

UHVII PRODUCT MANUAL Narrow Pixel Pitch LED Display



UNILUMIN GROUP CO., LTD.

Revision Records

Version	Revised Content	Date
01	Initial release	July .25, 2019
02	Optimized installation	September .24, 2019
03	Add After-Sales and Warranty,	
	Modify the control system part,	March 31, 2020
	Add module flatness adjustment	
	Add Concave Installation	

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.

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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.

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UHWII Product Manual

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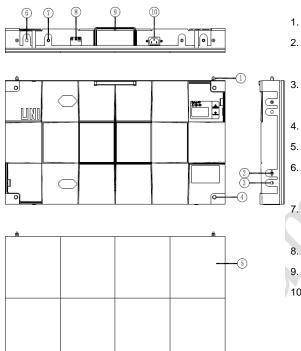
Chapter 1 Product Introduction

The UHWII series is a new generation of small pitch LED display product launched by Unilumin. Designed for HD display application scenarios, the UHWII series has a standard aspect ratio of 16:9 and has achieved perfect match between video signals and display terminals. With excellent colour reproduction, stable pictures, and wide viewing angle, the UHWII series supports wide-range adjustment of the colour temperature and brightness. The pixel-by-pixel calibration technology can greatly improve experience of using the UHWII series product in projects. Outstanding safety design of the UHWII series delivers prominent safety performance, high protection level, and high reliability. Freely and seamlessly spliced into any size display to meet the needs of the application environment.

1.1 Features

- Aspect ratio of 16:9, pixel to pixel full HD display, and can be assembled into a 2K, 4K, or 8K standard HD screen.
- 2) Ultrathin, lightweight, and highly stable aluminium die casting structure.protection level up to IP60.
- 3) Supports front maintenance on the modules, power supplies, and receiving cards.
- 4) Wide colour gamut, and adjustable brightness and colour temperature.

1.2 Cabinet Appearance



- 1. Positioning pin
- 2. Left/right shoulder screw hole (rear maintenance)
 - Left/right shoulder screw hole (front maintenance)
- 4. Cabinet mounting hole
- 5. Module
- Upper/lower shoulder screw hole (rear maintenance)
 - Upper/lower shoulder screw hole (front maintenance)
- 8. Signal port(front maintenance)
- 9. handle
- 10. Power port(front maintenance)

Fig 1-1 Cabinet Appearance

1.3 Specification

F	Parameter	UHWII1.2	UHWII1.5	UHWII1.9	UHWII2.5		
	Pixel composition	1R1G1B					
	LED type		3-in-1 Black SMD				
	Pixels per panel(dots)	480x270	384x216	320x180	240x135		
	Cabinet size (WxHxD) (mm)		609.92x34	43.08x68			
	Size ratio		16	:9			
Physical	Material		Die-casting	aluminum			
Parameter	Planeness(mm)		≤0.	15	Y		
	Weight(kg)		7				
	Refresh rate(Hz)	1920					
	Frame frequency(Hz)	50/60					
	Data interconnection	Signal cable≤100m; Multi-mode fiber≤300m; Single-mode fiber≤10km					
	Brightness(nits)	60	0	80	00		
Optical	Color temperature(K)	2,000~9,500 (adjustable)					
parameter	Viewing angle(°)	160/	160	140/140			
	Input voltage(V)		AC 100	0~240			
	Input frequency(Hz)		50~	·60			
Electrical parameter	Input power <max>(W/panel)</max>	140±	15	120±15			
	Input power < typical >(W/panel)	4 6±	15	40±	15		
Circumstance	Storage temperature/ Humidity(°C/RH)	-20~+55/10%~85%					
parameter	Working temperature/ Humidity(℃/RH)		-10~+45/1	0%~80%			

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

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 UHWII 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 retail brand stores, shopping malls, hotels, banks, churches, airports, bus stations, theatres, cinemas, company lobbies, and conference rooms.



Conference Center

Lobby

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

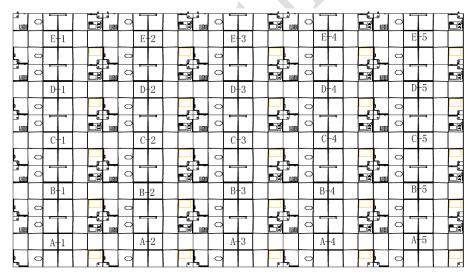


Fig 2-1 Rear View of the Display

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

- Check whether the aluminium profile installation is level. Make sure that its levelness is within ±1mm.
- Install the cabinets sequentially from bottom to top and from middle to both sides.
 Fasten the adjacent cabinets with screws. In addition, secure the mounting plates and cabinets with socket head cap screws.
- 3) Keep 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. The installation number of the single cabinet module is shown in Figure 2-5. During the module installation keep flatness between the modules during modules installation.
- 6) The installation of the screen is completed



Fig 2-2 Profile Installation





Chapter 2 Installation and Wiring

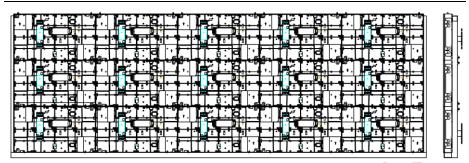


Fig 2-4 Front View of Cabinet Installation

1	2	3	4
5	6	7	8

Fig 2-5 Front View of Single Cabinet Module Number

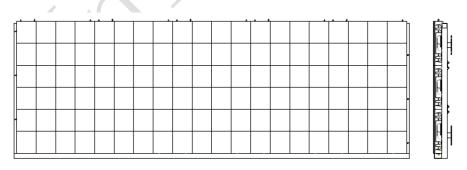
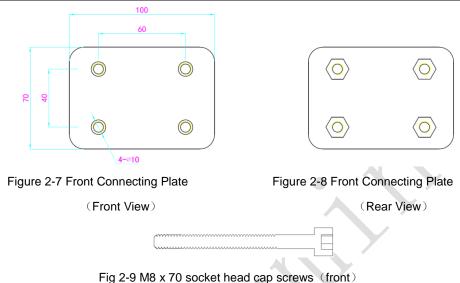


Fig 2-6 Front View of the Display



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.
- Install the cabinets sequentially from bottom to top and from middle to both sides. Fasten the adjacent cabinets with screws. In addition, secure the mounting plates and cabinets with socket head cap screws to the square tubes.
- 3) Keep flatness between the cabinets during cabinet installation
- 4) The installation of the screen is completed

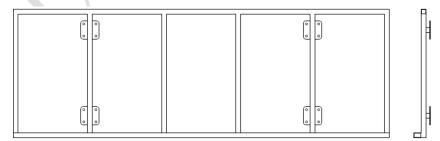
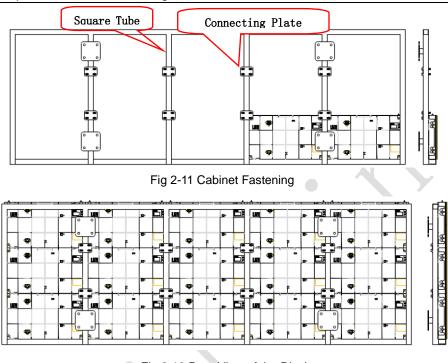


Fig 2-10 Profile Installation

Chapter 2 Installation and Wiring





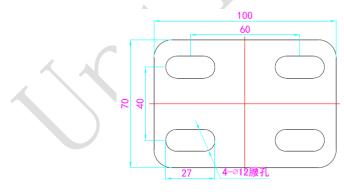


Fig 2-13 Rear Connecting Plate (front)



Fig 2-14 M10 x 60 socket head cap screws (rear)

Left/right shoulder screw

2.2.3 Concave Installation (0°-2°)

- 1) 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.
- 2) Rear installation recommended for Concave splicing.

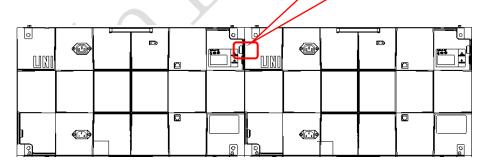
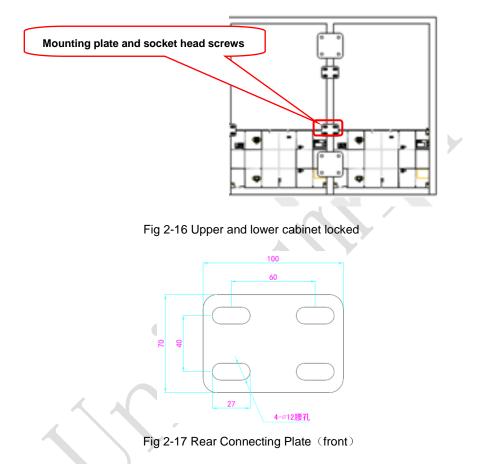


Fig 2-15 Locking of left and right cabinets completed



2.2.4 Concave Installation (\geq **2**°)

- 1) Make sure that the bottom beam is horizontal, and the value is within ± 1mm;
- 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. 2-19 and Fig. 2-20;
- 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, as shown in Figure 2-25;
- 5) In the process of cabinet installation, it is necessary to pay attention to the gap and flatness between cabinets.

KM1.6* 6 screw Angle block Fig 2-18 Installing angle block 1

Note: Rear installation recommended for Concave splicing.

Fig 2-19 Installing angle block 2

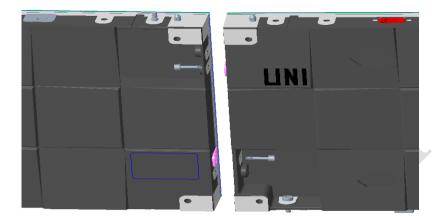


Fig 2-20 Splicing of left and right cabinet s

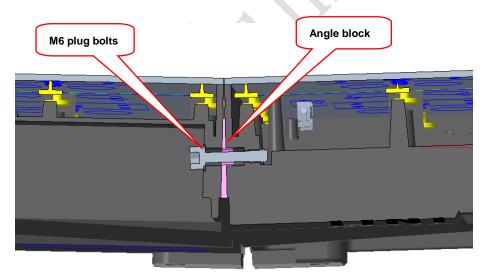


Fig 2-21 Internal drawing of left and right cabinet splicing

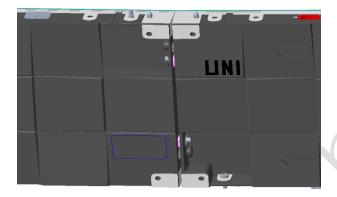
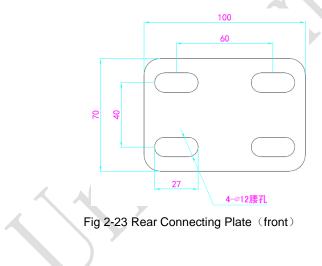


Fig 2-22 Splicing of left and right cabinets completed



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 box. At the low end, the module regulates the adjustable magnets until the module is flush with the adjacent modules. (one module has 9 adjustable magnets)

Specification of adjusting magnet: D10 * 3 + m3 * 5

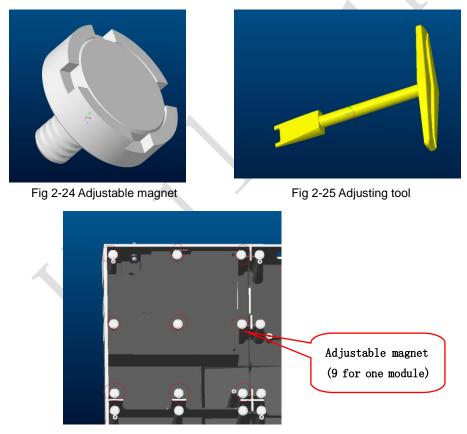


Fig 2-26 Schematic diagram of adjustable magnet

Chapter 2 Installation and Wiring

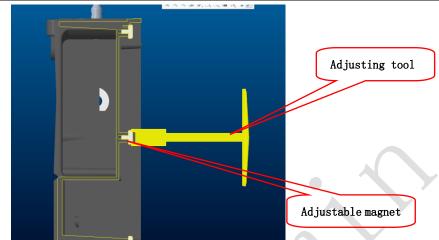


Fig 2-27 Schematic diagram of module flatness adjustment

2.4 Wiring for LED Display

2.4.1 Common Cables



Incoming Power Cables



Power Cable Passing Through Cabinet



DVI Cable



Incoming Signal Cable



USB Cable

2.4.2 Signal Cable Connection

Figure 2-30 ~ Figure 2-33 shows the signal cable connection for display with a resolution of 1920 x 1090. Signal cables shall be connected based on the wiring diagram of the delivered products for the project.

