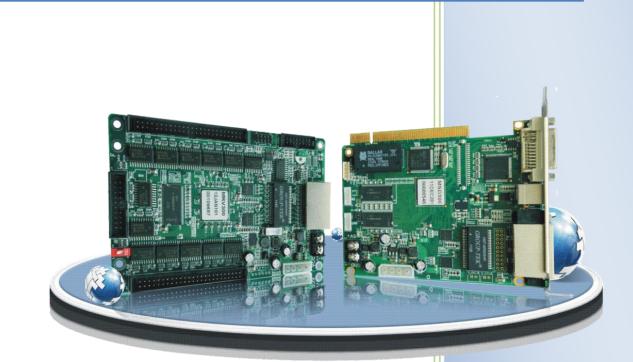


# Nova M3 LED Display Control System User Manual



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# Content

1	INT	RODUCTION TONOVALCT-MARS	1
	1.1	CONFIGURATION LIST	3
	1.2	System architecture	4
2	wo	DRKING ENVIRONMENT REQUIREMENTS	4
3	INS	STALLATION OF NOVALCT-MARS	5
4	МА	AIN INTERFACE OF NOVALCT-MARS	6
-	WIA.		0
	4.1	UPDATE PASSWORD	7
	4.2	MAIN MENU	7
	4.3	TOOL BAR	. 11
5	МА	AIN FUNCTIONS OF NOVALCT-MARS	.11
	5.1	Start the LED Displays	
	5.1.	.1 Start with System Configuration Files	12
	5.1.	.2 Start Manually	.13
	5.1.	.3 Set the Cabinet Info	37
	5.1.	.4 Adjust the Performance Parameters	. 39
	5.1.	.5 Adjust the Resolution and Refresh Rate	50
	5.1.	.6 3D Config	53
	5.1.	.7 Set Hot Backup for Receiver Cards	54
	5.1.	.8 HDMI Settings (MSD600/MCTRL600/MCTRL610)	57
	5.1.	.9 Save Settings to FLASH	57
	5.1.	.10 Save/Load Configuration Files	58
	5.2	Adjust the brightness, display quality, Gamma and Current Gain	. 62
	5.2.	.1 Manual Adjustment	. 62
	5.2.	2.2 Schedule Adjustment	65
	5.2.	2.3 Auto	67
	5.2.	.4 Auto Adjustment By Hardware	. 74



5	.3	DISPLAY CONTROL	. 77
5	.4	CHECK HARDWARE INFO	. 78
5	.5	MANAGE THE LED DISPLAYS	. 79
5	.6	Monitor the System	. 83
	5.6.1	1 Monitor Setting	. 86
	5.6.2	2 Email Notification Setting	. 90
	5.6.3	3 Notification Email Log	. 91
	5.6.4	4 Monitor-Control	. 92
5	.7	Error Dot Detect	. 96
5	.8	BRIGHTNESS/COLOR CALIBRATION	101
	5.8.1	1 Online Calibration	101
	5.8.2	2 Manage Coefficients	103
	5.8.3	3 Reset coefficients	130
5	.9	FUNCTION CARD MANAGEMENT	131
	5.9.1	1 Function Card Configuration	131
	5.9.2	2 Power Management	132
	5.9.3	3 Monitor Data	139
	5.9.4	4 External Device	139
	5.9.5	5 Load Program	140
5	.10	CABINET LIBRARY MANAGEMENT	142
5	.11	Prestore Picture	146
5	.12	COLOR RESTORE	147
6	MEN	MORY ON MODULE MANAGE	150
7	мш	LTI BATCH ADJUSTMENT	155
	Wiel		
-	.1	APPLICATIONS ADJUSTMENT FILE	
7	.2	MANUAL ADJUSTMENT	157
8	RECI	EIVE CARD RELAY	169
9	LOA	D CONFIGURATION FILE	170



10	CON	IFIGURE INFORMATION MANAGEMENT	176
11	HAR	RDWARE PROGRAM UPDATING	176
12	DAR	RK OR BRIGHT LINES ADJUSTMENT FOR CABINET	180
1	2.1	Dark or Bright Lines Adjustment for Cabinet	180
1	2.2	Dark or Bright Lines Recovery for Cabinet	185
13	PRO	BLEM AND SOLUTION	185
1	3.1	NovaLCT-Mars shows "No Hardware" on corresponding pages.	185
1	3.2	NovaLCT-Mars shows "No Screen" on corresponding pages.	186
1	3.3	THE LED DISPLAY DOES NOT SHOW THE IMAGE CORRECTLY DURING THE SMART SETTING PROCEDURE.	186
1	3.4	ONLY A PART OF THE MODULES OF EACH CABINET WORK NORMALLY IN SMART SETTING.	187
1	3.5	Permission error	188
14	APP	ENDIX	193
1	4.1	UPDATE INFO	193



# **1** Introduction toNovaLCT-Mars

Nova M3 series LED screen control system, taking the software NovaLCT-Mars as operating platform, cooperating with data transmitter-receiver card, monitoring card and multifunctional card, realizes smart setting, brightness control, power control, light point supervision, 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 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;
- > No sending board mode supported, being fit for small screen control.



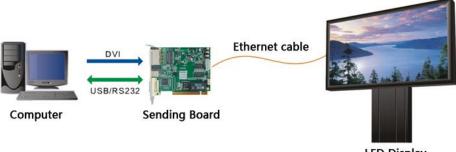
# 1.1 Configuration list

Product name	Type/Version No.	Functions	Remarks
NovaLCT-Mars	V4.2.5	Operating platform	Standard configuration
	MSD300		Selectable
	/ MSD600		
Sonding board	/MCTRL300	Transmitting data	
Sending board	/MCTRL500	Transmitting data	
	/MCTRL600		
	MCTRL610		
	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		the hardware	
	MFN300	Monitoring temperature,	Selectable
Multifunctional		humidity and the light	
card		numberly 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.



LED Display

Fig. 1-1 Diagram of system architecture

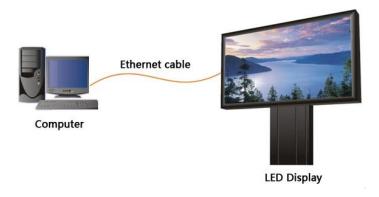


Fig.1-2 Diagram of system architecture with no Sending Board

# 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 256Mor 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.

ø		NovaLCT	-Mars V4.2.	5 S2 T2			- 🗆 🗙
System( <u>S</u> ) Tools( <u>C</u> )	Plug-in Too	l( <u>P)</u> User( <u>U</u> ) La	anguage(Lang)	( <u>L</u> ) Help( <u>I</u>	<u>+</u> )		
Screen Config Brigh	tness Calibr	ation Display Con	trol Monitor	Function C	ard		
Local System Info							
Control System:	1	Other Device:	Unknow	n <u>Viev</u>	<u>v Detail</u>		
Monitor Info							
###	111		8	-		<b>**</b>	Cabinet
		$\bullet$		$\bigcirc$	$\bigcirc$	$\bigcirc$	Cabinet
Server Status: Server Ve	raian:2.0						

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:

ø		NovaLCT-N	Mars V4.2.	5 S2 T2			- 🗆 🗙	(
System(S) Tools(C)	Plug-in Tool(P)	ser(U) Lan	guage(Lang)	(L) Help(H	H)			
			assword(U)	1 and				
		Logout(E)			1			
Screen Config Brightne	ess Calibration	Display Contro	Monitor	Function C	ard			
Local System Info								
Control System:	1 Othe	er Device:	0	<u>Viev</u>	<u>v Detail</u>			
- Monitor Info								-
- 10 C	111		8	Å		<b>***</b>	••	
Server Status: Server Version	on:3.0							.d
1	_				_			
	🖳 Update Pa	assWord			-	×		
		г						
	Origi	nal Pwd:						
	N	ew Pwd:						
	Conf	rm Pwd:						
		L						
		ок		Cancel				

Fig. 4-3 Update Password

# 4.2 Main Menu

System

# Reconnect

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

- Tools
  - 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 three ways for brightness adjustment, automatic brightness, manual brightness and schedule brightness. Details about brightness adjustment will be given in a later part of this manual.

# • Cabinet Database

Only accessible by advanced users. This is used for management of the existing cabinet libraries (.mcl files) or creating new cabinet libraries.

# • 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.

# • Display 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.

# • Function Card

This is used to open the page for multifunction card configuration. 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.

#### • 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.

#### • Error Dot Detect

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

#### • Prestore Picture

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

#### • Color Restore

Gamut conversion.

# • Light panel Flash

View correction coefficients of the receiving card and light panel;

Save correction coefficients in the receiving card and light panel;

Test whether Flash is normal .

# • Receiving card relay

Set parameters for the receiving card relay;



Reset the time of the receiving card.

# • Multi batch of adjustment

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

• Load Configuration File

Add/Delete configuration files;

Modify file name ;

Save the configuration file in controller.

# • Dark or Bright line Adjustment for cabinet

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

- 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 Demo 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



are simplified Chinese and English.

- Help
  - **Configure information management(M)**---Import/Export config.
  - **Set initial position**---Set the initial coordinates.
  - **About** ---to check the version information about the NovaLCT-Mars application.

# 4.3 Tool Bar



Screen Config --- 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.



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



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



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

# 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	V @ 21	×
-Select communication	port	
Current operation	COM5	•
	COM5 Realtek PCIe GBE Family Controller	K
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 :
ad	The loaded performance parameters from the configuration file can be adjusted if
and)	they are not suitable. Please refer to 5.1.4 Adjust the Performance Parameters for details
	about how to adjust the performance parameters.

# 5.1.2 Start Manually

# 5.1.2.1 Smart Setting

# > Step 1

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 Config-COM4				x
Sending Board Scan Board Scree	n Connection			
Display Mode Current Display Mode Sending Board Resolution: 928 x 600	Graphics out resolution:	out 1440 x 900	Refresh	
Set the sending board display Resolution: 640 × 480		stom: 928	★ x 600 ★	
Refresh Rate: 50	▼ Hz		Set	
Set 3D: Config Hot Backup Setting Set the current device: Set	t Master Device	Set Slave Device		
Master De	vice	Slovo	Device	
Master De	/*100	DIAVE	801100	
Master Sending Board Index	Master Port Index	Slave Sending Board Index	Slave Port Index	
Master Sending Board Index		Slave Sending Board Index	Slave Port Index	
Master Sending		Slave Sending		
Master Sending Board Index		Slave Sending Board Index	Slave Port Index	
Master Sending Board Index Refresh Send HDMI Cards Settings Auto Select Video Input Selection:	Master Port Index	Slave Sending Board Index	Slave Port Index	
Master Sending Board Index Refresh Send HDMI Cards Settings Auto Select Video Input Selection:	Master Port Index	Slave Sending Board Index	Slave Port Index Edit Delete	
Master Sending Board Index         Refresh       Send         HDMI Cards Settings         Auto Select         Video Input Selection:         Audio Input Selection:	Master Port Index	Slave Sending Board Index	Slave Port Index	

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
en)	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.

Shown in Fig.5-3 is the **Smart Setting** dialog.

art Setting				
Note: (1).Pption 1,	click <sup>'</sup> Next' t	o begin smart	setting!	
(2).Option 2 o	r 3, load modu	le informatio	n to softwar	re.
<ul> <li>Option 1:Smart</li> </ul>	setting			
🔘 Option 2: Load	module from fi	ile		
File Path:				Browse
🔘 Option 3: Load	module from da	atabase		
Cabinet Databa Path:	se			Browse
Selected Modul	e:		2	Select Module
	View Modul		ext	Close
	ATSA WOOD			crose

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		X
Chip Type:		
Data Type:	Concurrent	*
Chip Type:	Common Chip	~
OE Polarity:	Unknown	~
_Module Info		
Module Type:	💿 Regular Module 🛛 🔿 Irregular Module	
Chip Count of each o		
Actual Pixel:	x: 32 🗘 y: 32 🗘	
Data Group:	Unknown 👻	
Decoding Type:	74HC138 Decoding	~
Scan Type:	Over 16 Scans 1/16 scan	~
Module in one scan .		*
Module Cascade Type	(From The Front)	
C Left To Right	Right To     Down     Left     Down     Down     To Up	
Scan Board Work Mod	e	
Hub Mode: 🧕 💿	Normal 🛛 🔿 20 Groups 🔿 24 Groups 🔿 28 G	Foups
Ghost Control Sigr	al Polarity: 💿 High 🛛 Low	
	Next Cancel	

Fig. 5-4 Smart Setting Step 1

# Chip Type

NOVA STAR

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.

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### **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 :

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).

2. 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

aa k

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

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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	O Showing		
		Next	Cancel



# 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.



🖲 Áut	to switch status 💦 🔿 Manual switch statu:	5
lease	choose the module color in each status:	
01	Red A	~
0 2	Green	~
3 📀	Blue	~
	Red B Or Black	~

Fig. 5-6 Smart Setting Step 3

#### > 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.

ing Ste	ep 4	6
	columns)	in
ea.		
-	Row	~
C		
Next	Ca	ncel
	rows (or es:	Row

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.

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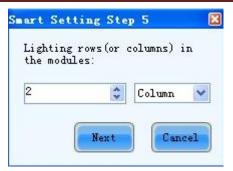


Fig. 5-8 Smart Setting Step 5

#### > 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.

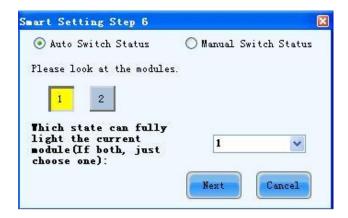


Fig. 5-9 Smart Setting Step 6

# 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.

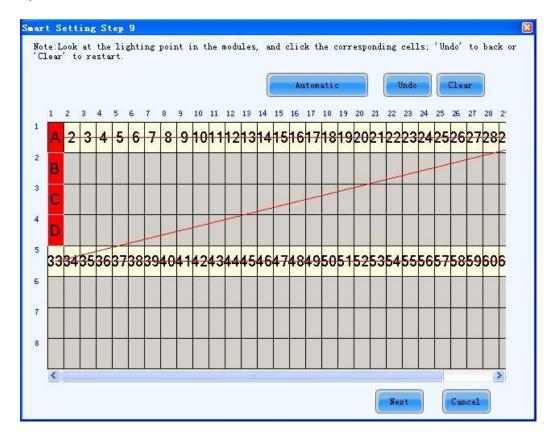


Fig. 5-10 Smart Setting Step 9

# 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

đ

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.

Note: You can save modu	le to file or cabind	et database for late	r using.	
Module Name:				
💿 Option 1: Save mo	lule to file			
File Path:				Browse
🔵 Option 2: Save mo	lule to database			
Cabinet Database Path:			Change Database	View

Fig. 5-11 The Save Module dialog

	Note :
and	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.





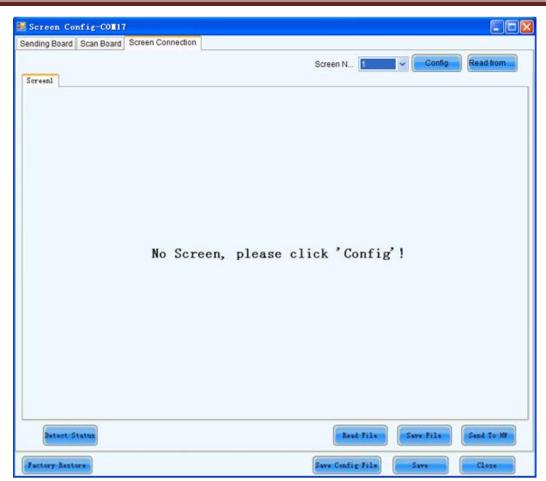


Fig. 5-12 The Screen Configuration page with no LED display configuration information

#### 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-COM3 📃 📼 📼
Sending Board Scan Board Screen Connection
Screen N 3  Config Screen1 Screen3
Screen Type:      Simple Screen      Standard Screen      Complex Screen  Note:One sending board for screen, every scan board must have same loading!
Basic Information Location: X: 0 Y: 0 Virtual M 🕅 Enable
Connection Setting   Scan Bo. Colum   8   Scan Bo. Rows:   8   Scan Bo. Heig   128   Pixel   Sending#:   1   Connecting Mode   Horizontal:   Image:
Advance
Detect Status Read File Save File Read from HW Send To HW
Factory Restore         Save Config File         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:

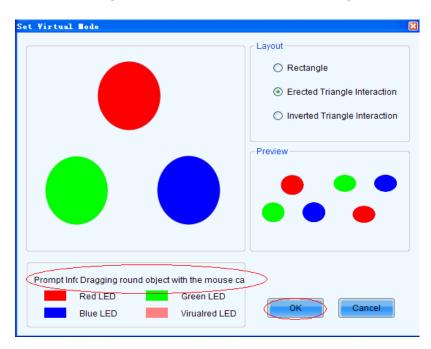


Fig. 5-14 Positions of the virtual lights before change

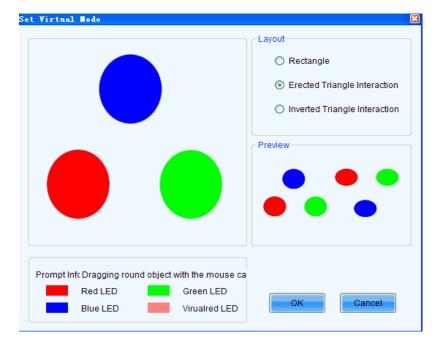


Fig. 5-15 Positions of the virtual lights after change



#### **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.

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🖳 Screen Config-COM3		
Sending Board Scan Board Screen Connection		
Screen1 Screen2 Screen3		Screen N 3 🔹 Config
Screen Type: 💿 Simple Screen	Standard Screen	
Location: X: 0 Y: 0	Virtual Mode: 📄 Enable	
The current network port operations Sending Board Index	Scan Board Columns: 3 Rows: 2	ResetAll 🦳 Hide Line
1	1 2 3 Sending#:1 Sending#:1 Send	ling#:1
Port Index	Port:1 Port:1 Port:1 Port:1 Port:1 Port:1 Port:1 Port:1 Port:2 Port:1 Port:2 Port:1 Port:2 Port:1 Po	
Connect to d	Port:1         Port:1         Port:1           2         Scan Bo::4         Scan Bo::5         Scan Bo::5           Width:128         Width:128         Width:128	ling#1 1 +806 h128 ht128
Scan Board Size Width: 128		
Set Blank	Note:Click or drag left mouse bu	tton to config screen right
	Note.vitte of drag fert mouse bu	to coming screen, inght
Detect Status	Read File	Save File Read from HW Send To HW
Factory Restore		Save Config File

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.



