatic brightness adjustment information Environment brightnes 60 8 Times of reading envir 5 meet to calculate the average value of light sensor after N times of readings before adjusting the brightness of screen, and then adjust the screen brightness according to the curve formed by enviro Save

Fig. 5-61 the Advance Setting window for auto brightness

Step 2

Set the values for **Detect Period** and **Read times of light sensors**. **Detect Period** is the time period the light sensors measure the environment brightness. **Read times of light sensors** is the times that NovaLCT-Mars reads the measurement results of the light sensors. Thus the auto brightness time interval is the production of Detect Period and Read times of light sensors.

For example, if light sensors measure the environment brightness every 10 second (this is the Detect Period.) and NovaLCT-Mars reads the measurement results of the light sensors for 5 times (this is the Read times of light sensor.) before adjusting the LED display brightness, the auto brightness time interval will be 50 seconds.

Note:

The default values for Detect Period and Read times of light sensors are 60 seconds and 5 times respectively. Thus the auto brightness time interval is 300 seconds or 5 minutes by default.

5.4 **Display Control**

Click **Display Control** button from the tool bar or select **Tools**->**Display Control** from the main menu of the NovaLCT-Mars application main interface to open the **Screen Control** window.

(
Kill	Lock	Run	
Self Test		Sund	
Horman		Jenu	

Fig. 5-62 The Screen Control window

Kill

Show nothing on the LED display.

Lock

Always show the current image frame of the LED display.

Run

Switch the LED display back to normal from Kill or Lock.

Self Test

Show the test images generated by the receiver card for LED displays aging test or error

detecting.

5.5 Check Hardware Info

Click Tool ->Hardware Information from the main menu to open the Hardware Information

page. Shown in Fig.5-63 is the Hardware Information page.

Hardware Information
-Time
Time of Hardware: 2012-06-12 17:12:42 C Read Set
-Select Serial Port-
Current Serial Port: COM4
Sending Board SN
Serial Number SN Number
1 1202-1000-0000-0199
Refresh
Hardware Version Info
💿 Refresh All 🔿 Refresh One 🛛 Sending Board: 1 🔅 Port: 1 📚 Scan Board: 1 📚 Refresh
E 15 2 1 0 Tetal 1 Recenter 2012 05 22
- 75.2.1.0 Total 1, Kemarks.2012.05.25
Position:Sending#1
Sending Board MCH Sending Board FPGA Scan Board FPGA
2012-6-12 19:32:15Current control system address:1 port 3 Kead FFGA program version of sca
2012-6-12 19:32:15Current control system address:1 port 4 Read FPGA program version of sca 🔽 🔽 Clear
Current control system address:1 port 4 Read FPGA program version of scan board 0 .

Fig. 5-63 The Hardware Information page

Current Serial Port

If more than one Mars serial LED display control system is connected to the computer, set the serial port through which the Mars serial LED display control system to be configured as the current serial port.

Time of Hardware

This is the date and time of the current Mars serial LED display control system. Click **Read** button to update the hardware time shown in the Time panel. Click **Set** button to set the time of the current Mars serial LED display control system as that of the computer.

Note:

The date information has been set for the Mars serial LED display control systems when produced. Only time (hour, minute and second) is set here for the control system hardware.

Hardware Version

This includes the version information of the MCU, sending boards and receiver cards.

Note:

The sending board version information is that of the first sending board connected

with the current serial port.

Sending Board SN

Listed are the SNs of all sending boards of the current serial port. To update the listed SNs, click

Refresh button.

5.6 Manage the LED Displays

To make brightness control and monitoring easier, multiple LED displays can be combined together. The combined is called a combination display.

Select Tool -> Multiple Screen Management to open the Combination Display Config window

for combination display configuration. Shown in Fig.5-64 is the Combination Display Config

window.



Fig. 5-64 The Combination Display Config window

Combination Display Count

This is the number of combination displays to be configured.

Following are the steps for combination display configuration.

> Step 1

Set the **Combination Display Count** as required and click the **Config** button. The combination display pages will be shown on the Combination Display Config window. There is only one combination display page because the Combination Display Count is set as 1. Set the Screen Count as required in the combination display page. **Screen Count** is the number of LED displays that will be combined into the combination display. Click **Config** in the combination page and a sketch map will be shown in the combination page, as shown in Fig.5-65. Here **Screen Count** is 3, thus there are 3 colored rectangles labeled 1, 2 and 3 respectively in the sketch map.

nbination Displ: Combination Display	ay Config Count: 1	Config Clear	×
1 Name:	1		1
Screen Count: Zoom:	3 🗘	Config Reset	
2	? 3		
	?		
		C C K	
		OK Close]

Fig. 5-65 Combination display setting page 1

Step 2

Click left button of the rectangle labeled 1 to Screen information window, as shown in Fig.5-66. Appoint one of the three LED displays as Display 1 (the rectangle labeled 1 represent Display 1.) by specifying the serial port it connects to the computer and the its index in the screen list. Note that listed in the screen list are the LED displays that are connected to the computer through the specified serial port.

rial ports:		10000			
e sereen li	ete				
e screen II		-			
1 2	3				
	1 2	123	1 2 3	1 2 3	1 2 3

Fig. 5-66 The Screen information window

Serial ports

This is the serial port that the target LED display is connected to the computer.

The screen list

This is the index of the target LED display in the screen list of the specified serial port.

> Step 3

Do the same for the other displays of the combination display.

Combination Dis Combination Disp	play Config lay Count: 1	Config	
Name: Screen Count: Zoom:	1 3 🗘	Config Reset	
1 COM6-Screen1	2 COM6-Screen2	3 COM6-Screen3	
<	III)	CH	
		OK	Close

Fig. 5-67 The combination display after configuration

The layout of the displays in the combination display can also be arranged. Use the mouse to

drag the displays. The same layout will also be used in the monitoring pages.

5.7 Monitor the System

Mars series control system provides monitoring function, covering DVI signal of sending card,

hardware status, temperature, humidity, smoke, fan, power supply, cabinet, and door status.

Supports ordinary screen and screen combination surveillance.



configuration.

MovaLCT-Mars	/4.4.1			-			-				x
System(S) Sett	ngs (C) Too	ls(T) Plug-	in (P) User	r(U) La	inguage(L	.) Hel	p(H)				
					$\sim \sim$		30170			1	
Screen Configurat	ion Brightne	ss Calibrat	on Screen	Control	Monitorii	ng 🔪 Mu	lti-functio	on Card	Cloud I	Monitorin	g
- Local System Inform	nation					1					
Control System	1	Othe	r Device	0		<u>View [</u>	<u>Details o</u>	<u>f Device</u>			
- Monitor Information											
		•			۲						
									+		
Service Status: Service	vice version:3.0	I									.::
MonitorSite V2.3									1.0		×
						F			_		
	сомз	1									
		₩ -									
€.											
Sec.											
								Norr	nal		
4								Send	ding B		
								DVI	signal	Monitori	ng rofr
								_	_		ng reir
								Unki	nown	Setti	ngs
Screen n	ame					5		4		•	
COM3-Scr	een1			\bigcirc	\bigcirc	\bigcirc	\bigcirc	\odot	\odot	\bigcirc	
COM3-Scr	een2	•		\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
COM3-Scr	een3			\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	\bigcirc	
Care Status:Offline											

Fig. 5-68 the Monitor page

Monitoring Refresh

This button is used to update the monitored data.

Settings

This button is used to edit the contents to be monitored and set rules for alarm.

5.7.1 Refresh period

Modify refresh period and reread times when reading the status failed at the refresh period

interface, wherein the period is the period of refreshing the monitoring data.

If all screens are registered to the NovaCare server, check "Auto refresh" to perform remote

monitoring.

MonitorSite - Setti	ngs
Refresh Period	2
Hardware Settings	Refresh Period
Alarm	Set Rereading Times
Monitoring Control	When failing to read status, the software will read
Email	
Email Log	
P'P	
	Save

Fig. 5-69 Refresh period

Auto Refresh

If this option is check, NovaLCT-Mars will automatically check the status and parameters being

monitored and update the monitored data periodically according to the period setting.

Retry times after read status failed

This parameter determines how many time NovaLCT-Mars will retry to check the status and parameters being monitored when it fails in doing so.

5.7.2 Hardware configuration

MonitorSite - Setti	ngs	
Refresh Period	Select Screen to Configure USB@Port_#0003. Kub_#0003-Screen1	
Hardware Settings	Connect to Monitoring Card	etting
Alarm	🔽 Refresh Humidity	esh Smoke
Monitoring Control	 Refresh Ribbon Cable Refresh Fan 	esh Cabinet Door Status
Email	Fan Pulse: 1	PCS/r
Email Log	Set fan quantity uniformly	etting
L'A	 Refresh Power Supply of Monitoring Card The numbers of power supplies on eac Set power supply quantity individually i Note: First time configuration is the default for full screen, Is 	etting ater modification will not change the default.

Fig. 5-70 Hardware configuration

Setting

: Click to enter the advanced setting of monitor, as shown in the figure below.

Advanced Setting of Monitor	
USB@Port_#0003.Hub_#0003-Screen1	
	Zooming
	• 0.40
C	Setting
	Restore Defa
ОК	Cancel

Setting Each receiving card is connected with one monitoring card by default. Click to pop up with the interface below. Please set the number of receiving cards (0 or 1) according to the actual situation.

		20	Setting			x
			📝 Con Count	nectionMo	onitoring C	ard
			ОК		Canc	el
Click Rest	ore Defa	o restore th	e default value	s immedi	ately.	

to restore the default values immediately.

Connect Monitor Board

Monitor Boards are required for certain status and parameters monitoring. Select this option to

get those status and parameters under monitoring.

Refresh Humidity

If this option is selected, the humidity within the cabinets will be under monitoring.

Refresh Smoke

If this option is selected, the smoke within the cabinets will be under monitoring.

Refresh cabinet status

If this option is selected, the working status of the cabinets will be under monitoring.

Refresh status of Cabinet-Door

If this option is selected, the open/close status of the cabinet doors will be under monitoring.

Refresh Fan

If this option is selected, the fans status will be under monitoring.

> Every cabinet has the same number of fan

If for every cabinet, the number of fans to be monitored is the same, select this option and set

the fan number in the box to the right of this option.

> Ever cabinet has the different number of fan

If the numbers of fans to be monitored are different from one cabinet to another, select this option and click the **Setting** button to set the fan numbers for each cabinet.

Refresh the power supply of the monitoring card

If this option is selected, the power supplies on the monitor board will be under monitoring.

> Every monitoring card has the same number of power supply

If for every monitor board, the number of power supplies to be monitored is the same, select this

option and set the power supplies number in the box to the right of this option.

> Number of power supply separately set on monitoring card

If the numbers of power supplies to be monitored are different from one monitor board to another, select this option and click the **Setting** button to set the power supplies numbers for each cabinet.

Select screen configuration:

Select "All screens" to perform refreshing setting uniformly, or perform refreshing setting to every screen separately.

W MonitorSite	- configuration	
Select scree configuration	n All screens 🗸	
	All screens	
Refresh perio		
Hardware conf	Refresh humidity	

The difference lies in that the number of fan (power supply) of every cabinet can be set to be different when separately performing refreshing setting to every screen, as shown in the following figure:

MonitorSite - Setti	ngs		×
Refresh Period	Select Screen to Configure	@Port_#0003. Hub_#0003-Ser(eenl V
Hardware Settings	<table-cell> Connect to Mo</table-cell>	nitoring Card	Setting
Alarm	📝 Refresh Humid	lity	☑ Refresh Smoke
Monitoring Control	<table-cell> Refresh Ribbo</table-cell>	n Cable	Refresh Cabinet Door Status
Email	Fan Pulse:		1 PCS/r
Email Log	 Set fan quanti Set fan quanti 	ty uniformly ty individually	4
	 Refresh Power The numbers Set power support 	Supply of Monitoring Card of power supplies on eac oply quantity individually i	3
	L Note: First time conf	iguration is the default for fu	I screen, later modification will not change the default.



Fig. 5-71 Refresh setting (separately perform refreshing setting to every screen)

5.7.3 **Data alarm configuration**

Display alarm or fault information when setting the temperature, humidity, fan speed and

voltage critical value.

MonitorSite - Setti	ngs			
Refresh Period	Select Screen to Configure			
Hardware Settings				
Alarm	When the temperature > ⁶⁰			
Monitoring Control	When the s 60 🚖 %, show alarm information.			
Email	When the rotation sp < 1000 🚔 r/m, show alarm information.			
Email Log	When the voltage < 4.0 🔄 V, show alarm information.			
	When the voltage < 3.5 🔄 V, show fault information.			
	R			
	Note: Defaults of full-screen configuration come from the first configuration, and later modification on single screen does not affect the full-screen information.			
	JA			
	Save			

Fig. 5-72 Data alarm configuration

5.7.4 Control configuration

Select one screen or all screen to perform monitoring configuration separately.

MonitorSite - Setti	ngs	×
Refresh Period	Select Screen to Configure USB@Port_#0001. Hub_#	0001−1 ▼
Hardware Settings	Control Information List	
	Control type	Condition
Alarm	▶ 1 Temperature	Temperature(Average temperature):50-70 °C
Monitoring Control		
Email		
Email Log		
		CO
		CH
	Add Edit Delete Clear list	ОК

Fig. 5-73 Control configuration

Click to add control information; the figure below shows adding temperature control

information, and the figure shows adding smoke control information.

	X
Control type Temperatur	e 🔻
Average temperature And 70	°C ▼
Brightness adjustment	
Brightness Adjust brightness 70 adjustment to	* *
-Power supply management	
	, co.,
Tips: Temperature difference between different strategies shall not be less	OK Cancel

Fig. 5-74 Add a temperature control

			×
Control t	ype Smoke	•	
Count of smoke alarm cabinet	> 1		
Action			
Power supply management	Off	Кеер	E
			-
		OK	Cancel

Fig. 5-75 Add a smoke control
5.7.5 Email setting

Shown in Fig.5-76 is the page for email notification setting. Set the email notification according to the instructions given on the page.

If the sending system report Email is enabled, the regular sending could be set.

MonitorSite - Settin	gs
Refresh Period	🔽 Enable Email Notification Send email when same fault/a 😗 🔻 Times sending
<u>├</u>	Enable System Recovery Notification
Hardware Settings	📝 Enable Sending System Report Email
	Send system report email regularly
Alarm	Email Sender
Monitoring Control	Email Address NovaStarTech@126.com Port 25
	SMTP Server smtp.126.com SSL Encryption V Enable
Email	Modify Sender Use Default
<u> </u>	Recipient
Email Log	Name Email address
	Email Information
	Sending Email A-1 (e.g.:Neighborhood A, Square B)
	Tip: If the display has been registered with NovaiCare, please disable local Email notification, so as not to
	Save

Fig. 5-76 The email notification setting page

5.7.6 Email Log

Shown in Fig.5-77 is the **History** window for checking the notification emails. Information about the notification emails, such as date, error display index, email recipients and so on can be checked through this window.

