

Buy website address: https://reissopto-led.com/products/colorlight-x4e-professional-led-video-display-controller-box



# X4e Controller USER MANUAL

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# Colorlight

# 1. Overview

X4e controller is a professional control system and video processing equipment specially designed for LED engineering applications. It equips various video signal interfaces, supports high-definition digital ports (SDI, HDMI, DVI, DP), and seamless switching between signals can be achieved; it supports broadcast quality scaling and multi-pictures display.

X4e adopts 4 Gigabit Ethernet outputs, and it supports LED display of 4096 pixels in maximum width or 4096 pixels in maximum height. Also, X4e equips a series of versatile functions which provide flexible screen control and high-quality image display, it has significant advantages in LED engineering applications.

#### Features:

- Support various digital signal ports, including 2×SDI, 1×DP, 1×HDMI (with loop), 1×DVI (with loop)
- Support input resolution up to 1920\*1200@60Hz
- Loading capacity: 2.6 million pixels,

Maximum Width: 4096 pixels, Maximum Height: 4096 pixels

- Support arbitrary switching and scaling of video source
- Support three-picture display, the location and size can be adjusted freely
- Support HDCP1.4
- Dual USB2.0 for high speed configuration and easy cascading among controllers
- Support brightness and chromaticity adjustment
- Support improved gray-scale at low brightness
- Compatible with all receiving cards, multifunction card, optical fiber transceivers of Colorlight



# 2. Appearance

#### **Front Panel**



No.	Name	Function
1	1.8-inch LCD	Display operation menu and system information
2	Knob	Turning knob to select or adjust
3	Function Keys	OK: Enter key ESC: Escape current operation or selection Bright: Brightness option Black: Blank screen Mode: Output mode selection of images Freeze: Freeze screen Lock: Lock keys
4	Selection Keys	DVI/HDMI/SDI 1/SDI 2/DP: Video source selection
5	Power Switch	Power switching for equipment





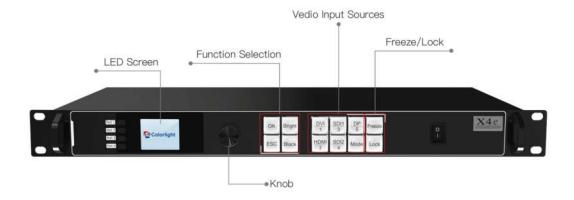
#### **Back Panel**

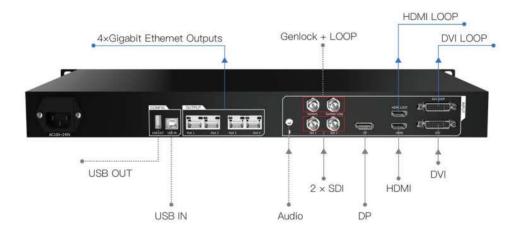


Input I	nterface	
1	SDI	2 SDI inputs, 1080P
2	DP	DP input, VESA Standard, support input resolution up to 1920*1200@60Hz
3	HDMI	HDMI input (with loop), EIA/CEA-861 Standard, support 1920*1200@60Hz, support HDCP
4	DVI	DVI input (with loop), VESA Standard (support 1920*1200@60Hz), support HDCP
5	AUDIO	Audio input, input audio signal and transmit to the multifunction card
Outpu	t Interface	
1	Port1/2/3/4	RJ45, 4 Gigabit Ethernet outputs
Contro	olling Interface	
1	USB OUT	USB output, cascading with next controller
2	USB IN	USB input, which connects with PC to configure parameters
3	Genlock	Genlock signal input ensures synchronism of display image
4	Genlock Loop	Genlock synchronous signal loop output
Power		
1	AC 100~240V	AC Power Interface



# 3. Signal Connection



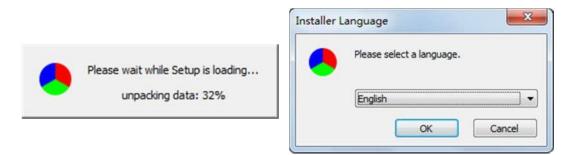




# 4. LEDVISION Installation

Please download the installation package of the LEDVISION software from Colorlight's official website **www.colorlightinside.com**, and complete the installation according to the diagrams shown below.

1. Run the software package, and select **[English]** for installer language. Click **[OK]** to move on.



2. After selecting a language, an installation wizard like below will appear, click **[Next]**. Then choose installation location, click **[Browse]** to change default target location, then

click [Next] after completing.

