INSTRUCTIONS

X4

USER MANUAL

Content

1. Overview

X4 is a professional LED display controller, it possesses powerful video signal receiving capacity, and supports multiple signal inputs, in which max input resolution is 1920*1200 pixels. Meanwhile, 4 Gigabit Ethernet outputs support arbitrary splicing.

X4 adopts dual USB2.0 interfaces for high-speed configuration and easy cascading, and the operation is simple and convenient. Also, it equips a series of versatile functions, which have many advantages in applications of manufacture and engineering.

Features:

- Video input ports including SDI×1, HDMI×1, DVI×1, VGA×1, CVBS×1;
- Support input resolution up to 1920*1200@60Hz;
- Loading capacity: 2.6 million pixels,
  Maximum Width: 4096 pixels, Maximum Height: 2560 pixels;
- Support arbitrary switching of video input, and the image can be scaled freely;
- Dual USB2.0 for high speed configuration and easy cascading;
- Support splicing and cascading among several controllers with synchronization strictly;
- Support brightness and chromaticity adjustment;
- Support improved gray-scale at low brightness;
- Support HDCP1.4;

2. Appearance

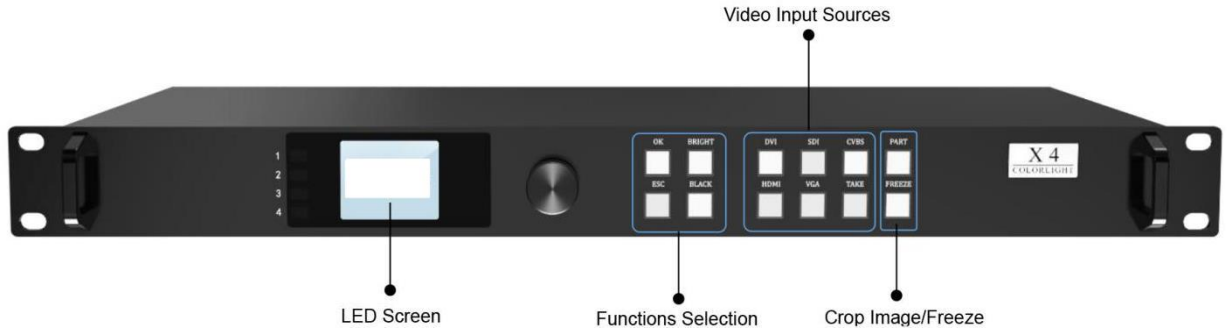
Front Panel

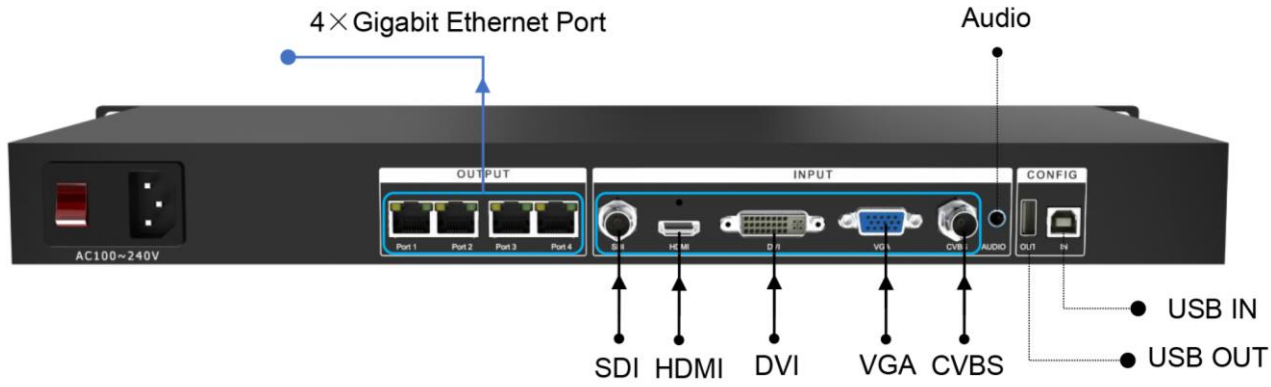
NO	Name	Function
1	1.8-inch LCD	Display operation menu and system information
2	Knob	Turning knob to select or adjust
3	Function Keys	OK: Enter key ESC: Escape current operation or selection BRIGHT: Brightness option BLACK: Blank screen TAKE: Switch input signal source PART: Screen clipping FREEZE: Freeze screen
4	Selection Keys	DVI/HDMI/SDI/VGA/CVBS: Video source selection

Back Panel

Input Interface		
1	SDI	SDI input
2	HDMI	HDMI input
3	DVI	DVI input
4	VGA	VGA input
5	CVBS	CVBS input
6	AUDIO	Audio input, input audio signal and transmit to the multifunction card
Output Interface		
1	Port1-4	RJ45，4 Gigabit Ethernet outputs
Controlling Interface		
1	USB OUT	USB output, cascading with next controller
2	USB IN	USB input, which connects with PC to configure parameters

3. Signal Connection

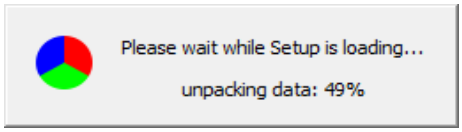


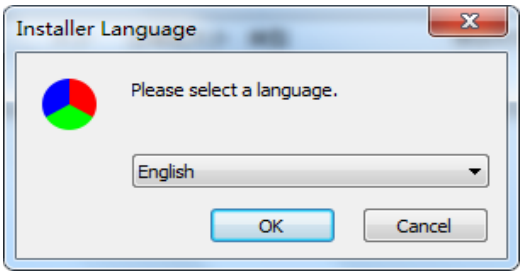


4. LEDVISION Installation

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.