MonitorSite - Setti	ngs	-			×
Refresh Period	Log Time	- 2015年10月3	30日		Refresh Delete Log
Hardware Settings	Notification Time	Recipients	Title	Notification	Content
Alarm					
Monitoring Control					
Email					
Email Log					
) • `
	•		III		•
	Note: When you en	iable local Email n	otification, you can	view the log.	

Fig. 5-77 The History window for notification emails checking

5.8 Led Error Detection

The LED lights status checking function, also known as Led Error Detection, is to check the working status of each LED light on a LED display. NovaLCT-Mars can detect and locate LED lights that are in open circuit or short circuit status.

Note:

1) Led Error Detection is only available for LED displays of which the LED lights driver chips support LED lights open/short circuit status checking.

2) Driver chips supported by Mars serial LED display control systems and good for

	Led Error Detection at present are MBI5036, MBI5034, MBI5040, DM13H and
	MBI5030.
3)	Monitor boards for Mars serial LED display control systems are required for Led
	Error Detection.

Select **Tool** ->Led Error Detection from the NovaLCT-Mars main menu to open the Led Error Detection window for Led Error Detection setting. Shown in Fig.5-78 is the Led Error Detection window. As shown in the figure, the LED display under Led Error Detection has a receiver cards (one receiver card corresponds to a cabinet.) array of 2 rows and 4 columns. And the driver chips used are MBI5036.

			Led Error	Detection		+	-		×
Commun	ication Port Sele	ction							
Communi	cation Port	USB@Port_#0001.H	lub_#0003 🗸						
Screen1									
Screen 1	fopological Diag	iram							
			²				200m • 1.0		
0	4	2				~	Ur Er No	nknowr ror ormal o Monit	n to
Led Erro	r Detection Para	meters							
Detecti	on Type	Open Circuit an	d Short Circuit Detection						
Thres	hold Current	O 1	② 2 ③	<u> </u>	○ 4				
Currer	nt Gain	Enable	Change Setting						
			Save Confi	Conduct led.	Led error d	Pause) [5	Stop	
									×
2015-11-1	16 10 48 04 - Sci 16 10:48:04 - Sci	een1 Physical addro een1:Completed leo	ess(1,1,13)Led error dete I error detection! The nur	ction tailed—Rea nber of receiving	d receiving card param cards which have recei	etersFailer ved led erro	fiReaso or detect.		
In	Eormation								

Fig. 5-78 The Led Error Detection window

Serial Port Selected

Specify the serial port through which the LED display to be operated is connected to the computer.

Led Error Detection Parameters

- > **Detect Type** --- This is the LED lights status type can be checked.
- Threshold Current --- Set the current threshold for Led Error Detection here by selecting an index.
- > Current Gain --- Current gain can be enabled/disabled here. To modify the current gain

settings, click the Change Setting item.

Detect Screen

Click this button to perform Led Error Detection on the whole display.

Detect Selected

Click this button to perform Led Error Detection on (the pixel array of) the selected receiver cards.

Pause

Click this button to pause the ongoing Led Error Detection operation.

Stop

Click this button to stop the ongoing Led Error Detection operation.

Zoom

Drag the slide bar to zoom in or out of the LED display sketch map.

Notification panel

The information of the ongoing Led Error Detection operation will be shown in this panel.

Colors of the LED display sketch map

- Gray --- the Led Error Detection operation result is unknown. It may be due to hardware communication failure or receiver card setting error.
- > **Red** --- Error LED lights detected. The number shown is the number of the error LED lights.
- > **Green** --- No error LED lights detected.
- > Yellow --- the receiver card (cabinet) does not connected with a monitor card.

	Note:
al	1. Put the curse on the sketch map of a cabinet to show its information.
an	2. Module specifications have effect on the Led Error Detection result. Please set
	the Led Error Detection parameters according to the module type.

In Fig.5-78 click on the cabinet in the sketch map to open the **Led Error Detection Result of Modules** window for details about LED lights status information. Shown in Fig.5-79 is the **Led Error Detection Result of Modules** window showing the LED lights status of the red cabinet in Fig.5-78.

			N	Led	error	detec	tior	n re	sult	ofr	moc	dule	s				+		-		×
5	10) 11		• Re	dA(4)		(G	reen	(0)		0	Blue	(1)		\bigcirc	Red	B (0)		
1532	1529	1530	1531		1 2	34	5	6	78	9	10	11 1	2 13	14 :	15 16	17	18	19 20	21	22 2	23 24
1536	1533	\$ 1536	1536	1	••																
9	18	8	15	3																	
3	7	1	2	4	••	\bullet		•				•					•			•	$\mathbf{\tilde{\bullet}}$
1532	1529	1531	1533	5	••			•			•	•					•	•		•	
1536	1535	1536	1536	7																	
7	15	7	14	8	••			ŏ													
				9	••		•	•	•		•	•		•			•	•	•	•	•
				10				•													
				12																	
				13																	
				14	••			•	•		•	•		•			•			•	
				15	••			•	•			•						•		•	•
				10					•			•			•			0))		

Fig. 5-79 the Led Error Detection Result of Modules

Shown on the left of Fig.5-79 is the module array of the cabinet and on the right the pixel array of the selected module in the module array.

Red A

This is the number of the error red LED lights of the selected module. Select this item to view the locations of the error lights in the pixel array sketch. The black points in the array are the error lights.

Green

This is the number of the error green LED lights of the selected module. Select this item to view the locations of the error lights in the pixel array sketch.

Blue

This is the number of the error blue LED lights of the selected module. Select this item to view the locations of the error lights in the pixel array sketch.

Red B

This is the number of the error virtual red LED lights of the selected module. Select this item to view the locations of the error lights in the pixel array sketch.

5.9 Brightness/Color Calibration

5.9.1 Online Calibration

In online calibration, NovaCLB connects with NovaLCT-Mars through network. Data and instructions for LED display calibration are exchanged through the network. Shown in Fig.5-80 is the page for online calibration.

Screen Calibration	
Current operation communication	Online Calibration Offline Calibration Manage Coefficients
pon	Network Setting
USB@Port_#0003.Hub_#0003 -	Local IP: 172.16.3.228 Port: 8080 Reconnect
Current Screen	
Orecon1	Communication Log 17:04:20 Listening succeed!
Screen	
Screen2	
0	
💿 Screen3	
- Display Person	
Main Display	
 Extended display 	
Enable/Disable Calibraion	
Disable	λ
Save	与出日志 Clear

Fig. 5-80 The page for online calibration

Current Serial Port

This is the serial port through which the LED display to be calibrated is connected to the

computer.

Current Screen

The LED displays connected to the computer will be list in this panel. Select the LED display to be

calibrated from the list.

Local IP

This is the IP address that NovaLCT-Mars listens to. It is actually an IP of the

computer on which NovaLCT-Mars is running.

Port

This is the port that NovaLCT-Mars listens to.

Reconnect

Click this button to terminate the current listening process and start a new listen process using the settings of Local IP and Port.

Communication Log

Records of the communication between NovaCLB and NovaLCT-Mars are listed is this panel.

Enable Calibration

This option is to enable or disable LED display calibration using calibration coefficients.

Save button in the Enable/Disable Calibration panel

Click this button to save the calibration switch status (enable or disable) to the hardware.

Save button in the communication log panel

Click this button to save the communication log to a text file.

5.9.2 Manage Coefficients

This page is to adjust the calibration coefficients for better calibration

performance. Shown in Fig.5-81 is the Manage Coefficients page.

Screen Calibration	
Current operation communication	Online Calibration Offline Calibration Manage Coefficients
USB@Port_#0003.Hub_#0003 +	Select Operation
Current Screen	1 Upload Coefficients 2 Save coefficients In database
Screen1	3.Set coefficients for a new scan board
💿 Screen2	<u>4.Set coefficients for a new module</u> <u>5.Adjust coefficients (Color is ununiform on screen)</u>
🔘 Screen3	6.Erase or reload coefficients 7. Reset correction coefficients
Display Screen	
Main Display	\bigcirc
Extended display	
Enable/Disable Calibraion	
Disable	
Save	

Fig. 5-81 The Manage Coefficients page

Upload Coefficients

Upload a calibration coefficients database to the LED display.

Save coefficients to database

This operation is to read back the calibration coefficients form the LED display and save them to a

database file.

Set coefficients for a new scan board

This option is to set the calibration coefficients for a newly placed receiver card in the LED display.

Set coefficients for a new module

This option is to set the calibration coefficients for a newly placed module in the LED display.

Adjust Coefficients

This option is to adjust the calibration coefficients of the selected LED display area for better

performance.

Erase or reload Coefficients

This option is to erase or reload the calibration coefficients of the selected LED display.

5.9.2.1 Upload Coefficients

This is to upload the calibration coefficients and Adjust lines coefficients to the LED display thus the LED display control system can use the coefficients to improve the image quality of the display.

> Step 1

Screen Calibration	- I WOME				-		×
Current operation communication	Online Calibration Offline	Calibration Manage Co	pefficients		<u>, </u>]
USB@Port_#0003.Hub_#0003 -	Select Database ——						
Current Screen	Select Database: Select Adjust Line Type:	Unknown	Cabinet ID:		Browse		
Screen2	Columns:	Unknown	Rows:	Unknown			
Screen3	Discription:	Unknown					
Display Screen Main Display Extended display							
Enable/Disable Calibraion Disable Save					Back	lext Return	

Fig. 5-82 The page for upload coefficients step 1

Browse

Click this button to select the calibration coefficients database file to be uploaded.

Туре

The type of the selected calibration coefficients database is shown here. There are two database types, screen database and cabinet database. A screen database contains calibration coefficients for a whole display while a cabinet database contains calibration coefficients for one or multiple cabinets.

Cabinet ID

The cabinet ID(s) will be shown here if the selected is a cabinet calibration coefficient database

Columns

This is the column number of the calibration coefficient array of the selected database.

Rows

This is the row number of the calibration coefficient array of the selected database.

Click **Next** button to open the page for Step 2 after all settings.

> Step 2

This step is to specify the LED display area for which the calibration coefficients are to be uploaded. There are three options, Screen, Pixel, Topology or List.

Screen

If this option is selected, calibration coefficients for the whole display will be uploaded.

Pixel

Select this option to upload calibration coefficients to the specified pixel area.

Topology or List

Selected this option to upload calibration coefficients to the cabinets selected in the cabinet array sketch map or the cabinet list. (If the current LED display is a simple or a standard display, the sketch map of the cabinet array will be shown after this option is selected. Otherwise, if the

current is a complex display, the show is the cabinet list.)

Zoom

The zoom slide bar is for zoom in or out the cabinet array sketch map.

Shown below are the pages for the three options.

creen:1	Location:X=0,	¥=0	Size:512 W ×256H		
💿 Screen	O Pixel	0	Topology or List	Select Area On Screen	
			Operate	all pixels!	

Fig. 5-83 The page for uploading calibration coefficients in Screen way

reen:1 Locatio	on:X=0, Y=0	Size:512 V ×256H	
)Screen 💿 Pixel	0	Topology or List	Select Area On Screen
Start Columns	4 ⁰	\$	
Start Rows of	ĬO	÷	
Width:	512	*	
Height:	256	\$	

Fig. 5-84 The page for uploading calibration coefficients in Pixel way

elect Upload Area ——						
Screen:1 Locati	.on:X=0, Y=0 Si	ze:512¥×256H	🗌 Select Area On	Screen		
(1, 1)	(1, 2)	(1, 3)	(1, 4)			Zoom:
(2, 1)	(2, 2)	(2, 3)	(2, 4)			1.0
			B	ack Nex	t Retur	n

Fig. 5-85 The page for uploading calibration coefficients in Topology or List way

Click **Next** to open the page for Step 3.

> Step 3

Shown in Fig.5-86 is the page for Step 3.

Upload Coefficients				
	⊙ Fast Upload	🔿 Stable Upload	Upload	Save
	Ć			
			Back Finish	Return

Fig. 5-86 The upload calibration coefficients Step 3 page

Fast Upload

The uploading speed will be set as maximum thus the time required for uploading is minimized if this option is selected.

Stable Upload

The uploading process is more stable and reliable for this option. But the time required is longer

than the Fast Upload option.

Upload

Click this button to upload the selected calibration coefficients to the hardware.

Save

Save the selected calibration coefficients to hardware (FLASH). The saved data won' t be lost even the system is powered off.

5.9.2.2 Save Coefficients to Database

This operation is to read back the calibration coefficients form the current LED display and save them to a database file.

> Step 1

The calibration coefficients read back can be saved to an existing database or a new database. Shown in Fig.5-87and Fig.5-88 are the pages for saving coefficients to an existing database and a new database respectively.

lect Database						
⊙ Save to an Exi	sting Database	🔿 Save to a New Database				
Select Database:					Open	
Туре:	Unknown	Existing Cabinet ID:		~		
Columns:	Unknown	Rows:	Unknown			
Discription:	Unknown					
			6		3	

Fig. 5-87 The page for saving calibration coefficients to an existing database

Open

Click this button to open an existing database to save the read back calibration coefficients. The new saved coefficients will replace the old ones according to the position. If the coefficients array size of the opened database is smaller than that of the current display, the save operation will be failed. If the opened is a cabinet database, the ID list of the existing cabinets of the database will be shown.

t Database ——				
○ Save to an E:	xisting Database	💿 Save to a New Databas	2 <i>4</i>	
New Database Tyj	pe: ③ Scree	n-Database 🔿 Cabinet-I	Jatabase	C
Select Database	:			Create
Туре:	Unknown	Existing Cabinet ID:		
Columns:	Unknown	Rows:	Unknown	
Discription:	Unknown			

Fig. 5-88 The page for saving calibration coefficients to a new database

Screen-Database

Select this option if it is to save the calibration coefficients to a new screen database.

Cabinet-Database

Select this option if it is to save the calibration coefficients to a new cabinet database.

Create

Click this button to create a new screen database or a cabinet database according to the settings.

	Note:
	1) Screen database
	In a screen database, the saved are the calibration coefficients and the positions of
	they are to be uploaded to in the LED lights array of the whole display. In the
	uploading procedure, the coefficients are uploaded according to the positions set for
h	them. Thus if the position of a cabinet is changed, the coefficients for this cabinet will
and	not be correctly uploaded.
	2) Cabinet database
	In a cabinet database, the calibration coefficients are arranged in the form of
	cabinets. The coefficients for the same cabinets are grouped together and labeled
	with the cabinet ID. Thus even the place of a cabinet has been changed, the
	corresponding coefficients can also be correctly uploaded to the cabinet.

