iMOS smart glass

User Manual

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一、Product Introduction

Product Profile

iMGS-MVT04T21 is an led video controller produced by iMGS which has integrated with a video processor and sending card. It supports quick led display set-up, without using the computer software to configure the connections of the led display, which has greatly simplified the on site debugging steps. It features a complete video image input interfaces,including:1x VGA,1x DVI,2xHDMI,1xDP,2xVideo(PAL/NTSC),and the Full HD Signal Input is supported; it features 4x Gigabit Ethernet Ports, the single unit could upload 2.6 million pixels, the widest horizontal resolution could reach up to: 3840 and the vertical could reach up to 1920.

Product Features

It features the top image processing chip of the industry, internal with the 12 digits processing,which has made a clearer image with richer color. The advanced interlaced motion adaptive processing technology, which eliminates the smearing and aliasing issue of the video's image motion. For the conventional PAL/NTSC videos,the output image will be clearer and more subtle, rich in details and full in color which has made the image quality a leading position in the industry.

Application Scenarios

It is suitable for a variety of application scenarios,such as the small and medium sized led displays in shopping malls, hotels,exhibitions,and television studios.

二、Introduction to its Functions

- ✧ 4 Ethernet Ports for Outputs,2.6 Million pixels could be uploaded, the single Ethernet Port could upload 650 thousand pixels; widest horizontal resolution :3840/ vertical:1920.
- ✧ It features multiple video input interfaces:1×VGA、1×DVI、1×DVI LOOP、2×HDMI 、1×DP 、2×Video(PAL / NTSC). SDI & SDI-LOOP (Optional).
- ✧ It supports instant switching between multiple signal input channels or fade in & fade out.
- ✧ No need to debug through the software on the computer, just a knob and button to quickly get the led display connected, easy and simple operation.

- ✧ It supports dual picture function, picture in picture or picture out picture could be realized, the size is adjustable.
- ✧ It supports the pixel to pixel scaling of the input image according to the resolution of the display.
- ✧ It supports multiple devices cascading connection.
- ✧ 2 x HDMI displays simultaneously
- ✧ It supports WIFI Control
- ✧ It supports user-defined EDID and management.
- ✧ It supports USB play.
- ✧ it supports timed lock.

三、Appearance Specifications

Basic Parameters

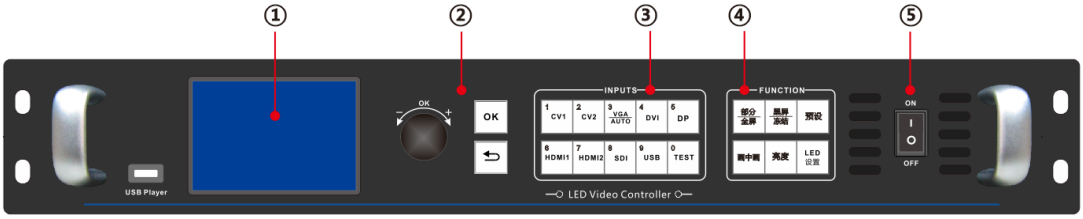
Loading Capacity	Single Ethernet Port	650 thousand pixels
	The entire unit	2.6 million pixels

Hardware Introduction

Interface Specification			
Interface Type	**Interface Name**	**QTY**	**Technical Parameters**
Video Interface	HDMI	2	Signal Standards：DVI1.0HDMI1.3 downwards compatible ; Supported Resolution：VESA Standard 1920x1200
	DVI	2	Signal Standards：DVI1.0HDMI1.3downwards compatible; Supported Resolution：VESA Standard 1920x1200
	DP	1	Signal Standards：DP1.1; Supported Resolution：VESA Standard 1920x1200
	VGA	1	Signal Standards: Analog RGB; Supported Resolution：VESA Standard 1920x1200