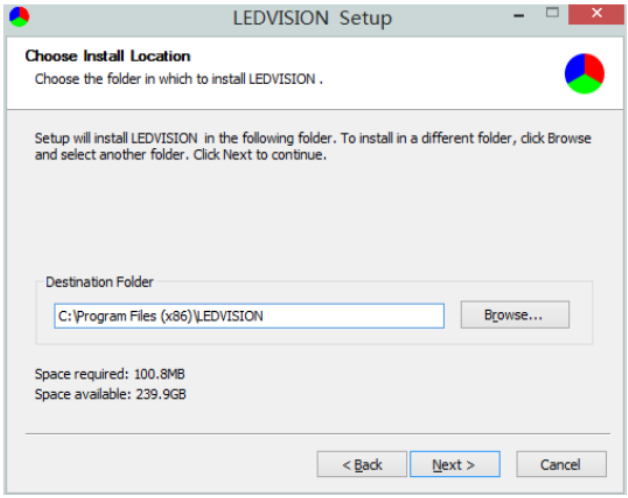


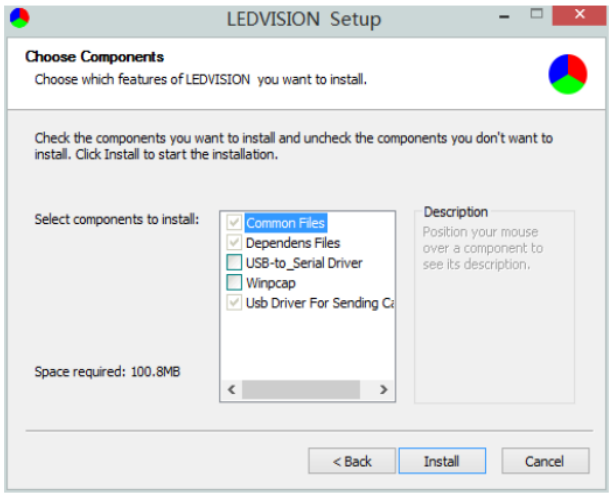


② After selecting a language, an installation wizard like below will appear, click [**Next**];

Then choose installation location, click [**Browse**] to change default target location, then click [**Next**] after completing;

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





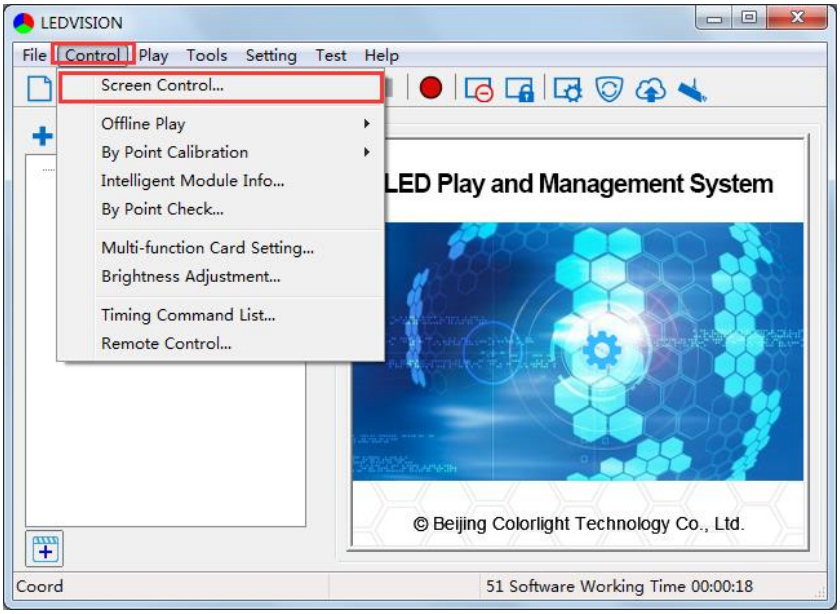
After the installation is complete you are ready to use LEDVISION.

5. Parameter Configuration

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

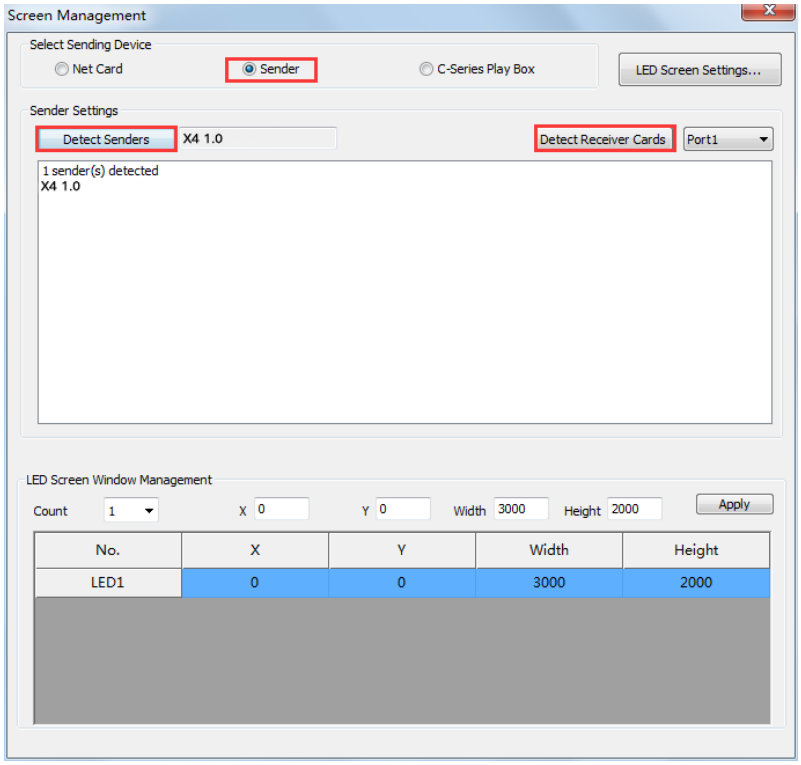
5.1 Detect Sender and Receiving Card

1. Run LEDVISION, click [**Control**] – [**Screen Control**] to enter the Screen Control window.



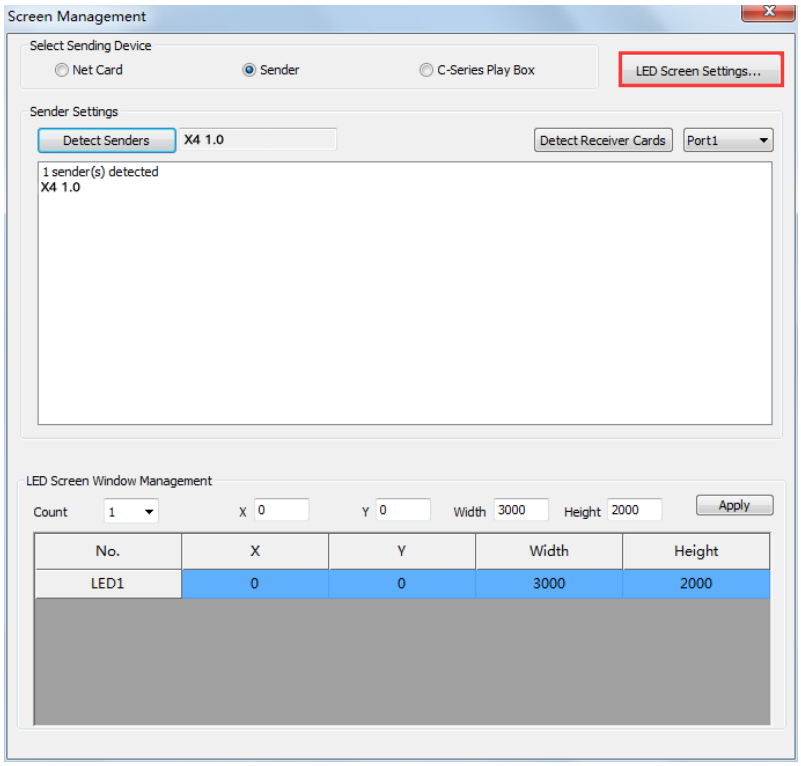
2. [**Select Sending Device**] for [**Sender**], click [**Detect Senders**] in [**Sender Settings**]. Please check the hardware connection or the installation of relevant driver if cannot detect senders.