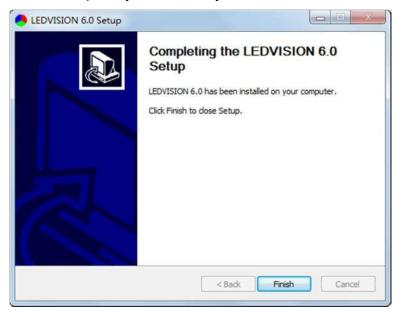
Choose the folder in which to inst	tall LEDVISION 6.0.
Setup will install LEDVISION 6.0 in Browse and select another folder	n the following folder. To install in a different folder, dick r. Click Next to continue.
Destination Folder	
Destination Folder D:\LEDVISION\	Browse
	Browse
D: \LEDVISION\	Browse



Choose components according to your own computer status, click [Install] to complete.

hoose Components Choose which features of LED	VISION 6.0 you want to install.	
Theck the components you wa nstall. Click Install to start the	ant to install and uncheck the comp installation.	onents you don't want to
Select components to install:	Common Files Dependens Files Winpcap Usb Driver For Sender USB-to_Net Driver For Pia	Description Usb driver for sender.
ipace required: 87.8MB	. m	

After the installation is complete you are ready to use LEDVISION.





# 5. Parameter Configuration

Please make sure the correctness of the hardware connection before setting, use LEDVISION to detect sender and all receiving cards.

# 5.1 Detect Sender and Receiving Card

1. Run LEDVISION, click [Control]—[Device Information] to enter the Device Information window.

٩	LED Screen Settings	🔲 🖬 🖓 🖓 🔩
'n	Device Information	
	Screen Size and Count Settings	
	By Point Calibration Brightness Adjustment Multi-function Card Settings	D Play and Management System
	By Point Check Intelligent Module Info	
	Timing Command List	
H		© Beijing Colorlight Technology Co., Ltd.

2. Click **[Detect Senders]** in **[Sender]**. Please check the hardware connection or the installation of relevant driver if cannot detect senders.

Select network port and click **[Detect Receiver Cards]** respectively, the software will automatically acquire the receiver card quantity of each network port of the sender. Please check corresponding cable if the numbers of receiver card are inconsistent with actual status.

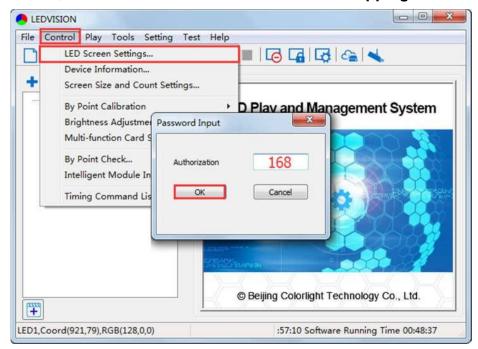


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ice Information			
27.02	Index	Туре	Version
Sender	1	X4e	1.00 (ARM:1.0(1758) FPGA:1.52)
otal 1 X4e 1.00			
Detect Senders			
eceiver Cards			
t All Ports	•		
Detect Receiver Cards	3		
Reset Packet Count			

# 5.2 LED Screen Setting

Click [Control]—[LED Screen Settings] and a Password Input box will appear. Enter the authorization password [168] to enter the LED Screen Setting interface, and set up "Sending Device", "Screen Parameters" and "Receiver Mapping".





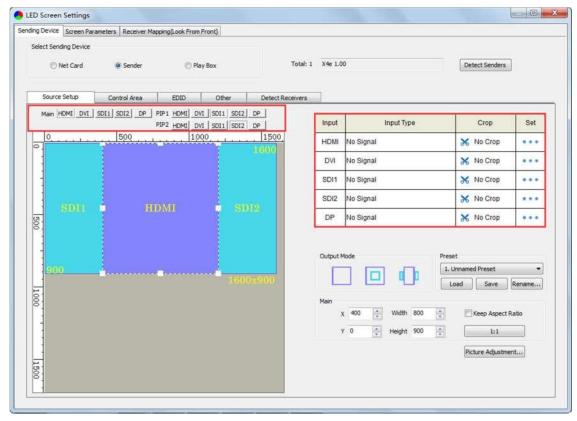
# 5.2.1 Sending Device Setting

[Select Sending Device] for [Sender], and detect senders. Sending Device Setting includes 5 parts: Source Setup, Control Area, EDID, Other, Detect Receivers.

#### 1. Source Setup

#### ① Signal Source

When the input signal source of X4e is normal, the upper right of the software interface will display the input signal information auto acquired via the software. Users can select specific signal source (HDMI/DVI/SDI1/SDI2/DP) according to needs in **[Main]**; If PIP mode has been open, users can also select specific signal source (HDMI/DVI/SDI1/SDI2/DP) in **[PIP]**. At the moment, the image of selected signal source will display in the **Image View Area** on the left of the software interface.



#### 2 PIP

There are three output modes of main image and PIP in **[Output Mode]**, users can select specific PIP mode based on the requirement, and conduct the operation like move, scaling and cropping on the main image and PIP image respectively.