> Step 2

Select the display area for which the calibration coefficients are to be saved to a database. Shown in Fig.5-89 is the page for Step 2.

elect Area							
Screen:1 Locat	ion:X=0, Y=0 Si	ze:512 W ×256H					
🔿 Screen 🔿 Pixe	al 💿 Top	ology or List	Select Area On	Screen			
(1, 1)	(1, 2)	(1, 3)	(1, 4)	Zoom:			
(2, 1)	(2,2)	(2, 3)	(2, 4)	1.0			
			B	ack Save Return			

Fig. 5-89 The page for specifying the display area for coefficients saving

Screen

Check this option if the calibration coefficients for the whole display are to be saved. If the database for saving the coefficients is a cabinet database, this option will be unavailable.

Pixel

Check this option to select the pixel area for which the calibration are to be saved. If the database for saving the coefficients is a cabinet database, this option will be unavailable.

Topology or List

Check this option to select the cabinets for which the calibration coefficients are to be saved.

Note that if the database for saving the coefficients is a cabinet database, one cabinet should be

selected at one time for coefficients saving.

Save

Click this button to save the calibration coefficients of the selected display area to the specified

database. If the database for saving the coefficients is a cabinet database, a dialog will appear for users to input the cabinet ID.

Maintain (Only full-screen support): The software saves by cabinet, supports maintaining, namely when network or other problems occur and cause saving suspended, select maintain to continue saving from the cabinet having error.

5.9.2.3 Set coefficients for a new scan board

> Step 1

Specify the LED display area that the new receiver card (scan board) works for. Shown in Fig.5-90 is the page for specifying the area.

Select Area of New Sca	an Board in Screen ——				
Screen:1 Locati	i on:X=0, Y=0 Si 1 ⊙ Top	ze:512V×256H blogy or List	Select Area On	Screen	
(1, 1)	(1, 2)	(1, 3)	(1,4)		Zoom:
(2, 1)	(2, 2)	(2, 3)	(2, 4)		1.0
			B	ack Next Re	turn

Fig. 5-90 The page for specifying the working area of the new receiver card

Step 2

Select the calibration coefficient source. The coefficients could be from a database (the **Database** option) or generated according to those of the surrounding receiver cards (the **Refer to Surrounding Scan Board** option). Fig.5-91 and Fig.5-92 show the pages for two option

respectively.

💿 Database	🔿 Refer to	Surrounding Scan Boar	1		
Select Database:				Browse	
Туре:	Unknown	Cabinet ID:		~	
Columns:	Unknown	Rows:	Vnknown		
Discription:	Unknown				
				Back	Next Return

Fig. 5-91 The page for getting calibration coefficients from a database

Browse

Click this button to select the database that the calibration coefficients for the new receiver card are from. If the selected is a cabinet database, the cabinet ID should also be specified from the Cabinet ID drop list.

Cabinet ID

If the selected database is a cabinet database, the IDs of the cabinets of which the calibration

coefficients are contained in the database will be list in the drop list. If the selected database is a

Select the source of Coefficients

O Batabase
O Refer to Surrounding Scan Board

Select Reference Cabinet

Reference

Adjusted

Cabinet:

Cabinet:</

screen database, the list will be unavailable.

Fig. 5-92 The page for generating coefficients for the new receiver card according to those of its surrounding

receiver cards



good as those from NovaCLB in performance.

> Step 3

If the calibration coefficients from Step 2 are not satisfying, they can be adjusted. There are two type of adjustment, Simple and Advanced. Shown in Fig.5-93 and Fig.5-94 are the pages for Simple and Advanced adjustment respectively.



Red

Use the slide bar to adjust the red brightness of the calibration coefficients.

Green

Use the slide bar to adjust the green brightness of the calibration coefficients.

Blue

Use the slide bar to adjust the blue brightness of the calibration coefficients.

Advanced

Click this item to switch to the advanced adjustment page.

	💿 Red	🔘 Gree	n	🔿 Blue	
Brightnes: 🚺			1		> 56
Saturation: 🚺			******		> 100
Hue:		U			> 50
lor Temperature	Adjust				
	O Yellow	O Cyan	🔿 Magenta	🔘 White	
ed: 🧾					> 56
reen:					> 69
lue:		A P			27
te: Display dif	ferent color for observ	ring the effect			

Fig. 5-94 The Advanced adjustment page

Color Adjustment

The brightness, hue and saturation of red, green and blue can be adjusted in the **Color Adjust** panel.

Color Temperature Adjustment

Use the slide bars to adjust the red, green and blue components for yellow, cyan, magenta and

white in the Color Temperature Adjust panel.

Simple

Click this item to switch to the simple adjustment page.

The color bar under each side bar indicates the color to be shown when adjusting.

	No	ite:
	1.	If the cabinet driven by the new receiver card is only different from the
		surrounding cabinets in brightness, simple adjustment is sufficient.
d	2.	If the cabinet driven by the new receiver card is different from the surrounding
ers)		cabinets in color, adjust the brightness, saturation and hue through the advanced
		adjustment page for better image quality.
	3.	Use the test tools in Plug In Tool \rightarrow Test Tool to require the LED display to show
		the color that is being adjusted.

> Step 4

Save the calibration coefficients to the hardware (FLASH) so they won't be lost when the LED display is powered off. Shown in Fig.5-95 is the page for saving the coefficients to the hardware. Click the Save button to save the coefficients to the hardware.

Save Coefficients	
	Save
<u>.</u>	
	Back Finish Return

Fig. 5-95 The page for saving calibration coefficients to the hardware

5.9.2.4 Set coefficients for a new module

> Step 1

Specify the cabinet which the new module is in. this can be done through the page shown in

Fig.5-96.

creen:1	Locati	on:X=0,	Y=0 Size:	256 ¥ ×128H						
🔿 Screen	🔘 Pixel		💽 Topology	or List	Selec	t Area On	Screen			
(1, 1)	(1, 2)	(1,3)	(1, 4)							Zoom:
(2, 1)	(2, 2)	(2, 3)	(2,4)							-
										1.0
)•`	
						В	ick	Next	Ret	IIFD

Fig. 5-96 The page for specifying the cabinet the new module is in

Double click the selected cabinet to open the page for specifying the new module. Shown in

Fig.5-97 is the page for specifying the new module.

Select the New Module			
Scan Bo.:(0,0,0), Locati	on::(192,0), Size:64×	64	
🔿 Screen 🕜 Pixel	⊙ Topology or List	🗌 Select Area On Screen	
Module Size: 16 🗢 x 16	\$		x
Display Mode: 💿 Modules 🔷 🔿	Pixels		
2			4
2			
	Row:2 Col:2		
3			
			$-O^{\cdot}$
4 			
		C N I	×
5	Ш		>
		Back	Next Return

Fig. 5-97 The page for specifying the new module

Module Size

Set the pixel array size of a module here. NovaLCT-Mars divides a cabinet into modules according to the module pixel array size and the cabinet pixel array size.

> Step 3

Select the calibration coefficients source. Calibration coefficients generated according to those of the surrounding modules are used for the new module because the coefficients saved in the receiver card or the database are not suitable for the new module. Shown in Fig.5-98 is the page for selecting the coefficients source.

Select the source of Coefficients	
Refer to Surrounding Modules	
Select Reference Module	
Reference Zone: 📄 1 💽	
Adjusted Keference Module: Module:	
	Back Next Return

Fig. 5-98 The page for selecting the calibration coefficients source



Adjust the calibration coefficients if the generated coefficients are not satisfying. The adjustment page is similar to that for a new receiver card. Please refer to <u>5.9.2.3 Set coefficients for a new scan</u> <u>board ->Step 3</u> for more details.

> Step 5

Save the calibration coefficients to the hardware (FLASH) so they won' t be lost when the LED display is powered off. The operation is similar to that for a new receiver card. Please refer to <u>5.9.2.3 Set coefficients for a new scan board ->Step 4</u> for more details.

5.9.2.5 Adjust Coefficients

If some parts of the LED display are different from the rest in color, the color of these areas can be adjusted by modifying the corresponding calibration coefficients.

> Step 1

Select the areas to be adjusted. Fig.5-99 shows the page for area selecting.

creen:1	Locati	.on:X=100,	Y =100	Size:256¥×	128H					
🔿 Screen	O Pixel	Ļ	Topo	logy or List	V Sel	ect Area ()n Screen			
(1, 1)	(1,2)	(1, 3)	(1,4)	-						Zoom:
(2, 1)	(2, 2)	(2, 3)	(2,4)							-
										1.0
							Back	Next	Re	turn

Fig. 5-99 The page for selecting the area to be adjusted

Select the adjustment type. If Adjust Own Effect option is selected, the color adjustment of selected area is independent to the other areas of the LED display. If Effect As Other Selected Area option is selected, the color of the selected area will be adjusted according to the reference area color. The selected area color will look similar to the reference area color after the adjustment operation. Shown in Fig.5-100 and Fig.5-101 are the page for the two adjustment type respectively.



Fig. 5-100 The page for Adjust Own Effect option

Select The Ac	djustive Mode ————		
🔘 Adjust	Own Effect	⊙ Effect As Other Selected Area	
Select Refere	ence Area	C \	
Screen:1	Location:X=100,	Y=100 Size:256♥×128H	
🔘 Screen	O Pixel	⊙ Topology or List □ Select Area On Screen	
(1, 1)	(1, 2) (1, 3)	(1, 4)	Zoom:
(2, 1)	(2, 2) (2, 3)	(2, 4)	-
			~
			1.0
L		Back Next Ret	turn

Fig. 5-101 The page for Effect As Other Selected Area

	Note:
	1. If Adjust Own Effect option is selected, NovaLCT-Mars will acquire the
	calibration coefficients of the selected area for the hardware. Adjustment on
	these coefficients is independent to the other area of the LED display.
and	2. If Effect As Other Selected Area is selected, NovaLCT-Mars will adjust the
	calibration coefficients of the selected area according to those of the
	reference areas and make the selected area looks similar to the reference
	areas in color. The nearer the reference areas are to the area being adjusted,
	the better the adjustment result will be.

Adjust the calibration coefficients. This step is similar to that for a new receiver card. Please refer to <u>5.9.2.3 Set coefficients for a new scan board ->Step 3</u> for more details.

> Step 4

Click the **Save** button to save the adjusted calibration coefficients to the hardware. The save coefficients won' t be lost even the system is powered off. Shown in Fig.5-102 is the page for saving the calibration coefficients.

Apply and Save Coefficients	
Apply The Effect To Other Area	Save
	Back Finish Return

Fig. 5-102 The page to save the calibration coefficients

The adjustment operations in Step 2 and Step 3 can also be applied to other areas that need the same adjustment. Click **Apply The Effect To Other Area** item on Fig.5-102 to open the page for setting. Shown in Fig.5-103 is the page for Apply The Effect To Other Area.

Apply and Sa Apply The	ve Coefficients Effect To Other Area			Save
Apply the Ef	fect to Other Area	Y=100 Size:256W	× 128H	
⊙ Screen	O Pixel	🔘 Topology or List	Select Area On Scr	een
		Opera	ate all pixels!	
				0.,
			C	Apply
			Back	Finish Return

Fig. 5-103 The page for Apply The Effect To Other area

Apply

Apply adjustment operations to the selected area.



5.9.2.6 Erase or reload Coefficients

Shown in Fig.5-104 is the page for erasing/reload calibration coefficients.

Erase coefficients: erasing calibration coefficients of the whole display or any cabinets.

Reload coefficients: reload the calibration coefficients lastly saved in hardware.

)r							
Online Calib	ration Offline Ca	libration	n Manage Co	efficients				
Select Scan	Board							
Screen:1	Location:X=0), Y =0	Size:12	28 ▼ ×128H				
⊙ Screen	○ Fixel	C) Topology o	r List	Select Area On Sc	reen		
		Ó	JA	Opera	ate all pixels!		-,0	
	4					Reload	Erase	Return
	I	ig. 5-1	L04 The	page for	erasing calibration	coefficien	ts	

Screen

Select this option to erase all calibration coefficients for the whole display.

Topology or List

Select this option to select the cabinets from the cabinet array sketch or the cabinet list of which

the calibration coefficients are to be erased.

Note:

The calibration coefficients will be their default values after the erase operation. Make

a copy of the calibration coefficients (save to a database file) for safety.

5.9.3 **Reset coefficients**

Reset correction coefficients of the full screen or the specified area in accordance with the size of

module or pixel.

Complete all operation of reset coefficient, click on the "Save To HW", The correction coefficient

reset will be effective.

Screen Calibration					×
Current operation communication	Online Calibration Offline Calib	Manage Coefficients			
port COM3 +	Choose to re set the coefficient	ents of the region -			
Current Screen	Screen:1 Location:	X=0, Y=0 Size:32W	× 16H		
Screen1	Screen O Pixel	Topology or List	Selec Scree	t Area On n	
		Set Coefficients		×	
		2047	0	0	
			00.17		
			2041	0	
	\sim	0	0	2047	
		OK		Cancel	
Enable/Disnable Calibraion					
Disable • (The					
Save				ReSet Coeffici	Return



5.10 Function Card Management

Management operations of the function card (also named multifunction card), such function card
configuration, program loading, external device configuration, monitored data updating and power supply management, will be given in this section.



Shown in Fig.5-106 is the Function Card Management page when it is opened for the first time.

Fig. 5-106 The Function Card Management page

5.10.1 Function Card Configuration

Use the menu or tool bar in the panel on the left of the Function Card Management page to configure the function card.

Add

- > Serial Port--- add a function card which is connected to a serial port of the computer.
- > Ethernet Port--- add a function card which is connected to a Ethernet port of the sending

board (controller).

Remove

This is to remove the selected node. The selected node could be a function card, Ethernet port, sending board or a serial port.

Rename

This is to rename the selected function card.

Serial port Operation

The corresponding menu item and tool bar button are only available when the following requirements are satisfied: The selected node is a serial port; the device connected to the serial port does not match the device type of the serial port or the serial port is disconnected.

- Modify Serial Port--- set the selected serial port as one that no function card has been configured for it.
- Replace Serial Port--- when the function card of the selected node is connected to a serial port other than that of the selected node, click this button to replace the selected node serial port with the one that is connected with the function card.

5.10.2 Power Management

Click the **Power Management** button on the **Function Card Management** page to open the page for power management. The Power Management page is shown in Fig.5-107. Circled in the page is the **Power Management** button.