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.



5.2 LED Screen Setting

Click [LED Screen Settings] to enter the LED Screen Setting interface, and set up “Sending Device”, “Screen Parameters”, “Connection Parameters”.



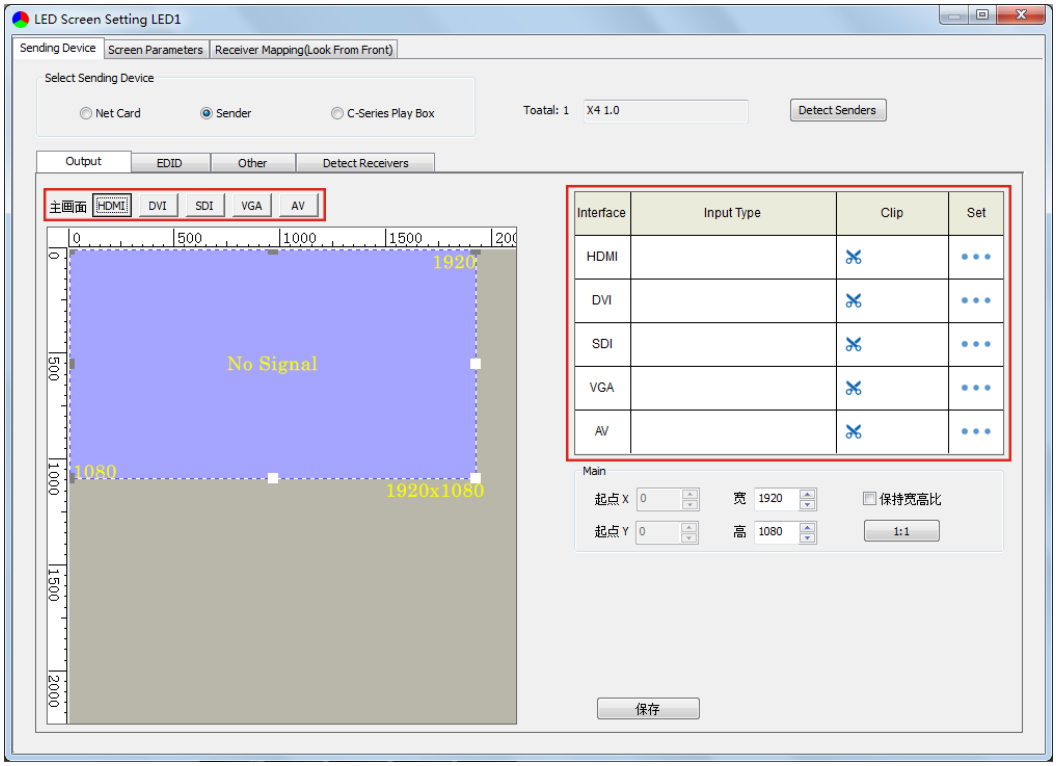
5.2.1 Sending Device Setting

[Select Sending Device] for [Sender], and detect senders. Sending Device Setting includes 4 parts: Output, EDID, Other, Detect Receivers.

1, Output

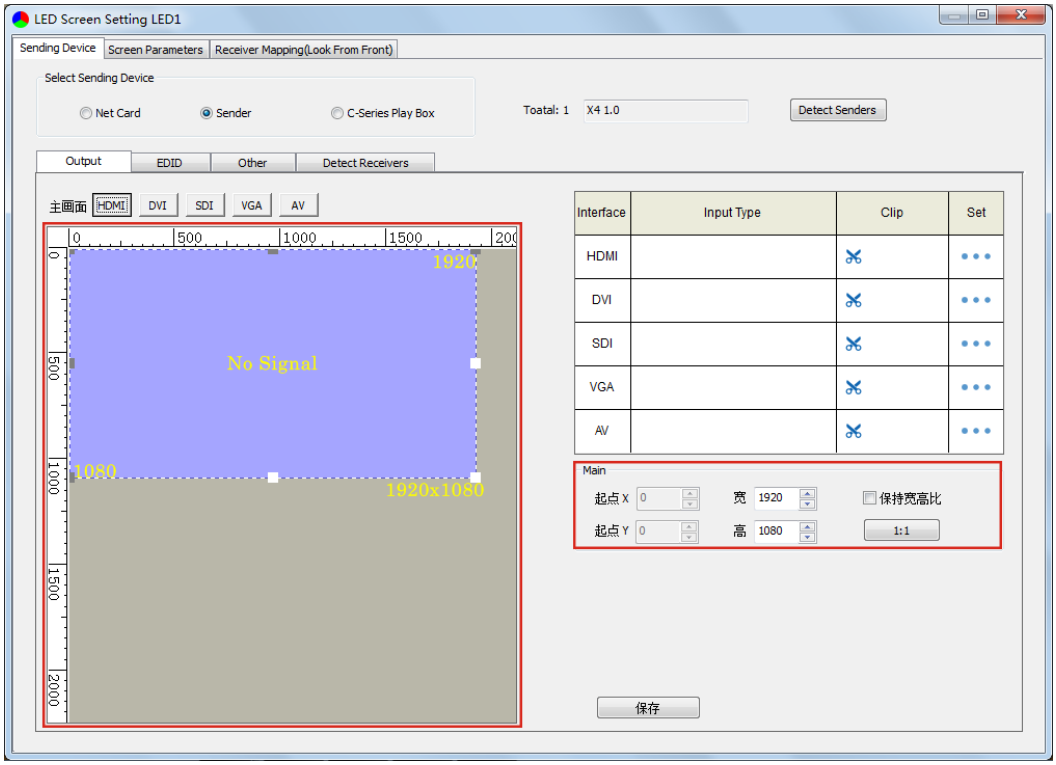
① Signal Source

When the input signal source of X4 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/SDI/VGA/AV) according to needs in [Main], at the moment, the image of selected signal source will display in the Image View Area on the left of the software interface.



