

For Business Use



User's Manual for LCD Splicing Unit

Note: please read this Manual carefully before using the product!
Do not attempt to disassemble the product. If the product does
not work, please contact us or our dealer in your area.

Dear Users

Congratulations on your purchase of our product. If you have any questions, please feel free to contact us.

This manual applies to our splicing unit.

This manual may contain technical inaccuracies, or consistencies with product functions and operations, or print errors. We will update the content hereof as the product functions are enhanced, and will improve or update the product or procedure described herein on a regular basis. The updated content will be incorporated into the new version without further notice.

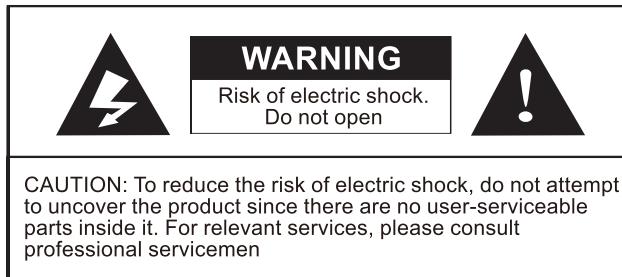
Contents

Instructions for Use.....	1	Splicing Operations.....	18
Safety Precautions.....	1	Additional Functions.....	18
Warnings.....	1	About.....	18
About This Manual.....	1	Help.....	18
Safety Rules.....	2	Troubleshooting.....	20
Notice.....	2	China ROHS Compliance.....	21
Cleaning and Maintenance	3		
Product Features.....	3		
Installation.....	4		
Installation Precautions.....	4		
Packing List.....	4		
Installation of Hang Component	5		
Installation Direction.....	5		
Connection.....	6		
Port Functions.....	6		
Description.....	6		
System Connection Diagram	7		
Remote Control.....	11		
Keys on Remote Control ...	11		
Menu Operations.....	12		
How to Use OSD System ...	12		
Concealed Seam Display Function	14		
Splicing Control Software ...	15		
Preparation for Use.....	15		
Software Installation and Registration.....	15		
Function Settings.....	16		

Instructions for Use

▲ Safety Precautions

- There will be a short discharge time after power supply is cut off; do not operate the product until 2min after power-off.
- Live work is forbidden to avoid the risk of electric shock.
- Do not use any power cord not supplied with the product; to replace the power cord, please purchase one having the same specification through regular channels.



CAUTION: To reduce the risk of electric shock, do not attempt to uncover the product since there are no user-serviceable parts inside it. For relevant services, please consult professional servicemen

▲ Warning

This product may produce electric signal interference in indoor environments. Therefore, it may be necessary for users to take proper measures.

▲ Warning

- Information contained in this manual is subject to change without prior notice.
- If you have any suggestion or question against this manual, please contact your local dealer or our customer service center.
- Before operating the LCD unit, please first get a full understanding of relevant prerequisites, such as software and hardware specifications or limitations. We will assume no liability for any losses, damage or injury arising from improper use of the product.
- Without prior written permission, it is forbidden to copy, revise or spread this manual, in whole or in part.
- Other product names and identifications used in this manual all belong to trademarks or registered trademarks of their respective owners.

Safety Rules

This LCD unit has been designed according to safety standards. However, improper use may result in electric shock and fire, causing personal injury and property damage. In order to prevent potential risks, ensure your safety and prolong the service life of the product, please carefully read and observe the following instructions when installing, using and cleaning the product.

▲ Notes

Please carefully read all warnings on the product and in the Instruction Manual.

- Please keep the Product Instruction Manual properly for future reference.
- Please check the completeness of accessories; if any part is missing, please contact your dealer promptly.
- This LCD screen contains fragile material which will get damaged in case of drop or impact. Please hold the handle firmly, and handle the product with care. Never apply much force to compress the LCD screen.
- Prior to installation, wipe clean the back and front surfaces of the screen in order not to affect its using effect.
- Please use the LCD unit only in an environment where the temperature is between 0~40°C.
- Do not use the LCD unit in an environment that is dusty, damp or too hot; otherwise fire or damage to its components may be caused.
- Air vents and other openings in the cabinet are designed for the purpose of ventilation. Do not cover or block any air vent or opening since poor ventilation will result in over-heating inside the product, further shortening its service life.
- Do not touch the signal connector with any sharp object or metal or insert any sharp object or metal into the heat radiation hole; otherwise short circuit and product damage, even the risk of electric shock, can be caused. Special care should be taken when a child is present.
- Never use a hard object to scratch or knock the LCD unit.
- The input voltage of this product is AC 100V-240V/AC 50/60Hz.
- Do not use any over-load AC power outlet to avoid fire and electric shock.
- Please arrange the power cord in a way that treading by people can be avoided.

