

UMiniII Pro PRODUCT MANUAL COB LED Display



UNILUMIN GROUP CO., LTD.

Revision Records

NO.	Version	Revised Content	Date
1	01	Initial release	2023.4.14
The man	ual may be modifie	ed without any prior notice.	

Instructions

Thank you for choosing our product. Please read the Product Manual carefully before using the product. The manual may contain errors despite all our efforts, and may be subject to change without prior notice. Contact us if you have any questions or suggestions when using the manual. We will try our best to help you resolve the problems in time, and highly appreciate your suggestions.

Copyright

The manual is the property of Unilumin Group Co., Ltd. The Unilumin LED's operating software is developed based on the Windows operating system. No part of the manual can be transcripted, transmitted, reproduced, translated, edited, published, stored to a retrieval system, or used in any form by any individual or organization without a prior written permission of Unilumin.

Trademark

Unilumin[®] is the registered trademark of Unilumin Group Co., Ltd.

Read the following content carefully to ensure correct use of the LED display products:

♦ WARNING!

The LED display may be damaged and become irreparable if you ignore the following warnings.

- 1) Do not place the LED display upside down or throw it during transport and storage.
- 2) Do not incline, scratch, or crash the LED display during installation.
- 3) Do not wet or submerge the LED display into water.
- 4) Do not direct the air outlet of an air conditioner to the LED display.
- 5) Do not place or use the LED display in an environment with volatile, corrosive or flammable chemical products.
- 6) Do not use any electrical accessories not approved by the equipment manufacturer.
- Make sure the LED display and its auxiliary devices are grounded correctly and reliably before they are used.
- Switch off the power immediately and contact the professional personnel when the LED display has any abnormal conditions such as peculiar smell, smoke, electric leakage, and abnormal temperature.
- 9) This equipment should be kept in safe area and inaccessible to children.

♦ CAUTION!

The optimum displaying effect may fail to be achieved if you ignore the following cautions.

- 1) Wear antistatic gloves when installing or repairing the product.
- Ensure good ventilation for the LED display when designing the heat dissipation solution.
- Keep the storage environment of the LED display well ventilated and dry, with a humidity not exceeding 85%.
- 4) Use single-phase power supply for an LED display with the total power consumption not exceeding 3 kW, and three-phase power supply for an LED display with the total power consumption exceeding 3 kW.
- 5) Ensure that the LED display is powered on at least twice per week, and at least 2 hours each time.
- 6) Installing the LED display in the following places may result in an equipment failure and reduce its lifespan: near the sea, in an area with salt and alkali or sulphurous gases, near a kitchen exhaust position, or at a place where the difference between indoor and outdoor temperatures is great. Consult our professional personnel at the service center if the LED display must be installed in any of these places.
- 7) If the product is shipped to Spain, the Spanish manual will be attached accordingly.

Contents

Chapter 1 Product Introduction	1
1.1 Features	1
1.2 Cabinet Appearance	2
1.3 Specification	3
1.4 Low Blue Light	4
1.5 System Solution	5
1.6 Scope of Application	6
Chapter 2 Installation and Wiring	7
2.1 Out-of-Box Inspection	7
2.2 General Installation	7
2.2.1 Installation of Fixed LED Display-Front Installation (Standard)	8
2.2. 2 Installation of Fixed LED Display-Rear Installation(Optional)	.11
2.2.3 Concave Installation (2°~3°)	14
2.3 Module Flatness Adjustment	17
2.3.1 Module Flatness Adjustment	
2.4 Wiring for LED Display	18
2.4.1 Common Cables	18
2.4.2 Signal Cable Connection	19
2.4.3 Power Cable Connection	19
2.4.4 Smart Control Distribution Box	20
Chapter 3 LED Display Control Setting	22
3.1 Power-on Testing	22
3.2 Starting the Hardware	23
3.3 Unilumin N series - Software Control Setting	23
3.3.1 Installing the Software	23
3.3.2 Display Configuration	24
3.4 Brightness Adjustment	28
3.5 Correction Coefficient Management	30
3.3.4.1 Setting Coefficients for a New Receiving Card	32

3.3.4.2 Setting Coefficients for a New Module	. 35
3.3.4.3 Replace Module with Flash	. 37
3.6 Pre-storing Picture	. 38
3.7 Drying Mode	. 40
3.8 MDC Mode	. 41
3.8.1 MDC-Loading	. 41
3.9 Image Booster Engine	. 42
Chapter 4 LED Display Playing Setting	. 45
4.1 Unilumin N series - LED Display Playing Setting	45
4.1.1 Selecting a Playing Solution	. 45
4.1.2 Playing Setting	
4.1.2.1 Display Window Setting	46
4.1.2.2 Startup Setting	47
4.1.3 Editing Professional Playing Solution	. 48
4.1.3.1 Editing the Time Segment	48
4.1.3.2 Editing the Program Page	50
4.1.3.3 Editing the Display Window	53
4.1.3.4 Editing the Media	56
4.1.3.5 Playing the Media	59
4.1.4 Saving and Opening a Playing Solution	. 61
Chapter 5 Startup, Shutdown, and Maintenance	. 63
5.1 Startup Sequence	. 63
5.2 Shutdown Sequence	. 63
5.3 Daily Maintenance	. 63
5.4 Warm-up Operation	. 64
5.4.1 Unilumin N series - Setting the Prestored Picture	. 64
5.4.2 Unilumin N series - Ageing Operation	. 65
Chapter 6 Troubleshooting and Component Replacement	. 67
6.1 Common Faults and Troubleshooting Methods	. 67
6.1.1 Failure in Lighting up the Display	. 67
6.1.2 Incomplete Picture or Incorrect Position of Picture Displayed	. 67

6.1.3 Screen Blinking	68
6.1.4 Blinking of a Cabinet in the Display	68
6.1.5 Failure in Lighting up of a Cabinet in the Display	68
6.1.6 Failure in Lighting up Part of the Modules in the Cabinet	69
6.2 Replacement of Main Components	69
6.2.1 Replacement of Module	69
6.2.2 Replacement of Power Supply	
6.2.3 Replacement of Receiving Card	72
6.2.1 Replacement of HUB Card	
Chapter 7 Packaging Transportation and Storage	
7.1 Packaging	
7.2 Transportation	
7.3 Storage	
Chapter 8 After-Sales and Warranty	
8.1 Warranty Scope	75
8.2 Warranty Period	
8.3 Warranty Service	
8.3.1 Warranty Service Types	
8.4 Disclaimer	76
8.5 Warranty Service Process	
8.6 Other	78
8.7 Product Warranty Card	79
Contact Information	80

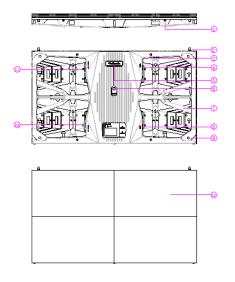
Chapter 1 Product Introduction

The UMiniIII Pro series is the high-end product of our company's COB series, which adopts RGB full flip chip with high stability. Designed for HD display application scenarios, the UMiniIII Pro series has a standard aspect ratio of 16:9 and has achieved perfect match between video signals and display terminals. Ultra-thin cabinet design, small space occupation, easy installation, suitable for more scenarios. The cabinet adopts front and rear maintenance design to meet the maintenance needs of different occasions and improve maintenance efficiency. With ultra-high contrast characteristics, the displayed color levels are richer, showing a more delicate visual impact effect. The screen has multiple energy-saving functions, more energy-saving and environmentally friendly. Freely and seamlessly spliced into any size display to meet the needs of the application scenario.

1.1 Features

- EBL+ multilayer optical processing, super high contrast ratio, more delicate visual effect.
- 2) EDL + driving technology improves consistency, low temperature rise.
- 3) Ultra-cool screen technology, super low screen temperature.
- 4) Multiple energy-saving functions, low power consumption and energy saving.
- 5) Intelligent remote control *: one click for turning on/off, adjusting brightness and chroma, doing intelligent dehumidification.(optional function)

1.2 Cabinet Appearance



- 1. Screws of upper and lower cabinets.
- 2. Location pin
- 3. Cable cover fixing hole
- 4. Signal out
- 5. Product sticker
- 6. Working status indicator
- 7. handle
- 8. Signal In
- 9. Cabinet installation hole
- 10. Screws of left and right cabinets
- 11. Power out
- 12. Power in
- 13. Module

Fig 1-1 Cabinet Appearance

1.3 Specification

Parameter		UMiniIII0.9 Pro	UMiniIII1.2 Pro	
	Pixel composition	1R1G1B	1R1G1B	
	LED type	Fully flip chip COB	Fully flip chip COB	
	Pixel per Cabinet(dots)	640×360	480×270	
	Cabinet size (mm)	600 (W) ×337.5 (H)	×40 (D)	
	Aspect Ratio	16: 9	16: 9	
Physical	Material	Die-cast Aluminum		
Parameter	Planeness(mm)	≤0.08	≤0.08	
	Weight(kg)	6kg/panel	6kg/panel	
	Refresh rate(Hz)	3840	3840	
	Frame frequency(Hz)	50/60	50/60	
	Data interconnection	Sign cable \leq 100m,Multi-mode optical fiber \leq 300m,Single-mode optical fiber \leq 15km		
	Brightness(nits)	600	600	
Optical	Color temperature(K)	2000~9500K(adjustable)		
Parameter	Viewing angle	180	180	
	Input voltage(V)	AC 100~240V		
F1 1	Input frequency(Hz)	50~60	50~60	
Electrical Parameter	Input power <max>(W/Cabinet)</max>	50±5	40±5	
raianietei	Input power <typical>(W/Cabinet)</typical>	25±5	20±5	
	Working temperature/humidity	-10°~+45°C/10~80%RH		
Circumstance	Storage temperature/humidity	-20°~+55°C/10~85%RH		
Parameter	Ingress protection	Rear IP50		

Note: Specifications are for reference only and are subject to change without notice.

1.4 Low Blue Light

1) Influence of Blue Light With the increasing popularity of digital products, people spend a lot of time watching various display screens every day. However, the current liquid crystal display mainly relies on blue light or ultraviolet light to excite fluorescent powder to emit light, so there is inevitably blue light or ultraviolet light radiation; Compared with other spectra, blue light spectrum has higher energy and higher influence on human body. Watching the LCD screen for a long time will not only bring certain visual fatigue, but also may cause some eye diseases such as retinal inflammation and color discrimination. Even if the level of blue light is low, it will not cause damage to eyes and skin, and long-term viewing will affect the circadian rhythm of human body.

2) Standard for Low Blue Light The product must meet the exemption level of photobiological safety specified in EN 62471, and prove that the product meets the requirements of photobiological safety standards. The product has no UVA, UVB, UVC and other spectral radiation with wavelengths lower than 380nm.

3) Test Method for Low Blue Light Method

1: Software-based approach The energy in the range of plus or minus 20nm of the peak wavelength of the blue spectrum accounts for less than 20% of the total spectrum energy. The ratio of blue peak to non-blue peak is less than twice of other peaks of non-blue. Method

2: Hardware (and software) based method If CCT is between 5500 K and 7000 K, the energy ratio of harmful blue light band (415-455nm) to the whole blue light band (400-500nm) cannot be greater than 50% If CCT is above CCT7000, the screen already looks blue at this time. If it is still considered as low blue light, the general consumers will find it difficult to accept it. Therefore, we have greatly reduced the above ratio to below 5%. That is, the energy ratio of the harmful blue light band (415-455nm) to the whole blue light band (400-500nm) cannot be greater than 5%

4) Eye Protection Guidelines

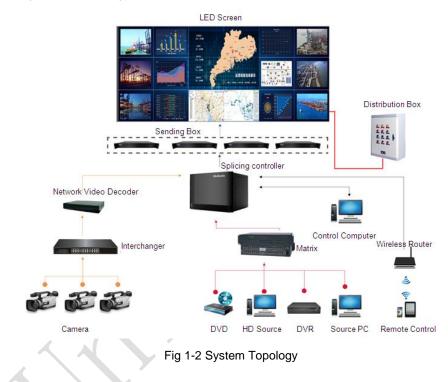
-Users are advised not to use it for a long time and to rest from time to time.