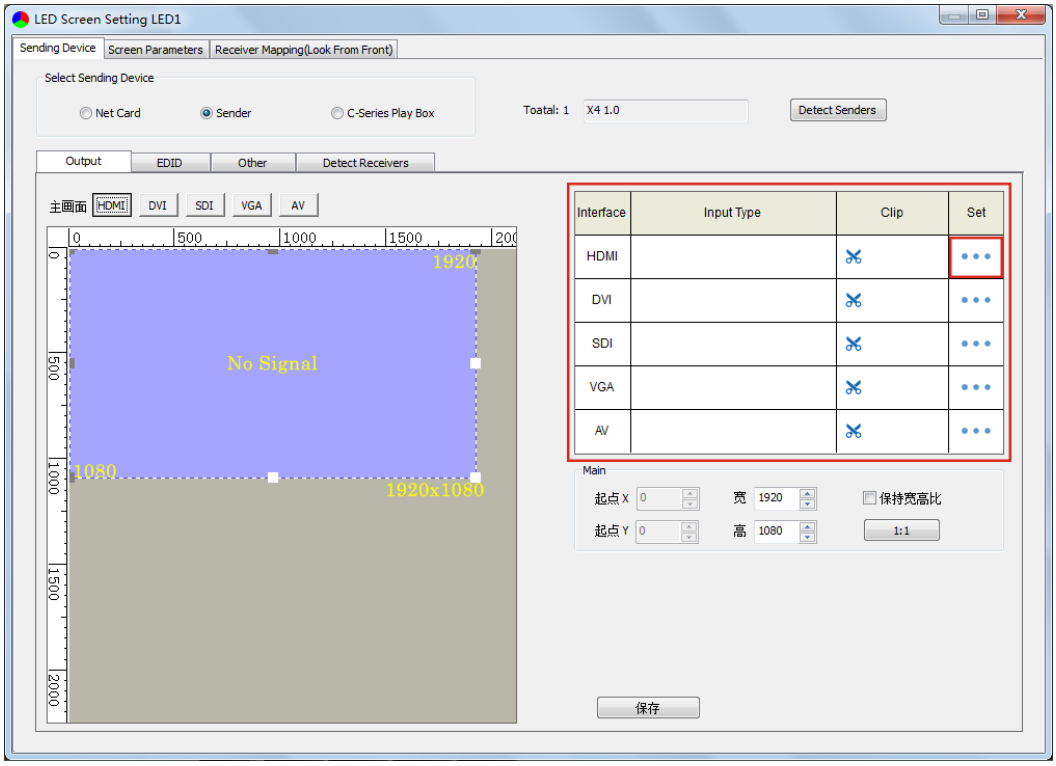
② Scaling

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

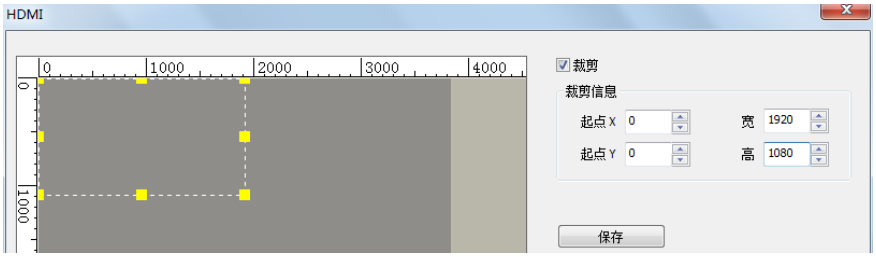


③ Clipping

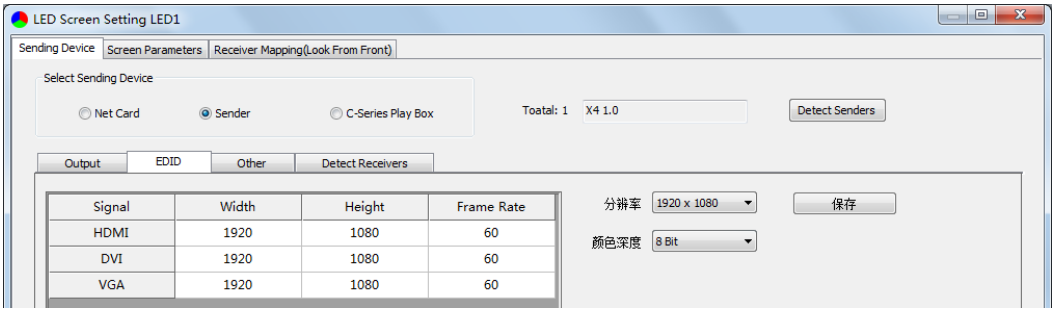
Select signal source of the image that needs to be clipped in **Input Signal Area**, click [**Set**] to enter the clipping interface.



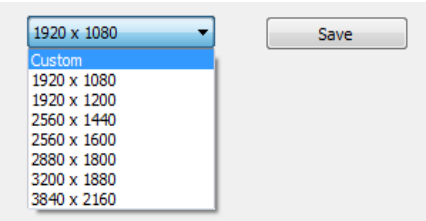
In the clipping interface, check [**Clipping**], and set X, Y, width and height in [**Clipping Information**], then click [**Save**] to complete.

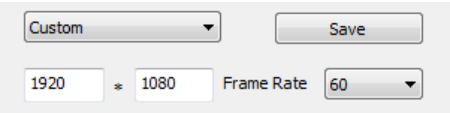


2, **EDID**: Set sender resolution, the first one is the default as current resolution.



