CK4L3000B(S)
Full color LED video processor

User Manual

V1.0

SHENZHEN CREATEK ELECTRONIC CO.,LTD

http://www.ckdz.com/

Note: Please read the User Manual carefully before using the products, and keep the manual properly for future reference.

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1. SAFETY NOTICE

Dangerous

There's high voltage in processor. To avoid danger, please do not open rear cap without authorization.

Warning

1. Do not allow liquid, small particles or other objects to get into the device;
2. Do not place the system near fire and water;
3. Do not block any vents. To keep good ventilation, please place the system at least 20
4. cm away from a wall surface;
5. If any noise、smoke、smell, please cut off the power at once and contact your local suppliers;
6. Do not disconnect DVI signal cable when the power is on.

Attention

1. Read the manual carefully before using the system, and keep it safely;
2. Check the packing list to confirm if there is any missing .If there is, please contact the local supplier.
3. Cut off the power if thunder or the machine is not used for long term ;
4. You should be well trained before operating the system;
5. Do not slip anything from vent to prevent broken or electric shock;
6. Do not place the device near liquid or moisture;
7. Do not put the device near heat sink or high temperature environment;
8. Keep the power cable properly;
9. If the following situations happen, please cut off the power and for maintenance
    1) Liquid splash to device;
    2) Device fall down or the cabinet is broken;
    3) Any abnormality or malfunction in the system.
10. Shenzhen Createk Co., LTD. has the copyright of the manual and reserves the right of final explanation. Any enterprises or individuals shall not infringe the right without the agreement of the company. Once found, the company will investigate for relevant legal responsibility.

2. Hardware structure

2.1 Product elevation

Fig.2.1 Product elevation

2.2 Rear panel diagram

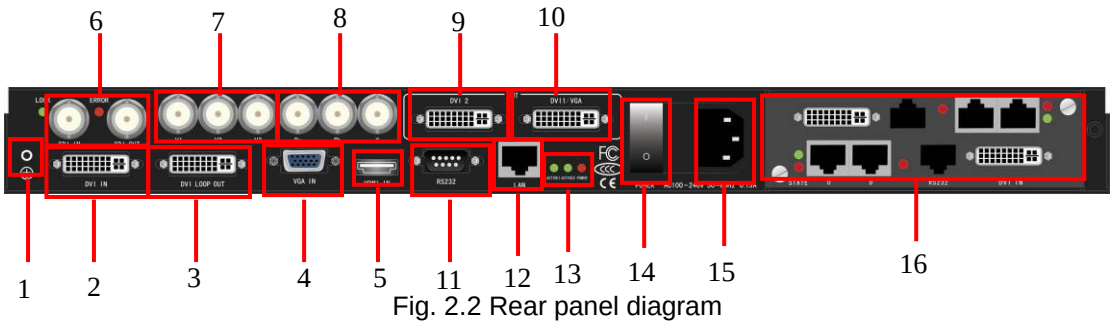

Fig. 2.2 Rear panel diagram

Interface specification:

1、Ground;

2、DVI I: 1 channel DVI signal input;

3、DVI LOOP OUT: 1 channel DVI signal loop out (only for the DVI input signal);

4、VGA IN: 1 channel VGA analog signal input

5、HDMI IN: 1channel HDMI HD digital signal input

6、SDI/HD-SDI IN、SDI/HD-SDI OUT: 1 channel digital video signal input/output (Optional)

7、V1、V2、V3: 3 channel PAL/NTSC composite video inputs;

8、YPbPr: 1 channel HD video component signal input;

9、DVI2 OUT: 1 DVI digital output can connect with built-in sending cards, it can also connect to computer display.

10、DVI1/VGA OUT: 1 DVI digital signal output can be connected to sending cards or converted to analog VGA signal for monitor

11、RS232 IN : Serial communication port input, to control equipment.

12、LAN: Ethernet control: Ethernet communication input (RJ45 LAN control port), for future use (Optional).

13、Status indicator light: ACTIVE1, ACTIVE2, it blinks in normal working condition; POWER: it stays lit after power on.

14、Power supply switch

15、Power interface: AC100-240 v 50Hz

16、Sending card: Can built-in two sending cards (optional)

2.3 Front panel diagram

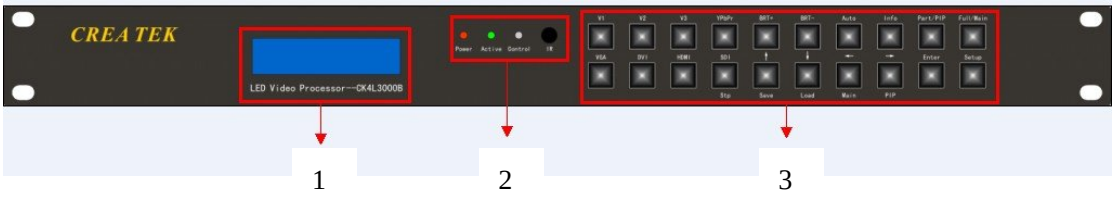

Fig. 2.3 Front panel diagram

1、Status display: Display the working status and operation menu;

2、Equipment status indicator and IR Receiver:

POWER: it stays lit after power on

ACTIVE: it blinks in normal working condition

CONTROL: it blinks when sending command

IR: IR Receiver;

3、Front panel button: Input selection and other setting;

3. Button Operation

The layout of the front panel is as follows:

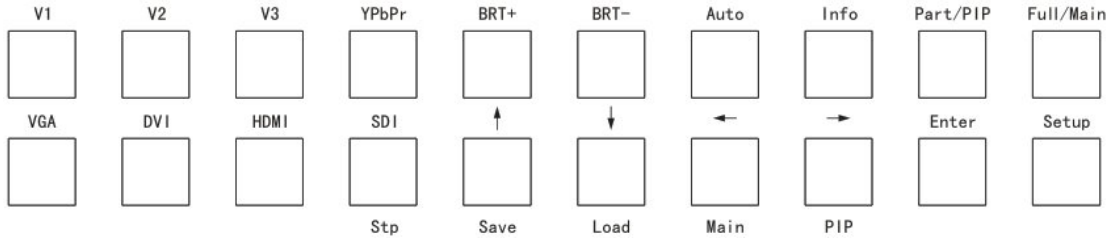

Fig. 3.1 front panel push buttons

The video processor has 20 push buttons on the front panel; all the buttons are operational after the device is power on. Their functions are listed as below.