-Watching distant scenery to relax the eyes;

-Do eye movements to relax the eyes.

1.5 System Solution

The display system consists of the LED display, sending box, control PC, matrix, splicing controller and power distribution box (refer to the shipping list for details). The following shows a topology of the system for reference:



1.6 Scope of Application

The UMiniIII Pro series products can be assembled seamlessly into a screen of any size, and are extensively used as fixed LED displays for advertisements in public places such as Conference room, command and control room, exhibition hall, airport, station, urban rail and other public places display, as well as hotel lobby, company lobby, shopping mall, brand store, promotion site and home theater and other fields.



Control room





Meeting room



Training room

Chapter 2 Installation and Wiring

2.1 Out-of-Box Inspection

Check whether the packages are damaged. If the packages are intact, check the main components against the shipping list. If any inconsistency is found, contact us in time.

The main components include cabinets, signal cable, power cable, USB cable, DVI cable, and sending box. For details about the components, refer to the shipping list,

2.2 General Installation

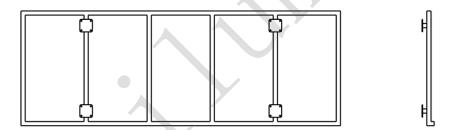
Screen calibration is performed on the UMiniIII Pro series product before shipment, and the product needs to be installed sequentially according to the cabinet number, as shown in Figure 2-1:

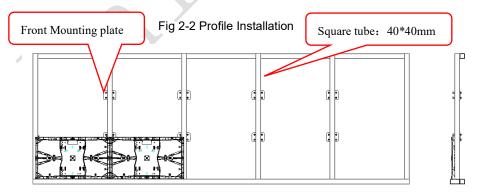
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
5		7	8	5	<u>D</u> •		8	5	<u>D</u> -	-3 7	8	5	<u>D</u> -	-4 7	8
1	2 C-	3	4	1	2 — C	3	4	1	2 — C-	3	4	1	2	3 	4
5	6		8	5	6		8	5	6	-3 7	8	5	6	7	8
1	2 B-	3	4	1	2 B·	3	4	1	2 B-	3	4	1	2	<mark>3</mark> -4	4
5	<u>6</u>		8	5			8	5	6	7	8	5	6	7	8
1	2 ————————————————————————————————————	3	4	1	2 ————————————————————————————————————	3	4	1	2 ————————————————————————————————————	3	4	1	2	3 -4	4
5	6	7	8	5		7	8	5	6	7	8	5	6	7	8

Fig 2-1	Front	View	of the	Display
---------	-------	------	--------	---------

2.2.1 Installation of Fixed LED Display-Front Installation (Standard)

- Check whether the bottom beam is level. Make sure that its levelness is within ±1mm. (bottom beam is a must have)
- Install the cabinets sequentially from bottom to top and from middle to both sides. In addition, in front of the screen, fix the front connecting plates and cabinets with installation screws to the square tubes.
- 3) Keep proper joints and flatness between the cabinets during cabinet installation.
- After the installation of the cabinet is completed, connect the power cable and the signal cable between the cabinets.
- 5) Install the module on the corresponding cabinets. During the module installation keep flatness among the modules during modules installation.
- 6) The installation of the screen is completed.







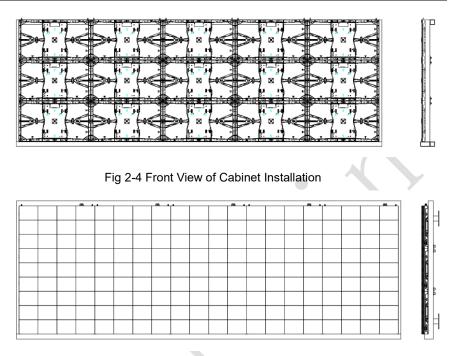
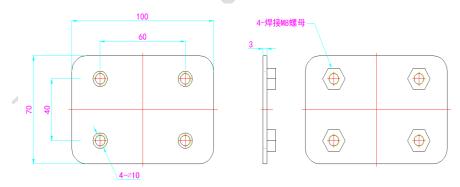


Fig 2-5 Front View of the Display





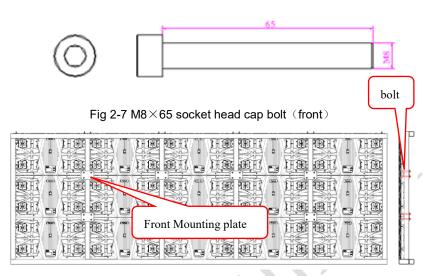


Fig 2-8 Back view of maintenance Installation Details

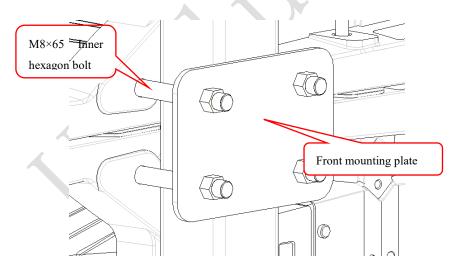


Fig 2-9 Back view of front maintenance Installation Details

2.2.2 Installation of Fixed LED Display-Rear Installation(Optional)

- Check whether the bottom beam is level. Make sure that its levelness is within ±1mm. (bottom beam is a must have)
- Install the cabinets sequentially from bottom to top and from middle to both sides. In addition, behind the screen, fix the rear connecting plates and cabinets with installation screws to the square tubes.
- 3) Keep proper joints and flatness between the cabinets during cabinet installation.
- After the installation of the cabinet is completed, behind the screen, connect the power cable and the signal cable between the cabinets.
- 5) The installation of the screen is completed.

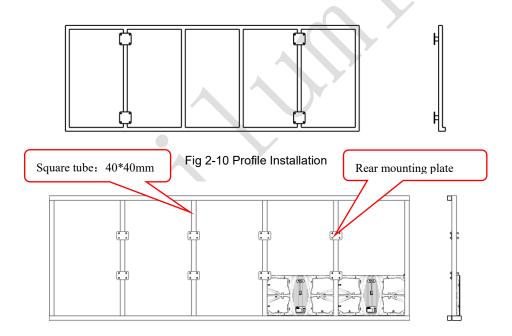


Fig 2-11 Cabinet Fastening

A			
DEL THE DEL T	HERELTH		
	, 번째 팬킹 =, 번		9 년번 금, 번택
	선활왕만 . 문	별평범 . 분분	
		a af _ fi	
		AT 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	
Deares in Concest Rearry in		esi terri in trac	

Fig 2-12 Rear View of Cabinet Installation

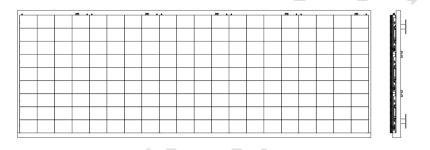
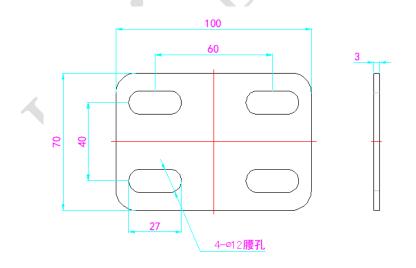


Fig 2-13 Front View of the Display



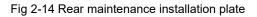




Fig 2-15 Rear installation M10×60 Inner hexagon bolt

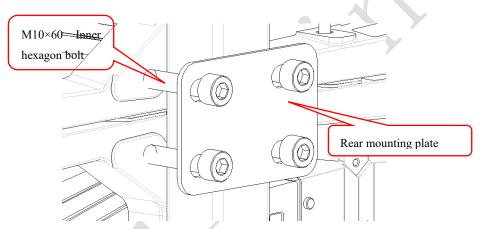


Fig 2-16 Back view of rear maintenance Installation Details

2.2.3 Concave Installation (2°~3°)

- Make sure that the bottom beam is horizontal, and the levelness value is within ± 1mm;
- Assemble the specific trimming cabinet from the bottom to the top and from the middle to both sides successively. Fix the angle block to right side of the the cabinet by using screw KM2*6; (bottom beam is a must have)
- 3) The left and right cabinets are fixed with left and right shoulder screw, and the mounting plate and cabinets are fixed on the square pipe with hexagon socket bolts.
- 4) After the first line of cabinet is installed, the second line of cabinet is installed, and the upper and lower cabinets are fixed with upper and lower shoulder screw.
- 5) In the process of cabinet installation, it is necessary to pay attention to the gap and flatness between cabinets.

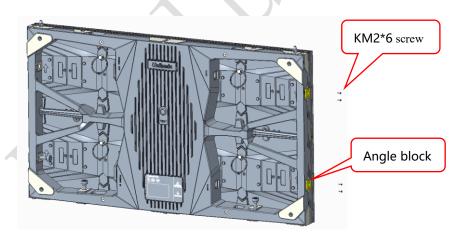


Fig 2-17 Locking of left and right cabinets completed

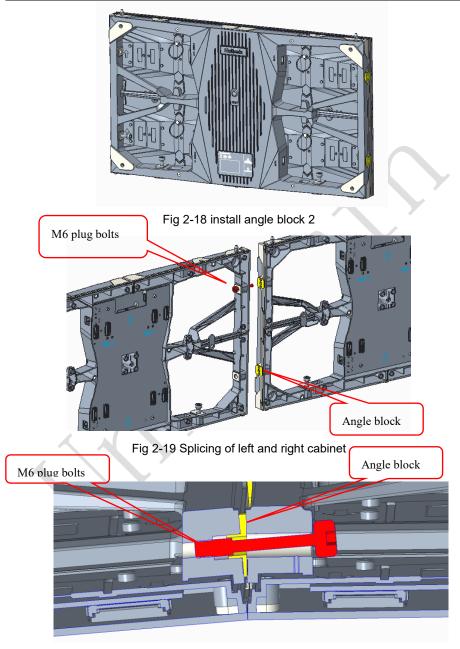


Fig 2-20 Internal drawing of left and right cabinet splicing

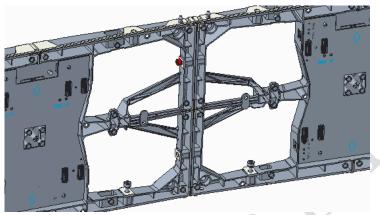
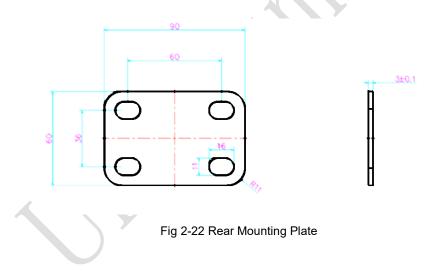


Fig 2-21 Splicing of left and right cabinets completed



2.3 Module Flatness Adjustment

2.3.1 Module Flatness Adjustment

When there is a deviation in flatness between adjacent modules, use the adjustment tool to adjust the magnet on the cabinet. For the module at the low end, adjust the adjustable magnet forward until the module is flush with the adjacent module. (one module has 6 adjustable magnets)

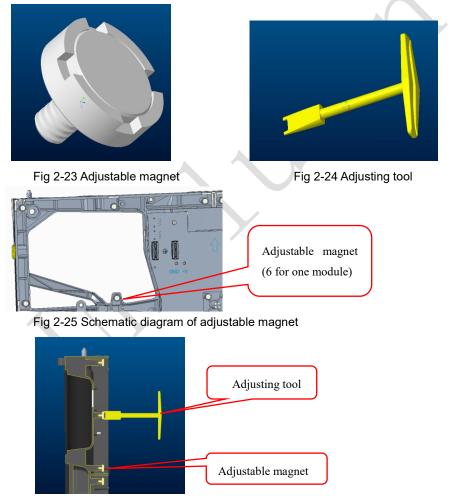


Fig 2-26 Schematic diagram of module flatness adjustment

2.4 Wiring for LED Display

2.4.1 Common Cables







Power Cables

DVI Cable

Incoming Signal Cable



USB Cable

2.4.2 Signal Cable Connection

Signal cables shall be connected based on the wiring diagram of the delivered products for the project.