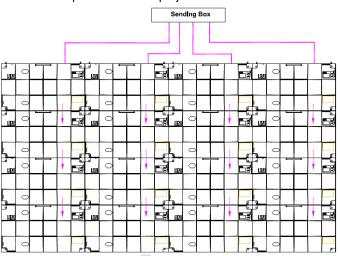


Fig 2-28 Signal Cable Connection Diagram of UHWII 1.2

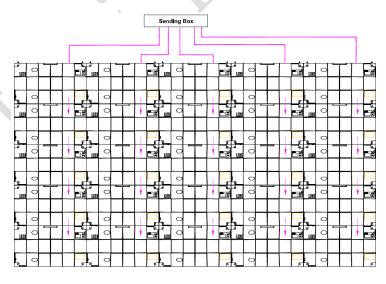


Fig 2-29 Signal Cable Connection Diagram of UHWII 1.5

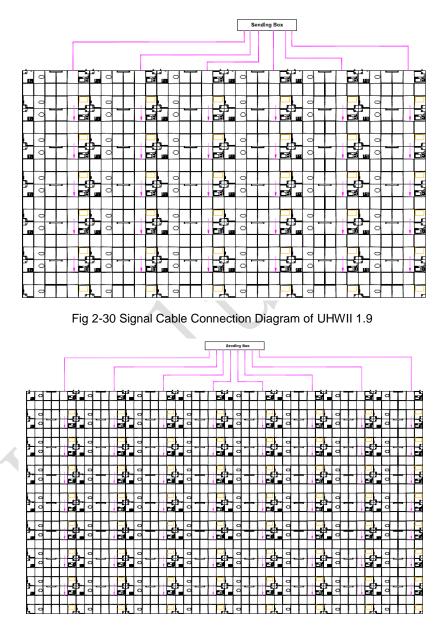


Fig 2-31 Signal Cable Connection Diagram of UHWII 2.5

2.4.3 Power Cable Connection

Figure 2-34 ~ Figure 2-37 shows the power cable connection for display with a resolution of 1920 x 1090. Power cables shall be connected based on the wiring diagram of the delivered products for the project.

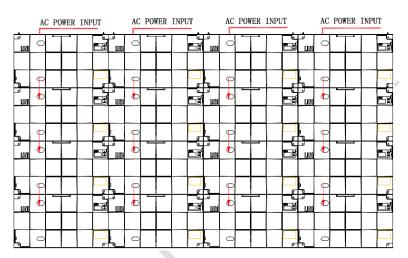


Fig 2-32 Power Cable Connection Diagram of UHWII 1.2

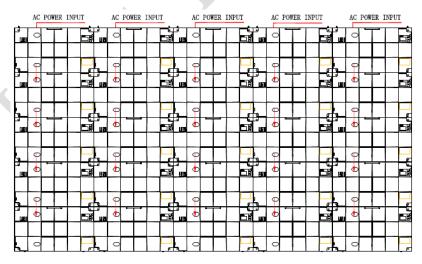


Fig 2-33 Power Cable Connection Diagram of UHWII 1.5

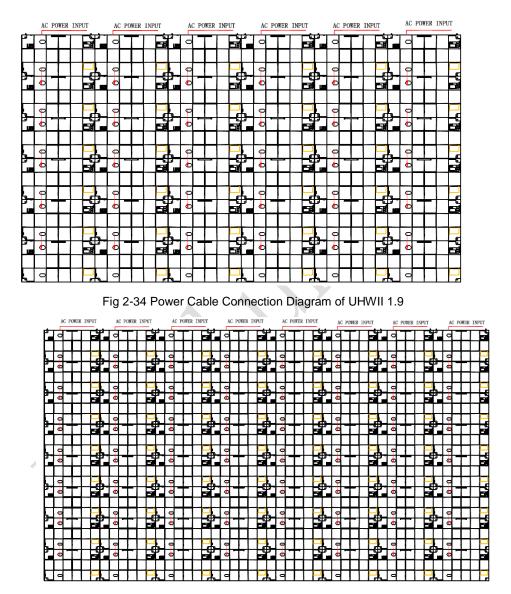


Fig 2-35 Power Cable Connection Diagram of UHWII 2.5

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.

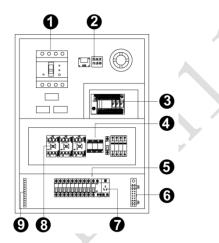


Fig 2-36 Internal Structure of Distribution Box

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
4	Relays	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.

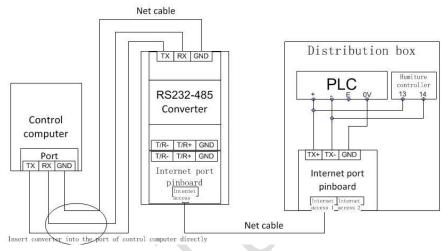


Fig 2-37 Distribution Box PLC Connection Diagram

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 high-power 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).

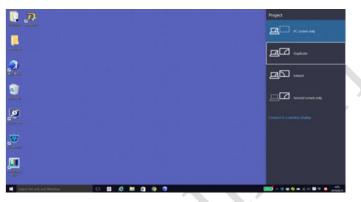


Fig 3-1 Replication Mode

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)	Tools(C)	Plug-in T	ool(P) Us	er(U) Lan	guage(Lang)	(L) Help(Ð			
Brightness	s Display		Ionitor Fur	Advanced Enter Dem action Card						
- Local Syster										
Control S	ystem:	1	Other	Device:	0	View	<u>/ Detail</u>			
Monitor Info										
	. -	- 111		$\langle \rangle$	8	*		-	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	<u> </u>
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)	Tools(C)	Plug-in To	ool(P) Us	er(U) Lanı	guage(Lang)	(L) Help(H	-1)		
Screen Co		tness Cali	bration Di	isplay Contro	Monitor	Function C	ard		
Control Syste	System:	1	Other	Device:	0	View	<u>v Detail</u>		
	-	0.0.0	122		~				
2		111			0	*		L L'L'	

Fig 3-5 Main Window for Advanced User

Click Next, as shown in Figure 3-6:

💀 Screen Config			×
- Select communication	port		
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.

Sereen Config-COM4	×
Display Mode Current Display Mode Sending Board Resolution: 920 x 1080 Graphics output resolution: 920 x 1080 Refresh	
Set the sending board display mode Resolution: 1920 x 1080 px Refresh Rate: 60 Hz Set	
Hot Backup Setting Set the current device: Set Master Device Set Slave Device Master Device Slave Device	
Master Sending Board Index Master Port Index Slave Sending Board Index Slave Port Index	
Refresh Send Add Edit Delete	
Factory Restore Save Config File Save Close	

Fig 3-7 Sending Board Configuration

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

Chip:	MBI5036	Size:	32W×16H	Scan Type:	1/2 scan	
1.1						>>
Direction:	Horizontal	Decode Type:	74HC138 Decod	ng Data Group:	2	
Cabinet Info						
Regular			© Irre	gular		
Pixel Width:	32 🚔			dth: ?? Heigh	nt ??	Please
Pixel Height:	16 🚔	<=128 the	e width	ading error. Please ad		make sure the width
-			d height LO	ading error. Prease ad	just periorm	and height of the
Module Case	Right to Left	▼ Ca	binet is 👻	Construct \	/iew Cabinet	cabinet is 🔻
Performance Set	ling					
Group Swap		ing				
Refresh Rate:	60		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			
-			chief control chi		(1-14)	
Line Change Ti	3	÷ (0~12)				
			Load F	ile Save File	Read From H	W Send To HW

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	
Senang Board Screen Connection	Screen N 1
Screen Type: Simple Screen Basic Information	Standard Screen Oroplex Screen
Location: X: 0 Y: 0	Virtual Mo 🔲 Enable
The current network port operations Sending Board Index	Scan Board Columns: 1 ResetAll Hide Line
1 Port Index 1 2 3 4	1 Sending#: Port Scan Bo.: Width:0 Height:0
Back Clear Port	
Scan Board Size Width: 128	
Height 128 🛓	
Detect Status	Note:Click or drag left mouse button to config screen, right ReadFile Save File Readform 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**.

		Screen N 1	- Config
			- Conag
n 🕐 Complex S	3creen		
iable			
Scan Board Rows:	10 Reset All	📉 Hide Line	
2	3	4	5
ng#.1 Sending#:1 Port:1	Sending#1 Port1	Sending#.1 Port.1	Sending#1 Port1
128 Width: 128 128 Height: 128	Width: 128 Height: 128	Width: 128 Height: 128	Ocon Bo 5 Width 128 ≣ Height 28
ng#.1 Sending#:1 Port.1	Sending#1 Port1	Sending#.1 Port:1	Sendine#.1 Port:1
128 Width 128 128 Height 128	Width 128 Height 128	Width: 128 Height: 128	Width:128 Height:128
ng#:1 Sending#:1 Port:2	Sending#1 Port2	Sending#1 Port2	Sending# 1 Port2 Ocean Br_5
128 Width 128 128 Height 128	Width 128 Height 128	Width 128 Height 128	Width:1:8 Height=28
ng#:1 Sending#:1 Port:2	Sending#:1 Port:2	Sending#.1 Port:2	Sendin(#.1 Port2
128 Width: 128 128 Height: 128	Width 128 Height 128	Width 128 Height 128	Width:128 Height:128
r drag left mou	se button to	config scr	een, right
R	ead File Save	File Read f	from HW Send To HW
	able Scan Board Rows: 1 Scan Board Rows: 1 Sending#1 Port1 5.4 Geom Der 228 Vieth128 Height128 128 Height128 129 Height128 129 Height128 129 Height128 129 Height128 129 Height128	able Scan Board Rows: 10 Reset All 2 3 19 Reset All 2 3 10 Reset All 2 4 10 Reset All 2 4 10 Reset All 2 10 Re	able Scan Boad Rows: 10 Reset/MI Hide Line 2 3 4 Sending#1 Sending#1 Point Point 2 3 4 Sending#1 Sending#1 Point Point 3 4 Sending#1 Sending#1 Point Point 3 4 Sending#1 Sending#1 Point Point 3 4 Sending#1 Sending#1 Sending#1 Sending#11 3 Sending#1 Sending#11 Sending#11 Sending#11 Sending#11 3 Sending#1 Sending#11 Sending#11 Sending#11 Sending#11 3 Sending#11 Sending#11 Sending#11 Point128 Height128 3 Sending#1128 Height128 Height128 Height128 Height128 128 Widh128 Height128 Height128 Height128 Height128 128 Height128 Height128 Height128 Height128 Height128

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 Te	ool(P) Us	er(U) Lang	guage(Lang)	(L) Help(H	-1)		
	Screen Con	- \ -	tness Cali	bration Di	splay Contro	Monitor	Function C	ard		
ľ	Local System									
	Control Sy	/stem:	1	Other	Device:	0	View	<u>/ Detail</u>		
	Monitor Info									
	H		-111		$\langle \rangle$	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.