#### 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 access, as shown below:

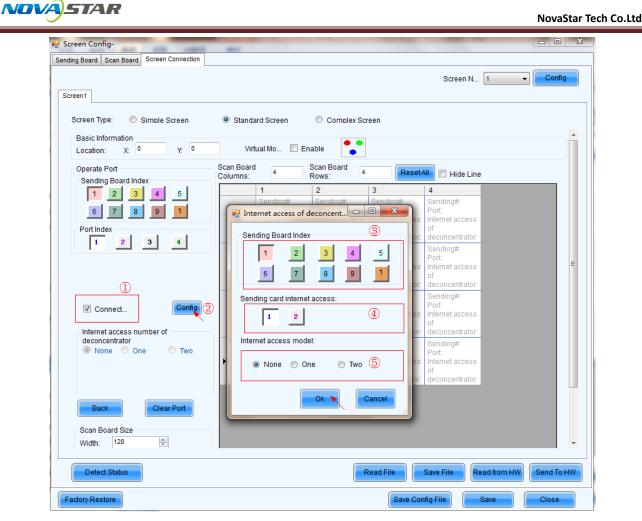


Fig. 5-17 Configuration of deconcentrator internet access

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).

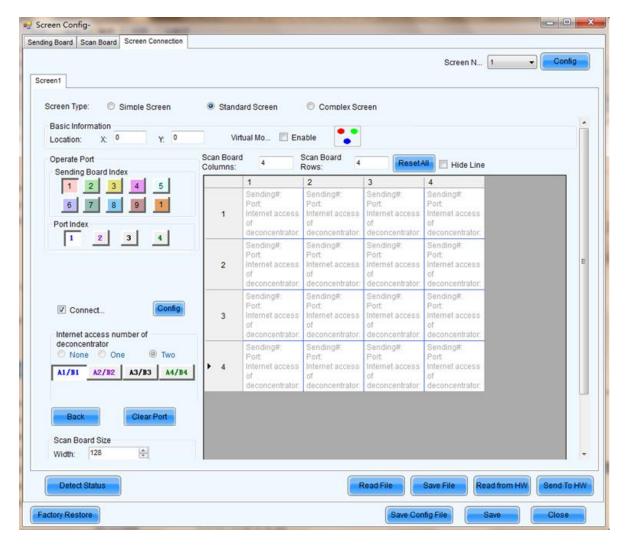
Example 1: Port 1 and Port 2 of sending board 1 are set as" two"; then internet access model of

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.





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ding Board Scan Board Screen Connection						Config
Screen1					Screen N 1	• Config
Screen Type: O Simple Screen	Stand:	ard Screen	Complex Sci	een		
Basic Information						
Location: X: 0 Y: 0	Virt	ual Mo 🔳 En	able 🛟			
Operate Port Sending Board Index	Scan Board Columns:	4	Scan Board Rows: 4	Reset/	📕 🔚 Hide Line	
		1	2	3	4	
6 7 8 9 1 Port Index	1	Sending#. Port Internet access of deconcentrator	Sending#: Port: Internet access of deconcentrator:	Sending#: Port Internet access of deconcentrator:	Sending#. Port. Internet access of deconcentrator.	
1 2 3 4	2	Sending#: Port Internet access of deconcentrator.	Sending#: Port	Sending#: Port: Internet access of deconcentrator:	Sending#: Port Internet access of deconcentrator	E
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 A1/B1 A2/B2 A3/B3 A4/B4	▶ 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:	
Scan Board Size Width: 128						
Detect Status			F	tead File	Save File Read from	m HW Send To HW

Fig. 5-18 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".



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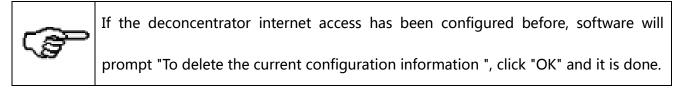
Screen Type: O Simple Screen	Standa	ard Screen	Complex Sci	een		
Basic Information Location: X: 0 Y: 0	Vir	ual Mo 🔟 En	able 📑			
Operate Port Sending Board Index	Scan Board Columns:		Scan Board Rows: 4	Reset/	Hide Line	
1 2 3 4 5 6 7 8 9 1 Port Index	1	1 Sending#. Port. Internet access of deconcentrator.	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         One         Two           None         One         Two           A1         A2         A3         A4           A5         A6         A7         A8	↓ • 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						



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ding Board Scan Board Screen Connection					Screen N 1	Config
creen1						
Screen Type: O Simple Screen	Standa	and Person	Complex Sci	222		
	Cotanua	ing objecti	C COMBIEX CO			
Basic Information Location: X: 0 Y: 0	Virt	ual Mo 📃 Er	nable 【			
Operate Port	Scan Board		Scan Board			
Sending Board Index	Columns:	4	Rows: 4	Reset	Hide Line	
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		of deconcentrator	of deconcentrator:	of deconcentrator:	of deconcentrator:	
1 2 3 4		Sending#:	Sending#:	Sending#:	Sending#:	
	2	Port. Internet access	Port: Internet access	Port Internet access	Port Internet access	E
		of deconcentrator	of deconcentrator;	of deconcentrator.	of deconcentrator	
		Sending#:	Sending#:	Sending#:	Sending#:	
Connect		Port:	Port:	Port:	Port	
	3	Internet access of	Internet access of	Internet access of	Internet access of	
Internet access number of deconcentrator		deconcentrator.		deconcentrator.	deconcentrator;	
None     One     Two		Sending#: Port	Sending#: Port	Sending#: Port:	Sending#; Port:	
	▶ 4	Internet access		Internet access		
		of deconcentrator	1.22	deconcentrator.	of deconcentrator:	
Back Clear Port						
Scan Board Size						
Width: 128						
Detect Status				tead File	Save File Read from	m HW Send To HW

Fig. 5-19 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

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

nding Board	Config-COE1						
-					0	creen N 1	✓ Config
					31	reen N	
creen1							
Screen	Type: O Sir	mple Screen	Standard	Screen 💿	Complex Screen		
	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
	al M 🗌 Enable	ie <b>ta</b>	🗖 3D E	Read Fi	Add Ie Save Fil		elete Clear HW Send To HW

Fig. 5-20 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.

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#### 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.5-21 is the Scan

Board page.

💀 Screen Config-CON19
Sending Board Screen Connection
Module Info
Chip: Common C Size: 32W×32H Scan Type: 1/16 scan
Direction: Horizontal Decode Type: 74HC138 Decoding Data Group: 2
Cabinet Info
1
🖉 Regular 🔘 Irregular
Pixel Width: 90 🗢 <=96 Please A Width: ?? Height: ?? Please A Ple
Pixel Height: 32 Caracteristic state width Loading error. Please adjust berror Hinde sure the width
Module Casc Right to Left and height Construct View Cabinet and height
Performance Setting
Group Swap More Setting
Refresh Rate: 240 V Hz Accelerate R 4
Gray Scale: Normal 16384 V Gray Mode: Gray First V
Clock Phase: 3 V 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 Save File Read From HW Send To HW
Save Config File Save Close

Fig. 5-21 The Scan Board page

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#### **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.5-22 is the Regular Cabinet Info panel which is circled and marked as area 1 in Fig.5-21.

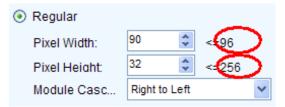


Fig. 5-22 The Regular Cabinet Info panel

#### Width/Height

These two items specify the width and height of the cabinet pixel array. Note that the two numbers circled in Fig.5-22 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, 2. 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.5-23 is the Performance Setting panel which is circled and marked as area 2 in

5-22	L.						
	Performance Settin Group Swap	g More Setting					
	Refresh Rate:	240 👻	Hz	Accelerate R	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		*	(1~24)
	Line Change T	3	(0~19)				
	Brightness Effi	52.31%		Min OE:	24 ns		

Fig.!

Load File

Save File

Read From HW

Send To HW

Smart Setting

Fig. 5-23 The Performance Setting panel

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

software defaults to be ticked.

nding Board Scan	Board Screen Con	nection				
Module Info	SUM2017	0:	2000-2011	Oren Timer	1/16 scan	
Chip: Direction:		Size: Decode Type:	32W×32H 74HC138 Decodin	Scan Type: g Data Group:	1/16 scan 2	>>
	Holizofitai	Decode Type.	74HC 138 Decodin	g Data Group.	2	
Cabinet Info						
Regular						
	128 🚔 <:	400 Pl	ease 🔺 Widt		t ??	
Pixel Width:		make	sure loa	ding error. Please adiu		Please A make sure
Pixel Height:		and	vidth		iew Cabinet	the width and height
Module Casc.	Right to Left	▼			ew odbinet	
Performance Setti	ng					
Group Swap						
	More Setting		Clear Afferglow			
	More Setting		Clear Afterglow			
Refresh Rate:	480	- Hz	Clear Afterglow Accelerate R	4 🗸		
Refresh Rate:	480		Accelerate R	4		
Refresh Rate: Gray Scale:	480 • • • • • • • • • • • • • • • • • • •	• Hz	Accelerate R	4   Refresh Rate First	(05.75).0/	
Refresh Rate:	480 • • • • • • • • • • • • • • • • • • •		Accelerate R Gray Mode: ( Data Duty:	50 <b>v</b>	(25~75) %	
Refresh Rate: Gray Scale:	480 • • • • • • • • • • • • • • • • • • •	• Hz	Accelerate R	50 <b>v</b>	(25~75) %	
Refresh Rate: Gray Scale: Data Clock:	480 • • • • • • • • • • • • • • • • • • •	Hz MHz	Accelerate R Gray Mode: [ Data Duty: Low Gray Co	50 <b>v</b>	(25~75) %	
Refresh Rate: Gray Scale: Data Clock: Clock Phase: Blanking Time:	480 Normal 4096 12.5 2 25	Hz Hz MHz (=2.00us)	Accelerate R Gray Mode: [ Data Duty: Low Gray Co	50 <b>v</b>		
Refresh Rate: Gray Scale: Data Clock: Clock Phase:	480 Normal 4096 12.5 2 25	Hz Hz MHz (=2.00us)	Accelerate R Gray Mode: [ Data Duty: Low Gray Co	50 <b>v</b>		
Refresh Rate: Gray Scale: Data Clock: Clock Phase: Blanking Time:	480 • • • • • • • • • • • • • • • • • • •	Hz Hz MHz (=2.00us)	Accelerate R Gray Mode: Data Duty: Low Gray Co Ghost Contro	50 <b>v</b>		

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

the original arrangement sequence of the screen.



📃 Enable Data Gr	Please Select The Operation	•
Serial Number	Data Group Sequence	ŕ
▶ 1	1	
2	2	
3	3	
4	4	
5	5	
6	6	
7	7	Ξ
8	8	
9	9	
10	10	
11	11	
12	12	
13	13	
14	14	
15	15	_
40	16	

Fig. 5-25 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 Cancel	

Fig. 5-26 More settings

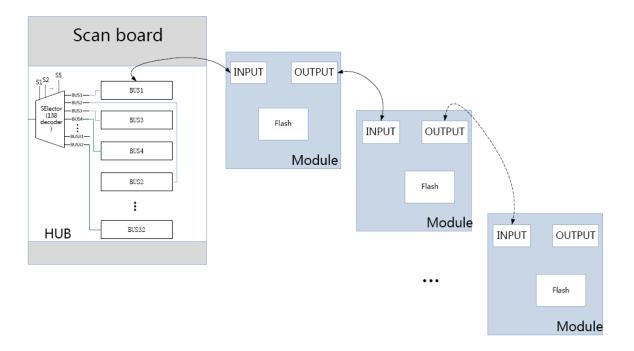
#### > Output Mode

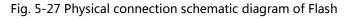


#### • Symmetrical Output

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.5-27 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.





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As shown in Fig. 5-28, 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 Phys	sical Setting						_		
	Flash Cols	: 4	Flash I	Rows: 4				Back	ResetAll
BUS				1	2	3	4		
1	2 3 6 7		1	BUS:1 Number:3 Width:32 Height:16	BUS:1 Number:2 Width:32 Height:16	BUS:1 Number:1 Width:32 Height:16	BUS:1 Number:0 Width.52 Height:16		
9 13	10 11 14 15	5 16	2	BUS:2 Numb <u>ar:0</u> Width:52 Height:16	BUS:2 <u>Number:1</u> Width:32 Height:16	BUS:2 Number:2 Width:32 Height:16	BUS:2 Number:3 Width:52 Height:16		
17 21 25	18     19       22     23       26     27	3 24	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:52 Height:16		
29	30 31	32	▶ 4	BUS:3 Number:4 Width:32 Height:16	BUS:3 Number:5 Width:32 Height:16	BUS:3 Number:6 Width:32 Height:16	BUS:3 Number:7 Width:52 Height:16		
Width: Height:	32 16								
	Apply	to BUS							
Start X:	96	v							
Start Y:	48	V							
		drag le to cance		e button	to config	; screen,	right	Submit	Cancel

Fig. 5-28 MOM Physical Setting

#### > Data Group Extension

• Twenty data group mode

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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.

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**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.

<u>kdj</u>	ustment of <b>H</b> onitoria	ng Data Line	X
	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	Cancel	

Fig. 5-29 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.

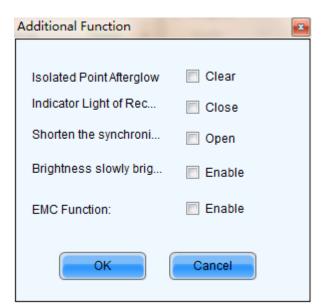


Fig. 5-30 Additional Function

#### **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

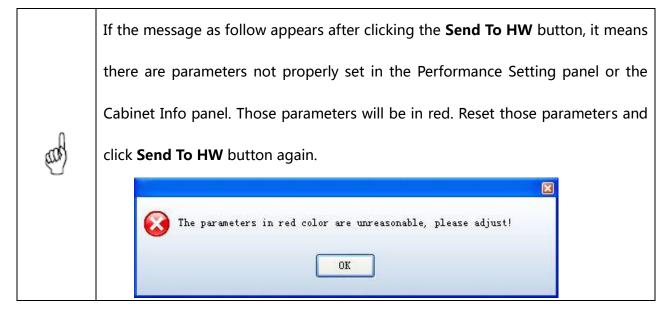
Time to weaken the decoy of scan mode LED displays.



#### The steps of performance parameters adjustment are as follow.

#### > Step 1

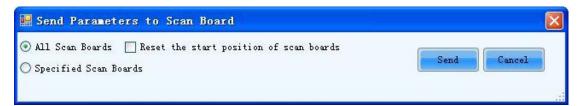
Adjust the parameters in the Performance Setting panel (Fig.5-23) until the Maximum Width and Height shown in the Cabinet Info panel (Fig.5-22) are larger than the pixel array size of the cabinet. Then click the **Send To HW** button on Fig.5-21.



#### > Step 2

If all parameter settings are acceptable, the dialog as shown in Fig.5-31 will appear after clicking

#### the Send To HW button.



#### Fig. 5-31 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.5-32 and Fig.5-33.

	*	Port	Scan B	0,
ndex start	from 1,'*'	∎eans 'all'. oard is:1-*-*,it means	all the scan boards of	
If the posit ne first send	ling board;			
ne first send If the posit	ling board; ;ion of scan b	oard is:1-1-*, it means sending board;	all the scan boards of	Ē

Fig. 5-32 The Send by Address page

Shown in Fig.5-32 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

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

1 70 1 2 2	ess Send By 1	'en el en u					
end by Addro elect creen	Y		on:X=100	). <b>∀</b> =100	Size:256V×	128H	
V Screen1	O Screen	O Pixe	i.	💽 Topo:	logy Or List	Select	Area On S
	(1, 1)	(1, 2)	(1, 3)	(1,4)			Zoom:
		(2, 2)	(2, 3)	(2, 4)			17 <b>11</b> 81

Fig. 5-33 The Send by Topology page

Shown in Fig.5-33 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.5-34 is the Sending Board page. Adjust the parameters in the **Set the sending board display mode** panel as required.