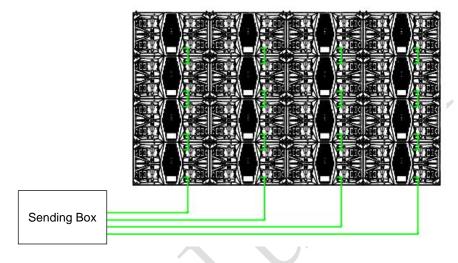


Fig 2-27 Signal Cable Connection Diagram of UMini 1.2 Pro

2.4.3 Power Cable Connection

Power cables shall be connected based on the wiring diagram of the delivered products for the project.

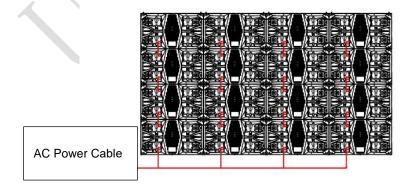


Fig 2-28 Power Cable Connection Diagram of UMiniⅢ 1.2 Pro

2.4.4 Smart Control Distribution Box

The Smart Control Distribution Box can be used for distributing electric power to the LED display, and has the function for real-time monitoring of the temperature, humidity, smoke, and mains voltage of the external environment. The control software has the scheduled start/stop function, allowing you to set any time for the LED display to be remotely started or stopped.

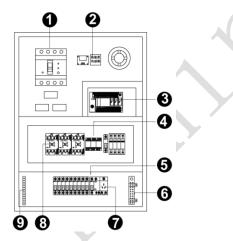


Fig 2-29 Internal Structure of Distribution Box

SN	Component	Remark (s)
1	Main switch	МССВ
2	Temperature sensor	Used for temperature detection
3	PLC	Used for smart control
4	Relays	Used to control the ON/OFF of the AC contactor
5	Circuit breaker	MCB,Connect to display live wire
6	Neutral wire socket	Connect neutral wire
7	Power Port	/
8	AC Contactor	Used to control the ON/OFF of the current
9	Earth wire socket	Connect earth wire

PLC connection of the smart control distribution box:

The PLC communication system is RS485, It uses converter from control computer RS232 to RS485. For more detail information, please refer to our Intelligent Power Distribution Management System Manual.

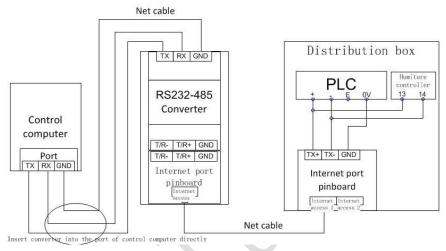


Fig 2-30 Distribution Box PLC Connection Diagram

Chapter 3 LED Display Control Setting

3.1 Power-on Testing

Before performing control setting on the LED display, confirm that each device is connected correctly.

- Before turning on the power of the LED display, you must use a multimeter to test the live wire, neutral wire, and ground wire of the AC power supply, in order to ensure they are not conductive with each other.
- The ground wire must be in reliable contact with the ground, and kept away properly from the live wire. The connected power supply shall be distant from highpower equipment.
- 3) When the 3-phase and 5-wire system is adopted, the load shall be distributed evenly among the phases to ensure three-phase balance as far as possible.
- 4) The input voltage must meet the voltage requirements indicated the cabinet rating label.
- Connect the USB cable provided for the sending box to the USB port on the control PC.
- Check whether cables for the LED display are connected in accordance with the power cable and signal cable connection diagrams provided for the delivered products.

3.2 Starting the Hardware

Start the control PC Windows system. After the graphics card driver is activated, set graphics card of the control PC to replication mode and confirm that the green indicator of the sending box is blinking normally (blinking once per second).

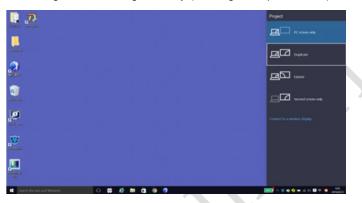


Fig 3-1 Replication Mode

3.3 Unilumin N series - Software Control Setting

3.3.1 Installing the Software

 Open the optical disk provided for the delivered products. Install the LED control software UniLCT-Mars stored in the optical disk to the control PC. Then install UniStudio.



Fig 3-2 Software Installation

NOTE: You can follow the software installation wizard to install the software.

3.3.2 Display Configuration

Run UniLCT-Mars. Make sure that **Control System** on the main window is 1. Click the **User** option and select **Advanced Login**, as shown in Figure 3-3.

	System(S) Setti	ngs (C) Tools(T) F	Plug-in (P) 📢	ser(U) Lang	guage(L)	Help(H)	
				Logout(E)			<u></u>
:	<u></u>		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	T			5-41000°
i	Cloud Monitoring	Screen Configuration	Brightness	Calibration	Screen Co	ntrol Monitoring	Multi-function Card
F	Local System Inform	nation					
	Control System		Other Device	Unkno	wn <u>Vi</u>	ew Details of Device	2
	Monitor Information						
I							

Fig 3-3 Main Window of UniLCT-Mars

Enter the initial password "admin", as shown in Figure 3-4, to go to the advanced user window.

🖳 Use	er Login			23
	Password:	****		
	Login		Cancel	

Fig 3-4 User Login

After login, click Screen Config on the main window, as shown in Figure 3-5:

System(S) Settings (C)	Tools(T) Plug-in (P) Us	ser(<u>U</u>) Language(<u>L</u>)	Help(<u>H</u>)	
Cloud Monitoring	Configuration Brightness	Calibration Screen C	Control Monitoring	Multi-function Card
Local System Information	ooninguruu in Dinginarees		internet internet	and and and
Control System 1	Other Device	Unknown	View Details of Device	
Monitor Information				
		<u>Ц</u>	🚺	
)

Fig 3-5 Main Window for Advanced User

Click Next,	as	shown	in	Figure	3-6:
-------------	----	-------	----	--------	------

Screen Configuration		×
-Select Communication	Port	
Current Operatio	СОМ99 ~	
Configure Screen		
O Cloud Restore	Europe ~	
O Local Restore	Browse	
	Next	

Fig 3-6 Screen Configuration

The following window is displayed. Set **Sending Board Resolution** (1920×1080 recommended). Set **Graphics Output Resolution** to the same value as **Sending Board Resolution**. Then click **Save** to save the settings.

	Screen Configuration-COM99 Sending Card Receiving Card Scree	n Connection		- 0	×			
	Display Mode							
	Current Display Mode Refresh -Current Display Mode Sending Card_???? Select Input Source Sending Card Resolution: Select Input Source Sending Card Resolution: Ource Sending Card Resolution: Source Configuration Source: Source: HDMI Source: 1520 x 1000 px Resolution: 1520 x 1000 px Hz Input Source Bit De Bet Set							
	Hot Backup Verification							
	Redundancy Set the Current Devi Set as Primary Set as Backup Set							
	Primary	,	Backup	Backup				
	Serial Number of Primary Sending Card	Serial Number of Primary Port	Serial Number of Backup Sending Card	Serial Number of Backup Port				
	Refresh Send		Add	Edit Delete				
	Restore Factor.	Export S	creen M Save System C	co. Save Close	•			

Fig 3-7 Sending Board Configuration

After configuring the parameters on the Sending Board page, click Recaiving

Card to display the following window:

Screen Configurati	on-COM99				-		\times
Sending Card Receiv	ving Card Screen	Connection					
Module Informatio	n					Grant	
Chip:	Common C	Size:	32W×16H	Scanning Type 1/8 scan		Constru	.c
Direction:	Horizontal	Data Groups	2	Adjust RG		Check I	۸
Cabinet Information	on					0.10.1.1	
Regular				O Irregular		<u>Set Rotati</u>	<u>nc</u>
Width (Pixel)	32	€ <=65		Width: ?? Height: ??			
Height (Pixel)	16	=128		Loading error. Please try to adjust pe			
Module Casc.	From Right to	Left \checkmark		Construct Ca View Cabinet	le		
Performance Setti	ings						
Data Group E	More Setti	ngs		🗌 18bit+			
Refresh Rate	480	✓ Hz:	Refresh Rate Ti	4 ~			
Grayscale Level	Normal 4096	\sim	Grayscale Mode	Refreshing Rate Fir $$			
Shift Clock Fre	12.5	✓ MHz	Duty Cycle	50 ~ (25~75) %			
Phase Position	6	\sim	Low Grayscale C	0			
Row Blanking	15	ᆃ (=1.20us)	Ghost Control En	. 13 💌 (1~14)			
Line Changing .	3	€ (0~12)					
Minimum OE w.	160 ns						
Brightness Effi	68.96%						
			\frown				
Smart Settings)	Receiving	Car. Load from Fi	le Save to File Read from Re. Send to Re		Apply	
Current Receivi	ing mo	Version:				Restore Fac	to
				Export Screen M., Save System Co., S	ave	Clos	

Fig 3-8 Scan Board Configuration

- 1) Click Load From File to load the file xxxx.rcfg stored in the optical disk.
- 2) Click Send to Receiving Card.
- 3) After sending, confirm that the loaded picture received by scan board is normal on the screen. Then click **Save**.

After configuring the parameters on the **Scan Board** page, click **Screen Connection** to display the following window:

 Click Read File to load the file xxxx.scr stored in the optical disk, as shown in Figure 3-9.

Screen Config-COM4	
Sending Board Screen Connection	Screen N 1 Config
Screen Type: O Simple Screen	Standard Screen
Basic Information Location: X: 0 Y: 0	Virtual Mo 🔲 Enable
The current network port operations Sending Board Index	Scan Board 1 Scan Board 1 ResetAll Hide Line
1 Port Index 1 2 3 4	1 Sending#: Port: 1 Scan Bo.: Width 0 Height.0
Back Clear Port	
Scan Board Size Width: 128 + Height 128 +	
Height 128 🛖	Note:Click or drag left mouse button to config screen, right
Detect Status	Read File Save File Read from HW Send To HW
Factory Restore	Save Config File Save Close

Fig 3-9 Screen Connection

2) Click Send to HW.

