Unilumin

KslimII

PRODUCT MANUAL

Creative Indoor LED Display



UNILUMIN GROUP CO.LTD.

Revision Records

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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.
- Do not place or use the LED display in an environment with volatile, corrosive or flammable chemical products.
- Do not use the LED display outdoors in rainy days or when the humidity is higher than 80%.
- 7) Do not clean the LED display with water or chemical solvents.
- 8) Do not use any electrical accessories not approved by the equipment manufacturer.
- Make sure the LED display and its auxiliary devices are grounded correctly and reliably before they are used.
- 10) Switch off the power immediately and contact the professional personnel when the LED display has any abnormal conditions such as peculiar smell, smoke, electric leakage, and abnormal temperature.

♦ CAUTION!

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

- 1) Wear antistatic gloves when installing or repairing the product.
- Ensure good ventilation for the LED display when designing the heat dissipation solution.
- Keep the storage environment of the LED display well ventilated and dry, with a humidity not exceeding 85%.
- 4) Use single-phase power supply for an LED display with the total power consumption not exceeding 3 KW, and three-phase power supply for an LED display with the total power consumption exceeding 3 KW.
- 5) Ensure that the LED display is powered on at least twice per week, and at least 2 hours each time.
- 6) Installing the LED display in the following places may result in an equipment failure and reduce its lifespan: near the sea, in an area with salt and alkali or sulphurous gases, near a kitchen exhaust position, or at a place where the difference between indoor and outdoor temperatures is great. Consult our professional personnel at the service center if the LED display must be installed in any of these places.
- 7) Altitude during operation (m):5000m or less.

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Chapter 1 Product Introduction

The KslimII series is an innovative indoor LED display product launched by our company for the new commercial display application. Two standard sizes of cabinets realize mixed splicing and match different screen size applications, With soft module and arc corner screen design. The KslimII series can be mounted on the wall, installed on the floor, or hanged on the ceiling, depending on the requirements for front or rear installation and maintenance.

1.1 Features

- 1) Ultrathin and lightweight aluminum die casting structure with thickness of 39.6 mm.
- 2) Front & Rear maintenance and wireless connection between module and cabinet;
- 3) Support hanged installation, 90° right angle and rotation installation.

1.2 Cabinet Appearance

The Kslim II series products have two standard sizes of cabinets, including 500 \times 1000 mm , 500 \times 750 mm.

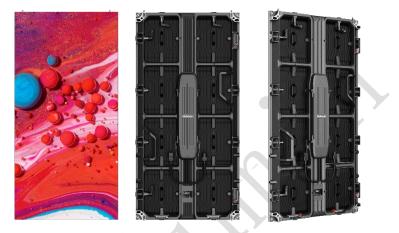


Figure 1-1 500mm*1000mm cabinet appearance

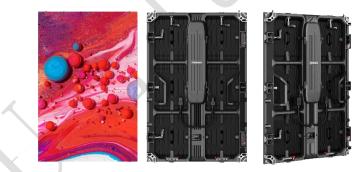


Figure 1-2 500mm*750mm cabinet appearance

1.3 Specification

Parameter	Kslim⊞1.5	KslimⅡ1.9	KslimⅢ2.5	KslimⅢ2.9	KslimⅢ3.9
Pixel composition			1R1G1B		L
Pixel pitch (mm)	1.5	1.9	2.5	3.2	3.9
Pixel density(dots)	409,600	262,144	160,000	112896	65,536
	320*640/	256*521/	200*400/	168*336/	128*256/
Pixels per panel(dots)	320*480/	256*384/	200*300/	168*252/	128*192/
Cabinet size (mm)	50	0 (W) *1000 (H)/*500 (H)/*	*750 (H) *39.6	(D)
Display area(m ²)			0.5/0.375		X
Material		D	ie-cast Alumin	um	
Weight(kg)			10/7.5		
Grey scale (bit)			14		
Refresh rate(Hz)			1920~3840		
Frame frequency(Hz)			50/60		
Data interconnection	Cable (≤	100m); Muti-mo	de fiber (≤300n	n); Sigle-mode fi	ber (≤15km)
Brightness(nits)	600	600	700	700	700
Color temperature(K)		2000)K~9300K Adju	stable	•
Contrast ratio			3000:1		
Viewing Angle(°)			155°/155°		
Input voltage(V)			AC 100~24	40	
Input frequency (Hz)			50~60		
Input power <max typical="">(W/m²)</max>			500		
Input power <typical>(W/panel)</typical>			167		
Storage temperature and humidity(°C/RH)		-2	0°C~+55°C/10-	85%RH	
Working temperature and humidity(°C/RH)		-10°C	C~+45°C/10-80'	%RH	
Ingress protection		F	ront IP30/Rea	- IP10	

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

1.4 Scope of Application

The Kslim II series can realize different shapes such as 90° right angle, square column, which is widely used in retail brand stores, large supermarkets, large commercial exhibition centers, high-end brand exhibition halls, hotel creative applications and other occasions.





Retail

Superstore



Exhibition hall



Airport

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

2.2.1 Fixed Installation

Kslim II products are installed sequentially as shown in Figure 2-1:

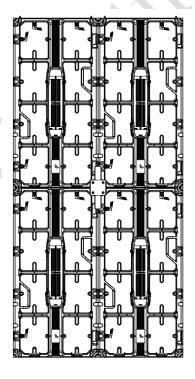


Figure 2-1 Rear View of the Display

Check whether the bottom beam is level. Make sure that its levelness is within ±1mm.

- Install the cabinets sequentially from bottom to top and from middle to both sides. In addition, fix the connecting plates and cabinets with installation screws to the square tubes.
- 2) Keep proper joints and flatness between the cabinets during cabinet installation.