Safety Rules

- Do not switch on/off the product frequently during work.
- If the product remains unused for a long time, please power it off and unplug it from the power outlet.
- Do not hot plug this LCD unit.
- Do not disconnect or connect the power plug with a wet hand; otherwise electric shock will be caused.
- To replace a component of the product, please ensure that the replacement component used by the maintenance personnel conforms to the safety rules; use of any unauthorized component may result in fire, electric shock or other damage.

Do not display a still image on the screen for too long because this will leave a “ghost image” on the screen, affecting normal use of the LCD unit.

Cleaning and Maintenance

Before cleaning the LCD unit, please disconnect the power cord. Do not attempt to maintain the product by yourself because you will be exposed to high voltage or other dangerous parts after opening the cover. Please call for professional service personnel to maintain the product.

Cleaning Instructions

- Do not use volatile substances (e.g., spray, solvent and diluent) on the shell of the product; never use alcohol, solvent or any ammoniac liquid to wipe the screen.
- The screen has undergone special treatment. Please only use a clean cloth or a soft, lint-free cloth to wipe its surface gently.

Product Features

- This LCD unit supports multiple types of input and output ports, such as RS232, HDMI, DP and DVI.
- The product is designed with LED backlight and low power consumption; the standby power consumption is $\leq 0.5W$.
- It supports several splicing modes.
- It supports RS232/HDMI/DVI/DP loop function, achieving more stable performance and easier installation.

Product Features

- In splicing mode, it supports concealed seam adjustment, providing a better display effect.
- HDMI/DP port supports input of 4K signals.
- Hang component design facilitates installation.
- Narrow seam provides better splicing effect.

Installation

Installation Precautions

- The LCD unit must be installed or moved by two or more persons.
- When moving the LCD unit, please hold the handle firmly and use the other hand to hold the bottom of the LCD unit. Do not apply too much force to compress the LCD screen.
- Please install the LCD unit in an area where collision will not happen easily.
- Please ensure that the base or wall bracket used conforms to requirements.
- The splicing wall bracket should have the capacity to sustain a weight that is four or more times of the weight of LCD unit. Please install the product in a way that is most appropriate for the material and structure.
- Please ensure that the splicing wall bracket is designed with reliable grounding.

Packing List

The following items are contained in the outer box:



LCD splicing unit x 1



Instruction Manual x 1



Warranty Card x 1



Certificate of Conformity x 1



Debugging kit (optional)



Ethernet cable x 1



HDMI Cable x 1



Power cord x 1



Angle iron for splicing x 2



Grounding Cable x 1



Hang component (optional)

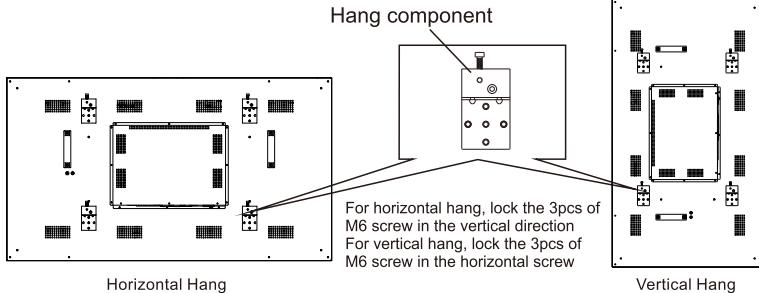
Remark: The debugging kit varies with the project solution.

Installation

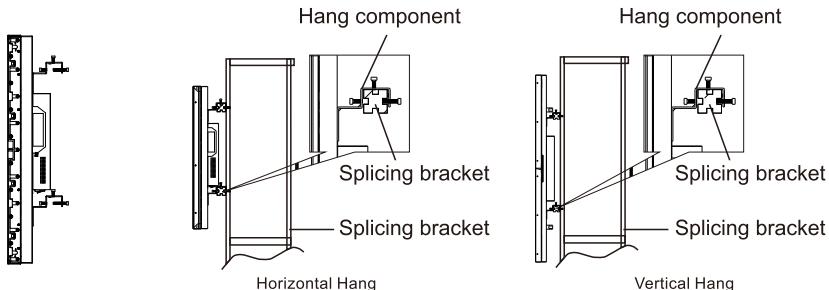
Installation of Hang Component

1.In order to protect the LCD screen, first clean the work platform and lay a piece of soft cloth on it; then place the LCD screen on the cloth with its front facing downward.

2.Fix the screws in the hang component, as shown in the figure below.

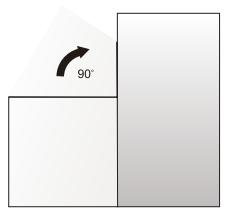


3.After locking the screws, the product can be hung to the wall or splicing bracket.