Chapter 3 LED Display Control Setting

3)	After sending,	confirm that th	ne screen is	complete.	Then clic	k Save

Screen Connection					Comments (Config
					Screen N		
Simple Screen	Standa	rd Screen	💮 Complex Sc	reen			
Y: 0	Virtual Mo	Enable	•••				
	Scan Board Columns:			ResetA	🗾 📶 Hide Lin	e	
FA		1	2	3	4	5	-
		Sending#1 Port1	Sending#1 Port1	Sending#1 Port1	Sending#1 Port:1	Sending#1 Port1	
Port Index		Width:128 Height:128	Width: 128 Height: 128	Width 128 Height 128	Width:128 Height:128	Width:128 Height:28	н
		Sending#.1 Port.1	Sending#:1 Port1	Sending#:1 Port:1	Sending#:1 Port:1	Sending#:1 Port:1	
	2	Width:128 Height:128	Width 128 Height 128	Width 128 Height 128	Width:128 Height:128	Width:128 Height:128	
Clear Port	2	Sending#1 Port2	Sending#1 Port2	Sending#.1 Port2	Sending#1 Port:2	Sending#1 Port2	
Citarron	3	Width:128 Height 128	Width:128 Height:128	Width:128 Height:128	Width:128 Height:128	Width:138 Height:28	
* *		Sending#1 Port2	Sending#1 Port2	Sending#.1 Port2	Sending#1 Port:2	Sendin;#.1 Port:2	
		Width: 128 Height 128	Width: 128 Height: 128	Width 128 Height 128	Width: 128 Height: 128	Width: 128 Height: 128	
	Note:Cli	ick or drag	left mous	e button to	config sc	reen, right	
			Rea	ad File Sav	e File Rea	d from HW Sen	d To HW
	3 4 Clear Port	Y 0 Virtual Mo port operations Scan Board Columns: 1 3 4 2 Clear Port 3 4 Apply to port	Y. Virtual Mo Enable port operations Scan Board 5 Scan Board 5 1 Columns: Sendings:1 Port1 1 Sendings:1 Youth:128 4 Sendings:1 Port2 3 Scan S3 Sendings:1 4 Scan S3 Sendings:1 Vidth:128 Sendings:1 Port2 3 Scan S3 Scan S3	Y. Virtual Mo Enable port operations Scan Board Scan Board Scan Board Scan Board Rows: 1 Sending#1 Sending#1 Port Port Port Port Port Port	Y. Virtual Mo Enable port operations Scan Board Columns: Scan Board Rows: Scan Board Rows: Image: Columns: 3 Image: Columns: Sending#: 1 Port 2 Scan Board 0 Port 2 Port 2 Scan Board 0 Port 2 Scan Board 0 Port 2 Scan Board 0 Port 2 Port 2 Scan Board 0 Port 2 Port 2 Scan Board 0 Port 2 Port 2 Scan Board 0 Port 2 Port 2 Scan Board 1 Port 2 Port 2 Port 2 Port 2 Port 2 Scan Board 1 Port 2 Scan Board 1 Port 2 Port 2 Scan Board 1 Port 2 Port 2 Scan Board 1 Port 2 Scan Board 1 Port 2 Port 2 Scan Board 1 Port 2 Scan Board 1 Por	Simple Screen Image: Standard Screen Complex Screen Y: 0 Virtual Mo. Enable port operations Scan Board Scan Board Scan Board Scan Board Scan Board Scan Scan Board Scan Board Reset/All Virtual Mo. Enable Image: Scan Board Scan Board Scan Board Scan Board Scan Scan Board Scan Scan Board Scan Board Virtual Mo. Scan Board Scan Board Scan Scan Board Scan Board Scan Board Scan Scan Board Scan Scan Board Scan Scan Board Porti Porti Porti Porti Porti Porti Porti Porti Porti Porti Porti Porti Porti Porti Porti Scan By Concesso Scan By Concesso Scan Board Scan By Concesso Scan Board Scan By Concesso Scan By Conceso Scan By Concesso Scan	Simple Screen Standard Screen Complex Screen Y: Virtual Mo. Enable port operations Scan Board Scan Board Hide Line Scan Board Scan Board Sending#1 Sending#1 Sending#1 Scan Board Sending#1 Sending#1 Sending#1 Sending#1 Scan Board Sending#1 Sending#1 Sending#1 Sending#1 Scan Board Sending#1 Sending#1 Sending#1 Sending#1 Virtual Mo. Enable Sending#1 Sending#1 Sending#1 Virtual Mo. Sending#1 Sending#1 Sending#1 Sending#1 Sending#1 2 Sending#1 S

Fig 3-10 Screen Connection with Loaded File

3.4 Brightness Adjustment

On the main window, click **Brightness**, as shown in Figure 3-11, to display the brightness adjustment interface:

System(S)	Tools(C)	Plug-in T		er(U) Lan	guage(Lang)	(L) Help(H		
Screen Co	nfig Brigh	tness Cal	\ bration D	isplay Contro	Monitor	Function C	ard	
Local Syste	n Info							
Control S	ystem:	1	Other	Device:	0	View	<u>v Detail</u>	
Monitor Info								
	. -	- 111	6		8	*		

Fig 3-11 Main Window for Advanced User

There are four brightness adjustment modes, namely **Manual**, **Schedule**, **Auto**, and **Auto Adjustment by Hardware**. After adjustment is finished, click **Save to HW** to save the adjustment results to the hardware.

1. Manual Adjustment

Select **Manual** and adjust the brightness by dragging the scroll bar below **Brightness Adjustment** or directly modifying the brightness value (the maximum value is 255) next to the scroll bar.

	Manual Adjustme	ent	O Auto Adjustment		
Brightness Brightness	<			255 (100%)	
	🗌 自用干燥模式	时长:	5 🗘 Min 发送		
	11		14°		
	Grayscale		Contrast		
Advanced Settings	0		Contrast		
Advanced Settings Gamma	0	olor Spa			
Gamma Gamma	Color Te C	olor Spa		-	
Gamma	Color Te C	olor Spa		> 2.8	
Gamma Gamma	Color Te C	olor Spa		> 2.8	

Fig 3-12 Manual Adjustment

Display Quality: Includes Soft mode and Enhanced mode. The Soft mode is generally used for indoor LED displays while the Enhanced mode is used for outdoor LED displays.

Gamma Adjustment: Includes Mode A and Mode B. The LED display in Mode A can light up earlier than that in Mode B.

Gain: For chips with current gain function, adjusting the current gain can improve the chip's current output.

RGB brightness: Adjusts the brightness of Red (R), Green (G) or Blue (B) separately.

2. Automatic Adjustment

Schedule, Auto, and Auto Adjustment by Hardware are automatic adjustment modes. Automatic adjustment function is not recommended for indoor LED display products because the indoor environment has stable ambient light and is rarely affected by the ambient brightness. If you really need to use this function, you can configure this function by using the wizard.

3.5 Correction Coefficient Management

The UTWII series products have been subject to correction before shipment. To ensure the optimum displaying effect of the screen, you need to activate the correction function when using the LED display, and to reload the correction coefficients after replacing the modules or receiving card. This Section introduces how to upload the correction coefficients after replacing the modules or receiving card.

On the main window, click **Calibration**, as shown in Figure 3-13, to display the screen calibration interface:



Fig 3-13 Main Window for Advanced User

Configure Enable/Disable Calibration to Brightness, click Save, and then click Manage Coefficients to display the following window:

🚽 Screen Calibration	
Current operation communication port Current Screen © Screen1	Online Calibration Manage Coefficients Select Operation - 1.Upload Coefficients - 2.Sive coefficients to database - 3.Set coefficients for a new scan board - 4.Set coefficients for a new module - 5.Adjust coefficients (Color is ununiform on screen) - 6.Erase or reload coefficients - 7.Reset correction coefficients -
Display Screen Main Display • Enable/Disable Calibraion Brightness • Save	

Fig 3-14 Manage Coefficients

Upload coefficients: Upload the correction coefficient database generated by the software or read back by the display screen to the screen.

Save coefficients to database: Read back and save the coefficients from the screen to the coefficient database.

Set coefficients for a new scan board: After replacing the scan board (receiving card), set the correction coefficients for the new receiving card.

Set coefficients for a new module: After replacing a module, set the correction coefficients for the new module.

Adjust Coefficients (Color is uniform on screen): Adjust the correction coefficients for a selected area on the screen to achieve a satisfactory effect.

Erase or reload Coefficients: Erase or reload the correction coefficients for a selected area on the LED display.

Reset Correction Coefficients: Reset the calibration coefficients on whole or selected section of LED display.

3.3.4.1 Setting Coefficients for a New Receiving Card

 As shown in Figure 3-15, select **Topology or List**. Select the position of the replaced receiving card. Click **Next**:

SelectArea of New Scar Screen:1 Locati	ion:X=0, Y=0 Si	ze:512¥×256H				
Screen Pixel	Topolo (1,2)	gyorList	(1,4)		Zoom:	
(2.1)	(2,2)	(2.3)	(2,4)		1.0	
			Back	Next	Return	

Fig 3-15 Selecting Area for New Receiving Card

2) Select the coefficient source. Click **Browse** at **Select Database**.

Online Calibration Offline	Calibration Manage C	pefficients				
Select the source of Co	efficients					
 Database 	🔘 Refe	er to Su				
Select Database:				Browse		
Select Adjust Lin				Browse		
Type:	Unknown	Cabinet ID:				
Columns:	Unknown	Rows:	Unknown			
Discription:	Unknown					
Upload Mode	🔘 Fast Upload	 Stable Upload 				
[(Back	Next	Return



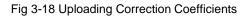
3) Select the corresponding correction coefficients:

Current operation communication		×
DM4 -	• database	▼ 4g 混素 database の
Current Screen	- 組织 ▼ 新建文件夹	B • 🔟 🛛
Screen1	 ★ の販売 ● 5000168 A1131 ● 50000168 A1131 ● 5000168 A1131	
	文件名(1):	◆ Access Database(*.mdb;*.db ◆ 打开(O) 取消
isplay Screen		
ain Display 👻		
nable/Disable Calibraion		Back Next Return

Fig 3-17 Selecting Correction Coefficients for Receiving Card

4) Select Stable Upload and click Next:

Current operation communication	Online Calibration Offline	Calibration Manage	Coefficients					
COM4 *	Select the source of Co		fer to Su					
@ Screen1	Select Database: Select Adjust Line							
	Type: Columns:	Cabinet D	Cabinet ID: Rows:	A1151	•			
	Discription:	-						
	Upload Mode	Fast Upload	Stable Upload	>				
Display Screen								
Vain Display -								
Enable/Disable Calibraion					_			
Disable					Back	Next	Return	
Save								



Chapter 3 LED Display Control Setting

5) Adjust Coefficient: Perform a simple adjustment if the displaying effect is not good enough after you upload the coefficient. Then click **Next**.

imple O iza All (0							
Red:	٠			 			89.7	
Green:	•		 	 		m	89.6	
Blue:	٠						92.8	
Advanced		Show Color Wi						

Fig 3-19 Simple Adjustment

Red: Adjust the red brightness value of calibration coefficients.

Green: Adjust the green brightness value of calibration coefficients.

Blue: Adjust the blue brightness value of calibration coefficients.

6) Save Coefficients: Click **Save** to save the correction coefficients to the hardware.

The saved coefficients are retentive even after a power failure. Then click Finish.

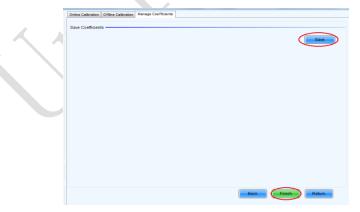


Fig 3-20 Saving Correction Coefficients

3.3.4.2 Setting Coefficients for a New Module

1) Select Position of the New Module: Select **Topology or List**. Then select the position of the receiving card where the new module is located. Double click the selected position:

urrent operation communication	Online Calibration Offine	Calibration Manage Coel	fficients			
284	Select the New Module	-				
urrent Screen	Screen:1 Locati	on:X=0, Y=0 S	ixe:512W×256H			
Screen1	O Screen O Pixe	🛎 Topoli	agy or List	elect Area On creen		
	(1,1)	(1.2)	(1,3)	(1.4)	Zoom:	
	(2.1)	(2.2)	(2.3)	(2.4)	- 1.0	
play Screen						
nable/Disable Calibration						
Deable v				Back	Next	

Fig 3-21 Selecting Cabinet for the New Module

2) Choose **Display Mode** to **Modules**. Select the position of the new module and click **Next**.

Screen Calibration	
Current operation communication port	Online Calibration Offline Calibration Manage Coefficients
COM4 ~	Select the New Module
Current Screen	Scan Bo.: (0,0,0), Location:: (384,0), Size: 128×128
Screen1	Screen Pixel Topology or List Salect Area On
	Module Size: 16 😨 x 16 😨
	Display Mode: Modules Pixels
Display Screen	
Main Display +	
Enable/Disable Calibraion	
Disable -	Back Next Return
Save	

Fig 3-22 Selecting Position of New Module

Chapter 3 LED Display Control Setting

Module Size: Set the size of the module in a cabinet. The software determines each module arrangement based on module size and cabinet size.

3) Adjust the coefficients (similar to the steps of coefficient adjustment in setting coefficients for a new scan board). For details, refer to Step 2 and Step 3 in Section 3.5.1).

4) Save the correction coefficients to the hardware (Use similar steps in setting coefficients for a new receiving card. For details, refer to Step 4, Step 5, and Step 6 in Section 3.5.1) so that they are retentive after a power failure.

Current operation communication port	Online Calibration Offline	Calibration Manage	Coefficients			
-014 +	Select the source of Co		fer to Su			
© Screen1	Select Database: Select Adjust Line Type: Columns: Discription: Upload Mode	Unknown Unknown Unknown © Fast Upload	Cabinet ID: Rows:	Unismown	Eronse	
Display Screen						
nable/Disable Calibraion					Back Next Return]

Fig 3-23 Obtaining Correction Coefficients for a New Module

3.3.4.3 Replace Module with Flash

The module of UTWII has Flash, which can save the calibration coefficient. After replacing the module, make sure that the receiving have read coefficient from the Flash and save.

Click Setting on the main window and select Module Flash, as shown in following fig.