Sending Board	Scan Board	Screen Conne	ction		
Current Displ	ay Mode				
Sending Bo Resolution:	1440 v	ann	raphics output solution:	1440 x 900	Refresh
Set the sendi	ng board disp	lay mode ——			
Resolution:	1440 x	900 px 🗸 🗸	Custom:	1440 🌲 🗴	900 🌲
Refresh Ra	te: 60	*	Hz		Set

Fig. 5-34 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

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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.

🖳 Screen Config-COM4	
Sending Board Scan Board Screen Connection	
Display Mode Current Display Mode Sending Board Resolution: 928 x 600 Graphics output resolution: 1440 x 900	)
Set the sending board display mode	
Resolution: 640 × 480 px 🗸 Custom: 928 🚔 x 600 🚔	
Refresh Rate: 50 THz	)
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	
HDMI Cards Settings	
Auto Select	
Video Input Selection: DVI -	
Audio Input Selection: External -	
Bit Of Input Source: 8 Bit - Send Resresh	
Factory Restore Save Config File Save C	lose

NOVAS	TAR				NovaStar Tech Co.Ltd
	Configure 3D parameters				x
	✓ Enable 3D Video parameter Video mode: Phase control:	Side by Side Top and Button Frame Packing Side by Side V Left eye first	🥅 Right	eye first	
			Send	Close	

Fig. 5-35 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.5-36 is panel on the Sending Board page for Hot Backup Setting.

-Hot Ba	ckup Setting				
	Master De	evice	Slave Device		
	Master Sending Board Index	Master Port Index	Slave Sending Board Index	Slave Port Index	
▶ 1	1	1	1	4	
Refr	esh		Add	Edit Delete	

Fig. 5-36 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.5-37.

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

Fig. 5-37 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.5-32, 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.
	4.	A slave device can't be set as a master device when it is the hot backup of
		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
d		Setting panel to change the hardware settings.
en de la companya de la compa	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.

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# 5.1.8 HDMI Settings (MSD600/MCTRL600/MCTRL610)

Sending cards supporting HDMI interface need to set this option.

HDMI Settings				
Auto Select				
Audio Input S	External	~		
Video Input S	DVI	*		
Bit Of Input S	8 Bit	~	Send	Resresh

Fig. 5-38 HDMI Settings

Automatic input mode: Select "Automatic Input Mode" 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.5-39 is the dialog for saving module settings to a module configuration file.

You can save module to	) file or cabinet database for later using.
Module Name:	
⊙ Option 1: Save module t	to file
File Path:	Browse
🔵 Option 2: Save module t	to database
Option 2. Dave module (	

Fig. 5-39 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.5-40 is Module Info panel of the Receiver Card page that the

2			
	button	is	on.

Sending Board	Scan Board Scre	een Connection				
Module Info-						
Chip:	Common C	Size:	16W×16H	Scan Type:	Static	>>
Direction:	Horizontal	Decode Type:	74HC138 Decodina	Data Group:	8	

Fig. 5-40 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.5-41 is the **Scan Board** page.



🛃 Screen Confi	-						
Sending Board Scan	Board Screen Conn	ection					
Module Info							
			32W×32H	Scan Typ		n >>	
Direction:	Horizontal [	Decode Type:	74HC138 Decod	ing Data Gro	up: 2		
Cabinet Info							
Regular			O Irre	gular			1
Pixel Width:	90 🗘 <=	96 Pleas		dth: ?? H	eiaht: ??	Please 🔥	
Pixel Heiaht:	32 🗘 <=	256 make s	ith LO	ading error. Pleas	e adiust perfor	make sure in the width	
Module Casc	Right to Left	✓ and he	ight 🗸	Construct	View Cabinet	and height 👽	
Performance Settir							
Group Swap	More Setting						
Circup circup		J					
Refresh Rate:	240 🗸	Hz	Accelerate R	4	¥		
		 		<u> </u>			
Gray Scale:	Normal 16384 💙		Gray Mode:	Gray First	*		
Data Clock:	12.5 💙	MHz	Data Duty:	50	(25~75) %	5	
Clock Phase:	3 🗸		Low Gray Co	1	*		
Blanking Time:	25 🗘	(=2.00us)	Ghost Contro	20	\$ (1~24)		
				20	▼ (1~24)		
Line Change T	3 🇘	(0~19)					
	50.0404			~ .			
Brightness Effi	52.31%		Min OE:	24 ns			
Smart Setting			Load File	Save File	Read From HW	Send To HW	
Smart Setting			Load Flie	Save File	Read From HW	Selid TO HW	
				Save C	onfig File	Save	lose

Fig. 5-41 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.5-42 is the Screen Configuration page.



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Screen Config-COM3     Sending Board Scan Board Screen Connection	
Screen1 Screen2 Screen3	Screen N 3 - Config
Screen Type: Simple Screen Basic Information Location: X: 0 Y: 0	<ul> <li>Standard Screen</li> <li>Complex Screen</li> <li>Virtual Mode:</li> <li>Enable</li> <li>3D E</li> </ul>
The current network port operations	Scan Board Columns: 3 Scan Board Rows: 2 ResetAll Hide Line
Port Index	1     2     3       Sending#:1     Sending#:1     Sending#:1       Port:1     Port:1     Port:1       1     Scan Bg::3     Occan Bo::2       Width:128     Width:128       Height:128     Height:128
Connect to d	Sending#:1     Sending#:1     Sending#:1       Port:1     Port:1     Port:1       Scan Bo:4     Scan Bo:5     Scan Bo:6       Width:128     Width:128     Width:128       Height:128     Height:128     Height:128
Scan Board Size Width: 128 Height: 128	
Detect Status	Read File Save File Read from HW Send To HW
Factory Restore	Save Config File Save Close

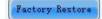
Fig. 5-42 The Screen Configuration page

#### > 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



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

Save Config File

Save

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.

Close

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# 5.2 Adjust the brightness, display quality, Gamma and Current Gain

Click Brightness button from the tool bar or select Tools->Brightness from the main menu of

the NovaLCT-Mars application main interface to open the **Display Adjustment** window for

brightness, display quality, Gamma and color temperature adjustment.

Among that, the current gain setting page defaults to be hidden; and this setting page can be

displayed by click

Advanced Set

# 5.2.1 Manual Adjustment

Select **Manual** in the **Adjustment Mode** panel to open manual adjustment page. Shown in Fig.5-43 is the manual setting page of the **Display Adjustment** window.



play Adjustment			
COM4-Screen1 COM4-Screer Adjustment Mode	2 COM4-Screen3 COM4-Scr	een4	
<ul> <li>Manual</li> <li>Sche</li> </ul>	d Config 🔘 Auto	Config 🔘 Auto adjust.	Config
Strie			
Display Quality	🔵 Enhanced Mode	Gamma Adjustment	
Brightness Adjustment		🖲 Mode A 🛛 🔘 Mo	ide B
		•	2.8
	▶ 171		
	(67.1%)	💿 Custom	Gamma Ta
☑ Custom Gain		RGB brightness	
R: (	▶ 100 %	R: (	▶ 255
	~		(100.0%
- G: 🛛 🔨	▶ 100 %	G:	▶ 254
			(99.6%)
B: K	▶ 100 %	В: К	▶ 255
🔽 Synchronous		Synchronous	(100.0%
	Default Value		Normal mode
Color Temperature Brigh	tness Mode	Refresh	Save To Hardwa
			:
ginRead Scan Board Para	motoro		

Fig. 5-43 The manual adjustment page of the Display Adjustment window

### **Display quality**

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

#### Gamma Adjustment

If Fixed Value is selected, the Gamma coefficient can be any value between 1 and 4. And the



default value is 2.8. Select **Custom** to manually define the Gamma table.

#### **Brightness Adjustment**

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

Bright Mode Table was configured and Enable Bright Mode Table was checked, the software

will adjust the brightness of the screen by the Bright Mode Table when pull the slide bar.

#### **Color Temperature Adjustment**

Color temperature adjustment can be done in two ways, **Advanced mode** and color **Normal mode**. Choose one as you want. Select **Advanced mode** and the color temperature can be adjusted through the brightness and current gains of Red, Green and Blue components. Click **Normal mode** button to open the dialog for color temperature table configuration. Color temperature can be adjusted by dragging the bar of RGB brightness or modify the value directly.

Click Normal mode

to pull the bar to adjust the color temperature.

Check the option "Custom" to adjust RGB current gain and RGB brightness.

# Note :

Current gain adjustment option won't be available if the LED light driver chips do not support current gain adjustment.

If the color temperature table has been set, NovaLCT-Mars will adjust the LED display settings

according to the current brightness setting and keep the color temperature unchanged.

#### Note :

Professional equipment is necessary to find out the current gains and brightness of

red, green and blue for different LED display brightness of certain color temperature.



#### 5.2.1.1 Gamma

After the custom Gamma table is finished, click "send" to send Gamma table to the receiving card,

Gamma Adjustment			×	
Generating the gamma table fastly by You can edit certain value in Gamma adjusting the Gamma curves table.				
X-Axis: 0 💌 _ 255 💌	Х	Y	A Move Up	
Y-Axis: 0 🚖 _ 65535 荣	▶ 0	0		
Gamma Value 2.1	1	1	Move Dow	
	2	2	Save	
Recommended Gamma	3	6		
💿 Original 💿 A Mode 💿 B Mode	4	11	Load	
	5	17		
	6	25		
	7	34		
	8	46		
	9	58		
	10	73		
	11	89		
	12	107		
	13	126		
	14	148		
	15	550		
	16	196	-	
		Send	Exit	

and save it to the configuration file of the receiving card.

Fig. 5-44 Gamma Adjustment

# 5.2.2 Schedule Adjustment

Select **Schedule** in the **Adjustment Mode** panel to open schedule adjustment page. Schedule adjustment is to generate a time table and the LED display brightness, Gamma, color temperature and brightness mode will be adjusted according to the time table. Shown in Fig.5-45 is the schedule adjustment page of the **Display Adjustment** window.

Click Config button according to the instruction and the Config Schedule File window will be

opened. Shown in Fig.5-46 is the **Config Schedule File** window. Click Add to add schedule (time table) for adjustment and NovaLCT-Mars will perform the adjustment operations



automatically according to the schedule.

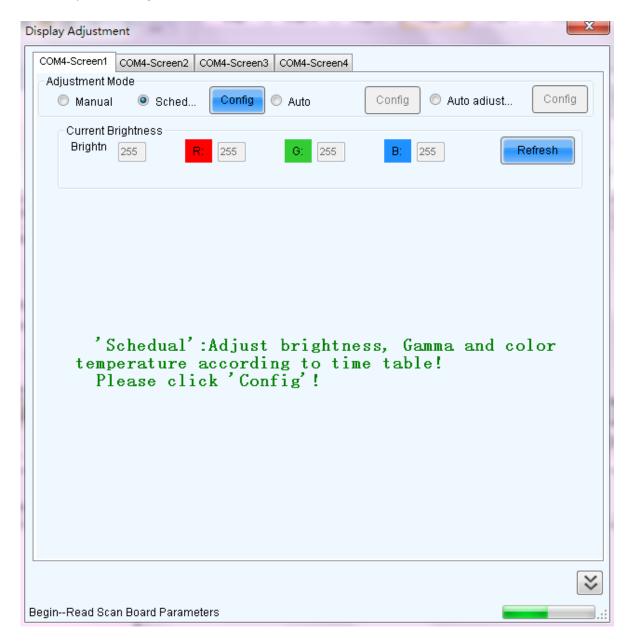


Fig. 5-45 The Schedule setting page of the Display Adjustment window



С	onfig Schedual File			83
	Time	Brightness		Add
	11:00	10%		
	Add schedule	<b>×</b>		Edit
	Edit Schedual — Start Time:	11:00		Delete
	Brightness:	10 - %		Clear
	Add	Exit		
		ок	Cancel	Apply

Fig. 5-46 The Config Schedule File window

# 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.

# 5.2.3 Auto

Auto adjustment is to adjust LED display brightness according to the environment brightness.

Light sensors are used to determine the environment brightness.

#### 5.2.3.1 Light Sensor Setting

Select Auto in the Adjustment Mode panel to open the page for auto adjustment. Shown in

Fig.5-47 is the auto adjustment page.



Display Adjustment
Adjustment Mode
Manual Sched Config Auto
Current Brightness Brightn 255 R: 255 G: 255 B: 255 Refresh
'Auto':Adjust brightness according to enviroment brightness! Please click 'Config'!
BeginRead Scan Board Parameters

Fig. 5-47 The Auto Adjustment page

Click **Config** button to open the Auto Brightness window. Shown in Fig.5-48 is the Auto Brightness window. Set the parameters for auto brightness through the Auto Brightness window.



Auto Brightness
Light Sensor for Auto Brightness
Stat Index Address
Caculate Type of Lux
Average of all light sensor     Average after remove maximum and     minimum
Adjustive Relationship of Auto Brightness
Environment Brightn Screen Brightness
Above 12000 🚔 lux> 80 🚔 %
Linear adjustment between mininum and maxinum
Numbers of S 10
Below 20 20 1ux> 40 2 %
Advanced Setu OK Cancel

Fig. 5-48 The Auto Brightness page

The LED display control system uses light sensors to get the environment brightness. Click button and NovaLCT-Mars will automatically detect light sensors that are connected with sending boards and add them to the lightness sensor list, as shown in the upper light sensor list on Fig.5-49. Light sensors connected to multifunction cards can be configured through the function card management page.



Index	Address	Value	Operate
1	COM6-Sending Board 1-Light Sensor	80	Read
20	or of function card onfig light sensor of function card i	n 'Function Card	' page!
Index	Address	Value	Operate
Index	Address	Value	Operate
Index	Address	Value	Operate
Index	Address	Value	Operate
Index	Address	Value	Operate

Fig. 5-49 light sensor lists page

### The retry number when adjustment failed

If NovaLCT-Mars fails in auto brightness adjustment, it will retry the adjustment again. The

number set here is times NovaLCT-Mars try to adjust the brightness before it give up.

### Calculate Type of Lux

This is to specify how the final result is calculated from the measurement results of all light

sensors.

### Enable Bright Mode Table

The Brightness of the screen will be adjusted by the Bright Mode Table and the environmental

luminance if the Enable Bright Mode Table option is checked.

### **Fix Color Temperature**

If this option is selected, the LED display brightness will be adjusted according to the color



temperature table and the environment brightness.

### **Number of Segments**

Thresholds need to be set for automatic brightness adjustment. When the environment brightness is higher than the high side threshold, a high brightness level will be set for the screen, for example 100%. And while the environment brightness is lower than the low side threshold, a low brightness level is set. The interval between the high and low threshold of environment brightness is linearly divided into subsections with subsection number equals the Number of Segments. So does the interval between the high and low LED display brightness levels. If the environment brightness is in certain subsection, the corresponding brightness level will be set for the LED display. The maximum number is 10.

As can be seen in Fig. 5-50, the scope of the threshold is that: if the environmental brightness is smaller than 10lux or 10lux-100lux, the 5% screen brightness shall be selected. If the environmental brightness is larger than 100lux, the 80% screen brightness shall be selected. Select the "**Advanced Setting**" to add several thresholds, and respectively enter the environmental brightness and the screen brightness boundaries. See Fig. 5-51, the environmental brightness that is less than 20lux or between 20lux and 100lux corresponds to 30% screen brightness, the environmental brightness that is between 100lux- 200lux corresponds to 80% of the screen brightness, and the environmental brightness that is larger 200lux corresponds to 100% of the screen brightness.



Environmen	t Brightn	:	Screen Brightness	
Above	100 🗘	lux>	80	%
Linear adiustmen Numbers of S	nt between minin	um and max	iinum	<mark>Linear adjustmen</mark> 10
Below	10 🗘	lux —>	5	%
Advanced Setu			ОК	Cancel

Fig. 5-50 Segment interval setting

		Ambient Brightness	Screen Brightness
	1	200	100
	2	100	80
1	3	20	30
*	4		
G	ener	al Setup	OK

Fig. 5-51 Several thresholds test for segment intervals

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



### 5.2.3.2 Auto Brightness Time Interval

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

### > Step 1

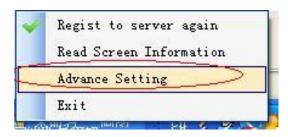
Click right button on the circled panel icon (as shown in Fig.5-52) and select Advance Setting

from the pop-up menu (as shown in Fig.5-53) to open the Advance Setting window (as shown in

Fig.5-54).



Fig. 5-52 brightness adjustment icon in the OS interface panel



#### Fig. 5-53 The pop up menu

dwance Setting							
Log effective days of adjustm	nent —	_	_	_			ł
	30		🗧 Day	7S			
Auto Adjustment information -	<u></u> 51	-					-
Detect Period:	10		۵		>		
Read times of light sensors:	5		\$				
Notice:Before doing every light sensor value N time after removing maximum a brightness according to straight which you set!	es, ar nd mini	nd ca imum,	culate then	the we adj	average just sc	value reen	
OK				Ca	ncel	]	

Fig. 5-54 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.