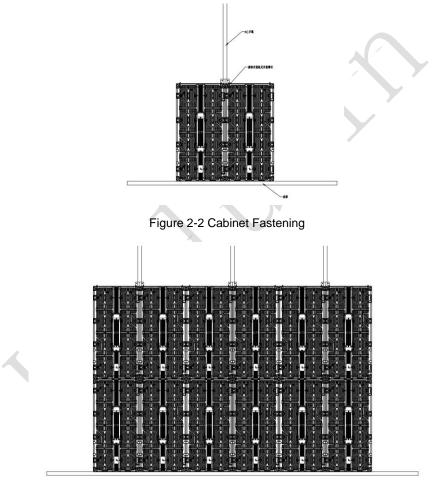
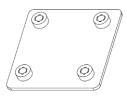


Figure 2-3 Rear View of Cabinet Installation









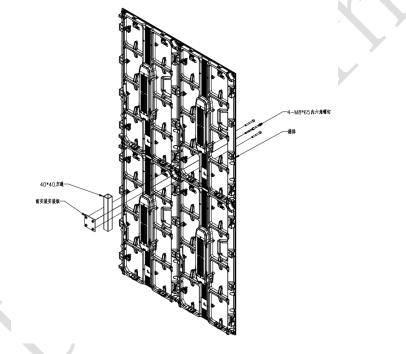


Figure 2-6 Front Installation Details

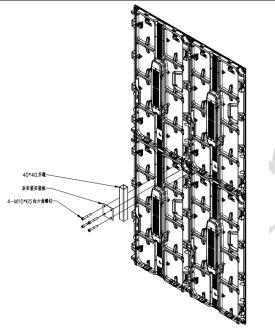
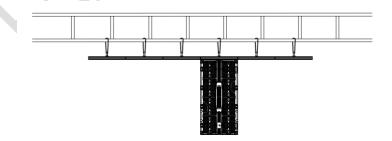
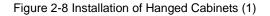


Figure 2-7 Rear Installation Details

2.2.2 Hanged Installation

1) Adjust the levelness of the hanging beam by using the synthetic fibre slings, to prevent tilting of the LED display, as shown in Figure 2-8.





2) Fasten the cabinets sequentially from middle to both sides. These cabinets can be fastened through plug screws to the hanging beam and can be fastened with each other through plug screws, as shown in Figure 2-9.

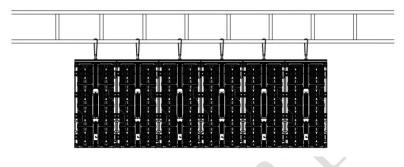


Figure 2-9 Installation of Hanged Cabinets (2)

3) Fasten other cabinets sequentially from top to bottom and from middle to both sides (the number of cabinets in the horizontal direction is not restricted while the total height of all cabinets in the vertical direction shall not be more than 10 m).

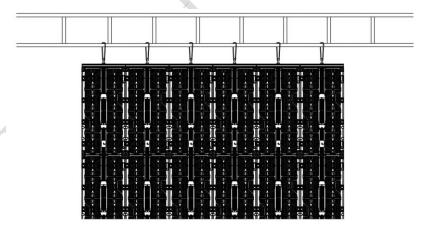


Figure 2-10 Installation of Hanged Cabinets (3)2.3 Wiring for LED Display

2.3 General Installation

2.3.1 Common cables



Incoming Power Cable



Power Cable Passing Through Cabinet



DVI Cable



Incoming Signal Cable



Signal Cable Passing Through Cabinet



2.3.2 Signal and Power Cable Connection

Figure 2-12 shows the signal cable connection for cabinets with an arrangement of 2 cabinets (Width) \times 2 cabinets (Height). Signal cables shall be connected based on the wiring diagram of the delivered products for the project.

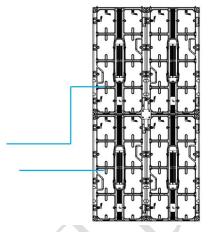


Figure 2-12 Signal Cable Connection Diagram

Figure 2-13 shows the power cable connection for cabinets with an arrangement of 2 cabinets (Width) \times 2 cabinets (Height). Power cables shall be connected based on the wiring diagram of the delivered products for the project.

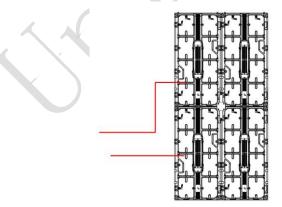


Figure 2-13 Power Cable Connection Diagram

2.3.3 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.

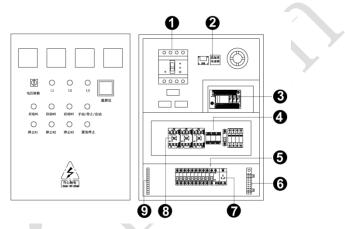


Figure 2-14 Internal Structure of Distribution Box

SN	Component	Remark (s)
1	Main switch	Three-phase five-wire Input
2	Temperature sensor	Used for temperature detection
3	PLC	Used for smart control
4	Dalaur	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.

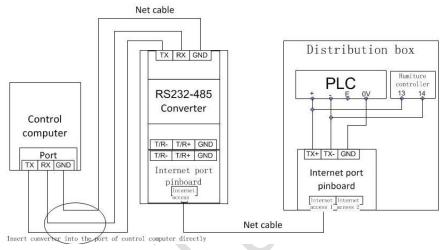


Figure 2-15 Distribution Box PLC Connection Diagram

Chapter 3 LED Display Control Setting

3.1 Power-on Testing

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

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

3.2 Starting the Hardware

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

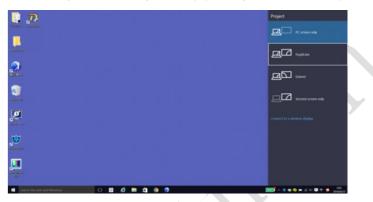


Figure 3-1 Replication Mode

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	Display		nitor Fur	Advanced Enter Dem action Card	Login(A) no Mode(E)					
-Local System										
Control S	/stem:	1	Other	Device:	0	View	<u>/ Detail</u>			
Monitor Info-										
H	-	111			8	*		-	Ŀ	

Figure 3-3 Main Window of UniLCT-Mars

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

💀 User Login		23
Password: [*	****	
Login	Cancel	

Figure 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) Use	er(U) Lan	guage(Lang)	(L) Help(H	-1)		
Screen Con	-	tness Cali	bration Di	splay Contro	Monitor	Function C	ard		
Control Sy Monitor Info		1	Other	Device:	0	View	<u>v Detail</u>		
	-	0.00	1000		- 0	4			
H	- 18 C	- 111			8	4		L L L L	
				1					

Figure 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

Figure 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.