Power Mar	hagement N	Ionitor Data Ext	ernal Device		gram Audio ma	anagement	
Function 2013-02	Card Time – -20 Wednes	dav 10:10:	Read	Set	Set Notes	Start D)elay
● ● ⊙ Mar	nual	• • • •		Refresh O So	Start All ftware Control	Emerge	ncy St
Switch 1:	Start	Stop					
Switch 2:	Start	Stop					
Switch 3:	Start	Stop					
Switch 4:	Start	Stop					
Switch 5:	Start	Stop					
Switch 6:	Start	Stop					
Switch 7:	Start	Stop					
Switch 8:	Start	Stop					
2013-2-20 1	10:11:28Re	ad the status of a	all the power	s in function	card:Succeed	^	
2013-2-20	10:11:31Sta	art power:Succee	d				
2013-2-20	10:11:33Re	ad the status of a	all the power:	s in function	card:Succeed	×	
:Succeed!				•			.:

Fig. 5-107 The page for power management

Function Card Time panel

- Read --- to read the time from the function card and show in this panel.
- > Set --- to set the function card time as that of the computer.

Set Notes

Set note for each of the power supply of the current function card.

Start Delay

Set the delay time for starting power. If the delay time is successfully set, the stating of each of

the power supply control by the function card will be delay for the delay time. For example, if the

delay time is set as 2 seconds, then each power supply will delay 2 seconds when starts.

Refresh

This button is to refresh the power management information, including the power control mode (manual, auto or software control), the power supply status (start or stop), the function card time and the delay time.

Start All

This button is to start all power supplies controlled by the function card.

Emergency Stop

Click this button to stop all power supplied controlled by the function card. For power supplies under auto control, their schedules will be disabled when the emergency stop operation is executed. The schedules won' t be enabled until **Start All** button is clicked.

Manual

This is to set the power control into manual control mode. Use the Start button or the Stop button to start or stop the corresponding power.

Auto

This is to set the power control into auto control mode. The hardware system will start or stop the power supplies according to the schedule automatically. The schedule can be set and send to the hardware through NovaLCT-Mars.

Software Control

In this mode, NovaLCT-Mars controls the power supplies according to the schedule set for the power supplies.

5.10.2.1 Manual Power Control

Select the Manual option to set the power supply control mode in to manual mode. And the

power supplies of the function card can be controlled through the corresponding Start button or

Stop button.

5.10.2.2 Automatic Power Control

The page for automatic power control is as shown in Fig.5-108.

Function 2012-04-	Card Time -17 Tuesday 18	:30:23 Read	Set	Set Notes	Start Delay	
			Refresh	Start All	Emergency Stop	
🔘 Man	ual	(Auto	🔘 Software C	Control		
	Start	Stop				
Switch 1:	10:51:30 😂	13:52:30 😂				
Switch 2:	13:51:30 💲	13:52:30 📚				
Switch 3:	13:51:30 💲	13:52:30 📚				
Switch 4:	13:51:30 🛟	13:52:30 📚				
Switch 5:	13:51:30 😂	13:52:30 📚				
Switch 6:	13:51:30 😂	13:52:30 😂				
Switch 7:	13:51:30 😂	13:52:30 📚				
Switch 8:	13:51:30 😂	13:52:30 🜲		G		
				(Send	

Fig. 5-108 The page for automatic power control

Select the Auto option to set the power control mode into auto control mode. The time for start or stop each power supply can be set through this page. Click **Send** button to send the schedule to the hardware. And the hardware system will automatically start or stop the power supplies according to the schedule.

	No	ote:
	1)	In Auto mode, the schedule will be disabled if the Emergency Stop button is
aab		clicked. The schedule won't be enabled until the Start All button is clicked.
	2)	The time standard for automatic power control is the function card time. Check
		the function card time before setting the schedule for auto power control. To

check the function card time, click **Read** button in the **Function Card Time** panel. To set the function card time, click Set button and the function card time will be set the same as that of the computer.

5.10.2.3 Software Power Control

The page for software power control is as shown in Fig.5-109.

•••	ual	🔴 🌒 🌑 🔿 Auto	Refresh Software C	Start All	Emergency 3
ustom Com	atrol List)
Power S	Switch:1	CIOSE IIME			
Friday	17:34:03	18:34:03			
Power S	witch:2				
Friday	17:34:03	18:34:03			
Power S	witch:8				
Friday	17:34:03	18:34:03			
			Const	View Lee	Rate

Сору

To copy the power control schedule of the current function card so it can be applied to other

function cards by pasting.

Paste

To paste the copied power control schedule to the current function card.

View Log

Lect the Log File: 2012-6-	4 💌 Moz	nday		
Address	Operation Type	Power Switch	Operation Time	Operation Result
COM6-Sending Board 1-Port	1 [.] Stop	1	10:15:00	Succeed
	Stop	2	10:15:00	Succeed
	Stop	3	10:15:00	Succeed
	Stop	4	10:15:00	Succeed
	Stop	5	10:15:00	Succeed
	Stop	6	10:15:00	Succeed
	Stop	7	10:15:00	Succeed
	Stop	8	10:15:00	Succeed

Click this button to check the log of the control operations on the power supplies. Shown in

Fig.5-110 is the page of View Log.

Fig. 5-110 The View Log page

> Select the Log File --- select the date of the log to be checked here.

To check the power control log, select the date of the log to be checked in the box labeled **Select the Log File** and select the function card to be checked form the function card list (the **Address** list) at the left of the page. The detail of power supply control will be shown in the panel at the right of the page.

Edit

Click this button to open the page for editing the power supply control schedule. Shown in Fig.5-111 is the page for editing the schedule.

Delete	Clear	power	Power Switch
Week	Start Time	Close Time	Switch 1 Switch 2 Switch 3 Switch 4 Switch 5 Switch 6
Power	Switch:1		Switch 7 Switch 8
riday	17:34:03	18:34:03	Date
Power	Switch:2		mon. Tues. med
riday	17:34:03	18:34:03	Thur. Fri. Sat.
Power	Switch:8		D Sun
?riday	17:34:03	18:34:03	Time 09:02:15 Start Time: 09:02:15 Close Time: 09:02:15
			Add

Fig. 5-111 the Power Custom List

- > **Delete** --- click this button to delete the selected items in the Custom Edit Area.
- > **Clear** --- click this button to clear all existing settings.
- > **Power Switch** --- listed in the panel are the power supplies controlled by the function card.

Select the one to be edited here.

- > **Date** --- select the days for power control in this panel.
- > **Time** --- set the time for star and stop the power in this panel.
- > Add --- click this button to add the settings in the Custom Edit Area to the Custom Control

List of Power.

Note:

The time standard for the software control mode is the time of the computer on

which NovaLCT-Mars is running.

5.10.3 Monitor Data

Click Monitor Data button on the Function Card Management page to open the page for

system monitoring. Show in Fig.5-112 is the page for system monitoring.

Power Management	Monitor Data	External Device	Load Program	Audio management	
Monitor Data of Funct	ion Card				
Temperatu	29°C				
📌 Humiditv:	29%				
Voltage:	4.2V				
Ţ	No mon	nitor boa	ard!		efresh

Fig. 5-112 The page for system monitoring

Refresh

Click this button to acquire the monitored data from the current function card and the monitor board that connected to the current function card.

5.10.4 External Device

Click the External Device button on the Function Card Management page to open the page for

external devices management. Shown in Fig.5-113 is the page of External Device.

Refresh

This is to refresh the information of the external devices.

Save

Click this button to save the external device type settings to a file. The **Save** button must be clicked after any modifying of the external device type settings.

10.10		٢
Power Management	onitoring Data Perinheral Device Load Program Audio Management	
Pleas	click 'Save' button after modification	
Peripheral device	No external device	
Peripheral device	External 3D Emitter No external device	
Peripheral device		
Peripheral device		
Peripheral device	INO external device	
Peripheral device	No external device	

Fig. 5-113 The page for external devices management

5.10.5 Load Program

Click the Load Program button on the Function Card Management page to open the page for

loading program to the hardware. Shown in Fig.5-114 is the page of program loading.

P	ower Management	Monitor Data	External Device	Load Program	Audio managem	nent
۲F	unction Card Inform	ation				
M	lodel ID:	81 01				
F	PGA Version:	03.02	00.02			
F	PGA Note:	多功	龍卡App程序 版本	号V3.2.0.2		Refresh
		Fig. 5-114	The page for	^r program loa	ding	

Refresh

Click this button to acquire the version information of the current function card.

Type in admin directly to access the options for program loading. Shown in Fig.5-115 is the page

with the program loading options.

Function Card Informati	n		
Model ID:	81 01		
FPGA Version:	03 02 00 02		
FPGA Note:	多功能卡App程序 版本	【号V3.2.0.2	
			Refr
 Load program for s card(COM17) 	elected function	oad program for all funct	en card
Select Program			\rightarrow
Program Name:			
Program Version:			
Broastom Bat			

Fig. 5-115 The page with program loading options

Exit

Click this button to go back to the page shown in Fig.5-115.

Load program for selected function card

Select this option to load program to the current function card.

Load program for all function card

Select this option to load program to all function cards.

Program Path

Select the program to be loaded here.

Change

Click this button to load the selected program to the current function card or all function cards.

	No	ite:
	1.	There isn't any place to view the typing when typing the pass code. Just type in
		the pass code directly and the page shown in Fig.5-112 will change to the one
and		shown in Fig.5-115.
	2.	Just type in the pass code again if the one input before is wrong.
	3.	It not recommended changing the program unless there are problems with the
		function cards.

5.11 Cabinet Library Management

This is to manage the existing cabinet libraries or creating new cabinet libraries. It helps in quick

configuration of the cabinets and modules.

> Step 1

Click **Tool** ->**Cabinet** Library to open the page for library management. If it is the first time to open the page, the dialog as shown in Fig.5-116 will appear for open or create a library.



Fig. 5-116 The dialog for opening or creating a library

Open

Click this button to open an existing library.

Create

Click this button to create a new library.

Step 2

1) Module Management

Shown in Fig.5-117 is the page for module management.



Fig. 5-117 The page for module management

Import Module

Click this button to import the module configuration files generated during the Smart Setting

procedure to a cabinet library.

Export Module

Click this button to export the module configurations from a cabinet library to a module configuration file. Module configuration files help in speeding up the **Smart Setting** procedure.

Show All

Select this option to request NovaLCT-Mars to show module configurations of all cabinets in the list.

Search by Condition

Select this option to shown all module configurations that meet the requirements set in the

Search Condition panel in the list.

2) Cabinet Management

Shown in Fig.5-118 is the page for cabinet management.

🔜 Lodule and Cabinet DatabBase		
Module Operation Cabinet Operation		
	🗙 🔈	
Import Cabinet Export Cabinet Refresh Cab	inet Delete Cabinet Clear Cabinet	
Module Cabinet		
Show All	Name Cabinet Type Cabinet Width	
O Search by Condition		
Search Condition		
🔿 Regular Cabinet		\bigcirc
🔿 Irregular Cabinet		
Select All		
Cabinet Width		
Module		
Cascade Right to Lef		
Search Now		
	S	
Current operation status: Database is open -C	\Documents and Settings\Administrator\桌面\tempDD.mo	cl

Fig. 5-118 The page for cabinet management

Import Cabinet

Click this button to import a cabinet configuration file to a cabinet library.

Export Cabinet

Click this button to export the cabinet configurations from a cabinet library to a cabinet configuration file.

Show All

Select this option to shown in the list all cabinets' configurations in the library.

Search by Condition

Select this option to shown the configurations of the cabinets that meet the requirements set in the Search Condition panel in the list.

5.12 Prestore Screen

User can store a picture as the screen' s Prestore Screen in the Prestore Screen Setting form,

and then use as boot logo, cable disconnected logo, and no DVI signal logo.

Click the submenu Prestore Screen of the Settings in the main menu, and then it is show as

follow:

Prestore Pictur	e Settings	
-Select Serial Port-		
Serial Port: CO	M3 💌	
Screen1		
-frestore ficture Se	ettings	
Select Picture:		Browse
Refeat Sattings		
Same Ref.	Stored al	
Screen Lifect	Stretch	
🔵 Cabinet Effec	t Stretch	V Test Effect
	Save To Hardware	Check Store Picture
	(
Function Settings-		
Boot Screen		
📃 Enable	Time:	2 🤹 s
Cable Disconnect —		
Block	O Lost Exono	👝 Prestore
O DIACK	U Last frame	Picture
No DVT Signal		
TO DIT DIGHT		
💿 Black	🔘 Last Frame	O Prestore
~		Ficture

Fig. 5-119 Prestore Screen Setting

1) Prestore Screen Setting

Browse: Select the picture' s path of Prestore Screen.

Screen Effect: The selected picture will be stretched, tiled or centered to the screen. (Each cabinet will show part of this picture, and they matching to be the whole picture)

Cabinet Effect: The selected picture will be stretched, tiled or centered to each cabinet of the screen. (Each cabinet will show this picture in its own region).

Test Effect: Show the selected picture on the screen. (This operation will not save the picture to the hardware.)

Save To Hardware: User can click this button to save the picture as Prestore Screen to the hardware if he is satisfied with the test effect.

Check Store Picture: In order to check the stored effect, click this button to show the Prestore Screen which was stored in the hardware on the screen.

2) Function Settings

Boot Screen: User can set whether enable boot screen or not and the boot screen time when power on. The Prestore Screen is used as the boot screen.

Cable Disconnect: User can select the display frame when cable disconnect.

No DVI Signal: User can select the display frame when there is no DVI signal.

Send: Send the settings to the hardware. (If Save to Hardware is not clicked, the settings will lost

after power off.)

Save To Hardware: Save current settings to hardware, then the settings will not lost after power off.