Installation Direction

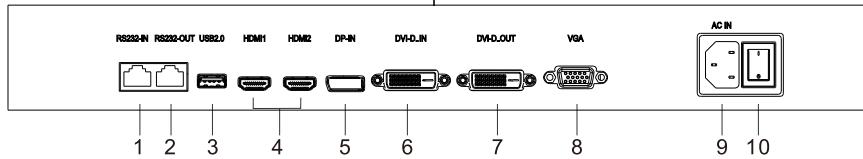
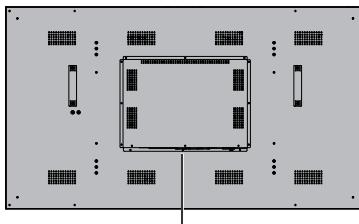
For vertical hang of the splicing unit, rotate clockwise to move up the left side so as to ensure normal ventilation and prolong the service life of the splicing unit.



Installation Direction Diagram

Connection

Port Functions



Video Signal Port	Description	Video Signal Port	Description
1	RS232-IN port	6	DVI-D-OUT port
2	RS232-OUT port	7	DVI-D-IN port
3	USB port	8	VGA Port
4	HDMI port	9	POWER-IN port
5	DP-IN port	10	Power switch

Description

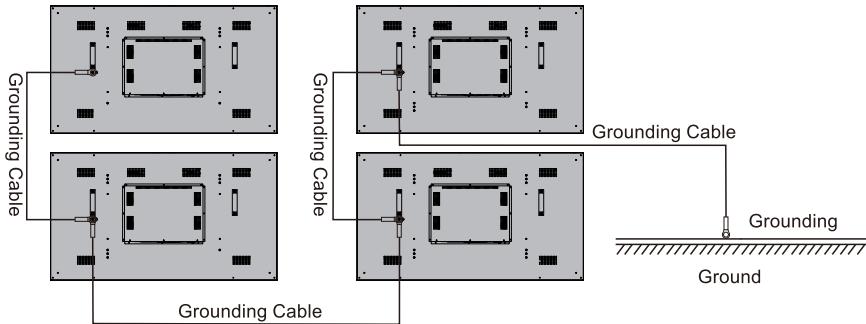
- RS232-IN signals can loop out via RS232-OUT.
- USB port only supports the software upgrade function.
- HDMI1 is a straight-through input port which supports a resolution up to 3840*2160@60Hz.
- HDMI2/DVI-D is an input port which supports a resolution up to 1920*1080@60Hz.
- DVI-OUT supports HDMI2/DVI-D IN signal loop-out.
- DVI port only supports cables for ports of DVI-D type.
- DP-IN supports loop-out via DP-OUT, and supports a resolution up to 3840*2160@30Hz.
- In order to ensure a good display effect, it is suggested to use our cables of standard configuration; if such cables are not available, please use cables of famous brand on the market.

Connection

System Connection Diagram

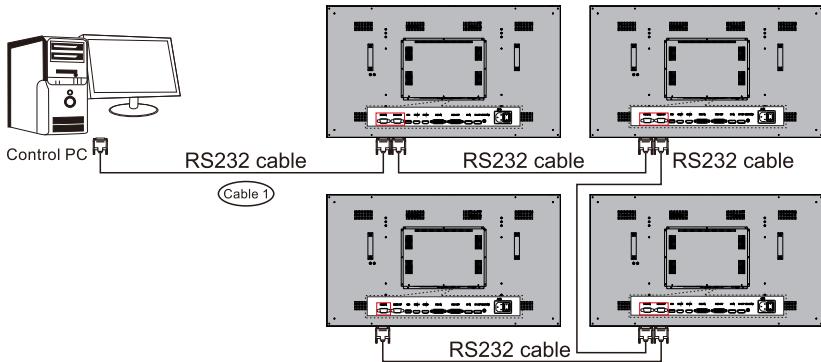
Note: The following diagram explains system connection taking 2x2 splicing as an example:

■ Grounding cable connection For Video Wall



Note: Good grounding connection can avoid some damage caused by static or abnormal voltage.

■ Slicing control signal connection



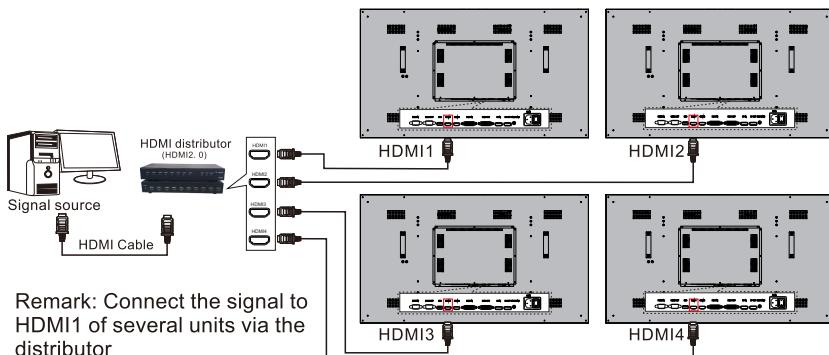
Connection

- Notes:
- ①Please use RS232 cables of standard configuration; the RS232 cable connecting the PC to the first splicing unit should be provided by your dealer or of famous brand.
 - ②If the PC has no serial port output, a USB-to-serial port cable (cable 1) can be used to connect the USB port on the PC to the serial port on the first splicing unit.
 - ③If IR loop-out control is needed, replace cable 1 with an IR head, which is transferred to RS232 cable.