	Board Scan B	oard Screen	Connection						
Curr	ay Mode ent Display Mo ending Board esolution:	de 1920 x 108		raphics outpu	it 1920 x 108	30		Refresh	
Re	he sending bo esolution: efresh Rate:	ard display 1920 x 1080 60		♥ Cus Hz	tom:	1920		Set	
	ackup Setting the current dev		t Master De	vice	Set Slave		Device		
	Mas	ter De	vice		S				
	Master Ser Board In		Master Po	ort Index	Slave Sen Board Inc	ding	Slave Por	t Index]
	Master Sei	nding		ort Index	Slave Sen	ding Jex	Slave Por	t Index	
F	Master Sei Board In	nding dex		ort Index	Slave Sen Board Ind	ding Jex	Slave Por		
	Master Sei Board In	nding dex		ort Index	Slave Sen Board Ind	ding Jex	Slave Por		

Figure 3-7 Sending Board Configuration

Chapter 3 LED Display Control Setting

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

ending Board Scar	Board Screen	Connection					1
Module Info	MBI5036	Size:	32W×16H	Scan Type:	1/2 scan		
Direction:	Horizontal	Decode Type			2	>>	
Cabinet Info							
Desuler							
Regular			irre	jular			
Pixel Width:	32 🖨	m	Please Wid	tth: ?? Heigh	it ??	Please	
Pixel Height:	16 🌻	<=128 ^{tt}		ading error. Please adj	ust perform	the width	
Module Casc	Right to Left		f the abinet is 🗸	Construct	/iew Cabinet	and height of the cabinet is	
Performance Sett	ing						
Group Swap	More Se	tting					
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	13	(1~14)		
Line Change Ti.		(0~12)					
		(3-12)	Load F		-		
Smart Setting			Load F	ile Save File	Read From F	W Send To HW	
				Save Config File	Save	Close	

Figure 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	
Screen1	Screen N 1
Screen Type: 🔘 Simple Screen	Standard Screen O Complex Screen
Location: X: 0 Y: 0	Virtual Mo 🔲 Enable
The current network port operations Sending Board Index	Scan Board 1 Scan Board 1 ResetAll Hide Line
1 Port Index	1 Sending#: Port 1 Scan Bo.: Width:0 Height:0
Connect to d	
Scan Board Size Width: 128	
Height 128 👘	Note:Click or drag left mouse button to config screen, right
Detect Status	Read File Save File Read from HW Send To HW
Factory Restore	Save Config File

Figure 3-9 Screen Connection

2) Click Send to HW.

Chapter 3 LED Display Control Setting

3)	After sending,	confirm that the	screen is com	plete. Then	click Save

ending Board Scan Board Screen Connection						
Screen1					Screen N	Config
Screen Type: 📀 Simple Screen	Standa	rd Screen	🖱 Complex Sci	een		
Basic Information Location: X: 0 Y: 0	Virtual Mo	Enable	••			
The current network port operations Sending Board Index	Scan Board Columns:		Scan Board 10 Rows: 10	ResetAl	📉 Hide Line	2
		1	2	3	4	5 *
1	1	Sending#:1 Port1 Scan ES 4	Sending#:1 Port:1	Sending#:1 Port:1	Sending#1 Port1	Sending#1 Port1
Port Index	1	Width:128 Height:128	Width: 128 Height: 128	Width 128 Height 128	Ocen Bo.:4 Width:128 Height:128	Height 28 E
1 2 3 4	2	Sending#:1 Port.1 Scan BI040	Sending#:1 Port 1	Sending#:1 Port:1	Sending#.1 Port:1	Sending#1 Port1 Boom Por 6
	2	Width:128 Height:128	Width 128 Height 128	Width 128 Height 128	Width:128 Height:128	Width:128 Height:128
Connect to d	3	Sending#1 Port2 Scan ES 1	Sending#:1 Port:2 Coon Do::2	Sending#:1 Port:2	Sending#.1 Port:2 Coon Do: 4	Sending#.1 Port:2 Coon Do:5
Scan Board Size	2	Width:128 Height:128	Width:128 Height:128	Width: 128 Height: 128	Width 128 Height 128	Width:1:8 Height:28
Width: 128	▶ 4	Sending#:1 Port2 Scan BQ 10	Sending#1 Port2 Con Boll3	Sending#1 Port2	Sending#.1 Port:2	Sendin(#.1 Port:2 Room Do:6
Height 128 0		Width:128 Height 128	Width: 128 Height: 128	Width 128 Height 128	Width: 128 Height: 128	Width:128 Height:128
	Note:Cli	ck or dra	g left mous	e button to	config sc	reen, right
Detect Status			Rea	d File Save	File	d from HW Send To HW

Figure 3-10 Screen Connection with Loaded File

3.3.3 Brightness Adjustment

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

System(S)	Tools(C)	Plug-in To	ol(P) User(U)	Language(Lar	ig)(L) Help(H	-1)		
Screen Co	- \ -	tness Calib	ration Displa	y Control Monito	Function C	ard		
Control	System:	1	Other Devi	ce: O	View	<u>v Detail</u>		
Monitor Info							 	_
₩₩	- 1	111		ا 😤	4		••	
								1