# 5.2.4 Auto Adjustment By Hardware

When the hardware and software(NovaLCT-Mars) is not connected, you can configure to auto adjustment by hardware, and the operation are basically same with Auto adjustment(<u>5.2.3 Auto</u>), the difference is the auto adjustment by hardware added Adjustable parameter Settings. show Fig.5-55 and Fig5-56.



ight Sensor for Au				
Stat Index 7	Address			
The retry number failed:	when adjustment 2	* *	More Settings	
aculate Type of Lu	IX			
Average of all			after remove maxii	mum and
Average of all	iight sensor	🤍 minimun	า	
Fixed Colo	hip of Auto Brightness		•	
Fixed Colo Environmer		Screen E	<b>▼</b> Prightness	
		Screen E —> 80	Ţ Prightness	
Environmer Above	nt Brightn	—> 80		
Environmer	nt Brightn 12000 🚔 Iux	—> 80		
Environmer Above Linear adjustme	nt Brightn 12000 🚔 Iux nt between mininum a	—> 80	∞ %	

Fig. 5-55 Auto adjustments by hardware

Click More Settings in Fig.5-55 to open the Adjustable parameter Settings window (as shown in

Fig.5-56).



Adjustable parameter settings
Failure to read the ambient brightness, adjust brightness to 5 ★ %
Adjustable speed settings
Auto Adjustment information
Detect Period: 5
Notice:Before doing every auto adjustment, we will read the light sensor value N times, and caculate the average value after removing maximum and minimum, then we adjust screen brightness according to this average value and the linear straight which you set!
Ok Cancel

Fig. 5-56 The Adjustable parameter setting window

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.

# 5.3 **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.

🔜 Screen Control			
COM6-Screen1			
Kill Self Test	Lock	Run	
Normal	¥	Send	
<u></u>			
			Close
			,d

Fig. 5-57 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.

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# 5.4 Check Hardware Info

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

page. Shown in Fig.5-58 is the Hardware Information page.

Hardware Information	
. Time	
Time of Hardware: 2012-06-12 17:12:42 🗢 💽 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: 🚺 🗘 Port: 👖 🤹 Scan Board: 🚺 🜲	Refresh
□ V5. 2. 1. 0 Total 1, Remarks: 2012. 05. 23	
Position:Sending#1	
a v a v and Carling Brand VDCA Care Brand VDCA	]
Sending Board MCU Sending Board FPGA Scan Board FPGA	
Communication Info	_
2012-6-12 19:32:15Current control system address:1 port 3 Read FPGA 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 O .	

Fig. 5-58 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:
æ	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.

# 5.5 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.5-59 is the Combination Display Config

window.

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ombination Display Config					
Combination Display Count: 1	٢	Config		Clear	
					5
			-		
			OK		Close

Fig. 5-59 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.5-60. Here **Screen Count** is 3, thus there are 3 colored rectangles labeled 1, 2 and 3 respectively in the sketch map.



영화에서 이 집중 않는 것			
Combination Display	Count: 1	Config	
1			
Name:	1		_
Screen Count:	3	Config	
Zoom:	<	> 0.1	
?			
2			
	? 3		
	?		
	?		
	?		
	?		
	?		
	?		
	?		
	3		
	?		
	3		

Fig. 5-60 Combination display setting page 1

### Step 2

Click left button of the rectangle labeled 1 to Screen information window, as shown in Fig.5-61. 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.



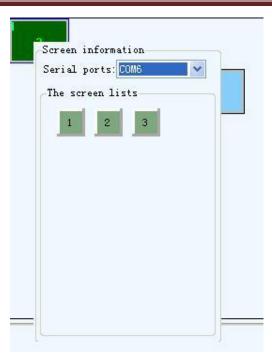


Fig. 5-61 The Screen information window

### **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.

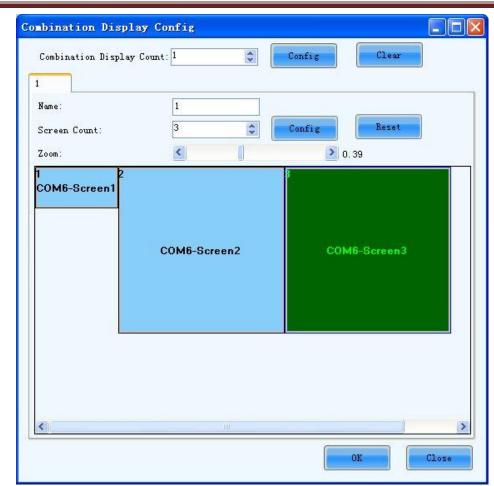


Fig. 5-62 The combination display after configuration

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.

# 5.6 Monitor the System

NOVA STAR

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.

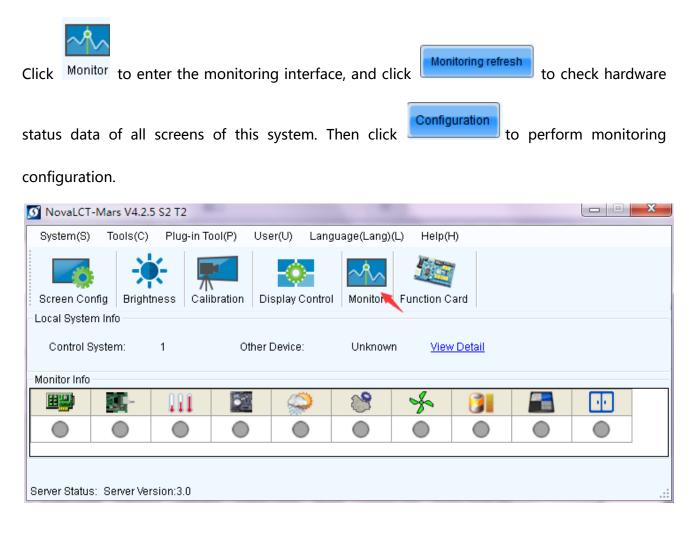
Register the screen of this system into NovaCare server; if there is network, log in NovaCare

website or NovaCare mobile client at any time for remote monitoring of the hardware status of

the screen, and timely notify the user with the occurred fault through Email.



Register the screen of this system into NovaCare server; if there is network, log in NovaCare website or NovaCare mobile client at any time for remote monitoring of the hardware status of the screen, and timely notify the user with the occurred fault through Email.





🔡 Ionit	or – Sending	Board Status			
	or - Sending	g Board Status		OK DVI Exception	Refresh Monitor Setting Email Setting Email Log Monitor-Control
	Refresh Period:	ν	T1	Unknown	Control Log
	neiresn reriod:	None	The time to next refresh:	None	X
2012-6-7	11:48:28COM3:读出	探信息结束!			
	11:48:28开始读发				
2012-6-7	11:48:28读监控信	息结束!			🔍 📡
Fault (Als	arm) Information	Communication List			
读监控信息	结束!				

Fig. 5-63 the Monitor page

### Refresh

This button is used to update the monitored data.

# **Monitor Setting**

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

### **Email Setting**

This button is used to set the email notification.

### Email Log

Click this button to check the log of the report email sent by NovaLCT-Mars monitoring

subsystem.

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# 5.6.1 Monitor Setting

# 5.6.1.1 **The Monitor Setting Page**

Shown in Fig.5-64 is the Monitor Setting page.

to Refresh Period: 00 \$ S Auto Refresh Period: 1 \$ Times Retry times Setting Retry times after read status failed: fresh and Alarm Setting Refresh Status \$ Refresh Temperature \$ Refresh power of scan board \$ Connect Monitor Board \$ Connect Monitor Board \$ Refresh Humidity \$ Refresh Smoke \$ Refresh cabinet status \$ Refresh status of \$ Refresh Humidity \$ Refresh Smoke \$ Refresh cabinet status \$ Refresh status of \$ Refresh Fan \$ Refresh Pan \$ Refresh power of monitor board \$ Refresh has different number of power \$ Retry cabinet has different number of pow					
Retry times after read status failed:       1       Times         fresh and Alarn Setting         Refresh Setting         Image: Setting	-	Period:	60	S S	
status failed: Immes   Fresh and Alarm Setting   Refresh Setting   Immes   Refresh Status   Refresh Temperature   Refresh Status   Refresh Status   Refresh Temperature   Refresh Status   Refresh Ran   Betresh Pan   Immediate   Refresh power of monitor board   Refresh thus different number of power   Every cabinet has different number of power   Setting   Marm Setting   Refresh table   When   temperature   E0 Refresh %, display alarm information.    When speed < 1000   Speed/min, display alarm information.	try times Setting ——				
Refresh Setting Refresh Status Refresh Temperature Refresh power of scan board Connect Monitor Board Refresh Humidity Refresh Smoke Refresh cabinet status Refresh status of Refresh Humidity Refresh Smoke Refresh cabinet status Refresh status of Refresh Fan Refresh Fan Refresh power of monitor board Refresh p			1	<b>C</b> Imes	
<ul> <li>Refresh Status</li> <li>Refresh Temperature</li> <li>Refresh power of scan board</li> <li>Connect Monitor Board</li> <li>Refresh Humidity</li> <li>Refresh Smoke</li> <li>Refresh cabinet status</li> <li>Refresh status of Cabinet-Door</li> <li>Refresh Fan</li> <li>Bevery cabinet has same number of fan</li> <li>Every cabinet has different number of fan</li> <li>Every cabinet has same number of fan</li> <li>Every cabinet has same number of power</li> <li>Bevery cabinet has different number of power</li> <li>Bevery cabinet has different number of power</li> <li>Bevery cabinet has different number of power</li> <li>Setting</li> </ul>	fresh and Alarm Settin	ng			
<ul> <li>✓ Connect Monitor Board</li> <li>✓ Refresh Humidity</li> <li>✓ Refresh Smoke</li> <li>○ Refresh Fan</li> <li>④ Every cabinet has same number of fan</li> <li>► Every cabinet has different number of fan</li> <li>✓ Refresh power of monitor board</li> <li>⑥ Every cabinet has same number of power</li> <li>⑧ Every cabinet has same number of power</li> <li>⑧ Every cabinet has different number of power</li> <li>⑧ Every cabinet has different number of power</li> <li>⑧ Every cabinet has different number of power</li> <li>● Every cabinet has different numb</li></ul>	Refresh Setting				
<ul> <li>Refresh Humidity ♥ Refresh Smoke ☐ Refresh cabinet status ♥ Refresh status of Cabinet-Door</li> <li>Refresh Fan</li> <li>Prery cabinet has same number of fan</li> <li>Refresh power of monitor board</li> <li>Fvery cabinet has same number of power</li> <li>Every cabinet has same number of power</li> <li>Every cabinet has different number of power</li> <li>Every cabinet has different number of power</li> <li>Setting</li> <li>Alarm Setting</li> <li>When temperature &gt; 60</li> <li>C, display alarm information.</li> <li>When temperature &gt; 60</li> <li>%, display alarm information.</li> </ul>	📝 Refresh Status	🔽 Ref	iresh Temperature	📝 Refresh power of scan board	
Kerresh Humidity Merresh Smoke Cabinet Status Cabinet-Door          Refresh Fan         Image: Setting         Refresh power of monitor board         Image: Setting         Image: Setting     <	🔽 Connect Monitor D	Board			
<ul> <li>Every cabinet has same number of fan         <ul> <li>Every cabinet has different number of fan</li> <li>Setting</li> </ul> </li> <li>Refresh power of monitor board         <ul> <li>Every cabinet has same number of power</li> <li>Every cabinet has different number of power</li> </ul> </li> <li>Alarm Setting         <ul> <li>When temperature</li> <li>60</li> <li>C, display alarm information.</li> </ul> </li> <li>When the speed <ul> <li>1000</li> <li>speed/min, display alarm information.</li> </ul> </li></ul>	📝 Refresh Humidi	ty 📝 Ref	iresh Smoke	🔲 Refresh cabinet status 🛛 🗹 Refre	sh status of et-Door
Every cabinet has different number of fan       Setting                 Refresh power of monitor board                Every cabinet has same number of power               8                 Every cabinet has different number of power               Setting                 Mear Setting               Setting                 When temperature               8                 When temperature               8             C, display alarm information.                 When temperature               8             60	🔽 Refresh Fan			4	
Image: Setting         When temperature         When temperature </td <td>💿 Every cabir</td> <td>net has same</td> <td>number of fan</td> <td></td> <td></td>	💿 Every cabir	net has same	number of fan		
Every cabinet has same number of power Every cabinet has different number of power Every cabinet has different number of power Alarm Setting When temperature > 60 C, display alarm information. When humidity > 60 \$\$, display alarm information. When speed < 1000 \$\$ speed/min, display alarm information.	Every cabir	net has diffe	rent number of fa	Setting	
Every cabinet has same number of power       Setting         Alarm Setting       Setting         When temperature       60         When temperature       60         When temperature       60         When temperature       50         When temperature       60         When temperature       60         When temperature       60         When temperature       50         When temperature       60         When temperature       5         When temperature       60         When temperature       5         When temperature       5         When temperature       5         When temperature       60         When temperature       5	🔽 Refresh power	of monitor b	oard		
Alarm Setting When because the setting C, display alarm information. When because the set of the	- Every cabir	net has same	number of power	8	
When temperature       60       C, display alarm information.         When humidity       60       \$ %, display alarm information.         When speed       1000       \$ speed/min, display alarm information.	Every cabir	net has diffe	rent number of po	ver Setting	
When temperature       60       C, display alarm information.         When humidity       60       \$ %, display alarm information.         When speed       1000       \$ speed/min, display alarm information.					
nnen > 60 C, display alarm information. When > 60 S K, display alarm information. When speed < 1000 S speed/min, display alarm information.				Fahrenheit Tempe	rture
humidity / 00 😴 %, display alarm information. When speed < 1000 🤤 speed/min, display alarm information.		60	🗘 °C, di spl		
		60	📚 %, di spl	y alarm information.	
When voltage < 4 V, display alarm information.	When speed <	1000	🔹 speed/m	n, display alarm information.	
		4	V, di spl	ny alarm information.	
	When voltage $<$	- 25			

Fig. 5-64 the Monitor Setting page (for setting all displays)

### **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.

### **Refresh Status**

The status here refers to the working status of the receiver cards. If this option is selected, the working status of the receiver cards will be under monitoring.

### **Refresh Temperature**

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

### Refresh power of scan board

If this option is selected, the power supplies of the receiver cards will be under monitoring.

### **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 same number of fan

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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 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 power of monitor board

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

### Every cabinet has same number of power

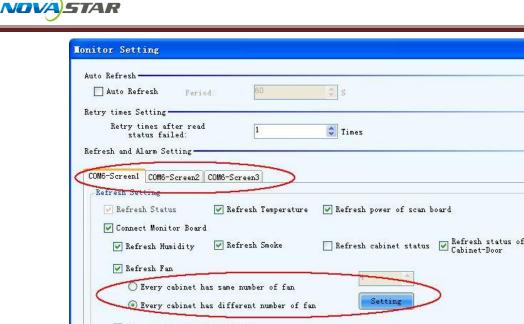
If for every monitor board, the number of power supplies to be monitored is the same, select this option and set the power supplies number in the box to the right of this option.

### Every cabinet has different number of power

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.

### Single Setting

Click this to set the monitoring options for each display individually. Shown in Fig.5-70 is the **Monitoring Setting** page for individual display monitoring option setting. The **Ever cabinet has different number of fan** and the **Every cabinet has different number of power** are available in this page. To return to the **Monitoring Setting** page that all displays can be set together, click **Uniform Setting** at the lower left corner of the page.



of monitor board	
et has different.	number of power Setting
60	C, display alarm information.
60	📚 %, display alarm information.
1000	🗢 speed/min, display alarm information.
	et has same numb et has different 60

Fig. 5-65 the Monitor Setting page (for individual display setting)

# 50k)

Note:

The Monitor Setting page is in the Uniform Setting status by default.

## 5.6.1.2 Display with Cabinets Varying in Fan/Power Supply Number

For a display of which the cabinets are different in fan/ power supply number, use the individual display Monitor Setting page for monitoring option setting. Click **Single Setting** at the lower left corner of the Monitor Setting page (Fig.5-60 )to open the individual display Monitor Setting page (Fig.5-75).

To set the fan / power supply number for each cabinet, click the Setting button to open the

### setting page after select Refresh Fan / Refresh power of monitor board and Every cabinet has



### different number of fan / Every cabinet has different number of power. As an example, shown

in Fig.5-66 is the page for fan number setting for each cabinet.

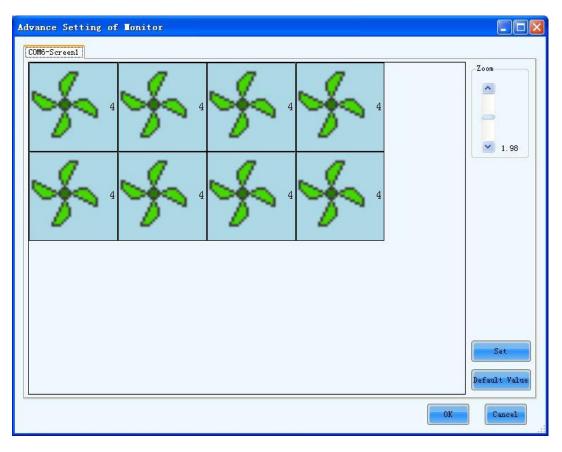


Fig. 5-66 the Advance Setting of Monitor page for fan number setting

# 5.6.2 Email Notification Setting

Shown in Fig.5-67 is the page for email notification setting. Set the email notification according

to the instructions given on the page.

If the sending system report e-mail is enabled, the regular sending could be set. The date could

be set by clicking "E-mail Setting" .