3.1 Buttons operation

1)、【V1、V2、V3】: Select V1、V2、V3、via BNC connector;

2)、【YPbPr】:Select HD components video signal input;

3)、【VGA】:Select computer analog VGA signal input;

4)、【DVI】:Select DVI computer digital signal input;

5)、【HDMI】: Select HDMI high definition digital signals input;

6)、【SDI/STP】:Select SDI digital video signal input or press the button to change step value among 1/10/100 after you enter the setting option.

Note: When signal input button is pushed, the status display will display the【Main Screen】and【PIP Screen】on the first line; while on the second line will display the input source for main screen and PIP screen respectively; the information will prompt in a cycle of 5 seconds.

7)、【BRT +】: Increase the brightness of output image, highest to 100.

8)、【BRT -】: Decrease the brightness of output image, lowest to 0.

Note: The video processor has 100 levels of output brightness, “0” is the lowest, and “100” is the highest. To achieve the optimal output signal in grayscale, the normal setting is recommended to be 50.

9)、【Auto】:The “Auto” button is only effective when selected input is VGA IN, press this button to auto-adjust the signal parameters in order to obtain an optimal picture quality. The auto adjustment will only be executed when connecting a new VGA signal. The time for auto adjustment is variable depending the quality of VGA signal, the process will not excess 30 seconds. Sometimes, the system will take several times of auto adjustment until an optimal picture is obtained.

10)、【Info】: Pressing the【Info】button can show the current setting and information of the system. Press the【Info】button again to show the next items.

11)、【Part/PIP】: Fast switch in PIP Display mode for PIP Screen (sub-window) input source, when switched to “PIP” menu item, PIP Screen signal will superimpose above the Main Screen signal; If switched to “Full“ menu item, PIP Screen signal will be enlarged to full screen of LED display.

12)、【Full/Main】: Fast switch in Main Display mode for Main Screen (main window) input source, when switched to “Part” menu item, VGA/DVI/HDMI will not be enlarged, if switched to “Full” menu item, the VGA/DVI/HDMI will be enlarged to full screen of LED display.

13）、【↑/Save】：After entering setup menu, press this to go back to previous item.
Or: Push the button to save current mode into memory.

14）、【↓/Load】：: After entering setup menu, press the button to go to next item.
Or: to recall the saving modes.

15）、【←/Main】：Decrease the sequence number of saving modes (range from 1~16)
Or: Press the button before switching input source for main window;

16）、【→/PIP】：Increase the sequence number of saving modes(range from1～16);
Or: Press the button before switching input source for sub window;

17）、【Enter】：Ok button, press the button to confirm the saving mode, or to recall the saving mode.
Note: Because V1、V2、V3、YPbPr、VGA、HDMI inputs exist in the main window and sub-window at the same time, when you switch these signals, you have to confirm to select the main windows or sub-window by Main/PIP selection button.

18）、【Setup】：Setting option, the video processor offers total 16 submenus in 6 main menus, as followings:

Main Menu		Sub-Menu	
1	Language	1	Language 中文（Chinese）
2	Output setup	2	OutputHstart
		3	OutputWidth
		4	OutputVstart
		5	OutputHeight
		6	Resolution out
3	Brightness/Contrast/Saturation	7	Brightness
		8	Contrast/
		9	Saturation
4	Input image setting	10	PIP output Width
		11	PIP output Height
		12	PIP output Hstart (Horizontal)
		13	PIP output Vstart (Vertical)
5	Audio On/Off	14	Buzzer
	Sub-window On/off	15	PIP Display On/Off
6	ESC	16	Setting completed

Fig. 3.2 setting menu overview

3.2 Function setting

Note: This part requires professional skill on LED video processor; all the settings have been configured before shipment. It is not recommended to make function setting unless you have got training course from our company.

1） Setup menu

Double-press【Setup】, status display will prompt “*SETUP?”, press【Enter】to move into the first sub-menu item which is “language selection” and at the same time, the system will enter mode-setting status. In the setting mode, the functions of buttons (upper part on the right side of front panel) will be re-defined as follows:

Button	Function
Stp	Adjust the step value, press the button to switch values among:1、10 or 100
↑	Switch to the previous item
↓	Switch to the next item
←	Decrease value or select the previous value
→	Increase value or select the next value
Enter	Confirm and save the setting
Setup	Enter or exit the settings mode

Fig. 3.3 Buttons definition of front panel

When the system is in setting mode, the following information will be shown on the status display:

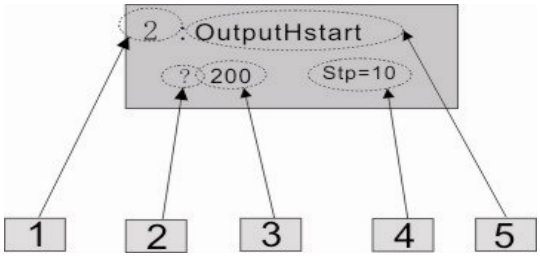

Fig. 3.4 Status display example in setup menu

As shown above, status display is divided into five areas.

Area	Description
1	Show the current item number
2	?: Are you sure to save the new setting or not? !:New setting has been saved
3	Adjusted Value
4	Adjustable step value(1/10/100)
5	Name of current setting item

Fig. 3.5 Status display setup menu description

2） Language

Item #1:【Language】, The video processor offers Chinese and English version for status display menu, press【→/PIP】or【←/Main】to choose the desired one, then press【Enter】

to take effect.

3） Output image setting

The video processor outputs the images through DVI OUT and DVI/VGA OUT connectors. The system can support various resolution outputs and you can go into item #6 (Resolution Out) to select the settings the output format as shown below:

Model	LED video processor
1	1024×768_60Hz
2	1280×1024_60Hz
3	1366×768_60Hz
4	1400×1050_60Hz
5	1280×720_60Hz
6	1600×1200_60Hz
7	1920×1080_60Hz
8	2048×768_60Hz
9	1920×1200_60Hz
10	1920×1080_50Hz
11	1920×1200_50Hz
12	1024×768_50Hz
13	1366×768_50 Hz

Fig. 3.6 Selectable output resolution

Item #6 (Resolution output), press【→/PIP】or【←/Main】to choose one from the list, and then press【Enter】to save the setting. For example, if selecting 【1024×768_60】,the current out resolution will be: 1024*768 and frequency is at 60Hz. However, LED screen pixel may be not 1024*768. When the pixels of LED screen are lower than 1024*768, we could adjust the output resolution closer to pixels in wide and height of LED screen to achieve an optimal image, as the following demonstration:

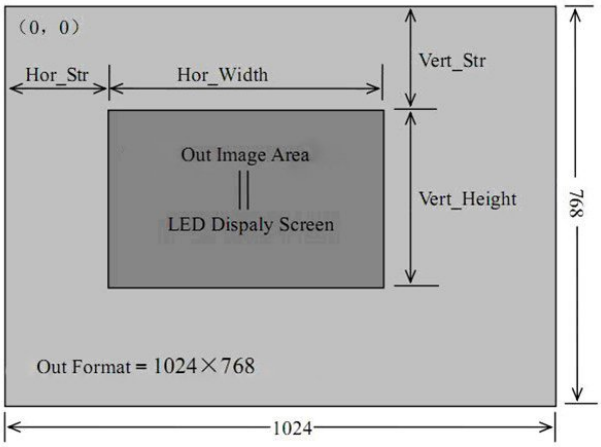

Fig. 3.7 configuration illustration for full screen display of LED screen

In Fig. 3.7, the size and location of output image is defined by 4 parameters and they are

shown in below table.

