Multi-media matrix switcher

User manual

V1.0

SHENZHEN CREATEK ELECTRONIC CO.,LTD

http://www.ckdz.com/

Attention: Please read this manual carefully before using this product and keep it for future reference.

CONTENT

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 cm away from a wall surface;

4、If any noise、smoke、smell, please cut off the power at once and contact your local suppliers;

5、Do not connect or disconnect DVI signal cable when the power is on.

⚠️ Attentions

1、Read the manual carefully before using the system, and keep it for later use;

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

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2.　Function Overview

CKPS - 802 is a professional audio/video switching equipment. The device integrates the leading technology of Createk company for many years on the audio and video image processing, high-definition signal processing and displaying .It adopts the patent technology of hardware design. It allows users to switch a variety of audio and video signals synchronously, and can also to adjust related parameters. It is a high performance device ,addressed to multimedia conference room ,educational facilities ,command and control center etc.

　CKPS - 802 has the following features:

1、 Hardware-based structure, no CPU and operating system. With core operation mechanism, it has no trouble of   plug-in processor system's crash ,blue screen and virus 's risk.Start time less than 5 seconds, 365 * 24 hours continuously and stability working.

　2、It adopts advanced video image processing chip and algorithm design to realize HD video and high resolution computer signals' s real-time sampling, transmission and processing, without delay, trail or frame loss phenomenon. It deals with the image quality to be good ,smooth.

3、It supports multiple format signals input. 1channel video with audio input, 1channel YPBPR with audio input, 2 channel VGA signals with audio input, 2 channel HD DP inputs, 2 channel   HDMI inputs;

4、 Input resolution up to 1024 x768 ~ 1920 x1200; output resolution up to 640 x480 ~ 1920 x1200 ;

　5、With the power-off field protection ,input front-end adaptive compensation and other functions, it supports the input signal condition monitoring and can Real-time monitor and display the current input channel signal information;

　6、 It can adjust the brightness, contrast ratio, saturation, tonal, sharpness, phase of the output image; and also can adjust the volume, sound of the output audio;

　7、With the global general wide voltage design, it can adapt to AC 100 ~ 240 v, 50/60 hz;

　8、This product   provides a good man-machine interface for the user. With the parallel port, Ethernet and RS232 communication interface, and also with the special matching control software, the series of products can work very well with the computers, remote control system or other remote control equipment .