■ Four recommended solutions for splicing signal connection:

Solution 1: HDMI1 + HDMI distributor

(Support a resolution up to 3840*2160@60Hz)

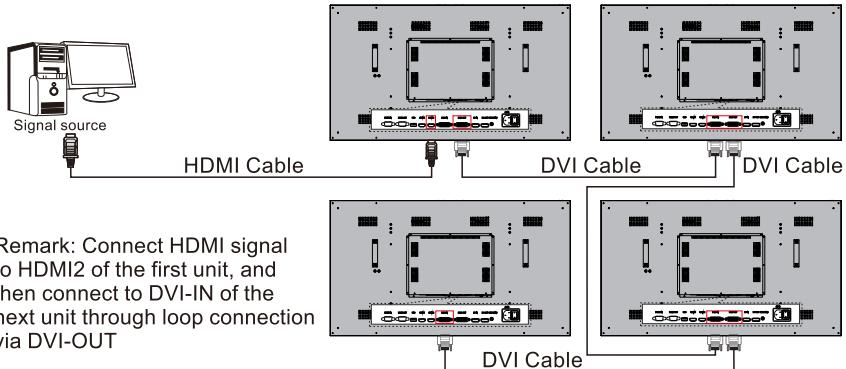


Remark: Connect the signal to HDMI1 of several units via the distributor

Connection

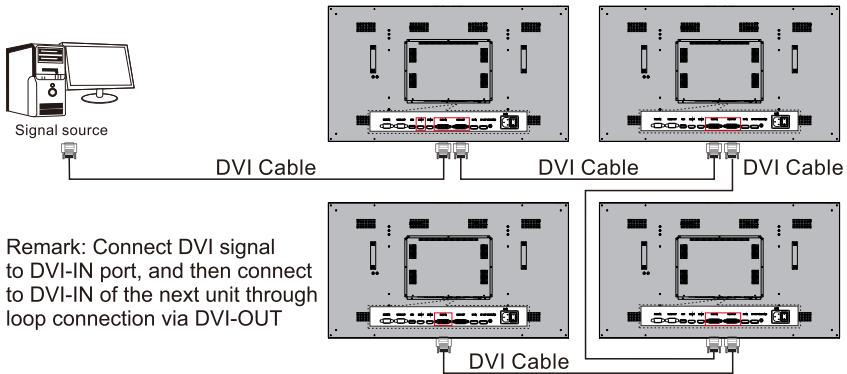
Solution 2: HDMI2 + DVI loop-out

(Support a resolution up to 1920*1080@60Hz)



Solution 3: DVI-IN + DVI loop-out

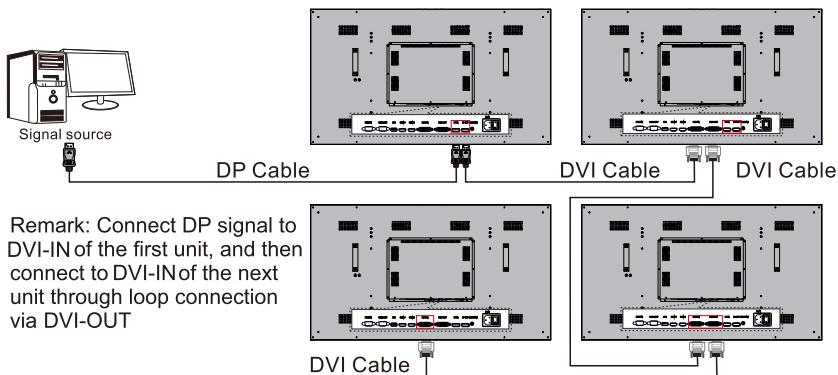
(Support a resolution up to 1920*1080@60Hz)



Connection

Solution 4: DP-IN + DVI loop-out

(Support a resolution up to 3840*2160@30Hz)

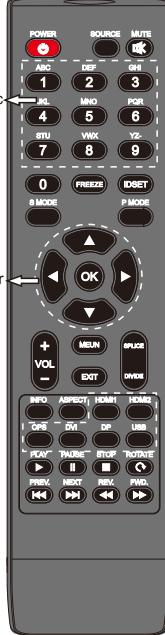


Remark: Connect DP signal to DVI-IN of the first unit, and then connect to DVI-IN of the next unit through loop connection via DVI-OUT

- Notes:
1. Please use DVI cables of standard configuration.
 2. HDMI cables used should be of famous brand on the market.
 3. Please use DP cables of standard configuration; otherwise abnormal image display may be caused.
 4. When solution 2/3/4 is used, the number of splicing unit, the number of connecting cable and the signal transmission distance are all increased, and the signal intensity decreased; therefore, higher drive capability of signal source equipment, better cable quality and shorter cable distance lead to bigger number of loop connection. It is suggested to use our cables of standard quality and shorter cable distance lead to bigger number of loop configuration; an equalizer with moderate signal can be added between connecting cables to improve signal quality and thus increase the number of loop connection.