Item Name	Name	Parameters
2	OutputHstart	Hor_Str
3	OutputWidth	Hor_Width
4	OutputVstart	Vert_Str
5	OutputHeight	Vert_Height

Fig. 3.8 Correspondence table

The initial coordinate (0,0) is defined from the top left corner. According to the size of LED screen (Horizontal pixels and Vertical pixels), you can calculate the start and end coordinate of outputs image. The size of output image can be adjusted by changing the value of the parameters shown on above table. Press 【↑/Save】or【↓/Load】to select the mode and【→/PIP】 or【←/Main】to increase/reduce the values of parameters, then press 【Enter】to save the setting.

4） Brightness/Contrast/Color Setup

Item #7:【Brightness】supports 100 levels of output brightness, “0” is the lowest and “100” is the highest. Press【→/PIP】or【←/Main】to adjust the brightness and press【Enter】to save the setting. The default setting is 50 to ensure the optimal image grayscale.

Item #8:【Contrast】supports 100 levels of output brightness, “0” is the lowest and “100” is the highest. Press【→/PIP】or【←/Main】to adjust the brightness and press 【Enter】to save the setting. The default setting is 50 to ensure the optimized image gray scale.

Item #9:【Saturation】Color saturation of video inputs such as V1、V2、V3、YPbPr and HDMI can be set. The setting value is in between 0 – 100. “0” represents the lowest color saturation and “100” represents the highest color saturation. Press【→/PIP】or【←/Main】to change the color value and press【Enter】to save the setting. The default setting is 50.

5） Output setting for sub-window

The video processor supports different kinds of input resolutions, and the resolution of video output can be adjusted according to the resolution of video input source. According to the size and resolution of LED screen, the size and position of main window source can be set, also the users can set the size and position for PIP picture (Sub-window). Sub-window could be enlarged or scaled in equal proportion according the need.

For example: If video Input/Output resolutions are both set at 1024*768 but in fact that the resolution of LED panel is 384*288, we can set the below parameters to scale the 1024*768 picture to 384*288 area in order to obtain full-screen display on the LED screen.

Item Name	Function
10	PIP OutputWidth
11	PIP OutputHeight
12	PIP OutputHstart
13	PIP OutputVstart

Fig. 3.9 Correspondence table for PIP sub-window configuration

Item#10:【PIP OutputWidth】The initial coordinate (0,0) is defined from the top left corner, Set the PIP Output width at 384,the width of PIP sub-window can be accurately enlarged or scaled pixel by pixel to fit the size of LED screen. Press【→/PIP】or【←/Main】to adjust the value and press【Enter】to save the setting.

Item#11:【PIP OutputHeight】The height of selected video picture can be increased or decreased to fit the size of LED screen, Press【→/PIP】or【←/Main】to adjust the value at 288, the value setting can be more convenient if using together with【Stp】button, and press【Enter】to save the setting.

Item#12:【PIP OutputHstart】The horizontal start point of selected video picture is set from the coordinate (0,0) which is on the top left hand corner. Press【→/PIP】or【←/Main】to adjust the value and press【Enter】to save the setting.

Item#13:【PIP OutputVstart】Press【→/PIP】or【←/Main】to adjust the value , the value setting can be more convenient if using together with【Stp】button, and press【Enter】to save the setting.

6） Other setup

Item #14:【Buzz】, used to switch off the buzzer, press【→/PIP】or【←/Main】button to select “on/off”, push【Enter】to take effect.

Item #15:【PIP Display】: To enable or disable the Sub-window; press【→/PIP】or【←/Main】button to choose【On】or【Off】 press【Enter】to take effect.

Item #16:【ESC】Press【→/PIP】or【←/Main】to select ” Enter” or “Cancel”, then press【Enter】to confirm.

Note: Pressing【Setup】under any setting process will lead to jump to the item#16.

4. Built-in Sending card

Loose the screw and take out the metal plate. Connect the sending card to the interface of the metal plate and insert it back to the case.

Notice: make sure the sending card is connected to the PCI slot (white in color) which inside the case tightly. If the sending card needs the internal voltage supply, just connect to the power socket provided inside the case. If the sending card needs an external voltage supply, a 5V power outlet is provided inside the case.

Fig. 4.1 Sending card installation

5. Introduction of LED control software

5.1 How to install the control software

The video processor control software adopts user-friendly design. Its control software requires no installation and the volume is small. The root folder includes following files, you can copy it to any place of the control computer and then double-click it to execute file program. It saves tedious software installation steps and time. Even computer entry-level users can operate it quickly and easily.

Fig. 5.1 Folders of control software system

Program operating environment:

CPU: more than P4;

Memory: more than 512M;

Hard disk: more than 40G.

(1) 【en-US】sub-file: “Full color LED image processor. resources.dll”, lack of the file will not be able to use English language;

(2) 【dmdll.dll】:Application configuration file

(3) 【dmdll_multi.dll】:Application configuration file

(4) 【InSid Mode. mode】: This is a mode storage file with 16 presets memory.

(5) 【3000B.exe】: Double click the file to operate control software.

(6) 【3000B.exe.config】: Some necessary configurations for software control.

Attention: the above six files are all necessary to guarantee the control software operation, and they all need to be in the same file .please do not alter the file, Otherwise it will cause software abnormal use.