System(S)	Settings (C) Tools(T) Plug-in (P) User(U)	Language(L) Help(H)	
Screen Conf	Screen Configuration (S) Brightness(B) Multi-function Card(F) Multiple-screen Management(A)	rol Monitoring Multi-function Card Cloud Monitoring	
Local System Control Sy	Hardware Information(H) Prestore Screen (R)	0 View Details of Device	
- Monitor Inforn	Advanced Color Configuration (O) Adjust screen effect Cloud Monitoring(C)		-
	Module Flash (U)		
Service Status	Receiving Card Relay(I) Configure Information Management(M) The Main Window Starting Position(P)		

Main Window

Click Check Coefficient in Modules, the receiving card will read coefficient from module, then Click Save Calibration Coefficient on Receiving Card

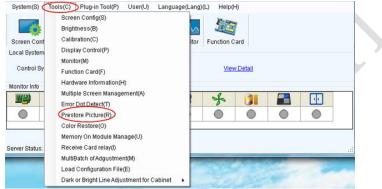
Module Flash Current Oper	COM99 V	×
Send by Address Send	d by Topology	
Select Screen		
	Screen:1 Starting coordinate X=0, Y=0 Size 512W×256H	
Screen1	Full Select by Pix Select by Topology Select Area o	
	Operate All Pixels	
View calibration coe	fficient Check coefficients in modu Save calibration coefficient	ash Check

Fig 3-24 Save Calibration Coefficient on Receiving Card

3.6 Pre-storing Picture

On the Prestore Picture interface, you can save a picture as the prestored picture for the screen. This prestored picture can be set as a screen displayed upon booting, signal cable disconnection, or DVI signal absence.

On the main window, click **Tool** and select **Prestore Picture**, as shown in Figure 3-25.



Prestore Picture

	Prestore Picture Settings
	Communication port selection
	Communication COM4 -
	Screen1
	Prestore Picture Settings
	Select Pi Browse
	Effect Settings
	Screen Effect Stretch
	Cabinet Effect
\mathbf{X}	Save To Hardware Check Store Picture
	- Function Settings
	Boot Screen
	Enable Time: 2 s
	Cable Disconnect
	Black Cast Frame Prestore Picture
	No DVI Signal
	Black C Last Frame Prestore Picture
	Send Save To Hardware

Fig 3-25 Prestore Picture Settings

1) Prestore Picture Settings

Select Picture: Click Browse to select the directory of the picture.

Screen Effect: Set the selected picture to be displayed on the whole screen by means of stretching, tiling, or centering.

Cabinet Effect: Set the selected picture to be displayed on each cabinet of the screen by means of stretching, tiling, or centering (the number of pictures displayed by each cabinet shall be equal to the number of receiving cards in the cabinet).

Click **Test Effect** to display the selected picture on the screen.

Click Save to Hardware to save the picture as a prestored picture to the hardware.

Click **Check Store Picture** to display the stored picture on the screen so as to check its effect.

2) Function Settings

Boot Screen: Set whether to use the prestored picture and set the displaying time of the prestored picture when the screen is powered on.

Cable Disconnect: Set the picture to be displayed by the cabinet whose signal cable is disconnected.

No DVI Signal: Set the picture to be displayed in the period in which the screen does not receive any DVI signals.

Click **Send** to the settings to the hardware (the settings will be lost if you do not click **Save to Hardware**).

Click **Save to Hardware** to save the current settings so that these settings are retained even if there is a power failure.

3.7 Drying Mode

Click "Brightness" on the main window

System(S) Settings	(C) Tools(T)	Plug-in (P)	User(U) L	anguage(L)	Help(H)			
Quick Configuration	Screen Configura	tion Brightne			n Control	Monitoring	Multi-function Card	
Local System Informati			Brightnes	s				Ŧ
Control System	1	Other Device	0	1	/iew Detai	Is of Device		
Monitor Information								
P E								
			•			•		

Fig 3-26 Drying mode Settings

Click "drying mode" based on actual circumstances, then click "Refresh" to enter corresponding drying mode.

Distance	Manual Adjustment	 Auto Adjustment
Brightness Brightness	<	> 255
	☑ 启用干燥模式 时长:	5 🗧 Min 🛛 发送
	Grayscale	Contrast
Advanced Settin	gs	۲
Gamma		۲
	gs Color Te Color Spa	• 28

Fig 3-27 Drying mode Settings

There are three dehumidification mode levels. The dehumidification time varies with the dehumidification level. Exit the dehumidification mode and select the normal mode. The default brightness value is 60% after you exit the dehumidification mode.

1) Dehumidification mode 1 (low gear) : The brightness gradually becomes 100% within 1 hour, and the change process is 10% for 0-18 minutes, 20% for 18-36 minutes, 50% for 36-50 minutes, and 100% for 50-60 minutes.

2) Dehumidification mode 2 (medium) : The brightness gradually becomes 100% within 2 hours, and the change process is 10% in 0-36 minutes, 20% in 36-72 minutes, 50% in 72-96 minutes, 80% in 96-108 minutes and 100% in 108-120 minutes.

3) Dehumidification mode 3 (high grade) : the brightness gradually becomes 100% within 4 hours, and the change process is 10% in 0-72 minutes, 20% in 72-144 minutes, 50% in 144-192 minutes, 75% in 192-216 minutes and 100% in 216-240 minutes.

3.8 MDC Mode

3.8.1 MDC-Loading

In the main window, tap Tools –Controller Cabinet Configuration File Import(E) to enter the page for importing configuration file to the controller.

Select the configuration file that you want to import to the controller and click Add

Configuration File. System(S) Settings (C) Tools(T) Plug-in (P) User(U) Language(L) Help(H) Calibration(C) Screen Control(P) Monitoring(M) Quick Configuration Scre Monitoring Multi-function Card Led Error Detection(T) Local System Information Multi-batch Adjustment(B) Control System tails of Device 1 Controller Cabinet Configuration File Import (E) Quickly Adjust Dark or Bright Lines(Q) Monitor Information Video Control(V) I Module ID setting More .

Fig 3-27 MDC Loading Settings

Refresh Configuration File allows you to view whether the configuration file is saved to the device in real time.

mport the Configuration	File of Controller Cabin	net .	>
Select Serial Port	COM99	\sim	
Add Configuratio Rename File	Delete Configur Save the Chang	Move Up Move Down Advanced C	

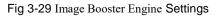
Fig 3-28 MDC Loading Settings

3.9 Image Booster Engine

It is applicable to the function of setting the picture quality engine after measuring the display screen, improving the fineness and accuracy of the picture color and gray scale, and realizing the free switch of the display color gamut.

In the main window, tap "Image Booster Engine" to enter into the page

System(S)	Settings	(C) Tools	T) Plug-i	n (P) User	(U) Langu	age(L) H	elp(H)		
						~		$\sim \sim$	
Quick Config	uration	Screen Conf	iguration	Brightness	Calibration	Screen C	ontrol	Monitoring	Multi-function Card
-Local System	Informatio	n							
Control Sys	stem	1	Other	Device	Unknowr	n <u>Viev</u>	v Details	of Dev	📉 🥔
								Test	t Tool Cloud Monitoring
-Monitor Inform	ation								
	[]		8		S	V	U		
								Ima	ge Booster Engine



Select the COM Port and Screen to be calibrated, open 22bit, adjust the gray level of the display to 15 gray level, and check whether the screen shake. If shakes exist, the picture quality engine is started.

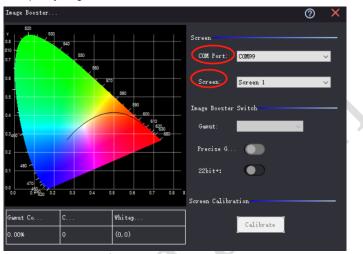


Fig 3-30 Image Booster Engine Settings

If the picture does not shake, click "Calibration" to enter the function page.

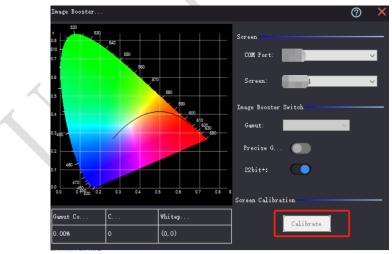
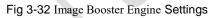


Fig 3-31 Image Booster Engine Settings

Chapter 3 LED Display Control Setting

Insert USB flash drive, click "Import picture quality adjustment File", import the (.vglcx/.vglc) file on the microdisk, select "Original color gamut" in the "Effect View" area, open "22bit", adjust the gray level of the display to 15 gray level, and check again whether there is any jitter in the screen body. Jitter indicates that the image quality engine is started to set the image quality.

(2) 圓底引擎							_ ×
3 导入画新调节文件 🛃 等	乳土画质调节文件				色度计型号 色度计-CS100A ~	<u>ia</u> #	🔀 未连接
原始经统利量数据	色彩分析算版	1000次防救援分布		● 1 測量设置	✔ <u>自城(手助).</u> 1011		
	英度						
118	6. 6950	0.2703	0.3302				/
绿色				● 3 效果查看			
蓝色				色域 原始色域	× 🚨 色彩标准度评估		
白色							l i
				kπ 46 kπ ●)	2211+ • • • • • • • • • • • • • • • • • •		
					-		



	× ×
	⊻ (注接) 😒 未注接
③ 导入画频调节文件 企業计型号 色度计-C3100A	
● 2 於接例證	
英度 Cx Cy	
11 6 6 6050 0 . 2703 0 . 3302 Hit	
#色 6.6900 0.2707 0.3311 ◆ 3.効果重要	
至長 6.6650 0.2702 0.3322 ● 色紙 原始色紙 ✓ Q 色彩描述度评述	
白色 6.4000 0.2701 0.3317 色道 3100 日	

Fig 3-33 Image Booster Engine Settings

Chapter 4 LED Display Playing Setting

4.1 Unilumin N series - LED Display Playing Setting

4.1.1 Selecting a Playing Solution

The playing software UniStudio has three playing modes, namely Simple playing program, Professional playing program, and Priority programs of the page. Professional playing program is used most commonly. This Section introduces the Professional playing program only.

Run the software to enter the main window. Click **Setting** > **Switch schedule mode**. On the editing mode setting window, select **Professional playing program** and click **OK**. As showed in Fig 4-1 and Fig 4-2.

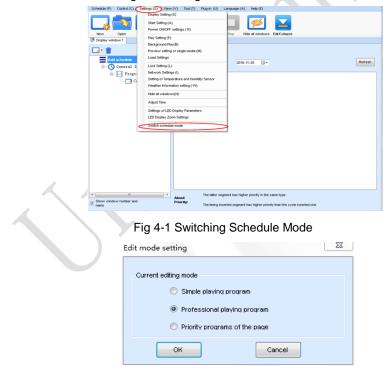


Fig 4-2 Edit Mode Setting

4.1.2 Playing Setting

4.1.2.1 Display Window Setting

Run the UniStudio, click Settings and select Display Setting, as in following fig:

Display Wir	dow Setting	J
Number of Windows:	Display 1 💭 Update	
Display wi	ndow 1	
Name:	Display window 1	
Start X:	3 🜩 Width: 400 🛬	ľ)
Start Y:	-9 🔶 Height: 400 🜩	
On Top:	🔘 Never 🔘 Always 💿 Playing	
Set frame rate:	20 👻 HZ	
🛛 🔽 Show	Display Window (Shift+H)	
📃 📃 Lock d	isplay window (Shift+L)	
📝 Displa	y Window Border Line	
	the display window is locked, it is unable to use the change size and position of display window.	
	OK Cancel	

Fig 4-3 Display Window Setting

Number of Display Windows: Indicates the number of display windows. To increase or decrease the number of display windows, re-enter the number of display windows in the box next to Number of Display Windows and then click Update.

Start X: Indicates the horizontal start point of the display window.

Start Y: Indicates the vertical start point of the display window.

Width: Indicates the horizontal pixel value of the display.

Height: Indicates the vertical pixel value of the display.

Other configuration items are set to the default values.