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ing Device Screen Par	ameters Receiver M	apping(Look From	Front)					
Select Sending Device	Sender	() Pla	ну Вох	Total: 1	X4e 1.0	10	Detect Senders	
Source Setup	Control Area	EDID	Other	Detect Receivers	1			
Main HDMI DVI	SDI1 SDI2 DP	PIP1 HDMI D	I SDI1 SDI2	DP	Input	input Type	Crop	Set
<u></u>	.  500	1000	1500	200	HDMI	No Signal	🗙 No Crop	•••
			10	220	DVI	No Signal	🗙 No Crop	•••
					SDI1	No Signal	🗙 No Crop	
500					SDI2	No Signal	🗙 No Crop	
ŏ					DP	No Signal	Ӿ No Crop	•••
1080			1920,1				set Unnamed Preset Load Save Keep Aspect R 1:1 Picture Adjustmen	

#### ③ Scaling

In **Image View Area**, **select** the image that needs to be scaled, set X, Y, width and height of it in **[Main]** or **[PIP]**, or you can click the white box in the bottom right corner of the image and drag it with the mouse, finally click **[Save]**.

Select Sending Device	Total: 1	X4e 1.0	0	Detect Senders	
Source Setup Control Area EDID Other Detect Re	eceivers	]			
Main HOMI DVI SDI1 SDI2 DP PIP1 HOMI DVI SDI1 SDI2 DP	[	Input	input Type	Crop	Set
0	Ì	HDMI	No Signal	😽 No Crop	
		DVI	No Signal	🗙 No Crop	
		SDI1	No Signal	🗙 No Crop	
PIPEDVI	[	SDI2	No Signal	🔀 No Crop	
PIPIDW	[	DP	No Signal	😽 No Crop	
1020x1030	[			eset Unnamed Preset Load Save Keep Aspect R 1:1 Picture Adjustment	



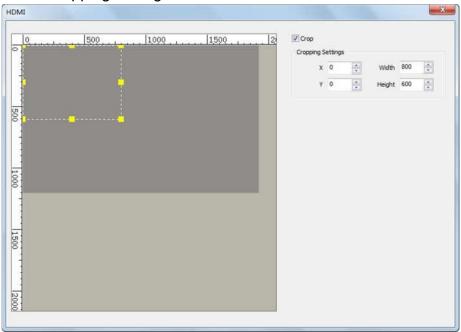


#### (4) Cropping

Select signal source of the image that needs to be cropped in **Input Signal Area**, click **[Set]** to enter the cropping interface.

Select Sending		Total: 1 X4e	e 1.00	0	Detect Senders	
Source Set		Detect Receivers	_		r	1
Main HDM	I DVI SDI1 SDI2 DP	100 Inp		Input Type	Crop	Set
		1920	_	No Signal	X No Crop	•••
1		D\ SD		No Signal	X No Crop	•••
	10000000	SD		No Signal	No Crop	
500	HDMI			No Signal	No Crop	
1080	1920;	Out	put M		Unnamed Preset	Rename
1500		Main	x	0 (* Width 1920 (* 0 (* Height 1080 (* )	Keep Aspect R	atio
2000					Picture Adjustmer	t]

In the cropping interface, check **[Crop]**, and set X, Y, width and height in **[Cropping Settings]**, then the cropping setting is auto saved.







#### **5** Picture Adjustment

Click **[Picture Adjustment]**, and enter the interface of picture adjustment. Check **[Enable]**, and adjust hue, saturation, brightness compensation and contrast ratio of the whole image, then click **[Save]** to complete. After setting, you can click **[Default Settings]** to restore the default values of every parameter, that is, hue and brightness compensation default to 0, saturation and contrast ratio default to 100.

ng Device Screen Paramet		a store of the sto						aaa, 17.
Net Card	<ul> <li>Sender</li> </ul>	Play Box	Total: 1	X4e 1.00			Detect Senders	
Source Setup	Control Area	EDID Other	Detect Receivers					
Main HDMI DVI SDI			]	lonut	Ionut Type		Crop	Set
0	Pic	ture Adjustment				9	🗙 800x600	•••
		📝 Enable				9	K No Crop	
1		Hue	-	0	0	9	🖌 No Crop	
500	16	Saturation		0	100	3	K No Crop	
B P		Brightness Compensation	-	0	0	3	🖌 No Crop	
		Contradic Natio		Defau	It Settings			
1080					,	Preset	amed Preset	-
		Save		Close		Load	Save	Rename
-				Main x 0	Width 1920		Keep Aspect	Ratio
1500				ΥÖ	Height 1080		1:1	
1						1	Picture Adjustm	ent
2000								

#### 6 Preset

In **[Preset]**, 16 preset parameters can be saved, and every preset parameter includes all parameter information of source setup (signal source, PIP, scaling, cropping, picture adjustment), users can directly load one preset parameter to display the image according to needs, and don't need to set up all parameters again.

After completing setting up all parameters of source setup, **select** unnamed preset, click **[Save]** to save the parameter to sending device, and rename it; click **[Load]**, send the parameter to receiving cards. At the time, the image should display on the basis of preset parameter.