5.2 How to open the control software

1） Open the software and connect

Double-click “3000B.exe”, you can select “COM”(communication port) and ”Baud” (Baud rate), as shown in the figure below:

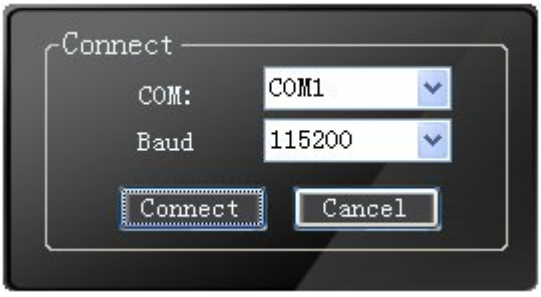

Fig. 5.2 serial port connection

As the picture above shows ,select serial port number and baud rate , then click the 【connect】button. If the serial port is already occupied or the connection in abnormal condition, it would pop-up prompt message as shown in the picture below:

Fig. 5.3 Prompt of abnormal connection

2） Launch of software

You will see the main interface as below after the successful launch of software.

Fig 5.4 Control software interface

5.3 How to operate control software

5.3.1 Connect and disconnect

Click Disconn(disconnect) button in software connection area, and the communication between processor and control device will disconnect instantly.

Fig. 5.5 Device connection area

5.3.2 Size/Capture

The video processor control software interface has the window image capture area. Click button【1】in "Size/Capture" area.

Fig. 5.7 Picture capture

Move the mouse to the bottom right corner, there will appear a cursor as shown on above picture. Users can drag and drop the box to define the captured area by changing window location and size. Double click the captured box to make the captured content fully stretch on the whole LED screen. Click  button to exit the current operation,.

5.3.3 IP control Setting

Fig. 5.8 TCP/IP control

1、Click 【IP】to open the window, which includes settings of IP address and device port. As shown in the figure below:

The software can automatically search the connected IP address, and click the 【connect 】button to realize communication with LED video processor. Click【search】 and【connect 】 button to connect the software with the device.

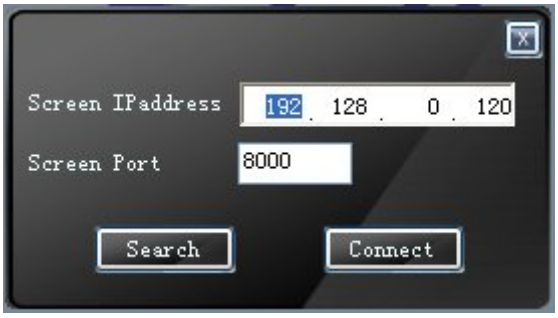

Fig 5.9 IP setting for device

When there is no connected device or occurs abnormal connection, it will pop up the following prompt message:

Fig. 5.10 Failure prompt

2、Click Config to open the window as shown in figure below, here user can make the TCP/IP communication setting manually or automatically. Click the【Set】to take effect.

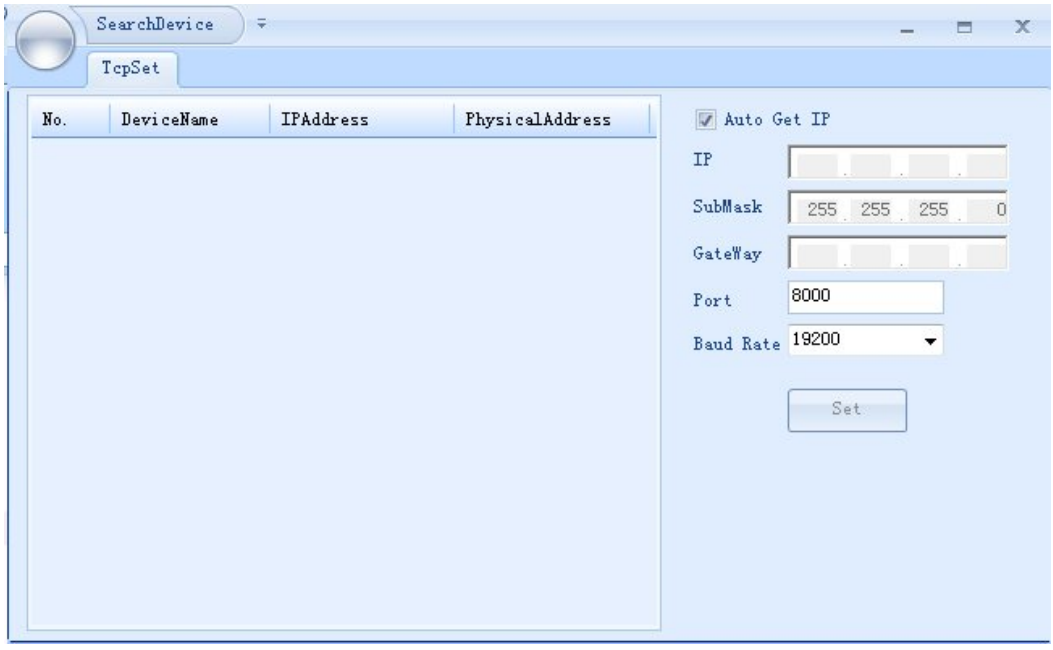

Fig. 5.11 IP Setting Dialog

5.3.4 Output resolution

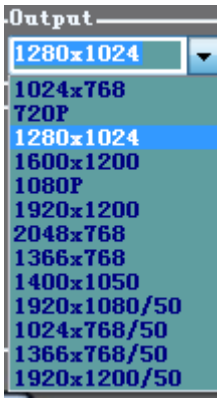

Fig. 6.12 Output resolution selection

As shown, the video processor offers 13 kinds of output resolution; users can choose to fit the size of LED display.

5.3.5 Coordinate operation

Manual input window size, position coordinate or capture picture size, coordinate value, and click【send】.

Fig.5.11 Coordinate of (captured) window

Fig 5.14 Accurate coordinate of normal window

Fig 5.15 Accurate coordinate of capture window

5.3.6 Window operation and setting

5.3.6.1 Layouts

Fig.6.16 layout selection button

There are total five options for layouts, the effects are as followings:

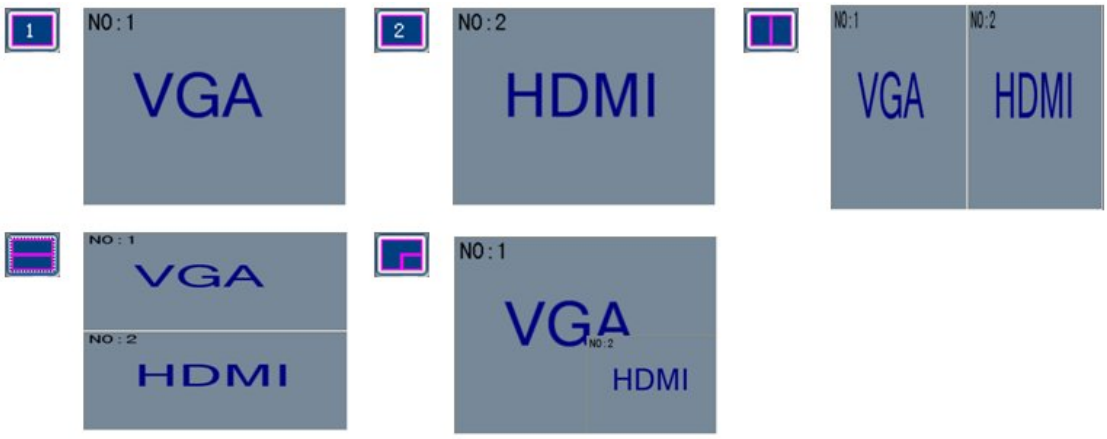

Fig. 6.17 Layout effects

5.3.6.2 Adjustment of the window position and size

Left click the mouse, and then drag it to the size you want; moving the mouse to the window's right /bottom or right-bottom corner, you can adjust the window size when the mouse changes to a two-way arrow. In addition, you still can input accurate value in 【coordinates】(coordinates operation)

Above operation can also be applied to sub-window.

Fig 5.18 Illustration of adjustment

5.3.6.3 Switching signals

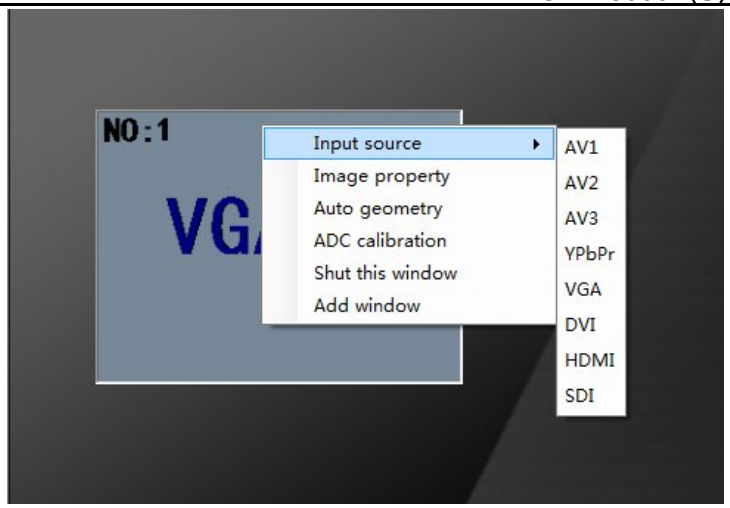

Fig 5.19 Input signal selection

Click the right mouse button and select input signal in the secondary menu of【signal select】(signal selection);

5.3.6.4 Image parameters

Selecting【Image Property】(Image parameters)in right-mouse menu, it will pops up adjustment options. The system has three kinds of options: Brightness, contrast, Saturation. Users can customize parameters as desired. Click “Default” button to reset the values.

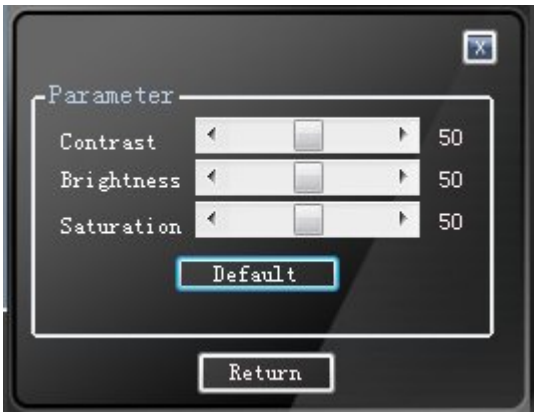

Fig. 5.20 Image parameters adjustment

5.3.6.5 Automatic Adjustment

Right click source box and select the secondary menu【Auto Geometry】, the device will adjust the image by itself. Please use this function only when the video window loses parts or is not normally displayed in LED screen.

Right click source box and select the secondary menu【Auto ADC】, the device will adjust the image by itself. Please use this function only when the color of VGA signal is not normally displayed in LED screen.

5.3.6.6 Shut or add window

Right click source box and select the secondary menu【Shut this window】, the device will close the current video window.

Right click source box and select the secondary menu【Add window】, the device will add one more window as sub-window to the current main window. Note: This model can support two video windows at most.

5.3.7 Saving mode operation

Fig 5.21 saving modes setting area

5.3.7.1 Mode recall

Click a number from 1~16, and it will directly recall the window mode that has been preset. If you have not preset any mode before, when you click a number button and it would appear prompt message as shown in picture below:

Fig. 5.22 Prompt of modes do not saved and recalled

5.3.7.2 Mode save

Pressing on 【Ctrl】button in keyboard , then use the mouse to click a number from 1 ~ 16 in number area . And the current window mode has saved in the number button.

If a number button does not preset or has saved a mode, you click the button and it would appear prompt message as shown in picture below:

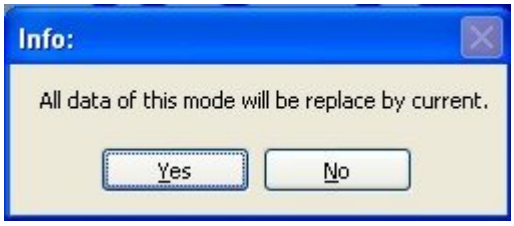

Fig. 5.23 Prompt of mode saving

Click【Yes】to accept saving, click【No】to cancel the saving.

5.3.7.3 Mode cycle

Selecting【Mode cycle】 in【Menu 】, and it would pop-up a dialog box, as the picture shows below:

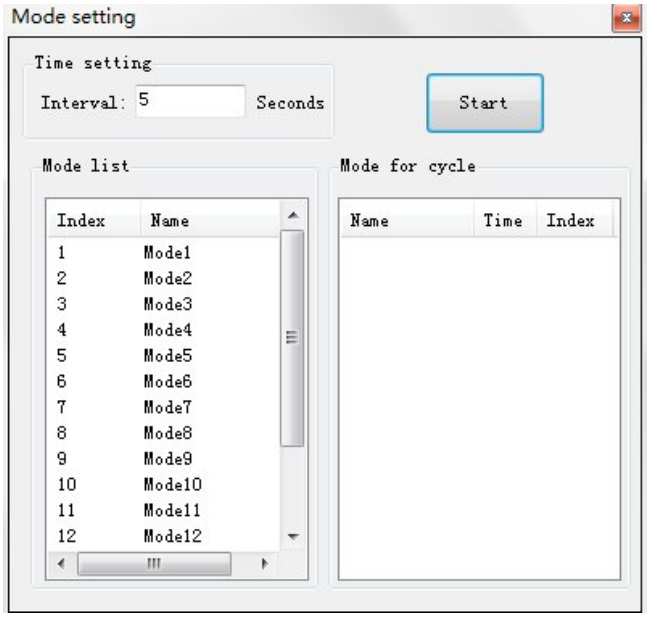

Fig. 5.24 Mode setting

The 【Save Mode 】list all saved modes. Double click a mode to add it to cycle list, and then set cycle interval time. Finally clicking【start】button, and it would begin mode cycle.