	CVBS	2	Signal Standards：PAL/NTSC; Supported Resolution：480i,576
	USB	1	Interface：USB2.0; Supported Resolution：Video 1080P downwards compatible with pictures 4096x2160 downwards compatible Supported Formats：rm,rmvb,mp4, mov, m k v, w m v, a v i , 3 g p jpg,bmp,png
	SDI	1	Signal Standards：SD/HD/3G-SDI Supported Resolutions：1080p/I 720p/i
Audio Interface	Audio	1	3.5mmAudio Interface Input Output Power：80DB Output Channel:LEFT AND RIGHT Supported Audio Channels：HDMI1, HDMI2, SDI，USB
Output Interface	Gigabit Ethernet Port (to connect to the receiving card)	4	Interface Type： RJ45 Transfer Speed：1000BaseTX Output Resolutions：Widest 3840 Highest 1920；2.6 million pixels Supported Receiving Card：iMGS All Series Receiving Cards and Multifunctional Cards

Front Panel



Front Panel Specifications		
No.	**Buttons**	**Specifications**
1	LCD	Displaying the Operation Menu
2	Operation Button	Knob to choose the Menu ESC Button
3	Inputs Source Switching Buttons	Input Source and Test Signal
4	Function Buttons	Dual Pictures Quick Switch Button Partial and Full Display Switching Button Picture Capture Quick Switch Button Brightness LED Settings
5	Power On/Off	Power ON/OFF

Rear Panel

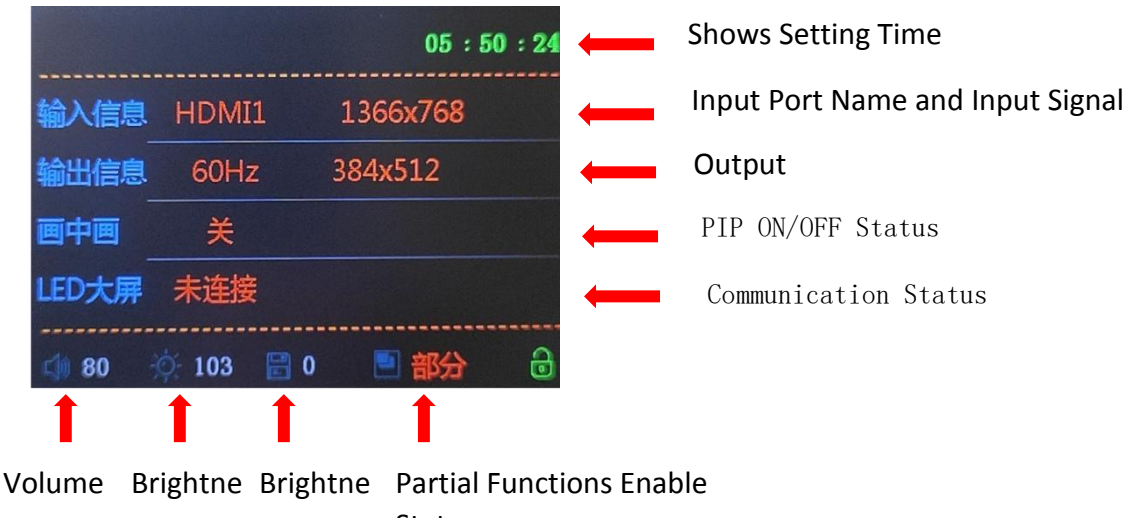
Rear Panel Specifications		
No.	**Interface**	**Specifications**
1	Power Interface	AC Power Input Interface 100V~240V
2	Video Signal Source	DVI：DVI Signal Input DVI-LOOP:DVI Signal Loop Out

		SDI:SDI Signal Input SDI-LOOP:SDI Signal Loop Out CV1、CV2：CVBS Signal Input DP：DP Signal Input HDMI1、HDMI2：HDMI Signal Input VGA：VGA Signal Input
3	Gigabit Ethernet Port	4xLED Ethernet Ports Output
4	Control Port	RS232：Serial Connection Port B Type USB:Debugging Port to connect to the PC
5	Antenna Interface	To connect to the WIFI Antenna ；Mobile APP Control

四、Operating Instructions

Main Interface

After the processor is turned on, the LCD Display shows the following main interface:



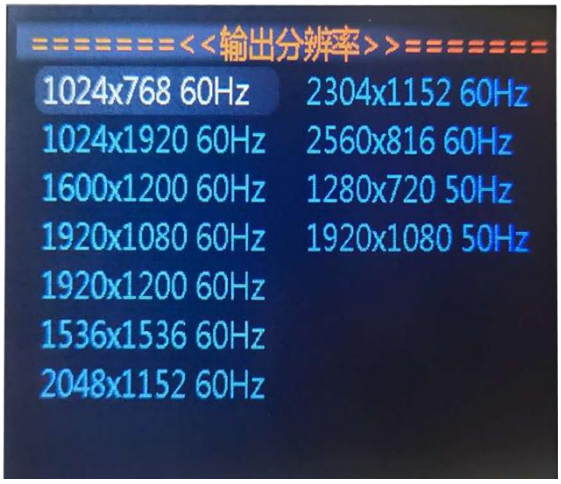
Menu Interface

Press the OK button to enter into the Menu Interface：

The Menu Interface has 6 main Menu Options: Output,LED Display, Splicing,Functions,Preset, System.

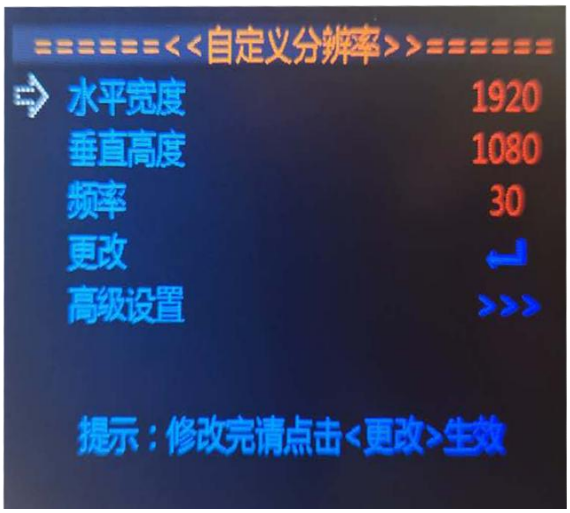
Output

1. 11 Specified Resolutions are set under the Conventional Resolution



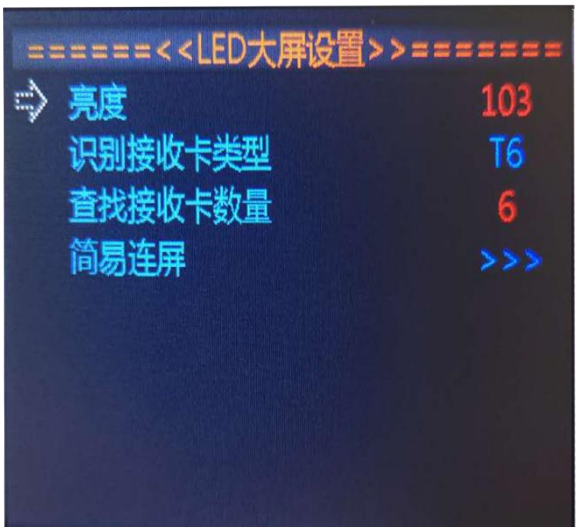
2. Custom Resolution,you can change the width, height and frame rate according to the resolution of the large screen(do not exceed the loading range that the device bears),the

minimum frame rate is 30HZ and the maximum is 60HZ.(Select the option to be changed and press OK to change).