3.　Hardware structure

3.1 Product elevation

Figure 3.1Product elevation

3.2 Rear panel diagram
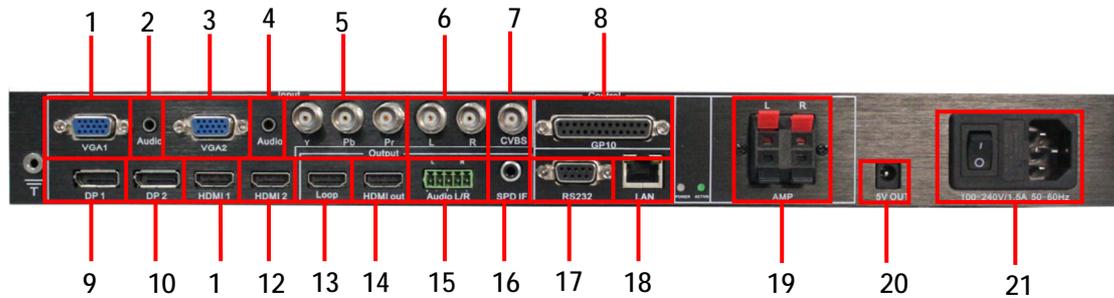
Figure 3.2Rear panel diagram

1.VGA1 input

2.VGA1 VGA1 's corresponding audio signal input

3.VGA2 input

4.VGA2 VGA2 's corresponding audio signal input

5. YPbPr input

6. VGA2 's corresponding audio signal input

7. CVBS input

8. Parallel control interface

9. DP1 input

10. DP2 input

11. HDMI1 input

12. HDMI2 input

13. HDMI LOOP out

14. HDMI output interface

15. analog audio output

16. Digital Audio Output

17. Com RS - 232 control interface

18.RJ - 45 control interface

19. power amplifier interface

20. 5 v power supply output interface

21.（100-240VAC,50HZ/60HZ） Power socket and switch

3.3 Front panel diagram

Figure 3.3front panel diagram

1、Power: The power indicator light

2、Active: ormal work indicator

3、Control: Control indicator light

4、IR: IR Receiver

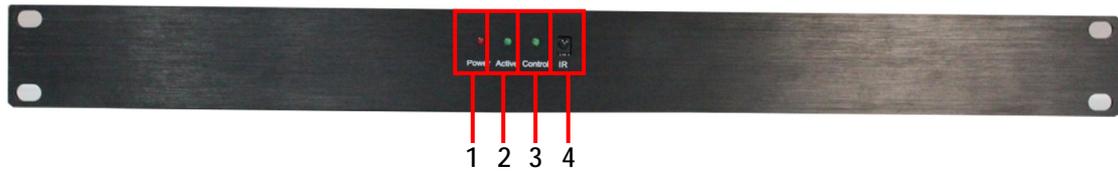# 4.   Introduction of control software

4.1 How to install the control software

CKPS-802 full-color LED video processor 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.

Figure4.1 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:"CKPS-802-DEBUG.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)   【QLFUI.dll】:This is a mode storage file, and pre-set 16 kinds of mode information.

5)   【System9X.ini】:Application configuration file

6)   【CKPS-802-DEBUG.exe】: Double click the file to operate control software.

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.

4.2 How to operate the control software

Double-click application file"CKPS-802-DEBUG.exe" to open the control software interface, as shown in the figure below:
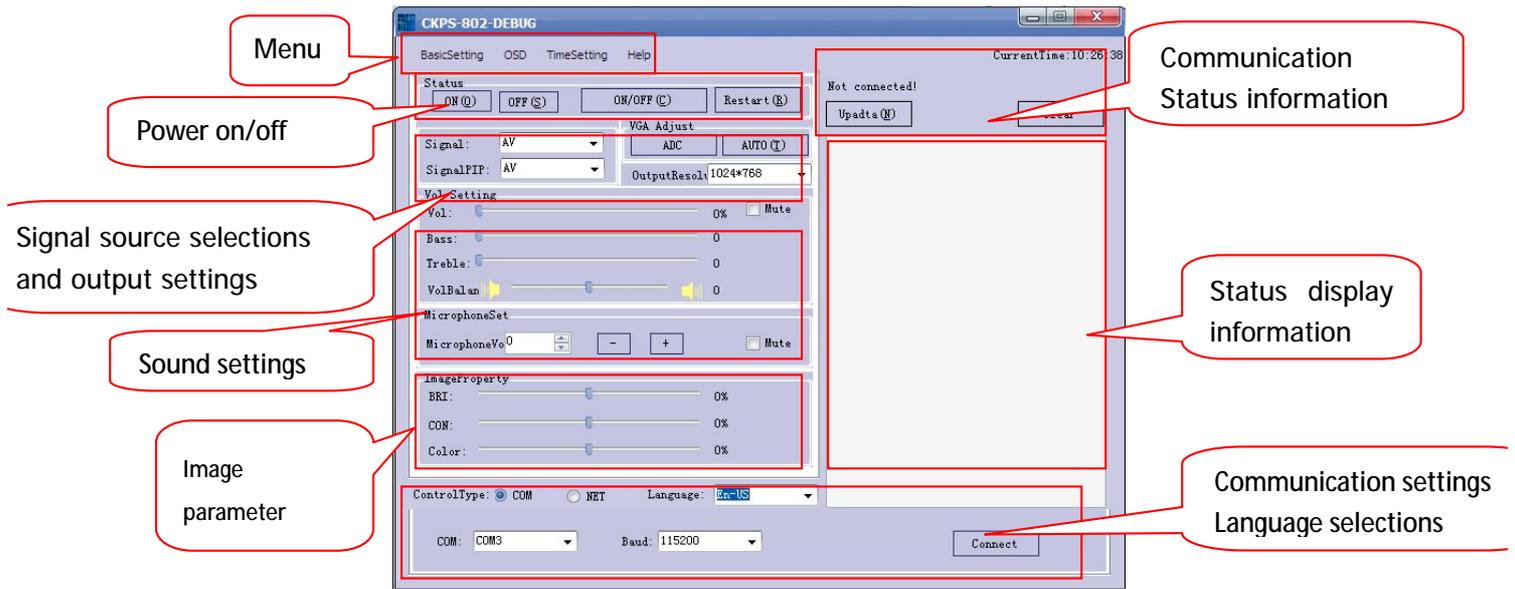
Figure 4.2 software interface