4.1.2.2 Startup Setting

On the main window of the software, click **Setting** > **Start Setting** to enable the software to run automatically upon startup of the PC and to automatically activate a playing solution. See Fig 4-4:

Start setting	3
Auto Run after Power-on	
☑ Restart Software on Time	
Every 1 🔄 day, restart software once.	
Restart time: 2:00:00 🚔 -	
•	
Exit of software on time	
Exit Time: 00:00:00	
Enable Auto Play	
Display window 1	1
Please select the schedule file to be played.	
Play the schedule played last time	
Instant plug and play of USB disk	
OK Cancel	

Fig 4-4 Startup Setting

Auto Run after Power-on: If you enable this function, UniStudio will run automatically the next time when the PC is started.

Restart Software on Time: If you enable this function, set the restart interval and time, and click **OK**, UniStudio will be automatically restarted after the PC time reaches the preset restart time. After the software is restarted, the window information and playing status before restart will be automatically recovered.

Exit of software on time: If you enable this function and set the exit time, the software will exit automatically upon the preset time. This function can prevent damages to the uploaded data caused by forcible exit of the software.

Chapter 4 LED Display Playing Setting

Enable Auto Play: If you enable this function and specify a playing solution for the screen, the software will automatically activate the specified playing solution once the software is started.

Instant plug and play of USB disk: If you enable this function, the PC will automatically read and activate the playing solution once the USB flash drive is inserted to the PC. If you do disable this function, the PC cannot implement the plug-and-play function even though you have inserted the USB flash drive to the PC.

4.1.3 Editing Professional Playing Solution

4.1.3.1 Editing the Time Segment

1) Creating a playing solution

On the main window of the software, click Schedule > New, as shown in Fig 4-5:

	v (V) Tool (T) Plug-in	(U) Language (A) Help (E)	
New (N) Open (O) Save (S)			
Save As (A) Save As	s Play Pau	e Stop Hide all windows Edit/Colle	spse
Backup (B)			
Export to USB Disk (E)			
Recent schedule (R)	Date Range of Schedu		
General Segment 1	From 2016-11-30		Refresh
Program1			
Common Window1			
4			
* III) }	The	ter segment has higher priority in the same type	
	About Priority:	and any more than region promy in the same type	
Show window number and name	The t	ning inserted segment has higher priority than th	e cycle inserted one.

Fig 4-5 Creating a Playing Solution

2) Editing the properties of the playing solution

After adding a general time segment or interstitial segment, click **General Segment 1** to edit the properties displayed in the segment editing area on the right side, as shown in Fig 4-6:

Schedule (P)	Control (C)	Settings (S)	View (V)	Tool (T) Plug	in (U)	Language (A) Help (E)			
New Display wind	Open ow 1	Save S	ave As	Play P	MUSE	Stop	tide all windows	Edit/Collapse		
			22							
∃ •₿1	644	× 🗰 👔								
-	schedule General S Progra	egment l		Property excive Date Specified date ective Day of th All I Mc I Fri ective Tate 644	Fro e Week nday day	m 2016-11-30		2015-11-30		
•	***									
Show window name	w number and	l.								

Fig 4-6 Properties of General Time Segment

4.1.3.2 Editing the Program Page

1) Creating a program page

As shown in Fig 4-7, right click **General Segment** or click the **Add Global Program Page** in the toolbar to create a program page:

New Ope Display window 1	n Save Save As	Play Pause Stop Hide all windows Edit/Collapse
	☆ 북 ¥ 亩 [→] edule Nar	ne: GeneralSegment1 ne Property
	Add Programs Add Global Program Page Add Copied Program Page	Ive Date pecified date From 2016-11-30 • To 2016-11-30 • Ive Day of the Week
	Copy Paste	V Monday V Tuesday V Vednesday V Thursday Vednesday V Thursday Vednesday V Saturday Saturday
	Move Up Move Down	tive Time Of the Day Day From 10.00.00 🔛 To 11.00.00
	Delete Clear Programs	
	Preview Current Segment Set screen	
	Hide Play window (Shift+H)	

Fig 4-7 Creating a Program Page

2) Setting the properties

After creating the program page, click **Program 1** and set the background, displaying mode, and other properties displayed on the property page on the right side. See Fig 4-8:

Chapter 4 LED Display Playing Setting

Schedule (P) Control (C) Settings (S) View (r) Tool (T) Plug-in (U) Language (A) Help (E)	
New Open Save Save As	Page Page Stop Hele al windows Edit/Colapse	
Display window 1		
Add schedule Add schedule Connor Windowi	Background Color: Background Picture: No background picture · Display Type: Back Music:	+ * ☆ ↓ 1
Show window number and name	Specify number of times: Specify duration: Cycle:	

Fig 4-8 Properties of Program Page

If you select **Specify Number of Times**, the next general program page is played after the preset **Times to Play** for the display window with the longest playing time on the current program page has been reached.

If you select **Specify Duration**, the next program page is played after the preset **Play Duration** for the current program page has been reached.

If you select **Cycle**, the current program page will be played cyclically all the time.

When the current program page is played, the background picture or colour of the program page is displayed in the area not covered by the display window, as shown in Figure 4-9:



Fig 4-9 Background of Program Page

After adding the program page, you can move, copy, paste, or delete the program page by using the toolbar in the program page editing area, or by using the short-cut menu, as shown in Fig 4-10.

Add schedule	Background Color:		1k
B General Segment 1	Background Picture:	No background picture	~
B Program1	Display Type:	Stretch	~
Add Scrolling Win Add Clock Window Add Timing Window Add Timing Window Add Temperature Move Down Copy Paste Delete Delete Clear Window Save the Current	v wccasting Window and Humidity Window Mindow Layout nt. Segment from the Curren		

Fig 4-10 Program Page Operation Menu

4.1.3.3 Editing the Display Window

1) Adding a display window

After adding a program page, you need to add a display window to this program page. Click **Add Window** on the toolbar of the program page to add a window to the current program page. See Fig 4-11:

Schedule (P) Control (C) Settings (S) View (V) Tool New Open Sive Save As Prov Prov Open Sive Save As Prov Prov	- 🖬 🗖 🜌	
Copying Window Copying Window Copying Window	ki Color: d Picture: No background picture pe: Stretch c	+ ≭ ☆ ↓ 1
	ecity number of times: t 2	

Fig 4-11 Adding a Window to Program Page

After the window is added, the added window is selected and displayed on the screen, as shown in Fig 4-12:

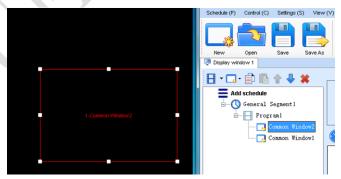


Fig 4-12 Added Window

Chapter 4 LED Display Playing Setting

2) Setting the location and size of the display window

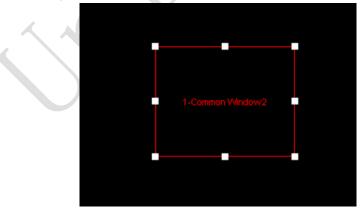
The location and size of the new window is generated randomly and can be adjusted based on actual conditions by using either of the following two methods:

 a) Directly specify the new location and size in the setting pane, as shown in Fig 4-13:



Fig 4-13 Setting the Window Size

 b) Click the display window on the screen and adjust its size by using the mouse, as shown in Fig 4-14:





3) Deleting a display window

Select the window to be deleted. Click the delete key to delete the window, as shown in Fig 4-15:

Display window 1							
E Add schedule		Name:	Common Windo	w/2	Frane		
General Se	egment 1	×	119	÷	ĸ	119	0
P Progra	anl	Wath	166	1	Height.	131	0
the second se	onnon Vindow2 onnon Vindow1 an2	8 Q	Щ.				. -
	1						

Fig 4-15 Deleting the Display Window

4) Moving a display window

Select the program or window. Click the direction key to adjust the playing sequence, as shown in Fig 4-16:

Schedule (P)	Control (C)	Settings (S)	View (V)	Tool (T)	Plug-in (U)	Longuage (A) Help (E)		
	2				П		ø		
New Display win	Open	Save S	iave As	Play	Pause	Stop	Hide all windows	Edit/Collapse	
- Ca									
	d schedule			Name:	Common Winds	7w2	E Frame		
	General S		Down	x	119	*	x	119	(\$
	Progr	anl		Wath	166		Height.	131	*
		ommon Vindo		0					. .
_	Progr	ommon Windo		~~					
5									

Fig 4-16 Moving a Display Window

4.1.3.4 Editing the Media

1) Adding the media

The type of window for adding the media is **Common Window**. Click the **Add Media** button of a common window to select media of different types to be added into the media list. See Fig 4-17:

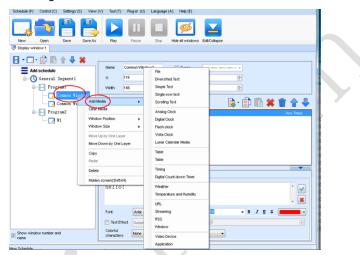


Fig 4-17 Adding the Media

After adding the media, you can set the media texts and properties, as shown in Figure 4-18.

Any Times
- 🗶
-
÷

Fig 4-18 Media Setting Window

2) Setting the media properties

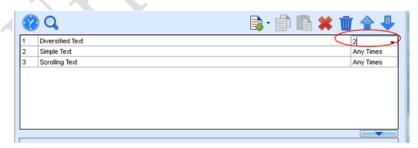
Different media have different properties. After a medium in the media list is selected, the property page of this medium is displayed below the selected medium. On this property page, you can change the properties of the medium. See Fig 4-19:

Schedule (P) Control (C) Settings (S) View	r (V) Tool (T) Plug-in (U)	Language (A) Help (E)		
🗔 🔷 💾 💾				
New Open Save Save As	Play Pause	Stop Hide all windows	Edit/Collapse	
Display window 1				
🗄 • 🗔 • 🗊 🗈 🛊 🖊 🗰				
Add schedule	Name: Common Wind	dow1 📄 Frame		
- O General Segment 1	×: 0	÷ Y:	0	
Program1	Width: 400	÷ Height	400	
Connon Window2		100		
Common Window1	😵 Q		📑 - 🗊 🗈 🗰	🔟 👚 🐥 📗
	1 Diversified Text			Any Times
- 🗔 ¥1	2 Simple Text 3 Scrolling Text			Any Times Any Times
	Edit Text			
	Background: Pure cel	ion -	- State - Tr	anspare
	Random		- Speed 5	0.1 s
	Special Randon		- Spredt 5	
	Random			0.1 5
	Stay Time: 3	🚔 S 🕅 V	lerticel line	
Show window number and name	Complete Play	Play Duration: 00	00:05.000	
1000				

Fig 4-19 Properties of Medium

3) Editing the media in the common window

In an actual application, if different playing times are required for different media, you can select the media in the media list and then double click **Times to Play** to modify the playing times by either entering a new value or selecting a value from the dropdown list. See Fig 4-20:



Double click

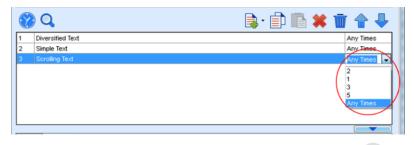




Fig 4-20 Changing the Media Playing Times

Right click the media to perform operations on the selected media, as shown in Fig

4-21:

Schedule (P) Control (C) Settings (S) View	(V) Tool (T) Plug-in (U	Language (A) Help (E)		
New Open Save Save As		Stop Hide all windows	Edt.Collapse	
Display window 1				
🗄 • 🗔 • 🗊 🗈 🛊 🖊 🗰				
Add schedule	Name: Common Wa	dow1 📃 Frame		
General Segment1	X: 0		0	
Program1	Weth: 400	+ Height	400	
- Common Window2		e ingre		
Common Window1	😵 Q		📑 · 📋	🗅 🖺 🗰 👕 🛧 🦊
	1 Diversified Text			Any Times
- 🗔 ¥1	2 Simple Text	Move	UK I	Any Times
	3 Scroling Text		Down	Any Times
		Copy	·	
		Past	,	
4		Inser	t Media 🕨	
		Delet	e	
	Text Property	Ben	-	
	respondy			
	Hello!	Appl	y Properties to	^
	Fort: Arial	Sine (and	16 💌	B I U S
		 Size (px) 		<u> </u>
	Colouted	sion v V	Depth: 2	
	characters: None		•	
Show window number and name	Horizontal alignment: Align	Vertical Align Spacing:	1 🕆 Kerning: 0 🔹	Vertical line

