# The Manual of VSP-F2L4 Controller

# Contents

Chapter 1 Brief Introduction of VSP-F2L4 Controller	2
1.1 Parameters of VSP-F2L4 controller	2
1.2 The signal connection way of LED screen	3
1.3 Function Introduction for VSP-F2L4 Controller's Buttons and Interfaces	5
1.3.1 Front Side Introduction of the VSP-F2L4 Controller	5
1.3.2 Introduction for Back Side of the VSP-F2L4 Controller	6
Chapter2 Key-press operation of VSP-F2L4 controller	7
2.1. Use the buttons to switch input signal types	7
2.2 Adjust the Parameters by Key-press	7
2.2.1 Product	8
2.2.2 Spec (Adjust and set the parameters of LED screen)	8
2.2.3 Address Setting	9
2.2.4 Color Test	10
2.2.5 IP Address	11
2.2.6 Language (Language Select)	11
2.2.7 Date Save	11
Chapter3. Control software of VSP-F2L4 controller	12
3.1Installation and Running Environment for Control Software of VSP-F2L4 Controller	12
3.2 Communication Setting	13
3.2.1 Serial Port (COM Port) Setting through USB Cable	13
3.2.2 Network Port Setting	14
3.3 Parameters Introduction of Control Software	15
3.4 Address Setting	17
3.4.1. Address setting method 1: (Not normally used)	17
3.4.2 The Method 2 for Address Setting: Multiple Setting (whole screen setting)	19
3.4.3 The method 3 for Address setting: Intelligent Settings	20
3.5 Color temperature adjustment	22
3.5.1 Single panel (Box) color temperature adjustment	23
3.5.2 LED board (module) color temperature adjustment	25
3.6 Manufacturer Set	26
Appendix 1 Signal output cutting method of VSD-F2L4 controller (Important)	27
Signal Horizontal Segmentation of VSP-F2L4 controller	27
(Applicable to all products)	27
Signal Vertical Segmentation of VSP-F2L4 Controller	28
Appendix II Failure Analysis and Troubleshooting	29

# Chapter 1 Brief Introduction of VSP-F2L4 Controller

VSP-F2L4 control system is researched and developed by Glux independently, it is the third generation and suitable for the new generation LED display products of Glux. It is a set of network transmission, optical fiber transmission, and with image scaling, image mirror functions, and supported 1080 p resolution.

System Name	VSP-F2L4 Giga control system		
Input Resolution	Max input resolution: 2048×1152; Support the video source		
	which frequency is less than 60 Hz		
Output Resolution	Max output resolution: 1920×1080		
Power Input	AC 110~220V, 20W		
Signal Input	CAT6 cable, 1G network bandwidth, optical fiber signal		
	input, 2.5G optical fiber bandwidth		
Transmission Distance	CAT6 cable: $\leq 120$ meters; optical fiber cable: 10 km.		
Video Signal Input	DVI Input, DVI output, HD 3G-SDI input, 3G-SDI output		
Interface			
Video Processing Gray	16-bit gray scale, class 100 adjustable Brightness		
scale			
Communications	USB communications, Network communications and it		
Control Port	support update online.		
DMX512	DMX512 is supported		
Size	480mm×245mm×45mm		

# 1.1 Parameters of VSP-F2L4 controller.



# **1.2 Signal Connections to the LED screen**

There are three connecting methods between VSP-F2L4 controller and LED

screen. Please choose a proper way according to your usage.

**Method 1:** For use without the Glux signal divider: Link the LED screen with VSP-F2L4 controller by signal cable. It means that signal is transmitted to the LED screen directly from the controller's output port (OUT1~OUT4).

**Method 2:** With signal divider. Transmit signal from VSP-F2L4 controller's output port "OUT1~OUT4" to SDV signal divider's input port "SIG IN" by CAT6 Ethernet cable. The signal will be transmitted from SDV signal divider's interface A1~A4, B1~B4 to LED screen by signal cable.

**Method 3:** With signal divider. Transmit signal from VSP-F2L4 controller's optical port OUT1~OUT2 to SDV signal divider's optical input port " IN" by optical fiber cable. And then signal will be transmitted from SDV signal divider's interfaces A1~A4, B1~B4 to LED screen by signal cable.

Three kinds of connection modes are showed as below:



System signal connection method 1 (Transmission distance≤120m) Signal be transmitted from controller to LED screen directly



System signal connection method 2 (Transmission distance≤150m)

Signal→by CAT6 Ethernet cable→to Signal divider→by signal cable→to screen



System signal connection method 3 (Transmission distance  $\leq 10$  Km) Signal  $\rightarrow$  by optical fiber cable  $\rightarrow$  to Signal divider  $\rightarrow$  by signal cable  $\rightarrow$  to LED screen The optical fiber cable type should be single mode.

Which method you choose will depend on the control distance and the size of LED screen. Method 2 and the method 3 are recommended especially in the case of larger LED screens or long distance transmission.

# **1.3 Function Introduction for VSP-F2L4 Controller's Buttons and Interfaces**



## 1.3.1 Front Side Introduction of the VSP-F2L4 Controller

(1) LCD display interface: Mainly showing the setting and product information, shown as below.

Input DVI 1920×1080P 60						
Output	1024×	768P	60			
Brightness	70	IC	MBI5041			
CYSN39	IP 19	2. 168	B. <b>0.6</b>			

We can learn the follow information from the interface:

DVI video signal input; Input resolution is 1920×1080P 60Hz;

Output resolution: 1024×768P 60Hz;

The current brightness of the LED panel is class 70 levels; the code of the product is CYSN39; The IP address of the controller is 192.168.0.6

(2) Working indicating light: When the controller works well it will flash.

A, B, C, D indicates the status of the OUT1 ~ OUT4 four groups' signal.

(3) Function buttons of VSP-F2l4 controller

The four buttons are SEND/DVI, SEL/SDI1, SETUP/HDMI, and ESC/SDI2.