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ng Device Screen Par	rameters Receiver M	1apping(Look From	n Front)					
Select Sending Device								
Net Card	<ul> <li>Sender</li> </ul>	© P	lay Box	Total: 1	X4e 1.0	0	Detect Senders	l),
Source Setup	Control Area	EDID	Other	Detect Receivers	Ξ.			
Source Setup	Control Area	EDID	Other	Detect Receivers		1	-	
	SDI1 SDI2 DP		VI SDI1 SDI2		Input	Input Type	Crop	Set
0	. 500	1000	1500	200	HDMI	No Signal	₩ 800x600	***
					DVI	No Signal	🗙 No Crop	
					SDI1	No Signal	🗙 No Crop	
<u>.</u>					SDI2	No Signal	🗙 No Crop	
500					DP	No Signal	🗙 No Crop	
	-					1		
E some					Output M	Mode F	reset	
1,080			1920x1	080	F		1. Unnamed Preset	•
							Load Save	Rename
_					Main	x 0 🔶 Width 1920 🛊	Keep Aspect F	atio
1500						Y 0 🗘 Height 1080 🔅		
-						i i i i i i i i i i i i i i i i i i i		
1							Picture Adjustme	nt]
2000								

#### 2. Control Area

In **Control Area**, it displays the control area of each net port of X4e. Click **[Import]** and select correct parameter file, click **[Save]** to save parameters into corresponding sender; or set up the control area of each net port respectively (X, Y, Width, Height), click **[Save]**.

	hereoperative	eters Receiver Mappin	g(Look From Front)						
Selei	t Sending Device	Sender	🕐 Play Box	Total: 1 X4e	1.00			Detect Sende	rs
3	Source Setup	Control Area	EDID Other	Detect Receivers					
	0	500	1,000	1500	Port	х	Y	Width	Height
2		*****			1	0	0	480	1080
1					2	480	0	480	1080
					3	960	0	480	1080
1					4	1440	0	480	1080
1000									
1									





#### 3. **EDID**

Set sender resolution, the first one is the default as current resolution.

	ameters Receiver Map	ping(Look From Front)		
elect Sending Device				
Net Card	Sender	Play Box	Total: 1	1 X4e 1.00 Detect Senders
Source Setup	Control Area	EDID Other	Detect Receivers	
Input	Width	Height	Frame Rate	Resolution 1920 × 1080
HDMI	1920	1080	60	
DVI	1920	1080	60	
DP	1920	1080	60	

Click the dropdown button to display the resolution list to select the mainstream resolution, and you can also customize the sender resolution, by setting the width/height and frame rate.

Click [Save] after setting.

Resolution	1920 x 1080 🔻	Save				
	Custom 800 x 600 1024 x 768		Resolution	Custom 💌		Save
	1280 x 1024 1600 x 900			1920 x 1080	Frame Rate	60 🔹
	1920 x 1080 1920 x 1200					<u></u>

#### 4. Other

Advanced Parameters Setting (Better graylevel on Low Brightness, Mapping from Sender, Device Name), Test Mode Selection, Factory Restore.



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	Screen Parameters	Receiver Mapping	(Look From Front)				
elect Sendin		Sender	🕐 Play Box		Total: 1	X4e 1.00	Detect Senders
Source S	etup Cor	ntrol Area	EDID Oth	er De	tect Receivers		
Adv	anced Parameters				Expor	Parameters to File	
	Mapping From	vel On Low Brightnes 1 Sender	55		Import	Parameters from File	
	Device Name				F	actory Restore	
Tes	t Mode Test Mode	Off		•			

#### 5. Detect Receivers

Detect receivers under each net port of X4e controller, and acquire relevant information about the receivers (Port, Index, Version, Run Time, Support Chips).

ED Screen Settings		and the second			
Provide and a second se	ters Receiver Mapping(Look	From Front)			
Select Sending Device	Sender	🕑 Play Box	Total: 1	4e 1.00	Detect Senders
Source Setup	Control Area EDID	Other De	tect Receivers		
Port Index	Version	Run Time	Suj	oport Chips	Detect Receivers
					All 1 2 3 4



#### 5.2.2 Screen Parameters Setting

Observe the display screen with single cabinet as a unit, and if all cabinets themselves could display normally {it is normal circumstance even the picture between cabinets is not continuous}, please ignore this step and directly go to the next step.

Otherwise, configuration must be done as follows:

Moude Size       80W×16H       Driver IC for Column       SUM2030       Data Polarity       Positive phase       Reverse         Scan Mode       16 scan       Driver IC for Row       138 Chip       OE Polarity       Low Valid       Reverse         Cabinet Setting       Width       160       <=1024       Cascade       From Right to Left       Data Group       Normal 32 groups       Image: Column SUM200         Performance Setting       Calibration       Data Group Swap       Image: Column SUM200       Image: Column SUM200	Module Inform	ation									
Cabinet Setting Width 160 <=1024 Cascade From Right to Left  Data Group Normal 32 groups  Height 160 <=256 Fold Count 2 Split (Same Direction)  Data Group Swap Performance Setting Refresh Rate 480Hz Gray Level 4096  Gray Mode Balanced Low Gray  Gray Level 4096  GCLK 8.3 MHz GCLK 8.3 MHz Blanking Value 0  (Cuttom Gamma Value 2.8  (Independent Setting)	Moud	le Size 8	10W×16H	Driver I	C for Column	SUM2030	Data Polarity	Positive phase	Reverse		
Width       160       <=1024	Scan	Mode 1	l6 scan	Drive	r IC for Row	138 Chip	OE Polarity	Low Valid	Reverse		
Height 160       <=256	Cabinet Settin	g									
Performance Setting         Refresh Rate       480Hz       Gray Mode       Balanced Low Gray       Calibration Mode       Disable       Blanking Phase         Gray Level       4096       GCLK       8.3 MHz       Calibration       From Receiver Cards       SCK Duty Ratio         DCLK       8.3 MHz       GCLK       8.3 MHz       Calibration       No Signal Action       From Receiver Cards       SCK Duty Ratio         Blanking Value       0       (x100ns)       Input Bit Depth       Bbit       Custom Gamma Table         Brightness Percent:       94%       Gamma Value       0.88       Independent Setting		Width	160	<=1024	Cascade	From Right to Left	Data Group	Normal 32 grou	ps 🔹		
Refresh Rate       480Hz       Gray Mode       Balanced Low Gray       Calibration Mode       Disable       Blanking Phase         Gray Level       4096       GCLK       8.3 MHz       Calibration       From Receiver Cards       SCK Duty Ratio         DCLK       8.3 MHz       GCLK       No       Signal Action       Keep the Last Frame       Intelligent Module Setting         Blanking Value       0       0       0       Custom Gamma Table       Enable       Other Parameters         Brightness Percent:       94%       Gamma Value       0.88       Independent Setting	Ì	Height	160	<=256	Fold Count	2 Split (Same Direction)	•	Data Grou	p Swap		
Gray Level     4096     GCLK     8,3 MHz     Calibration     From Receiver Cards     SCK Duty Ratio       DCLK     8.3 MHz     No Signal Action     Keep the Last Frame     Intelligent Module Setting       Blanking Value     0     (×100ns)     Input Bit Depth     Bbit     Custom Gamma Table       Brightness Percent:     94%     Enable Gradual     Disable     Other Parameters       Gamma Value     2.8     Independent Setting	Performance S	ietting									
DCLK     8.3 MHz     No Signal Action     Keep the Last Frame     Intelligent Module Setting       Blanking Value     0 <td< td=""><td>Refresh</td><td>Rate</td><td>180Hz</td><td>j.</td><td>Gray Mode</td><td>Balanced Low Gray</td><td>Calibration Mode</td><td>Disable</td><td></td><td>Blanking Phase</td><td></td></td<>	Refresh	Rate	180Hz	j.	Gray Mode	Balanced Low Gray	Calibration Mode	Disable		Blanking Phase	
Blanking Value     0     0     Custom Gamma Table       Brightness Percent:     94%     Enable Gradual     Disable       Gamma Value     2.8     Independent Setting	Gray	Level	4096 🔻	]	GCLK	8.3 MHz	Calibration	From Receiver	Cards 💌	SCK Duty Ratio	
Brightness Percent: 94% Enable Gradual Disable			8.3 MHz 🔻	]			No Signal Action	Keep the Last F	rame 🔹	Intelligent Module Setting	
Gamma Value 2.8   Independent Setting	Blanking	Value 0	)	;)			Input Bit Depth	8bit	•]	Custom Gamma Table	
	1	Brightnes	ss Percent: 94%				Enable Gradual	Disable	•]	Other Parameters	
Hide Advanced Settings							Gamma Value	2.8	*	Independent Setting	
		Hide A	dvanced Settings								
			etting	10		Parameters Setting					

Click [Load], choose the correct parameter file.

Click **[Send]**, to send the loading parameters to the receiving cards. At the moment, each cabinet should display normally (it is normal circumstance even the picture between cabinets is not continuous), then click **[Save to Receiver]** to save the parameters to the receiving cards.

If each cabinet cannot display normally, you can conduct via the **Advanced Settings** (**Module Information**, **Cabinet Setting**, **Performance Setting**) or **Intelligent Setting**, and you can also contact with the LED screen engineers.

#### 5.2.3 Receiver Mapping Setting

Users don't need to set up the control area of each net port respectively, but to the connection relationship between the receiving cards under the network port loading via each sender, and the software will auto calculate and set up the port control area according to the connection relationship.



Detailed setting steps as follows:

#### 1. Set up the quantity of receiving card

Set how many receiver (receiving card) that one port manages in Row Count and Col Count (6\*6 as an example) according to the actual loading of LED display, you will see LED display mapping area from the right side (Viewing from the front of LED display).

1	1		1	⊞ {5   : 2	3	4	5	6	Receiver Card Layout
Port		=	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Col Count 6
Reset the Current Port Number		0	Port Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Reset All Select All Selected Card Information No. 1
Auto Calculation     Manual Edit     Hidden     Calculate     Sender Port X Y Width Height		8	Port Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height 128	Width 128
		4	Port Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height 128	Height 128
	*	50	Port Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	
		8	Port Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port Index 0 Width: 128 Height 128	

#### 2. Receiving Card Parameters Setting

**Select** the target **sender** and the **net port** from the left side, then **select** the corresponding **cabinets** within net port actual control area and set the connection lines in the mapping area.