	Of Email	Noti	fication	About	<b>Bonitor</b>	Faul	t	(	×
-Notifica	tion Setting-								
📃 En	able Email N	otifica	tion						
En:	able Svstem	Reco	verv Notice						
🗌 Ena	Enable Sending System Report Email								
Set Regular Sending of System Operation Report Email									
Email	Sender —								5
	I Addres I Passw	Nov:	aStarTech(	@126.co	om				
SMTF	Server:	smti	0.126.com						
Port:		25							
Modif	v Sender						Use	Default	
Recipi	ent							_	ñ
	Name			Email	Address			1	
Email	Information -								ĥ
Emai	From:	A-1				e.g.:Nei Square		nood A,	
-Log Se	tting								5
	Enable Loo		Sav	ina Time	e Of Loa :	7	÷ [	Davs	
					App	oly		Close	

Fig. 5-67 the email notification setting page

# 5.6.3 Notification Email Log

Shown in Fig.5-68 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.



Log Time:		Wednesday, Aj	pril 18, 2012 📑	<b>×</b>	Refresh	Delete Log
	Notify Date	Error Screen	Recipients	Title	Notification Content	EmailState
		0.001			, content	

Fig. 5-68 the History window for notification emails checking

# **5.6.4 Monitor-Control**

# 5.6.4.1 Configure Control Scheme

Confi	g I	Ionitor-Control Information						×
	nal	ole Monitor-Control						
Cont	rol	information list						
		Content	Display Number	Notify	Modif <sub>2</sub>	Delet)	Detail	
	1	Temperature $>$ 32°C, brightness decrease 50%, Temperat	A11		1	×		]
	2	Temperature $>$ 70°C, brightness decrease 50%, Temperat	All		1	×		
Vali	d d	lays of logr						
$\subset$	1	Days						
	-			_				
					0k		Cance	1
							<u> </u>	

Fig. 5-69 Configuration Of Monitor-Control

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### **Enable Monitor-Control**

The functions of Monitor-Control will work only when the option is checked.

## Valid days of logs

Set the valid days of logs.

One control information can be added by clicking the button in Fig.5-69. As it show in Fig.5-70 is to add one temperature control information, as it show in Fig.5-71 is to add one

smoke control information.

Display Number:	All		-	
Control Information				
Control Type:	Temperature (	Control	-	
Oecrease the b	rightness			
Temperature	The maximu	C	The averao	
When the tem	60	< X <	70	5°
Brightness decreas	e 50	* %		
💿 Open Cooling D	evice			
🔘 Power Off				

Fig. 5-70 Temperature Control Information



Add One Control Information	
Displav Number: All  Control Information Control Tvpe: Smoke Control When the Smo > 1  Power Off Send e-mail after power off Configuring email infor	
Add	

### Fig. 5-71 Smoke Control Information

Choose Power to Control		
<ul> <li>COMB-Sending Board 1-Port</li> <li>Switch</li> <li>Switch 3</li> <li>Switch 4</li> <li>Switch 5</li> <li>Switch 6</li> <li>Switch 7</li> <li>Switch 7</li> <li>Switch 1</li> <li>Switch 2</li> <li>Switch 2</li> <li>Switch 3</li> <li>Switch 4</li> <li>Switch 5</li> <li>Switch 5</li> <li>Switch 6</li> <li>Switch 7</li> <li>Switch 7</li> </ul>		
	Ok	Cancel

Fig. 5-72 Select The Controlled Power

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# 5.6.4.2 Monitor-Control Log

eviev Ion	itor-Control L	og	
Date: Log Informati	Wednesday,	April 18, 2012 Refresh	Delete Log
Time	Display Name	Control Information	Result
16:40:44	COM6-Screen1	Temperature $>$ 32°C, brightness decrease 50%	Succeed!
17:41:06	COM6-Screen1	Temperature $>$ 32°C, brightness decrease 50%	Succeed!
			Exit

Fig. 5-73 Monitor-Control Log

## 5.6.4.3 Recovering Of Monitor-Control

The latest control information will show in the bottom right corner in the main form and the

monitor page. As it show in Fig.5-74 is the information which comes from the last control.

	-	111	64	$\sim$	8	×.		<b>***</b>	··	
•			•			$\bigcirc$				
Fault (Alarm)	) Information	Communi	ation List							
	2012-6-6 15:43:53 COM6-Screen1 brightness decrease									

Fig. 5-74 Control Information In The Monitor Page

Click this link label to view the controlled information list as it show in Fig.5-75.

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Finished C	ontrol	2
Finishe	ed Control —	Restore Control
Time	Display Name	Control Information
15:43:53	COM6-Screen1	Temperature > 32°C, brightness decrease 50%

Fig. 5-75 View The Control Information List

### **Recover Control**

If the control scheme is performed (View <u>5.6.4.1 Configure Control Scheme</u> to configure the control scheme), and the user can restart monitor-control by clicking this button after dealing

with the fault.

### View Log

Open the log-window and view the stored logs.

# 5.7 Error Dot Detect

The LED lights status checking function, also known as Error Dot Detect, 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. Error Dot Detect is only available for LED displays of which the LED lights driver chips support LED lights open/short circuit status checking.



 Driver chips supported by Mars serial LED display control systems and good for Error Dot Detect at present are MBI5036, MBI5034, MBI5040, DM13H and MBI5030.
 Monitor boards for Mars serial LED display control systems are required for Error Dot Detect.

Select **Tool** ->**Error Dot Detect** from the NovaLCT-Mars main menu to open the **Error Dot Detect** window for Error Dot Detect setting. Shown in Fig.5-76 is the Error Dot Detect window. As shown in the figure, the LED display under Error Dot Detecting 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.



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Error Dot Detect	<b>1</b>		6 B		
Communication port selec					
Communic COM12	2	•			
Screen1					
Screen Topological Graph	1				
					Zoom
		0			
					▼ 1.0
					Unknown
			1.1		Error
	*	0	0.		Normal
					No Monito
Point Detect Parameters					
Detect Type:	Open Circuit And	d Short Circuit			
Threshold Current:	<b>9</b> 1	© 2	© 3	© 4	
Current Gain	🔽 Enable	Change Setti	<u>19</u>		
		Save C	onfi Detect Scre	Detect Sele	Pause Stop
		(bave c	Detect octe	perect dele	C adde
2014-12-08-09-08-23Scre	ant Physical Addre	ce/1 1 1)detected	ount faile di . E aile ditt.	anitar hoard is not on	
2014-12-08 09:08:23-Scre					
2014 12 00 03 00 25 0010	sen Familien detecting	pointe me nombe	- or or or other or other of the test	ea sean ovarans.o, n	
Information					

Fig. 5-76The Error Dot Detect window

## **Serial Port Selected**

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

### **Error Dot Detect Parameters**

- > **Detect Type** --- This is the LED lights status type can be checked.
- > Threshold Current --- Set the current threshold for Error Dot Detect 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 Error Dot Detect on the whole display.

### **Detect Selected**

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

### Pause

Click this button to pause the ongoing Error Dot Detect operation.

### Stop

Click this button to stop the ongoing Error Dot Detect operation.

### Zoom

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

### **Notification panel**

The information of the ongoing Error Dot Detect operation will be shown in this panel.

### Colors of the LED display sketch map

- Gray --- the Error Dot Detect 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:	
aab	1. Put the curse on the sketch map of a cabinet to show its information.
are)	2. Module specifications have effect on the Error Dot Detect result. Please set
	the Error Dot Detect parameters according to the module type.



In Fig.5-76 click on the cabinet in the sketch map to open the **Error Dot Detect Result of Modules** window for details about LED lights status information. Shown in Fig.5-77 is the **Error Dot Detect Result of Modules** window showing the LED lights status of the red cabinet in Fig.5-76.

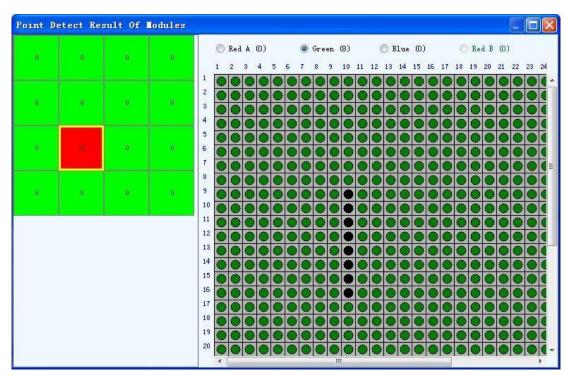


Fig. 5-77 the Error Dot Detect Result of Modules

Shown on the left of Fig.5-77 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.

# 5.8 Brightness/Color Calibration

# **5.8.1 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.5-78 is the page for online calibration.



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📰 Screen Calibr	ation	
Current Serial Port	Online Calibration Offline Calibration Manage Coefficients Network Setting Local IP: 192.168.0.175 V Port: 8080 Reconnect	
Current Screen	Communication Log 18:01:27 Listening succeed!	
Enable/Disnable Calibraion Calibration Save	Save Clear	

Fig. 5-78 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.

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### 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.

# **5.8.2 Manage Coefficients**

This page is to adjust the calibration coefficients for better calibration

performance. Shown in Fig.5-79 is the Manage Coefficients page.



🖳 Screen Calibration	
Current operation communication	Online Calibration Offline Calibration Manage Coefficients
port COM3 -	Select Operation
Current Screen	1.Upload Coefficients
Screen1	2.Save coefficients to database
Screen	3.Set coefficients for a new scan board 4.Set coefficients for a new module
	4.Set coefficients (Color is ununiform on screen)
	6.Erase or reload coefficients
	7.ReSet coefficients
•	
Enable/Disnable Calibraion Disable (The	
Save	

Fig. 5-79 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.

# 5.8.2.1 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						×
Current operation communication — port	Online Calibration Offline	Calibration Manage Co	efficients			
	Select Database					
COM3 -					Browse	1
Current Screen	Select Database:					
Screen1	SelectAdjust Line				Browse	
	Туре:	Unknown	Cabinet ID:		<b>•</b>	
O Screen2	Columns:	Unknown	Rows:	Unknown		
	Discription:	Unknown				
O Screen3						
Display Screen						
Main Display 👻						
Enable/Disnable Calibraion						
					Back Next Return	_
Chroma 🔻						
Save						

Fig. 5-80 The page for upload coefficients step 1

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#### 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.

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## **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.

Oscreen	O Pixel	0	Topology or List		
			Topology of List	Select Area On Screen	
			Operate	all pixels!	

Fig. 5-81 The page for uploading calibration coefficients in Screen way

NOVA	<b>STAR</b>

reen:1 Locatio	n:X=0, Y=0	Size:512 <b>W</b> ×256B		
) Screen 💿 Pixel	C	)Topology or List	Select Area On Screen	
	-			
Start Columns	ر <mark>ت</mark>	-		
Start Rows of	fO	<b>\$</b>		
Width:	512	\$		
Height:	256	\$		
	L			

Fig. 5-82 The page for uploading calibration coefficients in Pixel way

Screen OPixel		<b>ze:512♥×256H</b> logy 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
			Back	Next Return

Fig. 5-83 The page for uploading calibration coefficients in Topology or List way

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

#### > Step 3

Shown in Fig.5-84 is the page for Step 3.

Upload Coefficients					
	💿 Fast Upload	🔿 Stable Upload		Upload	Save
			Back	Finish	Return

Fig. 5-84 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.

# 5.8.2.2 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.5-84 and Fig.5-85 are the pages for saving coefficients to an existing database and a

new database respectively.

t Database	isting Database	🔿 Save to a New Database	8	
Select Database:				Open
Туре:	Unknown	Existing Cabinet ID:	×	
Columns:	Unknown	Rows:	Unknown	
Discription:	Unknown			

Fig. 5-85 The page for saving calibration coefficients to an existing database

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#### 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.

New Database Type	e: 💿 Scree	n-Database 🔿 Cabinet-I	Database			
Select Database:					Create	
Туре:	Unknown	Existing Cabinet ID:		Y		
Columns:	Unknown	Rows:	Unknown			
Discription:	Unknown					

Fig. 5-86 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.

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### 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
al	them. Thus if the position of a cabinet is changed, the coefficients for this cabinet will
(Chr)	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.5-87 is the page for Step 2.

Screen         Pixel         Topology or List         Select Area On Screen           (1,1)         (1,2)         (1,3)         (1,4)           (2,1)         (2,2)         (2,3)         (2,4)	(1,1) (1,2) (1,3) (1,4) Zoom:	Screen:1 Locati	.on:X=0, Y=0 S	ize:512 <b>W</b> ×256H		
(1,1) (1,2) (1,3) (1,4) (1,4)	(1, 1) (1, 2) (1, 3) (1, 4)					
1.0	1.0	(1, 1)	(1, 2)	(1, 3)	(1, 4)	
		(2, 1)	(2, 2)	(2, 3)	(2, 4)	

Fig. 5-87 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.

# 5.8.2.3 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.5-88is the page for specifying the area.

	gy or List	Select Area On Screen	
(1, 2)	(1, 3)	(1,4)	Zoom:
(2, 2)	(2, 3)	(2,4)	1.0

Fig. 5-88 The page for specifying the working area of the new receiver card

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#### 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.5-89 and Fig.5-90 show the pages for two option

respectively.

🕑 Database	🔘 Refer to S	urrounding Scan Board	1			
Gelect Database:					Browse	
Гуре:	Unknown	Cabinet ID:		~		
Columns:	Unknown	Rows:	Unknown			
Discription:	Unknown					

Fig. 5-89 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

screen database, the list will be unavailable.

Select the source of C	oefficients
🔘 Database	🛞 Refer to Surrounding Scan Board
Select Reference Cabin	et
Reference Zone:	
Adjusted Cabinet:	Reference Cabinet:
	Back Next Return

Fig. 5-90 The page for generating coefficients for the new receiver card according to those of its surrounding

#### receiver cards

	No	te:
	1.	One or more surrounding cabinets can be selected for generating the calibration
		coefficients for the new receiver card.
ea)	2.	The calibration coefficients are generated according to those of the selected
		surrounding cabinets and make the cabinet driven by the new receiver card similar
		to its surrounding cabinets in brightness, hue and saturation. The generated
		calibration coefficients are just substitution of those from NovaCLB and are not as



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.5-91 and Fig.5-92 are the pages for Simple and Advanced adjustment respectively.



Fig. 5-91 The Simple adjustment page

#### 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.

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#### 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.



Fig. 5-92 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

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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	ote:
	1.	If the cabinet driven by the new receiver card is only different from the
		surrounding cabinets in brightness, simple adjustment is sufficient.
æ	2.	If the cabinet driven by the new receiver card is different from the surrounding
and		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.5-93 is the page for saving the coefficients to the hardware. Click the Save button to save the coefficients to the hardware.



Fig. 5-93 The page for saving calibration coefficients to the hardware

# 5.8.2.4 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.5-94.



Fig. 5-94 The page for specifying the cabinet the new module is in

#### > Step 2

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

Fig.5-95 is the page for specifying the new module.

Select the New Module				
Scan Bo.:(0,0,0), Loc	ation::(192,0), Size	:64×64		
🔿 Screen 🔿 Pixel	⊙ Topology or List	Select Are	ea On Screen	
Module Size: 16 🗢 x	16			X
Display Mode: 💿 Modules	O Pixels	10		
	2	3	4	<u>^</u>
2				
	Row:2 Col:2			
3	01.2			
4				
<		- MI		2
		(	Back	Return

Fig. 5-95 The page for specifying the new module

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## **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.5-96 is the page for selecting the coefficients source.

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

Fig. 5-96 The page for selecting the calibration coefficients source

	No	te:										
and the	1.	One	or	more	surrounding	modules	can	be	selected	for	generating	the
		calib	ratio	on coef	ficients for the	e new moo	lule.					



2. The calibration coefficients are generated according to those of the selected surrounding modules and make the pixel array driven by the new module card similar to its surrounding in brightness, hue and saturation. The generated calibration coefficients are just substitution of those from NovaCLB and are not as good as those from NovaCLB in performance.

## > Step 4

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>5.8.2.3 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 **5.8.2.3 Set coefficients for a new scan board** ->**Step 4** for more details.

# 5.8.2.5 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.5-97 shows the page for area selecting.



Fig. 5-97 The page for selecting the area to be adjusted

#### > Step 2

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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.5-98 and Fig.5-99 are the page for the two adjustment type respectively.



.ect The Adjustive Mode —	
📀 Adjust Own Effect	🔘 Effect As Other Selected Area
	Adjust own effect!
	Back Next Return

Fig. 5-98 The page for Adjust Own Effect option

	ence Area	.on:X=100,	<b>V</b> =100	Size:256¥×	1990		
Screen	O Pixel			.ogy or List		rea On Screen	
(1, 1)	(1, 2)	(1, 3)	(1,4)				Zoom:
(2, 1)	(2, 2)	(2, 3)	(2,4)				-
							~
							1.0

Fig. 5-99 The page for Effect As Other Selected Area

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	No	ote:
	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.

# > Step 3

Adjust the calibration coefficients. This step is similar to that for a new receiver card. Please refer

to 5.8.2.3 Set coefficients for a new scan board -> Step 3 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.5-100 is the page for saving the calibration coefficients.