**SEND/DVI button:** Click the key to send your setting or select DVI input signal.

**SEL/SDI1 button:** Click it to enter the next level menu or select SDI1 input signal.

**SETUP/HDMI button:** Click it to enter setting parameters states or select HDMI input signal.

ESC/SDI2 button: Press it to return to the previous menu or select SDI2 input signal.

(4) **Parameter Control Knob:** Turn the knob can browse the submenu items. The parameter will be higher if the knob is rotating clockwise. If you want to lower the parameter, please turn the knob counterclockwise.

(5) USB Communication Port: The USB port that is used to communicate with the control software on computer to set the LED panel parameters.



# 1.3.2 Introduction for Back Side of the VSP-F2L4 Controller

(6) DMX512 signal input port.

(7) Adjust video synchronous In/Out port

(8) Lan-100M is the network communication port that is used to communicate with the control software on computer to set the LED panel parameters.

(9) HDMI video signal input port.

(10) SDI1 /SDI2 is the SDI video signal input port which is support to the input of HD SDI signal and 3G SDI signal.

(11) DVI IN is the DVI video signal input port and DVI OUT is the DVI video signal output port.

- (12) OUT1~OUT4 port is four serial network signal output ports of the controller
- (13) OUT1~OUT2 port is two serial optical fiber signal output ports of the controller;
- (14) Power port is the power input port and the power switch port. AC110~220V

# Chapter 2 Key-press operation of VSP-F2L4 controller

#### 2.1. Which buttons to switch input signal types

Please simultaneously press the three keys SEND/DVI, SEL/SDI1, ESC/SDI2 to enter the mode of switch signal input. Now press the SEND/DVI key for DVI input signal. Press SEL/SDI1 selects SDI1 input signal, pressing ESC/SDI2 selects SDI2 input signal, pressing the SETUP/HDMI chooses HDMI input signal.

You can also see the input signal types that you choose on the LCD Display Interface at the same time. Please turn the Parameter Control Knob if you want to exit the signal-switching mode.

#### 2.2 Adjust the Parameters by Key-press

The LCD Display Interface will show as the below picture after startup, press the SETUP/HDMI key to enter the parameter setting mode.



Setup Direction:

Symbol description.">" Means first-level menu, turn the Parameter Control Knob will scan its sub options. Press the SEL/SDI1 key can entry to second-level menu (Symbol>>) and press SEL/SDI1 again the symbol ">>"will turn to "#". In this state, you can adjust the parameters by turn the Parameter Control Knob.

Please press SEND/DVI to take effect when you finish the adjustment.

Please return to the first-level menu and select "Data Save" option to save the parameters data when you complete all the parameters setting. Otherwise, the parameters data will be lost once you reboot the controller.

There are seven sub options of the function option: Product; Spec; Address;

#### Color T; IP Address; Language; Date Save

# 2.2.1 Product

Please select correct relative parameters of the product under the Product Option **Port:** Select a connecting controller port.

Series: Select a style of the product.

Cut Signal: Cut or link the transmission signal of the VSP-F2L4 controller.

Test Mode: Test and check the color of the LED screen.

**DMX512 on/off:** Please select OFF if there is no DMX512 signal input to the controller.

Mirror: Set mirror image display effect for LED screen.

Drive IC: Choose correct LED drive IC in your LED panel.

**LED PIN1~LED PIN3:** Define the pins color of LED lamp to avoid the display color exchanged.

**IN MODE:** The mode of display card. Limit range means HDMI 0-235 level gray mode, Full range means DVI 0-255 gray mode, the default mode is full range.

## 2.2.2 Spec (Adjust and set the parameters of LED screen)

**Bright (Brightness):** Adjust the brightness of LED screen, such as the steps of adjust brightness:



Then rotate the control knob to adjust the brightness level, and click the SEND/DVI to send, at last save your setting in the save menu.



**X start F**or setting the initial horizontal display position of LED screen. The default value is 0.

**Y start:** For setting the initial vertical display position of LED screen. The default value is 0.

**X Width:** The pixel width per controller port.

Y Height: The pixel height per controller port.

**ZOOM H(Horizontal zoom)**: The actual output pixel width of horizontal scaling from the input resolution's horizontal pixel width.

**ZOOM V(Vertical zoom):** The actual output pixel height of vertical scaling from the input resolution's vertical pixel height.

Screen on/off (Screen switch: Play or turn off the LED screen.

Freeze (Lock): Suspend or display the LED screen.

**Correct on/off (Calibration switch)** : Turn on the switch for calibrated LED screen, turn off the switch for uncalibrated LED screen, default value should be ON if your screen have calibrated.

**Rotate :** Make the display image rotate 90 degrees, only valid for our BAtn/MOtn/MOsn series products current now.

Reset: Reset brightness, position and some other parameters of screen.

#### 2.2.3 Address

Setting the signal connect way and display address of the LED screen. (Usually do not use this function in the keyboard to adjust Address)

Link NO. (MAC): Represents which panel would be setup, starting from 0. You do not need set this value when you want to set a whole screen LED panels address.

**COL** (**Column position**: Display on which column, column number starting from 0. **ROW** (**Row position**: Display on which row, row number starting from 0.

Adjust address method for LED screen with the keyboard of the controller: You need adjust the rows and columns counts before you select the

type(type1-type8) of signal cascade, then click the send button on the keyboard of the controller.

There are eight kinds of signal transmission types of LED screen, as shown below pictures (Type1 $^T$ Type8)



#### 2.2.4 Color Test

Class 0~255, you can adjust the red, green and blue color values. Color temperature grade: 4000,5500,6500,8000 usually choose 6500.

#### 2.2.5 IP Address

IP address setting for VSP-F2L4 controller. Please make sure the IP address of the controller and your computer is in the same LAN network, but different IP values. It means the 1st-3rd segment addresses should same, but the last segment is different. Such as: computer IP 192. 168. 0.6 and controller IP 192.168.0.11

When you complete the IP address setting, please return to the first-level menu to select "Data Save" option and then reboot the controller for the new IP address to take effect.