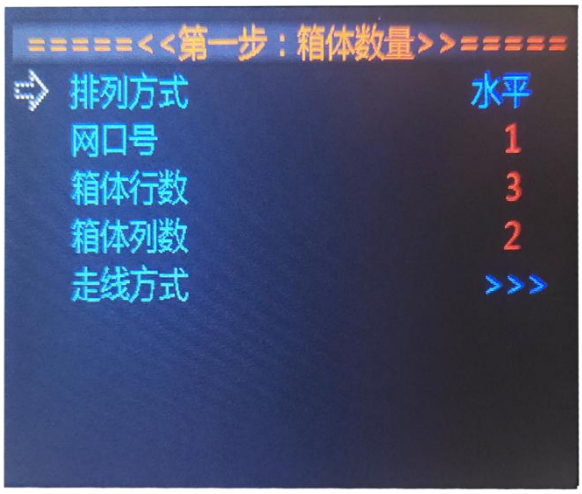


3. Horizontal Width: it refers to the width (resolution) it could be uploaded.
4. Vertical Height:it refers to the height(resolution) that it could be uploaded.
5. Horizontal Start: The Start Point default to 0, if that's needed, customer is able to change the start point offset X Axis according to the requirements.
6. Vertical Start: The Start Point default to 0, if that's needed, customer is able to change the start point offset Y Axis according to the requirements.
7. Reset: If you need to reset the parameters, the reset function could clear all the parameters that have been set.

LED Display



1. Brightness: the display value is what the current screen brightness is, the maximum is 128 and the minimum is 0.
2. Identify the type of the receiving card: it could be detected that the current led display is of T6 Type or FPGA Type.
3. Check the QTY of the receiving Card: it could detect how many receiving cards are currently being used on the led display.
4. Simple Connection: As following Picture Shown



(1) Arrangement: there are 3 ways of arrangement: horizontal,vertical and 2x2.

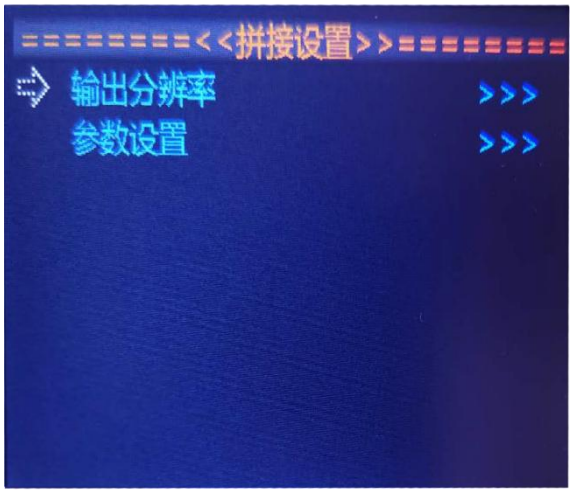
(2) Network Port#: to select 1 to 4 network port cabinets to make the connection diagram.

(3) Numbers of Lines: the number of horizontal receiving card on the led display screen.

(4) Numbers of Columns: the number of vertical receiving card on the led display screen.

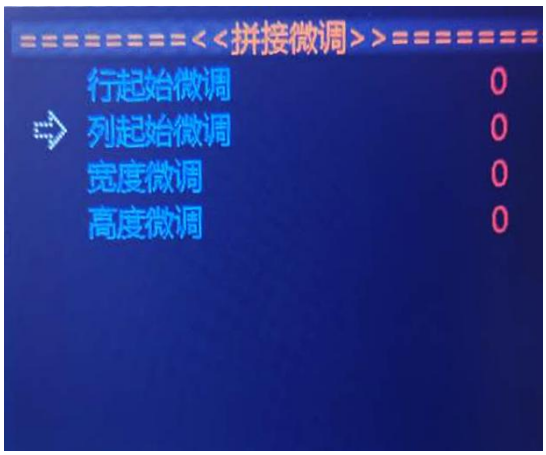
(5) Routing Method: there are 8 conventional wiring diagrams in the equipment,as shown below:

Splicing



1. Output Resolution: as it has already been introduced above, we won't explain it here again.
2. Splicing Parameters Settings: As shown

1. Splicing Switch: Before Splicing, the splicing switch must be turned on.
2. Splicing Synchronization: Splicing Synchronization.
3. **Total** Horizontal Width: refers to the current value of the led display width.
4. Total Vertical Width: refers to the current height value of the led display.
5. Horizontal Start: The starting Point of each sending card(Ethernet Port) is 0 by default. You can change the starting point to get the picture splicing.
6. Vertical Start: The starting Point of each sending card(Ethernet Port) is 0 by default. You can change the starting point to get the picture splicing.
7. **Fine Adjustment of the Parameters**