6 Memory On Module Manage

Click the option "Module Flash" in Tools, and open the module Flash operation interface, as you

can see in the figure:

System(S) Settings (C) Tools(T) Plug-in (P) User(U) Language(L) Help(H) Screen Configuration (S) Bighthness (B) Multi-function Card (C) Multi-function Card Cloud Monitoring Multiple-screen Management(A) Hardware information(H) Herkowen View Details of Desice Control SP Prestore Screen (R) Multi-function Card (C) With Multiple-screen (R) Monitor Inform Advanced Color Configuration (O) With Multiple Screen (R) With Multiple Screen (R) Monitor Inform Advanced Color Configuration (O) With Multiple Screen (R) With Multiple Screen (R) Monitor Inform Advanced Color Configuration (O) With Multiple Screen (R) With Multiple Screen (R) Screet Could Monitoring (C) With Multiple Screen (R) Screen (R) Screen (R) Screet Could Monitoring Could Monitoring Position (P) Screet (R) Screen (R) Screen (R) Screet Could Monitoring Could Monitorin	MovaLCT-N	Nars V4.4.1		×
Screen Configuration (6) Brightness (6) Multi-function Card(F) Multi-function Card Cloud Monitoring Local System Hardware Information(H) Prestore Screen (P) Advanced Color Configuration (0) Cloud Monitoring(C) Image: Configuration (A) Monitor Inform Advanced Color Configuration (0) Cloud Monitoring(C) Image: Configuration (A) Receiving Card Relay(I) Configure Information Management(M) Service Status The Main Window Starting Position(P) Service Status Service Status Service Status <t< td=""><td>System(S)</td><td>Settings (C) Tools(T) Plug-in (P) User(U)</td><td>Language(L) Help(H)</td><td></td></t<>	System(S)	Settings (C) Tools(T) Plug-in (P) User(U)	Language(L) Help(H)	
Brightness(#) multi-function Card(F) Multi-function Card(F) Multi-function Card (Could Monitoring Control Sy Hardware Information(+) Prestore Screen (R) Jukmown Monitor Inform Advanced Color Configuration (O) Cloud Monitoring(C) Monitoring Card Relay(b) Control Sy Receiving Card Relay(b) Configure Information Management(M) Receiving Card Relay(b) Service Status Configure Information Management(M) Service Status The Main Window Starting Position(P) Service Status Service Status Current Oper COM3 Serveent Screent I Screent I Select by Pk Screent I		Screen Configuration (S)		
Screen Conf Multi-function Card(F) of Monitoring Multi-function Card Cloud Monitoring Local System Multiple-screen (R) Jinknown View Details of Device Control Sy Prestore Screen (R) Jinknown View Details of Device Monitor Inform Advanced Color Configuration (O) Cloud Monitoring(C) Inknown View Details of Device Monitor Inform Advanced Color Configuration (O) Cloud Monitoring(C) Inknown View Details of Device Monitor Inform Advanced Color Configuration (O) Cloud Monitoring(C) Inknown View Details of Device Monitor Inform Advanced Color Configuration (O) Cloud Monitoring(C) Inknown View Details of Device Send By Address Send By Topology Select Screen Screen1 Screen1 Screen1 Screen1 Screen2 Screen3 Scleet by Pix Select by Pix Scleet Area 0n Screen3 Full Select by Pix Scleet all pixels Screen 1		Brightness(B)		
Local System Control Sy Hardware Information(+) Prestore Screen (R) Advanced Color Configuration (0) Cloud Monitoring(C) Receiving Card Relay(I) Configure Information Management(M) Service Status The Main Window Starting Position(P) Service Status Send By Address Send By Topology Select Screen Screen1 Screen1 Screen2 Screen3 Screen3 Screen3 Screen3 Screen4 Screen4 Screen4 Screen5 Screen5 Screen5 Screen5 Screen5 Screen5 Screen5 Screen5 Screen5 Screen5 Screen5 Screen5 Screen6 Screen6 Screen6 Screen7 Screen7 Screen7 Screen7 Screen7 Screen7 Screen7 Screen7 Screen7 Screen7 Screen7 Screen7 Screen7 Screen7 Screen7 Screen7 Screen8 Screen7	Screen Conf	Multi-function Card(F)	rol Monitoring Multi-function Card Cloud Monitoring	
Control Sy Hardware Information(H) Unknown View Details of Device Advanced Color Configuration (0) Cloud Monitoring(C) Image: Cloud Monitoring(C) Monitor Inform Receiving Card Relav(N) Image: Cloud Monitoring(C) Receiving Card Relav(N) Configure Information Management(M) Image: Cloud Monitoring(C) Service Status The Main Window Starting Position(P) Image: Cloud Monitoring(C) Current Oper. COM3 Image: Cloud Monitoring(C) Service Status Serven1 Screen1 Screen1 Screen2 Full Select by Ppc Screen3 Full Select by Ppc Select Area 0a Operate all pixels Compare all pixels Compare all pixels	-Local System	Multiple-screen Management(A)		
Control of monotoning (C) Interdetermine of particular and parting particular and particular and particular an	Control Sv	Hardware Information(H)	Inknown View Datails of Davice	
Monitor Inforr Advanced Color Configuration (0) Cloud Monitoring(C) Module Flash (U) Receiving Card Relay(I) Configure Information Management(M) Service Status The Main Window Starting Position(P) Iodule Flash Current Oper Current Oper COM3 Send By Address Send By Topology Select Screen1 Screen1 Screen2 Full Screen3 Full Screen3 Select by Pbc Screen3 Operate all pixels	Control Sy	Prestore Screen (R)	CINIOWIT <u>VIEW Details of Device</u>	
Cloud Monitoring(C) Module Flash (U) Receiving Card Relay(I) Configure Information Management(M) Service Status Current Oper Codule Flash Current Oper Codule Flash Send By Address Send By Address Send By Address Send By Topology Seted Streen Screen1 Screen2 Screen3 Seted by Pix Seted by Topology Select by Pix Select by Pix Select all pixels	- Monitor Inforn	Advanced Color Configuration (O)		
Module Flash (U) Receiving Card Relay(!) Configure Information Management(M) The Main Window Starting Position(P) coulde Flash Current Oper Colder Flash Send By Address Send By Topology Select Screen Screen1 Screen1 Screen2 Screen3 Full Screen3 Operate all pixels	Å	Cloud Monitoring(C)		
Receiving Card Relay() Configure Information Management(M) The Main Window Starting Position(P) codule Flash Current Oper Common Oper Send By Address Send By Topology Select Screen 1 Screen 2 Screen 2 Screen 3 Screen 3 Screen 4 Screen 4 Screen 5 Screen 7 Screen 7 Screen 8 Operate all pixels		Module Flash (U)		
Service Status Configure Information Management(M) The Main Window Starting Position(P) Social Plash Current Oper Com/3 Send By Address Send By Topology Screen Screen1 Screen2 Screen3 Screen3 Operate all pixels		Receiving Card Relay(I)		
Service Status The Main Window Starting Position(P) codule Flash Image: Common Service Status Current Oper Common Service Status Send By Address Send By Topology Select Screen Screen:1 Screen:1 Screen:2 Screen:2 Full Screen:3 Full Screen:3 Operate all pixels		Configure Information Management(M)		
odule Flash Current Oper Send By Address Send By Addres Send By Addres	Service Status	The Main Window Starting Position(P)		
Current Oper COM3 Send By Address Send By Topology Select Screen Screen1 Starting coordinate X=0, Y=0 Size 128W×128H Screen2 Screen3 Operate all pixels Operate all pixels	odule Flash			
	Send By Address Select Screen	end By Topology Screen:1 Starting coordinate X= Full Select by Pix Select	eo, Y=O Size 128W×128H ^{by Topology} Select Area On Screen	
view calibration coefficients in modul. Save calibration coefficient. Save coefficients to modules Alash Check	View calibration c	pefficient Check coefficients in modu Save ca	libration coefficient Save coefficients to modules Flash	Check



Current Operating Serial port : Serial port of currently connected sending equipment.

Send by Address : Double-click the corresponding table, and set the physical address; the

description is shown as follows:

Sending#	Port	Scan board	Means
1	*	*	Means all the Scan boards of the first sending board .
1	1	*	Means all the scan boards of the first port in the first
	T		sending board.
_	1	-	Means the first scan board of the first port in the first
	1	1	sending board.
		1	

Module Flash		
Current Oper COM3	STAR	
Sending Card	Port	Receiving Card
1	1	1
1	1	2
1	1	3
<i>J</i> 1	2	*
*		
IAI		
All serial numbers start from 1,'*'	means 'all' (Flash check does not supp	ort '*').
1.If the position of receiving card is:1-*-*,it mea	ns all the receiving cards of the first sending bo	ard;
2.If the position of receiving card is:1-1-*,it mea	ans all the receiving cards of the first port in the f	irst sending board;
3.If the position of receiving card is set to be 1-	1-1, it means the first receiving card at the first p	ort of the first sending card;
View calibration coefficient) Check coefficien	nts in modu Save calibration coefficient Sa	ve coefficients to modules Flash Check



Send by topology: Select the receiving card in accordance with the topology; select the full screen (i.e., all connected receiving card), or select one or more receiving cards in accordance with the arrangement diagram.

Module Flash	
Current Oper	DM3
Send By Address Send	By Topology
	Screen:1 Starting coordinate X=0, Y=0 Size 128W×128H
Screen1 Screen2 Screen3	Full Select by Pix Select by Topology Select Area On Screen
	CH
	Operate all pixels
	STAR
View calibration coef	icient) Check coefficients in modu Save calibration coefficient Save coefficients to modules Flash Check
	Fig. 6-3 Send by Topology

Check coefficients in Scan Board : Check the effect of calibration coefficient saved in receiving card at LED screen.

Check coefficients in Modules : Check the effect of calibration coefficient saved in module Flash

at LED screen.

Save coefficients on Scan Board : Save the calibration coefficient currently being checked to

receiving card.

Save coefficients to Modules : Save the calibration coefficient currently being checked to module Flash.

Flash test: test whether Flash is normal.

Types of error in Flash test and its reasons:

1) Hardware failure;

- a) It may be caused by the screen inconsistent with the actual situation;
- b) It may be caused by the configuration of arrangement diagram inconsistent with the actual situation.
- 2) Communication error: it may be caused by a hardware connection error.
- 3) Abnormal Flash arrangement: no configuration of Flash arrangement, or no hardware;

Flash arrangement embodies physical connections of all Flashes, and it needs to be configured in

the "Display Configuration". Please see the specific operation.

Module Flas	sh nt Oper C	ОМЗ	•						X
	Verify Resu	lt							
Send By A	Sending Card	Port	Receiving card	Flash X Coordinate	Flash Y Coordinate	Flash Width	Flash Height	ErrorType	
Screer	1	1	1	0	0	0	0	Flash Configu	
Screer									
							C	0.,	m - 0
						C		ОК	
View cal	ibration coef	ficient Check	coefficients in m	odu Save ca	libration coeff	icient Sav	e coefficients	to modules Flas	h Check

Fig. 6-4 Flash check

7 Multi Batch Adjustment

Quickly adjust the chromaticity of each batch of cabinet to achieve the effect of reference model.

After adjusting well, save the adjustment parameter into a file; next time, load the file to finish

adjustment quickly without manual adjustment.

In the main interface, click **Tools** \rightarrow **Multi-batch Adjustment**, start multi-batch adjustment. The operation steps are as follows:

MovaLCT-Mars V4.4.1	
System(S) Settings (C)	Tools(T) Plug-in (P) User(U) Language(L) Help(H)
	Calibration(C) Screen Control(P)
Screen Configuration Brig	Monitoring(M) -function Card Cloud Monitoring
-Local System Information	Led Error Detection(T)
Control System 1	Multi-batch Adjustment(B) Controller Cabinet Configuration File Import (E)
Monitor Information	QuicklyAdjust Dark or Bright Lines(Q)
•	
L Service Status: Service versio	n:3.0 .:

Fig. 7-1 Multi Batch Adjustment

7.1 Manual adjustment

Check "Manual adjustment", as shown in Figure 7-2.Select a colorimeter connected to the

system. If there is not colorimeter, tick "No colorimeter" and then click "Next".

Multi-Batch Adjustment - Initialization	
-Operation Type	
Manual Adjustment	Apply Adjustment File
Colorimeter	
Select Colorimeter: Measurement Accuracy of.	CS2000
	Next

Fig. 7-2 Select colorimeter information

1) Set sample batches

Select screen, click Add to add a batch, right click the batch to rename it. and then click to add the sample area (when selecting in accordance with pixels area, if there is a red box, it shows that it is out of range).

If one selects a batch and tick "Fixed Batches, Adjust Other Batches to The Bath", then this batch will be used as a reference batch, which could not be modified further. If do not tick, it can be modified in the next step.

Click "Next" once setting is completed.

Multi-Batch Adjustme	ent - Add Sample Batch		-	-		x
Add Delete In	Se Z. port Export					
Batch Name	Sample Information —					
Sample Batches1	📃 Fixed Batches, Adji	ust Other Batches to	The Batch			
Sample Batches2	Information of The Cu	rrent LED Display —				
	Communication P	COM6	 Select 	ct Displa	LED Display1 🛛 👻	
	Display Screen:	💿 Main Display) () E	xtended Display		
	Sample Area Informat	ion				
	No. LED	Display X	Y	W	н	
	1 1	0	0	80	32	
	Measurement Value o	f Colorimeter				
	Display Screen	Brightness	Сх		Су	
	Red					
	Green					
	Blue					
		Q				
				Previou	s Next	

🔵 Screen 💿 Pixel	🔵 Topology or List	Select Area of Screen	n
7,			
Start Pixel Colu	0		
Start Pixel Line	0		
Area Width:	256		
Area Height:	256		

Fig. 7-3 Add Sample Batch

Rename: right click on the name of the batch and then click "rename" to modify the batch name in the pop-up interface.

Multi-Batch Adjustment - Add Sample Batch	
Add Delete Import Export	-
Batch Name Sample Information –	
Sample Batches1 Fixed Batches, Adj	1
Sample Rename ation of The C	J
Communication P.	
Display Screen:	
- Sample Area Informa	
	x
Rename: Sample Batches1 Rename Cance	

Measurement Value of Colorimeter: Display only there is colorimeter, it's need to fill in the measurement value of the colorimeter.

2) When there is a colorimeter and the effect of initial adjustment is perfect, there is no need to make fine adjustment (Step3)), Operation will directly into the step 3) (adjustment) if no colorimeter.

Multi-Batch Adjustment - Watch Initial Adjustment Effect
View Preliminary Result
Automatic Switching Interval Second Switching (1-60 se
Brightn 🔸 50 %
Enable Correction
Result Selection
Not Satisfactory (Enter Color Temperature Adjustment)
Satisfactory (Enter Fine Adjustment of Batch)
ECH
Previous

Fig. 7-4 View the effect of initial adjustment

3) Adjustment

View the effect of initial adjustment; it can automatically switch each color, or be manually switched; at the same time, the brightness can be set manually.

If you are not satisfied with the effect ,the coefficient can be adjusted, there are two ways for adjustment , they are RGB and HSI.

Multi-Batch Adjustment - Sam	nple Batch Adjustment	
Delete Export		
Name Display Sample Batch Image: Complement of the second sec	Adjustment Batch Color Prightness: 50 % Coefficient Adjustment Adjustment Mode: © RGB HSI Red Coefficient Green Coefficient Blue Coefficient Red Brig 4 Green C 4 Blue Co 4 Blue Co 4 Blue Co 4 Without Coefficient Coeffici)47 💽
	Previous	ext
L'AN'	JOVAS	

Multi-Batch Adjustment - Samı	ole Batch Adjustment
Delete Export	
Name Display Sample Batch Image: Complete Batch Sample Batch Image: Complete Batch	Adjustment Batch Color Prightness:
	Previous

Fig. 7-5 Coefficient Adjustment

Balanced : Please click Balanced Description to view the details.

