MAGNIMAGE

# LED-F902

# LED Video control server

**Instructions for User, V1.1**

⚠ Before using the LED video control server, please read the instruction manual carefully and keep it properly for future reference.

MAGNIMAGE

# statement

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The product specifications and information mentioned in this manual are for reference only and are subject to updates without notice. Unless otherwise agreed, this manual is only used as a guide for use, and all statements, information and so on in this manual shall not constitute a guarantee of any kind.

## update log

| Document version | release time | Update instructions |
|---|---|---|
| V1.0 | 2024-07-10 | First release |
| V1.1 | 2024-11-20 | ● Increase the electrical status<br>● Adjust the Sync lock Settings menu |
| V1.2 | 2025-07-01 | Support free cable connection function |
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# catalogue

# brief introduction

Thank you for purchasing our LED video control server. I hope you can experience the excellent performance of the product. The LED video control server is designed to comply with international, industry standards, but it can still cause personal injury and property damage. To avoid the potential hazards and benefit from your equipment whenever possible, follow the relevant instructions in this manual when installing and operating the product.

## brand royalty

- VESA is a trademark of the Video Electronic Standards Association.
- The HDMI, HDMI logo and High-Definition Multimedia Interface (High-definition Multimedia Digital Interface) are all trademarks or registered trademarks of HDMI Licensing LLC.
- Even if the company or the product trademark is not specifically specified, the trademark has been fully recognized.

## About software

It is not allowed to change, decompile, reverse compile, decrypt or reverse engineer the software installed on the product. The above acts are all illegal.

## product features

- Standard equipped with multiple input interfaces: HDMI 2.0 X 1, DP1.1 X 1, DVI X 2, Audio in X 1
- Support the optional one port 3G SDI
- Support for HDMI 2.0 loop out
- Support quick light-up screen, no need computer software connection
- Support for 4K@60Hz, RGB 4:4:4
- Support the layer size and position adjustment and image crop function
- Support free cable connection
- Support 6 layers
- Support the seamless switching of the input signal and the preset
- Supports custom output resolution
- Support for external and independent audio input and output
- Support custom input EDID
- The single network port carries 2.2 million pixels, and the whole unit max width is 8192 pixels and max height is 3840 pixels
- Support for template saving and retrieving
- Support for connecting the MAGNIMAGE C-Link series receiving cards
- Support receiving card serial number calibration, switch on the intelligent serial number to visually check the position of the cabinet
- Support network port communication, set up multiple area network control, realize wireless screen adjustment
- Support central control
- Support output freezing
- Support time tasks
- Supports subtitles
- Support for light port hot backup
- Support multi-machine splicing

## Port extension

3G SDI input source, and the expanded model is shown in the following table:

| Basic model | Available for extension modules | Corresponding product model |
|---|---|---|
| LED-F902 | Extend the external 1-sheet SDI input module | LED-F902S |

## safety instruction

The input voltage range of the power supply of this product is 100~240V, and 50 / 60Hz.Please use the correct power supply.

When you want to connect or remove any signal or control lines, confirm that all power cords have been removed.

When you want to add the hardware device to this product or when you want to remove the hardware device from this product, please confirm that all the signal cables and power cables have been removed previously.

Before any hardware operation, turn off the LED video control server and release the static electricity from your body by touching the ground surface.

Please use it in a clean, dry and ventilated environment, do not put this product in high temperature, wet and other environment.

This product is electronic products, please stay away from the fire source, water source and flammable, explosive dangerous goods.

There are high pressure parts in this product, please do not open the chassis or repair the equipment by yourself.

If you is smoke, odor and other abnormal conditions, please turn off the power switch immediately and contact the dealer.

# function Introduction

## summary

LED-F902 is a video controller integrating video processing, splicing, switching and LED screen transmission card functions by MAGNIMAGE. This series integrates various professional input interfaces, support up to 4K x 2K / 60Hz, LED-F902 with 4.40 million pixels, support 4 gigabit port output; can be used with the companys Mach series receiving card.

The video control server supports EDID management and customized output resolution. The widest output of a single machine can reach 8192 pixels, and the refresh rate can reach up to 120 HZ, which greatly improves the utilization rate of output bandwidth. The output image can be scaled point by point according to the actual size of the LED display.

Complete video input interface: DVI x 2, DP1.1 x 1, HDMI 2.0 x 1, HDMI2.0 LOOP x 1 (HDMI 2.0 signal source), AUDIO IN & OUT support, 1 x 3G SDI input source optional. And support network, square port USB and RS232-port control, network port built-in router function, can realize the cascade control of multiple machines, convenient interconnection control with a variety of video devices control.

