

## UHW III PRODUCT MANUAL Narrow Pixel Pitch LED Display



UNILUMIN GROUP CO., LTD.

# **Revision Records**

Version	Revised Content	Date	
01	Initial release	Aug .2, 2021	

The manual may be modified 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 suggestion when using the manual. We will try our best to help you resolve the problems in time, and highly appreciate your suggestions.

# Copyright

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# 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.
- Do not use the LED display outdoors in rainy days or when the humidity is higher than 80%.
- 7) Do not clean the LED display with water or chemical solvents.
- 8) 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.
- 10) 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.

#### ♦ 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.
- 8) Altitude during operation (m):5000m or less.

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# **Chapter 1 Product Introduction**

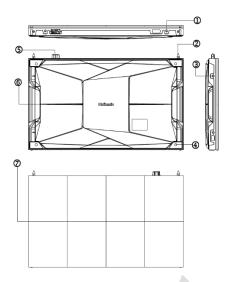
The UHWIII series is a new generation of small pitch LED display product launched by Unilumin. Designed for HD display application scenarios, the UHWIII series has a standard aspect ratio of 16:9 and has achieved perfect match between video signals and display terminals. Ultra-thin cabinet design, small 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. Ultra-low standby power consumption of the screen, more energy-saving and environmentally friendly. Freely and seamlessly spliced into any size display to meet the needs of the application environment.

#### 1.1 Features

- 1) Ultra-thin cabinet design with a thickness of only 39mm, which saves more space.
- 2) Front and rear maintenance design provides a better maintenance experience.
- 3) Ultra-high contrast, more delicate display.
- Ultra-low standby power consumption, more energy-saving and environmentally friendly.
- Intelligent remote control,one click for switch,support adjustment of brightness and chroma,support intelligent dehumidification.

Chapter 1 Product Introduction

## 1.2 Cabinet Appearance



- 1. Upper/lower shoulder screw hole
- 2. Cabinet positioning column
- 3. Left/right shoulder screw hole
- 4. Cabinet mounting hole
- 5. Power port
- 6. Cabinet handle
- 7. Module

Fig 1-1 Cabinet Appearance

# **1.3 Specification**

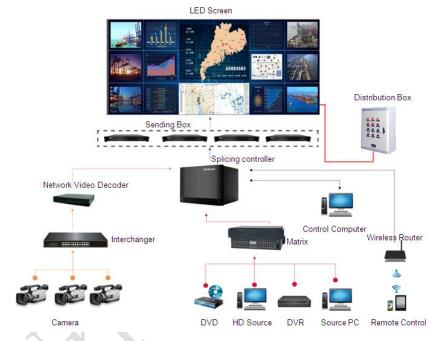
Parameter		UHWⅢ1.1	UHWIII1.2	UHWⅢ1.4	UHWⅢ1.5	UHWⅢ1.8
	Pixel composition	1R1G1B				
	LED type	SMD				
	Pixels per panel(dots)	512 x 288	480 x 270	416x 234	384 x 216	320 x180
	Cabinet size (mm)	600 (W) x337.5 (H) x39 (D)				
	Size ratio	16:9				
Physical	Material	Die-casting aluminum				
Parameter	Planeness(mm)	≤0.15				
	Weight(kg)	6				
	Refresh rate(Hz)	1920~3840				
	Frame frequency(Hz)	50/60				
	Data interconnection	Signal cable≤100m; Multi-mode fiber≤300m;				
	Data Interconnection	Single-mode fiber≤10km				
Ontical	Brightness(nits)	600				
Optical parameter	Color temperature(K)	2,000~9,500				
	Viewing angle(°)	160/160				
	Input voltage(V)	AC 100~240				
Electrical parameter	Input frequency(Hz)	50~60				
	Input power	142±15	140±15	138±15	135±15	126±15
	<max>(W/panel)</max>	142 ± 15	140±15	130 - 13	135±15	120 - 13
	Input power< typical >(W/panel)	47±15	46±15	46±15	45±15	43±15
Circumstance parameter	Storage temperature/Humidity( $^{\circ}C/RH$ )	-20~+60/10%~85%				
	Working temperature/Humidity(°C/RH)	-10~+40/10%~80%				
	Ingress Protection	Rear IP30				

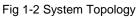
Note: Specifications are for reference only and are subject to change without notice.

Chapter 1 Product Introduction

#### **1.4 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:





## 1.5 Scope of Application

The UHWIII 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

Exhibition hall



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 UHWIII series product before shipment, and the product needs to be installed sequentially according to the cabinet number, as shown in Figure 2-1:

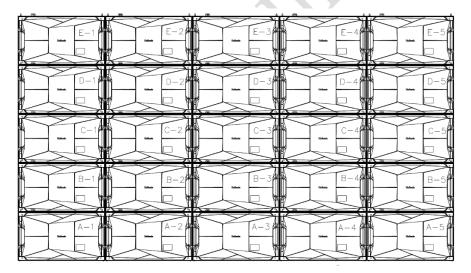
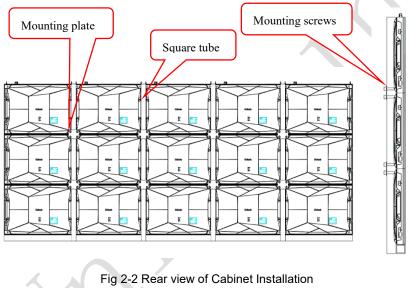


Fig 2-1 Rear View of the Display

#### 2.2.1 Fixed Installation

- Check whether the bottom beam is level. Make sure that its levelness is within ±1mm.
- Install the cabinets sequentially from bottom to top and from middle to both sides. In addition, fix the connecting plates and cabinets with installation screws to the square tubes.
- 3) Keep proper joints and flatness between the cabinets during cabinet installation.