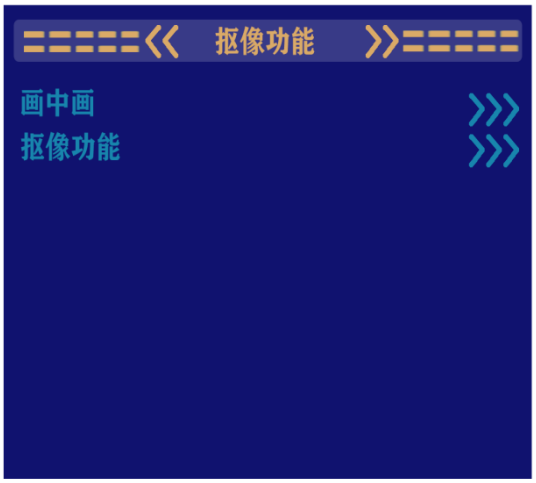
（it could avoid the small resolution deviation of the led display so that you may need to adjust the parameters again）

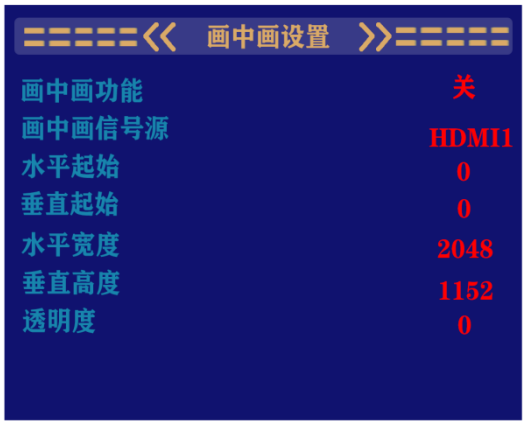
8. Reset: only with one key you could get back to the state when it has no parameters at all,and to reset the parameters.

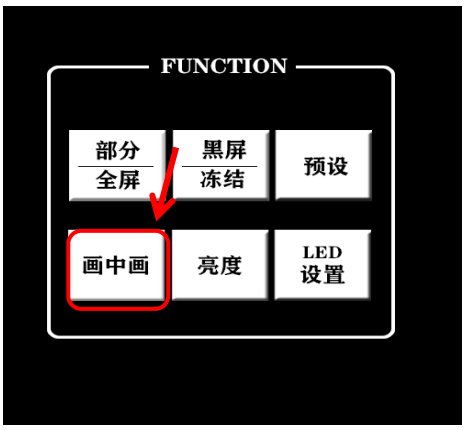
Functions

1. Picture in Picture Function:

(1) PIP

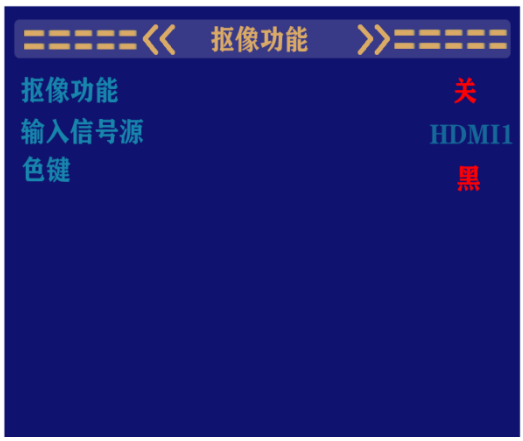






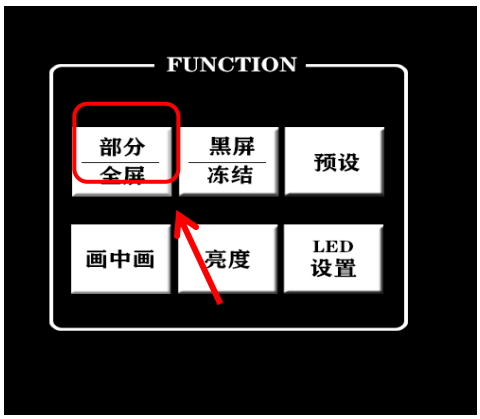
To turn on the picture in picture function of the processor and set the starting point of the video source, the width and height parameters of the PIP so as to achieve the PIP on the same output. There is also a quick One-Key PIP on the device.