Operation steps are as follows:

a) Regulate the optimum results of red, green and blue;

Balanced adjustment - Re	ed, green and blue		
- Reference Batch	Selection		
Reference B	atch: Sample Batches2 👻		
- Balanced Adjust	ment (Red, Green, Blue)		
Adjustment M	lode: 💿 RGB	🔘 HSI	
Red Coefficient	Green Coefficient Blue Coefficient		
Red Brig	•		2047 🚔
Green C	•		
Blue Co	•		
			Cancel Adjust
			Next
L			

Fig. 7-6 Balanced Adjustment (Red, Green, Blue)

b) Regulate the optimum results of white;

Reference Batch Selection	
Reference Batch: Sample Batches2	
Balanced Adjustment (White)	
Red Brightness: 🔺	▶ 2047 🛬
Green Brightness 🕢	► 2047 ÷
Blue Brightness: ∢	► 2047 ÷
4	Cancel Adjust

Fig. 7-7 Balanced Adjustment (White)

c) Judge the test results with human eye assistance.

Tick "Auto Balancing", Click Start Balancing to start the automatic balance adjustment.

After once balance is finished, the software will indicate whether or not satisfied, if you are

satisfied, you can click Yes to continue the next balanced matching, not satisfied, click to end balancing match.

Tips: If no value change lever when adjusting white balance can't be started.

Do not tick "Auto Balancing", you can manually adjust the coefficient of red, green and blue.

Balanced adjustment - Balanced match	x
Balanced Matching	
✓ Auto Balancing	
Start Balancing	
Previous	
Please check the current display is satisfactory	
Yes No Cancel	
Fig. 7-8 Auto Balancing	

Balanced adjustment - Balanced match					
Balanced Matching					
Red Coefficient Green Coefficient Blue Coefficient	Component				
Red Co • 2047 🛫	Red: 0				
Green C 🖣 📄 👘	Green: -623				
Blue Co < 🔤 🕨 🖢	Blue: 0				
Cancel Adjust	Description of				
Previous					

Fig. 7-9 Manual Balancing

d) View the equilibrium results.

Balanced Effect Display		2				
		0	۲	\odot		
Brightness:				٠	50 %	
 Automatic Switching Enable Calibration 	Interval	3	Se Se	cond Switch conds)	ing (1-60	
			Pre	vious	Compl	ete

Fig. 7-10 View the equilibrium results

Cancel Adjust....:: Withdraw all adjustments.

4) Adjust the Color temperature of all Batch.

Multi-Batch Adjustment - Color Temperature Adjustment	
Color Temperature Adjustment	
Adjust Color Temperature	
Color Temperat	
Effect View	
Brightness:	
Automatic Switching Interval 3 🚔 Second Switching (1-60 seconds)	
Previous	

Fig. 7-11 Color Temperature Adjustment

Select the batch, and then add one or more unadjusted areas with the same batch on the 5) screen; click on the reen on LE (Display screen on LED display) to see the effect on the screen, and click Apply to apply the adjustment effect to this area.

M	Iulti-Batch Adjustmer	nt - Appl	y of Adjustment Results		-	10		
ſ	Apply Adjustment							
	Batch name							
	Sample Batches1	No.	Regional Information	LED	Apply	Cancellati	Deletion	
	Sample Batches2	1	COM6,LED display1,X:0,Y:0,W	reen on Lf	Apply	Cancel	Delete	Display
		2	COM6,LED display1,X:48,Y:11	reen on Lf	Apply	Cancel	Delete	the C
						6		Add Areas Apply All Cancel All
		V E	nable Correction 🛛 📄 Display	All Batches	<i>,</i> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Save	File	Save to Flash
			XP			Previous		omplete

Fig. 7-12 Adjust application of effect

6) Save the file

Click Save File, and save the adjustment parameter into .lxy file; next time, directly import the file for adjusting the cabinet of the same batch, and it can also be imported for cabinet correction.

7.2 Applications Adjustment File

Directly load the adjustment file previously saved, as shown in Figure 7-13.

istment - Initializatio	n		
tion Type			
🔘 Manual Adj	ustment	Apply Adjustment File	
ment File			
File Path:	D:\Docume	ents\dpctjf.lxy	
)•1
			Next
	tion Type Manual Adj ment File File Path:	tion Type Manual Adjustment ment File File Path: D: Docume	stment - Initialization tion Type Manual Adjustment Apply Adjustment File ment File File Path: D:Documents\dpctjflkxy

Fig. 7-13 Applications Adjustment File

8 Receive card relay

For the receiving card supporting the relay module, the parameters of relay can be set here.

The relay can be set as disconnected, closed or automatic; when the relay is set as automatic, the

temperature of closing and the temperature of disconnecting shall be designated.

Timing of receiving card is the accumulated using time of the receiving card; when "Clear

timing" , the time will be recorded from 0.

After finishing the setting, click "Send" to send the parameters to the receiving card.

P Setting of receiving card relay	l l
Serial port selection	
Serial port COM7	
Screen1	
Parameter of receiving card relay	
Disconnected	
Connected	
Auto	
- Temperature under auto mode	
Temperature of connected relay	
Refresh	
Receive Card Timing cleared	
Record Time Unknown	
Refresh	

Fig. 8-1 Setting of receiving card relay

9 Load configuration file

The cabinet configuration files are imported to controller, provided that the controller is connected to the control computer with the cabinet configuration files being saved in it; if it does not have it, the screen can be matched on the site, then the configuration files can be saved.

The operations of saving the configuration files is as follows:
Screen Config-COM5				
Sending Board Scan Board Screen Connection				
Module Info Chip: SUM2017 Size: Direction: Horizontal Decode Type:	32W×32H 74HC138 Decoding	Scan Type: Data Group:	1/16 scan 2	>>
Cabinet Info	Please Width kake sure width d height	lar r: ?? Heiaht: ing error. Please adius instruct (Vie	?? Please make surr the width and heigh	
Group Swap More Setting Refresh Rate: 480 V Hz	Clear Afterglow Accelerate R 4	Ţ		
Gray Scale: Normal 4096 V	Gray Mode: R	tefresh Rate First 👻	(25~75) %	
Clock Phase: 2 - Clock Phase: 2 - Clock Phase: 2 - Clock Phase: 25	Low Gray Co 0 Ghost Contro	×	6	
Line Change T 3 (0~19)	2	0	(1~24)	
Brightness Effi 68.24%	Min OE: 8	0 ns		
Smart Setting	Load File	Save File Read	I From HW Send To HW	Close

Fig. 9-1 Save configuration file

The steps for loading configuration file are shown as below:

1) Click the "Tools (C)" \rightarrow "Controller Cabinet Configuration File Import (E)" on the main

interface.

0 NovaLCT-Mars V4.4.1	-	
System(S) Settings (C)	Tools(T) Plug-in (P) User(U) Language(L)	Help(H)
Screen Configuration Brig	Calibration(C) Screen Control(P) Monitoring(M) Led Error Detection(T)	-function Card Cloud Monitoring
Control System 1	Multi-batch Adjustment(B) Controller Cabinet Configuration File Import (E)	tails of Device
Monitor Information	Quickly Adjust Dark or Bright Lines(Q) Video Control(V)	
•		
Service Status: Service versio	n:3.0	

2) The following figures i.e. 9-2 and 9-3 show the common controller and the configuration file

loading interface of Pro. A Rename function has been added for Pro.

ĺ	🖳 Load Configuration File
	Select COM port: COM4
I'AN	Move Up Move Down Advanced Add File Delete File Rename File Save to HW

Fig. 9-2 Send Board load Configuration File

Import the configuration file of controller cabinet	
Select serial USB@Port_#0003.Hub_#0003 🔻	
11 Move Up Move Down Advanced c	
Add Configura Delete Config	
Rename File Save the chan	
Sending card name setting	
Name	
▶1 AAAA	
Rename Save to HW	

Fig. 9-3 NovaPro load Configuration File

Name setting of Sending Board:

Select Pro, and then click

, change the name of the sending board in the

popped up renaming window. Click "OK" after the name is changed.

Rename

Note: The new name is only available after the "Enable naming" is ticked.

I Move Up Move Down Advanced c Rename Name: AAAA OK Cancel Sending card name Setting Enable naming Name 1 AAAA Save to HW	Sel	ect serial USB@Port_#0003.Hub_#0003 💌
Rename Name: AAAA OK Cancel Sending card name setting Image: Name Name 1 AAAA Rename Save to HW	Π	Move Up Move Down Advanced c
Ad Name: AAAA OK Cancel Sending card name setting I Enable naming Name 1 AAAA Rename Save to HW		Rename 💌
Sending card name setting	Ad	Name: AAAA OK Cancel
✓ Enable naming Name ▶1 AAAA Rename Save to HW	Sendin	g card name setting
Name 1 AAAA Rename Save to HW	V	Enable naming
Rename Save to HW		Name
		Rename Save to HW

3) Click Advanced c... to select a controller for loading configuration files. If no any controller is selected, the configuration files, by default, will be loaded to all controllers connected to the system.

🖳 Advanced 📃 🛋	
Sending Board 1	
Cancel	

Fig. 9-4 Selecting a controller for configuration file loading

	S 1. 170	
4)	Click	, all added configuration files will be saved to the selected controller (s)
		Import the configuration file of controller cabinet
		Select serial USB@Port_#0003.Hub_#0003 🔻
		II Move Up Move Down Advanced c Add Configura Delete Config
		Sending card name setting
		V Enable naming
		▶1 AAAA
		Rename Save to HW

Fig. 9-5 Selecting a sending board for configuration file loading

10Configure information management

Click "Setting"→"configure information management" to conduct configuration file

management.

MovaLCT-N	Nars V4.4.1	
System(S)	Settings (C) Tools(T) Plug-in (P) User(U)	Language(L) Help(H)
Screen Conf	Screen Configuration (S) Brightness(B) Multi-function Card(F)	rol Monitoring Multi-function Card Cloud Monitoring
-Local System	Multiple-screen Management(A) Hardware Information(H) Prestore Screen (R)	Unknown <u>View Details of Device</u>
- Monitor Inforn	Advanced Color Configuration (O) Cloud Monitoring(C)	
	Module Flash (U) Receiving Card Relay(I)	
	Configure Information Management(M)	
Service Status	The Main Window Starting Position(P)	.:

🖳 ConfigFile Management	×
Import Co Export Co Cancel	

Fig. 10-1 Configure information management

Import config: Export all the configuration files in the configuration process, and save in the

computer in .zip format;

Export config: Import previously saved configuration files;

Cancel: Exit the configuration file management.

11 Hardware Program updating

Login as an advanced user and type in admin on the NovaLCT-Mars main interface to open the

page for updating the hardware program. Shown in Fig.11-1, Fig.11-2 is the page for hardware

program updating.



vau i i vylani				
Select operation commun	nication port			
Current operation	[
communication port:	COM5	- Device	e Count: 1	
Select Program	Realtek PCIe GBE Family Controller			
Program Name:	Tx600 Data Mars V3.6.0.0			
Program Version:	3.6.0.0			
Program Path:	D:\NovaLCT-Mars\Data\Data_Mars_3.6.0.0\Sen	dCard\Tx600_Data_Mars_3	6.0.0	
Select Items To Load	G			
Sending Board MCU	Sending Board FPGA	Scan Board FPGA	Update	nge Reconned
Refresh All Refresh All V3.6.0.0 Total 1, Rema	fresh One Sending Board 1 🔶 Po	rt: 1 📩 Scan Boa	rd: 1 🔶	Refresh
 Refresh All	fresh One Sending Board 1 Po	rt: 1 📩 Scan Boa	rd: 1	Refresh
 Refresh All	rresh One Sending Board 1 Po	rt: 1 🗼 Scan Boa	rd: 1	Refresh
 Refresh All Refresh All Refresh All Remains Sending Board MCU Sending Board MCU Sending Info 	rks:2013.09.11T	rt: 1 🔄 Scan Boa	rd: 1	Refresh
● Refresh All ● R	rresh One Sending Board 1 Po rks:2013.09.11T	rt: 1 📩 Scan Boa	rd: 1	Refresh
Refresh All Refresh All Refresh All Refresh All Sending Board MCU Send Sommunication Info 2013/12/16 14:59:12Curr 2013/12/16 14:59:12Curr	fresh One Sending Board Po rks:2013.09.11T	rt: 1 💮 Scan Boa	rd: 1	Refresh
	Image: Sending Board Point rks:2013.09.11T Point Ing Board FPGA Scan Board FPGA rent control system address:1 port 2 Read rent control system address:1 port 3 Read rent control system address:1 port 3 Read rent control system address:1 port 4 Read	rt: 1 💮 Scan Boa	rd: 1 📩	Refresh

Fig. 11-1 The Load Program page

.oad Program			
Select operation comm	unication port		
Current operation	Realtek PCIe GBE Family Controller	Device Cou	int: 1
communication port:	COM5		
Select Program	Realtek PCIe GBE Family Controller		
Program Name:	Tx600 Data Mars V3.6.0.0		
Program Version:	3.6.0.0		
Program Path:	D:\NovaLCT-Mars\Data\Data_Mars_3.6.0.0\SendCard	Tx600_Data_Mars_3.6.0.0	
Select Items To Load			Update
		can Board EPGA	Change Records
		can board in on	Change
error Version Info Refresh All R V3.7.0.6 Total 1, Rem	tefresh One narks:2013.12.14 for test all 修改热备份 + 改进同步机制	Scan Board: 1 別 + 修改发送卡有横条问题	Refresh ● + 加入目的mac地址
erdware Version Info Refresh All R Refresh All R	tefresh One narks:2013.12.14 for test all 修改热备份 + 改进同步机制	Scan Board: 1 削 + 修改发送卡有横条问题	● Refresh ▲ ◆ 加入目的mac地址
erdware Version Info e Refresh All Refres	Refresh One narks:2013.12.14 for test all 修改热备份 + 改进同步机制	Scan Board: 1 到+修改发送卡有横条问题	€
erdware Version Info Refresh All Refresh	Refresh One narks:2013.12.14 for test all 修改热备份 + 改进同步机制	Scan Board: 1 到 + 修改发送卡有横条问题	▶ Refresh ● +加入目的mac地址
e Refresh All Refresh All	Refresh One harks:2013.12.14 for test all 修改热备份 + 改进同步机制	Scan Board: 1 到+修改发送卡有橫条问题	● + 加入目的mac地址
Aardware Version Info	tefresh One narks:2013.12.14 for test all 修改热备份 + 改进同步机制	Scan Board: 1 到+修改发送卡有横条问题	♠ +加入目的mac地址
Aardware Version Info	Refresh One marks:2013.12.14 for test all 修改热备份 + 改进同步机制 ead FPGA program version of scan board 0 . ead FPGA program version of scan board 0 .	Scan Board: 1 到+修改发送卡有横条问题	☑ Refresh ☑ +加入目的mac地址
ardware Version Info Refresh All R V3.7.0.6 Total 1, Rem Scan Board FPGA Communication Info 2013/12/16 14:59:30Ref 2013/12/16 14:59:32Ref 2013/12/16 14:59:32Ref 2013/12/16 14:59:32Ref	Refresh One harks:2013.12.14 for test all 修改热备份 + 改进同步机制 ead FPGA program version of scan board 0 . ead FPGA program version of scan board 0 .	Scan Board: 1 到+修改发送卡有横条问题	E Close

Fig. 11-2 the Load Program page with no Sending Board

Current Operation Communication Port

Select the serial port or Network port through which the hardware to be updated is connected to

the computer.