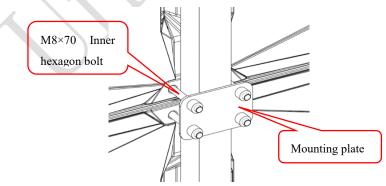


Fig 2-3 Back view of front maintenance Installation Details

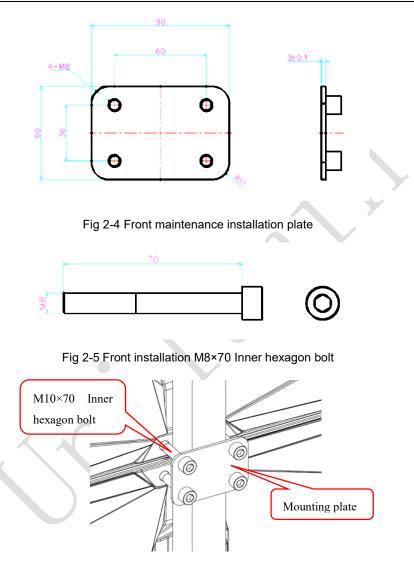
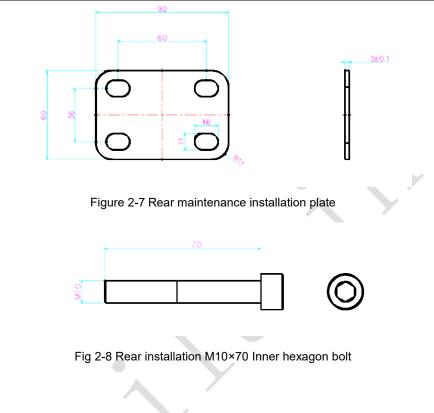


Fig 2-6 Back view of rear maintenance Installation Details



#### 2.2.2 Concave Installation (0°-2°)

- Make sure that the bottom beam is horizontal, and the value is within ± 1mm;
- Assemble the specific trimming cabinet from the bottom to the top and from the middle to both sides successively;
- 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;
- 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.

Note: The concave installation within 2 ° does not use angle block, but uses special trimming cabinet for installation. During installation, pay attention to adjust the gap and flatness between cabinets.

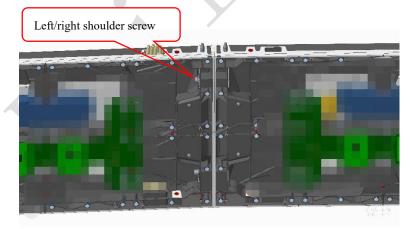
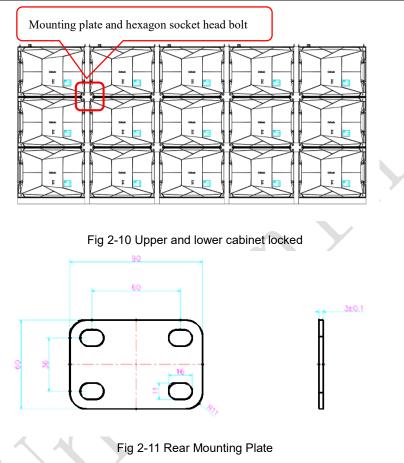


Fig 2-9 Locking of left and right cabinets completed



#### 2.2.3 Concave Installation (≥2°)

- 1) Make sure that the bottom beam is horizontal, and the value is within ± 1mm; 2)
- 2) Assemble the cabinet from the bottom to the top, from the middle to both sides.
- Fix the angle block on the screw hole on the right side of the cabinet with KM2 \* 6 screw, as shown in Fig. 2-12 and Fig. 2-13;
- The left and right cabinets are fixed with M6 plug bolts, as shown in Fig. 2-23; the mounting plate and cabinet are fixed on the square pipe with hexagon socket bolts;
- After the first line of cabinet is installed, install the second line of cabinet, and fix the upper and lower cabinets with upper and lower plug bolts;
- 6) In the process of cabinet installation, it is necessary to pay attention to the gap and flatness between cabinets.

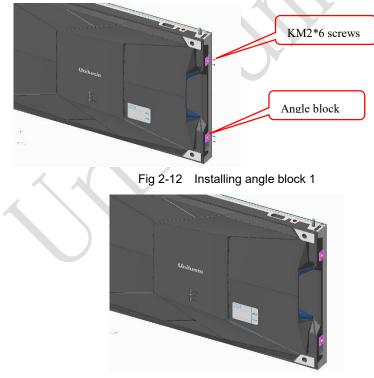


Fig 2-13 Installing angle block 2

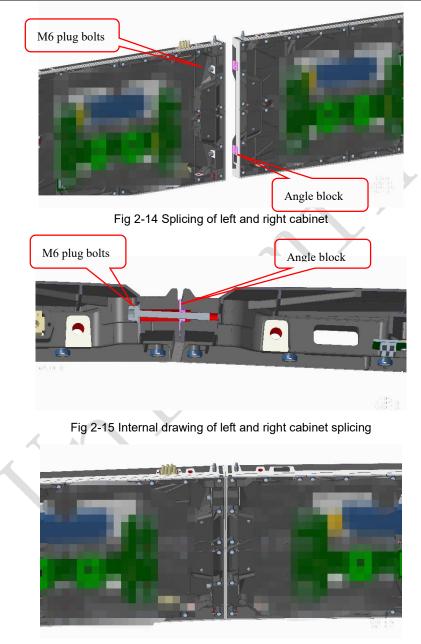


Fig 2-16 Splicing of left and right cabinets completed

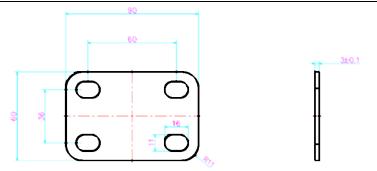


Fig 2-17 Rear Mounting Plate

#### 2.2.4 Installation of Fixed LED Back Strip Installation(Optional)

#### Back strip selection:

According to the size of the display, select the corresponding back strip (2-in-1

back strip, 3-in-1 back strip, 4-in-1 back strip, 5-in-1 back strip), as shown in Figure 2-

18.



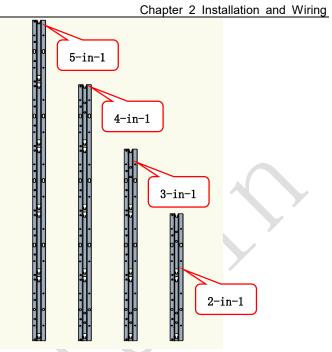


Fig 2-18 Back strips of different sizes

#### Installation steps:

1. Install the first back strip on the wall that needs to be fixed on according to the

screen size, and check whether the back strip is vertical, as shown in Figure 2-19.