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

Fig. 5-100 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.5-100 to open the page for setting. Shown in Fig.5-101 is the page for Apply The Effect To Other Area.



	ze Coefficients Effect To Other Area					Save
	fect to Other Area• Location:X=100,		Size:256¥×	128H		
⊙ Screen	O Pixel	🔘 Topol	ogy or List	Select	Area On Screen	
			Operat	te all pixel	s!	
						Apply

Fig. 5-101 The page for Apply The Effect To Other area

# Apply

NOVA STAR

Apply adjustment operations to the selected area.

	No	ote:
	1.	If the adjustment operations are to be applied to another area, the problem of
		this area should be similar to the area selected in Step 1. Otherwise, don't
aag		apply the operations to this area.
0	2.	If the adjustment result of the new area is satisfying after applying the
		operations, click <b>Save</b> button again to save the adjusted calibration coefficients
		to the hardware.



# 5.8.2.6 Erase or reload Coefficients

Shown in Fig.5-102 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.

Online Calibr	ation Offline Cali	bration	Manage Coe	fficients				
Select Scan H	ioard							
Screen:1	Location:X=0,	¥=0	Size:128	3 <b>▼</b> ×128H				
💿 Screen	O Pixel	0	Topology or	List	Select Area	On Screen		
				Opera	te all pixels!			
					··· ·· ·			
						Reload	Erase	Return

Fig. 5-102 The page for erasing calibration coefficients

#### 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.



ď

### 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.

# **5.8.3 Reset coefficients**

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

light panel or pixel.

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

reset will be effective.

		Manage Coefficients				
Choose to re s	et the coefficients o	f the region				
Screen:1	Location:X=O,	Y=0 Size:32W	× 16H			
Screen	Pixel	Topology or List	Scree Scree	t Área On n		
	Se	t Coefficients			×	
		2047	0	0		
		0	2047	0		
		0	0	2047		
		OK		Cancel		
		Screen     Pixel	Screen Pixel     Topology or List     Set Coefficients     2047     0     0	Set Coefficients           2047         0           0         2047           0         0	Screen Pixel   Topology or List Select Area On     Set Coefficients     2047     0     2047     0     2047     0 <td>Screen Pixel Topology or List Select Area On Screen       Set Coefficients       2047       0       2047       0       2047</td>	Screen Pixel Topology or List Select Area On Screen       Set Coefficients       2047       0       2047       0       2047

Fig. 5-103 Reset coefficients

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# 5.9 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.5-104 is the Function Card Management page when it is opened for the first time.

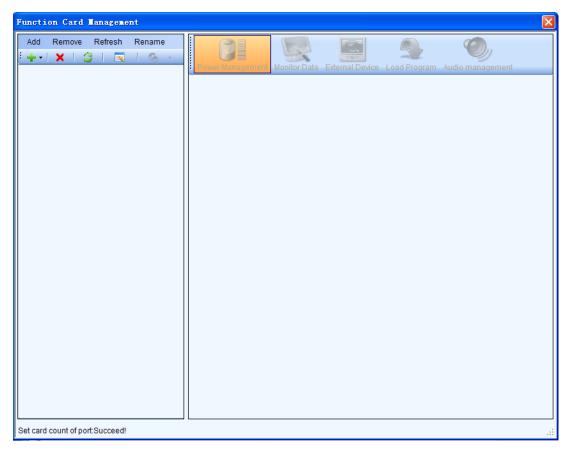


Fig. 5-104 The Function Card Management page

# 5.9.1 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.

# **5.9.2 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.5-105. Circled in the page is the **Power Management** button.



Function Care			Load Progra	im Audio mana <u>o</u>	gement		
2013-02-20	Wednesdav 10:10:	Reau		Gernoles			
• • •		• •	Refresh	Start All	Emergency St		
Manual	O	Auto	🔘 Softw	vare Control			
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	]					
Switch 8:	Start Stop	]					
2013-2-20 10:11:28Read the status of all the powers in function card:Succeed							
	1:31Start power:Su						
2013-2-20 10:1	1:33Read the statu	s of all the power	s in function ca	ard:Succeed			
:Succeed!							

Fig. 5-105 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.

# 5.9.2.1 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.

# 5.9.2.2 Automatic Power Control

The page for automatic power	control is as shown in Fig.5-106.
------------------------------	-----------------------------------

	Card Time 17 Tuesday 18:3	30:23 Read	Set	Set Notes	Start Delay
• •	• • •	• Auto	Refresh O Softward	Start All	Emergency Stop
	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 😂			~
				(	Send

Fig. 5-106 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	te:
	1.	In Auto mode, the schedule will be disabled if the <b>Emergency Stop</b> button is
)		clicked. The schedule won't be enabled until the <b>Start All</b> 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.

# 5.9.2.3 Software Power Control

The page for software power control is as shown in Fig.5-107.

• •	-17 Tuesday 18:30 • • • • nual ntrol List	):23 <b>Read</b> • • • • • Auto	Set Refresh Software	Set Notes Start All Control	Start Delay Emergency Sto
Week	Start Time	Close Time			
Power S	Switch:1				
Friday	17:34:03	18:34:03			
Power S	Switch:2				
Friday	17:34:03	18:34:03			
Power S	Switch:8				
Friday	17:34:03	18:34:03			

Fig. 5-107 The page for software power control

# 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

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

Fig.5-108 is the page of View Log.

the Log File: 2012-6-4	t 🔽 Moz	nday		
formation				
Address COM6-Sending Board 1-Port 1	Operation Type	Power Switch	Operation Time	Operation Result
pmo Senaing board i fort i	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

Fig. 5-108 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.5-109 is the page for editing the schedule.

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	trol List of p		Custom Edit Ar Power Switch		
Defete	crear		Switch 1	📃 Switch 2	Switch 3
Week	Start Time	Close Time	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.	- Red
riday	17:34:03	18:34:03	Thur.	📃 Fri.	Sat.
Power :	Switch:8		Sun.		/
'riday	17:34:03	18:34:03	Time		
			Start Time:	09:02:	15
			Close Time:	09:02:	15 🗘
					Add

Fig. 5-109 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.



# 5.9.3 Monitor Data

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

system monitoring. Show in Fig.5-110 is the page for system monitoring.

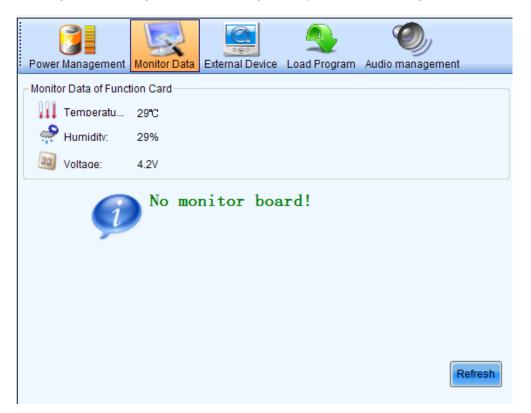


Fig. 5-110 The page for system monitoring

# 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.

# **5.9.4 External Device**

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

external devices management. Shown in Fig.5-111 is the page of External Device.

#### Refresh

This is to refresh the information of the external devices.

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#### 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.

		ice Load Program Audio management
External device 1:	Light Sensor	<b>v</b>
External device 2:	Light Sensor	~
External device 3:	No External Device	<b>v</b>
External device 4:	No External Device	~
External device 5:	No External Device	~
External device 6:	No External Device	~
		Refresh

Fig. 5-111 The page for external devices management

# 5.9.5 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.5-112 is the page of program loading.



Power Management	Monitor Data	External Device	Load Program	Audio managem	nent
Function Card Inform	ation				
Model ID:	81 01				
FPGA Version:	03.02	00.02			
FPGA Note:	多功能	龍卡App程序 版本	号V3.2.0.2		Refresh

Fig. 5-112 The page for program loading

### 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.5-113 is the page

with the program loading options.

Pow	er Management	Monitor Data	External Device	Load Program	Audio manager	nent
Fun	ction Card Inform	ation				
Mod	lel ID:	81 01				
FPG	A Version:	03.02	00.02			
FPO	SA Note:	多功能	8卡App程序 版》	本号V3.2.0.2		
						Refresh
	Load program fo card(COM17)	r selected functi	on 🔿 L	oad program for a	Il function card	Exit
Sele	ect Program					
Prog	gram Name:					
Pro	gram Version:					
Pro	pram Pat					
						Change

Fig. 5-113 The page with program loading options

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### Exit

Click this button to go back to the page shown in Fig.5-112.

### 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	te:
	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.5-113.
U	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.

### 5.10 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

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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.5-114 will appear for open or create a library.



Fig. 5-114 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.5-115 is the page for module management.



		Name	Pixel C	Columns	Pixel Rows	Data Direction	Chip	Scan Ty
Show All Search by Condition	6994 -	MBI503		. or units	16	Horizontal	MBI5036	1/8
-Search Condition-	cron		10					
✓ Select All								
🔽 Data Direction	Horizontal							
🕑 Chip	Common Chip 😪							
🕑 Chip 🕑 Scan Type	Common Chip 💉	<	3 4 5	6 7 8	9 10 11 12	13 14 15 16 17 18	3 19 20 21	22 23 2
		1 2 1 <mark>A 2</mark>		6 7 8 6 7 8		13 14 15 16 17 18 13141516171		1770 197 17
Scan Type	Static 💉	1 2	345	6 7 8 6 7 8				1770 197 17
Scan Type	Static 💉	1 2 1 2 2 8 3 0 4 0	345	6 7 8 6 7 8				1770 197 17
<ul> <li>Scan Type</li> <li>Encoding Mode</li> <li>OE Polarity</li> </ul>	Static 💉 Static 👻 High Effectiv 🗸	1 2 1 A 2 2 B 3 0	345	6 7 8 6 7 8 6 7 8				1770 197 17

Fig. 5-115 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.5-116 is the page for cabinet management.

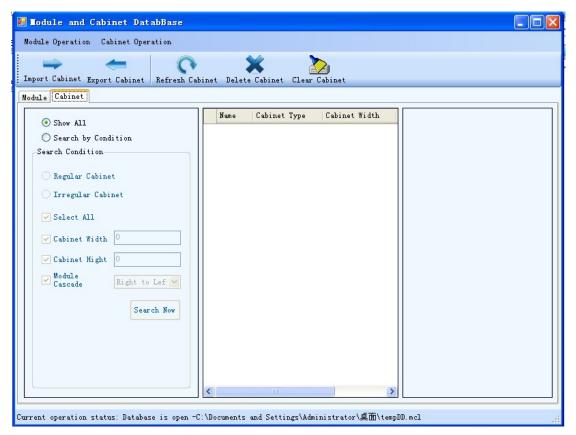


Fig. 5-116 The page for cabinet management

### **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.

### 5.11 **Prestore Picture**

User can store a picture as the screen' s prestore picture in the **Prestore Picture Setting** form,

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

Click the submenu **Prestore Picture** of the **Tools** in the main menu, and then it is show as follow:

Prestore Picture Settings
-Select Serial Port
Serial Port: COM3 🛛 👻
Screen
Prestore Picture Settings
Select
Picture: Browse
Effect Settings
⊙ Screen Effect Stretch ▼
California Strateb
Cabinet Effect Stretch
Save To Hardware Check Store Picture
-Function Settings-
Boot Screen
Enable Time: 2 🗸 s
Cable Disconnect
💿 Black 🔿 Last Frame O Prestore Picture
No DVI Signal
The second se
⊙ Black ○ Last Frame ○ Prestore Picture
Send Save To Hardware

Fig. 5-117 Prestore Picture Setting

### 1) Prestore Picture Setting

**Browse:** Select the picture' s path of prestore picture.

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 picture 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 picture 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 picture 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.

### 5.12 Color Restore

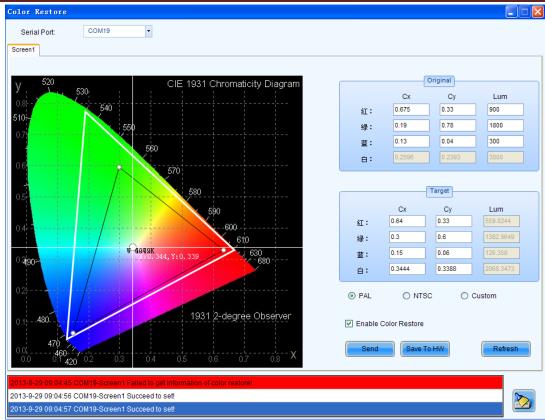
Color restore is mainly aimed to solve and adapt to the gamut conversion at a different standard.

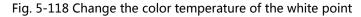
Interface "**Tools**"  $\rightarrow$  "**Color Restore**" to enter the interface color restore, as shown below:

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NovaStar Tech Co.Ltd





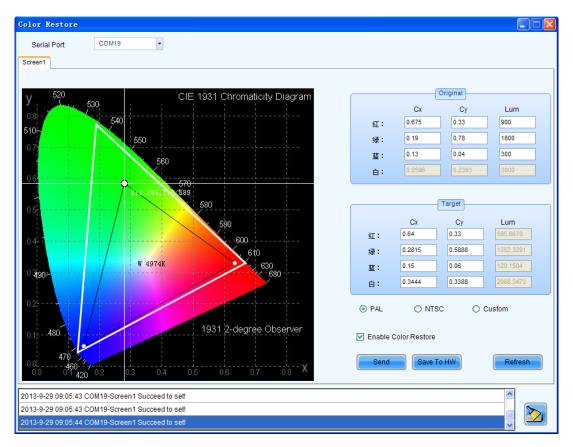


Fig. 5-119 Change the scope of the color gamut

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### **Obtain original color gamut**

The light gun is recommended to obtain the current color gamut, or the Original Color Gamut. The accurate original color gamut could facilitate the adjustment of the target color gamut.

1) Adjust the target color gamut

If the original color gamut is accurate, it could be directly transformed into the PAL or NTSC standard target color gamut, or the four color target points could be dragged to change the scope of the color gamut and the color temperature of the white point. See Fig.5-118 and 5-119. Click the lift button of the mouse and drag, or directly enter the parameters. The display effect could be reviewed in real time after the adjustment.

- 2) Check the "Enable Color Restore" .
- 3) Click "Send" to send the information to the hardware.
- 4) Click "**Save to HW**", and parameters can be saved to the hardware, which cannot be lost in case of power failure.



# 6 Memory On Module Manage

Click the option "Memory On Module Manage" in Tools, and open the light panel Flash

operation interface, as you can see in the figure:

0 NovaLCT-N	1ars V4.2.5	S2 T2		83	1.5	100		£		
System(S)	Tools(C)	Plug-in Tool(P)	User(U)	Language(L	ang)(L)	Help(	H)			
	Scre	en Config(S)				1 Con				
	Brigh	itness(B)			$\sim$	100	1			
Screen Conf	Calik	oration(C)			itor Fu	unction C	ard			
- Local System	Disp	lay Control(P)			-		1			
		tor(M)								
Control Sy	Func	tion Card(F)			nown	Viev	<u>v Detail</u>			
- Monitor Info -	Hard	ware Information(H	Ð							
	Multi	ple Screen Manage	ement(A)			S.	3			١
	Error	Dot Detect(T)				7			Ŀ	
	Pres	tore Picture(R)				$\bigcirc$				
	Colo	r Restore(0)								
	Mem	ory On Module Mar	iage(U)							
Server Status:	Rece	ive Card relay(I)								:
	Multi	Batch of Adgustme	nt(M)		_			_		-
	Load	Configuration File	(E)							
	Dark	or Bright Line Adju	stment for C	abinet 🕨						



🖳 Memory On Module Manage	
Serial Port: COM3 -	
Send By Address Send By Topolopy	
Select Screen	
	:X=0, Y=0 Size:384W×128H
Screen1     Screen2     Screen3     Screen3	Topology Or List Select Area On Screen
	Operate all pixels!
Check coefficients in Scan Check coefficients	in Modul Save coefficients on Scan Save coefficients to Modules Flash Check
Check Coellicients in Scan Check Coellicients	

Fig. 6-1 Light panel Flash operation interface

**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	1	1	Means the first scan board of the first port in the first
1	T	1	sending board.



•	Mem	ory On Module Manage		
		rial Port: COM3		
۱I		Sending#	Port	Scan Bo.
		1	1	1
		1	1	2
		1	1	3
	•	1	2	*
	*			
	Inde	x start from 1,'*' means 'all'(F	lash Check no support '*').	
	1.lf th	e position of scan board is:1-*-*,it means	all the scan boards of the first sending board;	
	2.If th	e position of scan board is:1-1-*,it means	all the scan boards of the first port in the first se	nding board;
	3.If th	e position of scan board is:1-1-1, it mean	s the first scan board of the first port in the first s	ending board;
	Chec	k coefficients in Scan Check coefficien	nts in Modul Save coefficients on Scan Sav	re coefficients to Modules Flash Check

Fig. 6-2 Send by address

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.