The 

button will change into 

button; click this button to terminate the cycle.

5.3.7.4 Other useful mode setting

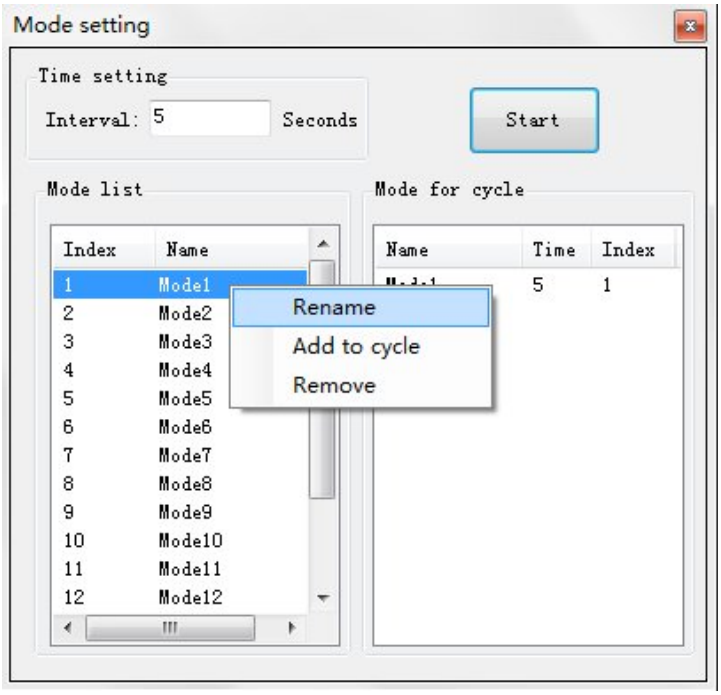

Fig. 5.25 Other useful mode setting

As shown in above picture, right click on the correspondent mode, an option list will pop out, choose the desired options: Rename, Add to cycle, Remove.

6. Technical Specification

6.1 Input signal technical specifications table:

Type/Quantity	3×Composite 1×YPbPr/YUV/YCbCr 1×VGA（RGBHV） 1×DVI 1×HDMI 1×SDI/HD-SDI
Video standard	PAL/NTSC
Composite Video Amplitude/Impedance	1V （p_p）/ 75Ω
VGA/ HDMI(DVI)	800×600@60Hz 1024×768@60Hz、1024×768@50Hz 1280×720@60Hz 1280×1024@60Hz 1366×768@60Hz、1366×768@50Hz 1400×1050@60HZ、1920×1200@60Hz 1600×1200@60Hz、1920×1200@50Hz 1920×1080@60Hz、1920×1080@50Hz
VGA Amplitude/ Impedance	R、G、B = 0.7 V（p_p）/ 75Ω
YPbPr	720×480i@59.94Hz/60Hz 720×480p@59.94Hz/60Hz 720×576i@50Hz 720×576p@50Hz 1280×720p@50Hz/59.94Hz/60Hz 1920×1080p@50Hz/59.94Hz/60Hz 1920×1080i@50Hz/59.94Hz/60Hz
YPbPr Amplitude/ Impedance	Y= -0.3V ~ +0.7V （p_p）/ 75Ω Pb= -0.35V ~ +0.35V （p_p）/ 75Ω Pr= -0.35V ~ +0.35V （p_p）/ 75Ω
SDI/HD-SDI (Optional)	720×480i@59.94Hz/60Hz 720×576i@50Hz 1280×720p@50Hz/59.94Hz/60Hz 1920×1080i@50Hz/59.94Hz/60Hz
Connectors	VGA：15pin D_Sub(Female) DVI：24+1 DVI_D，24+5 DVI_I HDMI：HDMI type A YPbPr: BNC×3

	Composite：BNC SDI/ HDSDI：BNC

Fig. 6.1 Input signals technical specifications

6.2 Output signals technical specifications

Type/Quantity	1×DVI LOOP OUT 1×DVI/VGA OUT 1×DVI2 OUT 1×SDI/HD-SDI
VGA/DVI Resolution	1024×768@60Hz、1024×768@50Hz 1280×720@60Hz、 1366×768@60Hz、1366×768@50Hz 1280×1024@60Hz 1400×1050@60Hz、1920×1200@60Hz 1600×1200@60Hz、1920×1200@50Hz 1920×1080@60Hz、1920×1080@50Hz 2048×768@60Hz
VGA Impedance	R、G、B = 0.7 V （p_p）/ 75Ω
Connectors	DVI LOOP OUT：24+5 DVI_I DVI/VGA OUT：24+1 DVI_D DVI2 OUT：24+1 DVI_D，24+5 DVI_I SDI/ HD SDI：BNC

Fig. 6.2 Output signal technical specifications

6.3 Other technical specifications table:

Control	Front panel, RS 232
Power supply	AC 100-240V 50/60Hz
Consumption	15W
Temperature	-20℃ ~60 ℃
Humidity	5-95%
Dimensions	483mm(L)×310mm(W)×44.5mm(H)
Weight	4.5Kg(including accessories)　　Net weight 2.6Kg

Fig. 6.3 other technical specifications table

7. Trouble shooting and maintenance

1)　Cannot operate “3000B.exe” application

Possible reason: Operating system software that control the computer without a corresponding program.

Solutions: Download and install Microsoft’s related program” dotNetFX35setup.exe”.

Notice: To download the program in Microsoft's official website, or install the program from CD in processor. CD installation procedures are as follows:

① Open the relevant software file, and double click "dotnetfx35.Exe" to operate.