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

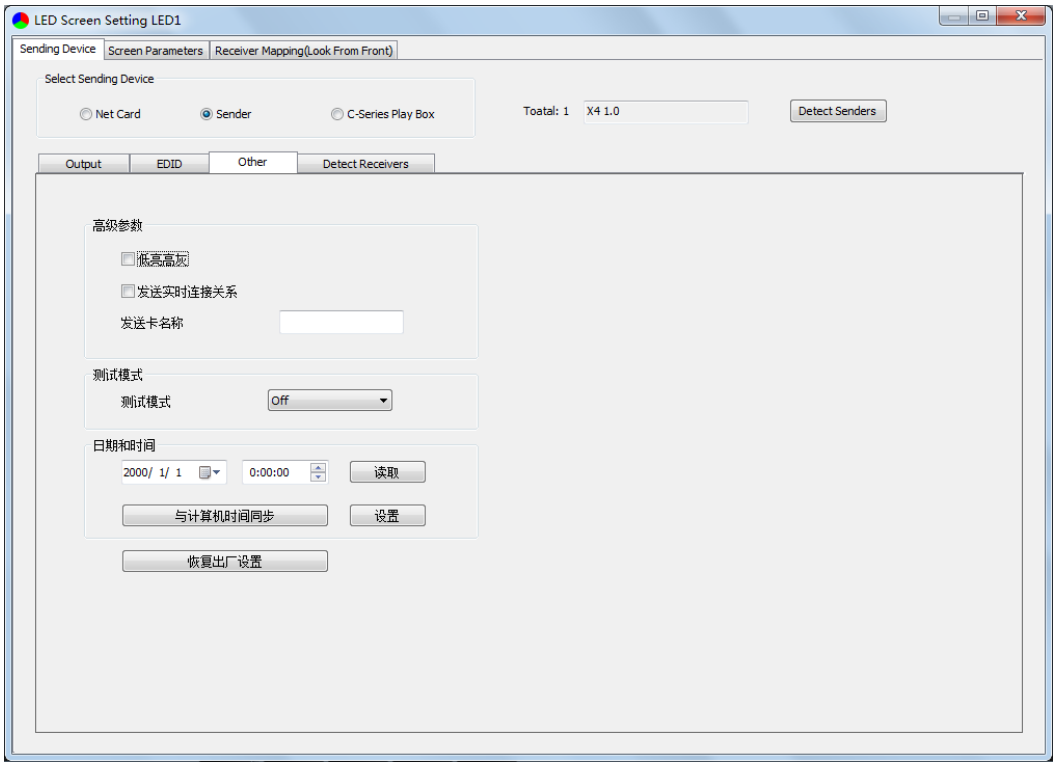




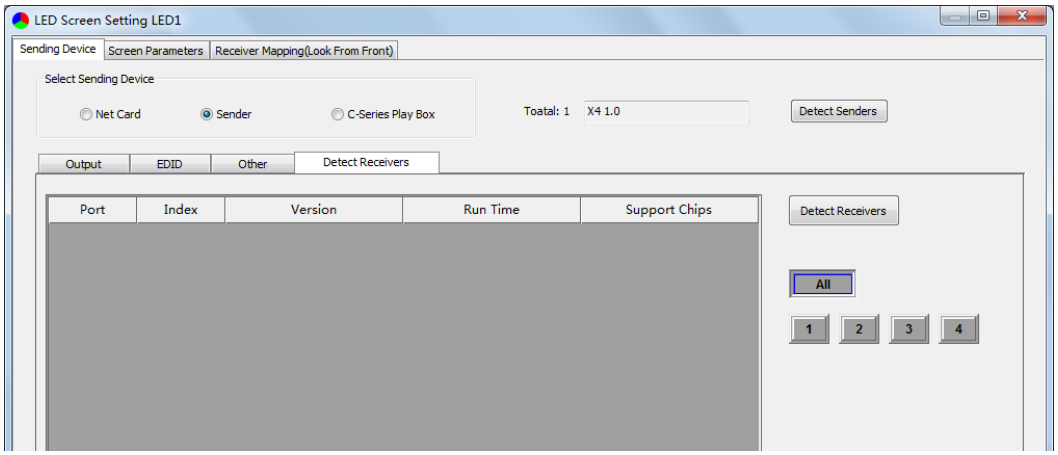
width/height and frame rate.

Click [**Save**] after setting.

3, **Other**: Advanced Parameters Setting, Test Mode Selection, Sender Time Setting, Restore Factory Set.



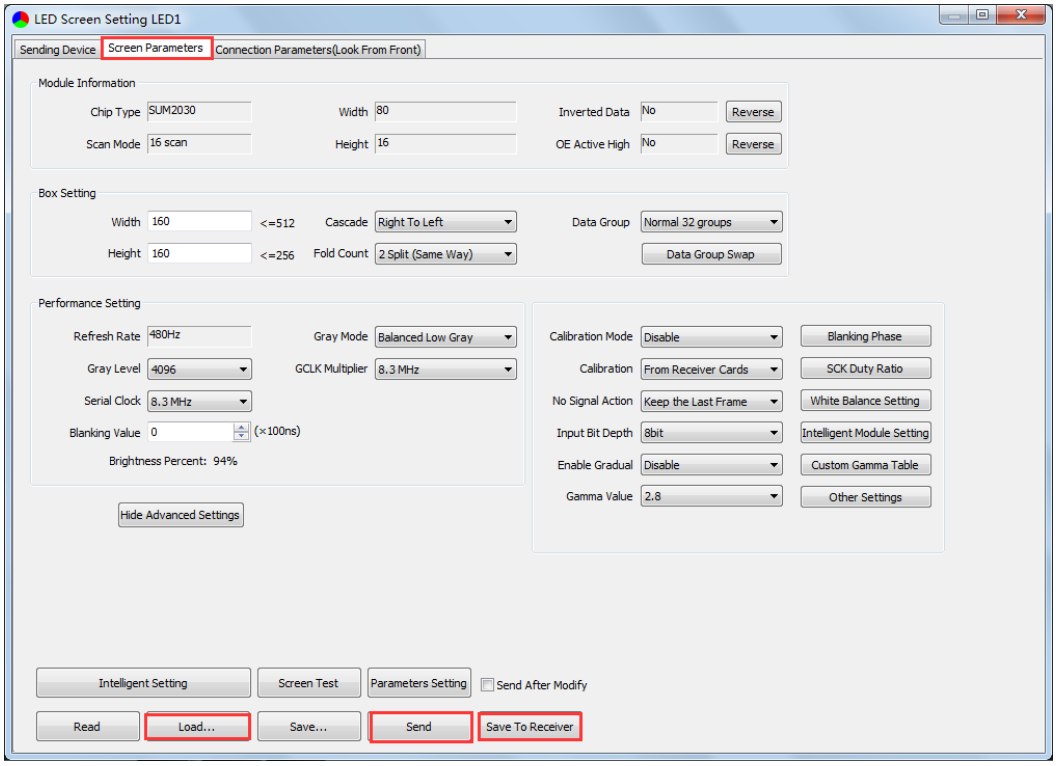
4, **Detect Receivers**: Detect receivers under each net port of X4 controller, and acquire relevant information about the receivers (Port, Index, Version, Run Time, Support Chips).