M4-Screen1					
djustment Mode	_				
🔘 Manua) 🖉	Sched	Config O Aut	to	Config 💿 Auto adj	us Config
Display Quality				Gamma Adjustment	
Soft Mode	0	Enhanced Mode	9	Fixed Value	
irightness Adjustm	ent			Mode A O	Mode B
	~	-	_	•	* 2.8
•		255	\supset	Custom	Gamma Ta
		(100.	0%)	Custom	(Continue ros)
olor Temperature / Custom	Adjustment Chip:	BISC	36		
Gain	Carp.			RGB brightness	
R: e		F 101.54	%	R	> 255
					(100.0%)
G: 4		► 101.54	%	G: 4	+ 255
					(100.0%)
B: <		101.54	96	B: 4	255
Synchronous			~	Synchronous	(100.0%)
		Default Value			Normal mode
		Default value	J		Normai mode

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.

Chapter 3 LED Display Control Setting

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:

System(S)	Tools(C)	Plug-in To	ool(P) Us	er(U) Lan	guage(Lang)	(L) Help(H	-1)		
Screen Cor		tness Cali	bration Di	splay Contro	Monitor	Function C	ard		
Control S		1	Other	Device:	0	View	<u>/ Detail</u>		
Monitor Info									
H	. -	- 111		$\langle \rangle$	8	*		**	
					-				

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:

Select Operation	
	<u>1 Upload Coefficients</u> 2.Save 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) 5.Erase or reload coefficients

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**:

reen:1 Locat	tion:X=0, Y=0 Si		elect Area On creen		
(1, 1)	(1.2)	(1,3)	(1.4)	Zoom:	
(2, 1)	(2.2)	(2,3)	(2.4)	1.0	۲

Fig 3-15 Selecting Area for New Receiving Card

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

	Online Calibration Offline	Calibration Manage Co	efficients				
	Select the source of Co	efficients					
	 Database 	🔘 Refe	r to Su				
	Select Database:				Browse		
A	Select Adjust Lin				Browse		
\sim	Туре:	Unknown	Cabinet ID:				
	Columns:	Unknown	Rows:	Unknown			
	Discription:	Unknown					
	Upload Mode	🔘 Fast Upload	 Stable Upload 				
	L						
					Back	Next	Return



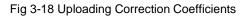
3) Select the corresponding correction coefficients:

Current operation communication	· · ·································	
OM4 +	database	◆ fg 混葉 database
Current Screen	▲ 编訳 ● 新建文件夹	81 · 🖬 🛛
Screen1		
	文件名(1);	◆ Access Database(*.mdb;*.db ▼ ぼ汀行(O) 取論
Display Screen	C	
ain Display 👻		
Enable/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 C	Coefficients				
COM4 *	Select the source of Co		er to Su				
@ Screen1	Select Database: Select Adjust Line	C:\Users\\inrende\De	sktopidatabasel50000	68_A1152.db		Browse	
	Туре:	Cabinet D_	Cabinet ID:	A1151	•		
	Columns: Discription:	-	Rows:	192			
	Upload Mode	Fast Upload	Stable Upload	>			
Display Screen							
tain Display 🔶							
Enable/Disable Calibraion					89	ck 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**.

djust Coefficie Simple	ents							
0 16 /4	0							
Red:	•				 	ľ	89.7	
Green:	*			 	 	, in the second s	89.6	
Blue:	*					,	92.8	
Advance	ed	Show Color V	Vi					

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.

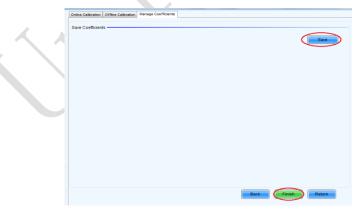


Fig 3-20 Saving Correction Coefficients

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:

Current operation communication	Online Calibration Offline	Calibration Manage Coe	ffcients			
DM4 +	Select the New Module					
Current Screen	Screen:1 Locat	ion:X=0, Y=0 S	ixe:512W×256H			
Screen1	O Screen O Pixe	· Topoli	agy or List	lect Area On reen		
					Zoom:	
	(1,1)	(1,2)	(1,3)	(1.4)	· ·	
	(1,1)	(1,2)	(1,3)			
					- 1.0	
	(2,1)	(2.2)	(2,3)	(2.4)		
isplay Screen						
nable/Disable Calibraion						
Disable •	-			Back	Next	
Unable						

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 Offine 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 Select Area On Serven
	Module Size: 16 x 16 x
	Display Mode: Modules Pixels
	3
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	Online Calibration Offline	Calibration Manage (Coefficients			
0M4 v	Select the source of Co		er to Su			
ument Screen	Database Select Database: Select Adjust Line Type: Columns: Discription: Upload Mode	© Ret Unknown Unknown © Fast Upload	Cabinet ID: Rows:	Unitrown	Provas	
Nsplay Screen						
nable/Disable Calibraion 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) Lan	iguage(L)	Help(H)		
Screen Conf Local System Control Sy	Multiple comes Messesset(A)	rol D	Monitoring <u>Vi</u>	Multi-function Card	Cloud Monitoring	
	Adjust screen effect Cloud Monitoring(C) Module Flash (U)			(). •		
	Receiving Card Relay(I)					
Service Status	Configure Information Management(I The Main Window Starting Position(F				.:	

Main Window

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

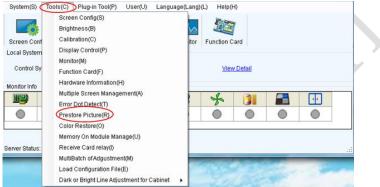
Module Flash		X
Current Oper	OM99 •	
Send by Address Send Select Screen	by Topology Screen:1 Starting coordinate X=0, Y=0 Size 512W×256H	
Screen1	Full O Select by Pix O Select by Topology O Select Area o	
	Operate All Pixels	
View calibration coef	ficient. Check coefficients in modu. Save calibration coefficient.	n 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 Stretch Test Effect
Save To Hardware Check Store Picture
Function Settings
Boot Screen
🗐 Enable Time: 2 🖨 s
Cable Disconnect
Black
No DVI Signal
Black O Last Frame O Prestore Picture
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.

3.4 Unilumin K series - Software Control Setting

3.4.1 Installing the Software

Open the optical disk provided for the delivered products. Install the LED control software Unilumin.exe stored in the optical disk to the control PC.



Fig 3-26 Software Installation

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

3.4.2 Display Configuration

3.4.2.1 Login to the Display Settings Interface

1) Open the software, enter the main window, click "Control" \rightarrow "LED Screen Settings"; enter the password: 168 in the pop-up password box ,then enter the LED Screen Settings interface, as shown below:

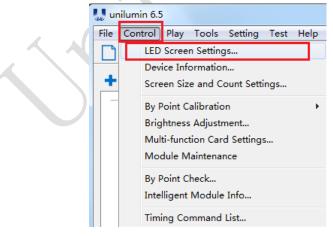


Fig 3-27 Main Window

		Passw	ord Ir	nput				x	_	
		Au	thorize	ed Passwo	rd					
				ОК		C	ancel			
			Fig 3	3-28 Ente	er the	e Pass	word			
D Screen Setting		lassiuss Mass	nofi ook From	Franti						
D Screen Setting ing Device <u>Screen</u> Select Sending Devi Net Card	Parameters R	Leceiver Mapp Sender		n Front) lay Box		Total: 0	No Sende	er Detected		Simulation Detect Senders
ing Device <u>Screen</u> Select Sending Devi () Net Card Input Signal Informa	Parameters R						No Sende		12	
ing Device <u>Screen</u> Select Sending Devi () Net Card	Parameters R	Sender				Detect			1 2 Run Time	
Ing Device <u>Screen</u> Select Sending Devi Net Card Input Signal Informa Type	Parameters R ice	Sender	© Pi			Detect	t Recever C	ards		Detect Senders
ing Device <u>Screen</u> Select Sending Devi Net Card Input Signal Inform: Type Size	Parameters R ice	Sender	© Pi			Detect	t Recever C	ards		Detect Senders
ing Device <u>Screen</u> Select Sending Devi Net Card Input Signal Informa Type Size Sender Resolution(t	Parameters F ice Image: S abon Image: S EDID) 1024 x 768	Sender	© Pi	lay Box		Detect	t Recever C	ards		Detect Senders
ing Device Screen Select Sending Devi Net Card Input Signal Inform: Type Size Sender Resolution(E Resolution	Parameters F ice Image: S abon Image: S EDID) 1024 x 768	iender Fr) Pi	lay Box	255	Detect	t Recever C	ards		Detect Senders
ing Device Screen Select Sending Devi Net Card Input Signal Inform Type Size Sender Resolution (R Resolution Advanced Paramete MTU	Parameters F cc ation EDID) 1024 x 768 er	iender Fr) Pi	lay Box		Detect	t Recever C	ards		Detect Senders
ing Device Screen Select Sending Devi Net Card Input Signal Inform Type Size Sender Resolution (R Resolution Advanced Paramete MTU	Parameters R exe exe exe () S () S (iender Fr) Pi	lay Box)	Detect	t Recever C	ards		Detect Senders
ing Device Screen Select Sending Devi Net Card Input Signal Informa Type Size Sender Resolution (R Resolution Advanced Paramete MTU Frame Output	Parameters R ece ece eco eco eco eco eco eco	Fr v	Pi ame Rate Better Grayk	Send		Detect	t Recever C	ards		Detect Senders

Fig 3-29 LED Screen Settings

3.4.2.2 Set the Sending Card

1) Detect Senders

Enter the LED Screen Settings interface, select the "Sending Device" page, and then click "Sender" \rightarrow "Detect senders". If the sending card is detected, the "Sending