4.2.1 Serial port connection

Click 【 COM 】in the area of ControlType, then select COM port between the device and computer. Baud rate should be set to 115200. Click【Connect 】to finish the setting.

Figure 4.3 Serial port connection

4.2.2 Network Connection

Connect the device to   LAN and select 【 NET 】in【Control Type】, then click the【Search】

for IP lookup. When shows the LAN IP of the device,then click the 【Connect】. See IP address settings in later introductions.

Figure 4.4 Network Connection

4.3 How to operate control software

4.3.1 Language selections

Select Chinese or English in pull down menu of "Language",the picture below shows the english software interface.
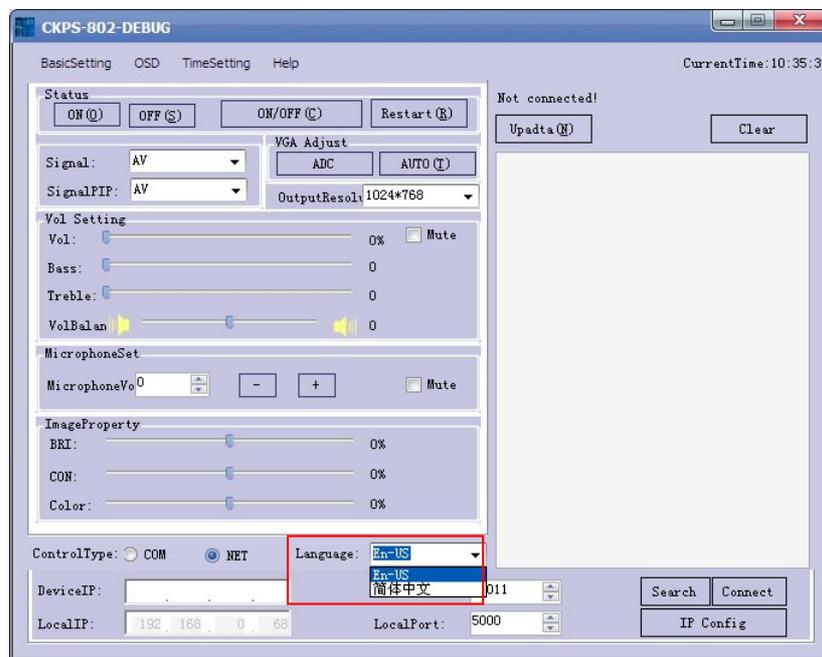
Figure 4.5 Language selections

4.3.2 Menu

Select a corresponding menu item, and the software interface will change accordingly.Here is the menu functions:

【BasicSetting】Basic Settings, including Power on/off and audio/video signals settings, etc.;

【OSD】Menu display, display OSD information of the device;

【Timesetting】Automatic timing switching of the signal windows

【Help】Help information, display version information of the software.

Figure 4.6 Menu

4.3.3 Settings of power on/ff

Figure 4.7Settings of power on/ff

Select corresponding button to realize boot, standby, boot/standby, restart etc..

4.3.4 Settings of input signals
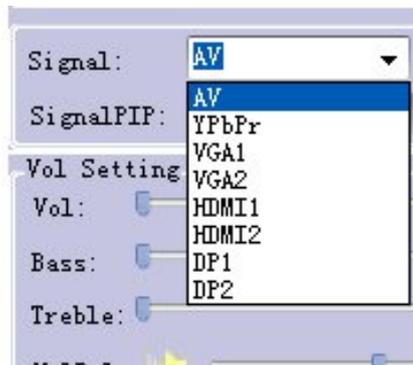
Figure 4.8 signal sources selection

There are eight kinds of input signal sources options:2 channel VGA, 2 channel HDMI, 2 channel DP, 1 channel AV, 1 channel YPBPR.