#### 2.2.6 Language (Language Select)

#### 2.2.7 Data Save

Please select "Data Save" option to save the parameters data when you complete all the parameters setting. Otherwise, the parameters data will be lost once you reboot the controller.

# Chapter3. Control software of VSP-F2L4 controller

# 3.1 Installation and Running Environment for Control Software of

## VSP-F2L4 Controller

Users can install the VSP-F2L4 control software in the computer to set the parameters of the LED screen. At present, the control software only supports Windows XP, Windows 7 and Windows 8 operating system. Apple, Android, Linux operating system are not supported.

After you complete the installation of the VSP-F2L4 control software V2.66, you need to do the following two things if it is your first time using this control software. (1) Install the USB drive; import panel types file "Style.glux" in the "application" menu according to introduction.

(2) Select "VSPF2L4" under the "Controller" menu.



😤 ¥SPF2L4_Pro ¥2.67				
Appliction (A) Controller (M) Help (H)			English	
Paramet VSDF2L4 (12) VSDF2L4 (12)	Color Temperature	∎anufacturer Set	Communications	
ControllerPort: ALL V Select Product: CYSN39 V	SDI1 SDI2 HDMI	Red 💌	Input: Output:	
PortA: A Start	Output Resolution: W 1920	H 1080 Zoom	Apply Import	
PortB: B V PortC: C V FortD: D V W 1024 H 384	H-Mirror DMX512 1	Port: 0 DMX51	2 OFF Export Read	

# **3.2 Communication Setting**

There are two ways to communicate each other between control computer and VSP-F2L4 controller, through USB cable or Ethernet cable. It means that you only need one USB or RJ45 cable connect the computer with controller to set the LED screen's parameter.

#### 3.2.1 Serial Port (COM Port) Setting through USB Cable

The computer communicates with the controller via the serial port (COM port), they connect together with a USB cable. Click "Search" button in the communication interface of the control software to search for available serial port. If the indicator turns from red to green it means the connection is successful, otherwise, connection fails. Please check whether the USB driver had been installed, USB cable or USB interface had been damaged if connection fails.

SPF2L4_Pro ¥2.6	7			
Appliction( <u>A</u> ) Control	ller (M) Help (H)			English
Parameters	Addresses	Color Temperature	Tanufacturer Set	Communications
IP1       192.168       10         IP2       192.168       0         IP3       192.168       0         IF3       192.168       0         IF4       192.168       0         IF5       192.168       0         IF6       192.168       0         IF7       192.168       0         IF9       192.168       0         IF9       192.168       0         IP10       192.168       0         IP12       192.168       0         IP13       192.168       0         IP14       192.168       0         IP15       192.168       0         IP16       192.168       0	S         6         7         8         9         10         11         12         13         14         15         18         17         18         19         20	IP17       192.168.         IP18       192.168.         IP19       192.168.         IP19       192.168.         IP20       192.168.         IP21       192.168.         IP22       192.168.         IP23       192.168.         IP24       192.168.         IP25       192.168.         IP26       192.168.         IP29       192.168.         IP29       192.168.         IP30       192.168.         IP31       192.168.         IP32       192.168.         IP31       192.168.         IP32       192.168.	0     21       0     22       0     23       0     24       0     25       0     26       0     27       0     28       0     29       0     30       0     31       0     32       0     33       0     34       0     35       0     36       Select All     Cancel	COM3 V S7600 V Disconnect Search Reset
10 [Ready]				Glux
Applicti Oper Ins Ins Insp. Adv.	4_Pro V2.66 on.(A) Controller(M) He n GreatWatch(G) tall USB Driver(I) tall Updated Frogram(V) ort Panel Types File(S) ort Manufacturer Setting F: anced Configuration(A)	lp (H) ce tiles (R) put Resol	Color perature	Red V Zoom #

H-Mirror DMX512 Port:

DMX512

0

Exit(X)

#### 3.2.2 Network Port Setting

If the controller and the computer are connected via the Network port, set the IP address correctly before setting the parameters. And then click the option "Ping" in the Network port communication.

Please make sure the IP address of the controller and the control computer on the same LAN network segment, it means the 1st-3rd segment addresses should same, but the last segment is different. Such as: computer IP 192. 168. 0.10 and controller IP 192.168.0.6

rou can get IP settings assigned his capability. Otherwise, you ne he appropriate IP settings.	automatically if your network supports ed to ask your network administrator for
Obtain an IR address autom	satioally
Obtain an in address action     One of the following IP address	s:
IP address:	
Subnet mask:	255 255 255 0
Default asteurour	
Derault gateway.	
Obtain DNS server address	automatically
<ul> <li>Output the following DNS service</li> </ul>	er addresses:
Preferred DNS server:	
Alternate DNS server:	
	Advanced
	OK Cancel

system have to be on the same segment, but VSPF2L4\_Pro V2.67 different IP. Appliction(A) Controller(M) Help(H) Color Temperature orrect IP addre Tanufacturer Set Addresses Parameters Communications SP-F2L4 controller ame as the V TP1 😝 192.168. 10 . 5 21 👄 сомз 🔽 [IP2] 🍚 192.168. 0 . 6 🔲 IP18 😡 192. 168. 0 22 57600 ~ \_\_\_\_ IP3 🥃 192.168. 🔲 IP19 🥪 192. 168. 23 0 0 Connect 🔲 IP4 🥮 192.168. 0 🔲 IP20 🥪 192. 168. 0 8 24 Search 🔲 IP5 192.168. 0 9 🔲 IP21 🥪 192. 168. 🛛 0 25 🔲 IP22 😝 192.168. 0 🔲 IP6 192.168. 0 10 26 🔲 IP7 🥪 192.168. 0 🔲 IP23 😝 192.168. 0 11 27 Reset 🗌 IP8 🥮 192.168. 0 🔲 IP24 🥪 192. 168. 0 28 12 🔲 IP9 192.168. 0 13 29 🔲 IP10 😝 192.168. 0 14 🔲 IP26 😝 192.168. 0 30 🔲 IP11 😑 192. 168. 🔲 IP27 😝 192. 168. 0 31 0 15 🔲 IP28 🥪 192. 168. 0 16 32 □ IP13 😝 192.168. 0 🔲 IP29 🥪 192. 168. 0 17 33 🔲 IP14 😝 192.168. 0 18 🔲 IP30 😝 192.168. 0 34 🔲 IP15 😝 192. 168. 0 🔲 IP31 🥪 192. 168. 0 19 35 🔲 IP16 😝 192. 168. 0 20 🔲 IP32 🥪 192. 168. 0 36 Ping Select All Cancel All Step2: Click "Ping" J IP2 Step3:Select here The IP address of control software is same as the IP address showed on the LCD interface. Input DVI 1920×1080 P 60+ Output 1024×768 P60~ 70 Brightness IC MBI5041+ CYSN39 IP 192. 168. 0.6