(2) Keying Function



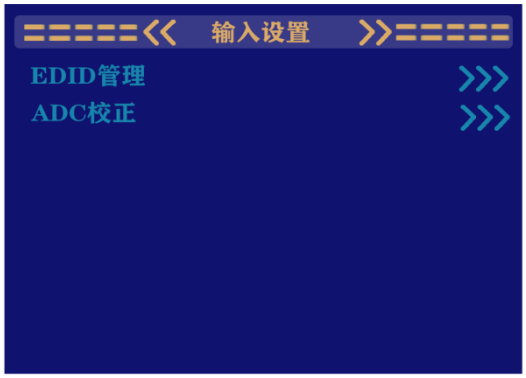
Turn on the keying function of the processor, switch the input signal source to the current used signal source of the led display, and the color keys are : Red,Black,Blue and Green.

2. Partial Function



Partial functions: the size of the displaying area of the led display could be set according to the users themselves, or it could be set as that the system automatically force to compress it into a full screen. There is also a quick one key to display partial or full screen.

Input Settings



EDID Management: Modify the EDID of Input Signal such as: HDMI and DVI, which including resolutions,refresh frequency parameters.

(1) .Input: switch the input signal source

(2) .Horizontal Width: to change the resolution width.

(3) .Vertical Width: to change the resolution height.

(4) .Frequency: the frequency could be customized, the minimum is 30HZ and the maximum is 60Hz.

(5) .Burn: after changing above parameters, you must click burn to switch the changed EDID

(6) Reset: get back to its original state then you can set the parameters again(you can choose the certain signal source to reset)

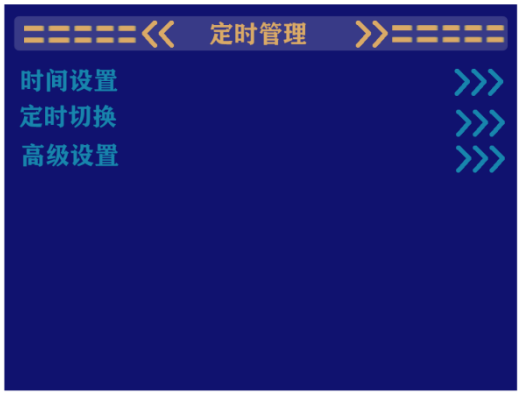
ADC Calibration；

You can enable ADC calibration function of CV1、CV2、VGA、HDMI2 signals .

Audio Management

Volume: adjust the volume of the device from 0-100

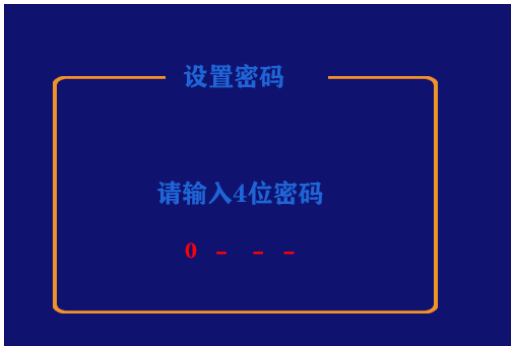
3. Timer Management



Time Setting

Timed Switching: you could switch to the preset parameters which have been saved beforehand, and you could save maximum 10 preset modes.

Advanced Settings: A 4-digit password could be set as the device protection.

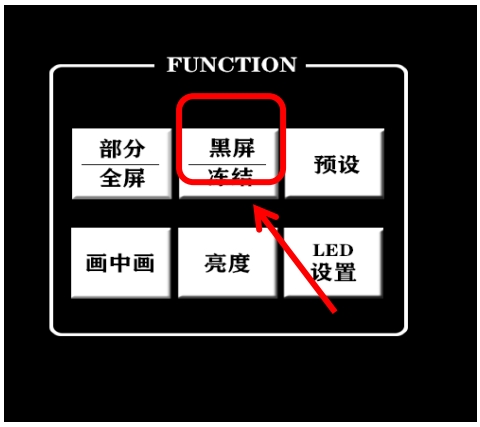


4. Fade in /Fade Out time

0-10 value, the larger the value is the slower switching response it will get.