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:



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 **Basic Setting** (**Module Information**, **Box Setting**, **Performance Setting**) or **Intelligent Setting**, and you can also contact with the LED screen engineers.

5.2.3 Connection Parameters Setting

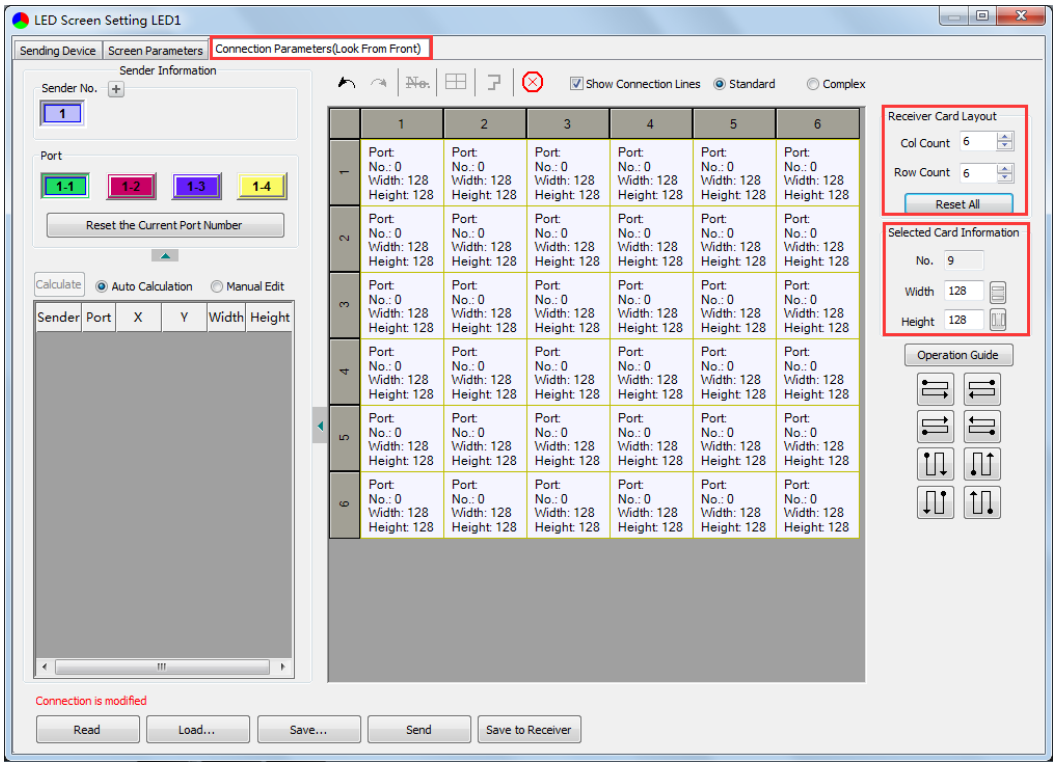
Users don’t need to set up the control area of each net port respectively, but to the connection relationship between the receiving cards under the network port loading via each sender, and the software will auto calculate and set up the port control

area according to the connection relationship.

Detailed setting steps as follows:

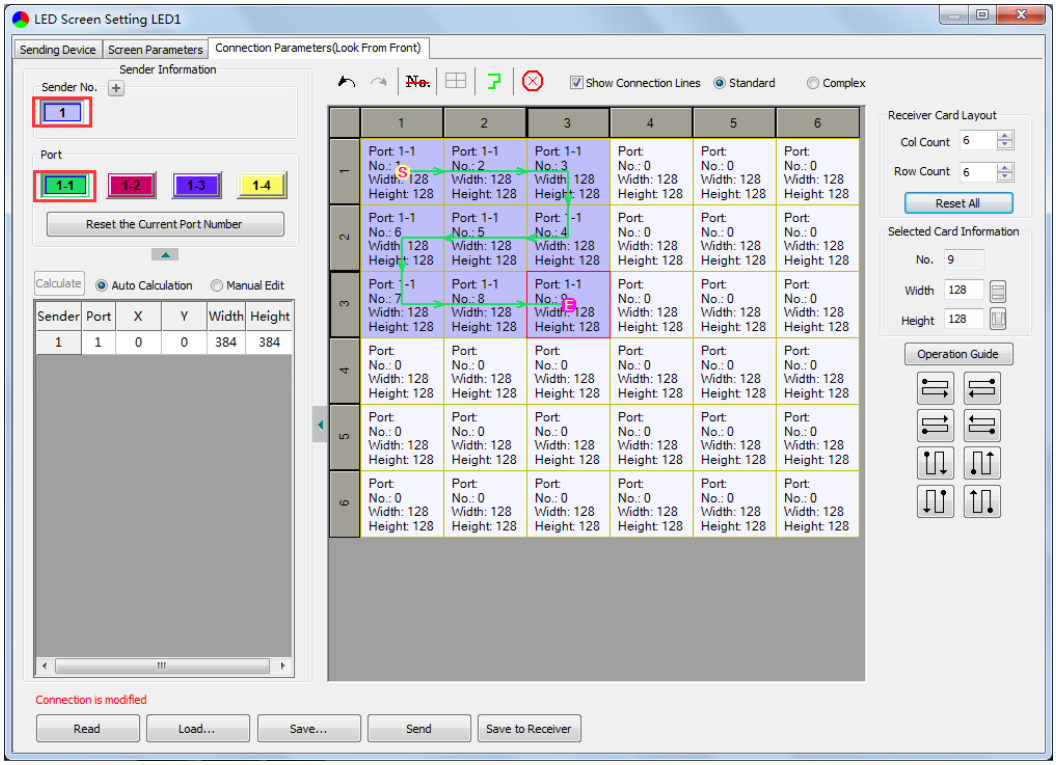
① **Set up the quantity of receiving card**

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).



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:

◆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).