Fig 2-19 Installing the first back strip

2. Fix the positioning device on the first back strip, confirm the specific position of the second back strip, and remove the positioning device after fixing the second back strip. According to the positioning device, repeat the above steps to complete the installation of other back strips, and ensure that all back strips are vertical;

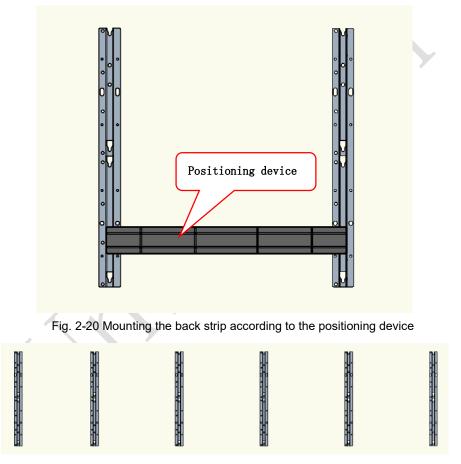
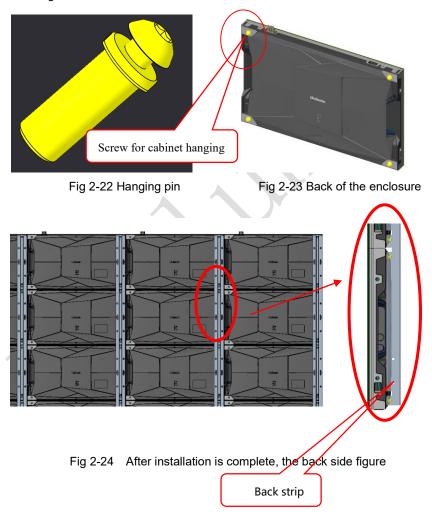
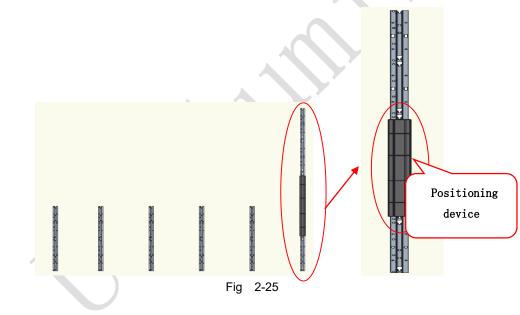


Fig 2-21 The installation of the back strip is complete

**3.** Install the hanging pin on the cabinet, align the cabinet with the installation hole on the back strip, and hang the cabinet on the back strip. The other cabinets are then hung on the back strip from the bottom to the top, from the middle to the sides. This is shown in Figure 2-22, 2-23, 2-24.



4. If there are multiple rows of back strip to install, when installing the next row, you need to install the connector on the first back strip of the previous row, so as to confirm the position of the first back strip of the next row, connect the upper and lower back strips and ensure that the upper and lower back strips are on the same vertical line, and then repeat the above steps to complete the installation of other back strips and ensure that all the back strips are vertical. The cabinet is then hung on the back strip from the bottom to the top, from the middle to the two sides.



**5.** The installation of the back strip depends on the size of the cabinet. Different cabinet sizes have different mounting distances in the center of the back strip.

Note: Confirm the array of the back strip according to the drawing of the order, the above array is for reference only.

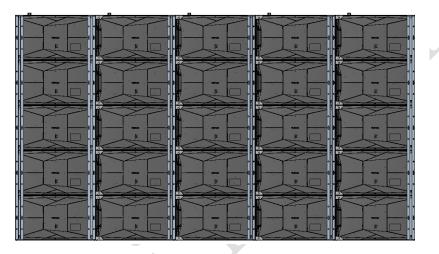


Figure 2-26 Back image after installation is complete



# 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 box. At the low end, the module regulates the adjustable magnets until the module is flush with the adjacent modules. (one module has 8 adjustable magnets)

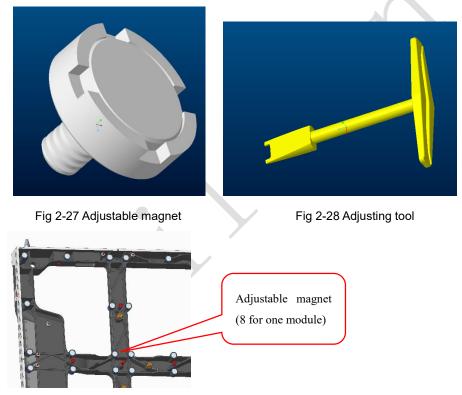


Fig 2-29 Schematic diagram of adjustable magnet



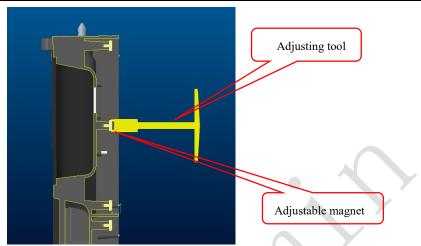
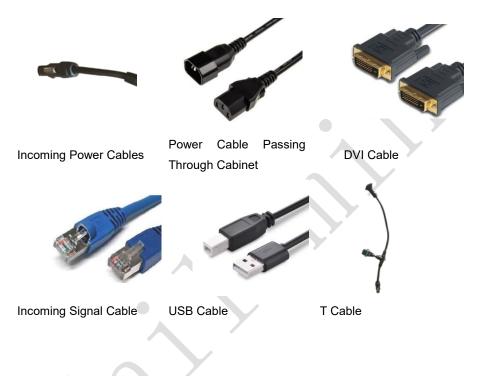


Fig 2-30 Schematic diagram of module flatness adjustment

# 2.4 Wiring for LED Display

#### 2.4.1 Common Cables



#### 2.4.2 Signal Cable Connection

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

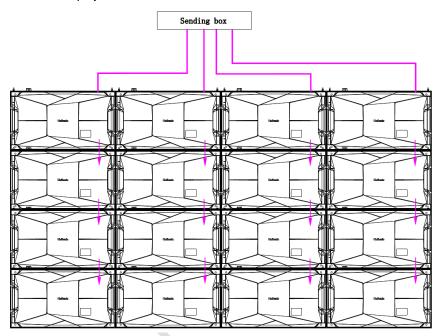


Fig 2-31 Signal Cable Connection Diagram of UHWII 1.2

#### 2.4.3 Power Cable Connection

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

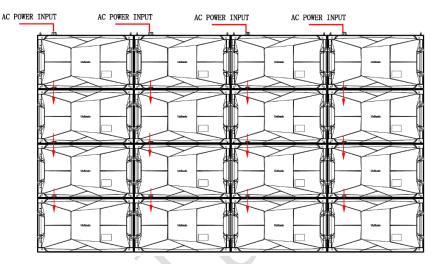


Fig 2-32 Power Cable Connection Diagram of UHWII 1.2

Notes: Number of boxes that can be cascaded at the same power supply is: 220V input can cascade 20 boxes;110V input can cascade 10 boxes.

#### 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.

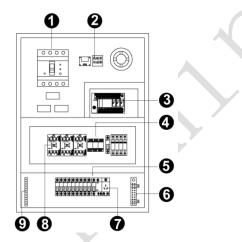
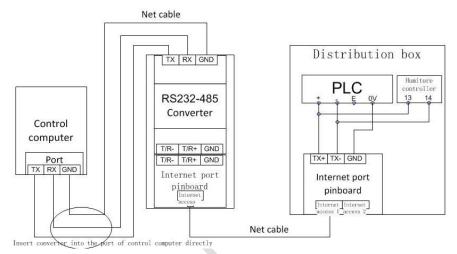


Fig 2-33 Internal Structure of Distribution Box

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	1
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 2-34 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.
- 6) 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).