# Figure of the front panel


| Key instructions | | | |
|---|---|---|---|
| Spinning knob | Use in menu operations to select menu items and adjust the parameters | DVI1 | The DVI 1 input port selection key |
| ⮌ | Return to the key, return to the previous level menu | DVI2 | The DVI 2 input port selection key |
| LAYER 1 | Layer 1 | HDMI | The HDMI input port selection key |
| LAYER 2 | Layer 2 | DP | The DP input port selection key |
| LAYER 3 | Layer 3 | OPT | The OPT input port selection key |
| LAYER 4 | Layer 4 | SDI | The SDI input port selection key |
| LAYER 5 | Layer 5 | | |
| LAYER 6 | Layer 6 | | |

# The rear panel is shown

LED-F902S

# technical specifications

| Input Specifications | | |
|---|---|---|
| port | Number of | Resolution specifications |
| DVI | 2 | Maximum resolution: 3840 x 1080 / 60Hz, downward compatibility<br>Support for EDID management |
| DP 1.1 | 1 | Maximum resolution: 3840 x 1080 / 60Hz, downward compatibility<br>Support for EDID management<br>Custom resolution, MAX width 3840 pixels,MAX height 2160 pixels |
| HDMI 2.0 | 1 | Maximum resolution: 3840 x 2160 / 60Hz, downward compatibility<br>Support for EDID management<br>Custom resolution, MAX width 4094 pixels,MAX height 3840 pixels pixels<br>Inbuilt audio is supported |
| 3 GSDI (Optional) | 1 | Support for HD-SDI, 3G-SDI |
| Audio in | 1 | 3.5mm interface, can be connected to audio, |

**Description: Only layer 6 supports signal processing of HDMI, DDI, DVI and SDI**

DVI 2 and DP1.1 are optional for use;

| Output Specifications | | | |
|---|---|---|---|
| model | port | number | Resolution specifications |
| LED-F902S | Gigabit network port | 4 | The whole machine carries 4.40 million pixels with the maximum band, and the single network port carries 2.20 million pixels<br>The widest limit: 8192 pixels, the highest limit: 3840 pixels<br>Network port fixed 2 main 2 backup<br>Maximum refresh rate: 120Hz |
| | HDMI 2.0 LOOP | 1 | The signal source of HDMI 2.0 can be loop, and the resolution of the loop is consistent with HDMI 2.0 |
| | Audio out | 1 | 3.5mm interface, support HDMI 2.0 audio parsing |

| | | | |
|---|---|---|---|
| | | | output |

| control interface | |
|---|---|
| Network port communication port | Two RJ 45 control ports, with connected upper computer or multi-stage cascade communication |
| Square port USB communication port | Used to connect the upper computer computer |
| The RS232 port | Used for central control |

| Complete machine specification | |
|---|---|
| Enter the power | 100-240V AC~50/60Hz 0.6A |
| working | 0-45℃ |
| outline dimension | 482.6×36 2×44mm (L × W × H) |
| net weight | 4. 1 KG |
| Complete machine | 5 0W |

# Use the menu

The menu system using the product can be convenient and intuitive to set the local machine to meet the users requirements.

The video control server uses a full-color LCD screen to display the entire user menu. When the user has no operation or the operation timeout. If the keys in the front panel of the machine are used to set the machine, the LCD screen will display the corresponding menu according to the user's operation to prompt the user to conduct better, faster and more intuitive operation.

The following will combine the key function and LCD screen display to introduce the video control server menu system.

## How to use keys

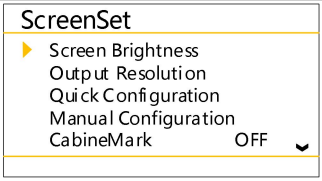
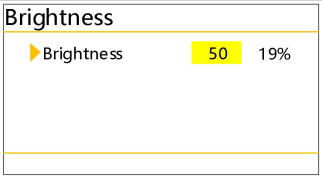
The front panel button of the video control server is divided into three areas, namely: MENU, LAYER, and INPUT

### MENU:

This area contains 1 return button and 1 knob:⮌Key and knob, the knob can be pressed to confirm the button.

Short press “Knob”, its function is confirmation key; when press the return key (⮌), The menu system returns to the previous menu until it returns to the default state.

In the main menu, the confirmation key is also used to switch between the browse and set modes, for example:

| Browse mode | Set the mode |
| --- | --- |
|  |  |
| ↖ Confirm button, tap the "knob" to switch ↗ between the above two modes | |

In browse mode, rotate the knob counterclockwise with the cursor moving upward or left; rotate the knob clockwise with the cursor moving lower or right. When moving the cursor to the item to be adjusted, press the knob or confirmation button to enter the setting mode, then rotate the knob counterclockwise to reduce the current parameter value and rotate the knob clockwise to increase the current parameter value. To continue setting up additional items on this page, switch back to browse mode. To return to the previous menu, use the return key; if adjusted, press the return key to return to the superior menu until the default state.