6.3.5 Settings of output resolution

10 kinds of output resolution are available:

1.1920X1080/60Hz

2.1280X720/60Hz

3.1024×768/60Hz

4.1280X1024/60Hz

5.1366X768/60Hz

6.1400X1050/60Hz

7.1600x1200/60Hz

8.1280*768 /60HZ

9.800x600

10.640x480
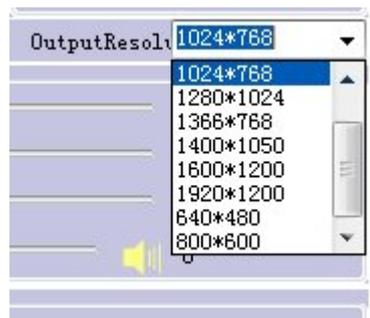
Figure 4.9 Settings of output resolution

4.3.6 Analog signal adjustment

Figure 4.10 Analog signal adjustment

It can do ADC correction or automatic adjustment (AUTO) for VGA, AV, YPBPR etc. to solve the problem of wrong color or black border .

4.3.7 Sound settings
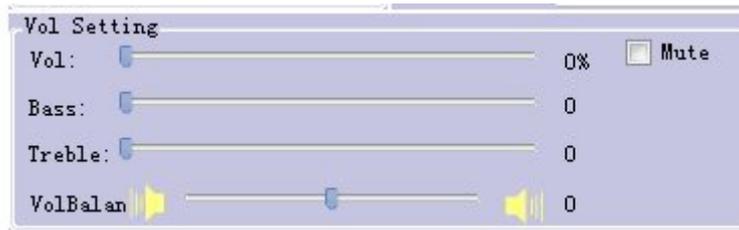
Figure 4.11 Sound settings

VOL: Volume settings

MUTE: Muting switch (ticking" Mute "indicates open)

BASS 、TREBLE: Bass and treble settings

VOLBALAN: Volume balance settings

4.3.8 Color settings
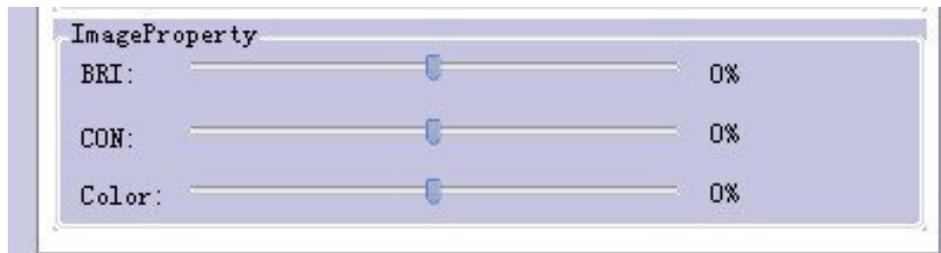
Figure 4.12 Color settings

BRI: Brightness adjustment

CON: Contrast adjustment

COLOR: Color settings, it works for video.