The indicator will turn from red to green if the network port communicates successfully; otherwise you should check whether the Network port connect correctly or check whether the IP address of the controller and the control software are in same LAN network.

If one computer controls more than one controllers, it is recommended to use a router to connect all the controllers in the same LAN network, then define different IP address for different controller.

# **3.3 Parameters Introduction of Control Software**

SPF2L4_Pro V2.6	7			
Appliction (A) Contro	ller (M) Help (H)			English
Parameters	Addresses	Color Temperature	Tanufacturer Set	Communications
ControllerPort: ALL Select Product: CYSN39	DVI SDI1	SDI2 HDMI	Test Red 💌	Input: Output:
PortA: A 💙 Sta	rt Outj	put Resolution: W 1920	H 1080 Zoom	Apply Import
PortB: B 💙 PortC: C 💙 Siz		H-Mirror DMX512 1	Port: 0 DMX51	2 OFF Export
PortD: D 💙 🕷	1024 H 800 LED	-RGB: PIN1 Blue Y	IN2 Green 💌 PIN3 Red	Read
Custom 😪 R 255 📚 (	G 255 🗘 B 255 🗘 Red	i 🔽 Level: 65536 💌	Coef. : 2.2 📚 Send	Gamma Save
Horizontal Brightness:	Correction ON	Screen Play	Screen ON Stat	us ON Send
Product Name: Add Clear				Initialize Panel Types
10 [Ready]				Glav

**Controller Port:** Select a port of VSP-F2L4 controller that connected the LED screen. All means all ports. Port A, B, C, D respectively represent signal output ports OUT1, OUT2, OUT3, OUT4 of the VSP-F2L4 controller.

**Signal Interface:** Select the way of the signal input source, DVI, SDI or HDMI. Click "Text" can check and text the color of LED screen.

Resolution: Display the input signal resolution and output signal resolution.

**Switch port:** The display content of port A, B, C, D can switch to each other by setting. To take effect the switch function, you must operate it under the condition of the "controller port "is All or A in the control software.

**X/Y Start:** The start display position in the horizontal/ vertical direction is off from the initial point where is defined the upper-left (coordinates (0, 0)).

Change the values of X and Y will change the display position of LED screen.

**Size (Very important):** The horizontal/ vertical output pixels resolution for each port of the VSP-F2L4 controller. W/H represents the width/height of output resolution for each port of controller, not always a whole screen.

**Output Resolution (Output resolution scaling)**: You can make the input video totally output to the LED screen which have specified pixels by setting the output resolution. For example, the video input resolution is  $1920 \times 1080$ , the LED screen pixel only have  $1024 \times 768$ , if you want to display all of the video on this LED screen ,please set the Output Resolution: W:1024, H: 768.

**H-Mirror:** LED screen display to a mirrored display in Horizontal direction, usually be used in a symmetrical display effect.

**DMX512 on/off:** Used for setting the DMX512 port number. Please select OFF if there is no DMX512 signal input to the controller.

**Port:** Select correct controller port.

**Series:** The style of the product.

**LED-RGB:** PIN1~PIN3 represents the order of red, green and blue for LED lamps' pin .You can adjust this item if the colors is wrong.

**Color Temperature:** You can select the custom color temperature values and also can adjust the RGB (red-green-blue) color values according to the actual application. The color temperature range is 0~255.

**Gamma** It is mainly used to adjust the gray scale of the LED screen. You can adjust the contrast of LED screen by setting the gamma value. If the gray scale of the LED screen is inconsistent, you can try to improve the effect by sending the gamma. Setting method: select Red/Green/Blue, gray scale level is 65536, gamma coefficient is 2.2 and then click "Send Gamma". Different IC chip there is different Gamma level, such as, MBI 5041's level is 65536, MBI 5020's level is 4096.

**Export:** You can export a file to save the current parameter data. Once you lost the parameters you can import the file and recovery the parameter data.

**Import:** Import a file to recovery the parameter data.

**Read:** Read the parameters from the current VSP-F2L4 controller (Usually not need to use).

**Send:** Click the "Send" button to check the change of LED screen after you complete the setting of the parameters.

**Correct on/off (Calibration switch)** : Turn on the switch for calibrated LED screen the display effect will be better. Turn off the switch for uncalibrated LED screen otherwise only can get a white image picture.

Screen play (Lock): Suspend or display the LED screen.

**Screen on/off (Screen switch)** :Play or turn off the LED screen.

**Status ON/OFF:** You can turn on or turn off the LCD display function of LED panels. Click the status open/closed, and then click the Save in the control software to take effect.

**Operation:** Make the display image rotate 90 degrees, only valid for our BAtn series products current.

Brightness: You can drag the cursor to adjust the brightness of the LED screen.

**Initialize Panel Types:** Initialize Panel Types be only used when leaving factory, and not need description here.

# **3.4 Address Setting**

There are 3 methods for set the screen display address by this control software: single setting, multiple setting (whole screen setting) and intelligent setting. Usually we only use the multiple setting or intelligent setting to set the screen's display address, as shown below:

SPF2L4_Pro V2.6	7			
Appliction( <u>A</u> ) Control	ller (M) Help (H)			English
Parameters	Addresses	Color Temperature	Tanufacturer Set	Communications
General Setti Single Setting Controller Port: A MAC-Address: Column In: Row In: Send Multiple Setting Controller Port: A ConnectMode: Mod Columns: Rows: Send	ngs Intelliga	anel 0 LED panel 1 anel 5 LED panel 4 anel 6 LED panel 7	LED panel 2 LED pan el 3 LED panel 8	
G [Ready]				Glux

## 3.4.1. Address setting method 1: (Not normally used)

Function: Set one LED panel to be displayed in which column and row.