Chapter 3 LED Display Control Setting

Device" page will display the information of the sending card in detail: the card type and quantity, the input signal information of the sending card, etc, as shown below:

LED Screen Set	tings					
nding Device Scr	een Parameters Receiver Ma	apping(Look From Front)				
Select Sending [Net C	Device	Play Box	Total: 0 No	Sender Detected		Simulation Detect Sende
Input Signal Infi Type	ormation		Detect Rece	ver Cards	All 1 2	
		Fig 3-30 E	Detect Send	ers 🔵		Y
ing Device Screen	n Parameters Receiver Mapping	g(Look From Front)				
Select Sending De	vice					
○ Net Ca	rd • Sender	O Play Box		arm 6.0		Detect Senders
Net Car	rd • Sender	O Play Box	Total: 1 52 6.0 Detect Receve		1 2	Detect Senders
○ Net Ca	rd © Sender mation	Play Box			1 2 Run Time	Detect Senders Support Chips
Net Car Net Car Input Signal Infor Type Size	rd © Sender mation DVI 1366 × 768 F		Detect Received	Cards All		
Net Car Net Car Input Signal Infor Type Size	rd © Sender mation DVI 1366 × 768 F		Detect Received	Cards All		
Net Car Net Car Type Size Sender Resolution Resolution	rd © Sender mation DVI 1366 × 768 F (EDID) 1366 × 768 V	rame Rate 60 Hz	Detect Received	Cards All		
Net Car Net Car Type Size Sender Resolution Resolution	rd © Sender mation DVI 1366 × 768 F (EDID) 1366 × 768 V	rame Rate 60 Hz	Detect Received	Cards All		
Net Car Net Car Type Size Sender Resolution Resolution Advanced Paramet	rd © Sender mation DVI 1366 × 768 F (EDID) 1366 × 768 ✓	Frame Rate 60 Hz Send	Detect Received	Cards All		
Net Cal Input Signal Infor Type Size Sender Resolution Resolution Advanced Parameter MTU	rd © Sender mation DVI 1366 × 768 F (EDID) 1366 × 768 ✓ ter Standard ✓	Frame Rate 60 Hz Send	Detect Received	Cards All		
Net Cal Input Signal Infor Type Size Sender Resolution Resolution Advanced Paramet MTU Frame Output	rd	Frame Rate 60 Hz	Detect Received	Cards All		

Fig 3-31 Sending Card Information

2) Input Signal View

After detecting the sending card , if the video signal is connected properly. The video input signal type, frame rate, width and height are displayed in detail in the "Input Signal Information".

ending Device	Screen Parameters	Receiver Ma	apping(Look From	Front)
Select Send	ling Device			
0	Net Card	 Sender 	C) Play Box
Input Signa	al Information			
Input Signa Type	l Information			

Fig 3-32 Input Signal Information

3) Settings the Sending Card Parameters

After detecting the sending card, can make some settings on the sending card parameters on the "Sending Device" page.

Input Signal Information Type DVI UIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	
Type DVI Size 1366 × 768 Frame Rate 60 Hz Sender Resolution(EDID)	ect Sender
Sender Resolution(EDID) Resolution Advanced Parameter MTU Standard Frame Output Every Frame Sync Method Auto	pport Chip
Resolution 1366 x 768 Send Advanced Parameter	port Chip
Advanced Parameter MTU Standard Better Graylevel On Low Brightness Frame Output Every Frame Sync Method Auto Send	
MTU Standard Better Graylevel On Low Brightness Frame Output Every Frame Sync Method Auto Send	
Frame Output Every Frame Sync Method Auto Send	
Frame Output Every Frame Sync Method Auto Send	
Sync Method Auto V Send	
Test Mode Off Y Port Area Setting	
Test Mode Off V Port Area Setting	
Test Mode Off Port Area Setting	
Factory Restore	

Fig 3-33 Settings the Sending Card Parameters

3.4.2.3 Screen Parameters Setting

After setting the send card interface, click "Screen Parameters" to set the screen parameters:

1) Click "Load..." to load the "xxxx. rcvbp " file on the CD

2) Click "Send"

3) After sending is complete, confirm that the display screen menu of the single receiving card is normal, click "Save to Receivers" to save

LED Screer	Setting	as									
Sending Device	Screen	Parameters	Receiver	r Mapping	(Look From Fr	ont)					
Module Info											
Mo	udle Size	16W×16H			Driver IC	Normal Chip		Data Polarity	Positive Phase	Reverse	
Sc	an Mode	32 scan			Decode IC	138 Decoding		OE Polarity	Low Valid	Reverse	
Cabinet Set	ting										
	Width	64		<=76	Cascade	From Right to Left	t 🔻	Data Group	Normal 16 grou	ps 🔻	
	Height	64	•	<=256	Split Style	No Split	•		Data Group	o Swap	
Performance	e Setting										
Refre	esh Rate	3840	•		Multiple	Refresh x 16	•	Calibration Mode	Disable	•	Blanking Phase
Gr	ay Level	8192	•		Gray Mode	Balanced Low Gra	у 🔹	Calibration	From Receiver	Cards 🔻	SCK Duty Ratio
	DCLK	15.6 MHz	•		Display Mode	Gray-level First	•	No Signal Action	Keep the Last F	rame 🔻	Intelligent Module Setting
Blanki	ing Value	0 🗘 (×100ns)	Brig	ghtness Level	8	•	Input Bit Depth	8bit	•	Custom Gamma Table
	Brightn	ess Percent:	60%		Minimum O	E: 19.2 ns		Enable Gradual	Disable	•	Other Parameters
								Gamma Value	2.8	•	Independent Setting
I	ntelligent	Setting		Scre	en Test		Send A	fter Modify			
Read		Load		Sa	ive	Send	Save to R	eceivers			
			_								

Fig 3-34 Screen Parameters

3.4.2.4 Display Connection

After the screen parameters are solidified to the receiving card, click on "Receiver Mapping" to setting, connect the display.

- 1) Click "Load...", load the "xxxx. mapping " files on the disc;
- 2) Click "Send";

3) After sending is complete, confirming that the display screen menu is normal, click "Save to Devices" to save.

Sender No. 🛨	*	~ ~ No.	⊞ 49] _	\otimes	100% ~	Show Connection Lines	Standard Complex
1	1	1	2	3	4		Receiver Card Layout
Port		Port: 1-2	Port: 1-2	Port: 1-2	Port: 1-2	1	Col Count 4
1-1	-	Index: 5 Width 128	Index: 6 Width: 128	Index: 7 Width: 128	Index: 8 Width 28		Row Count 4
Reset the Current Port Number	_	Height: 128 Port: 1-2	Height: 128 Port: 1-2	Height: 128 Port: 1-2	Height: 128 Port: 1-2		Reset All Select A
	~	Index 4 Width: 128	Index: 3 Width: 128	Index: 2 Width: 128	Index: 1 Width S.28		Selected Card Information
		Height: 128	Height: 128	Height: 128	Height: 128		No. 8
		Port: 1-1 Index: 5	Port: 1-1 Index: 6	Port: 1-1 Index: 7	Port: 1-1 Index: 8		Width 128
		Width 128 Height: 128	Width: 128 Height: 128	Width: 128 Height: 128	Width 28 Height: 128		Apply to Column
		Port: 1-1	Port: 1-1	Port: 1-1	Port: 1-1		Height 128 🗘
	4	Index: 4 Width: 128	Index: 3 Width: 128	Index: 2 Width: 128	Index: 1 Width S.28		Apply to Row
		Height: 128	Height: 128	Height: 128	Height: 128		Operation Guide
							= =
							th fit
Tapping is modified							
Read Load	Save	Send	Court	to Devices			

Fig 3-35 Receiver Mapping

3.4.3 Brightness Adjustment

In the main window, click "Control" \rightarrow "Brightness Adjustment", enter the brightness adjustment interface and adjust the brightness.

Chapter 3 LED Display Control Setting

- Carrier	ilumin 6.5								
File	Control	Play	Tools	Setting	Test	Help			
LED Screen Settings Device Information Screen Size and Count Settings									
	By Point Calibration								
	Brig	htness	s Adjusti	ment					
			tion Car Iaintena	d Settings nce	5				
By Point Check Intelligent Module Info									
	Tim	ing Co	mmand	List					

Fig 3-36 Brightness Adjustment

1anual Adjustment			
S2 6.0 arm 6.0			Detect Sender
		100%	
		6500 🗸 Enab	le Color Temperature
			Save To Sender
utomatic Brightness Ad	justmentDetect multi-fu	inction card(12.50)	
Enable Auto Adju	st Curve Edit		
Brightness	65%	Current Se	ttings: Auto Adjust
	Save To	Multi-function Card	

Fig 3-37 Brightness Adjustment Interface

There are various ways to adjust the brightness: automatic adjustment of multi-function card, timing brightness adjustment, manual adjustment, white balance adjustment, brightness correction adjustment, etc.

 Manual adjustment: In the brightness adjustment interface, manually pull the brightness bar to change the brightness percentage, adjust the brightness of the display.

ghtness Adjustment	\times
Ianual Adjustment	
S2 6.0 arm 6.0 Detect Sender	
100%	
6500 Color Temperature	
Save To Sender	
Automatic Brightness AdjustmentDetect multi-function card(12.50)	
Enable Auto Adjust Curve Edit	
Brightness 65% Current Settings: Auto Adjust	
Save To Multi-function Card	

Fig 3-38 Manual Brightness Adjustment

 Automatic brightness adjustment: In the brightness adjustment interface, check "Enable auto adjust" and click "Save to Multi-function Card". The brightness is the current brightness percentage of the display.