4.3.9 IP address Settings

Figure 4.13 Network connection

In the use of network communication, click the【IP config】to enter the IP Settings as below:
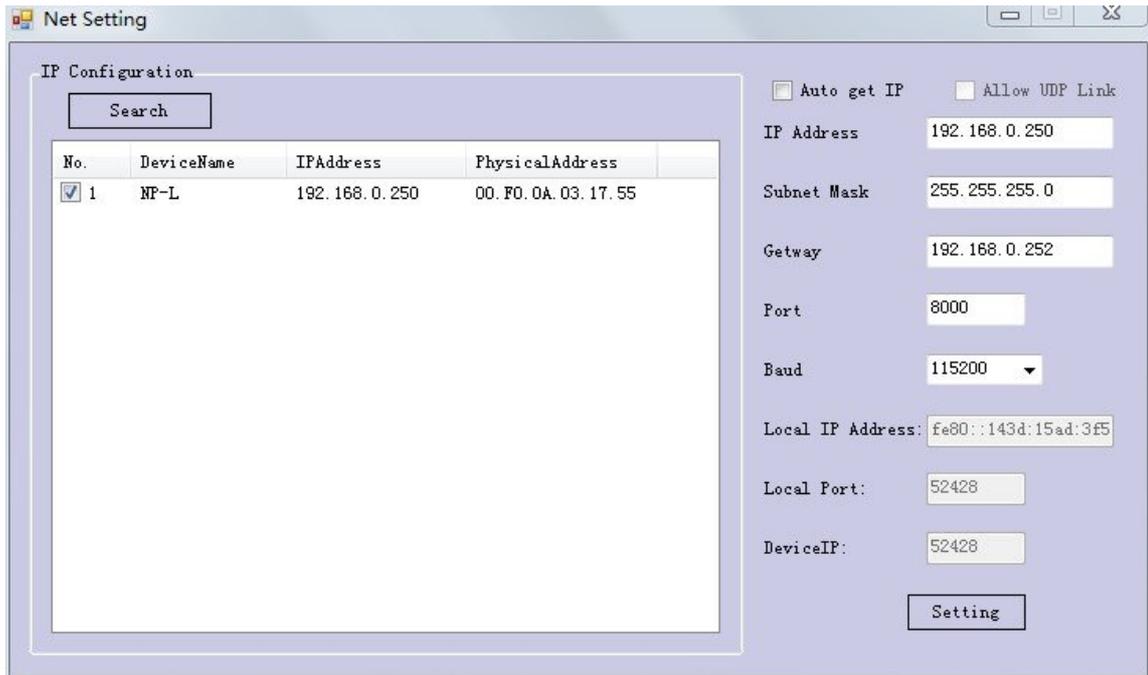
Figure 4.14 IP address Settings

1. Click【Search】, and the following dialog will display the devices' s IP address (The user can also reset the device network module first, and then click 【Search】.The below dialog shows a IP address:192.168.0.250.It is a default IP address after the reset)

2. Double-click the【NO】(namely   in figure 6.13), and it will pop up a login dialog box.Enter your user name and password to login (user name and password both are admin), as below:

Figure 4.15 Login

3. After a successful login, uncheck the check box "Auto get IP" and   fill in the IP
    address, gateway etc.. (IP address should be the network segment of the machine
    work area, and any unused IP can be set), as below:
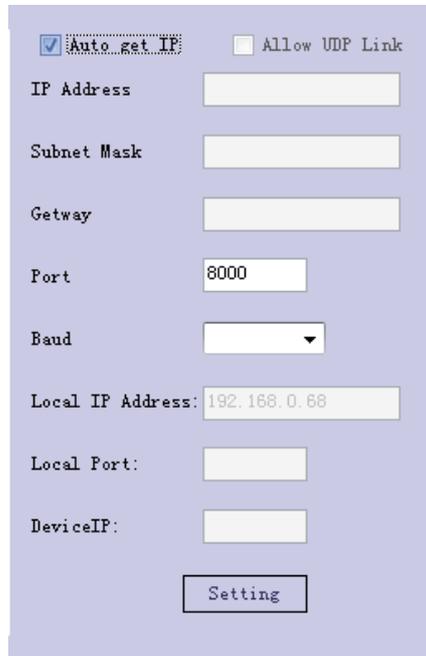
Figure 4.16 The interface of IP address input

4.3.10 Status information display
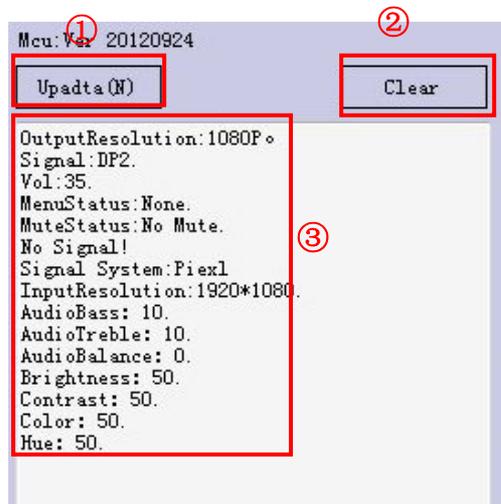
Figure 4.17 Feedback information of working state

① Refresh feedback information

② Clear feedback information area

③ Feedback information display area,which shows current state of the display device.