**Step1.Controller Port:** Select correct control port which connecting this LED panel.

**Step2.MAC-Address :** Represents the ordinal number for the LED panel which connects the controller selected port (Port A, B, C, D).

From the signal input of the first piece of LED screen, MAC-Address starting at 0 and increase by 1.MAC Address=0,1,2,3,4...(Take the above picture for example, LED panel 0's MAC Address=0, LED panel 1's MAC Address=1,LED panel 2's MAC Address=2, LED panel 3's MAC Address=3,LED panel 4...)

Step 3, Column In: Represents the column for LED panel displayed in, start from 0.

Step 4, Row In: Represent the row for LED panel displayed in, start from 0.

**Step 5, Send:** Click the "Send" button when you finish setting one LED panel address.

Use this method, you can set the LED panels' display address one by one. Please

remember to save your settings in the "Parameters" interface when you finish setting all LED screens addresses. Otherwise, once you reboot the controller, the data for the address setting will be lost.

VSPF2L4_Pro V2.66				×
Appliction(A) Controller(M) Help(H)			English	5
Parameters Addresse	s Color Temperature	Tanufacturer Set	Communications	
ControllerPort: ALL Select Product: IDSN6/0	SDI1 SDI2 HDMI	port be saved	Resolution           Input:         1920*1080p           Output:         1920*1080p	fz Hz
SwitchPort     Port Resolution       PortA:        PortB:	Output Resolution: W H-Mirror DMX512 D	H Zoom Port: O DMX51	Apply Import	
PortD: D V Y 1536 H 240	LED Driver Configuration LED-RGB: PIN1 Elue P	IN2 Green 🔻 FIN3 Red	Read	
Custom - R 255 - G 255 - B 255 -	Red Value Level: 65536 V	Coef. : 2.2 🚔 Send	Gamma Save	
Operation Horizontal V Correction Brightness:	ON Screen Flay	Screen ON Stat	us ON Send	

Attention Please: Single setting will usually only be used for some special requirements of display. Generally, Multiple Settings (whole screen settings) and Intelligent Settings would be recommended as they are bring greater ease of use for users to set the LED screen address. Shown below are the applications of these two methods.

# 3.4.2 The Method 2 for Address Setting: Multiple Setting (whole screen setting)

Controller Port:	A	~
ConnectMode:	Mode7	~
Columns:	8	
Rows:	6	
Sen	d	

**Function:** Under the circumstance that there is no signal divider in the control system and the signal port of the controller is connected with the LED screen directly, users can set all LED screen address at one-time.

**Controller port:** Select correct control port (A, B, C or D port); **Connect mode:** There are 8 kinds of signal connect modes (Mode1~Mode8) for the user to choose. You can also preview the signal connect mode on the right figure by click the Mode1~Mode8:

**Columns:** Represents how many columns of the LED screen charged by the controller selected port.

**Rows:** Represents how many rows of the LED screen charged by the controller selected port.



At last, click the "Send" button, and then save it in the parameters interface. Otherwise, once you reboot the controller, the data for address setting will be lost.

#### 3.4.3 Method 3 for Address setting: Intelligent Settings

Intelligent settings is the most common and flexible setting method. Except for the common setting functions, intelligent settings is more suitable to be applied to some anomalous shape LED screen. User would use this method to set LED panels addresses when SDV signal divider is used in a project.

SPF2L4_Pro V2.67					
Appliction (A) Controlle	e <mark>r (M)</mark> Help (H)			English	•
Parameters	Addresses	Color Temperature	Tanufacturer Set	Communications	
General Setting	gs [Intellige	ent Settings			
Controller Port: A Divider Port: 1 Start MAC: 0 Rows: 1 Columns: 1 MX-Offset: 0 MY-Offset: 0 PX-Offset: 0		MAC:			
PY-Offset: 0 Build Undo Send					
File Name: Export Import	]				
10 [Ready]				G	lux

**Controller Port:** Select correct controller port(Port A<sub>3</sub>B<sub>3</sub>C<sub>3</sub>D represent port OUT1<sub>3</sub> OUT2<sub>3</sub> OUT3<sub>3</sub> OUT4).

**Divider Port:** Select a correct SDV signal divider port. For further detail instruction to each port of signal divider please see the SDV08 manual.

**Start MAC-Address:** The default value is 0, please refer to the previous single setting section for further details.

**Columns:** Represents how many columns of the LED screen charged by the controller selected port or divider port

**Rows:** Represents how many rows of the LED screen charged by the controller selected port or divider port.

MX-Offset: The column amount which the LED screen horizontal displacement.

Image displayed from which column. We usually use the default value is 0. **MY-Offset:** The row amount which the LED screen vertical displacement.

Image displayed from which row. We usually use the default value is 0

**PX-Offset:** (This feature is temporarily out of use)

**PY-Offset:** (This feature is temporarily out of use)

**Build:** Generate a simulated image of the LED screen according to the number of rows and columns. Users can set the address for each LED screen on the simulated image. The intelligent setting method is as follows:

Click each LED screen from the first one of the signal input along the actual connection mode of the signal cable to the last one.