Figure 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					
e Manua 🔊	Sched	Config O Auto		Config 💿 Auto ad	ijus Config
Display Quality Soft Mode	0	Enhanced Mode		Gamma Adjustment Fixed Value	
Brightness Adjustme	ent			Mode A	Mode B
	_		~	•	2.8
•		(100.09	ر %)	O Custom	Gamma Ta.
Color Temperature A		BI503			
] Custom Gain	Chip:	B1503	Ь	RGB brightness	
Gain				ROB brightness	
R e		+ 101.54	%	R 4	255
	-		55		(100.0%)
G: 4		▶ 101.54	%	G: 4	+ 255
	-				(100.0%)
B: <		101.54	%	B. (255
Synchronous			~	Synchronous	(100.0%)
		Default Value			Normal mode
		L'onda Talde			Tronna mode.

Figure 3-12 Manual Adjustment

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

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

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

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

2. Automatic Adjustment

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

3.3.4 Correction Coefficient Management

The KslimII 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:



Figure 3-13 Main Window for Advanced User

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

🖶 Screen Calibration				
Current operation communication	Online Calibration	Offline Calibration	Manage Coefficients	
COM4 •	Select Operation	n ———		
Current Screen	1.Upload Co	efficients		
Screen1		cients to databas		
Screen 1		ents for a new sca		
		ients for a new mo	i <u>auie</u> ununiform on screeni	`
		load coefficients	and month of acreen.	2
		rection coefficients	Ł	
	J			
Display Screen				
Display Screen Main Display 👻				
Main Display 🗸				

Figure 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

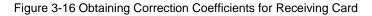
 As shown in Figure 3-15, select **Topology or List**. Select the position of the replaced receiving card. Click **Next**:

	on:X=0, Y=0 Si				
Screen 🔘 Pixel	Topolo	ay or List 📰 Sel Ser	lect Area On reen	-	1
				Zoom:	
(1, 1)	(1,2)	(1,3)	(1,4)		
				1.0	
(2,1)	(2,2)	(2,3)	(2.4)		

Figure 3-15 Selecting Area for New Receiving Card

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

Online Calibration Offline	Calibration Manage C	coefficients			
Select the source of Co	efficients				
 Database 	🔘 Ref	er to Su			
Select Database:				Browse	
Select Adjust Lin				Browse	
Туре:	Unknown	Cabinet ID:	~		
Columns:	Unknown	Rows:	Unknown		
Discription:	Unknown				
Upload Mode	🔵 Fast Upload	 Stable Upload 			
[
				Back Next	Return



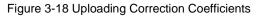
3) Select the corresponding correction coefficients:

Current operation communication		×
DM4 +	eg 1)∏ OO a ↓ database	• 4g 建素 database P
Current Screen	▲ 組织 ▼ 新建文件夹	81 • 🖬 😡
Screen1		
	文件名(1);	◆ Access Database(*.mdb;*.db ▼ 野开(O) 限調
Display Screen		
ain Display 👻		
nable/Disable Calibraion		Back Next Return

Figure 3-17 Selecting Correction Coefficients for Receiving Card

4) Select **Stable Upload** and click **Next**:

Current operation communication	Online Calibration Offline	Calibration Manage C	oefficients				
com4 v	Select the source of Co	efficients	er to Su				
Current Screen	Select Database Select Adjust Line Type: Columns: Discription: Upload Mode	C:WsersWinrendelDe Cabinet D 192	er to Su sktop/detabese/50000 Cabinet ID: Rows: @ Stable Upload	A1151 192	•	Browse	
Display Screen Main Display -							



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

ljust Coefficie	ents								
imple	0								
	1					_			
Red:	_							89.7	
Green:	*							89.6	
Blue:	۲.							92.8	
Advance	d	Show Color Wi							
				Ba	*	Next	Return		

Figure 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.

Online Calibration Offine Calibration Manage Coefficients
Omine Caloration Omine Caloration manage Occurrents
Save Coefficients
Save
Back Finish Return



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:

antScreen:1 Location:2-0, Y=0 Size:512V×2568	urrent operation communication	Online Calibration Offine	Calibration Manage Coe	fficients			
is coreant O Soreant Priorit Topology or Lat Statest Area to a Soceant (1,1) (1,2) (1,3) (1,4) I (2,1) (2,2) (2,3) (2,4) I day Scream	2014 *	Select the New Module					
(1,1) (1,2) (1,3) (1,4) 10 (2,1) (2,2) (2,3) (2,4) 10	urrent Screen	Screen:1 Locati	ion:X=0, Y=0 S	ixe:512W×256H			
(1.1) (1.2) (1.3) (1.4) (2.1) (2.2) (2.3) (2.4)	Screen1	O Screen O Pixe	🔹 Topol	ogy or List	lect Area On reen		
442 Screen Comy •		(1,1)	(1.2)	(1.3)	(1.4)	*	
Daviery v		(2,1)	(2.2)	(2.3)	(2.4)		
Daviery v							
					Back	Next	

Figure 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	8
Correct Operation Communication pert Operation Unrent Dorsen	Other Cathranten Tensor Coefficiente Statistica Harrow Mondation Statistica Harrow Mondation Statistica Harrow Mondation Topologica List Objetive Mondation Topologica List
Display Screen Man Deplay	The second secon