5. Technical specification

Input signal	2 HDMI 2 Display Port 2 VGA 1 compositive video 1 YPBPR Universal I/O connector，6input（GPIO, 6 input)	Output signal	1 HDMI 1 HDMI LOOP out Universal I/O connector，2 Output（GPIO, 2out）
Input connector	HDMI female VGA , 15pin female Display port connector，female BNC female connector BNC female connector	Output connector	HDMI female HDMI female Universal I/O connector, 6input, 2output,（24V/500mA, 25pin,see pin chart in user manual)
Input video format	HDMI 1.3 RGBHV, RGBs, RGsB, RsGsBs; Y-Pb-Pr NTSC 3.58, NTSC 4.42,PAL, SECAM	Output video format	HDMI 1.3 RGBHV, RGBs, RGsB, RsGsBs;
Video conventional parameters			
Output resolution	1080P, 1920*1080; 720P, 1280*720; 1280*768/60HZ SXGA+, 1400*1050; SXGA, 1280*1024; UXGA, 1600*1200; 1366*768 XGA, 1024*768; SVGA, 800*600; VGA: 640*480	Video bandwidth	HDMI: 10.2Gbps DP: 10.8Gbps composite video: 150MHz Y-Pb-Pr: 150MHz VGA: 375MHz
Maximum pixel clock	165MHz	Switching mode	Quick Switch
Switching speed	200ns (maximum.)	Video switching	Quick Switch

VGA crosstalk	-50dB@5MHz	Video impedance	75Ω
Signal gain	0dB	Input/output level	0.5V~2.0Vp-p
HDCP	Compliant with High-bandwidth Digital Content Protection (HDCP) using DVI and HDMI 1.3 standards		
Audio input		Audio output	
Input format	7 stereo input 1 Microphone Input	Output format	1 Stereo master volume output 1 S/PDIF output 1 amplifier output
Input connector	4 Embedded Audio 1 BNC/RCA Audio input connector for compressed video and composite video 2 3.5mm VGA audio input plug 1 6.5mm microphone jack	Output connector	1 Captive screw connectors, 5 pole 1 S/PDIF Coaxial stereo interface 1 20*2 watts audio amplifier
Input impedance	>10Ω	Output impedance	>600Ω
Audio conventional parameters			
Pin Configurations	tip(L);ring(R);sleeve(grounding)	Stereo Channel Separation	>80dB @1KHz
Frequency Response	20Hz~20K Hz	Common-mode rejection ratio （CMRR)	>75dB @20Hz to 20K Hz
Controls parameter			
Control mode	RS232 serial port control, local area network	Front Panel Control	optional
Serial Control Port	RS-232, 9-pin female	Serial control port structure	2 = TX, 3 = RX, 5 = GND

Infrared control	Default infrared remote control	Network control	Local Area Network
Other specifications			
Temperature	-20 ~ +60℃	Humidity	5% ~ 95%
Power Supply	100VAC ~ 240VAC, 50/60Hz	Power Consumption	25W
Case Dimension	480（W） x 48（H） x 310(D) mm (1U case)	Product Weight	2.45Kg

Table 5.1 Technology parameters

6. Communication port connection and the remote control corresponding table

6.1 RS-232 Communication port

The CK5 offers standard DB9 RS-232 serial controlling port. It can be controlled by any other third party control device. RS-232connecror is 9pin female.RS232 pin chart is as follows:

Pin#	Name	Description
1	NC	--
2	TXD	Signal transmitter, connect to device RXD
3	RXD	Signal receiver, connect to device TXD
4	NC	--
5	GND	Connect to device GND
6	NC	--
7	NC	--
8	NC	--
9	NC	--

Table 6.1 RS - 232 port pin configuration

Attention：Please pay attention to TXD and RXD cable sequence when connecting the processor's RS - 232 port to the computer or central controller. As below:

Processor   Computer
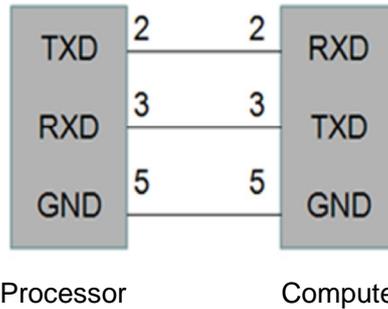
Figure 6.2 communication line structure's diagram

6.2 Table of remote control menu

Power: Powen on or enter standby

Auto: VGA signal position auto adjustion

Info: showing working staus

Screen up: motorized projector screen up

Screen down: motorized projector screen down

MIC mute: Microphone mute

MIC vol+: MIC volume +

MIC vol-:   MIC volume-

Line mute: LINE audio mute

Line vol+: LINE audio volume +

Line vol-: LINE audio volume-

Resol+: Resolution+

Resol-: Resolution-

Main Source: main source selection switch

PIP/POP on: switch between signal sourse, PIP mode, POP mode

Sub Source: Sub window input source selection switch

PIP Position: PIP position adjustable

PIP size: PIP size adjustable

Menu: open OSD menu, or back to previous menu

Enter: enter menu setting
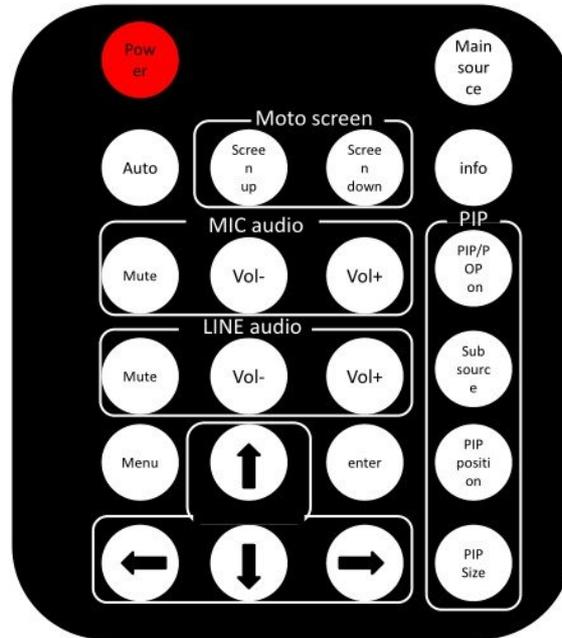
Table 6.3 Remote control menu

6.3 table of 9X control command

9X control command			
	command Format：character string， case sensitive		
	Network control：TCP protocol		
	Serial port control：baud rate：115200 data bits：8 stop bit：1 parity check： no		
NO.	Command type	command	Description
1	Power control	Power change	Power on/off
2		Power on	Power on. No reaction if the machine is on.
		Power off	Power off. No reaction if the machine is off.
3		Restart	Restart the machine.
4	Setting of output resolution(60Hz)	R 720P	Set the output resolution to 720P.
5		R 1080P	output resolution 1080P.
6		R 640*480	output resolution 680*480.
7		R 800*600	output resolution 800*600.
8		R 1024*768	output resolution 1024*768.
9		R 1366*768	output resolution 1366*768.

10		R 1280*1024	output resolution 1280*1024.
11		R 1400*1050	output resolution 1400*1050.
12		R 1600*1200	output resolution 1600*1200.
13		R 1920*1200	output resolution 1920*1200.
14		AV	main signal source is CVBS
15		YPbPr	main signal source is YPbPr
16		VGA1	main signal source is VGA1
17		VGA2	main signal source is VGA2
18		HDMI1	main signal source is HDMI1
19		HDMI2	main signal source is HDMI2
20		DP1	main signal source is DP1
21		DP2	main signal source is DP2
22	Signal source switching	PAV	PIP signal source is CVBS
23		PYPbPr	PIP signal source isYPbPr
24		PVGA1	PIP signal source isVGA1
25		PVGA2	PIP signal source is VGA2
26		PHDMI1	PIP signal source isHDMI1
27		PHDMI2	PIP signal source isHDMI2
28		PDP1	PIP signal source isDP1
29		PDP2	PIP signal source isDP2
30		Menu	Recall the menu
31		Left	Go to the left
32	Menu control	Right	Go to the right
33		Up	Go to the upward side
34		Down	Go to the downward side
35		ok	For confirmation
36		Mute	No Volume
37		Vol up	Increase the volume by 1 unit
38		Vol down	Decrease the volume by 1 unit
39	Volume control	Vol xxx	"xxx" is a decimal number, ranging from 0 to 100. To set the volume to a certain value, like "Vol 10".
40		Bass xx	To set the treble to a certain value , from 0 to 100.
41		Treble xx	To set the treble to a certain value , from 0 to 100.
42		Balance xx	To set the sound track balance to a certain value, from 0-20 ."0"is the biggest left channel , "10"is the balanced value and "20"is the biggest right channel.
36		MMute	Microphone mute
43		MVol up	Increase the microphone volume