For example, one LED screen, size: 4pcs x 3pcs(W x H); use VSP - F2L4 controller's OUT2 output port; signal divider's port 1; Signal connect mode: mode 7. See the following red arrow connection mode:



Address setting showed as follows (Click one by one along the address module) 1) Select the B port in the controller port, select port 1 in the signal divider port, then build and number the LED panels as the following:

TSPF2L4_Pro V2. 67 Port OUT2	of VSP-F2L4 controller		
Appliction(A) Controller (W) Help(H) 1	he first Port of Signal D	ivider	English 💌
Parameters Addresses	Color Temperature	Tanufacturer Set	Communications
General Settings     Intellig       Controller Port     1     2     3     8       Divider Port     1     2     3     8       Start MAC:     0     2     3     8       Start MAC:     0     2     3     8       Columns:     4     7     0     5     6       Columns:     4     8     8     8       MX-Offset:     0     7     9     7       PX-Offset:     0     7     9     7       PY-Offset:     0     7     9     7       Build     Undo     8     9     7       File Name:     1     1     1     1	gent Settings MAC: Build s 10 11 Address distribution s the signal cascade wa	uccessed! ame a s y	
P [Ready]			Glux

**Undo:** When you accidentally set a wrong address, you can use this revocation to back to the previous one.

**Export:** Please input a file name in the input box to save the address setting data, and then click the "Export" button, the file you saved will be stored in the installation directory: C:\Programfiles\GluxGigabitControlSystem v2.67\xmls.

**Import:** If you want to input one address setting data which has been already saved, click "Import", and then select the import path and the address file you want, at last

click the "Send" button.

**Attention please:** When you finished to set the address, please remember to click the "Save" button in the parameters interface no matter which setting method you choice. Otherwise, the address setting data will be lost once you reboot the controller.

#### The summary steps for address setting

**Step 1:** Select a method to set the address, there are three methods to choose: single setting, multiple setting (whole screen setting) and intelligent setting. Normally select multiple setting (whole screen setting) or intelligent setting.

**Step 2:** Set addresses for all LED screens and check whether the display image is correct.

**Step 3:** Click the "Save" button in the parameters interface when you complete the setting.

Appliction (A) Controller (M) Help (H)       English         Parameters       Addresses       Color Temperature       Banufacturer Set       Communications         ControllerPort       ALL       Signal Interface       All port be saved All port be saved Set       Resolution         ControllerPort       ML       BVI       SDI1       SDI2       HDMI       Topic Red         Select Product:       IDSNB/0       BVI       SDI1       SDI2       HDMI       Topic Red         Select Product:       IDSNB/0       BVI       SDI1       SDI2       HDMI       Topic Red       Import         Select Product:       IDSNB/0       BVI       SDI1       SDI2       HDMI       Topic Red       Import         PortA:       A       Port Resolution       Zoon       H       Zoon Apply       Import         PortB:       B       PortB:       B       V       O       HMirror       DMX512 Port:       O       DMX512 OFF       Export         PortD:       D       V       ISB       FINI       Elue       PIN2 Green       PIN3 Red       Read         Color Temperature       Gama       Red       Level:       E5536       Coef. : 2.2       Send Gamma       Save	VSPF2L4_Pro V2.66					
Parameters       Addresses       Color Temperature       Manufacturer Set       Communications         ControllerPort       Signal Interface       All port be saved       Resolution         Select Product:       DNN       SDI1       SDI2       HDMI       Test       Red       Input: 1920*1080p       OHr         Select Product:       IDSN6/0       DVI       SDI1       SDI2       HDMI       Test       Red       Input: 1920*1080p       OHr         SwitchPort       Port Resolution       V       Output Resolution:       W       H       Zoom       Appl       Import         PortA:       PortB:       B       Output Resolution:       W       H       Zoom Appl       Import         PortA:       PortB:       B       Output Resolution:       W       H       Zoom Appl       Import         PortB:       B       PortB:       File       Dutput Configuration       PMX512 OFF       Export         LED-RGE:       FINI Elue       PIN2 Green       PIN3 Red       Read         Color Temperature       Gama       Coese:       Send Gama       Save         Operation       Red       Level: 65536       Coef. : 2.2 @ Send Gama       Satus ON         Brightness:	Appliction(A) Controller(M)	) Help(H)				English 🔻
ControllerPort ALL Signal Interface All port be saved Resolution Select Product: IDSN6/0 V DVT SDI1 SDI2 HDMI Text Red Input: 1920*1080p OHr Output: 1920*1080p OHr Output: 1920*1080p OHr PortA: A V PortB: B V PortB: B V PortB: B V PortD: D V 0 HMITOR DMX512 Port: 0 DMX512 OFF Export Size V PortD: D V 1536 H 240 LED Driver Configuration LED -RGB: FINI Elue V PIN2 Green V PIN3 Red Read Color Temperature Gamma Save Custom R 255 # G 255 # B 255 # Red Level: 65536 V Coef. : 2.2 # Send Gamma Save Operation Horizontal V Correction ON Screen Play Screen ON Status ON Send	Parameters	Addresses	Color Temperature	Tanufacturer Set	Communic	cations
PortA: A        Normalized in the second secon	ControllerPort: ALL • Select Product: IDSN6/0 •	Signal Interfac	SDI2 HDMI	port be saved	Resolution Input: 1 Output: 1	920*1080p OHz 920*1080p OHz
In U. D.       Size       HMirror       JMX512 Fort: 0       JMX512 OFF       Export         PortC: C.       File       Size       ILED Priver Configuration       Export       Export         PortD: D.       File       IS36       H 240       LED Priver Configuration       Red       Read         Color Temperature       Gamma       Gamma       Gamma       Save         Custom v       R 255 + G 255 + B 255 +       Red v       Level: 65536 v       Coef. : 2.2 +       Send Gamma       Save         Operation       Korizontal       V       Correction ON       Screen Play       Status ON       Send         Brightness:       65       Send       Send       Send       Send       Send	PortA: A V	Y O Outp	put Resolution: W	H Zoom	Apply	Import
PortD: D       IED-RGE: FINI Elue        FIN2 Green        FIN3 Red       Rcad         Color Temperature       Gamma       Gamma       Save         Custom        R 255 ÷ G 255 ÷ B 255 ÷       Red        Level: 65536        Coef. : 2.2 ÷       Send Gamma       Save         Operation       Horizontal       Correction ON       Screen Flay       Screen ON       Status ON       Send         Brightness:       65       Send       Send       Send       Send       Send	PortC: C V		H-Mirror DMX512 H	fort: U DMX51		Export
Custom ~ R 255 # G 255 # B 255 #       Red ~ Level: 65536 ~ Coef.: 2.2 #       Send Gamma       Save         Operation       Horizontal ~ Correction ON Screen Play       Screen ON Status ON 65       Send	PortD: D V	LED	-RGB: PIN1 Blue V	IN2 Green VIN3 Red	-\	Read
Operation         Correction ON         Screen Play         Screen ON         Status ON         Send           Brightness:         65	Custom • R 255 • G 255	B 255      Red     Red	Level: 65536 •	Coef. : 2.2 🚔 Send	Gamma	Save
Horizontal  Correction ON Screen Flay Screen ON Status ON Brightness: 65	Operation					
Brightness: 65	Horizontal 🔹	Correction ON	Screen Play	Screen ON Stat	us ON	Send
	Brightness:		0		65	benu