Chapter 3 LED Display Control Setting

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

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

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

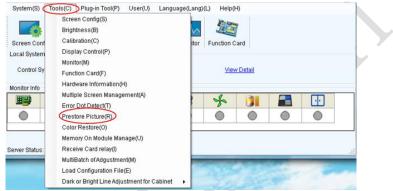
Current operation communication port	Online Calibration Offline	Calibration Manage C	Coefficients				
×	Select the source of Co		er to Su				
© Screen1	Select Database: Select Adjust Line Type: Columns: Discription:	Unknown Unknown Unknown © Fast Upload	Cabinet ID: Rows:	Unknown	Errest Errest		
Display Screen							
nable/Disable Calibraion					Back	Return	

Figure 3-23 Obtaining Correction Coefficients for a New Module

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
	Save To Hardware Check Store Picture
	Function Settings
	Boot Screen
	Enable Time: 2 🔆 s
	Cable Disconnect
	Black Last Frame Prestore Picture
	No DVI Signal
	Black Last Frame Prestore Picture
	Send Save To Hardware
l	11

Figure 3-25 Prestore Picture Settings

Chapter 3 LED Display Control Setting

1) Prestore Picture Settings

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

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

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

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

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

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

2) Function Settings

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

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

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

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

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

Chapter 4 LED Display Playing Setting

4.1 Unilumin N series - LED Display Playing Setting

4.1.1 Selecting a Playing Solution

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

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

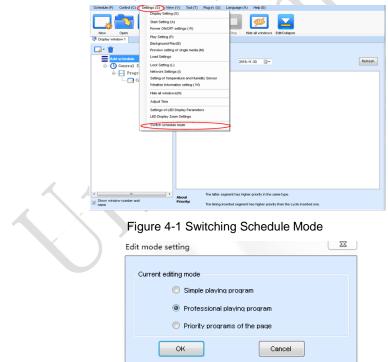


Figure 4-2 Edit Mode Setting

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 Wi	ndow Setting	J
Number of Windows:		
Display w	indow 1	
Name:	Display window 1	
Start X:	3 🚔 Width: 400 🚔	
Start Y:	-9 🚔 Height: 400 🚔	
On Top:	🔘 Never 🔘 Always 💿 Playing	
Set frame rate:	20 🔻 HZ	
🔽 Show	/ Displaγ Window (Shift+H)	
E Lock	display window (Shift+L)	
🔽 Displa	ay Window Border Line	
	er the display window is locked, it is unable to use the change size and position of display window.	
	OK Cancel	

Figure 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 Figure 4-4:

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

Figure 4-4 Startup Setting

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

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

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

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

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

4.1.3 Editing Professional Playing Solution

4.1.3.1 Editing the Time Segment

1) Creating a playing solution

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

Schedule (P) Control (C) Settings (S) View	v (V) Tool (T) I	Plug-in (U) Langu	age (A) Help (E)		
New (N) Open (O)					
Save (S)			, %		
Save As (A) Save As	Play	Pause Stop	Hide all windows	Edit/Collapse	
Backup (B)					
Export to USB Disk (E)					
Recent schedule (R)	Date Range of S				
- C General Segment 1	From 2016-11	-30 🗊 🕈 To	2016-11-30		Refresh
Programi					
Common Window1					
*	About	The latter segment h	as higher priority in the s	same type.	
Show window number and name	Priority:	The timing inserted s	egment has higher priori	ty than the cycle inserted one.	

Figure 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 Figure 4-6:

Schedule (P) Control (C) Settings (S) View (V) Tool (T) Plug-in (U) Language (A) Help (E) New Open Save Save As Play Pluge Stop Hide all windows Edit/Collepse © Display window 1
Add schedule Ad
Show window number and name

Figure 4-6 Properties of General Time Segment

 \sim

4.1.3.2 Editing the Program Page

1) Creating a program page

As shown in Figure 4-7, right click **General Segment** or click the **Add Global**

Program Page in the toolbar to create a program page:

Schedule (P)	Control (C) Settings (S) View (V)	Tool (T) Plug-in (U) Language (A) Help (E)
SPA		
New	Open Save Save As	Play Pause Stop Hide all windows Edit/Collapse
Display wir		
	15 A L ¥ 🖬 👘	
	a schedule	e: General Segment1
	Ter Ter	e Property
	Add Programs	tive Date pecified date From 2016-11-30
	Add Global Program Page	
	Add Copied Program Page	tive Day of the Week
	Сору	w IV Friday IV Saturday IV Sunday
	Paste	
	Move Up	Ive Time Of the Day Day From 10.00.00 😨 To 11.00.00
	Move Down	
	Delete	
	Clear Programs	_
	Preview Current Segment Set screen	
	Hide Play window (Shift+H)	
the second secon	A CONTRACTOR OF	
IV name	ow number and	
		/
	Figure	4-7 Creating a Program Page
	guit	

Figure 4-7 Creating a Program Page

Chapter 4 LED Display Playing Setting

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 Figure 4-8:

Schedule (P) Control (C) Settings (S) View	(V) Tool (T) Plug-in (U) Language (A) Help (E)	
New Open Save Save As	Pay Pause Stop Hele all windows Edit/Collapse	
Display window 1		
🗄 • 🗔 • 🗊 🖺 🛧 🦊 🗱 🎽		
Add schedule	Background Color:	
General Segment 1	Background Picture: No background picture	
Programl	Diaday Basis	
Common Windowl	Display Type: Stretch •	
	Back Music:	🕂 🗰 🛧 🛊 🗰 📗
	Specify number of times: 1	
	Specify duration: 00:06:00	
	O Cycle:	
· · · · ·		
Show window number and name		
name		

Figure 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:



Figure 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 Figure 4-10.