			by 1 unit
44		MVol down	Decrease the microphone volume by 1 unit
45		MVol xxx	"xxx" is a decimal number, ranging from 0 to 100. To set the microphone volume to a certain value, like "Vol 10".
48	Image control	Bright xxx	To set the main channel brightness to a designated value."xxx" ranges from 0 to 100.
49		Contrast xxx	To set the main channel contrast to a designated value."xxx" ranges from 0 to 100.
50		Color xxx	To set the main channel chroma to a designated value."xxx" ranges from 0 to 100.
51		Sharpness xx	To set the main channel sharpness to a designated value."xx" ranges from 0 to 24.
52		ADCCal	ADC Calibration，Only effective to analogue
53		Auto	Automatic line and field synchronous adjustment,and only effective to VGA .
54	PIP control (Attention：screen size:100*100,top left corner （0，0），down right corner （100，100），and no relation to output resolution.	Pip on	Open the PIP
55		Pip off	Close the PIP
56		Pipb xxx	To set PIP transparency."xxx"value ranges from 0 to 100.0 is opacity,and 100 indicates the most transparent .
		Pip size	To recall the window size of preset PIP ,four options:present size,1/4, 1/2 in the left,full screen.
		Pip position	To recall the window positon of preset PIP ,six options:present position,top left corner, top right corner,lower left corner,lower right corner,center.
57		PipSize www,hhh	To set the PIP window size.The "www" value ranging from 0 to 100 indicates the window width."0"indicates unchanged and "100" the biggest width.The "hhh" value ranging from 0 to 100

			indicates window height."0 "indicates unchanged, "100" the largest height .
58		PipPos xx,yy	To set the central position of the PIP window."xx"indicates the horizontal coordinates and the value ranges from 0-99."yy"indicates the vertical coordinates and the value ranges from 1 to 99.When the coordinate is "0",it means the current coordinate is unchanged;when the central positon is contradictory to the window size,the position will adjust automatically.
59	Network module reset	NTFT	Reset the network module to initial value: IP address for 192.168.0.250, port for 27011, baud rate for 9600. Need to set the module again After reset

7. Common troubleshooting and maintenance

1) If the power indicator does not turn bright and the operation has no reaction, please check whether the power cable input is of fine contact .

2） If the power indicator turn bright, but no image and sound output, please check whether the device is in standby state. (In standby state, the small light on the right side of Ethernet port is red)

3) The picture partial color phenomenon or no video signal output, it may be both ends of signal line joint not to be connected properly.

4）If there is no audio output, please check whether the audio signal in corresponding signal channel is inputted, whether the volume is set in quiet state, or the speaker opens or not.

5) Serial port can not control the device,please check whether the communication port set by control software is the same as device's serial port, or check if the computer communication port is in good condition.

6) When the network can't control the device, please check whether the device is connected to the local area network or to find if the device's IP is occupied, The user can also change the serial control to confirm whether it is the problem of the device itself.

7) If the output image can not display normally, it is possible that input/output device is without good ground connection.

8) There are obvious static electricity when connect or disconnect connectors. Possible reasons:ground well.When the user connects or disconnects connectors, there are obvious static electricity;it is probably caused by wrong ground connection of the power supply ground wire . please make sure the right ground-connection.Or else,the wrong operation will damage the machine and shorten the lifespan.

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.

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