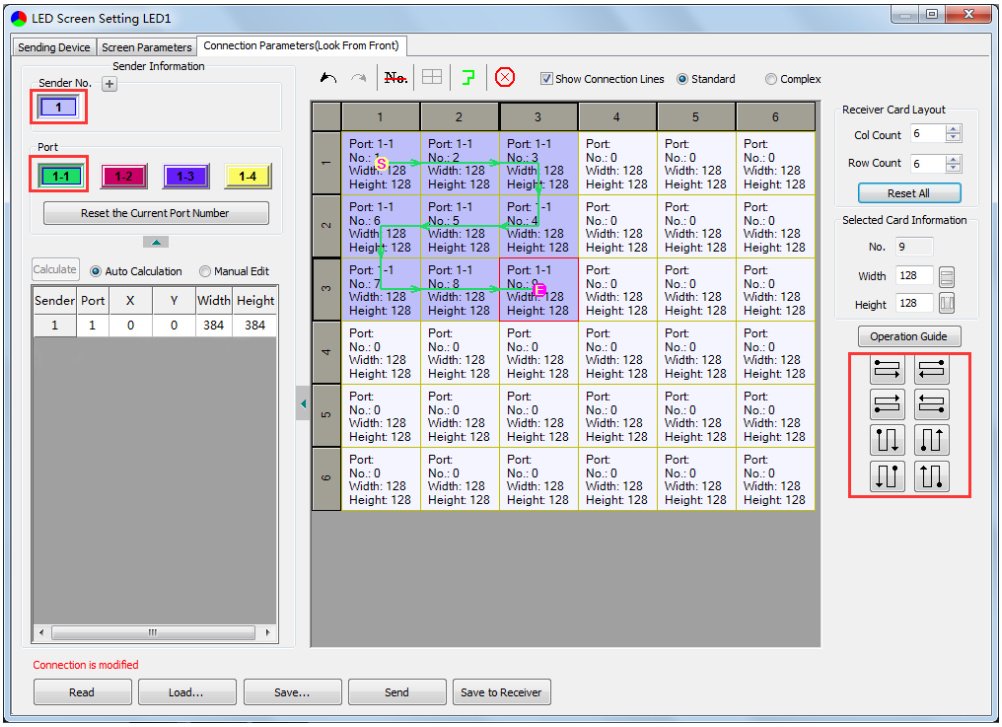
Click the receiver (receiving card) one by one, according to actual connecting line, until the last one for this network port loads.

◆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.

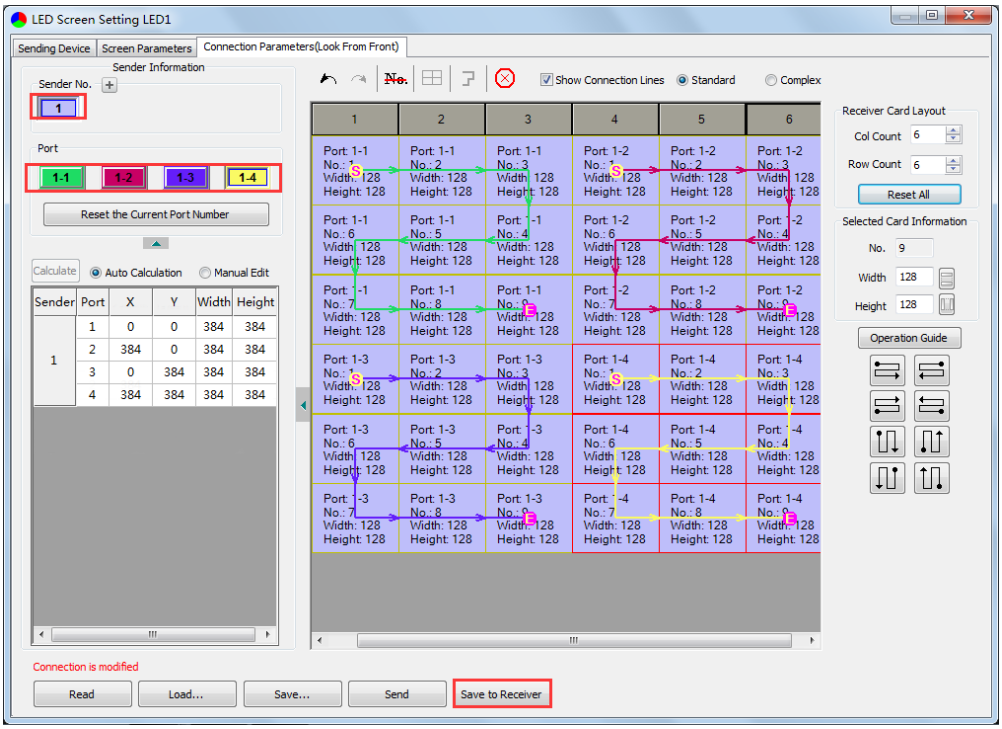
Note: As the cabinets have multiple and different specification (that is the inconsistent capacity of the receiving card), you can select the different one to adjust separately after completing setting.



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.



6. LCD Operation Instruction

6.1 Operational Motion Instruction

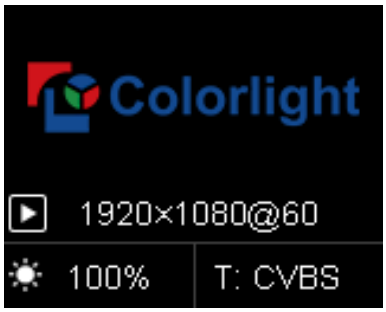
Knob/OK:

- 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 X4, main interface of LCD display is as follows:



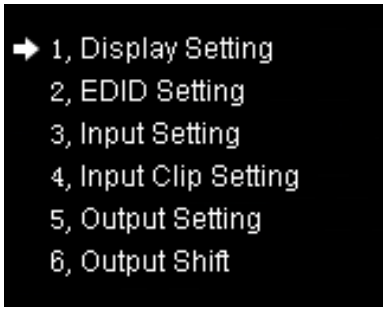
First row: Company name.

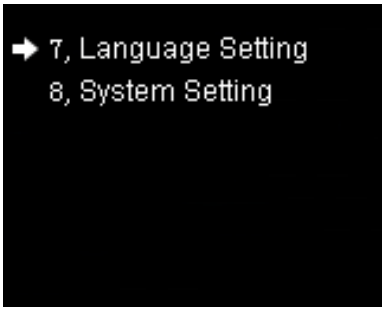
Second row: Image resolution.

Third row: Screen brightness, Image signal resource.

6.3 Operation Instruction

Press the knob/OK to enter the operation interface of main menu, and it includes 8 operation instructions: Display Setting, EDID Setting, Input Setting, Input Clip Setting, Output Setting, Output Shift, Language Setting, System Setting.