Fig 4-21 Media Operation Menu

Right click a blank area in the media playlist. A media playing menu is displayed, as shown in Fig 4-22:

Schedule (P) Control (C) Settings (S) Vev			i) Help (E) Mide all windows EditCollapse	
Add schedule	Name:	Common Window1	File Diversified Text Simple Text Single-row text	••
Program2	Web: 400 + I Oversified feat - 2 Single feat - 3 Scroling feat -		Scrolling Text Analog Clock Digtal Clock Fissh clock Vista Clock Lunar Calendar Media	Ary Tines Ary Tines Ary Tines
			Table Database Tining Digtal Count-down Timer	
	Please select the horizon and Media to the sens in toolbar Add Media to		Vieather forecasting Temperature and Hunidity URL Streaming Media Vindow RSS	
Show window number and name			Video Device External Program Add Copied Media	

Fig 4-22 Media Playing Menu

4.1.3.5 Playing the Media

After the playing mode is edited or loaded, click the play key on the main toolbar to start the current playing mode, as shown in Fig 4-23:



Fig 4-23 Play Key on the Toolbar

After play is activated, the editing page is switched to the playing page, as shown in Fig 4-24:

Chapter 4 LED Display Playing Setting

🐺 Screeni	
Current Common Segment1 [2012/6/27 0:00:00 To 2012/6/28 0:00:00] Playin	ę
Next Common Segment(In Segment1 [2012/6/28 0:00:00 To 2012/6/29 0:00:00] a week):	
Play Info	
Global Page	*
Common Page(Page1) Status:Playing	=
Ė₩ (0, 0, 359, 328)	
Current Media: oppo. AVI	
Navt Madia Foraion 1 ino	
Current Inserted Segment2 [2012/6/27 18:48:00] Playing	
Next Inserted Segment(In a week): Inserted Segment2 [2012/6/27 18:50:00]	
Play Info	
Common Page(Pagel) Status:Playing	
₩ (0, 0, 215, 184)	
Current Media:Analog clock	E
Next Media:Analog clock	
Play Error	

Fig 4-24 Play Information Page

Clicking **Pause** or **Stop** on the toolbar can pause or stop the currently played program. You can also perform this operation by using the operation menu that appears when you right click the display window. See Fig 4-25:



Fig 4-25 Short-cut Menu

Attention: All display windows on the same program page plays simultaneously. If the display windows overlap with each other, the upper-layer windows will cover the lower-layer windows. For example, if you add a common window and then a clock window of the same size and coordinate, the common window will cover the clock window when they are playing. If you want to display the clock window, you need to click **Pause**, perform the **Move Up** operation to move the clock window to the front side of the common window, and then click **Play**. If the clock is displayed transparently, the clock will overlay the media of the common window when the playing solution is played upon the moving operation. Figure 4-26 shows the displaying effect:

Fig 4-26 Transparent Displaying Effect of the Clock

4.1.4 Saving and Opening a Playing Solution

Save: After a playing solution is created, you can click **Schedule** on the toolbar and select **Save** or **Save As** to save the playing solution in the format of **xxxx.plym**. See Fig 4-27:

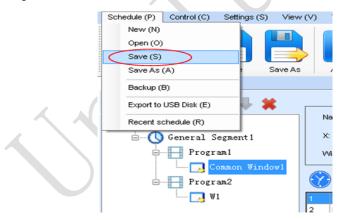


Fig 4-27 Saving a Playing Solution File

Open: After a playing solution is saved, you can directly click **Schedule** in the toolbar and select **Open** to open the playing solution. See Fig 4-28:

Chapter 4 LED Display Playing Setting

Schedule		Nindow Editing Area		
General Segment1	111 打开			×
Page1	G	(袖)	 4 現実文档 	Q
	组织 • 新建文件夹			E • 🖬 0
	▲ 下統 二 二 二 二 二 二 二 二 二 二 二 二 二	文档库 包括: 2个位置	187	1方式:文件夫・
	2 最近访问的位置	名称	律改日期 类	보 大
	135	🕌 Labeling	2016/8/15 13:42 文	件夹 =
	► ■ 42.5	My ISO Files	2015/5/14 11:24 文	件夹
		My RTX Files	2016/7/1 9:18 文	件夹
	→ ○ 文档	🎍 NovaDog	2016/8/21 19:13 文	件夾
		NovaLCT 2012	2016/8/9 18:39 文	件夹
	▷ ● ■次	NovaStudio2012	2016/8/21 19:13 文	件夾
		🕌 RTXC File List	2014/7/11 8:45 文	件夾
	> ⊨ 计算机	퉬 Tencent	2014/4/25 9:51 文	件夹
		🎉 Tencent Files		件夹
ow window name and lex	 • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • • <td>•</td><td></td><td></td>	•		

Fig 4-28 Opening a Playing Solution File

Chapter 5 Startup, Shutdown, and Maintenance

5.1 Startup Sequence

- 1) Start the distribution box for the LED display.
- 2) Start the control computer.
- 3) Start the video processor.
- 4) Start the sending box.

5.2 Shutdown Sequence

- 1) Shut down the video processor.
- 2) Shut down the sending box.
- 3) Shut down the control PC.
- 4) Shut down the distribution box for the LED display.

5.3 Daily Maintenance

- Check whether ambient temperature and humidity meet the operating conditions for the LED display on a daily basis.
- 2) Use the LED display and its auxiliary devices at least twice a week and two hours each time. Before using the LED display, perform warm-up operations if it has been idle for 14 days (for details about warm-up operations, see Section 5.4).
- 3) It is recommended that you should use a soft antistatic brush to clear dust on the screen surface monthly in order to achieve an optimum displaying effect.
- 4) Check the parts in the distribution box quarterly. Check whether the power cables and signal cables for the LED display are connected securely and safely, and whether the display is grounded reliably.
- 5) Check whether the steel structure is secure on a yearly basis.

5.4 Warm-up Operation

If the LED display has been idle for 14 days, perform warm-up operations before using the LED display.

Set the prestored picture as follows when you initially start the LED display. This setting is for warm-up operation only. You do not need to set the prestored picture if the LED display is used frequently.

5.4.1 Unilumin N series - Setting the Prestored Picture

For details about how to set the prestored picture, refer to Section 3.6. Select a black background picture. Set **Boot Screen** to 60 seconds. Set both **Cable Disconnect** and **No DVI Signal** to **Prestored Picture**. Then click **Save to Hardware**. See Fig 5-1.

Prestore Picture Settings
Communication port selection
Communication COM4
Screen1
Prestore Picture Settings
Select Pi Browse
Effect Settings
Screen Effect Stretch +
Cabinet Effect
Save To Hardware Check Store Picture
Function Settings
Boot Screen
🗹 Enable 🛛 Time: 🛛 🚱 🚖 s
Cable Disconnect
💿 Black 💿 Last Frame 💿 Prestore Picture
No DVI Signal
ito esti olgitar
 Black Last Frame Prestore Picture
Send Save To Hardware

Fig 5-1: Prestore Picture Setting

5.4.2 Unilumin N series - Ageing Operation

On the main window, click Brightness to enter the brightness adjustment interface,

as shown in Fig 5-2:

System(S)	Tools(C)	Plug-in Te	ool(P) Use	er(U) Lan	guage(Lang)	(L) Help(i	H)			
Screen Cor		tness Cali	bration Di	splay Contro	Monitor	Function C	Card			
-Local Syster	m Info									
Control S	lystem:	1	Other	Device:	0	Viev	<u>v Detail</u>			
Monitor Info										
H		- 111		$\langle \rangle$	8	*			. III	

Figure 5-2 Main Window for Advanced User

Select **Manual** and set the brightness to 26 (the brightness is about 10%) by dragging the scroll bar below **Brightness Adjustment**. See Fig 5-3:

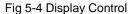
Display Quality Soft Mode 		nhanced Mode		mma Adjustment Fixed Value	
		innanced mode		Mode A	Mode B
Brightness Adjustmer	nt			<	
•		▶ 26	2 6	Custom	* 2.8 Gamma T
\sim		(10.29	<u>ه</u>	Custom	Gaimina
Color Temperature Ad	justment Chip:	B1503	16		
Gain	Chip.	-D1303		B brightness	
_					
R. K	100	+ 101.54	%	*	+ 255 (100.0
G: «	Lill	▶ 101.54	% 6	•	(100.0
B: <		▶ 101.54	96 B	4	+ 255
Synchronous	660		~	Synchronous	(100.0
		Default Value			Normal mo
		Dolugit Value			

Fig 5-3 Manual Adjustment

NOTE: It is recommended that manual brightness adjustment be finished within 60 seconds.

Return to the main window. Click **Display Control** to enter the **Screen Control** interface. Set **Self Test** to **White**. Click **Send** to finish the operation. As showed in Fig 5-4 and Fig 5-5.

System(S)	Tools(C)	Plug-in To	ool(P) Use	er(U) Lan	guage(Lang)	(L) Help(H	-I)		
Screen Co	nfig Bright	ness Cali	bration vis	splay Contro	Monitor	Function C	ard		
- Local System	m Info			\bigcirc					
Control S	lystem:	1	Other [Device:	0	View	/ Detail		
Monitor Info									
	-	111	5	\sim	8	*		÷	
]
									- II



COM4-Screen1				8
Black Out	Freeze	Run		
Self Test White	•	Send		
			Clos	e

Fig 5-5 Display Control

Adjust the screen brightness and perform ageing based on the steps described in Section 5.4.2.

SN	Display Brightness	Aging Time
1	10%	1h
2	30%	2h
3	60%	2h
4	80%	2.5h
5	100%	0.5h

Chapter 6 Troubleshooting and Component

Replacement

6.1 Common Faults and Troubleshooting Methods

6.1.1 Failure in Lighting up the Display

Causes:

- 1) No power is supplied to the display or the control devices.
- 2) The LED display does not have input signals.
- 3) The control PC is in sleep mode or the graphics card is set incorrectly.

Troubleshooting method:

- 1) Check AC power input of the display and the control devices.
- Check cables between the sending box and the receiving card. Check whether the DVI cable between the control PC and the sending box is connected reliably.
- Check whether the control PC is in sleep mode or monitor protection mode. If the control PC is not in sleep mode, check whether the graphics card is configured properly on the software.

6.1.2 Incomplete Picture or Incorrect Position of Picture Displayed

Causes:

- 1) The connecting file for the screen is incorrect.
- 2) Receiving card signal cables between cabinets do not contact properly.
- 3) The displaying position and screen size are set incorrectly.

Troubleshooting method:

- Check whether the display's signal cable connection method is same to that of the loaded file xxxx.scr.
- Check whether the signal cable is connected to the cabinet receiving card. If the receiving card is faulty, replace the receiving card.
- Check whether Displaying Position and Screen Size on the software are set to actual screen size.

6.1.3 Screen Blinking

Causes:

- 1) The ports on the sending box are loose, or the signal cables are too long.
- 2) The output resolution of the playing device or sending box is set incorrectly.

Troubleshooting method:

- Check whether the DVI cable and signal cable are connected to the display and devices, or whether the length of signal cables exceeds the maximum transmission distance (the effective transmission distance shall not exceed 10 m for DVI cable, 100 m for signal cable, 300 m for multi-mode optical fiber, and 15 km for singlemode optical fiber).
- 2) Check whether the resolution of the playing device and the sending box is greater than or equal to the resolution of the screen.

6.1.4 Blinking of a Cabinet in the Display

Causes:

- 1) The output of receiving card or hub card is faulty.
- 2) The receiving card program is incorrect.

Troubleshooting method:

- 1) Check whether the receiving card signal cable and hub card in the cabinet are connected correctly.
- 2) Check the receiving card program for the cabinet or check the receiving card.

6.1.5 Failure in Lighting up of a Cabinet in the Display

Causes:

- 1) The power supply, receiving card, or hub card for the cabinet is faulty.
- 2) Signal output of the previous cabinet is faulty.

Troubleshooting method:

- Check voltage at the DC side of the power supply and the receiving card power supply. Check the receiving card signal indicator light in the cabinet. Check whether the hub card contacts properly with the receiving card.
- 2) Check output signals of the receiving card of the previous cabinet, or replace the signal cable.