#### There are two methods to set up:

#### ① Use mouse to select one by one

In the mapping area, select the first receiving card based on the actual connection of the net port (view from the front), and then set up the actual loading width and height of the target receiving card in the right side (128\*128 as an example).

Click the receiver (receiving card) one by one, according to actual connecting line, until the last one for this network port loads.



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Sender		)					$\sim$	A No.	⊞ 8 :		Show Connect	on Lines 🥥 Sta	endard 🔘 C	omplex Receiver Card Layout
Port				_	and a		(f)	1 Port 1-1 Inders Width 128	2 Port 1-1 Index 2 Width 128	3 Port: 1-1 Index: 3 Width 128	4 Port Index: 0 Width: 128	5 Port: Index: 0 Width: 128	6 Port Index: 0 Width: 128	Col Count 6
	Reset		ent Port		1.4		64	Vidth 128 Height 128 Port 1-1 Index 6 Width 128 Height 128	Width: 128 Height 128 Port 1-1 Index: 5 Width: 128 Height 128	Vidth 128 Height 128 Port -1 Index 4 Width: 128 Height 128	Vidth: 128 Height: 128 Port Index: 0 Width: 128 Height: 128	Vidth: 128 Height 128 Port Index: 0 Width: 128 Height 128	Port Index: 0 Width: 128 Height: 128	Reset All Select All Selected Card Informatio
<ul> <li>Auto (</li> <li>Manua</li> <li>Sender</li> </ul>	el Edit	n 	Set ai	Width	iculate Height		e	Port -1 Index 7 Width: 128 Height 128	Port 1-1 Index 8 Width: 128 Height 128	Port 1-1 Index 9 Width 128 Height 128	Port Index 0 Width: 128 Height 128	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Width 128
1	1	0	0	384	384		4	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Height 128
						*	5	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	
							9	Port Index 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	

#### **2** Connection Pattern

Aiming at the LED screen with standard connection lines, firstly set up the receiving card information according to the actual loading width and height (128\*128 as an example). Select the connection line you want from the right side, then cover the corresponding area of net port loading in mapping area, finally complete setting.

nding Dev	ice Si	creen Pa	rameters	Receiv	er Mappin	g(Loo)	From	Front)						
Sender I	No. 🗄		Informat	ion			5	~   No.	⊞ & :	7 🛛 🛛 🖪	Show Connect	on Lines 🔘 Sta	ndard 💮 C	omplex
1								1	2	3	4	5	6	Receiver Card Layout
Port		1.2			1-4		1	Port 1-1 Inders Width, 128 Height 128	Port 1-1 Index 2 Width: 128 Height 128	Port 1-1 Index 3 Width 128 Height 128	Port Index 0 Width: 128 Height: 128	Port. Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height 128	Col Count 6
		ļ	ent Port	Number			2	Port: 1-1 Index: 6 Width 128 Height 128	Port 1-1 Index 5 Width: 128 Height 128	Port 1-1 Index 4 Width: 128 Height 128	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Selected Card Information
Auto C Manua Sender		on X	Set a	s Auto Ca Width	Height		3	Port -1 Index 7 Width: 128 Height 128	Port 1-1 Index: 8 Width: 128 Height: 128	Port 1-1 Index 0 Width: 128 Height 128	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height 128	Width 128
1	1	0	0	384	384		4	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height 128	Height 128
						٠	5	Port: Index: 0 Width: 128 Height: 128	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port Index 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	
							9	Port: Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height: 128	Port Index: 0 Width: 128 Height 128	
Mapping i	s modif	ied.												J



**Note:** As the cabinets have multiple and different specification (that is the inconsistent capacity of the receiving card), you can select the different one to adjust separately after completing setting.

#### 3. Send & Save to Receiving Card

After setting up all the receiving card parameters and connection lines respectively, click **[Send]** to send the correct parameter to the receiving card, and the screen should display normally at this time.

Then click **[Save to Receiver]** to save parameters to corresponding receiving card after confirming.