Brightness Adjustment	\times
Manual Adjustment	
S2 6.0 arm 6.0 Detect Sender	
100%	
6500 Color Temperature	
check on Enable Auto Adjust	
Automatic Brightness AdjustmentDetect multi-function card(12.50)]
Enable Auto Adjust Curve Edit save_parameters	
Brightness 65% Current Settings: Auto Adjust	
Save To Multi-function Card	
save parameters	

Fig 3-39 Automatic Brightness Adjustment

3.4.4 Calibration

3.4.4.1 Setting Coefficients for a New Module

1) First set the window to be greater than or equal to the actual screen pixel size;

🚙 un	ilumin 6.5							
	Control Play							
		.₽₽				🗗 🖓	🔸 🗘	
Sc	reen Size and (Count					×	
	Screen Count	1 •						
	Index	Х	Y	Width	Height	Positon	-	
	LED1	0	0	256	256	Start X	0	
						Start Y	0	
	set equ	Size Width Height	256 256					
							Apply	

Fig 3-40 Screen Size and Count

 In the main window, click "Control" → "By Point Calibration" → "Brightness Calibration", enter the calibration interface;

1	🚙 ur	nilum	in 6.5		
	File	Cor	itrol Play Tools Setting Test	Help	
	0		LED Screen Settings Device Information		
	+		Screen Size and Count Settings		
			By Point Calibration	+	Brightness Calibration
			Brightness Adjustment		Chroma Calibration
			Multi-function Card Settings		
			Module Maintenance		
			By Point Check		
			Intelligent Module Info		Unilumi
			Timing Command List		G



 Click "Get Screen Information" → "Read", get screen information and read back the screen correction coefficient;

🔳 Brig	htness	Calibra	ation										
Edit M	ode A	rea In	nport	Export									
Sender				5	Send and	Read							
Sender	r 1			\sim	,	Port	All Ports	\sim			Send		
Ge	Getting Screen Information Receiver All Cards ~ Read												
	the Coecient 1	Fine	-Tuning	0.02	~ +	•	Res		een Disp efault		ireen E	Blue W	hite
	1	2	3	4	5	6	7	8	9	10	11	12	13
1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
3	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
4	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
5	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
6	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
7	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Fig 3-42 Brightness Calibration

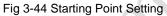
 Click "Import" → "By Region" → "Normal" to import the correction coefficient of the replaced spare module;

Sende	r.		All			>	_		_	1		
Sende	y 1		By F	legion	3	>	N	ormal.		4	S	
G	Getting Screen 1		0.00	By Receiver Card By Block					diant ¹ 3" lor-Space		Read	
Modify the Coefficient Coefficient 1 Fin				[0.02]			Dee		een Dis			
Coch	ident 1	Fine	-Tuning	0.02	~ 4		Rese	at D	efault	Red	Gr	
Red	Green		- Tuning	0.02	~ 4		Resi		efault	Red	Gri	
			-Tuning 3	4	5	6	7	8	9	Red	Gri	
	Green	Blue	3	4		-	7	B	9	10		
Red	Green 1 1.000	Blue 2	3 1. 000	4	5	1.000	7	8 1. 000	9	10	00	
Red	Green 1 1.000 1.000	Blue 2 1.000 1.000	3 1. 000 1. 000	4 1. 000 1. 000	5	1.000 1.000	7 1. 000 1. 900	8 1.000 1.000	9 1.000 1.000	10 1.00	00 1	
Red 1	Green 1 1,000 1,000 1,000	Blue 2 1.000 1.000 1.000	3 1.000 1.000 1.000	4 1.000 1.000 1.000	5 1.000 1.000	1.000 1.000 1.000	7 1.000 1.000 1.000	8 1.000 1.000 1.000	9 1.000 1.000	10 1.00 1.00 1.00	00	

Fig 3-43 Brightness Calibration

5) Enter the location of the module that needs to resend the correction coefficient;

Starting Point Setting		\times
Screen Size 256*256		
Start X 256	Start Y 256	
ОК	Cancel	



6) Selecting a correction coefficient file for the module of the corresponding area;

Brightness Calibration				
Edit Mode Area Import Export				
Sender Send an	id Read		Calibration Setting	
Sender 1 V	Port All Ports V	Send	Disable Calibration	
Getting Screen Information Rec	リ打开			×
	← → × ↑ 🖡 >	此电脑 » 桌面 » unilumin	> ひ 捜索"u	nilumin" 🔎
Modify the Coefficient Coefficient 1 Fine-Tuning 0.02 V	组织 🔹 新建文件夹			III • 🔟 🕐
I 2 3 4 5 1 1.000 1.000 1.000 1.000 1.000 2 1.000 1.000 1.000 1.000 1.000 1.000 3 1.000 1.000 1.000 1.000 1.000 1.000	 ★ 快速访问 ■ 桌面 ★ ▶ 下载 ★ 10 文档 	 ▲ 名称 ▲ 32OS ▲ 64OS ▲ clt_files ▲ config files 	^	修改日期 2019/1/17 9:43 2019/1/17 9:43 2019/1/17 9:43 2019/1/17 9:43
4 1.000 1.000 1.000 1.000 1.000 1.000 5 1.000 1.000 1.000 1.000 1.000 1.000		data		2019/7/22 9:28
6 1.000 1.000 1.000 1.000 1.000 7 1.000 1.000 1.000 1.000 1.000 1.000	لا	文件名(<u>N</u>):	~ Norma	al Coef (*.3fCoef, *.3BCc ~ 0
8 1.000 1.000 1.000 1.000 1.000 9 1.000 1.000 1.000 1.000 1.000				干(Q) 取消 。
10 1.000 1.000 1.000 1.000 1.000	1.000 1.000 1.000 1.00	00 1.000 1.000 1.000 1.000	0 1.000 1.000 1.000 1.000	1. 000 1. 000 1. 000 1. 000 1. 0

Fig 3-45 Selecting Correction File

7) After importing the calibration file, click "Send" to enable brightness correction;

Sender	r			5	Send and	d Read			_				_	Calibr	ation Set	tting			
Sende	er 1			~	I	Port	All Ports	, v			Send			Enabl	e Bright	ness(Co	ef from	Receiver	Card)
Ge	etting Scr	een Info	rmation		Rece	iver	All Card	s v			Read					Me	odify		
Modify	y the Coe	efficient						Sa	een Disp	lay			L						
Coeffi	icient 1	Fine	-Tuning	0.02	~ +		Res	et D	efault	Red G	Green E	Blue W	hite						
Red	Green					<i>u.</i>					1	1							
Red	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	2002
Red	1			10	1200			100		1220125	1999	100000	1000030	12.02%		000000	122070	12/45	2002
	1 1. 000	2	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1. 0
1	1 1.000 1.000	2 1.000	1.000 1.000	1.000	1.000 1.000	1.000 1.000	1.000 1.000	1.000 1.000	1.000	1.000 1.000	1.000 1.000	1.000	1.000 1.000	1.000 1.000	1.000 1.000	1.000 1.000	1.000	1.000 1.000	1.00 1.00
1 2	1 1.000 1.000 1.000	2 1.000 1.000	1.000 1.000 1.000	1. 0 1. 0 1. 0															
1 2 3	1 1.000 1.000 1.000 1.000	2 1.000 1.000 1.000	1.000 1.000 1.000 1.000	1.00 1.00 1.00															
2 3 4	1 1.000 1.000 1.000 1.000 1.000	2 1.000 1.000 1.000 1.000	1.000 1.000 1.000 1.000 1.000	1.0 1.0 1.0 1.0 1.0															

Fig 3-46 Brightness Calibration

 Open the LED screen setting window, on the screen parameter page :select "Brightness" in the "Calibration Mode", select "From Receiver Card" in the "Correction", and then click "Save to Receivers".

UED Screen Setting	IS							×
Sending Device Screen Par	rameters Receiver N	Apping(Look From Front	Ð					
Module Information								
Moudle Size 1	16W×16H	Driver IC	Normal Chip	Data Polarity	Positive Phase	Reverse		
Scan Mode	32 scan	Decode IC	138 Decoding	OE Polarity	Low Valid	Reverse		
Cabinet Setting								
Width	64	<=76 Cascade	From Right to Left	✓ Data Group	Normal 16 group	is v		
Height e	64	<=256 Split Style	No Split	~	Data Group	Swap		
Performance Setting								
Refresh Rate	3840 ~	Multiple	Refresh x 16	Calibration Mode	Brightness	\ v	Blanking Phase	
Gray Level	8192 ~	Gray Mode	Balanced Low Gray	✓ Calibration	From Receiver G	ards \sim	SCK Duty Ratio	
DCLK 1	15.6 MHz ~	Display Mode	Gray-level First	 No Signal Action 	Keep the Last Fra	ime 🖂	Intelligent Module Setting	
Blanking Value	0 × (×100ns) Brightness Level	8	 Input Bit Depth 	8bit	\sim	Custom Gamma Table	
Brightnes	ss Percent: 60%	Minimum C	DE: 19.2 ns	Enable Gradual	Disable	\sim	Other Parameters	
				Gamma Value	2.8	\sim	Independent Setting	
Receiver Cards parame	ters are modified							
Intelligent S		Screen Test		Send After Modify				
Read	Load	Save	Send S	Save to Receivers				

Fig 3-47 LED Screen Setting

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.

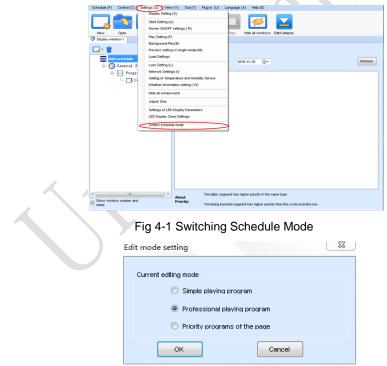


Fig 4-2 Edit Mode Setting

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 Window Setting							
Number of Display 1 Update Update							
Display window 1							
Name: Display window 1							
Start X: 3 🔷 Width: 400 🜩							
Start Y: -9 🚔 Height: 400 🚖							
On Top: 🔘 Never 🔘 Always 💿 Playing							
Set frame 20 HZ							
Show Display Window (Shift+H)							
Lock display window (Shift+L)							
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	J
🦳 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	
Please select the schedule file to be played.	
Play the schedule played last time	
Instant plug and play of USB disk	
OK	

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:

	w (V) Tool (T) Plug-i	n (U) Language (A) Help (E)
New (N) Open (O)		
Save (S)	S La L	
Save As (A) Save A	s Play Pau	se Stop Hide all windows Edit/Collapse
Backup (B)		
Export to USB Disk (E)	Data Data at Cabad	
Recent schedule (R)	From 2016-11-30	
- O General Segment 1	2010-11-30	
Program1		
- Common Windowl		
<	The	atter segment has higher priority in the same type.
Show window number and name	- About Prioritic	ining inserted segment has higher priority than the 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) Le	inguage (A)	Help (E)			
New Display win	Open dow 1	Save S	ave As	Play Pe		Stop Hie	e all windows	Edit/Collapse		
			22							
	i schedule General S Progr	iegment l	wi Em	Property ective Date Specified date clive Day of the All V Mor V Fric	From 2 Week Iday V ay V		💟 Wednesda 💟 Sunday			>
< Show wind name	m ow number an	a.								