Program Path

Select the program to be loaded to the hardware here.

Sending Board MCU

Select this option if the MCU program of a sending board is to be updated.

Sending Board FPGA

Select this option if the FPGA program of a sending board is to be updated.

Scan Board FPGA

Select this option if the FPGA program of a scan board is to be updated.

Change

Click this button to load the selected program to the selected hardware.

Refresh All

If this option is selected, the version information of all sending boards and scan boards

connected to the current serial port will be refreshed when click the **Refresh** button.

Refresh One

If this option is selected, only the version information of the selected scan board will be refreshed

when click the **Refresh** button.

Refresh

Click this button to show the current version information of the hardware. This can be used to check whether the hardware program has been updated.

12**Dark or Bright Lines Adjustment for cabinet**

When the user couples with the screen, after cabinets and cabinets, or modules and modules are pieced together, if dark or bright lines are detected at the joints , it can be adjusted by using this function, which will adjust the four sides of the module and module and bright dark degree of four points in order to improve visual abruption caused by the bright dark lines caused by visual abrupt.

All parameters will be recorded in the dark / bright-line configuration files once the dark or bright lines are adjusted. The previous dark or bright lines can be reduced by the function of **Dark or Bright Lines Recovery for Cabinet** if necessary.

12.1 Dark or Bright Lines Adjustment for Cabinet

The method of operation is as follows:

 Click on "Tools" to "Quickly Adjust Dark or Bright Line "→"Adjust Dark or Bright Lines ", enter the adjusting page.

NovaLCT-Mars V4.4.1		
System(S) Settings (C)	Tools(T) Plug-in (P) User(U) Language(L)) Help(H)
Screen Configuration Brig Local System Information Control System 1	Calibration(C) Screen Control(P) Monitoring(M) Led Error Detection(T) Multi-batch Adjustment(B) Controller Cabinet Configuration File Import (I	Function Card Cloud Monitoring
Monitor Information	Quickly Adjust Dark or Bright Lines(Q)	 Adjust Dark or Bright Lines(A)
Altere	Video Control(V)	Recover Dark or Bright Lines(R)
Service Status: Service versio	n:3.0	

Qu	ickly Adjust Dark	or Brigh	t Lines		-	- were	Later warm	and and	
	Select screen							Operation	Instructions and Attentions
	Serial Port	B@Port_#	0003.H 👻 Seri	al Numb 1	 Position of 	0 Main scre 🔻	Moduel-I M	oduel size 32 🛓	X 32 🖨 Drawing
	Topology graph S Prompt: Yellov	titching v means	to select all pixe	ls, while green i	means to select so	me pixels.	Selection opt	. 📝 Row Di 📝 Col	um 🚺 😭 🜊
	1		2	3					
	4		5	6					
	7								5
	1		°						
1									
							🔲 Display Seri	. 🔲 Lock Selection	🔲 Hide Topolo
	Adjust Dark or Bri	ight Lines	3	- Delevite	. 10/1-11-	Dud and the			
	Method: Color	Rec	i, green and blu 1	Creen	vvnite		íhite		
	Adjust		,	U O I B B II			1.000	Saved To Hard	w Saved To File
				<u>1.</u>	000				

Fig. 12-1 Quickly adjust bright dark line interface

Select screen Serial Port USB@port_a0003 H • Serial Numb Position of O Main scre • Moduel H Moduel Size Selection opt Selection opt Row DL Colum Row DL Colum Selection opt Row DL Colum Selection opt Row DL Colum Selection opt Row DL Colum Row DL Colum Selection opt Row DL Colum Selection opt Row DL Colum Selection opt Row DL Colum Row DL Colum Selection opt Row DL Selection opt Row DL Selection opt Row DL Selection opt Selection opt Selection opt <li< th=""><th>ns and Attention</th><th>struction</th><th>on Ins</th><th>Operatior</th><th></th><th>-</th><th>10 M</th><th>and a</th><th></th><th>-</th><th></th><th>-</th><th></th><th></th><th></th><th>-</th><th>Lines</th><th>right l</th><th>or Bi</th><th>t Darl</th><th>Adjus</th><th>ckly</th></li<>	ns and Attention	struction	on Ins	Operatior		-	10 M	and a		-		-				-	Lines	right l	or Bi	t Darl	Adjus	ckly
Topology graph Stitching 		32	x		ize 32	I Moduel siz	V Moduel-I		0	ition of	Posi	•	1	umh	vrial N	- Se	103 Hi	rt #∩∩	B@Po	een t us	ctiscri al Por	Sele Seri
Selection opt. Selection opt. © Row DL. © Colum 11 12 13 14 21 22 23 24 93 94 15 150 171 192 25 26 27 28 95 96 97 98 15 150 171 192 293 244 215 215 213 214 215			2															ng	Stitchi	raph :	logy g	Торс
i 1 i 2 i	2 2 1	ו	olum.	🔽 Col	Row Di	tion opt 👿 R	Selectio		me pi	elect so	ns to se	mear	green	while	ixels, [.]	t all p	seled	ans to	w me:	: Yello	romp	P
1+5 1+7 1+8 2-5 2											3-4	3-3	3-2	3-1	2-4	2-3	2-2	2-1	1-4	1-3	1-2	1-1
1+10 1+11 1+12 2+9 2+10 2+11 2+12 2+10 9+11 9+11 9+12 1+13 1+14 1+15 1+15 2+15 2+15 2+15 9+16 9+11 9+15 9+16 1+1 1+2 1+3 1+15 1+15 2+15 2+15 2+15 9+16 9+16 9+16 9+16 1+1 1+2 1+3 1+15 1+15 5+15<											3-8	3-7	3-6	3-5	2-8	2-7	2-6	2-5	1-8	1-7	1-6	1-5
1-14 1-15 1-16 2-13 2-14 2-15 2-16 6-14 6-15 6-14 6-15 6-16											3-12	3-11	3-10	3-9	2-12	2-11	2-10	2-9	1-12	1-11	1-10	1-9
41 42 43 44 51 52 53 54 61 6-2 6-3 64 45 45 4-7 43 55 56 57 59 6-5 6-6 6-7 6-3 413 4-10 4-11 4-12 59 5-10 5-11 5-12 6-3 6-11 6-12 13 4-14 4-15 4-16 5-13 5-16 6-13 6-14 6-15 6-16 71 7-2 73 74 91 92 93 94 75 76 77 78 95 96 97 98 74 713 716 913 914 915 916 911 912 743 714 715 716 913 916 911 912 913 914 915 916 743 714 715 716 913 916 913 916 915 916 744 714 715 716 913 916											3-16	3-15	3-14	3-13	2-16	2-15	2-14	2-13	1-16	1-15	1-14	-13
45 47 48 55 56 57 58 65 67 68 419 410 411 412 59 510 511 512 610 611 612 H13 414 415 415 415 513 514 613 614 615 615 71 72 73 74 81 92 93 94 91 92 93 94 75 76 77 78 85 96 97 98 95 96 97 98 79 710 711 712 89 910 911 912 93 910 911 912 H13 714 715 716 913 914 915 915 916 916 916 Adjust Red, green and blue Priority White Priority White Priority Numetrick Series Series 910 910 910 910 910 910 910 910 910 910 910 910											6-4	6-3	6-2	6-1	5-4	5-3	5-2	5-1	4-4	4-3	4-2	4-1
++ +10 +11 +12 5-3 5-10 5-11 5-12 6-3 6-11 6-12 +13 +14 +15 +16 5-13 5-15 5-13 5-16 6-13 6-15 6-16 r-1 r-2 r-3 r-4 9-1 9-2 9-3 9-4 r-5 r-6 r-7 r-8 9-5 9-6 9-7 9-8 r-9 r-10 r-11 r-12 9-9 9-10 9-11 9-12 9-9 r-13 r-14 r-15 r-16 9-13 9-14 9-15 9-16 r-13 r-14 r-15 r-16 9-13 9-14 9-15 9-16 Adjust											6-8	6-7	6-6	6-5	5-8	5-7	5-6	5-5	4-8	4-7	4-6	4-5
-13 4-14 4-15 6-15 5-15 5-15 6-13 6-14 6-15 6-16 F1 7-2 7-3 7-4 8-1 8-2 8-3 9-4 9-3 9-4 F5 7-6 7-7 7-8 8-5 8-6 9-7 9-8 F9 7-10 7-11 7-12 8-9 9-10 9-11 9-12 -13 7-14 7-15 7-16 9-13 9-14 9-15 9-16 Adjust Dark or Bright Lines											6-12	6-11	6-10	6-9	5-12	5-11	5-10	5-9	4-12	4-11	4-10	4-9
r1 r2 r3 r4 \$1 \$2 \$3 \$4 \$1 \$2 \$3 \$4 \$1 \$2 \$3 \$4 r5 r6 r7 r8 \$5 \$6 \$7 \$8 \$7 \$8 r5 r10 r11 r12 \$3 \$10 \$11 \$12 \$9 \$10 \$11 \$12 r13 r14 r15 r15 r16 \$10 \$11 \$12 \$9 \$10 \$11 \$12 r13 r14 r15 r15 r16 \$13 \$14 \$15 \$15 Adjust Red, green and blue Priority © White Priority © White Priority © White Priority © White Priority Color Red Green Blue White © White											6-16	6-15	6-14	6-13	5-16	5-15	5-14	5-13	4-16	4-15	4-14	-13
rs rs rs rs ss ss <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>9-4</td><td>9-3</td><td>9-2</td><td>9-1</td><td>8-4</td><td>8-3</td><td>8-2</td><td>8-1</td><td>7-4</td><td>7-3</td><td>7-2</td><td>7-1</td></th<>											9-4	9-3	9-2	9-1	8-4	8-3	8-2	8-1	7-4	7-3	7-2	7-1
7-9 7-10 7-11 7-12 8-9 9-10 9-11 9-12 -13 7-14 7-15 7-16 6-13 6-14 6-15 9-13 9-14 9-15 9-16 Adjust Dark or Bright Lines Method: Red, green and blue Priority White Priority Color Red Green Blue White Adjust 100 Pound To Lock Pound Pound<											9-8	9-7	9-6	9-5	8-8	8-7	8-6	8-5	7-8	7-7	7-6	7-5
Adjust Dark or Bright Lines Method: Red, green and blue Priority Color Red Green Blue 1.000 Council To Lock Selection Hide T											9-12	9-11	9-10	9-9	8-12	8-11	8-10	8-9	7-12	7-11	7-10	7-9
Adjust Dark or Bright Lines Method: Red, green and blue Priority Color Red Green Blue White Adjust 1000 Council To Lipstay Co											9-16	9-15	9-14	9-13	8-16	8-15	8-14	8-13	7-16	7-15	7-14	-13
Adjust Dark or Bright Lines Method: Red, green and blue Priority Color Red Green Blue White Adjust 1000 Council To Lipstay Co																						
Adjust Dark or Bright Lines Method: Red, green and blue Priority Color Red Green Blue 1 000 Council To Light Lines Council To Light Deputy Council To Light Deput							C															
Method: O Red, green and blue Priority O White Priority Color Red O Green Blue White Adjust - + + + + + + + + + + + + + + + + + +	ie Topolo	🔲 Hid	1	election	📃 Lock Si	olay Seri	🗖 Displa											ines-	right L	k or B	st Dar	Adju
Color Red Green Blue White Adjust - 1.000 Pound To Lighter Pound									[,] riority	White	۲			riority	lue Pi	and b	green	Red,	\bigcirc	thod:	Me	
Adjust 🔁 Coved To Hardw Coved								 Whit 		Blue	0		n	Gree	0			Red	0	lor	Co	
1,000	/ed To File	Sav	rdw	l To Hard	Saved		2 1.000		7			.000	1						-	ust	Adj	

Fig. 12-2 module adjustment

- 2) Select the screen that will be adjusted currently, and select the location that will play the screen, which setting must be set the same as the computer display.
- 3) After select screen, it will display splicing topology corresponding immediately; check "Module-level adjustment" to show topological graph of module splice, the user can quickly see the specific location that bright dark line shines upon the topological graph on the screen. And then select to adjust.

It will introduce the method that select and cancel the edge or vertex as follows: take cabinet topological graph as an example, the operation of topological graph of module is the same as topological graph of the cabinet a) Using the mouse to directly click the four edges or vertices of the box body selected,

Select Serial	tscreen IPort IIS	RaPort	#0003 HL 🚽 S	erial Numb	1 •	Position of O.	. Main scre 👻	🥅 Moduel-I	Moduel size		X 32	
opolo	ngy graph S	titchina										
Pro	ompt: Yellov	v mean	s to select all (pixels, while	green mean	s to select som	e pixels.	Selection (opt 📝 Ro	w Di 👿 Colu	ım	<u> </u>
	1		2		3							
	4		5		6							
	7		8		9							
djust	t Dark or Bri	ght Lin	es			~		Display S	eri	LUCK Selection	E Hide	10p010
	Method:	© R€	ed, green and	blue Priority		White Pri	ority					
	Color Adjust		ed) Gree	n <u>1.000</u>	O Blue	Whi	e 🕂 1.000		Saved To Hardy	v Save	d To File
						_						

click firstly to select, click secondly to cancel.

: Click to cancel all the part selected.

: Enlarged topological graph.

: Reduce the topology map.

Display Serial number: If checked, the number is displayed on the screen that is convenient for

the user to find the bright dark lines.

	Quickly Adjust Dark or Bright Lines
1 2 3	Select screen Operation Instructions and Attentions Serial Port USB@Port_#0003.H Serial Numb 1 Position of O Main scre Moduel size 32 X 52 Drawing
	Topology graph Stitching Prompt. Yellow means to select all pixels, while green means to select some pixels.
4 5 6	1 2 3
7 8 9	4 5 6 ₽
	7 8 5
	Adjust Dark or Bright Lines 🗌 Lock Selection 📄 Hide Topolo
	Method: O Red, green and blue Priority White Priority
	Color Red Green Blue (a) White Adjust 1.000 Saved To Hardw. Saved To File

Fig. 12-4 Number On Display

Lock selection: if selected bright dark side, check it that will be locked to avoid accidentally cancel or multiple select.

Hide topological: check it to hide the topological graph.