6.1.6 Failure in Lighting up Part of the Modules in the Cabinet

Causes:

- 1) Output of the power supply for the modules is faulty.
- 2) Output of signal which controls the related modules is faulty.

Troubleshooting method:

- 1) Check DC voltage for the modules.
- 2) Check the hub card ports or flat cables that control the modules.

6.2 Replacement of Main Components

Before performing maintenance on the LED display, cut off the power supply to ensure your personal safety and equipment safety.

6.2.1 Replacement of Module

Cut off the power supply of the display , replace a module of the LED display based on the following steps:

Front maintenance	Picture	Description
step		
Step 1		Find the faulty cabinet and disconnect the power supply
Step 2		Use vacuum suction tool to suck out the failure module and replace it

Chapter 6 Troubleshooting and Component Replacement

Rear maintenance step	Picture	Description
Step 1		Find the faulty cabinet and disconnect the power supply
Step 2		To remove the module from the back in an inclined manner

6.2.2 Replacement of Power Supply

Cut off the power supply of the display , replace a power supply of the LED display based on the following steps:

Front maintenance step	Picture	Description
Step 1		Find the faulty cabinet and disconnect the power supply
Step 2		Remove module and HUB card
Step 3		Remove the DC output port and power supply fixing screw, gently remove the power supply to the right and replace the new power supply
Step 4		Remove the power supply and replace it

6.2.3 Replacement of Receiving Card

Cut off the power supply of the display , replace receiving card of the LED display based on the following steps:

Front maintenance step	Picture	Description
Step 1		Find the faulty cabinet and disconnect the power supply
Step 2		Remove the module of the fault cabinet
Step 3		Remove HUB card
Step 4		Remove the failure receiving card and replace it

6.2.1 Replacement of HUB Card

Cut off the power supply of the display , replace HUB card of the LED display based on the following steps:

Front maintenance step	Picture	Description
Step 1		Find the faulty cabinet and disconnect the power supply
Step 2		Remove the module of the fault cabinet
Step 3		Remove the HUB card
Step 4		Replace HUB card

Chapter 7 Packaging Transportation and

Storage

7.1 Packaging

The UMiniIII Pro series products would be packed in carton, and the carton is vacuumpacked in an anti-static bag, and finally packed in heavy-duty carton, as shown below:





Figure 7-1 Package in Carton

Figure 7-2 Package in Heavy-Duty Carton

7.2 Transportation

The cabinets must be packaged before transportation. The product shall not be placed upside down or horizontally, and must be protected against the wind, rain, direct sunlight, and corrosive liquid during transportation. The stacking layers shall not exceed three layers for plywood cases.

7.3 Storage

The cabinets shall be stored in an environment with an ambient temperature ranging from -20°C to +55°C and a relative humidity ranging from 10% to 85% RH. Do not store the cabinets in an environment with volatile, corrosive, or flammable chemical products.

Chapter 8 After-Sales and Warranty

8.1 Warranty Scope

This Warranty Policy applies to LED display products (hereinafter referred to as "Products") purchased directly from Unilumin Group Co., Ltd. (hereinafter referred to as "Unilumin") and within Warranty Period. Any products not purchased directly from Unilumin does not apply to this Warranty Policy.

8.2 Warranty Period

The warranty period shall be in accordance with the specific sales contract. Please make sure warranty card or other valid warranty documents are in safekeeping.

8.3 Warranty Service

Products shall be installed and used strictly aligned with the Installment Instructions and Cautions for Use stated in the product manual. If Products have defects of quality, materials, and manufacturing during normal use, Unilumin provides warranty service for Products under this Warranty Policy.

8.3.1 Warranty Service Types

1) Online Remote Free Technical Service:

The remote technical guidance provided through instant messaging tools such as telephone, mail, and other means to help solve simple and common technical problems. This service is applicable for technical problems including but not limited to the connection issue of signal cable and power cable, system software issue of software use and parameter settings, and replacement issue of the module, power supply, system card, etc.

2) Return to Factory Repair Service:

For problems of Products that cannot be solved by online remote service, Unilumin will confirm with the customers whether to provide returning to the factory repair service. If factory repair service is needed, customer shall bear the freight, insurance, tariff and customs clearance for return delivery of the returned products or parts to Unilumin's service station. And Unilumin will send back the repaired products or parts to customer

and only bear one-way freight. Unilumin will reject unauthorized return delivery via pay upon arrival and will not be liable for any tariffs and custom clearance fees. Unilumin shall not be held liable for any defects, damages or losses of the repaired products or parts due to transportation or improper package.

3) Provide On-site Engineer Service for Quality Issues:

If there is a quality issue as stipulated in Article 5 of this Warranty Policy, and Unilumin believes the condition is necessary, on-site engineer service free of charge will be provided. In this case, customer shall provide a fault report to Unilumin for on-site service application. The content of the fault report shall include but not limited to photos, videos, number of faults, etc., to enable Unilumin to conduct preliminary fault judgment. If the quality problems is not covered by this Warranty Policy after the on-site investigation of Unilumin's engineer, customer shall pay travel expenses and technical service fees as per Article 7.4. Defective parts replaced by Unilumin's on-site engineers shall be the property of Unilumin.

8.4 Disclaimer

No warranty liability shall be assumed by Unilumin for defects or damages due to the following conditions:

- Unless written agreed otherwise, this Warranty Policy does not apply to consumables, including but not limited to connectors, networks, fiber optic cables, cables, power cables, signal cables, aviation connectors, and other wire and connections.
- Defects, malfunctions or damages caused by improper use, improper handling, improper operation, improper installation/disassembly of the display or any other customer misconduct. Defects, malfunctions or damages caused during transportation.
- 3) Unauthorized disassembly and repair without permission of Unilumin.
- 4) Improper use or improper maintenance not in accordance with the product manual.
- 5) Man-made damages, physical damages, accident damages and product misuse, such as component defect damage, PCB board defect, etc.
- Product damage or malfunction caused by Force Majeure Events, including but not limited to war, terrorist activities, floods, fires, earthquakes, lightning, etc.

- 7) The product shall be stored in a dry, ventilated environment. Any product defects, malfunctions or damages caused by storage in an external environment that does not comply with the product manual, including but not limited to extreme weather, humidity, salt haze, pressure, lightning, sealed environment, compressed space storage etc.
- Products used in conditions not meeting product parameters including, but not limited to lower or higher voltage, extreme or excessive power surges, improper power conditions.
- Defects, malfunctions, or damages caused by non-compliance with technical guidelines, instructions, or precautions during the installation.
- 10) Natural loss of brightness and color under normal conditions. Normal degradation in the performance of the Product, normal wear and tear.
- 11) Lack of necessary maintenance.
- 12) Other repairs not caused by product quality, design, and manufacturing.
- Valid warranty documents cannot be provided. Product serial number is torn or damaged. Product shell or other external parts are damaged.
- 14) Repairs after Warranty Period.
- 15) Products which have too significant damages caused by mishandling, accidents, improper maintenance, and failure to comply with product manual to be prepared.
- 16) Products malfunctions caused by unmatched play or control devices that are not provided by Unilumin. If Products are damaged arising out of the aforementioned unmatched devices and require Unilumin's repair, charging rate shall be as per Article 7.4.

8.5 Warranty Service Process

1) Remote Service Process:

Submit service requirements through website, email, telephone and other service channels of Unilumin with warranty card or contract number. Specific content of the service and contact information shall be provided.

2) Product Return to Repair Process:

Submit service requirements through the website, email, telephone and other service channels of Unilumin with warranty card or contract number. Packing list of the returned product and postal information to receive the repaired product shall be provided.

Unilumin's postal information is stipulated in Article 11.

Customer instructions:

- a) Shall provide a brief fault report (can be attached to the surface of the repaired item)
- b) Shall provide packing list (including contract number, model and quantity of the repaired item)
- c) Shall provide receipt postal information (company name, address, consignee, contact information, etc.)
- d) To avoid damages of the returned products during transportation, please be cautious about the package and protection of the products. Unilumin is not responsible for any damages to the returned products or parts during delivery.
- 3) On-site Engineer Service Process:

Submit service requirements through the website, email, telephone and other service channels of Unilumin with warranty card or contract number. Service content, site address, contact information, and visa application information shall be provided.

8.6 Other

This Warranty Policy is a standard application of Unilumin. No other third party (including any agent, distributor or sales representative) is authorized to make any representations or warranties that are different from this Warranty Policy. Unless otherwise confirmed by Unilumin in written forms of contract or other documents, any warranty clauses that conflict with this Warranty Policy shall be deemed to be automatically invalid. Final power of interpretation of this Warranty Policy shall be be vested in Unilumin.

8.7 Product Warranty Card

Product Warrant	y Card							
Order NO.		Shipment Date	e		Warranty Peri	od		
Product Model					Product Quantity			
Customer Name			Contac	:t				
Customer Name			Inform	ation				
Customer Address	:							
Remark(s):								
Warranty Record	l							
Warranty Date	Fault and T	roubleshooting		Comple	etion Date	Sign	ature	of
	Date Fault and Troubleshooting			Competion Date		Customer		
		•						



Contact Information

Shenzhen Headquarters

Headquarter Address: No. 112 Yongfu Road, Qiaotou Community, Fuyong Street, Bao'an District, Shenzhen

Pingshan manufacturing center: No. 6 North Lanjing Road, Pingshan New District, Shenzhen.

Daya Bay manufacturing center: Longsheng Fifth Road, western Daya Bay, Huiyang District, Huizhou.

Telephone (switchboard): + 86- (0) 755-29918999

Fax: + 86- (0) 755-29912092

Website: www.unilumin.com

Service Department Tel: + 86- (0) 755-29592226 (direct line)

24-hour service hotline: 400-677-3888

Display sales department

International department (direct line): + 86- (0) 755-29918999 E-mail: sales@unilumin.com

Customer Service Center

Tel: +86-(0)755-89318939(direct line) 29918999-8806 (extension)

E-mail: Customer-service@unilumin.com Hotline: 400-677-3888 **Unilumin USA** Subsidiary Name: UNILUMIN USA LLC. Unilumin USA HQ Address: 254W 31st St. 12th Floor, New York, NY 10001 Email: service@unilumin-usa.com Tel: 001 844-263-3675

EUROPEAN SERVICE CENTER

Address: Parellaan 28, 2132 WS, hoofddorp, the Netherlands E-mail: euro-support@unilumin.com sales@unilumin.com Tel:: +31(0)20 214 9657

UNILUMIN UK CO. LIMITED

Address: Profile West, 950 Great West Road, Brentford, Middlesex TW8 9ES E-mail: sales@unilumin.com Tel: +44 (0) 208 568 6333

RUSSIA POST-SALE SERVICE CENTER

Address: Russia, 111250, Moscow,Zavoda Serp I Molot Drive,D.10 Tel: +86-755-29918999

SINGAPORE

Address: 10 Ubi Crescent #07- 36, Lobby B Ubi Techpark, Singapore 408564 E-mail: sales@unilumin.com

UNILUMIN GROUP CO., LTD (JAPAN)

Address: 6-chōme-104 Aioichō Naka-ku, Yokohama, Kanagawa, Japan E-mail: sales@unilumin.com

UNILUMIN GERMANY GMBH

Address: Raiffeisenstr. 30 - 70794 Filderstadt E-mail: info@unilumin.de Tel: +49 711 38967 898

UNILUMIN AUSTRALIA PTY LTD (BUSINESS IN OCEANIA)

Address: Level 1, Trak Centre, 443/449 Toorak Road, Toorak, VIC 3142 Tel: +61 3 9006 8960 +86-755-29918999 +61 3 9827 8374 E-mail: amer-support@unilumin.com sales_au@unilumin.com

MIDDLE EAST SUBSIDIARY

Address: Suite 1702, Reef Tower, cluster O, Jumeriah Lake Towers, Dubai, UAE Tel: 00971 4 4270171 E-mail: sales@unilumin.com

SOUTH KOREA POST-SALE SERVICE CENTER

Address: 202 Room, Ye Sung Utopia 101, 186-7, Guro-dong, Guro-gu,

Tel: +010 8934 3547

E-mail: sales@unilumin.com