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 Open Save </th <th>Schedule (P) Control (C)</th> <th>Settings (S) View (V)</th> <th>Tool (T) Plug-in (U) Language (A) Help (E)</th>	Schedule (P) Control (C)	Settings (S) View (V)	Tool (T) Plug-in (U) Language (A) Help (E)
Add scheddle ** Add scheddle Time Property Add Scheddle Time Property Add Scheddle Time Property Add Gopied Programs Page Name: Oriental Segment1 Add Copied Programs Page Ne Date Add Copied Programs Page Ne Date Add Copied Programs Page Ne Date Add Copied Programs Page If Monday IV Tuesday Paste IV Friday IV Saturday Move Up Nore Time Of the Day Move Down ID Day Prom 10.00.00 Profere Clear Programs Preview Current Segment Set screen		Save Save As	Page Pause Stop Hide all windows Edit/Collapse
Add schedule Time Property Add Programs Profite Program Page Add Copied Program Page Profite Prom. 2016-11-30 - To 2016-11-30 - Add Copied Program Page Add Copied Program Page Nonday Add Copied Program Page We Day of the Veekt Add Copied Program Page We Day of the Veekt Add Copied Program Page We Day of the Veekt Add Copied Program Page We Day of the Veekt Add Copied Program Page We Day of the Veekt Add Copied Program Page We Day of the Veekt Delete Clear Programs Preview Current Segnent Set screen	Display window 1	and the second second	
Move Down I Day From 10.00.00 To 11.00.00	Add schedule	Arrogram Page d Copied Program Page d Copied Program Page	Property Tave Date pacified date From 2016-11-30 - To 2016-11-30 - two Day of the Vieek u V Monday V Tuesday V Wednesday V Thursday
Clear Programs Preview Current Segment Set screen			
Set screen			
Hide Play window (Shift+H)	1.000		
	Hide	e Play window (Shift+H)	
		2000 C	-

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:

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 windows Edit/Collapse	
🗄 • 🗔 • 🗊 🗈 🛧 🖊 🗱 🦷		
Add schedule	Background Color:	
General Segment 1	Background Picture: No background picture	
e	Display Type: Stretch	
Connon Vindowl		
	Back Music: 🚽 🙀 🕹 🏌	i I
	Specify number of times:	
	Specify duration: 00:06:00	
	Cycle:	
× >		
Show window number and name		

Chapter 4 LED Display Playing Setting

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:		l.
B-O General Segment1	Background Picture:	No background picture	~
HolidayPage1	Display Type:	Stretch	~
Move Up Move Down Copy Paste Delete Clear Window Save the Current	v wccasting Window and Humidity Window and Humidity Window Window Layout nt Segment from the Curre	nt Program Page	

Fig 4-10 Program Page Operation Menu

4.1.3.3 Editing the Display Window

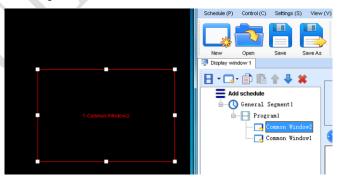
1) Adding a display window

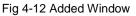
After adding a program page, you need to add a display window to this program page. Click **Add Window** on the toolbar of the program page to add a window to the current program page. See Fig 4-11:

Schedule (P) Control (C) Settings (S) View (V) Tool (T) Plug-in (U) Language (A) Help (E)	
New Open Save Save As Play	Pause Stop Hide all windows Edit/Collapse	
Display window 1		
	41	
Add Window (various kinds of media)	d Color.	
Scrolling Window	d Picture: No background picture 👻	
Clock Window	pe. Stretch •	
Timing Window	c	🕂 🗰 🏠 🛊 🗰
Temperature and Humidity Window		
	-	
Copying Window		
	city number of times: 1	
	city number of times: 1	
O Cycl		
• •		
Show window number and name		

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:

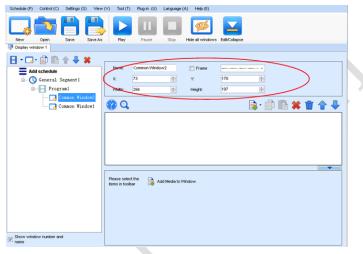


Fig 4-13 Setting the Window Size

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

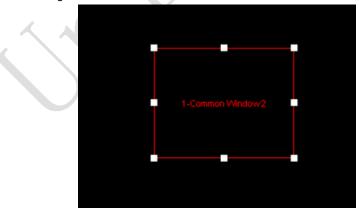


Fig 4-14 Adjusting the Window Size Using the Mouse

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:

Control (C)	Settings (S)	View (V)	Tool (T)	Plug-in (U)	Language (A)	Help (E)		
2				T		C		
Open	Save S	ave As	Play	Pause	Stop +	lide all windows	Edit/Collapse	
dow 1	-	~						
· 🗊 🖪 1	- J(🗙	1)_						
1 schedule	-		Name:	Common Winds	w/2	Frane		
General Se	gment 1		×	119	승	ĸ	119	(4)
Progra	al	_	Wath	166	-	Height:	131	0
and a second			0					A
		v1 🥄	94					📑 . 🗎
	Cpen dow 1 dow 1 d	open Save S dow 1 Save S source Save S Save Save S Save Save S Save S Save S Save S Save S Save S Save S Sa	open Save Save As open Save Save As dow 1 Save Save As source As Save	open Save Save As Play dow 1 Save Save As Play dow 1 Save Save As Play Play Save As Play Play Name: X Wath Conson Vindov2 Program2	Open Save Save As Play Plays Sover1 Save As Play Plays Sover1 Save As Plays Plays	Open Save Save As Pay Pause Stop down1 Pause Stop Stop <td>Open Save As Pay Payse Stop Hide all windows dow1 Payse Stop Hide all windows Hide all windows dow1 Image: Segment 1 Program 1 Program 1 Program 2 Frame image: Segment 1 Program 1 Image: Segment 1 Program 2 Program 2 Program 2 image: Program 2 Common Windows Image: Segment 1 Image: Segment 1 Program 2 Image: Segment 1 image: Program 2 Image: Segment 1 image: Program 2 Image: Segment 1 Image: Segment 1 Image: Segment 1 Image: Segment 1 image: Program 2 Image: Segment 1 Image: Segment 1 Image: Segment 1 Image: Segment 1 image: Program 2 Image: Segment 1 Image: Segment 1 Image: Segment 1 Image: Segment 1 image: Program 2 Image: Segment 1 Image: Segment 1 Image: Segment 1 Image: Segment 1 image: Program 2 Image: Segment 1 Image: Segment 1 Image: Segment 1 Image: Segment 1 image: Segment 1 Image: Segment 1</td> <td>Open Save Save As Pay Payse Stop Hide all windows EdB/Collapse down1 Image: Save As Payse Stop Fide all windows EdB/Collapse down1 Image: Save As Payse Stop Fide all windows EdB/Collapse down1 Image: Save As Image: Sav</td>	Open Save As Pay Payse Stop Hide all windows dow1 Payse Stop Hide all windows Hide all windows dow1 Image: Segment 1 Program 1 Program 1 Program 2 Frame image: Segment 1 Program 1 Image: Segment 1 Program 2 Program 2 Program 2 image: Program 2 Common Windows Image: Segment 1 Image: Segment 1 Program 2 Image: Segment 1 image: Program 2 Image: Segment 1 image: Program 2 Image: Segment 1 Image: Segment 1 Image: Segment 1 Image: Segment 1 image: Program 2 Image: Segment 1 Image: Segment 1 Image: Segment 1 Image: Segment 1 image: Program 2 Image: Segment 1 Image: Segment 1 Image: Segment 1 Image: Segment 1 image: Program 2 Image: Segment 1 Image: Segment 1 Image: Segment 1 Image: Segment 1 image: Program 2 Image: Segment 1 Image: Segment 1 Image: Segment 1 Image: Segment 1 image: Segment 1 Image: Segment 1	Open Save Save As Pay Payse Stop Hide all windows EdB/Collapse down1 Image: Save As Payse Stop Fide all windows EdB/Collapse down1 Image: Save As Payse Stop Fide all windows EdB/Collapse down1 Image: Save As Image: Sav

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:

New Open Sa Display window 1 Display - D -	we Save As Play	Pauce	Stop	Hide all windows	Edit/Collepse	
Add schedule	Move Down	Common Window	2	E Frame		
General Segm		119	*	Υ.	119	0
- Programi	2007/0	166	-	Height:	131	4
	on Window2	2				.
VI VI						

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.

+ IO.												
	Schedule (P)	Control (C)	Settings (S)	View (v) Tool (T)	Plug-in (U)	Language (A	.) Help (E)				
	New Display wir	Open xdow 1	Save S	ave As	Play	Pause	Stop	Hide all windows	Edit/Collapse			
		- m m	* + *									
		d schedule		<u> </u>	Name:	Common Wind	ow2	Frame				
		General S	egnent 1		×	119	\$	Y:	119	-		
		Progr			Width:	166	4	Height:	131	-		
			ommon Windo ommon Windo am2		00	a Test				🕒 · 🗊) III) X	r Trees
		- C. V										
					Text Prop							
					hello	5						
					Font	Arial		 Size (px) 		- 1	JUS	
					🛅 Text Et	fect Suspens	sion -	-	Depthy 2			
	Show wind name	low number an	1	-1	Colorful character	s: None			-			

Fig 4-18 Media Setting Window

2) Setting the media properties

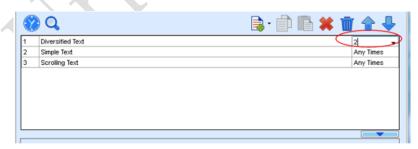
Different media have different properties. After a medium in the media list is selected, the property page of this medium is displayed below the selected medium. On this property page, you can change the properties of the medium. See Fig 4-19:

Schedule (P) Control (C) Settings (S) View	v (V) Tool (T)	Plug-in (U)	Language (A	i) Help (E)				
🗔 🍙 💾 💾		Ш		ø	$\mathbf{\underline{\sim}}$			
New Open Save Save As Display window 1	Play	Pause	Stop	Hide all windows	Edit/Collapse			
🗄 • 🗔 • 🗊 🖺 🛉 🦊 🗰		_						
Add schedule	Norne:	Common Windo	w1	Frame				
- O General Segment 1	X:	0	÷	Y:	0			
Program1	Width:	400	-	Height:	400			
- Common Window2								
Common Window1	😵 🔍				📑 -	e B	🗰 👚 🖊	
	1 Diversiti	ied Text					Any Times	
- 🛃 ¥1	2 Simple T						Any Times	
	3 Scrolling	g Text					Any Times	
	Edit Text							
	Background	t Pure color				See .	Transpare	
	Special					-		
	17	Random				- Speed	P 21 8	
	Special	Random				- Speed	5 🔶 0.1 s	
	Stay Time:	3		Ve	rtical line			
	Complete	e Diev	Play Du	ration on u	00 : 05 .000 🔄			
Show window number and name	Compress		hay bu	100 :1	00.05.000			
1100002								

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 drop-down list. See Fig 4-20:



Double click

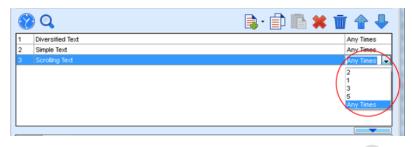




Fig 4-20 Changing the Media Playing Times

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 windows	EditCollepse	
Display window 1				
🗄 • 🗔 • 🗊 🗈 🛊 🗰				
Add schedule	Name: Common Winds	w1 Erane	· · · · ·	
General Segment1	X: 0	÷ Y:	0 🗘	
Program1	Width: 400	+ Height:	400	
Connon Window2		C Cope		
Common Window1	😵 Q		📑 · 📋) 🖺 🗰 🐩 👘 🔶
Program2	1 Diversified Text			Any Tines
- 🕞 ¥1	2 Simple Text	Move	Up	Any Times
	3 Scroling Text	Move	Down	Any Times
		Copy		
		Paste		
4			Media +	
		Delete	•	
	Text Property	Rena	ne	
	Hello!	Apply	Properties to	^
				× *
	Fort: Arial	 Size (px): 		3 I U S
	Text Effect Suspens	on	Depth: 2	* *
	Colorful None None		•	
Show window number and name	Horizontel align •	Vertical alionment: 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) Ver		Help (E)	
	Name Common Window1 X 0 2 Width 400 2	File Diversified Text Simple Text Single-row text Scrolling Text	
Conner Vindowi Program2 Vi	Overained Text Single Text Single Text Scrolling Text	Digtal Clock Flash clock Vista Clock Lunar Calendar Media	Any Tines
		Table Defabose Timing Digital Count-down Timer	
	Please select the 🕞 Add Media to tens in toobor	Vieather forecasting Temperature and Humidity 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:

🐺 Screen1		
Current Common Segment:	Segment1 [2012/6/27 0:00:00 To 2012/6/28 0:00:00] Pla	ying
Next Common Segment(I) a week):	^A Segment1 [2012/6/28 0:00:00 To 2012/6/29 0:00:00]	
Play Info		
Global Page		*
Common Page (Pa	gel) Status: Playing	
🛓 ¥ (0, 0, 359, 33	28)	E
Current	Media:oppo. AVI	
Nov+ Mad	is: Forsion 1 ino	-
Current Inserted Segment: Next Inserted Segment(In a week):	Inserted Segment2 [2012/6/27 18:48:00] Playing Inserted Segment2 [2012/6/27 18:50:00]	
Play Info		
Common Page (Pa	gel) Status: Playing	*
₩ (0, 0, 215, 18	34)	-
Current	Media:Analog clock	E
Next Med	ia: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

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:

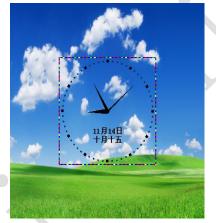
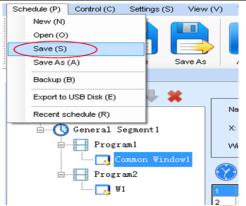


Fig 4-26 Transparent Displaying Effect of the Clock

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:

G- Chedule	r l	Window Editing Area			
General Segment1	ा राम			-	_ ×
Common Wind		文档 🔸	 ◆ ◆ 	文档	
	组织 ▼ 新建文件夹				. 0
	👔 मिर्ग 🧌	文档库		推列方式:文件	
	「「「「」」 「「」」 「」	包括:2个位置		1071/134 × XM	×
	92. 最近访问的位置	88	修改日期	供型	3
	100 5	Labeling	2016/8/15 13:42	文件夹	
		My ISO Files	2015/5/14 11:24	文件夹	
	_	My RTX Files	2016/7/1 9:18	文件夹	
		NovaDog	2016/8/21 19:13	文件夹	
	→ → 文档	NovaLCT 2012	2016/8/9 18:39	文件夹	
	> 👌 電乐	NovaStudio2012	2016/8/21 19:13	文件夹	
		🕌 RTXC File List	2014/7/11 8:45	文件夹	
	▶□慧计算机	🍶 Tencent	2014/4/25 9:51	文件夹	
		Tencent Files	2014/7/11 15:05	文件夹	
·		J. Tencent Hies	E014/7/11 13:03		

Fig 4-28 Opening a Playing Solution File

4.2 Unilumin K series - LED Display Playing Setting

4.2.1 Set the Count and Size of the Screen

Open the software, click "Control " \rightarrow "Screen Size and Count Settings" in the main window, as shown below:

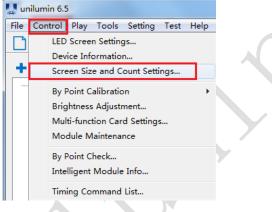


Fig 4-29 Main Window

Set the count of LED screens and the starting position and size of the screen in the " Screen Size and Count " window.

Sc	reen Size and (Count					X
	Screen Count	1 🔻					
	Index	Х	Y	Width	Height	Positon]
	LED1	0	0	256	256	Start X	0
						Start Y	0
						Size	
						Width	256
						Height	256
							Apply
	J						

Fig 4-30 Screen Size and Count Settings

4.2.2 Setting the Program Page

The program page is divided into two types: "Normal Page" and "Global Page".

Global Page: The program page that is played continuously during playback, can contain multiple windows. Only one global page can be set per screen.

Normal Page: The normal page can contain multiple windows, and each normal page can have different window layouts.

unilumin 6.5	
File Control Play Tools Setting Test Hel	
Normal Page	
Global Page	
Import Pages from another Program	
🖈 Rename	

Fig 4-31 Program Page

1) Click the button **•** on the program editing toolbar, pop up the menu to create a new program page;

🚆 unilumin 6.5 - new *	
File Control Play Tools Setting Test	Help II II
+ Canton Andread Control Contr	Page Properties Background Picture Background Color Background Music No Background Music
	Play Duration Image: by Appoint 1:00:00 Image: bit of the appoint of

Fig 4-32 Adding New Program Page

Chapter 4 LED Display Playing Setting

2) After creating the program page, click the Add button + or right click on the program page node to bring up the add program window menu.

	unilu	min 6.5 - new *	
Fil	e C	ontrol Play Tools Setting Test	ŀ
) E	∋ 8 @ 7 2 📝)	•
	_		1
		File Window	Pi
	Þ	Sync Window	B;
		Multi-Line Text Window	Bi
	н	Single Line Text Window	Ві
	I	Single Column Text Window	
		Subtitle Window	PI
	O	Clock Window	
		Timing Window	6
		Webpage Window	N
		StreamVideo Window	0
		RSS Window	
		Table Window	
		Database Window	_
Co		Weather Window	-
_		Video Capture Window	
	i	Environment Information Window	
$\overline{\mathbf{A}}$	1:1	Sports Scores Window	
		Desk Area Window	
	Þ	Play Current Page	
	<u>.</u>	Rename	

Fig 4-33 Add Program Window Menu

3) After adding the file window, select the file window and click the Add button to select the desired material.

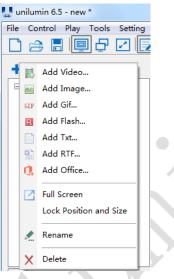


Fig 4-34 Material Menu

4) After adding the material, can set the material properties in the property box, as shown below:

🔜 unilumin 6.5 - new *	
File Control Play Tools Setting Te	st Help
	🕨 📗 🖬 🕞 🕞 🚱 🗠 🔩 🗘
+ 🖻 🖬 🕆 🕹 X Q	Image Properties
	Path D:\我的图片\洲明logo\洲明LOGO英文.png
in Normal Page 1	Size W 2818 Keep Aspect Ratio
→ MIBLOGO英文.png	H 516 Apply to All Pictures
	Opacity 100%
	Play Times 1 Rotate Normal
	Effect Properties
	None Random Repeat X 1 V Repeat Y V Connect
	In 02:Random Time 5 100ms
	Stay No Effect Time 50 100ms
	Out 02:Random Time 5 100ms

Fig 4-35 Display Setting Interface

4.2.3 Adjust Window Position and Size

Method One: Select the play window and then drag the mouse to adjust its size and position.

Method Two: Set it in the window properties, as shown below:

unilumin 6.5 - new *	
File Control Play Tools Setting Tes	st Help
	▶ ■ @ G G A A 4
+ ta	- Window Properties
Normal Page 1 File Window 1	X 0 🔷 Width 128 🛫
File Window 2	Y 0 Height 128
	Border 0 - Layer 2:Bottom - Same Effect
	Duration 0:00:00:000 File Count 0

Fig 4-36 Window Properties

The coordinate X: It lies on the top left corner of the window in pixels, which is accordingly on the left boundary of the LED screen.

The coordinate Y: It lies on the top left corner of the window in pixels, which is accordingly on the upper boundary of the LED screen.

Width: The width of the window in pixels.

Height: The height of the window in pixels.

Window operation icon: For window shortcuts, there are left, right, top, bottom, and maximize.

Border: To set the width of the window border line in pixels.

Color: To select the color of the window border line.

Layer: The window in the program page has a hierarchical position relationship, and "1: top" is for the most front.

Same Effect: The files in the window are played with the same special effects. Get rid of this check, you can set different effects. If checked, the image in the file window can be set to different duration and special effects.

Duration: The time is required for all programs to play in this window.

File Count: The number of programs within this window.

4.2.4 Playing the Program

 Play the current program file, click the play button ^[III] or click the main window "Play" → "Play" to start playing.

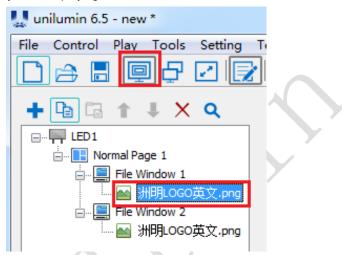


Fig 4-37 Play the Current Program File

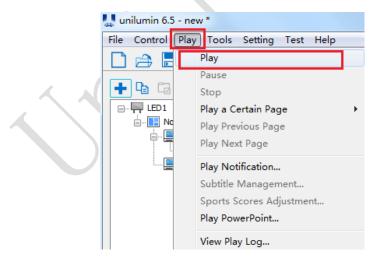


Fig 4-38 Play the Current Program File

Chapter 4 LED Display Playing Setting

2) Play multiple programs at the same time: Set the playback content, click the program page that want to play or click the "File" → "Open" button to open the file that want to play, then click "Play" → "Play" to play multiple programs. The program plays as shown in the figure:

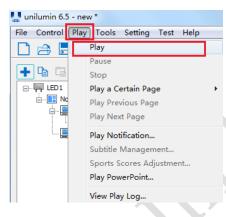






Fig 4-40 Program Plays

4.2.5 Edit Window

Delete: Select the material/window to be deleted, click the delete button to delete the material/window; or right click on the material/window to be deleted, and in the pop-up options, click "Delete", as shown below:

🚙 unilumin 6.5 - new *	
File Control Play Tools Setting Test	t Help
+ 🖻 🖬 🕆 👢 🗙 🔍	Image Pro
	Path
	Size
Add Image	
— 🔤 洲 📝 Full Screen	
Lock Position a	nd Size
🗶 Rename	
X Delete	1101
Fig 4-41 Delete	

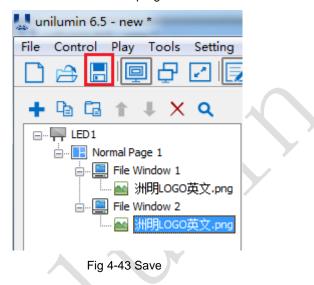
2) Copy: Select the window that want to copy, click the Copy button 🕒 , click the

copied location, and click the Paste button \Box .

🜉 unilumin 6.5 - new *
File Control Play Tools Setting
+ 🖪 🕯 🕸 🗙 🔍
🗄 📘 Normal Page 1
🗄 🖳 🧮 File Window 1
🖃 🛄 File Window 2 😍
🔤 洲明LOGO英文.png

Fig 4-42 Copy

Save: After making the desired program page, click the button ^I to save the button or click "File" → "Save" to save the program.



4.2.6 Timed Playback and Control

- Click "Control" → "Timing Command List" to enter the timing instruction list window;
- Click "Add..." to add an instruction. In the "Timing Command List" window, set the execution content and time of the instruction. If there are multiple instructions, repeat the operation.
- 3) The details of the instructions include: play, pause, play program, power on LED display, power off LED display, show on LED display, show off LED display, set brightness, show LED play screen, hide LED play screen, restart this application, close this application, restart computer, shut down computer.