Add schedule	Background Color: Background Picture:	No background picture	•
HolidayPagel	Display Type:	Stretch	~
Add Scrolling Win Add Clock Window Add Timing Window Add Timing Window Add Temperature More Up More Down Copy Paste Delete Clear Window Save the Current	v wccasting Window and Humidity Window		

Figure 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 Figure 4-11:

Schedule (P) Control (C) Settings (S) View (V) Too Control (C) Settings (S) View (V) Too New Open Save As Save As Pie Coglay window 1	(1) Plug-in (U) Language (A) Help (E) Image: project to the state of the stat	
Copying Window	Nd Color: nd Pichare: No background picture • pe: Stretch • C	+ ≭ ☆ ↓ 1
	ecity number of times: 1 🚱 ecity duration: 00.06.00 😥 de:	

Figure 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 Figure 4-12:

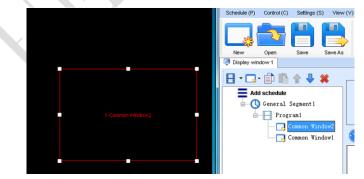


Figure 4-12 Added Window

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 Figure
 - 4-13:



Figure 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 Figure 4-14:

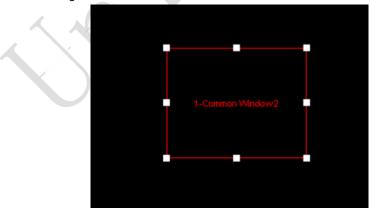


Figure 4-14 Adjusting the Window Size Using the Mouse

Chapter 4 LED Display Playing Setting

3) Deleting a display window

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

- 🖬 • 🗊	B + 4				100 av 2017	-	
Add sche	edule eral Segment1	Name: X:	Common Wind	ow2	Frane Y	119	
	Program1	Wath	166	÷	Height	131	0
	Conson Windo						R • 1
• E	Program2						

Figure 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 Figure 4-16:

Schedule (P)	Control (C)	Settings (S)	View (V)	Tool (T)	Plug-in (U)	Language (A)	Help (E)		
New	Open	Save S	ave As	Play	Paupe	Stop 1	ide al windows	Edit/Collapse	
Display win	1								
	f schedule		Down	Name:	Common Windo	7W2	🛅 Frame		
	General S			x	119	*	Y.	119	(\$)
0	Progr	un l		Wath	166	-	Height:	131	*
		ommon Vindo		0					. d
6		ommon Windo	w1	4					
Ĩ	TIOET								
	-								

Figure 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 Figure 4-17:

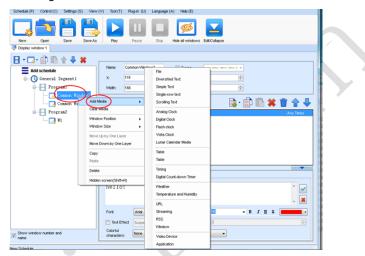


Figure 4-17 Adding the Media

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

Schedule (P) Control (C) Settings (S) View	(∀) Tool (T) Plug	p-in (U) Language (A)) Help (E)		
New Open Save As	Pay P	ause Stop	Hide all windows	Edit/Collapse	
🗄 • 🗔 • 🇊 🗈 🛊 🖊 🗰					
Add schedule	Name: Comm	ion Window2	E Frano		
- O General Segmenti	×: 119	-	Y.	119 🚖	
Program	Vildth: 166	e	Height:	131 🔄	
Common Vindov2	😵 Q.			📑 - 🗊	🗈 🗰 👚 🐥
Program2	1 Scroling Text				Any Times
V1					
	Text Property				
	hello!				^ 🖌
					- 🕱
	Fort	Arial	 Size (px); 	10 - B	IUS -
		Suspension -		epth 2	+
Show window number and name	Colorful	None		•	
12 name	characters:			-)	

Figure 4-18 Media Setting Window

2) Setting the media properties

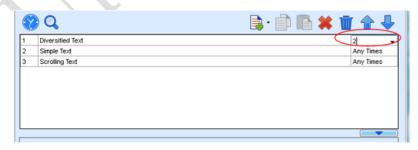
Different media have different properties. After a medium in the media list is selected, the property page of this medium is displayed below the selected medium. On this property page, you can change the properties of the medium. See Figure 4-19:

Schedule (P)	Control (C)	Settings (S)	View (V)	Tool (T)	Plug-in (U)	Language (A)) Help (E)					
	V				П		ø	$\mathbf{\underline{\sim}}$				
New Display wind	Open	Save	Save As	Play	Pause	Stop N	Hide all windows	Edit/Collapse				
8 • 🖫 •	é B	술 🕂 🕯							_			
Add :	schedule			Name:	Common Windi	sw1	Frome		-			
<u> </u>	General S	egnent 1		X:	0	*	Y:	0	8			
j.	Progr	an1		Wath	400	\$	Height:	400	8			
	o	ommon Wind										
		ommon Wind	ov1	2 Q				- 📄	- 💼 🗈	🗶 📺	≙ ♣	
-	Progr	an2		Diversitie	ied Text						w Times	
	- 🗔 v	1	2	Simple Te							vy Times	The second secon
			3	Scrolling	a Text					An	vy Times	
				Edit Text								
			E	Background	t Pure cele			-	30.00	Transpare.		
				Special								
				1	Rendom				- Speed	2	.1 s	
			1	Special .	Random				- Speed	5 🔶	.1 s	
				Stay Time:	3		- V	rtical line				
				Complete	a Diau	Play Dur	untiner los					
Show window name	v number and	a l		_ complete	o riaș	Play Dur	00 :	00 : 05 .000 🛃				
r name												

Figure 4-19 Properties of Medium

3) Editing the media in the common window

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



Double click

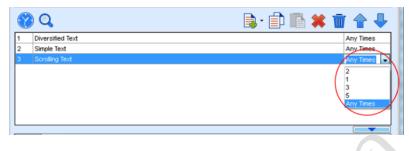




Figure 4-20 Changing the Media Playing Times

Right click the media to perform operations on the selected media, as shown in Figure 4-21:

Schedule (P) Control (C) Settings (S) V	iew (V) Tool (T)	Plug-in (U)	Language (A)	Help (E)				
New Open	Save Save	3 🔽	Pause	Stop H	de al windows	Edit/Collepse			
Display window 1									
∃ • □ • 🗊 🛛		Name:	Common Winds	ow1	Frame				
Add schedul		×	0	A.	Y	0	÷		
- C Genera									
e Pr		Width:	400	÷	Height:	400	÷		
	Common Window2 Common Window1	8 Q					🔒 · 🏚 🛙	1 🗱 1	1 🛧 🖡
i Pr	ogram2	1 Diversif							Any Times
	1 41	2 Strole 3 Scroliny Text Prop Hello Fort Colorni characters	arty Arial Suspens	ion v	Copy Paste Insert Deleb Rena Apply	t Media e me / Properties to	, , , , , ,	Т <u>Т</u> S П	Arry Tines Arry Tines
Show window number name	and	Horizontal alignment:	Align 👻	Vertical Alg	n • Spacing:	1 📩 Kernin	g 0 💠	📄 Ve	ertical line

Figure 4-21 Media Operation Menu

Chapter 4 LED Display Playing Setting

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

Schedule (P) Control (C) Settings (S) View		Help (E)	
Add scheddw Add scheddw General Seganti Prograni Connon Window? Progran2 Progran2 Progran2 Progran2 Progran2	Name: Conntion Window1 X 0 Width: 400 I Diversited Text 2 Sniple Fed 3 Scrolling Text Please select the tens in toobbar	File Diversified Text Simple Text Simple Text Scrolling Text Analog Clock Dight Clock Dight Clock Flash clock Visite Clock Lunar Celerator Medie Table Didabose Traing Dight Court-down Timer Velather forecasting Temperature and Humsity URL Streaming Medie Window RSS	Any Trees Any Trees Any Trees Any Trees
Show window number and name		Video Device External Program Add Copied Media	

Figure 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 Figure 4-23:



Figure 4-23 Play Key on the Toolbar

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

Screenl	
Current Common Segment: Segment1 [2012/6/27 0:00:00 To 2012/6/28 0:00:00] Playi:	ng
Next Common Segment(InSegment1 [2012/6/28 0:00:00 To 2012/6/29 0:00:00] a week):	
Play Info-	
Global Page	~
E-Common Page(Page1) Status:Playing	-
Ė₩ (0, 0, 359, 328)	=
Current Media:oppo.AVI	
Nevt Media: Foreign 1 ing	
Current Inserted Segment2 [2012/6/27 18:48:00] Playing	
Next Inserted Segment(In a week): Inserted Segment2 [2012/6/27 18:50:00]	
Play Info	
Common Page(Page1) Status:Playing	
[±] ₩ (0, 0, 215, 184)	
Current Media:Analog clock	E
Next Media: Analog clock	
Play Error	1.57
	*

Figure 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 Figure 4-25:



Figure 4-25 Short-cut Menu

Chapter 4 LED Display Playing Setting

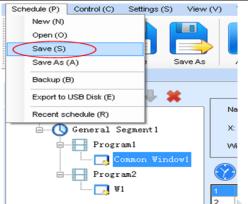
Attention: All display windows on the same program page plays simultaneously. If the display windows overlap with each other, the upper-layer windows will cover the lower-layer windows. For example, if you add a common window and then a clock window of the same size and coordinate, the common window 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:



Figure 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 Figure 4-27:



Chapter 4 LED Display Playing Setting

Figure 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 Figure 4-28:

G- Chedule		Window Editing Area			
General Segment1	山 打开			_	×
Common Wind	G	2档 🔸	 ◆ 47 建度。 	文档	ş
	▲ 组织 ▼ 新建文件夹			II •	. 0
	・ 第7 章 第7 章 二章	文档库		排列方式: 文件	挟 ▼
	121 最近访问的位置	名称	修改日期	供型	×
	135	labeling	2016/8/15 13:42	文件夹	
		🎉 My ISO Files	2015/5/14 11:24	文件夹	
	▶■ 圏片	My RTX Files	2016/7/1 9:18	文件夹	
	> 文档	NovaDog	2016/8/21 19:13	文件夹	
	> 1 音乐	NovaLCT 2012	2016/8/9 18:39	文件夹	
		NovaStudio2012 RTXC File List	2016/8/21 19:13	文件央 文件夹	
	▶ 1号 計算机	Tencent	2014/7/11 8:45 2014/4/25 9:51	文件央	
· · · · ·		Tencent Files	2014/7/11 15:05	文件夹	

Figure 4-28 Opening a Playing Solution File

Chapter 5 Startup, Shutdown, and Maintenance

5.1 Startup Sequence

- 1) Start the distribution box for the LED display.
- 2) Start the control computer.
- 3) Start the video processor.
- 4) Start the sending box.
- Screen color will reach to best status after 5 minutes lighting up.(Color gradually c hanges as the temperaure warms up)

5.2 Shutdown Sequence

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

5.3 Daily Maintenance

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

devices at least once a month if it is idle for a long period of time.

5.4 Warm-up Operation

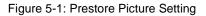
If the LED display has been idle for 14 days, perform warm-up operations before using the LED display.

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 Figure 5-1.