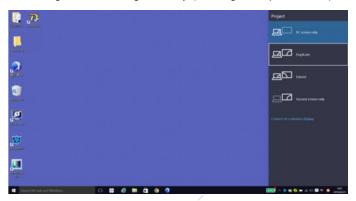


Fig 3-1 Replication Mode

# 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)	Tools(C)	Plug-in T	ool(P) Us	er(U) Lan	guage(Lang)	(L) Help(	Ð		
Brightness	s Display		onitor	Advanced Enter Dem Inction Card	Login(A) no Mode(E)				
-Local System			0.11.0						
Control S	ystem:	1	Other	Device:	0	VIEV	/ Detail		
- Monitor Info						-		 	
<b>H</b>	<b>.</b> .	- 111		$\sim$	8	4		Ŀ	
								-	-

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.

🖶 User Login			23
Password:	****		
Login		Canc	el

Fig 3-4 User Login

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

System(S)	Tools(C)	Plug-in Te	ool(P) Us	er(U) Lang	guage(Lang)	(L) Help(H	-1)		
1	$\sim$	)- 🛛	M	-Ó-	$\sim \uparrow \sim$	1	7		
Screen Co	nfig Brigh	tness Cali	bration Di	splay Contro	I Monitor	Function C	ard		
ocal Syste	m Unfo								
Control S	system:	1	Other	Device:	0	View	/ Detail		
onitor Info		-						-	
onitor Info	<b>.</b>	111			8	¥		<b></b>	••
	<b>8</b>				<u></u>	*	3		

Fig 3-5 Main Window for Advanced User

Click Next, as shown in Figure 3-6:

💀 Screen Config			X
-Select communication p	oort		
Current operation	COM4 -		
Config Screen			
🔘 Load Config File			Browse
		Next	Close

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 Config-COM4			
Sending Board Scan Board Scree	en Connection		
Current Display Mode			
Sending Board Resolution: 1920 x 10	80 Graphics outpo resolution:	ut 1920 x 1080	Refresh
Set the sending board display		ta an	
Resolution: 1920 x 100	30 px 👻 Cus	tom: 1920	★ 1080 ★
Refresh Rate: 60	✓ Hz		Set
Hot Backup Setting Set the current device: S Master D	et Master Device	Set Slave Device	Device
Master Sending	Master Port Index	Slave Sending	Slave Port Index
Board Index		Board Index	ondro r ontini don
Refresh			Edit
		Add	Edit
		Add	
		Add	Edit
		Add	Edit
		Add	
		Add	Edit

Fig 3-7 Sending Board Configuration

Chapter 3 LED Display Control Setting

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

Module Info							
Chip:	MBI5036	Size:	32W×16H	Scan Type:	1/2 scan	>>	
Direction:	Horizontal	Decode Type:	74HC138 Decod	ing Data Group:	2		
Cabinet Info							
Regular			🔘 Irre	gular			
Pixel Width:	32 🚔	<=363		dth: ?? Height:	??	Please	
Pixel Height	16 🚔	<=128 th	ake sure le width Ind height	ading error. Please adju	ist perform	make sure the width	
Module Casc	Right to Left	0	fthe			and height of the	
Module Case	right to con			Construct	ew Cabinet	cabinet is 🔻	
Performance Set	ing						
Group Swap	More Set	ting					
Refresh Rate:	60	✓ Hz	Accelerate Rate:	1 -			
Gray Scale:	Normal 8192	•	Gray Mode:	Brightness First 👻			
Data Clock:	12.5	▼ MHz	Data Duty:	50 🗸	(25~75) %		
Clock Phase:	6	•	Low Gray Comp	0			
Blanking Time:	15	(=1.20us)	Ghost Control En	13	(1~14)		
Line Change Ti	3	(0~12)					
			Load F	ile Save File	Read From H	W Send To HW	
Smart Setting							

Fig 3-8 Scan Board Configuration

- 1) Click Load File to load the file xxxx.rcfg stored in the optical disk.
- 2) Click Send to HW.
- 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 Scan Board Screen Connection	Screen N 1 V Config
Screen1	
Screen Type: 💮 Simple Screen	Standard Screen     Complex Screen
Basic Information Location: χ: 0 γ: 0	Virtual Mo 🔲 Enable
The current network port operations Sending Board Index	Scan Board Columns: 1 Rows: 1 ResetAll Hide Line
Portindex	1 Sending# Port 1 Scan Bo: Width 0 Height 0
Connect to d Back	
Scan Board Size Width: 128 A Height: 128 A	
Set Blank Apply to port	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 the screen is complete. Then click **Save**.

nding Board Scan Board Screen Connec	tion				Screen N	1 • Co	nfig
Screen Type: 👩 Simple Screen	Standa	rd Screen	Complex Sc	reen			
Basic Information Location: X: 0 Y: 0	Virtual Mo	Enable	•••				
The current network port operations Sending Board Index	Scan Board Columns:	5	Scan Board Rows: 1	0 Reset	Hide Lin	e	
		1	2	3	4	5	-
1	1	Sending#1 Port1 Scan ES 4	Sending#1 Port1	Sending#1 Port1	Sending#1 Port1	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	Е
1 2 3 4		Sending#:1 Port 1	Sending#:1 Port1	Sending#:1 Port1	Sending#.1 Port:1	Sending#:1 Port:1	
	2	Scan BU 10 Width: 128 Height: 128	Width 128 Height 128	Width 128 Height 128	Width:128 Height:128	Width: 128 Height: 128	
Connect to d  Back Clear Port	r .	Sending#1 Port2	Sending#.1 Port2	Sending#1 Port2	Sending#.1 Port:2	Sending#1 Port2	
Scan Board Size	3	Scan ES 1 Width:128 Height 128	Ocan Do :2 Width: 128 Height: 128	Width: 128 Height 128	Width:128 Height:128	<ul> <li>Ocan Dr. 5 Width:128 Height.e28</li> </ul>	
Width: 128		Sending#.1 Port:2	Sending#:1 Port:2	Sending#1 Port2	Sending#1 Port:2	Sending#:1 Port:2	
Height 128	* 4	Scan E0 10 Width: 128	Width: 128 Height: 128	Width: 128 Height 128	Width: 128 Height: 128	Width:128	
Set Blank Apply to por		Height 128				Height128 reen, right .	
Detect Status			Re	ad File	ve File	d from HW Send	To HW
Deleta Status			(Cristi	aut ne	ACT INC	unomrini Usenu	TOTAL

Fig 3-10 Screen Connection with Loaded File

# 3.3.3 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 To	iol(P) Us	er(U) Lang	guage(Lang)	(L) Help(H	H)		
		- 🔪 🔳	M N	Ô	$\sim \dot{R}_{\sim}$	E.	7		
Screen Cor	nfig Bright	ness Cali	bration Di	splay Contro	I Monitor	Function C	ard		
Local Syster	- \ -			opia, como					
Control S	vstern:	1	Other	Device:	0	View	/ Detail		
	-								
Monitor Info									 
<u> </u>	- <b>1</b>	- 111		$\sim$	8	*		<b>**</b>	

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.