# 3.5 Color temperature adjustment

Users can adjust the color and brightness of one-piece LED panel (box) or one-piece LED board (module) alone. Usually, one LED panel is composed of 1~16 pieces LED boards. The color temperature interface is shown below.

♣ VSPF2L4_Pro V2.6	7			
Appliction (A) Control	ler (M) Help (H)			English
Parameters	Addresses	Color Temperature	Tanufacturer Set	Communications
Controller Fort: A Board: V Whole Box 1 2 3 9 10 11 R: X3 V X9 R: 0 G: 0 B: 0 G: X3	All Boxes     Single Box     12 13 14 15	] ] 8 ] 16		
R: 0       G: 0       B: 0       B: 1       X3       R: 0       G: 0       B: 0				
Import	Send			
P [Ready]				Glux

There are two function areas in the color temperature adjustment interface, one is the option which is used to choose the adjustment object, and the other is color temperature which is used to adjust the color values for red, green, and blue.

## 3.5.1 Single panel (Box) color temperature adjustment

For example: LED Screen, size:  $4pcs \times 3pcs$  (W×H, signal transmission from port A of the VSP-F2L4 controller. The color brightness of the fourth panel is higher than the others. Take adjusting the fourth LED panel as an illustration.

2	3	8	9
1	4	7	10
0	5	6	11

#### Color temperature adjusting steps:

**Step 1:** Export the address setting data. Click and enter the Intelligent Settings interface, select controller port A, build a simulated image that has 4 columns and 3 rows. Then number all LED panels and input a file name such as "color" and then click "Export" button to export it.

**Step2:** Click to enter the Color Temperature Setting interface. Import the address setting data file that named color. Xmlm.

**Step3:** Select the object for which you want to set color temperature. Click the fourth one at the simulated image. Select correct controller port: Port A. Select "Single Box" and "Whole Box" in Board.

**Step4:** Drug the cursor and adjust the color temperature value. Selecting "X9" will change the color temperature value of RED, GREEN and BLUE at the same time. Select "X3" will adjust its R/G/B values separately.

**Step5:** Click "Send" button to check the color of the fourth panel and compare with other panels.



Please recycle step 4 and step 5 until you reach your target.

Step1

SPF2L4_Pro ¥2.67			🛛
Appliction (A) Controller (M) Help (H)			English
Parameters Addresses	Color Temperature	Tanufacturer Set	Communications
Controller Fort: All       All Boxes         Bear ( Thole Box       Single Box         9       10       11         1       2       3       4       5         9       10       11       12       13       14       15         R:       0       0       0       0       0       0       0         B:0       0 </td <td>Import successed 2 2 3 3 8 16 0 5 5 0 5 5 0 5 5</td> <td></td> <td></td>	Import successed 2 2 3 3 8 16 0 5 5 0 5 5 0 5 5		
Step2			

Step2



Step3, Step4, Step5

## 3.5.2 LED board (module) color temperature adjustment

The methods and steps are similar as the single panel color temperature adjustment. The difference is on the 2<sup>nd</sup> step. Please select the correct LED module of the LED panel that you will adjust instead of the "Whole Box" button as shown below.



Summary:

The range of one color temperature adjusting is  $0\sim320$ . We recommend controlling it between  $0\sim256$ .

The color temperature adjusting for single panel (Box) or module mainly consists of the follow three aspects.

(1) Adjust the value of R (red), G (green) and B (blue) for the three colors at the same time and proportion.

(2) Adjust the value of R, G and B for one color at the same time and proportion.

(3) Adjust the compensation value of R, G and B separately for one color R or G or B.

R: 🔲 X3 🔽 X9	
R: 153	
G: 153 .	
B: 153 ,	
G: 🔲 X3	Ť.
R: 153 .	
G: 153 ,	
B: 153 ,	
B: 🚺 X3	
R: 153	
G: 153 .	
B: 153 ,	
lmport	Send

R X3 X9 R: 61	
G: 61	
B: 61 G 🔽 X3	
R: 102	J
B: 102	
B 🔽 X3	
G: 165	
B: 165	Ŏ
Import	Send

(1) Adjust the value of R, G and B for the three Colors at the same time and proportion



(2) Adjust the value of R, G and B for one color at the same time and proportion.

(3) Adjust the compensation value of R, G and B separately for one color.

Suggestion: It is better to have the LED screen display red; green, blue and white color and then adjust the corresponding color. For instance, check whether the white color is closed after completing the setting of the red color, green color and blue color. Generally speaking, the white color will be closed once you set the red color, green color and blue color closed. If the blue color has a little difference, the visual effect of the LED screen will be obviously different.

From practical experience, it is difficult to adjust the color temperature completely same as others by this Color Temperature Setting interface. But it can adjust the color nearly same as other LED panels or modules and reduce the visual effect difference.

#### **3.6 Manufacturer Set**

Manufacturer Set is mainly used for send the specific data by our engineers according to the LED module style. Users do not need to use this function.