	100 1 34	Sender 1	ameters		er Mapping	1(LOO	k Prom	Pronty	5 81 W	10 Perce				
Sender 1	No. A		ntormati	on			1	A No.	田も二	7 🚫 🛙	Show Connect	on Lines 💿 Sta	andard 💮 Co	omplex
1								1	2	3	4	5	6	Receiver Card Layout
Port		1.2	1.3		1-4		-	Port 1-1 Index 1 Width 128 Height 128	Port 1-1 Index 2 Width 128 Height 128	Port 1-1 Index 3 Width 128 Height 128	Port 1-2 Inders Width, 128 Height 128	Port: 1-2 index: 2 Width: 128 Height: 128	Port 1-2 Index: 3 Width 128 Height 128	Col Count 6
	Reset	the Curr		Number			01	Port 1-1 Index 6 Width 128	Port 1-1 Index 5 Width: 128	Port -1 Index 4 Width 128	Port 1-2 Index 6 Width 128	Port 1-2 Index 5 Width: 128	Port -2 Index 4 Width: 128	Reset All Select All Selected Card Informatio
Auto C						,	<u>.</u>	Height 128 Port 1-1	Height 128 Port 1-1	Height 128 Port 1-1	Height 128 Port 1-2	Height 128 Port 1-2	Height 128 Port 1-2	No. 1 Width 128
🔘 Manua Sender		x	Set as	Width	Height	1	e	Index 7 Width: 128 Height 128	Index 8 Width 128 Height 128	Index 9 Width 128 Height 128	Index 7 Width: 128 Height: 128	Index: 8 Width: 128 Height: 128	Index 9 Width 128 Height 128	V Apply to Column
	1	0	0	384	384		4	Port 1-3 Inders Width 128	Port 1-3 Index 2 Width: 128	Port 1-3 Index 3 Width 128	Port 1-4 Index 1 Width 128	Port 1-4 Index 2 Width: 128	Port 1-4 Index: 3 Width 128	Height 128
1	2	384	0 384	384 384	384 384			Height 128 Port 1-3	Height 128 Port 1-3	Height 128 Port 1-3	Height 128 Port 1-4	Height 128 Port 1-4	Height: 128	Operation Guide
-	4	384	384	384	384		50	Index: 6 Width 128 Height: 128	Index: 5 Width: 128 Height: 128	Index 4 Width: 128 Height: 128	Index 6 Width 128 Heigh* 128	Index: 5 Width: 128 Height: 128	Index 4 Width: 128 Height: 128	
							9	Port: -3 Index 7 Width: 128 Height 128	Port 1-3 Index: 8 Width: 128 Height: 128	Port 1-3 Inder 9 Width 128 Height 128	Port -4 Index 7 Width: 128 Height 128	Port: 1-4 Index: 8 Width: 128 Height: 128	Port 1-4 Index 9 Width 128 Height 128	
														U U



# 6. LCD Operation Instruction

# **6.1 Operational Motion Instruction**

#### Knob/OK:

- > Press the knob/OK under main interface to enter operation interface of menu.
- Rotate the knob to select menu or press the knob/OK under the operation interface of menu to select current menu or enter submenu.
- Rotate the knob to adjust parameters after selecting the menu with parameter, and it will be auto saved within one second after adjustment.

**ESC:** Return key, exit current menu or operation.

#### 6.2 Main Interface

After starting X4e, main interface of LCD display is as follows:



First row: Company logo Second row: Image resolution Third row: Screen brightness, Output mode

# 6.3 Operation Instruction

Press the knob/OK to enter the operation interface of main menu, and it includes 10 operation instructions: **Display Setting**, **EDID Setting**, **Cropping Setting**, **Output Setting**, **Preset Setting**, **Output Shift**, **Tile Mapping**, **Lock To Input**, **Language Setting**, **System Setting**.

+	1, Display Setting 2, EDID Setting 3, Cropping Setting 4, Output Setting 5, Preset Setting 6, Output Shift	➡ 7, Tile Mapping 8, Lock To Input 9, Language Setting 10, System Setting



# 6.3.1 Display Setting

Rotate the knob to select display setting, then press the knob/OK to enter submenu of "**Display Setting**".



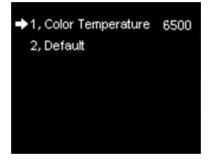
#### 1. Brightness

Enter the adjustment interface of "Brightness", and rotate the knob to change the percentage of brightness.

➡ 1, Brightness	100%

#### 2. ColorTemp

Enter the adjustment interface of "ColorTemp", rotate the knob to change the value of color temperature in the option of "Color Temperature", and you can also press the knob/OK to reset the value of color temperature as 6500 in the option of "Default".



#### 3. Better Gray

Press the knob/OK to turn on/off the option of "Better Gray".



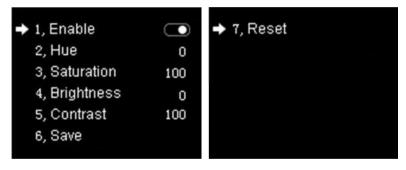
#### 4. Test Mode

Enter the setting interface of "Test Mode", rotate the knob to select test mode, press ESC back to normal mode.

➡ 1, Normal	➡ 7, Horizontal Line	➡ 13, Gradient Blue
2, Red	8, Left Slash	14, Gradient White
3, Green	9, Right Slash	15, Black
4, Blue	10, Pane	
5, White	11, Gradient Red	
6, Vertical Line	12, Gradient Green	

#### 5. Picture Adjustment

Enter the setting interface of "Picture Adjustment", and press the knob/OK to turn on/off "Enable". If "Enable" has been turned on, users can set hue, saturation, brightness and contrast of image by knob then save the data; and users can also restore the default values of every parameter, that is, hue and brightness default to 0, saturation and contrast default to 100.