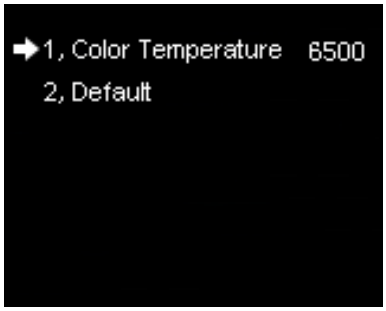


6.3.1 Display Setting

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

① Brightness: Rotate the knob to change the brightness.

② CCT: Enter the adjustment interface of CCT, 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 Black: Press the knob/OK to switch on/off LED screen.

④ Better Gray: Press the knob/OK to turn on/off the option of “Better Gray”.

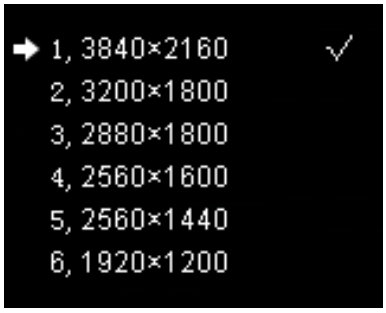
⑤ Test Mode: Enter the setting interface of “Test Mode”, rotate the knob to select test mode, press ESC back to normal mode.

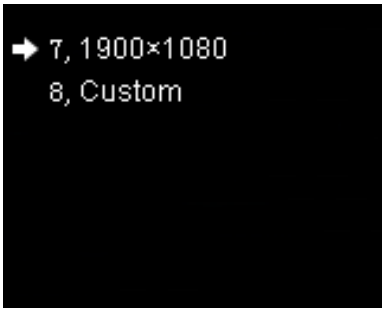
⑥ Video Change: Enter the setting interface of “Video Change”, and press the knob/OK to turn on/off the option of “By Take”. If “By Take” is in the closed status, you can directly press the selection key of video source to switch the playing video; if “By Take” has been turned on, you must continue pressing “Take” to switch the playing video after pressing the selection key of video source.

6.3.2 EDID Setting

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

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



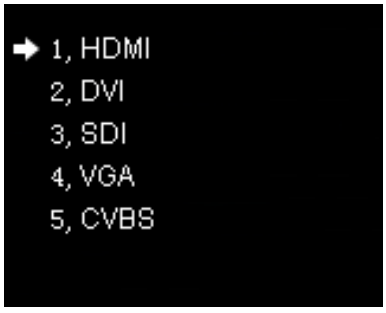


6.3.3 Input Setting

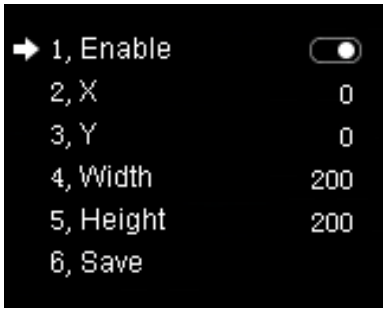
Rotate the knob to select input setting, then press the knob/OK to enter submenu of “Input Setting”. In the submenu, press the knob/OK to turn on/off “VGA/CVBS”. If “VGA/CVBS” is in the closed status, CVBS signal is regarded as video input resource in preference to VGA signal; if “VGA/CVBS” has been turned on, VGA signal is regarded as video input resource in preference to CVBS signal. **Note: VGA and CVBS cannot be the signal input resource at the same time.**

6.3.4 Input Clip Setting

Rotate the knob to select input clip setting, then press the knob/OK to enter submenu of “Input Clip Setting”.

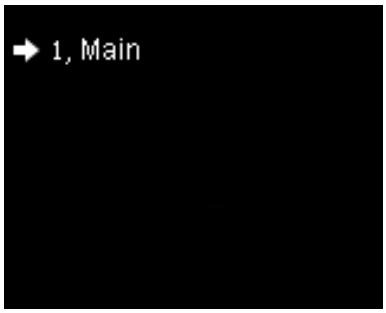


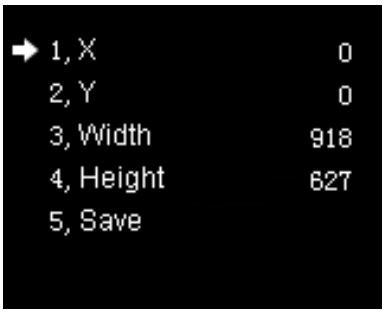
Enter the clip interface of “HDMI” or “DVI” or “SDI” or “VGA” or “CVBS”, press the knob/OK to turn on/off clip. Set X, Y, width and height of input signal by knob then save the data.



6.3.5 Output Setting

Rotate the knob to select output setting, then press the knob/OK to enter submenu of “Output Setting”. Continue pressing the knob/OK to enter the output setting interface, rotate the knob to adjust X, Y, width and height of output, then save it.

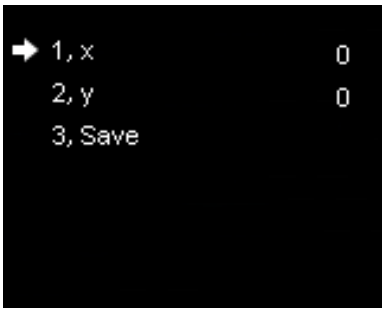


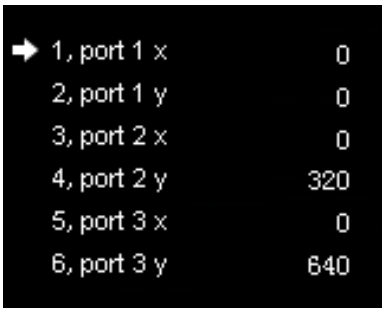


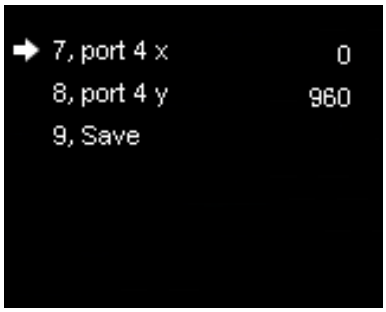
6.3.6 Output Shift

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.

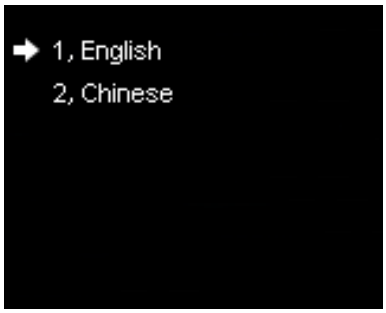






6.3.7 Language Setting

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



6.3.8 System Setting

In “System Setting”, users can set date and time, restore factory settings and check current firmware information.