# Appendix 1 Signal output cutting method of VSD-F2L4

# controller (Important)

There are four serial network signal (OUT1~OUT4, represented by A, B, C, D) and two serial optical fiber signal (OUT1~OUT2) for VSP-F2L4 controller. A, B, C, D

The first optical fiber output signal equates the sum of network OUT1 and OUT2 output signal, that is, signal A and signal B. The second optical fiber output signal equates the sum of network OUT3 and OUT4 output signal, that is, signal C and signal D.

The maximum output resolution is 1920x1080 of the controller. The input video signal can be horizontal segmentation or vertical segmentation according your setting. For specific principles, please see the following introduction. Please select proper way according to the screen size and some other conditions.

# Signal Horizontal Segmentation of VSP-F2L4 controller



# (Applicable to all products)

Horizontal Segmentation means that the signal is divided into four parts from top to bottom, through the controller's signal output port (OUT1~OUT4) as shown above. The size of the display area is the same for each output port.

Assuming that the LED screen pixel resolution is  $Wx \times Hy$ , Wx is horizontal pixel size, Hy is vertical pixel size, as shown below:



The output resolution for each controller's port is  $W \times H$ , W represents the width of horizontal resolution of this controller port, H represents the height of vertical resolution of this controller port. The values of W and H must meet the following conditions.

- (1) W≥Wx , H<768
- (2) W×H≤2048×300
- (3)  $W \leq 256 \times \text{integer} [(2048*300)/H/256]$ , integer means integral part.

The relationship between H and  $H_y$  as follows (n represents the quantity of controller ports which be used, n=1,2,3,4)

(4) N=1, it means just use on controller port.  $H_y \leq H < 768$ 

(5)  $n \neq 1$ ,  $H_y/n \leq H \leq H_y/(n-1), (n=2,3,4)$ ;

**Attention please:** The value of H is a whole-number multiple of the pixel quantity of one LED panel. Otherwise, the display image of the LED screen will discontinuous.

- a. W≤768, H max=800
- b. W≤1024, H max=600
- c. W≤1280, H max=480
- d. W≤1536, H max=400
- e. W≤1792, H max=342
- f. W≤2048, H max=300

## Signal Vertical Segmentation of VSP-F2L4 Controller

#### The first way: Output resolution for each controller port is 512×1080 (W×H)

The fixed output resolution for each controller port is  $512 \times 1080(W \times H)$  when the port resolution set to W=1920,  $768 \le H \le 1280$  as shown below picture.

Usually is used for P3.9, P8, P15, P31 and some other products.



#### The second way: Output resolution for each controller port is 480×1080 (W×H)

The fixed output resolution for each controller port is  $480 \times 1080(W \times H)$  when the port resolution set to W=1920, H $\ge$ 1280.

Usually be used for P6, P10, P12 and some other products.

# Appendix II Failure Analysis and Troubleshooting

1.If you are prompted that IP connection failed, please check whether the IP of network port set correctly and network cable is workable and the controller IP and the computer IP are in the same LAN network.



2. If you are prompted that serial port send / read failed, please check whether the COM port of the control software you selected is the same as the control computer's COM port, check whether baud rate is 57600 and whether you have installed the USB driver correctly.



3. When you are sending parameters, the screen is controlled but it shows a strange lines or splash of colour, please check whether DVI has been connected correctly, whether the resolution of the display card has been set into a common resolution which is above 1280\*1024. Furthermore, make sure product type is selected correctly. Select the right product type before sending parameters as the following picture.

Paramete	rs	٨	ddresses
ControllerPort:	ALL	~	
Select Product	IDSN6/0	~	

4. If the LED screen image has no response when you are adjusting the address, check whether the COM port is connected and been set correctly, and check whether the ports of the controller and signal divider be selected correctly. Generally speaking, you will see images of LED screen will change follow the change of address setting in real time. You will see the images of LED screen vary with the changes of address setting in real time

Parameter	s	Add	resse	s	Тε	:
General S	Settings		Inte	llige	ent S	e
Controllor Root		X: 1	¥ :	0	MAC:	
Divider Port:	1 ~	2	3	8		
Start MAC:	0	1	4	7	10	ľ
Rows:	3	0	5	6	11	ĺ
Columns:	4	L.				1

5. If USB communication port cannot be found in the Device Manager of the

computer, please check whether you have installed the USB driver correctly. After installing the USB driver, some computers need to restart and re-plug the USB cable in order to identify the communication port, or need to update the USB driver in the Device Manager, or re-open the control software again.

6. Sometimes LED screen may be missing colors (namely no calibration data) during displaying, please try to repower the screen or click "reset" in "communications" of the control software for several times, as the following picture:

VSPF2L4_Pro V2.	67 oller (M) Help (H)			English
Parameters	Addresses	Color Temperature	Tanufacture Set	r Communications
🗆 IP1 👄 192, 168, 11	0].[5]	T IP17 👄 192, 168.	0 . 21	
IP2 😝 192.168. C	. 6	□ IP18 → 192. 168.	0 . 22	57600
🗌 IP3 😑 192. 168. 🛛	1.7	🔲 IP19 ⊖ 192. 168.	0.23	Disconnect
🗌 IP4) 😑 192. 168. 🛛 0	1.8	🔲 IP20 🔴 192. 168.	0.24	
🗌 IP5 😑 192. 168. 🛛	1.9	🔲 IP21 🛑 192. 168.	0 . 25	Search
🔲 IP6   192.168. 0	. 10	🔲 IP22 🛑 192. 168.	0 . 26	
🗌 IP7 😝 192.168. 🛛	. 11	🔲 IP23 🛑 192. 168.	0 . 27	Reset
_ IP8 😝 192.168. 0	1. 12	🔲 IP24 🛑 192. 168.	0 . 28	
T TP9 🔒 192 168 🛛	13	TP25 🗕 192 168	0 29	

7.When some individual LED Screen is missing colors, such as the below image, it may be because the control software cannot read color calibration data, please try to repower the screen or click "reset" in "communications" of the control software for several times.



8. If the image of the LED screen is discontinuous, flash or wrong after control system has been connected, please check whether the address, the parameters and the port set correctly in the control software, if the LED pixel resolution is out of your input source resolution.