🖳 Memory On Module	Manage	-	-				X
Serial Port: CC	ОМЗ	•					
Send By Address Send	Ву Тороюру						
Select Screen	S	Location:X=0,	<b>V-0</b>	C	1.0011		
Screen1	Screen.1	Location.A-0,	1-0	5126.304#~1	1201		
Screen2 Screen3	Screen	Pixel	⊚ To	pology Or List	Select Screen	Area On	
				Operate a	all pixels	1	
				opoidio			
Check coefficients in	Scan Chec	k coefficients in Modu	II. Sav	e coefficients on S	Save o	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 light panel

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 light

panel 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 "Dis	splay Con	figuration".	Please see	the specific	operation.
----------	-----------	--------------	------------	--------------	------------

Send By/A         Verify Result         Image: Constraint of the second s		On Module N								l
Sending       Port       Scan       Flash X       Flash Y       Flash K       Flash Topolog         I       1       2       128       0       0       0       Flash Topolog       Image: Screet Register Registe	Serial P	Port: COM	3	•						
Select S         Sending Board         Port Board         Flash X         Flash Y         Width Height         ErrorType           I         1         1         0         0         0         0         Flash Topolog           Scree         Scree         Scree         I         1         2         128         0         0         0         Flash Topolog           Scree         Scree         Scree         I         1         3         256         0         0         Flash Topolog           Scree         I         1         3         256         0         0         Flash Topolog	N N	Verify Result							X	
Scree       1       1       2       128       0       0       0       Flash Topolog         Scree       1       1       3       256       0       0       0       Flash Topolog         Scree       1       1       3       256       0       0       0       Flash Topolog		Sending Board	Port	Scan Board	Flash X	Flash Y	Flash Width	Flash Height	ErrorType	
Scree       1       1       2       128       0       0       0       Plash Topolog         Scree       1       1       3       256       0       0       0       Flash Topolog         Scree       1       1       3       256       0       0       0       Flash Topolog         Image: Scree       1       1       3       256       0       0       0       Flash Topolog         Image: Scree		1	1	1	0	0	0	0	Flash Topolog	
Scree         1         1         3         256         0         0         0         Flash Topolog		1	1	2	128	0	0	0	Flash Topolog	
		1	1	3	256	0	0	0	Flash Topolog	
	L	11							OK	
										_
Check coefficients in Scan Check coefficients in Modul Save coefficients on Scan Save coefficients to Modules Flash Check	Check coe	efficients in So	an Check	coefficients in	Modul Save o	coefficients on	Scan Sa	ave coefficient:	s to Modules 🕢 Flash	Check

Fig. 6-4 Flash check

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## 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" → "MultiBatch of Adjustment", start multibatch adjustment.

The operation steps are as follows:

0 NovaLCT-N	Nars V4.2.5 S2 T2	
System(S)	Tools(C) Plug-in Tool(P) User(U) Languag	e(Lang)(L) Help(H)
Screen Conf	Display Control/D)	itor Function Card
Control Sy	Monitor(M) Function Card(F) Hardware Information(H)	mown <u>View Detail</u>
	Multiple Screen Management(A) Error Dot Detect(T) Prestore Picture(R) Color Restore(O)	
Server Status:	Memory On Module Manage(U) Receive Card relay(I)	
	MultiBatch of Adgustment(M) Load Configuration File(E) Dark or Bright Line Adjustment for Cabinet	•

Fig. 7-1 Multi Batch Adjustment

## 7.1 Applications Adjustment File

1) Directly load the adjustment file previously saved, as shown in Figure 7-2.



Nultiple batch control	
Type of Operation	
🥅 Manual adjustment	<b>V</b> Applications Adjustment File
File Path:	
Please adjust the load multiple batches to save the file on completion of adjustment, is used to adjust the effect quickly applied to other cabinet.	Next step

Fig. 7-2 Applications Adjustment File

2) Select the batch, then click dding region, and add the region of the same batch on the screen; preview to check the adjustment effect; if the effect is Ok, click "Apply" and apply the adjustment effect to the screen.

Solidify: Solidify the adjustment effect to the hardware.

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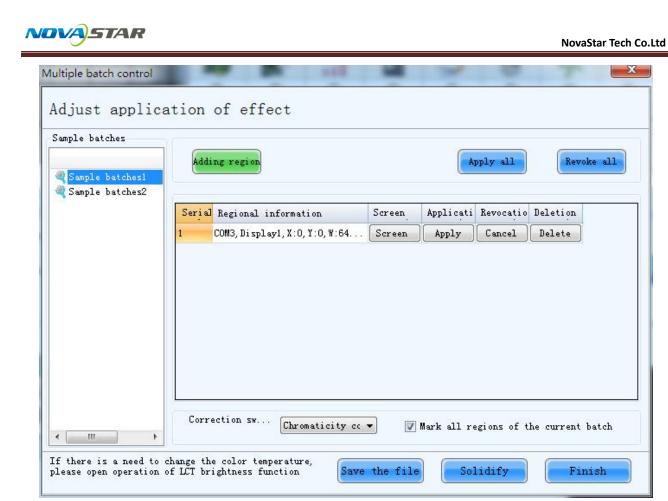


Fig. 7-3 Application of adjustment effect (use the adjustment file)

### 7.2 Manual adjustment

1) Check "Manual adjustment" if not using the adjustment file, as shown in Figure 7-4.Select a colorimeter connected to the system. If the system does not connect with the colorimeter,

tick "No colorimeter" and then click "Next".



Multiple batch control	x
Type of Operation	
🔽 Manual adjustment 🛛 🔲 Applications Adjustment File	
◙ Commonly used colorimeter  ◎ Other colorimeter	
Select colorimeter: Minolta CS2000 🗸	
Using a colorimeter aided adjustment, the adjustment quicker.	

Fig. 7-4 Select colorimeter information

### 2) Set sample batches

Select screen, and select the corresponding communication port, click " F. to add a batch, right click the batch to rename it. and then click "Choose region" to set the corresponding coordinates and size of the sample batches (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 "as a reference only, not adjustable, only select one batch", then this batch will be used as a reference target value, which could not be further modified. If you do not tick, such a target value can be modified in the next step.

Click "Next" once setting is completed.



Multiple batch control	tches			
Sample batches	Screen informatio Communication ports: Sample regional i	COM3 -	Select display:	Display1 -
Sample batches1 Sample batches2 Sample batches3	X coordinates: Width:		Y coordinates: Height:	0 16
💐 Sample batches4	-Colorimeter measu Screen Red Green	rement value Brightness	Cx	Cy
	Blue	ice only, not adjustable	e, only select or	ne batch
Please maintain sample can add or delete expor select a maintained sam	rt and import. Step:	s: 1. first	Lz	ast step Next step

		— Select Area On	
Screen I Fixel	🔘 Topology or List	Screen	
	- toral		
Start Columns .	0		
Start Rows of .	0		
Width:	32		
Height:	16		

Fig. 7-5 Choose region

3) 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.

When there is a colorimeter and the effect of initial adjustment is perfect, there is no need to

make fine adjustment, so one can directly click "satisfactory", and click "Next".

Iultiple batch control
View the effect of initial adjustment
View the effect of initial adjustment
Bright 🖌 🚺 🔰 30 %
Automatic switching Interval 3 🗢 Second swit
Last step

Fig. 7-6 View the effect of initial adjustment

4) Select the target batch and processing batch; if the step 1) sets a reference model, the target

batch could not be modified here.

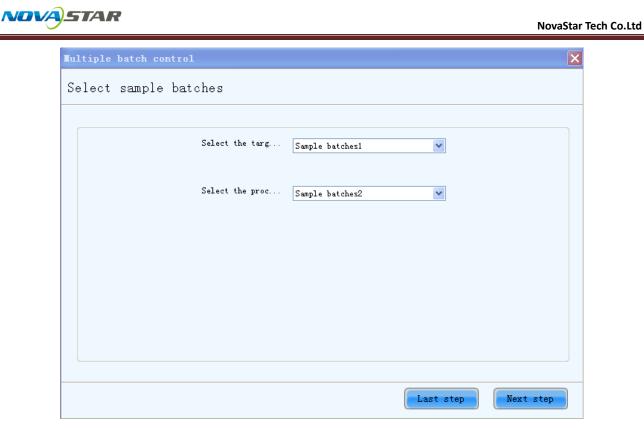


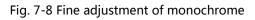
Fig. 7-7 Select the target and pro

5) View the effect of display screen, and make a fine adjustment of monochrome for the processing batch.

Here, click "Re-select Target" to re-select the target batch; click "Switching Batch" to select new batch processing; the previous processing batches will be placed in the processing list for processing at the next time.



Iultiple batch cont	rol	×
Fine adjustment	of monochrome (1/3)	
Sample batches Target Sample batches1 Processing Sample batches2	Fine adjustment of red       Fine adjustment of green       Fine adjustment of blue         Red co        >       2047         Green        >       50	
Reselect t Switch bat	Blue c 17 Revocation of	
	Next step	)



Tultiple batch control
Fine adjustment of monochrome (1/3)
Sample batches         Target            Sample batches1          Processing            Hissample batches2          Blue         Select a new ta         Switch bat
Next step

Fig. 7-9 Reselect the target batch

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Iultiple batch con	trol			×
Fine adjustmen	t of m	onochrome (1/3	3)	
-Sample batches		🔜 Switch process	ing batch 🛛 🗙	
	Fine ad	Current process	Sample batches2	adjustment of blue
Target	Red c	Select a new batch	<b>·</b>	2047
Processing	Green	~已调节批次		> 50
Sample batches2	Blue			> 17
				· · · ·
				Revocation of
Reselect t Switch bat		Confirm	Cancel	
				Next step

Fig. 7-10 Switch processing batch

6) View the effect of display screen; if you are satisfied with the effect of current batch of white, process to the next step; if you are dissatisfied, you should make a fine adjustment of white for the processing batches.



Iultiple batch co	ntrol	×
Fine adjustm	ent of white (2/3)	
Sample batches Target Sample batches1 Processing Sample batches2	Whether the effect of the current batch of white is satisfactory?         Satisfied         Fine adjustment of white         Red co         Green         Image: Satisfied         Blue c         Image: Satisfied         Revocation of	
	Last step	)

Fig. 7-11 Fine adjustment of white

7) If the magnitude of adjustment of monochrome and white is too large, it will enter the following interface. Please carefully check the color effect on the screen, and operate according to the software prompts.



Iultiple batch cor	trol	X
Automatical or	timization and match of et	ffect (3/3)
-Sample batches		
Target Sample batches1	Whether the current screen eff 48)	fect is satisfactory? (1 /
<b>Processing</b>	🗌 Satisfied	🗖 Dissatisfied
		n the screen. The system will carry out the results of your selection, so the menon.
		Last step Next step

Fig. 7-12 Automatically optimization and match of effect

8) After the completion of adjusting the current batch, view the effect; if you are dissatisfied, you can back to "Last step"; if you are satisfied, you can continue to the next batch.



Target         Sample batches1         Mave adjusted         Sample batches1         Sample batches2         Pright         Image: Sample batches2         View the effect of adjustment         Image: Sample batches2         Image: Sample batches2         View the effect of adjustment         Image: Sample batches2         Image: S	Multiple batch cont	trol
ample batches Target Sample batches Wise the effect of adjustment Sample batches Wise the effect of adjustment Sample batches Display effect of adjustment Automatic switching Interval 3 Second swit Complete al Last step Proceed to Autople batch control Select sample batches Select the targ Sample batches Select the proc Sample batches Have adjusted the batch Sample Sample	After the comp	letion of adjusting the current batch, view the
Isrget         Sample batches1         Neve adjusted         Sample batches2         View the effect of adjustent         Sample batches2         Dright         Dright         Automatic switching         Interval         Second swit         Automatic switching         Interval         Second swit         Automatic switching         Interval         Second swit         Xultiple batch control         Xelect the targ         Select the targ         Sample batches2         Have adjusted the batche         Select the targ         Sample batches2	-Sample batches	
Sample batches: View the effect of adjustment Sample batches: View the effect of adjustment Dright Image of the second switter of the second switte		
Have adjusted         Sample batches!         Sample batches?         Dright         Wutomatic switching         Interval         Second swit         Complete al         Last step         Proceed to         Xultiple batch control         Select sample batches         Select the targ         Select the targ         Sample batches!         Have adjusted the batch         Sample Sample	Target	Display effect of all batches
Sample batches: Sample batches: Bright & Interval 3 Second swit Watomatic switching Interval 3 Second swit Complete al Last step Proceed to Multiple batch control Select sample batches: Select the targ Sample batches: Select the proc Sample batches: Have adjusted the batch Sample Sample Sample	💮 Sample batchesi	
Sample batches2	Have adjusted	View the effect of adjustment
Bright  Bright  Automatic switching Interval  Second swit  Complete al Last step Proceed to  Multiple batch control  Select sample batches  Select the targ  Sample batches  Select the proc  Sample batches  Have adjusted the batch Sample Sample	Sample batches1	
Automatic switching Interval 3 Second swit Complete al., Last step Proceed to Aultiple batch control Select sample batches Select the targ Sample batches1 Select the proc Sample batches2 Have adjusted the batch Sample Sample	Sample batches2	
Automatic switching Interval 3 Second swit Complete al., Last step Proceed to Aultiple batch control Select sample batches Select the targ Sample batches1 Select the proc Sample batches2 Have adjusted the batch Sample Sample		Bright S 30 %
Complete al Last step Proceed to Multiple batch control  Select sample batches  Select the targ Sample batches1  Kave adjusted the batch Sample Sample Sample		
Aultiple batch control Select sample batches Select the targ Sample batches1 Select the proc Sample batches2 Have adjusted the batch Sample Sample		Automatic switching Interval 3 📚 Second swit
Aultiple batch control Select sample batches Select the targ Sample batches1 Select the proc Sample batches2 Have adjusted the batch Sample Sample		
Aultiple batch control Select sample batches Select the targ Sample batches1 Select the proc Sample batches2 Have adjusted the batch Sample Sample		
Aultiple batch control Select sample batches Select the targ Sample batches1 Select the proc Sample batches2 Have adjusted the batch Sample Sample		
Aultiple batch control Select sample batches Select the targ Sample batches1 Select the proc Sample batches2 Have adjusted the batch Sample Sample		
Select sample batches Select the targ Sample batches1 Select the proc Sample batches2 Have adjusted the batch Sample Sample		Complete al Last step Proceed to
Select sample batches Select the targ Sample batches1 * Select the proc Sample batches2 * Have adjusted the batch Sample Sample		
Select the targ Sample batches1  Select the proc Sample batches2 Have adjusted the batch Sample Sample	Multiple batch control	×
Select the targ Sample batches1  Select the proc Sample batches2 Have adjusted the batch Sample Sample	Select sample	hatches
Sample batches2		batches
Sample batches2		
Mave adjusted the batch Sample Sample		Select the targ Sample batchesi
Mave adjusted the batch Sample Sample		
Have adjusted the batch Sample Sample		Select the proc Sample batches2
Sample Sample		
Last step		Last step Next step

Fig. 7-13 View effect of the current batch and select the next processing batch

9) Adjust other batches according to the same steps, and click "Finish all batches" after the



### completion.

ultiple batch control 🗙	Multiple batch cor
After the completion of adjusting the current batch, view the effect.	After the comp effect.
Sample batches  Target  Sample batches  View the effect of all batches  View the effect of adjustment  Sample batches  Display effect of adjustment  Automatic switching  Interval 3 Second swit	Sample batchesi Have adjusted Sample batchesi
Complete al Last step Proceed to	

Fig. 7-14 Complete all batches

10) Select the best solution according to the effect of image.

If the extended operation is ticked, color vividness can be enhanced. The differences between

batches may be increased with higher vividness.

If one batch is selected as reference in the step 2), here, the extended effect could not be operated.



×

	L L.			_ 1
Tultip	еп	атсп	e on te te	<b>n</b> I

Selection of best solution

Ourrent fine-adjustment effect	O Priority effect of white		
Extended effect of operation:	Extended operation can enhance color vividness. extent, it may increase the differences between		
xtended operation: Red:		>	0
Green: <		>	0
Blue: <		>	0
right 🔇	> 30 % erval 3 ♦ Second swit		
Automatic switching 🛛 🗛 🖊			

Fig. 7-15 Selection of best solution

11) Select the batch, and then add one or more unadjusted areas with the same batch on the screen; click on the "screen" to see the effect on the screen, and click "Apply" to apply the adjustment effect to this area.



Multiple batch control	hard Repaired	towned towners	i materi	-		X
Adjust applic	ation of effect					
Sample batches	Adding region		App	ply all	Rev	oke all
	Serial Regional inform	ation Screen	Applicati	Revocațio	Deletion	
	1 COM3, Display1, X:	0, Y:0, W:15 Screen	Apply	Cancel	Delete	
	2 COM3, Display1, X:	0, Y:0, W:10 Screen	Apply	Cancel	Delete	
	Correction sw Cha	romaticity cc 🔻 📝	Mark all reg	gions of t	he current	batch
	change the color temperatu of LCT brightness function		Sol:	idify	Fi	nish

Fig. 7-16 Adjust application of effect

### 12) Save the file

Click **Save the file**, and save the adjustment parameter into .lxy file; next time, directly import the file for adjusting the cabinet of the same batch.