Adjustment Mode				
🔘 Manua) 🛛 🖉	) Sched	onfig 🔘 Auto	Config 🕐 Auto a	djus Config
Display Quality Soft Mode	0 8	Enhanced Mode	Gamma Adjustment Fixed Value	
Brightness Adjustm	ent		Mode A	🗇 Mode B
	~			* 2.8
4		(100.0%	Custom	Gamma Ta.
Color Temperature				
Custom	Chip:	BI5036		
Gain			RGB brightness	
<b>2</b>	-	► 101.54 %	8 4	> 255
				(100.0%
G: 4		▶ 101.54 %	G: 4	> 255
				(100.0%)
B: <		101.54 g	B: 🔨	▶ 255
Synchronous			Synchronous	(100.0%)
		Default Value		Normal mode
		Polaci tongo		(totilital inode

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.

## 3.3.4 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 COM4 Current Screen Screent	Online Calibration         Ortifice Calibration         Menage Coefficients           Select Operation         1.Ubload Coefficients         2.Save coefficients for a new scan board           4.Set coefficients for a new scan board         4.Set coefficients for a new module         5.Adjust coefficients (Color is ununiform on screen)           6.Erase orreload coefficients         7.Reset correction coefficients
Display Screen	
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**:

electArea of New Sca creen:1 Locat Screen O Pixe	ion:X=0, Y=0 Si		lect Area On reen		
(1,1)	(1,2)	(1.3)	(1.4)	Zoom:	
(2,1)	(2,2)	(2.3)	(2.4)	1.0	

Fig 3-15 Selecting Area for New Receiving Card

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

l	Online Calibration Offline	Calibration Manage C	oefficients			
	Select the source of Co	efficients				
	<ul> <li>Database</li> </ul>	🔘 Refe	er to Su			
	Select Database:				Browse	
	Select Adjust Lin				Browse	
$\sim$	Type:	Unknown	Cabinet ID:	~		
	Columns:	Unknown	Rows:	Unknown		
	Discription:	Unknown				
	Upload Mode	🔘 Fast Upload	<ul> <li>Stable Upload</li> </ul>			
	L			[	Back	Return
				C		



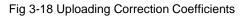
3) Select the corresponding correction coefficients:

Current operation communication	THE TIT	×
DM4 w	database	・ 4 建築 database の
urrent Screen	- 追訳 ▼ 新建文件夹	BI • 🖬 🛛
Screen1	◆ の副除 ● 5000168 A1153 ● 丁酸 ● 工作 ● 電灯 ● 電灯 ● 電灯 ● 空間 ● 空	
	文件名(1):	◆ Access Database(*.mdb;*.db    ◆     f打开(O) 取論
isplay Screen	<u></u>	v
in Display 👻		
nable/Disable Calibraion		Back Net Return

Fig 3-17 Selecting Correction Coefficients for Receiving Card

4) Select Stable Upload and click Next:

Screen Calibration							-
Current operation communication port	Online Calibration Office Select the source of Co © Database Select Database: Select Agust Line Type: Columns: Discription: Upload Mode	© Re C:Users\linrende\D	fer to Su esktoptdetabesel50000 Cabinet ID: Rows:	A1151 192	•	Erowse Browse	
Display Screen Han Depisy • Enable/Disable Calibraion Deable •					8	ax isst Robert	



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

just Coefficien imple	nts						
0 24 /2 (	9						
Red	۲.		 	 		89.7	
Green:	۰		 	 		89.6	
Blue:	۲.					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.

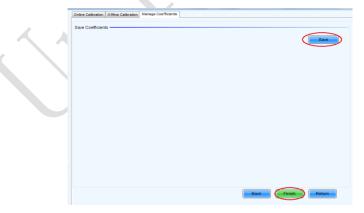


Fig 3-20 Saving Correction Coefficients

### 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:

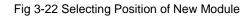
ect the New Module -	on:X=0, Y=0 Si	xe:512¥×256H	steet Area 0a creat	Zoom
reen:1 Locati	om:X=O, Y=O Si	ay or List 🔳 St	$\bigcirc$	1
Screen 🔿 Pixel	Topolog	ay or List 🔳 St	$\bigcirc$	1
			$\bigcirc$	1
(1.1)	(1.2)	(1.3)	(1.4)	1
(1,1)	(1.2)	(1,3)	(1.4)	a
				-
				1.0
(4, 1)	(2,2)	(£,3)	(2.4)	
			Back	Ned
	(2.1)	(2.1) (2.2)	(2.1) (2.2) (2.3)	

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.

Current operation communication -	Online Calibration Offi	ine Calibration Mana	ge Coefficients					
	Select the New Modu	le						
Current Screen	Scan Bo.: (0,0	,0), Location	::(384,0), Si	xe:128×128				
Screen1	Screen OP	ixel @	Topology or List	Select Area	. 0a			
	Module Size:	16 🔹 x	16 🔹				×	
	Display Mode:	Modules	Pixels					
							î	
	2				_			
				_	_			
isplay Screen	3							
ain Display 👻								
nable/Disable Calibraion	k (			-				
Disable -					Back	Next	Return	



**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 Manag	e Coefficients		
:0M4 +	Select the source of Coefficients	Refer to Su		
⊛ Screen1	Select Database: Select Adjust Line Type: Uninown Columns: Uninown Discription: Uninown Upload Mode © Fast Upload	Cabinet ID: Rows: Unknown	United and a second sec	
Display Screen				
Disable			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 Local System Control Sy	Multiple-screen Management(A)	rol Monitoring	Multi-function Card Cloud Monitoring
- Monitor Inforn	Advanced Color Configuration (O) Adjust screen effect Cloud Monitoring(C)		<u>(</u> ] ●
	Module Flash (U) Receiving Card Relay(I)		
Service Status	Configure Information Management/M)		

#### Main Window

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

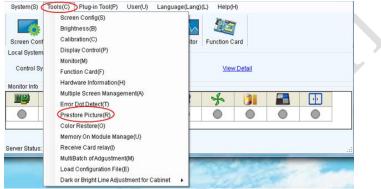
Module Flash Current Oper	COM99	•			•
Send by Address	Send by Topology				
- Select Screen -	Screen:1	Starting coordinate	e X=0, Y=0 Size 512W	×256H	
Screen1	Full	Select by Pix (	Select by Topology	Select Area o	
			Operate All	Pixels	
View calibration	coefficient	ck coefficients in modu	Save calibration coefficien	ıt	Flash Check

Fig 3-24 Save Calibration Coefficient on Receiving Card

### 3.3.5 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
$\checkmark$	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      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.