Remote Control

Keys on Remote Control

	Key	Function
	POWER	Power on/switch to standby
	SOURCE	Open/close the source list
	MUTE	No function
	NUMERIC KEYS	Input digits
	STILL IMAGE	No function
	ADDRESS	Set address
	SOUND MODE	No function
	PICTURE MODE	Quickly switch the image mode
	CURSOR KEYS	Select up, down, left and right directions
	OK	Confirm the current operation
	VOL+/-	No function
	MENU	Show/hide the main menu
	EXIT	Exit the current operation
	COMBINE	One-key full screen display
	DECOMPOSE	One-key single screen display
	INFO	View current signal information
	RATIO	Switch the aspect ratio of screen
	HDMI1/HDMI2	Quickly switch to the designated source
DVI/DP/VGA		
OPS	No function	
PLAY (▶)	No function	
PAUSE (⏸)		
STOP (■)		
ROTATE (⟳)		
PREVIOUS (◀)		
NEXT (▶)		
FAST REWIND (◀)		
FAST FORWARD (▶)		

Remark: The above picture is subject to the actual remote control.

Notes:

- 1.COMBINE: (After the splicing mode is set successfully, this key can achieve one-key combination of all slicing units into one screen);

Remote Control

DECOMPOSE :(After the splicing mode is set successfully, this key can achieve one-key decomposition of the combined screen into single units)
2.The remote receiver is at the back of the product; when operating the remote control, please align the remote control with the receiver position.
3.When the IR head-to-RS232 cable is used for control, directly align with the IR head during operation.

Menu Operations

How to Use OSD System

You can set and operate the features and functions of the product via OSD (on-screen display) system.

Source Selection

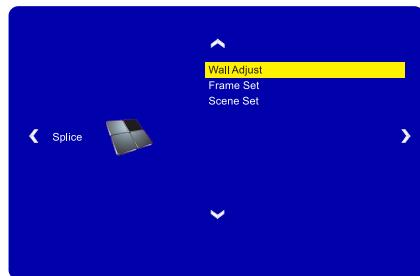
Press “**SOURCE**” on the remote control, and the screen will show the “**Input Source**” menu; you can press “**▲.▼**” on the remote control to select a source, such as HDMI1, HDMI2, DVI or DP. Press “**OK**” on the remote control, and the unit will switch to the input source you have selected.

Input Source
HDMI1
HDMI2
DVI
DP
VGA

Press “**MENU**” on the remote control or panel, and the main menu will appear:

- 1.Press“**◀/▶**” on the remote control to select an adjustment category menu. Adjustment category menus include: **Picture**, **Sound**, **Settings**, and **Splicing**.
- 2.Press“**▲/▼**” on the remote control to select the item to be adjusted in the category menu.
- 3.Press “**OK**” on the remote control to enter the item to be adjusted.
- 4.Press“**◀/▶**” on the remote control to change the analog value or setting of the adjustment item selected.
- 5.When the screen displays the main menu, press “**MENU**” to exit the main menu;
- 6.During menu operation, the color of an option icon that cannot be operated in the current state will change to grey.