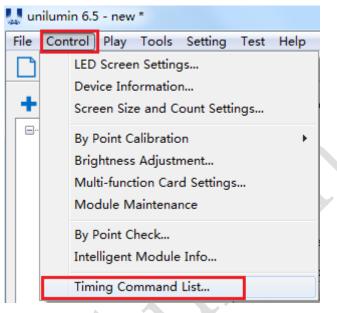


Fig 4-44 Timing Command List

ndex	Content	Execution Time	Valid Date	Valid Week	Program/Value

Fig 4-45 Action Table

Command	Play	•		
Execution	21.15.12			
Execution	21:15:13	T		
Valid Date		Valid Week		
Every Da	ау	No Limit		
Specified	d Date	Specified	Sunday	
From 2019/	7/18 -	Monday	Tuesday	
		Wednesday	y 🗌 Thursday	
To 2019/	7/18 👻	Friday	Saturday	
	ОК	Cancel		
	Fia 4-4	6 Timing Command	List	
		6 Timing Command	List	
Timing Comm		6 Timing Command	List	
Timing Comm	and List	6 Timing Command	List	
Timing Comm	and List Play	6 Timing Command	List	
	and List	6 Timing Command	List	
Command	and List Play Play Pause Play Progr	am	List	
Command	and List Play Play Pause Play Progr Power Onf Power Off	am LED Display f LED Display	List	
Command Execution	and List Play Play Play Progr Power On Power Off Show Off Show Of L	am LED Display f LED Display LED Display LED Display	List	
Command Execution	and List Play Play Play Progr Power On Power Off Show On L Show Off I Show Off I	am LED Display F LED Display LED Display LED Display Dess d Week	List	
Command Execution	and List Play Play Pause Play Progr Power On Power Off Show On L Show Off I Set Brighte ary Day Show LED	am LED Display f LED Display LED Display LED Display ness Play Screen I No Limit		
Command Execution Valid Date © Eve	and List Play Play Pause Play Progr Power On Power Off Show On L Show Off I Set Brighte ary Day Show LED	am LED Display LED Display LED Display LED Display LED Display ness Play Screen Play Screen		
Command Execution Valid Date © Eve © Spe	And List Play Play Pause Play Progr Power On Power Off Show On L Show Off Show Off Show CED Hide LED I ecified C Restart th Close this	am LED Display FLED Display LED Display LED Display LED Display ness Play Screen Play Screen is Application Application	dSunday	
Command Execution Valid Date © Eve © Spe	and List Play Play Pause Play Progr Power On Power Off Show On L Show Off I Show Off I Set Bright ery Day Show LED Hide LED I coffied C Restart th Close this 019/ 7, Restart Co	am LED Display LED Display LED Display LED Display LED Display ness Play Screen Play Screen is Application Application application Display Monda	d Sunday y Tuesday	
Command Execution Valid Date © Eve © Spe From 2	And List Play Play Pause Play Progr Power On Power Off Show On L Show Off Show On L Show Off Ery Day Show LED Hide LED Ecified E Restart th Close this 019/ 7 Restart CO Shut Dowr	am LED Display FLED Display LED Display LED Display LED Display ness Play Screen Play Screen is Application Application	d Sunday y Tuesday	
Command Execution Valid Date © Eve © Spe From 2	and List Play Play Pause Play Progr Power On Power Off Show On L Show Off I Show Off I Set Bright ery Day Show LED Hide LED I coffied C Restart th Close this 019/ 7, Restart Co	am LED Display LED Display LED Display LED Display LED Display ness Play Screen Play Screen Play Screen is Application Application omputer a Computer I Computer	c d Sunday y Tuesday esday Thursday	
Command Execution Valid Date © Eve © Spe From 2	And List Play Play Pause Play Progr Power On Power Off Show On L Show Off Show On L Show Off Ery Day Show LED Hide LED Ecified E Restart th Close this 019/ 7 Restart CO Shut Dowr	am LED Display ELED Display LED Display LED Display LED Display ness Play Screen Play Screen Play Screen Play Screen Play Screen Play Screen Play Screen Play Screen Monda Monda	c d Sunday y Tuesday esday Thursday	

Chapter 4 LED Display Playing Setting

Fig 4-47 Setting Timing Command List

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.
- 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
	Screent
	Prestore Picture Settings
	Select Pi Browse
	Effect Settings
	Screen Effect Stretch
	Cabinet Effect
	Save To Hardware Check Store Picture
	Save to Hardware
	Function Settings
\sim	Boot Screen
	🕑 Enable 🛛 Time: 🛛 🚱 🚖 s
	Cable Disconnect
	Black Last Frame Black Cast Frame O Prestore Picture Cast Frame O Second State Second Second Second State Second Second Second S
	No DVI Signal
	Black Cast Frame Prestore Picture
	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 To	ool(P) Use	r(U) Lan	iguage(Lang)	(L) Help(H)			
Screen Co	nfig Bright	tness Cali	bration Dis	play Contro	Monitor	Function C	Card			
-Local System	m Info									
Control S	lystem:	1	Other D	evice:	0	Viev	<u>w 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:

	Adjustment Mode	Sched	onfig 💿 Auto	Config 💿 Auto	adjus Config
	Display Quality Soft Mode Brightness Adjustmer	1997	inhanced Mode	Gamma Adjustment Fixed Value Mode A	Mode B
	· ①) 26 (10.2%)	Custom	2.8 Gamma Ta.
	Color Temperature Ad				
	Gain	Chip:	BI5036	RGB brightness	
	Gain			ROB brightness	
	R		101.54 %	R: 4	► 255 (100.0%)
- K - X	G: <		▶ 101.54 %	G: <	≥ 255
	B. <		▶ 101.54 %	B: <	(100.0%)
	Synchronous			Synchronous	(100.0%
			Default Value		Normal mode
				Refresh	Save To Hardwar
				\sim	2

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 T	ool(P) Use	er(U) Lang	guage(Lang)	(L) Help(H	H)		
Screen Co	nfig Brigh	tness Cali		splay Contro	Monitor	Function C	ard		
Local Syste	m Info			\bigcirc					
Control	Bystem:	1	Other [Device:	0	View	<u>r Detail</u>		
Monitor Info	1								
₩₩	-	111		\sim	8	*		 	
									· .



COM4-Screen1				
Black Out	Freeze		Run	
Self Test		6		
vVhite	•		Bend	
				lose

Fig 5-5 Display Control

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

	SN	Display	Ageing
A		Brightness	time
	1	10%	1 h
	2	30%	2 h
	3	60%	2 h
	4	80%	2.5 h
	5	100%	0.5 h

5.4.3 Unilumin K series - Ageing Operation

If the display is not used for 14 consecutive days, please follow the instructions below for aging before using it again.

In the main window, click "Test" - "Aging Test" to enter the aging interface. Drag the playback window on the software to the display area of the display.

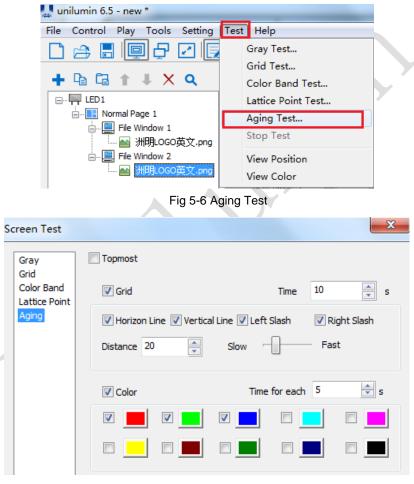


Fig 5-7 Screen Test

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 single-mode 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

1) Front installing:

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



2) Rear installing:

Replace a module of the LED display based on the following steps:

Step	Picture	Description		
1	8-2	Locate the faulty cabinet. Disconnect the power cable and signal cable		
2		Use a tool to suck out the faulty module		
3		Take out the faulty module and replace it with a new one.		

6.2.2 Replacement of Power Supply

1) Front installing:

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



2) Rear installing:

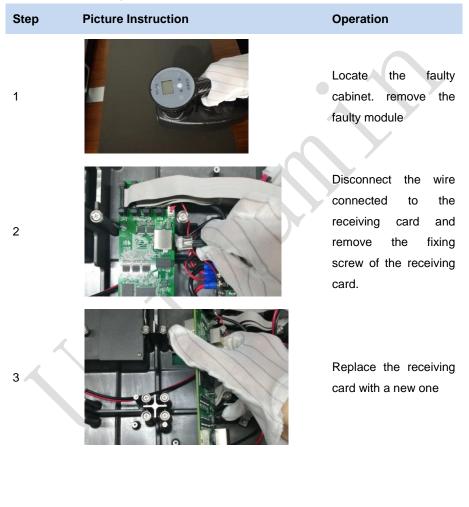
Replace a power supply of the LED display based on the following steps:

Step	Picture Instruction	Operation		
1	B-2	Locate the faulty cabinet. Disconnect the power cable and signal cable		
2		Use a tool to suck out the faulty module		
3		Locate the faulty power supply, remove the fixed screws of the power cable and the fixed screws of the power supply		
4		Take out the power supply .Replace the power supply with a new one.		

6.2.3 Replacement of Receiving Card

1) Front installing:

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



2) Rear installing:

Replace receiving card of the LED display based on the following steps:

Step	Picture Instruction	Operation		
1	B-2	Locate the faulty cabinet. Disconnect the power cable and signal cable		
2		Use a tool to suck out the faulty module		
3		Disconnect the wire connected to the receiving card and remove the fixing screw of the receiving card.		
4		Replace the receiving card with a new one		

Chapter 7 Packaging Transportation and

Storage

7.1 Packaging

The UHWII series products would be packed in carton, and the carton is vacuum-packed 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

Chapter 8 After-Sales and Warranty

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.

- 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.

Chapter 8 After-Sales and Warranty

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.

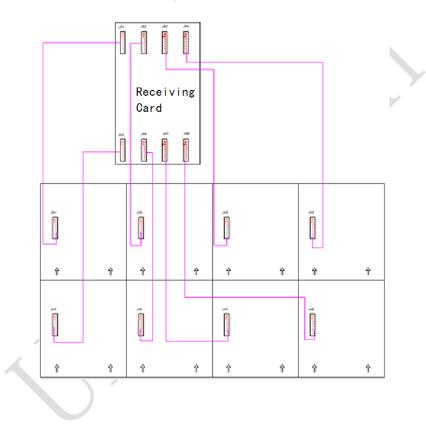
8.7 Product Warranty Card

Product Warranty Card							
Order No.	Shipment Date		Warranty Period				
Product Model			Product Quantity				
Customer Name	Contact Information						
Customer Address:							
Remark(s):							
	Warra	nty Record					
Warranty Date	Fault and Troubleshooting		ompletion Date	Signature of Customer			
	•						

Attachment 1 - Path of Signal Cable inside the

Cabinet

Cabinet Cable Connection Diagram of UHWII (Front View)





Contact Information

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