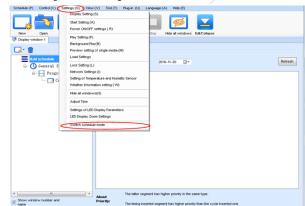
# **Chapter 4 LED Display Playing Setting**

# 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 4-1 Switching Schedule Mode

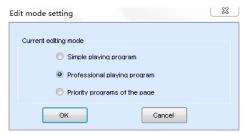


Fig 4-2 Edit Mode Setting

# 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 Wine	dow Setting						
Number of E Windows:	Display 1 Update Update						
Display win	dow 1						
Name:	Display window 1						
Start X:	3 🐳 Width: 400 🖨						
Start Y:	-9 🚔 Height: 400 🚔						
On Top:	📀 Never 💿 Always 💿 Playing						
Set frame rate:	20 <b>HZ</b>						
🔽 Show [	Show Display Window (Shift+H)						
Lock display window (Shift+L)							
📝 Display	Display Window Border Line						
	Note: After the display window is locked, it is unable to use the mouse to 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		23				
📃 Auto Run after Power	r-on					
🔽 Restart Software on	Time					
Every 1 🚔	day, restart software once.					
Restart time:	2:00:00 🚖 🗕					
	+					
📃 Exit of software on tir	ne					
Exit Time:	00:00:00					
📄 Enable Auto Play						
Display window 1						
Please select the s	chedule file to be played.					
Play the schedule p	laved last time					
Instant plug and play of USB disk						
ОК	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.

**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:

Schedule (P) Control (C) Settings (S) View	v (V) Tool (T)	Plug-in (U)	Language (A)	Help (E)			
(New (N) Open (0)							
Save (S)			<b>1</b>	92			
Save As (A) Save As	Play	Pause	Stop H	ide all windows	Edit/Collapse		
Backup (B)							
Export to USB Disk (E)							
Recent schedule (R)	Date Range of	Schedule					
- O General Segment 1	From 2016-1	11-30 🔲 🗸	To 2016-	11-30 🔲 🔻			Refresh
Program1							
Common Window1							
× >	About	The latter s	egment has high	er priority in the s	same type.		
Show window number and name	Priority:	The timing in	nserted segment	has higher priori	ty than the cycle inserte	d 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       Opn       Save       Save As       Play       Play       Stop       Hide all windows       Edit/Collapse         © Osplay window 1           Stop       Hide all windows       Edit/Collapse
D-ABAL # # *
Add schedule         Image: Structule         Image: Structule
x
Show window number and name

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:

Display window 1	0 J 🗶 👕 👘	
	Nam	
	Add Programs Add Global Program Page	e Property Jive Date pecified date From 2016-11-30 • To 2016-11-30 • •
	Add Copied Program Page	tive Day of the Week
	Copy Paste	u V Monday V Tuesday V Medneaday V Trursday V Friday V Saturday V Sunday
	Move Up Move Down	Ive Time Of the Day I 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

1 1 7	, , , , , , , , , , , , , , , , , , , ,	
Schedule (P) Control (C) Settings (S) View (	(V) Tool (T) Plug-in (U) Language (A) Help (E)	
New Open Save Save As	Prev         Pusce         Stop         Hidse all windows         EditCollapse	
Display window 1		
Deplay window 1      Conaon Window 1      Cona	Background Color: Background Picture Background Picture Display Type: Stretch Back Music:	
	Specify number of times:	
Show window number and     name	Specify duration: 00.06.00 🚼  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.

General Segnent 1     Program1     HolidayPage1     Reor Add Common Wind     Add Scroling Wind     Add Clock Window	Background Picture: Display Type: ow (various kinds of medi	No background picture Stretch	>
HolidayPage1	low (various kinds of med		~
Add Scrolling Wind		(a)	
Nove Db Move Down Copy Paste Delete Accuracy Mindow Clear Window Save the Current W	v cesting Window nd Humidity Window	rt Program Page	

Fig 4-10 Program Page Operation Menu

#### 4.1.3.3 Editing the Display Window

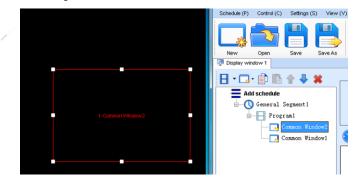
1) Adding a display window

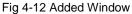
After adding a program page, you need to add a display window to this program page. Click **Add Window** on the toolbar of the program page to add a window to the current program page. See Fig 4-11:

Schedule (P) Control (C) Settings (S) View (V	) Tool (T) Plug-In (U) Language (A) Help (E)
New Open Save Save As	Pay Paute Stop Hide all windows EdtCollapse
Display window 1	
Copying Window     Copying Window     Copying Window     Copying Window	da) 4 Color: 4 Color: 4 Poture: No background picture • pe: Stretch • E • • • • • • • • • • • • • • • • • • •
The second sec	Specify number of times:     Specify duration:     Ocococo

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:





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:

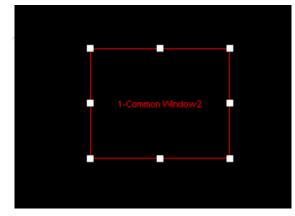


Fig 4-14 Adjusting the Window Size Using the Mouse

Chapter 4 LED Display Playing Setting

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:

New Display win		6	ave As	Play	Pause	Stop	lide all windows	Edit/Collapse	
	d schedule	- 1		Name:	Common Winds	ow2	Frane		- ( -
_	General Se	egnent 1		ĸ	119	÷	Y.	119	10
-	Progra	am I		Math	166		Height:	131	0
Ð			- 10	Q	į.				•

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)	Language (A)	) Help (E)		
							(OB)		
	9		$\Rightarrow$			and the second s		<u> </u>	
New	Open	Save S	ave As	Play	Pause	Stop H	lide all windows	Edit/Collepse	
Display win	dow 1								
8.0.	- m m		÷						
	d schedule			Name:	Common Winds	7w2	🔄 Frame		
	General S		Down	x	119	*	Y.	119	-
6	Progr		_	Wath	166	1	Height:	131	*
		onnon Vindo	6	0					
		ommon Windo	w1	)Q					
ė	Progr	an2							
		1							

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.