5. Black Screen/ Freeze Button

You can get the screen to be black or get it frozen with one button.



6. Image Management

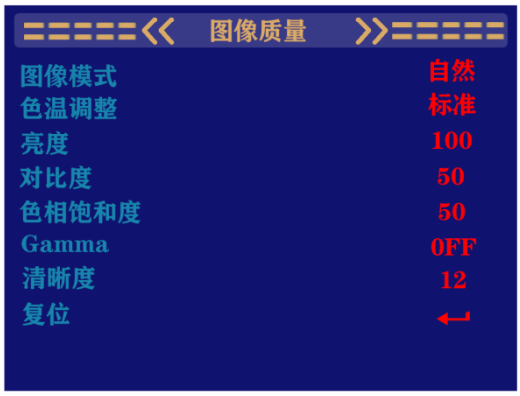


Image Modes: Natural,Soft,Dynamic

Color Temperature: Standards, Cool,and Warm

Brightness:0-100, the brightness could be set according to the certain requirements.

Contrast Ratio:it could be adjusted to your favorite image mode

Hue Saturation: you can adjust the hue saturation to make the image color more intuitive.

Gamma:You can adjust the value of the Gamma that the device hasn't got in.

Definition: it has 24 levels of the definition value, it could be adjusted according to the site requirements.

Reset:get back to its original state then you can set the parameters again(you can choose the certain signal source to reset)

7. VGA Setting

In the case of using VGA signal source, the parameters can be set according to the requirements. By default, the video processor is output in automatic mode. If the image output to the LED screen is normal, there is no need to modify it; if the image

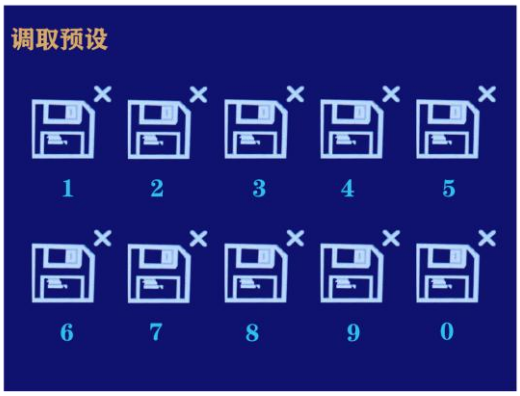
output to the LED screen is missing , Offset or other issue and then it requires a manual modification of the parameters.

8. WIFI Management

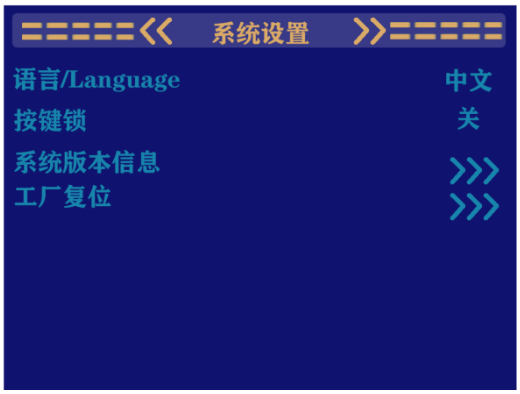
Using the WIFI function then you can set the WIFI parameters and the IP

Preset

10 preset parameters could be saved, and you can use them with just one key's press.



System



Language: Chinese and English language can be switched according to customer's requirements

Key Lock: The key lock can prevent the touch of the signal source button during use, which could causes signal source of the screen to be wrong.

System Version Information: You can see whether the device version is the latest or not.

Factory Reset: Restore Factory Settings

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

Warning: changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

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Radiation exposure statementÿ thisequipment compliance with FCC radiation exposure limits set forth for an uncontrolled environmentÿ

this equipment should be installed and operated and operated with minimum

distance 20cm between the radiator and your body