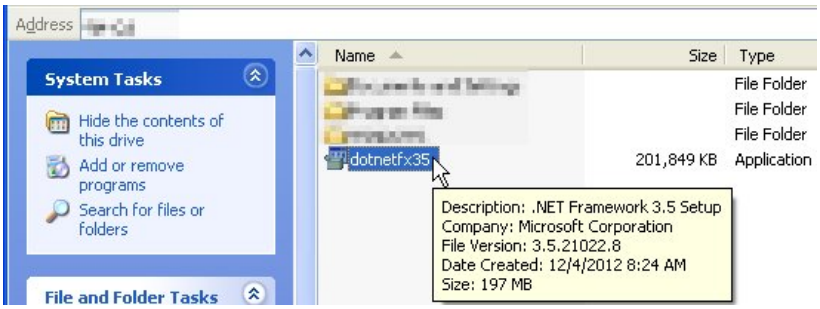

Fig.7.1 Open the “dotNetFX35. Exe “installation program in CD

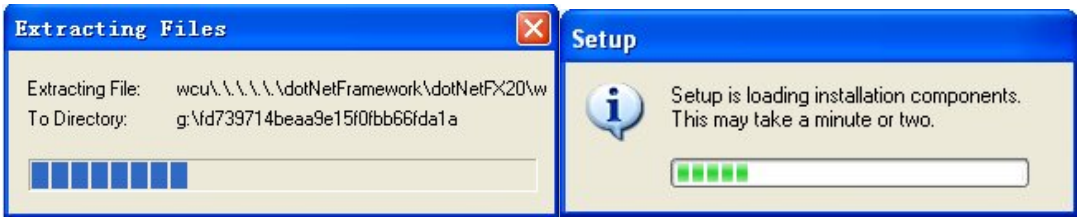

Fig. 7.2 Installation program start to install

② Select "I have read and accept the terms in the license agreements", and then click “installation";

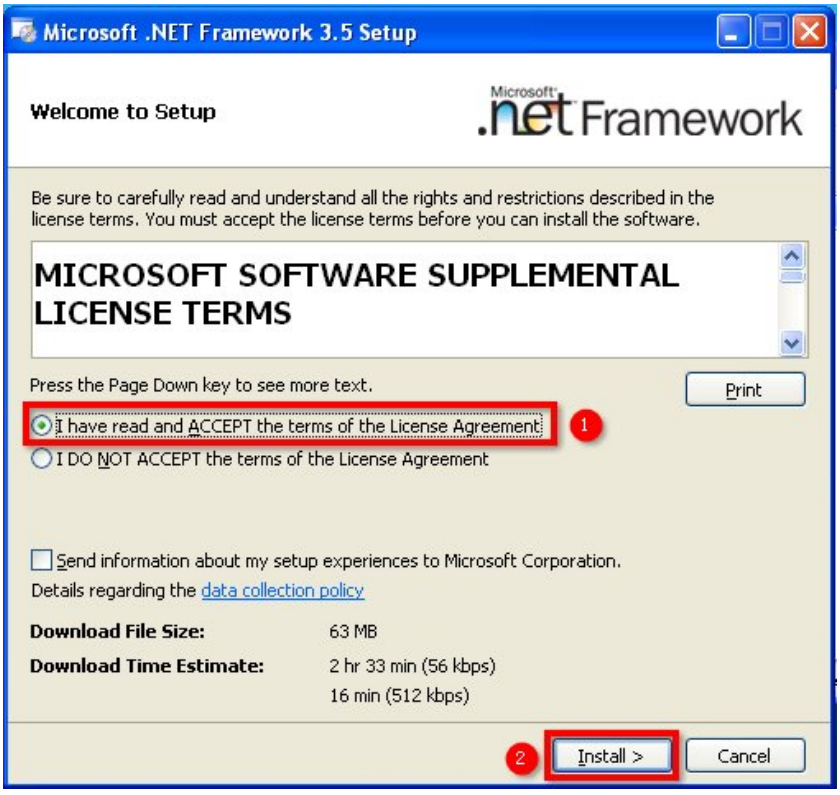

Fig. 7.3 select agree and install

③ If the computer is connected to the Internet, the program will download installation data from the network automatically, as shown in the following figure

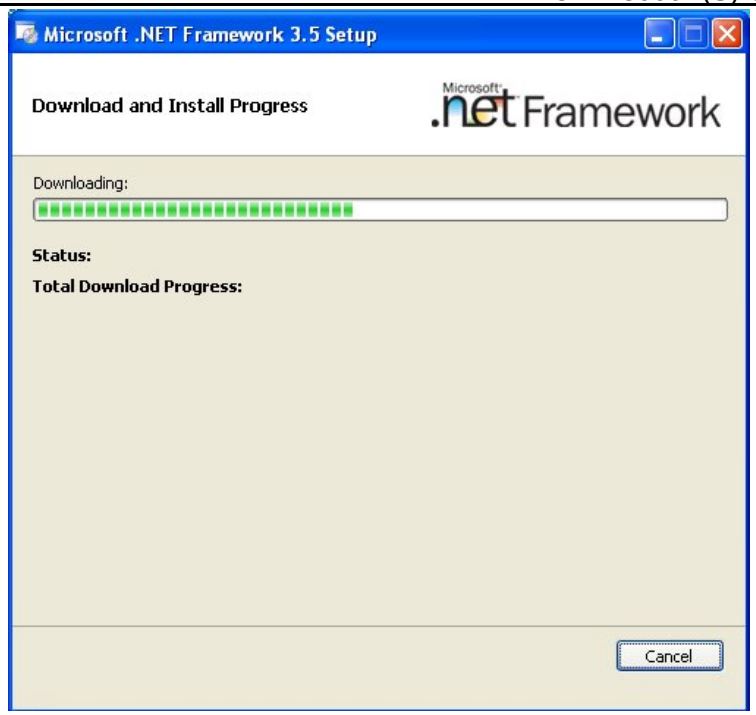

Fig.7.4 the data needed for download installation

④ After the download is complete, the program starts to install. As shown in the picture below:

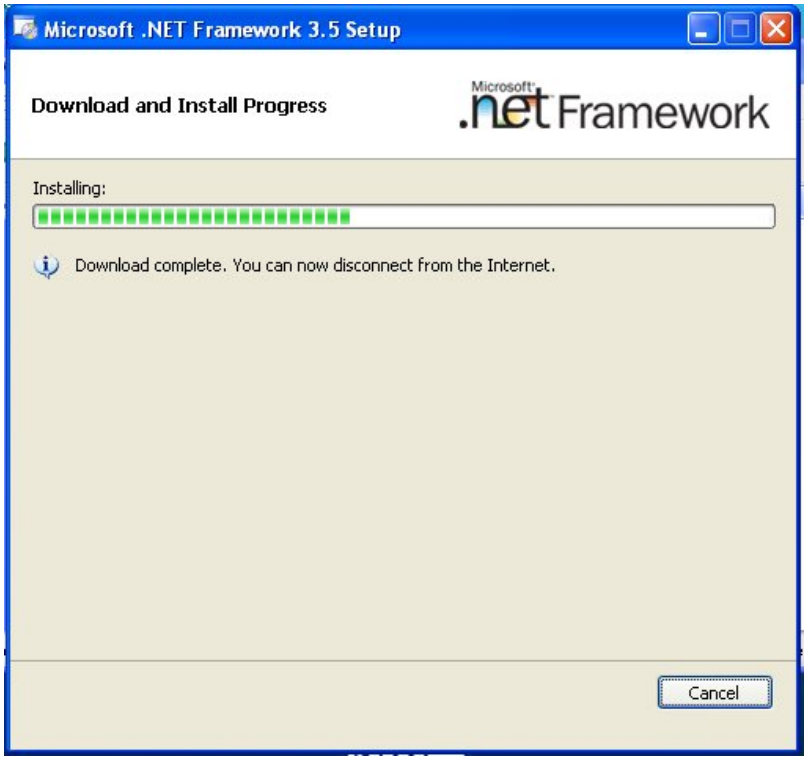

Fig. 7.5 Download all and start to install

⑤ To exit after the program installation is complete, as shown in the picture below:

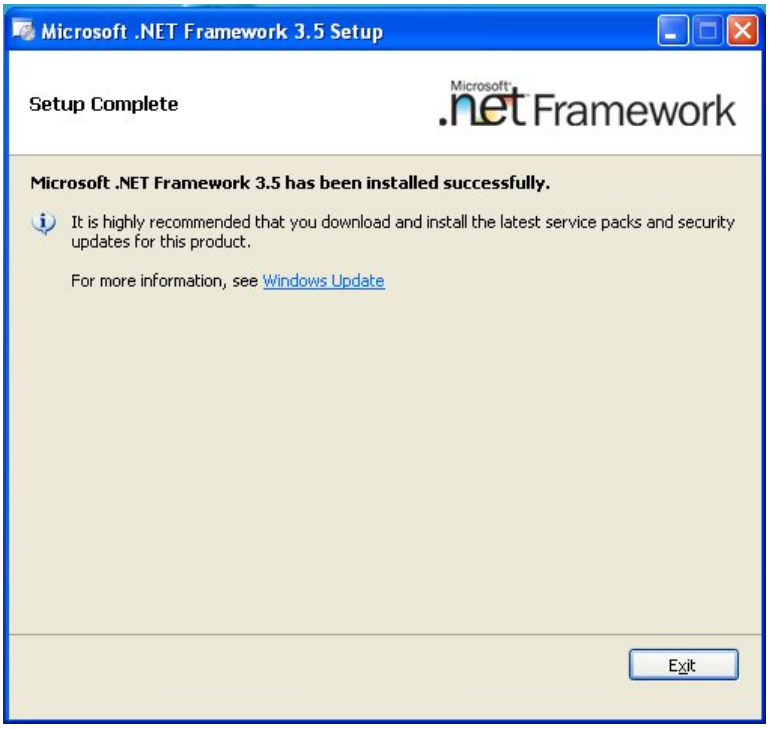

Fig. 7.6 Exit installation

2) Serial port operation failure, can not to control processor

Possible reasons:

A、LED Control software doesn't open serial port;

B、Serial port has been damaged;

C、The serial port that adopts USB switch to RS232 is not installed properly;

Solutions:

A、Check the serial port connection status;

B、Change serial port connection cable or main control device;

C、Install device (USB switch to RS232) properly;

3) Picture without display

Possible reasons:

A、No signal input;

B、Signal channel switching errors, such as input VGA signal, but the channel selects AV;

C、Reversed connection of VGA input and VGA output;

D、The display device do not adjust input channel. Need to adjust the mode to VGA or DVI;

E、Black screen mode has been opened;

F、Output VGA or DVI line has been damaged.

Solutions:

A、To check whether the input signal source is normal; (To detect by connecting the input signal source to the display device directly)

B、To confirm whether AV/VGA/DVI/YPbPr channel input are normal; Using control software or front panel buttons to detect channel switching;

C、To confirm the output of the processor connected to the display device properly, and the input signal is connected properly.

D、To adjust status of display device, for more specific operations please refer to display device specification;

E、To adjust the content of the output signal, and suggest adopts dynamic picture for output rather than monochrome picture;

F、To confirm whether the black screen mode has been opened;

G、Using good quality VGA line or DVI line to ensures image stability and quality.

4) The picture displays partial color

Possible reasons:

A、VGA or DVI port not connected well, bad contacts;

B、VGA or DVI line has been damaged;

C、Color adjustment is not correct;

D、Excessive toning by control software;

Solutions:

A、After VGA or DVI line is connected, please tightening the fixed bolt of joint to prevent the loose result of pulling;

B、Replace good quality VGA or DVI line;

C、Please refer to specification to adjust color balance;

D、Via the control software to readjustment color and white balance;

E、If the input signal is VGA, please do ADC correction for it; The operation method has been listed in previous chapter **5.3.6.4.**

5) The picture doesn't display completely, and appears black border phenomenon

Possible reasons:

A、Mosaic display device do back-end excision for the signal;

B、Excessive image position adjustment;

C、Output resolutions of display units are different;

D、The video card setting method is not correct;

E、The resolution of computer input signal is not standard;

Solutions:

A、Please refer to the instruction to do an automatic adjustment;

B、Via the control software to readjust image position;

C、Enter into the "Setting of input parameters ", then click "Auto"; Enter into the "Setting of output parameters ", and then select the output resolution;

D、Enter into display card advanced menu, then change the scanning mode to overscan.

E、Change the computer input signal to appropriate resolution;

Attentions:

1 The above listed is the common failure in after-sales maintenance. If you find the device failure phenomena are not in above range. Please notify the suppliers to solve as soon as possible. Please do not open the case without authorization, so as not to expand the fault or cause unnecessary safety accidents.

2 Our company reiterates: without the permission, you who take device apart will bear all the responsibilities that it may bring.

SHENZHEN CREATEK ELECTRONIC CO.,LTD

Address：3/4 F, Block 4, Honghui Industrial Park, Liuxian 2nd Rd., Xin'an Street, Bao'an District, Shenzhen, China

Postalcode：518000

Tel：0755-26643017 **Fax**：0755-26644342

Website：http://www.ckdz.com

Service Hotline：400-039-0399