## 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.



Serial po	rt selectior	ı				
Seria	I port CO	M7				•
Screen1						
Parame	ter of recei	ving card	relay			
0	Disconne	ected				
C	Connecte	ed				
C	) Auto					
Tempe	rature und	er auto m	iode			
	rature of ted relay	0	A V	Temperature of disconnected r	elay 0	\$ ℃
				Refresh		Send
Receive	Card Timi	ng cleare	d			
	Record T	ïme	Unknown			
				Refresh	Timi	ng cleared

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

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:

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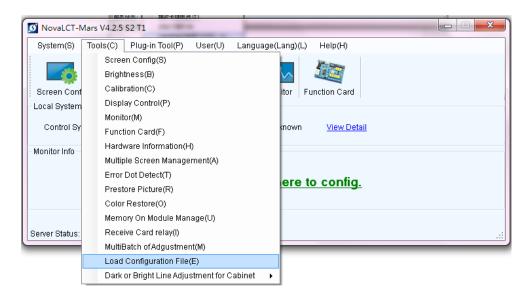


Screen Config-CO						
	oard Screen Co	nection				
	SUM2017 Horizontal	Size:	32W×32H	Scan Type: Data Group:	1/16 scan 2	>>
Direction. F	Horizoniai	Decode Type:	74HC138 Decodin	g Data Group.	2	
Cabinet Info						
Regular			💿 Irreg	ılar		
Pixel Width:	128 🚖 .	=128 Plea		n: ?? Heiaht	??	Please 🔺
Pixel Heiaht:	256 🚖 .	=256 the wi		ling error. Please adiu	ist perform	make sure the width
Module Casc	Right to Left	and he	ight 🚽 🛛 C	onstruct   (Vi	ew Cabinet	and height 💂
Dorformonoo C-#i-						
Performance Settin						
Group Swap	More Settin		Clear Afterglow			
Refresh Rate:	480	▪ Hz	Accelerate R	4 🔹		
Gray Scale:	Normal 4096	•	Gray Mode:	Refresh Rate First 👻		
Data Clock:	12.5	▼ MHz	Data Duty:	50 🗸	(25~75) %	
Clock Phase:	2	•	Low Gray Co			
Blanking Time:	25	=2.00us)	Ghost Contro	20	(1~24)	
Line Change T	3	(0~19)				
Brightness Effi	68.24%		Min OE:	30 ns		
Smart Setting			Load File	Save File	d From HW	Send To HW

Fig. 9-1 Save configuration file

The steps for loading configuration file are shown as below:

1) Click the "Tools (C)"  $\rightarrow$  "Load Configuration File (E)" on the main interface.



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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.

🖳 Load Configuration F	ile 💌
Select COM port:	C0M4 💌
	Move Vp
	Move Down
	Advanced
Add File	Delete File
Add File	Detete IIIe
Rename File	Save to HW
	h.

Fig. 9-2 Send Board load Configuration File



•	Load Configuration File	×
Sel	lect COM port: USB_PR0:Port_#0007.Hub_#0 v	
	11 - 副本 Move Up Move Down Advanced Add File Rename File Save to HW	
	ending card name Enable naming	
	Name	
▶1	asdadadsadsasfdsf	
	Rename Save to hardware	

Fig. 9-1 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 "Renaming enabling" is ticked off.





	Load Configuration File
Select COM po	ort: USB_PR0:Port_#0007.Hub_#0 ~
111 - 副本	Move Up Move Down Advanced
	Reame
Name:	asdadaadsadsasfdsf OK Cancel
Se	
✓ Enable nam	ing
Name	
▶1 asdadads	adsadsasfdsf
Rename	Save to hardware

Fig. 9-4 Naming setting of sending board

Click Advanced 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.





Fig. 9-2 Selecting a controller for configuration file loading

Click Save to hardware, all added configuration files will be saved to the selected controller (s).

•	Load Configuration File	×
	Select COM port: USB_PR0:Port_#00007.Hub_#0	
	111 - 副本 Move Up Move Down Advanced	
	Add File Delete File Rename File Save to HW	
S	et sending card name v Enable naming	
	Name  1 asdadadsadsasfdsf	
	Rename Save to hardward	

Fig. 9-3 Selecting a sending board for configuration file loading





# **10Configure information management**

Click "Help"→"configure information management" to conduct configuration file management.

🚺 NovaLCT-Mar	rs V4.3.2 T4	× III 17				<u>oz 20</u>			
System(S) To	ools(C) Plu	g-in Tool(P)	User(U) Lang	uage(Lang)(L	) He	elp(H)			
	1		-	, è		User	Documents(D)		•
			<b>Q</b>	$\sim \sim$		Confi	gure informatio	n management(N	1)
Screen Config	Brightness	Calibration	Display Control	Monitor	Fu		itial position(P)	Ì	
-Local System Infi	0					Abou	t(A)		
Control Systen	n: 1	Oth	ner Device:	Unknown	¥	<u>'iew Det</u>	ail		
Monitor Info									
1	7							6-111	
•								$\bigcirc$	
Server Status: Se	ner Vereien:1	0							
Server Status: Se	erver version:3	.U							.::
	ſ	🖳 ConfigF	ile Managem	ent			<b>_</b>		
		Import	Co	t Co	C	ancel			

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.

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(CO)

#### Note:

- There isn' t any place to view the typing when typing the passcode. Just type in the passcode directly.
- 2. Just type in the passcode again if the one input before is wrong.
- It not recommended changing the program unless there are problems with the hardware.

Load Program	
Load Program	
Select operation commun	nication port
Current operation communication port:	COM5    Device Count: 1
Select Program	COM5 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	
Sending Board MCU	Sendino Board FPGA Scan Board FPGA
	fresh One Sending Board:
Sending Board MC0 Sendi	
Communication Info	ent central system address: 1 part 2 Read EPCA program version of scap board 0
	en control system address. I port 2 Nead PF GA program version of scan board 0.
	ent control system address:1 port 3 Read FPGA program version of scan board 0
2013/12/10 14:59.12Cull	ent control system address:1 port 4 Read FPGA program version of scan board 0 .
Current control system addre	ss:1 port 4 Read FPGA program version of scan board 0

Fig. 11-1 The Load Program page

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oad Program				
Select operation comm	unication port			
Current operation communication port:	Realtek PCIe GBE Family Controller	Device Count:	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_0	Data_Mars_3.6.0.0		
Select Items To Load				
	🗌 Scan Boa	ard FPGA	Update	Reconnect
	kefresh One Narke:2013.12.14.for test all 修动执客(公,功进同些和制,修动			Refresh
	tefresh One narks:2013.12.14 for test all 修改热备份 + 改进同步机制 + 修改			
Can Board FPGA				
Communication Info	narks:2013.12.14 for test all 修改热备份 + 改进同步机制 + 修改			
Communication Info	narks:2013.12.14 for test all 修改热备份 + 改进同步机制 + 修改 ead FPGA program version of scan board 0 .		D入目的macte	
	narks:2013.12.14 for test all 修改热备份 + 改进同步机制 + 修改 ead FPGA program version of scan board 0. ead FPGA program version of scan board 0.		D入目的macte	
	narks:2013.12.14 for test all 修改热备份 + 改进同步机制 + 修改 ead FPGA program version of scan board 0 .		D入目的macte	

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, if it is found that there is a bright dark line after the box bodies jointed, it can be adjusted by using this function, which will adjust the four sides of the box body 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:

1) Click on "tools" to "Dark or Bright Line Adjustment for Cabinet"→"Dark or Bright Lines

Adjustment for Cabinet", enter the adjusting page.

0 NovaLCT-N	Nars V4.2.5 S2 T2	
System(S)	Tools(C) Plug-in Tool(P) User(U) Languag	ie(Lang)(L) Help(H)
Screen Conf Local System Control Sy	Display Control(P) Monitor(M)	itor Function Card
Monitor Info	Multiple Screen Management(A) Error Dot Detect(T) Prestore Picture(R) Color Restore(O) Memory On Module Manage(U) Receive Card relay(I)	
	MultiBatch of Adgustment(M) Load Configuration File(E)	
l	Dark or Bright Line Adjustment for Cabinet	Dark or Bright Lines Adjustment for Cabinet     Dark or Bright Lines Recovery for Cabinet



🖳 Quckly Adjust Lir	ies						
-Choose Display-						Operation In	structions and Attentions
Serial Port	COM3	•	Display Num 1	•	Display Scre	Main Display	<b>•</b>
Topology Graph							
Tips: Yellow m	eans select all leds,wl	hile green mea	ns select some leds.		Region optio 🕟	🛛 Row 🛛 🔽 Colum	n 🛃 🛃 💽
1	2		3				
A divet Lines					🔲 Display Number	Lock Selection	Hide Topology
Adjust Lines	RGB Prior		White Prior				
Color:	Red	Oreen	Blue	White			
Adjust:	•		1	•	1.000	Save To Flash	Save To File
			1.000	-			

Fig. 12-1 Quickly adjust bright dark line interface

- 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.
- After select screen, it will display splicing topology corresponding immediately; 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:

 a) Using the mouse to directly click the four edges or vertices of the box body selected, click firstly to select, click secondly to cancel.



🖳 Quckly Adjust Lir	nes						- • •
Choose Display-						Operation In:	structions and Attentions
Serial Port	СОМЗ	• D	isplay Num 1	•	Display Scre	Main Display	•
Topology Graph					Region optio 🔽	Row 🔽 Colum	n <b>4</b> (* )
Tips: Yellow m	eans select all leds,w	hile green means s	elect some leds.		Kegion optio		
1	2	3					
Adjust Lines					📄 Display Number	Lock Selection	Hide Topology
Method:	💿 RGB Prior		White Prior				
Color:	Red	O Green	O Blue	White			
Adjust:	•	1.0	00	•	1.000	Save To Flash	Save To File

Fig. 12-2 Click on the edge or vertex of the box body selected

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: Click to cancel all the part selected.



🔄 : Enlarged topological graph.

: Reduce the topology map.

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

user to find the bright dark lines.

1	2	3				
Quckly Adjust Li	ines					
-Choose Display Serial Port	СОМЗ	•	Display Num 1	•	Operation Ins	structions and Attentions
	COMS	•		•	Display Scie	Main Display
- Topology Graph - Tips: Yellow n	neans select all leds,	while green mean	is select some leds.	·	v 🔽 Colum	n 🛃 💽 🔫
1	2		3			
1	2 .					
				Display Number 🛛 🕅	_ock Selection	I Hide Topology
Adjust Lines			V	Display Number 🛛 🕅 I	_ock Selection	Hide Topology
Adjust Lines Method :	RGB Prior		<ul><li>White Prior</li></ul>	Display Number 📄 I	.ock Selection	🥅 Hide Topology
	<ul> <li>RGB Prior</li> <li>Red</li> </ul>	O Green		Oisplay Number ── I ● White	_ock Selection	Hide Topology
Method:		Green	White Prior	<ul> <li>White</li> </ul>	Lock Selection	Bave To File

Fig. 12-3 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.

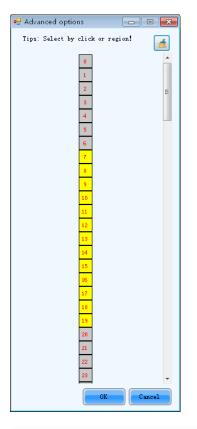


Fig. 12-4 Select part of the points on the edge

- 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 E	Bright Line	s Recover	y for Cabinet	_ 🗆 🗙
Choose Display Serial Port	COM6	~	Display Number	1	~
Reduce Dark or Bri Dark or Bright Lines	ght Lines C:\Vsers\lijin\Deskt	top\COM3−1.qa	થ		Reduce Withdraw

Fig. 12-1 Dark or bright lines recovery for cabinet

## 13**Problem and Solution**

13.1 NovaLCT-Marsshows"NoHardware"oncorresponding pages.

Check whether the hardware system is powered on.

Check whether the serial port cable connection is good.

# 13.2NovaLCT-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.13-1. If the display has not been configured yet, configure it.

Screen Config-CON19
ending Board Screen Connection Screen N 1  Config Screen 1
Screen Type: O Simple Screen O Standard Screen C Complex Screen
Location:       X:       500       Y:       0       Virtual Mo       Enable         Operate Port       Scan Board       1       Scan Board       1       Reset All       Hide Line         Sending Board Index       1       Sending#:1       Sending#:1       Sending#:1
Port Index Port Index Back Clear Port
Scan Board Size Width: 128 Height 128 Apply to port
SetBlank
Detect Status Read File Save File Read from HW Send To HW
Factory Restore Save Config File Save Close

Fig. 13-1 The Screen Configuration page

# 13.3The 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.13-2 is

the Sending Board page.



	oard Screen Conr			
isplay Mode				
Current Display Mo	ode	O section sector		
Sending Board Resolution:	(1440 x 900)	Graphics output resolution	1440 x 900	Refresh
Resolution.	$\leq$	resolution.		
Set the sending bo	ard display mode			
Resolution:	1440 x 900 px	Custom:	1440 🗘	x 900 🗘
Refresh Rate:	60	✓ Hz		Set

Fig. 13-2 The Sending Board page

Check whether the settings in the Smart Setting procedure are correct.

# 13.4**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.13-3 is the Smart Setting Step 1 page.

Smart Setting Step 1		X
Chip Type: Data Type:	Concurrent	٦
Chip Type:	Common Chip	
OE Polarity:	Unknown	
Module Info		'n
Module Type:	Regular Module	
Chip Count of each c	20 1	
Actual Pixel:	x: 32 🗘 y: 32 🗘	
Data Group:	Unknown	
Decoding Type:	74HC138 Decoding	
Scan Type:	Over 16 Scans 1/16 scan 👻	
Module in one scan .		
Module Cascade Type	(From The Front)	ň
C Left To Right	Right To Up To Down Left Down To Up	
Scan Board Work Mode	e	ĥ
Hub Mode: 💿	Normal 🔿 20 Groups 🔿 24 Groups 🔿 28 Groups	
Ghost Control Sign	nal Polarity: 💿 High 🔿 Low	
	Next Cancel	

Fig. 13-3 The page of Smart Setting Step 1

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## 13.5 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:

1) After installing LCT, find



on the desktop, right click attribute to find the path of the document.

 Return to the previous level from the opened file directory, i.e. the root directory of \Nova Star-Mars\.

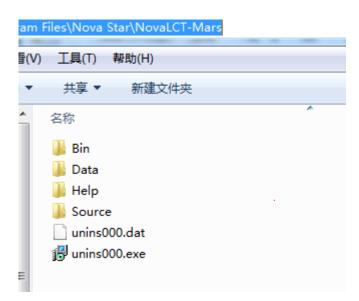


Fig. 13-4 Enter into the root .. \Nova Star-Mars\

3) Select Bin document, right click attribute->security.

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Bin Properties	-	×
General Sharing Security Customize		
Object name: C:\Program Files (x86)\Nova Star\M	NovaLCT-Mar	sV
Group or user names:		
ALL APPLICATION PACKAGES		~
REATOR OWNER		
SYSTEM	_	
& Administratore (ha\Administratore)		~
<	>	
To change permissions, click Edit.	Edit	
Permissions for ALL APPLICATION PACKAGES Allow	Deny	
Full control 🗸		^
Modify 🗸		
Read & execute 🗸		
List folder contents 🗸		
Read 🗸		
Write 🗸		<b>~</b>
For special permissions or advanced settings, click Advanced.	Advanced	
Leam about access control and permissions		
OK Cancel	Apply	7

Fig. 13-5 Bin properties

4) 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-Mars\	
		Group or user names:	
		ALL APPLICATION PACKAGES	
		SYSTEM     Administrators (bo\Administrators)	
		Image: State of the state	
		Add Remove	
		Permissions for ALL APPLICATION PACKAGES Allow Deny	
		Full control	
		Read & execute	
		List folder contents	
		Learn about access control and permissions	
		OK Cancel Apply	
		Fig. 13-6 Permissions for Bin	
	Add		
6)	Click		
	-	Select Users or Groups ?	×
		ect this object type:	_
		ers, Groups, or Built-in security principals Object Types n this location:	
	BO	Locations	
	Ente	er the object names to select ( <u>examples</u> ):	
		Check Names	\$
	A	Advanced OK Cancel	
		Fig. 13-7 Add User	
	Advanc	_	
7)	Click Advanc	, find Everyone in the search result; select it and clic	k OK



	9	Select Users or Groups	? ×				
Select this object type: Users, Groups, or Built-in security principals Object Types							
From this location:							
BO	BO Locations						
Common Querie	s						
Name:	Starts with $\ \lor$		Columns				
Description:	Starts with $~\vee~$		Find Now				
Disabled a	Disabled accounts Stop						
Non expirir	ng password						
Days since last logon:							
Search results:			OK Cancel				
Name	In Folder		^				
Access Contr.							
Administrator	BO						
Administrators							
ANONYMOU.							
Authenticated.							
Backup Oper BATCH	. во						
bobo	BO						
CONSOLE L			<b>~</b>				

Fig. 13-8 Select User

8) Click OK again.

	Select Users or Groups	? ×				
Select this object type:						
Users, Groups, or Built-in s	Object Types					
From this location:						
BO		Locations				
Enter the object names to select ( <u>examples</u> ):						
Everyone		Check Names				
Advanced	ОК	Cancel				

Fig. 13-9 Add "Everyone"

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9) Enter into the following interface; select all of the "allows" and click OK.

Permissions for Bin						
Security						
Object name: C:\Program Files (x86)\Nova Star\NovaLCT-Mars\						
Group or user names:						
ALL APPLICATION PACKAGES						
SYSTEM						
Administrators (bo\Administrators)						
& Everyone						
<		>				
	Add	Remove				
Permissions for Everyone	Allow	Deny				
Full control	•					
Modify	<ul><li>✓</li></ul>					
Read & execute List folder contents	<b>&gt;</b>					
Read	<ul> <li>▼</li> <li>✓</li> </ul>					
Learn about access control and permissions						
ОК	Cancel	Apply				

Fig. 13-10 Finish Permissions setting for Bin

10) Finish Permissions setting and begin to enjoy the convenience brought by LCT.



# 14**Appendix**

## 14.1 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	