	Control (C)	Collinson (C	) View (	/) Tool (T)	) Plug-in (U)	Longer (	<li>Help (E)</li>				
Schedule (P)	Control (C)		-) - view (1	<ul> <li>rool (1)</li> </ul>	) Pug-In (U)	Language (A	<ul> <li>mep (E)</li> </ul>	_			
	2		<b>F</b>				<b>9</b>				
New	Open	Save	Save As	Play	Pause	Stop	Hide all windows	Edit/Collapse			
Display windo	w 1										
8-0-	🖻 🗈 -	* 4 :	× .								
= Add s			·· _	Nome:	Common Winds	sw2	E Frame				
	General Se	egnent l		×	119	( <b>Q</b> )	Y:	119	<u>e</u>		
6-1	Progri	an l		Width:	166	0	Height:	131	0		
		mmon Vin	dov2						-		
		ARON VIN	dow1	🌮 🔍					📑 - 🗐	) 🗈 🗰	🗑 🎓
ė-	Progra	an2		1 Scrollin	ng Text						Any Time
	¥1										
	<b>L</b>										
	<b>L3</b>										
	2,										
				Text Pro	perty						
				Text Prop							
				hello	o!						
				hell:	Arist		Size (pu)		- 1	I U S	
Show window				hello	Arial	ion v][		t III Destri 2	- 18	JUS	

Fig 4-18 Media Setting Window

2) Setting the media properties

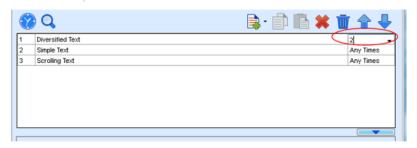
Different media have different properties. After a medium in the media list is selected, the property page of this medium is displayed below the selected medium. On this property page, you can change the properties of the medium. See Fig 4-19:

Schedule (P) Control (C) Settings (S) View	(V) Tool (T) Plug-in (U)	Language (A) Help (E)		
New Open Save As	Pay Pause	Stop Hide all windows		
New Open Save Save As     Display window 1	Play Pause	stop mide all windows	: Educovapse	
🗄 • 🗔 • 🗊 🗈 🛊 🦊 🗰				
Add schedule	Name: Common Wind			
- 🕓 General Segmenti	X: 0	÷ Y:	0	
Program1	Width: 400	÷ Height:	400	
- Conmon Window2			D	
Connon Windowl	88 Q		📑 - 🛅 I	🛅 🗰 👕 🔷 🦊 i
	1 Diversified Text			Any Tines
	2 Simple Text 3 Scrolling Text			Any Times
	3 Scroling lext			Any Tines
	Edit Text			
	Background: Pure cel		· · · · ·	Transpare
	Random			
	Trainadeir			
	Special Random		~ Spe	ed 5 😌 0.1 s
	Stay Time: 3	🚔 S 🕅 V	Vertical line	
	Complete Play	Play Duration: 00	: 00 : 05 .000 📳	
Show window number and name		100		
TRANS-				

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

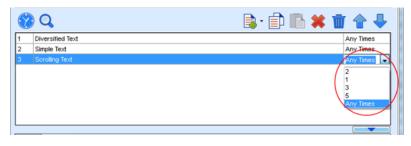




Fig 4-20 Changing the Media Playing Times

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	Play Pause	Stop Hide all winds	ws Edt/Collapse	
🗄 • 🗔 • 🗊 🖺 🛊 🦊 🗰				
Add schedule	Name: Common We	vdow1 📄 Frame		*
- O General Segmenti	X: 0	÷ Y:	0	A X
- Programl	Width: 400	Height.	400	4
Common Window2		i ingra		·
Conson Windowl	😵 Q			· 🗊 🖺 🗱 🗑 🛧 🦊
- Program2	1 Diversified Text		<b>v</b>	Any Times
- 🗔 VI	2 Simple Text			Any Times
<b>1</b>	3 Scroling Text		Move Up Move Down	Any Times
			Сору	
			Paste	
			insert Media	
			Delete	
	Text Property		Rename	
	Hello!		Apply Properties to	
				×
	Font: Arial	<ul> <li>Size</li> </ul>		• B I 🗓 S 🗾 •
	Text Effect Suspe	nsion v V	Depth: 2	A Contraction of the second se
	Colorful None		•	
Show window number and name	Horizontal Align	Vertical Align      Space	ing 1 🔄 Kerning 0	Vertical line

Fig 4-21 Media Operation Menu

Chapter 4 LED Display Playing Setting

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) View New Open Save Save A Deploy windows 1	v (V) Tool (T) Plug-In (U) Language (A	Help (E)	
Add schedde Concernal Segment I Concernal Segment I Concernation Segm	Name: Common Window1 x 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	File Diversities Text Single Text Single Text Sorgle-row text Sorollag Text Analog Obok Dighal Obok Dighal Obok Lunar Celendar Media Teble Detabase Timing Dighal Court-down Timer Weather forecasting	Any Trees
Show window number and     name	Peace select the Add Media to tens in toolbar	Vietarian rotecasting Temperature and Humidity URL Streaming Media Window RSS Video Device External Program Add Coored 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:

📮 Screenl	
Current Common Segment1 [2012/6/27 0:00:00 To 2012/6/28 0:00:00] Playing	ç.
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(Pagel) Status:Playing	E
<sup>⊥</sup> ⊟₩ (0, 0, 359, 328)	
Current Media: oppo. AVI	
Navt Madia: foraion 1 ino	*
Current Inserted 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	
<sup>⊥</sup> ₩ (0, 0, 215, 184)	
Current Media: Analog clock	E
Next Media: Analog clock	
	*
Play Error	
	×
	Land de la constante de la const

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

#### Chapter 4 LED Display Playing Setting

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:

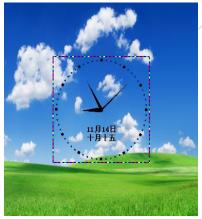
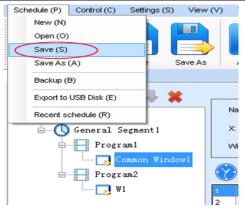


Fig 4-26 Transparent Displaying Effect of the Clock

# 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:



Chapter 4 LED Display Playing Setting

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:

Schedule	6	Window Editing Area			
General Segment1	111 打开		-	_	<b>-</b> X
Common Winds	G	酒 •		文档	
	组织 • 新建文件夹			811 • C	. 0
	🔒 T#: 🔥	文档库		推列方式:文件	÷ •
	1 A 1	包括:2个位置		101010 ×11	~
	32.最近访问的位置	名称	修改日期	供型	*
	100 #	Labeling	2016/8/15 13:42	文件夹	
	► ■ 42.50	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	文件夹	
		NovaLCT 2012	2016/8/9 18:39	文件夹	
	> 👌 童乐	NovaStudio2012	2016/8/21 19:13	文件夹	
		😹 RTXC File List	2014/7/11 8:45	文件夹	
	▶」账计算机	3 Tencent	2014/4/25 9:51	文件夹	
		🎉 Tencent Files	2014/7/11 15:05	文件夹	
	- 🖬 双旗 🍼	4			

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) Screen color will reach to best status after 5 minutes lighting up.(Color gradually changes as the temperaure warms up )

## 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 Setting			- 83
Communication port se	DM4	•	
Screen1			
Prestore Picture Setting	gs		
Select Pi		Br	owse
Effect Settings			
Screen Effect	Stretch	-	
Cabinet Effect	Stretch	Test Effe	st
	Save To Hardw	are Check Store P	icture
Function Settings			
Boot Screen			
🗹 Enable 🤇	Time:	60 🚖 s	
Cable Disconnect			
🗇 Black 🔊	Last Frame	Prestore Pict	ure
No DVI Signal			
			_
🗇 Black 🔊	Last Frame	Prestore Pict	ure
	Send	Save To Hard	ware

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 To	ol(P) Use	r(U) Lan	guage(Lang)	(L) Help(H	-1)		
Screen Config Brightness Calibration Display Control Monitor Function Card									
-Local System	Local System Info								
Control S	ystem:	1	Other D	evice:	0	View	/ Detail		
Monitor Info									 
<b>E</b>	- <b>1</b>	111	•		8	*			

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:

COM4-Se	creen1						
Adjust	ment Mode	_		-			
(	Manual ) S	ched C	onfig	O Au	to	Config 💿 Auto adji	us Config
	e Quality Soft Mode	© E	Inhan	ced Mod	e	Gamma Adjustment Fixed Value	
Bright	ness Adjustment					💿 Mode A 🛛 💿	Mode B
						•	* 2.8
* (				▶ 26			Gamma Ta.
	$\smile$			(10.2	%)	Custom	Gamma Ta.
	Temperature Adj			BIS			
Gain	stom	Chip:		BISU	136	RGB brightness	
Gain						Rob brightness	
R				101.54	%	R 4	+ 255
-		10000					(100.09
G:		100	,	101.54	%	G: 4	► 255
_		-					(100.09
B:				101.54	96	B: <	255
V Sy	nchronous				~	Synchronous	(100.09
			Defa	ult Value			Normal mode
							6
						Refresh	Save To Hardwa
							[

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 Te	ool(P) Us	er(U) Lan	guage(Lang)	(L) Help(H	H)		
Screen Con	nfig Bright	ness Cali	bration oi	splay Contro	Monitor	Function C	ard		
- Local System			Other	Device:		Mari	Datall		
Control S	ystem:	1	Uther	Device:	0	VIEW	<u>/ Detail</u>		
	-	0.0.0	1	يەلىر.	- 0	4		-	
⊞₩		- 111 -				*		<u> </u>	
									-

Fig 5-4 Display Control

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

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.
- 2) 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 maintenaces tep	Picture	Description
Step 1		Find the faulty cabinet and disconnect the power supply

	Chapter o noubleshooting and Co	пропент Керіасеттент
Step 2		Use vacuum suction tool to suck out the failure module and replace it

Chapter 6 Troubleshooting and Component Replacement

Rear maintena step	ac Picture	Description
Step 1		Find the faulty cabinet and disconnect the power supply
Step 2		Remove the magnetic cover of the cabinet
Step 3		Disconnect the power input wire
Step 4		Remove the screws fixing the bracket, hold the lower end of the bracket with both hands and take it

#### Chapter 6 Troubleshooting and Component Replacement

		off with light force
		To remove the
		module
Step 5	Sector Contraction	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 maintenac step	Picture	Description
Step 1		Find the faulty cabinet and disconnect the power supply
Step 2		Remove the module of the fault cabinet, and then remove the screw fixing the AC incoming port of the power supply
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

RearmaintenancestepPictureDescription
---------------------------------------

#### Chapter 6 Troubleshooting and Component Replacement

Step 1	Find the faulty cabinet and disconnect the power supply
Step 2	Remove the magnetic cover of the cabinet
Step 3	Disconnect the power input wire
Step 4	Remove the screws fixing the bracket, hold the lower end of the bracket with both hands and take it off with light force
Step 5	The power supply, HUB card and receiving card are all on the removed bracket. Remove the faulty 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 5		Find the faulty cabinet and disconnect the power supply			
Step 5		Remove the module of the fault cabinet			
Step 5		Remove the fixing screw of the receiving card			
Step 5		Remove the failure receiving card and replace it			

Rear maintenance step	Picture	Description			
Step 1		Find the faulty cabinet and disconnect the power supply			
Step 2		Remove the magnetic cover of the cabinet			
Step 3		Disconnect the power input wire			
Step 4		Remove the screws fixing the bracket, hold the lower end of the bracket with both hands and take it off with light force			
Step 5		The power supply, HUB card and receiving card are all on the removed bracket. Remove the faulty 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		Removethemodule of the fault box,loosen the fixing screwsof the left and rightadapterplate,andremove them			
Step 3		Remove the screws fixing the HUB card to the power supply and the screws fixing the HUB card			
Step 4		Remove the faulty HUB card 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		Remove the magnetic cover of the cabinet			
Step 3		Disconnect the power input wire			
Step 4		Remove the screws fixing the bracket, hold the lower end of the bracket with both hands and take it off with light force			
Step 5		The power supply, HUB card and receiving card are all on the removed bracket. Remove the faulty HUB card and replace it			

# Chapter 7 Packaging Transportation and

# Storage

# 7.1 Packaging

The UHWIII 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.
- Man-made damages, physical damages, accident damages and product misuse, such as component defect damage, PCB board defect, etc.
- 6) 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 Warranty	y Card							
Order NO.	Shipment Date				Warranty Period			
Product Model					Product Quantity			
Customer Name	Contact		t					
Customer Name	Informa			ation				
Customer Address:								
Remark(s):								
Warranty Record								
Warranty Date	Fault and J	Froubleshooting		Completion Date		Sign	ature	of
wallanty Date	Fault and Troubleshooting			Completion Date		Customer		
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# **Contact Information**

#### Shenzhen Headquarters

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

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