Menu Operations

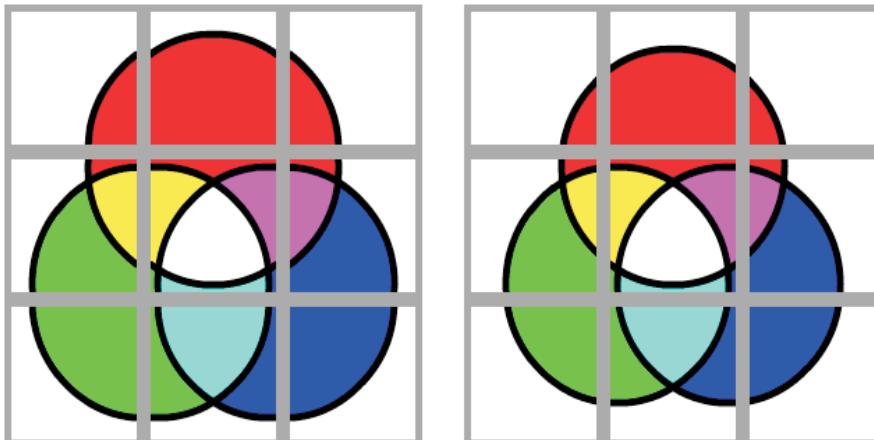


Picture	Picture Mode	Select the picture mode (Different options are provided under different sources).
	Color Temperature	Adjust the overall color temperature of pictures: Standard, Warm, and Cold.
	Aspect Ratio	Adjust the aspect ratio.
	Noise Reduction	Set the denoising level.
	Backlight	Set lighting of Backlight.
	Smart Curing Screen	Turn on/off the smart screen wetting function to protect the LCD screen.
	Gamma	2.0 2.2 2.4
Setup	OSD Language	Switch the menu language.
	Transparency	Set the menu transparency.
	OSD Time Out	Set the menu display time.
	Software Upgrade (USB)	Upgrade the system after loading the upgrade program to a USB flash drive
	Restore Default	Restore user-defined parameters to default values.
	Blue Screen	Turn on/off the blue screen function (in case of no signal, screen background is blue when this function is turned on and black when this function is turned off)

Menu Operations

Splice	Wall Adjust	Set the row start/end address and column start/end address of the splicing function, and execute the Combine and Decompose functions.
	Frame Set	Switch between ON and OFF.
	Scene Set	Adjust the seam between screens after splicing Save the splicing parameter settings of single screen.

Concealed Seam Display Function



The left picture is displayed when the concealed seam display function is turned off, while the right picture is displayed when the concealed seam display function is turned on.

The physical information of seams is automatically set in the software. Since each splicing unit has a frame, the display area is not 100% after splicing. In order to eliminate the feeling of discontinuity of spliced pictures, the frame of each splicing unit should also be taken as the effective display area. Therefore, part of image content is omitted in order not to undermine the continuity of pictures.

Splicing Control Software

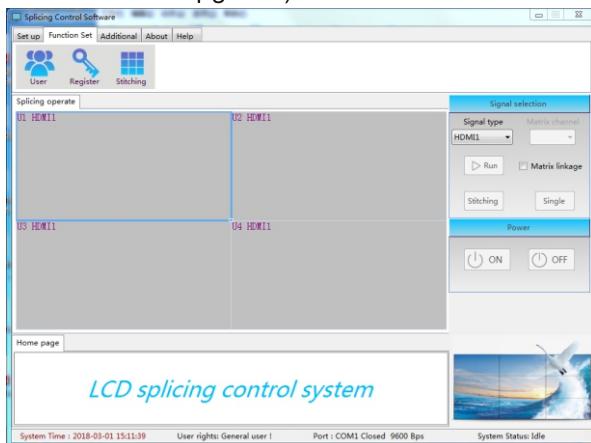
Preparation for use

- 1.The splicing control software is provided by your dealer; please contact your dealer to acquire the software.
- 2.This software allows you to adjust and control splicing units, save and invoke common splicing modes, etc.
- 3.This software supports Windows XP/7/8/10 operating system.
- 4.For more detailed instructions for use, please consult the “Help” menu of the software.

Software Installation and Registration

- 1.Software installation: Find “setup.exe” from the files provided by your dealer; double click the installer, and launch the software installation wizard;click “**Next**” to continue installation;finish the installation process according to the software installation wizard.(Note: For the detailed software installation process and frequently asked questions about software installation, see the instructions provided in the appendix to the Instruction Manual)
- 2.After the software is installed, a desktop shortcut will be created automatically. Click the “**Splicing Control Software**” shortcut icon to run the client software; at this moment, the control software interface will appear.

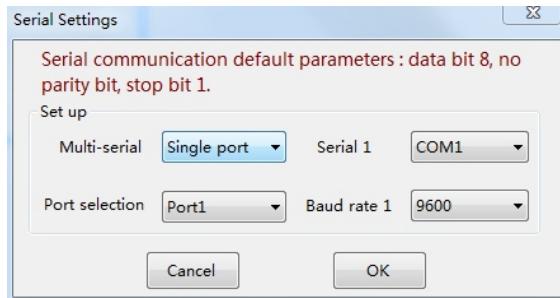
Software interface: (Interface functions may be different from the actual functions due to software upgrade)



Splicing Control Software

2.Timer Settings

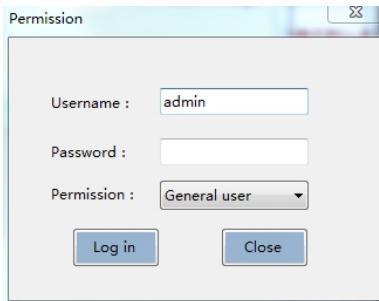
Timed startup/shutdown and startup/shutdown delay time can be set under Timer Settings. Access **Communication Settings>Timer Settings**, select the startup/shutdown delay time in the delayed startup/shutdown bar. In timed startup/shutdown, the startup/shutdown time is managed according to system time; after selection, check “**Enable**”, and click “**Apply**”. When it is not required, uncheck “**Enable**”, and click “**Apply**”.