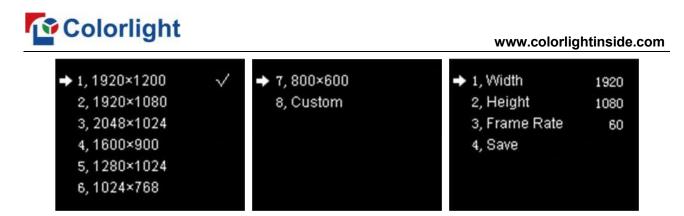


### 6.3.2 EDID Setting

Rotate the knob to select EDID setting, then press the knob/OK to enter submenu of "EDID Setting".

➡ 1, HDMI		
2, DVI		
3, DP		

Enter the EDID setting interface of "HDMI" or "DVI" or "DP". Rotate the knob to select conventional resolution; or set width, height and frame rate by knob in the option of "Custom".



# 6.3.3 Cropping Setting

Rotate the knob to select cropping setting, then press the knob/OK to enter submenu of "**Cropping Setting**".

•	1, HDM		
	2, DVI		
	3, DP		
	4, SDI1		
	5, SDI2		

Enter the cropping interface of "HDMI" or "DVI" or "DP" or "SDI1" or "SDI2", press the knob/OK to turn on/off crop. If it has been enabled, set x, y, width and height of input signal by knob then save the data.

➡ 1, Enable	
2, X	0
з, у	0
4, Width	200
5, Height	200
6, Save	

### 6.3.4 Output Setting

Rotate the knob to select output setting, then press the knob/OK to enter submenu of "**Output Setting**"; Continue rotating the knob to select "Main" or "PIP1" or "PIP2", press the knob/OK to enter the output setting interface. Rotate the knob to adjust x, y, width and height of output image separately, then save it.

-b 1 Main	<b>A</b> 1 V	
➡ 1, Main	➡ 1, X	0
2, PIP1	2, y	0
3, PIP2	3, Width	1920
	4, Height	1080
	5, Save	



# 6.3.5 Preset Setting

Rotate the knob to select preset setting, then press the knob/OK to enter submenu of "**Preset Setting**".



In the submenu, 16 preset parameters can be saved, and every preset parameter includes all parameter information of source setup (signal source, PIP, scaling, cropping, picture adjustment), users can also directly load the saved preset parameter to display the image according to needs, and don't need to set up all parameters again.

➡ 1, Unnamed	➡ 7, Unnamed	➡ 13, Unnamed
2, Unnamed	8, Unnamed	14, Unnamed
3, Unnamed	9, Unnamed	15, Unnamed
4, Unnamed	10, Unnamed	16, Unnamed
5, Unnamed	11, Unnamed	
6, Unnamed	12, Unnamed	

### 6.3.6 Output Shift

Rotate the knob to select output shift, then press the knob/OK to enter submenu of "Output Shift".



Output shift includes two ways: "Whole" and "By Port". In the setting interface of "Whole", you can rotate the knob to set x and y of the whole image and save it; in the setting interface of "By Port", you can set x and y of the image of each net port respectively, then save it.

t			www.colorl	ightinside
0	➡ 1, Port 1 x	0	➡ 7, Port 4 x	0
0	2, Port 1 y	0	8, Port 4 y	960
	3, Port 2 x	0	9, Save	
	4, Port 2 y	320		
	5, Port 3 x	0		
	6, Port 3 y	640		
		0 → 1, Port 1 x 0 2, Port 1 y 3, Port 2 x 4, Port 2 y 5, Port 3 x	0 → 1, Port 1 x 0 0 2, Port 1 y 0 3, Port 2 x 0 4, Port 2 y 320 5, Port 3 x 0	0 → 1, Port 1 x 0 → 7, Port 4 x 0 2, Port 1 y 0 8, Port 4 y 3, Port 2 x 0 9, Save 4, Port 2 y 320 5, Port 3 x 0

# 6.3.7 Tile Mapping

Rotate the knob to select tile mapping, then press the knob/OK to enter submenu of "**Tile Mapping**". In the submenu, press the knob/OK to set sender as the connection source. At this time, rotate the knob and press the knob/OK to enter the setting interface, select the net port of which need to be set and set offset values of X and Y, also, you can set the width, height, row, column and link type of corresponding cabinets, then save all the parameters.

◆ 1, From Sender 2, Set By Port	<ul> <li>➡ 1, Port</li> <li>2, Y Offset</li> <li>3, X Offset</li> <li>4, Tile Width</li> <li>5, Tile Height</li> <li>6, Row</li> </ul>	1 0 128 128 3	➡ 7, Column 8, Link Type 9, Save	з М
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# 6.3.8 Lock To Input

When several controllers were cascaded with each other, "Lock To Input" is necessary to ensure the synchronization of video display. Rotate the knob to select "Lock To Input", then press the knob/OK to enter submenu of it, in the submenu, you can select Genlock synchronous signal source by knob.





# 6.3.9 Language Setting

Enter the setting interface of "Language", press the knob/OK to switch the language.



# 6.3.10 System Setting

Enter the setting interface of "**System Setting**", you can restore factory settings and check current firmware information.





# Visual Future