- a) It can also select multiple edges or multiple vertices by using the mouse. If the user also checks "row direction" and "column" direction, select the vertices and the edges in the two directions of row and column in the box selection, after it is completed, and then click somewhere selected will cancel the selection.
- b) Double click edges that can select part of the points on the edge.



Fig. 12-5 Select part of the points on the edge

- 4) Select the part that will be adjusted, began to adjust bright and dark degree, drag link adjustment by using the mouse. There are two types of adjustment, one is priority mode for red, green and blue that can respectively adjust bright and dark of red, green and blue; the other is a priority mode for white, adjust red, green and blue synchronously.
- 5) Adjust to the best effect, click on Save To Flash , save the adjusting effect currently to the hardware, click on Save To Flash that will save the adjusting data to a file, a display screen is saved as a file, which also can upload the file after uploaded to correction database.

12.2 Dark or Bright Lines Recovery for Cabinet

All parameters will be recorded in the dark / bright-line configuration files once the dark or bright lines are adjusted. The method for recovering dark or bright lines is to load the ark / bright-line configuration file to recover the display to the last dark or bright lines. If this file is used for several times, adjusted parameters of those previous recovering dark or bright lines will be recovered accordingly.

Method for recovering dark or bright lines

Click "Tools" \rightarrow "Dark or Bright Lines Adjustment for Cabinet" \rightarrow "Dark or Bright lines Recover for Cabinet" on the LCT main interface.

Select the display for dark / bright line reducing, click "Browse" to load the dark / bright line file in relation to the display and then click "Reduce" to reduce them to the last ones.

	Dark or Bright Li	nes Recover	y for Cabinet	-	
Choose Display Serial Port	C0M6 ¥	Display Number	1	¥	
-Reduce Dark or Br: Dark or	ight Lines C:\Users\lijin\Desktop\COM3-1	. gal		Br	owse
Bright Lines		_		Reduce	hdr aw

Fig. 12-6 Dark or bright lines recovery for cabinet

13Video control

Video control only supports single controller that drives a single LED display or multiple controllers assembly that drive a single big screen.

To satisfy all kinds of display effects, set the input, output and splice parameters of the LED display.

First choose LED display and input source of the LED display.

Read from hardware: save all video control parameters before reading from hardware.



Figure 13-1 Video control

1) Input setting

There are three types of input setting :

First: Pixel to pixel display, namely do not use zoom, the output image is identical to the input image, and output is in original proportion.

Operation: Do not check "Enable zooming"



Second: the output image is adjusted to the size of LED display, namely automatically adjusted to the size of LED display.

Operation: Enable zooming, and enable automatic entire screen zoom



> Three: customized zooming effect.

Operation: enable zoom, but do not enable automatic entire screen zoom

Operational steps of customized zooming:

a) Set input interception, i.e. only intercept part of the input image after certain starting point and show on the LED display. Drag the interception window directly with your mouse to decide the location and size of intercepted image, or set the area width (smaller or equal to the width of input source), area height (smaller or equal to the height of input source), horizontal start and vertical start on the right hand side interface.



2) Output setting

Click "Output setting" to configure the output window, if there is only one single device, then the area size is smaller or equals to the size of LED display; if there are multiple devices, it's needed to configure the starting points and area size of each device, the sum of all areas is smaller or equals to the size of LED display; after the window is configured, images can only be displayed inside the

window.

Video control			-	-	1 2.000	-	-	-	Sec. 1	_			
Select Screen	USB@Port_#	#0003.Hub_#0003-Scr	een1 🔻									Read hardv	from vare
Select source	0			000000		0							
	SDI	DVI	HDMI	VGA	DP	CVBS							
		-									Stitching manageme	ent out setting	
											Output window	v	
Pres C		2.5				100					Current dev	1	•
States	-		Lion		de la	Star.					Horizontal	0	×
				Maria Maria							Vertical start	0 orol	-
The second second		AND CALLER	Contraction of								Area height	256	V
	-	For Link Ste			Contraction of the second s							200	
						-							
				140		2400							
											Ţ.		

Figure 13-2 output configuration

3) Stitching management

First enable the stitching function, then set the total number of pixels in the big screen, then configure the area driven by each device, as well as the starting location of each loaded area. The

sum of loaded area of all video controllers is the number of total pixels on the big screen.

Pixel-to-pixel Auto Set : Press this button, the selected device will output a pixel-to-pixel image.



Figure 13-3 Stitching management

14**Cloud Monitoring**



🚺 Nova	LCT-Ma	rs V4.4.1	-	-				-	-			-	×
Systen	n(S) S	ettings (С) Т	`ools(T)	Plug-in (P) User(J) La	inguage(L)	Help(ł	-1)			
			Ģ	÷		~	•	~~				2	
: Screen) Configu Vetom Int	ration	Brighti	ness	Calibration	Screen C	control	Monitoring	g Multi-	function Car		Monitoring	
LUCALO	ystern nn	Unnauu	1										
Cont	rol Syste	m	1		Other Dev	/ice	Unk	nown	<u>View De</u>	tails of Devic	<u>e</u>		
Monitor	Informat	ion											
	k	¢.									6 (C)		
	•				•			۲					
						1							
Conviso (Ptatua: C												
Services	status, s	ervice ve	ision.a	3.0									
	Registra	ation			-			1.000	-	G		x	
	U	ser:								F	?efresh		
	Scr	een Na	me		Width			Height		Regis	tration Sta	te	
	USB@	Port_#I	0003.H	H 31	84		384				3/		
			1	, O	JA	5 P		>					
										Modi	y Register	r.	

Screen Registration	×
Enter Screen Name	
Screen USB@Port_#0003.Hub_#0003-Screen1	
Enter User Name	
20	
Reg	ister

Fig. 14-1 Screen Register

Fill Screen Name: give a distinguishable name for the screen;

Enter user Name: account name registered on the server, under which the screen will be registered.

15Problem and Solution

15.1 NovaLCT-Mars shows "No Hardware "on corresponding pages.

Check whether the hardware system is powered on.

Check whether the serial port cable connection is good.

15.2NovaLCT-Mars shows "No Screen" on corresponding pages.

If the LED display has been configured already, then try reading the configurations from the display by click the Read from HW button on the Screen Configuration page, as shown in Fig.15-1. If the display has not been configured yet, configure it.

E Screen Config-COI19	
Screen1	Screen N 1 Config
Screen Type: O Simole Scr Basic Information	een
Operate Port Sending Board Index 1 Port Index 1 Back Clear Port Scan Board Size Width: 128 Height: 128 Apply to port	Scan Board Columns: 1 Scan Board Pott 1 1 Sending#:1 Pott 1 1 Scan Bo.:1 Width:128 Height:128
Set Blank	eft mouse button to config screen, right mouse button to ca
Detect Status	Read File Save File Read from HW Send To HW
Factory Restore	Save Config File Save Close

Fig. 15-1 The Screen Configuration page

15.3The LED display does not show the image correctly during the Smart Setting procedure.

Check whether the sending board resolution and the graphic card output video resolution on the Sending Board page are the same. Set them to be the same if they are not. Shown in Fig.15-2 is the Sending Board page.

Sending Board	Scan Board Screen Connection
Display Mode Current Dis Sending Resolutio	play Mode 30ard 1440 x 900 Graphics output 1440 x 900 Refresh
Set the sen Resolutio	ding board display mode n: 1440 x 900 px ▼ □ Custom: 1440 ♦ x 900 ♦
Refresh F	tate: 60 V Hz

Fig. 15-2 The Sending Board page

Check whether the settings in the Smart Setting procedure are correct.

15.4**Only a part of the modules of each cabinet work** normally in Smart Setting.

Check whether the size of the module array is correctly set in the page of Smart Setting Step 1.

Shown in Fig.15-3 is the Smart Setting Step 1 page.

	Smart Setting Step 1		×
	Chip Type: Data Type: Chip Type: OE Polarity:	Concurrent v Common Chip v Jnknown v	
	Module Info Module Type: Chip Count of each co. Actual Pixel:	Regular Module Image: Segular Module Image: Segular Module	
	Data Group: Decoding Type: Scan Type: Module in one scan	Unknown Image: Color of the second	
	Module Cascade Type(F O Left To Right	rom The Front) Right To Up To Obwn Left Down To Up	
	Scan Board Work Mode Hub Mode: 💿 I Ghost Control Signa	Normal 🔘 20 Groups 🔘 24 Groups 🔘 28 Groups I Polarity: 💿 High 🔘 Low	
		Next Cancel	

Fig. 15-3 The page of Smart Setting Step 1

15.5 Permission error

If the operating system is Win8 or above, the user is suggested to install NovaLCT-Mars in other drives than the system disk; if user insists on installing the software in the system disk, Permissions shall be given manually to the software, otherwise part of the function of the software requiring Permission will not work normally.

Operating procedures to give Permissions to the software are as follows:



- After installing LCT, find ______ on the desktop, right click attribute to find the path of the document.
- 2) Return to the previous level from the opened file directory, i.e. the root directory of \Nova Star-Mars\.

	am Files\Nova Star\NovaLCT-Mars	
	音(V) 工具(T) 帮助(H)	
	▼ 共享 ▼ 新建文件夹	
AN	▲ 名称 ● Bin ● Data ● Help ● Source ● unins000.dat 行 unins000.exe	

Fig. 15-4 Enter into the root .. \Nova Star-Mars\

3) Select Bin document, right click attribute->security.

Bin Properties	×	
General Sharing Security Customize		
Object name: C:\Program Files (x86)\Nova Star\NovaLCT-M	lars∖	
Group or user names:		
ALL APPLICATION PACKAGES	^	
& CREATOR OWNER		
& SYSTEM		
Administratore (ho) (Administratore)	×	
To change permissions, click Edit. Edit		
Permissions for ALL		
APPLICATION PACKAGES Allow Deny		
Full control	^	
Modify 🗸		
Read & execute 🗸		
List folder contents 🗸		
Read 🗸		
Write 🗸	▼	
For special permissions or advanced settings, Advanced click Advanced.		
Learn about access control and permissions		
OK Cancel Ap	ply	

Fig. 15-5 Bin properties

- In the group or username, check whether there is current user or Everyone; if not, skip to step
 5.If there is, click to check whether the "allow" corresponding Permissions below has been checked; if not, check it, and then click "OK" to finish Permissions setting.
- 5) Add Everyone user for the directory.
- Click Edit... to enter the following interface:

	Permissions for Bin	×
	Security	
	Object name: C:\Program Files (x86)\Nova Star\NovaLCT-N	Mars∖
	Group or user names:	
	ALL APPLICATION PACKAGES CREATOR OWNER ACTION STREAM Administrators (bo\Administrators) Users (bo\Users) TrustedInstaller	
	Add Remov	e
	Permissions for ALL APPLICATION PACKAGES Allow Deny	
	Full control	
	Modify	
	Read & execute ✓	
	Read	
	Learn about access control and permissions	
	OK Cancel Ap	ply
	Fig. 15. C. Dermissions for Big	
	Fig. 15-6 Permissions for Bin	
6) Click Add		
	Select Users or Groups	? ×
Select t	his object type:	
Users,	Groups, or Built-in security principals	Object Types
From th	s location:	
BO		Locations
Enter th	e object names to select (examples):	
		Check Names
Adv	oK	Cancel
	Fig. 15-7 Add User	

7) Click Advanced... , find Everyone in the search result; select it and click OK.

		Select Users or Group	os ? ×	
Select this object	ct type:			
Users, Groups,	or Built-in security	principals	Object Types	
From this locatio	n:			
BO			Locations	
Common Quer	ies			
Name:	Starts with $\ \lor$		Columns	
Description:	Starts with $\ \lor$		Find Now	
Disabled	accounts		Stop	1
Non expir	ing password			
Days since la	ast logon:	¥	<i>#</i>	
Search results:			OK Cancel] \
Name	In Folder			^
Access Contr	r BO			
Administrator	BO			
Administrators	s BO			
	۳ I			
	/ d			
Backup Oper	r BO			
BATCH				
🛃 bobo	BO			
CONSOLE L				0

Fig. 15-8 Select User

8) Click OK again.

	Select Users or Groups	? ×
2	Select this object type: Users, Groups, or Built-in security principals	Object Types
	From this location: BO	Locations
	Enter the object names to select (<u>examples</u>):	Chack Names
		Check Names
	Advanced OK	Cancel

Fig. 15-9 Add "Everyone"

9) Enter into the following interface; select all of the "Allows" and click OK.

Permission	ns for Bin	×			
Security					
Object name: C:\Program Files (x86)\Nova Star\NovaLCT-I	MarsV			
Group or user names:					
ALL APPLICATION PACKAG	ES	^			
CREATOR OWNER	& CREATOR OWNER				
Administrators (bo\Administrat					
& Everyone	~				
<	2	>			
	Add Remov	/e			
Permissions for Everyone	Allow Deny				
Full control		^			
Modify	✓				
Read & execute	✓				
List folder contents					
Read		✓			
Leam about access control and permissions					
ОК	Cancel Ap	oply			

Fig. 15-10 Finish Permissions setting for Bin

10) Finish Permissions setting and begin to enjoy the convenience brought by LCT.

15.6 Surveillance image error

If the surveillance icon displayed on the surveillance main page is different form that on the tool bar, please right click the shortcut for surveillance, click "Property" \rightarrow "Change icon", to change the surveillance icon.

15.7 Failed to installing the previous version of NovaLCT-Mars V4.4.0

The PC has been installed NovaLCT-Mars V4.4.0, and then you want to install the Previous version of NovaLCT-Mars V4.4.0. If the installation fails, please uninstall NovaLCT-Mars V4.4.0, and then re-install the previous version.

16**Appendix**

16.1 Update Info

Version	Date	Description	Remark
V1.0	2011-6-3	Initial version	
V1.1	2011-8-22	Modified according to feedbacks	
V1.2	2011-9-21	Add the part for multifunction card.	
V1.3	2011-11-7	Modified according to application modification.	
V1.4	2011-12-14	For NovaLCT-Mars Ver.1.4. Add the sending board configuration.	
V2.2.1	2012-3-8	For NovaLCT-Mars Ver.2.2.1.	
V2.4.0	2012-4-16	For NovaLCT-Mars Ver.2.4.0.	
V3.0.0	2013-2-25	For NovaLCT-Mars Ver3.0.0	
V4.0.0	2013-12-12	For NovaLCT-Mars Ver4.0.0	
V4.1.0	2014-03-18	For NovaLCT-Mars Ver4.1.0	
V4.2.0	2014-06-18	For NovaLCT-Mars Ver4.2.0	
V4.2.5	2015-04-24	For NovaLCT-Mars Ver4.2.5	
V4.4.0	2015-09-25	For NovaLCT-Mars Ver4.4.0	
V4.4.1	2016-01-18	NovaLCT-MarsV4.4.1	
1	R		