Function Settings

1.Administrator

In **Function Settings–Administrator**, you can log into the Administrator account and enable more functions. The default is ordinary user, and more functions are available if you log in as the Administrator. The initial password for Administrator is 333, which can be changed after the system login as the Administrator.



Splicing Control Software

2. Software Registration

Software registration is not directly accessible to end users. If necessary, please contact your supplier for the registration method.

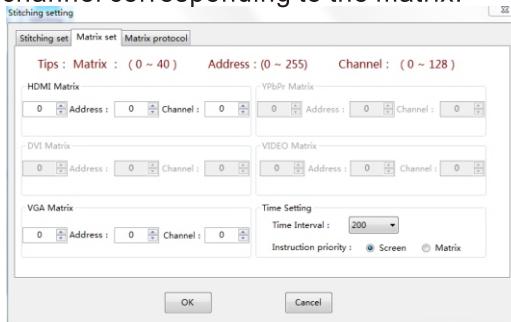
3. Splicing Settings

(1) Splicing Settings

Access **Function Settings > Splicing Settings > Splicing Settings**; set the Splicing Row and Splicing Column according to the splicing mode actually used. For example, if the number of splicing unit is 3 in the horizontal direction and that is 4 in the vertical direction, set the Splicing Row to 3 and the Splicing Column to 4. In Splicing Settings, you can select the user identification picture; after setting, click “**Apply**”, and then click “**OK**” to finish splicing setting.

(2) Matrix Settings

For matrix-based connection, access **Function Settings > Splicing Settings > Matrix Settings** to set the matrix. Set Matrix Select, Address and Channel Number according to the actual condition. In [Matrix Select], the numbers of matrix control protocols from different manufacturers are available for selection; when our splicing software is used for joint control of matrix, please inform us of the matrix manufacturer and the matrix type in advance. For some matrices that have not been incorporated into the software, the RS232 Serial Communication Protocol provided by the matrix manufacturer is required to write them into the control software for joint control. [Address] is the device address of additional matrix; as to how to set the value, refer to the Instruction Manual or consult the matrix manufacturer. [Channel Number] is the number of input signal channel corresponding to the matrix.



Splicing Operations

Additional Functions

Remote control: A virtual remote control is provided; its operations and functions are identical to those of the remote control.

About

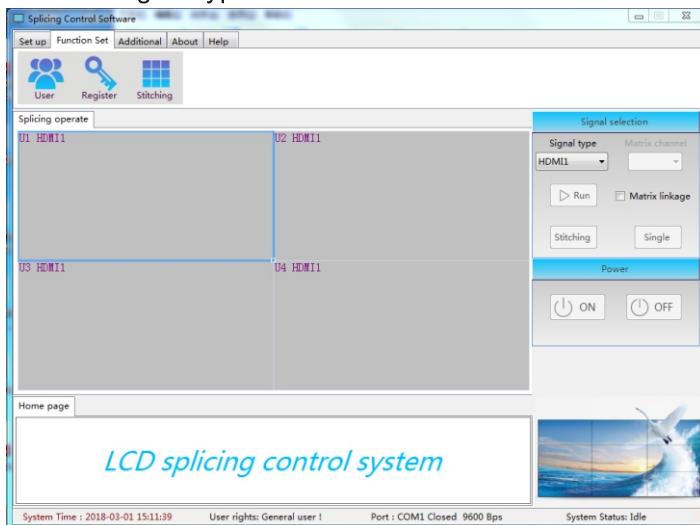
View system information and software version information.

Help

View the User Manual and switch the display language between Chinese and English. After successful serial port setting and splicing/matrix setting, click “**Open Connection**” to finish splicing connection; at this moment, splicing operation can be performed.

1. Select splicing area and signal source:

As shown in the figure below, the system layout is 3 x 3 (row x column); it is needed to splice the zones with coordinates (1, 1) – (3, 3) into a 3 x 3 big screen. The signal type is HDMI1.



Splicing Operations

Operate according to the following procedure:

First move the mouse to the zone with coordinates (1, 1); press and hold the left button, and move the mouse to the zone with coordinates (3, 3); then release the left button, and the blue area is the splicing area selected. Click the right mouse button, and select “Combine” in the menu bar displayed to combine the zones into a 3 x 3 big screen. Click the right mouse button again in this area, and select HDMI1 in “Local Channels” to finish operation.

2.In the area having been combined into a big screen, right click the mouse, and select “**Decompose**” to decompose the combined big screen into single screens.

3.If the layout combines single screen and multi-screen, in the menu bar after right clicking the button, you can select the input source and turn on/off backlight.