Prestore Picture Settings
Communication COM4
Screen1 Prestore Picture Settings Select Pi Effect Settings Screen Effect Cabinet Effect Stretch Test Effect Test Effect
Save To Hardware Check Store Picture Function Settings Boot Screen Image: State S
Cable Disconnect Black Last Frame Prestore Picture No DVI Signal
 Black Last Frame Prestore Picture Send Save To Hardware



5.4.2 Unilumin N series - Ageing Operation

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

as shown in Figure 5-2:

System(S)	Tools(C)	Plug-in To	ool(P) User	(U) Lan	iguage(Lang)(L	.) Help(ł	H)			
Screen Cor	nfig Bright	ness Cali	bration Dis	iay Contro	Monitor	Function C	ard			
Local Syster	m Info									
Control S	ystem:	1	Other D	evice:	0	Viev	v Detail			
Monitor Info										
H		- 111		\sim	8	*		-	•••	
										-

Figure 5-2 Main Window for Advanced User

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

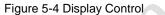
	Sched	onfig O Aut	0	Config O Auto	adjus Config
Display Quality Soft Mode	0	Inhanced Mode		Gamma Adjustment Fixed Value	
Brightness Adjustme	ent			Mode A	Mode B
				٠	2.8
		(10.2	%)	Custom	Gamma Ta.
Color Temperature A					
Custom	Chip:	B150	36	RGB brightness	
Gain				RGB brightness	
R (+ 101.54	%	R (▶ 255
					(100.09
G: *	100	+ 101.54	%	G: *	> 255
					(100.09
B: <		▶ 101.54	%	B: <	1 255
Synchronous				Synchronous	(100.09
		Default Value			Normal mod
Synchronous		Default Value		Synchronous	<u> </u>

Figure 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 Figure 5-4 and Figure 5-5.

System(S)	Tools(C)	Plug-in To	ol(P) User	r(U) Lan	guage(Lang)	(L) Help(H	H)			
	÷	E 🖷		0	~ ^	1	7			
Screen Conf	ig Brightr	ness Calib	ration Vis	play Contro	Monitor	Function C	ard			
-Local System	Info			\smile						
Control Sy	stem:	1	Other D	evice:	0	View	<u>v Detail</u>			
Monitor Info										
	. -	111	5	$\langle \rangle$	8	×		*	ŀ	
										-



-	
🚽 Screen Control	23
COM4-Screen1	
Black Out	Freeze
VVhite	- Send
	Close

Fig 5-5 Display Control

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

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

Chapter 6 Troubleshooting and Component

Replacing

6.1 Common Faults and Troubleshooting Methods

6.1.1 Failure in Lighting up the Display

Causes:

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

Troubleshooting method:

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

6.1.2 Incomplete Picture or Incorrect Position of Picture Displayed

Causes:

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

Troubleshooting method:

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

6.1.3 Screen Blinking

Causes:

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

Troubleshooting method:

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

6.1.4 Blinking of a Cabinet in the Display

Causes:

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

Troubleshooting method:

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

6.1.5 Failure in Lighting up of a Cabinet in the Display

Causes:

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

Troubleshooting method:

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

signal cable.

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

Causes:

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

Troubleshooting method:

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

6.2 Replacement of Main Components

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

6.2.1 Front Maintenance of Main Components

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

Front maintenance step	Picture	Description
Step 1		Disconnect the power, use the big magnet maintenance tool, press the tool by aiming at the center of the module to make the magnet hold the module
Step 2		Remove the module

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Front maintenance step	Picture	Description
Step 1		Disconnect the power, remove the module at the corresponding position of the power supply according to the previous maintenance and replacement steps
Step 2		Remove the fixing bolts that secure the HUB card
Step 3		Remove the HUB card

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

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Remove the fixing bolts of the power wire and the power supply and replace it

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

Front maintenance step	Picture	Description
Step 1		Disconnect the power, remove the module at the corresponding position of the receiving card according to the previous maintenance and replacement steps
Step 2		Remove the fixing bolts that secure the HUB card

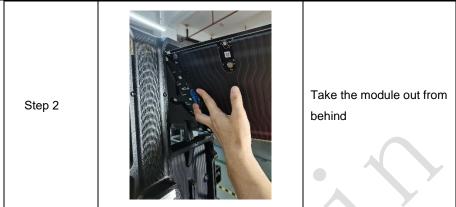
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Step 3	Remove the HUB card
Step 4	Remove the receiving card and replace it

6.2.2 Rear Maintenance of Main Components

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

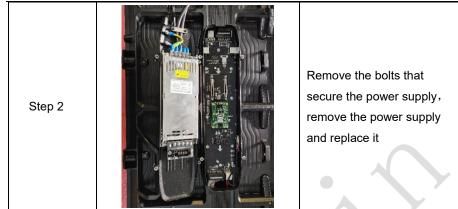
Rear maintenance step	Picture	Description
Step 1		Disconnect the power, push the module out from behind



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

Rear maintenance step	Picture	Description	
Step 1		Disconnect the power, remove the fixing bolts of the power supply box	

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

Rear maintenance step	Picture	Description	
Step 1		Disconnect the power, remove the fixing bolts of the power supply box	

Remove the bolts that Step 2 secure the power supply Step 3 Remove the HUB card Remove the receiving card Step 4 and replace it

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Chapter 7 Packaging Transportation and

Storage

7.1 Packaging

The Kslim II series products would be packaged with standard carton package.



Figure 7-1 Carton Package

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 wood 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,

Chapter 8 After-Sales and Warranty

insurance, tariff and customs clearance for return delivery of the returned products or parts to Unilumin's service station. And Unilumin will send back the repaired products or parts to customer and only bear one-way freight. Unilumin will reject unauthorized return delivery via pay upon arrival and will not be liable for any tariffs and custom clearance fees. Unilumin shall not be held liable for any defects, damages or losses of the repaired products or parts due to transportation or improper package.

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

If there is a quality issue as stipulated in Article 5 of this Warranty Policy, and Unilumin believes the condition is necessary, on-site engineer service free of charge will be provided. In this case, customer shall provide a fault report to Unilumin for onsite 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 onsite 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 onsite 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.
- 9) 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			Product				
Model			Quantity				
Customer		Contact	•				
Name		Information					
Customer Address:							
Remark(s):							
	Warrar	nty Record					
Warranty Date	Fault and Troubleshooting		npletion	Signature of			
Warranty Bate			Date	Customer			
)						



Contact Information

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