4.Besides, for the selected area in the layout combining single screen and multi-screen, you can set Signal Type, Splicing Display/Single Display Mode, Power On/Power Off in the right-side status bar. (During signal selection, you must click “Execute” in order to switch to the selected source;if the input mode is matrix input, check “Matrix Linkage” and set the matrix input channel; also, you can select the input channel of Matrix HDMI/Matrix DVI in the menu bar after right clicking the button; right click the input channel of matrix, and you can add the description of channel.)

5.Screen Parameter Adjustment: In the selected area, right click the mouse, and select “**Screen Parameter Adjustment**” to adjust Brightness, Contrast, Saturation, Backlight, Sharpness, White Balance, Dark Balance and other parameters. Click “<-” to decrease the currently selected parameter; click “<+” to increase the currently selected parameter. To restore screen parameters to factory default, you can click “**Color Reset**”, select and reset a single unit or all splicing units.

6.Edge Blending: This option only supports operation of single splicing unit after splicing. Prior to operation, please select a single unit;then click “<-” or“<+” to move the display interface horizontally or vertically. After adjusting it to the desired value, click “Apply” to finish edge blending setting.

Troubleshooting

Symptom	Possible Cause	Solution
There are bright lines on the surface of display screen; signal interference exists	A. The signal cable is loosened; B. The cable has some problem; C. The signal is too weak;	A. Re-plug the signal cable; B. Replace it with a new cable; C. Add a signal amplifier;
The display screen does not turn on upon startup	A. The problem may exist in power supply; B. The screen power switch is not turned on;	A. Please check the power supply line; B. The screen power switch is positioned beside the signal port at the rear shell; please ensure that it is in the “—” (ON) state;
The screen displays no signal	A. The signal channel is incorrect; B. The signal source has some problem; C. The signal cable is damaged;	A. Switch to the corresponding signal source; B. Check the operating state of signal transmission device; C. Repair or replace the signal cable;
Water ripple exists on the picture	A. The power supply is unbalanced, and potential difference exists; B. The grounded shield of signal cable is in poor condition or damaged.	A. Add voltage regulation equipment; B. Repair the cable or replace it with a new cable;
The picture displayed is too white	A. The backlight brightness or the contrast is too high;	A. Lower the backlight brightness or contrast;
The picture displayed is darkened	A. The backlight brightness or the contrast is too low;	A. Raise the backlight brightness or contrast;
The remote control has no response	A. The angle of remote control is incorrect or the distance exceeds 5m; B. The battery in the remote control is in poor contact or has no energy output;	A. Adjust the transmission direction of remote control, and reduce the remote control distance; B. Check or replace the battery;
Image chaos occurs after signal switching in the software	A. The screen control cable is loosened or damaged; B. The screen address code is wrong;	A. Check the control cable at the position where image chaos occurs or replace it with a new cable; B. Check whether the screen address code is correct;
The screen flashes when there is no signal	A. Grounding is not properly carried out; B. The ambient static electricity is too strong;	A. Repair or replace the cable; B. Check the device grounding;

China ROHS Compliance

Names and contents of toxic and hazardous substances or elements contained in the product

Component	Toxic and Hazardous Substances or Elements					
	(Pb)	(Hg)	(Cd)	(Cr ⁶⁺)	(PBB)	(PBDE)
LCD screen	x	○	○	○	○	○
Housing	○	○	○	○	○	○
PCB assembly*	x	○	○	○	○	○
Power cord and cable	x	○	○	○	○	○
Metal parts	○	○	○	○	○	○
Packing materials*	○	○	○	○	○	○
Remote control	x	○	○	○	○	○
Loudspeaker	x	○	○	○	○	○
Accessories*	○	○	○	○	○	○

*: PCB assembly includes the PCB and the electronic components constituting the PCB;

Packing materials include the carton and expandable polystyrene, etc.;

Other accessories include User's Manual and etc.;

○ : The toxic and hazardous substance contained in all homogeneous materials of that component does not exceed the required limit prescribed in the GB/T26572-2011 standards.

× : The toxic and hazardous substance contained in one or more homogeneous materials of that component exceeds the required limit prescribed in the GB/T26572-2011 standards.

Provided by our material suppliers and verified by us, the data in the table above indicates that the product contains hazardous substances. Due to the limitation of the existing technology, the hazardous substances in some materials cannot be replaced, although we have been striving to improve this situation.

The product has an Environmental Friendly Use Period

(EFUP) of 10 years. The pollution control symbol is shown on the right.



The EFUP is valid only when the user operates in normal conditions as specified in the User's Manual.

Indicative Description of Regulations on Recycling and Disposal of Waste Electrical and Electronic Products

When you no longer need this product or its service life expires, please send it to a qualified recycling station in your area for recycling according to the Regulations on Recycling and Disposal of Waste Electrical and Electronic Products, in order to protect the Earth.

This Manual is only for reference; actual functions are subject to change without further notice, please refer to the actual product.

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