## LAYER:

This area contains 6 keys: 1,2,3,4,5,6 respectively corresponding to the 6 active layers inside the machine.

Long press the key for 3 seconds to open or close the corresponding layer. The opened layer will display LAYER in green in the menu. For the currently selected layer, the key displays in red.

Short press to select this layer.

## INPUT:

This area contains 6 keys: DVI 1, DVI 2, HDMI, DP, OPT, and SDI.

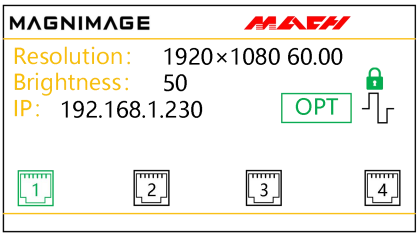
To select the input signal: press the layer button in LAYER area, then press the input button in INPUT area.

The currently selected one is in red.

## Default status introduction

After turning on the power of the video control server, the LCD screen on the front panel. After the startup, the default state of the current machine, demonstrated by LED-F902S, as shown in the figure below:

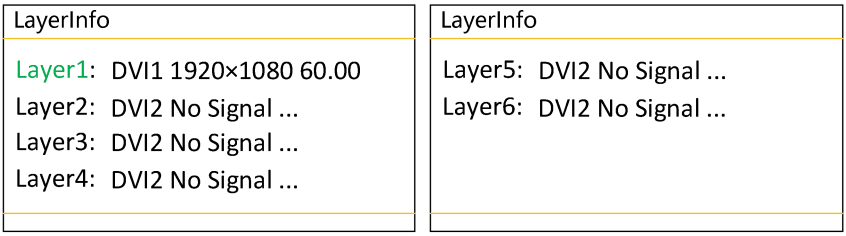
LED-F902S:




The information in the figure above is described below:

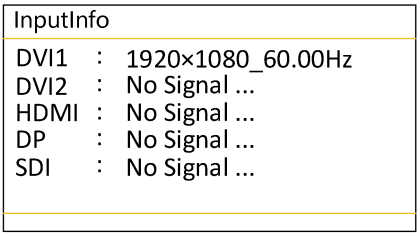
| Initial interface information | explain |
|---|---|
| Resolution | Output resolution of the current device |
| Brightness | Display brightness value of the current LED display |
| IP | The IP address of the local machine |
| OPT | OPT icon shows green cable communication is normal, shows gray cable or communication is abnormal |
| | Device is locked, unlock password: 1234 |
| | Synchronization icon, indicating multi-machine splicing synchronization |
| 1 | Network port serial number, the current network port is connected to the network cable, the network port will become green display under the normal communication |

Rotate the button clockwise in the default state:




You can clearly see the signal source corresponding to the layer and the resolution of the signal source

Continue to rotate the knob clockwise to see the following below:




You can clearly see the input state and the input resolution of all the signal sources

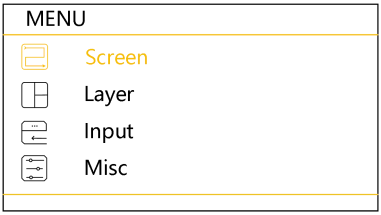
# Main menu introduction

In the main menu, the user uses the"⮌"Key and the knob of these two buttons to select and adjust each item. The operation mode is listed below:

| symbol | explain |
|---|---|
| Open the main menu | Press the rotation knob in the default state |
| Select each project | The rotary knob selects for each item |
| Adjust the parameters | When the right end of the item is a number or an option parameter, rotate the knob |
| Go to the next level of the menu | When the right end of the item is called ►, press the knob key |
| Execute a function | Use the knob to select the item and press the knob button |
| Return to the superior menu | press"⮌"key |
| Confirm the operation | In order to avoid misoperation, the "knob" key is used to confirm the operation |

## primary menu

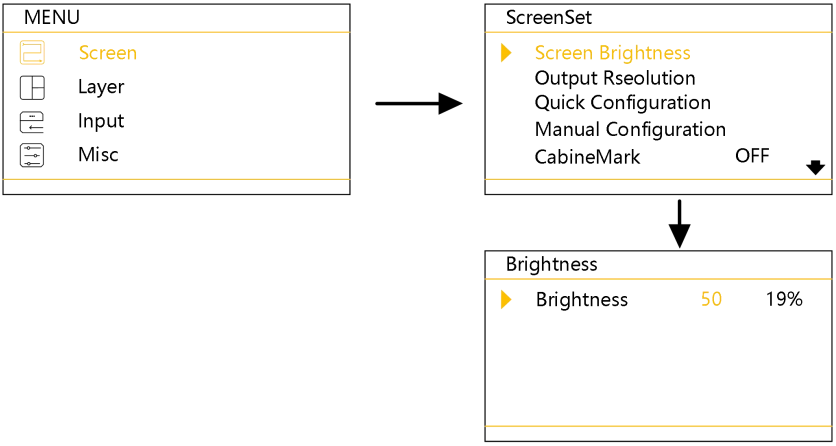
In the default state, press the "knob" button, the menu system will enter the main menu state, as shown below on the LCD screen:



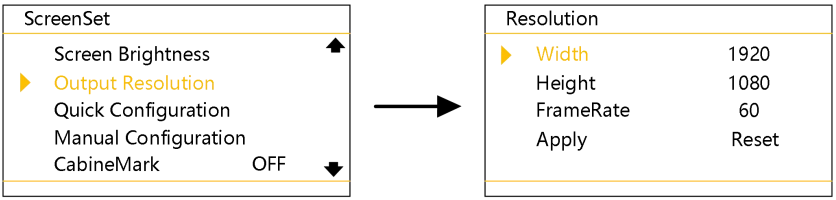

There are 4 menu items in the main menu. After selection, press the "knob" key to enter the selected item and press"⮌"Key returns to the upper level menu.

## Large screen configuration

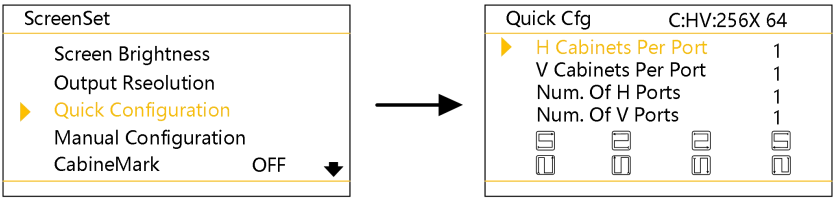
Screen brightness:



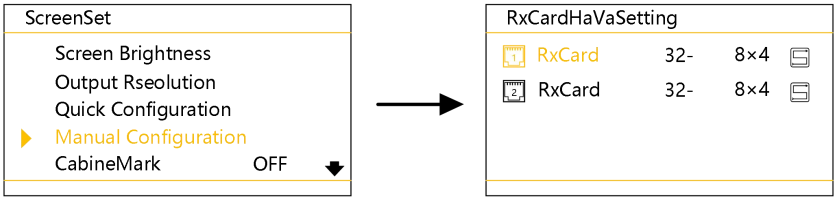

Output resolution:



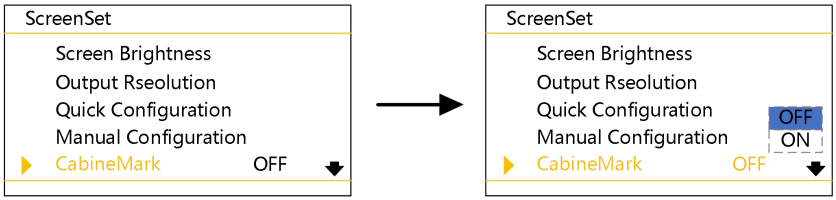

Quick configuration:



Manual configuration:




CabineMark:



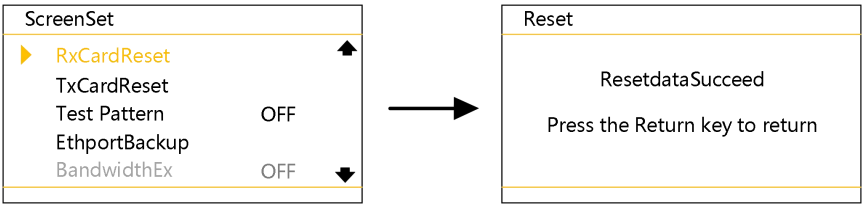

| | |
|---|---|
| Screen brightness | You can debug the large screen brightness (default is 50, brightness range 0~256) |
| Output resolution | Customize the output resolution of the setup device |
| Quick configuration | The display should be regular, non-alien, and the box size and resolution When the width and height of the box, the cable routing mode is the same, and the serial number of the network port is connected in turn, the screen can be quickly completed through the quick configuration function |
| Manual configuration | The display should be regular, non-alien, and the box size and resolution Set the parameters of width and height of box body and horizontal / vertical position of network cable offset for each network port |
| CabineMark | When the box mark is opened, the large screen will display the network port number and receiving card number of each box, so as to make the connection diagram intuitively |

**Description: The internal quick configuration and manual configuration function do not support free routing and automatic empty function**

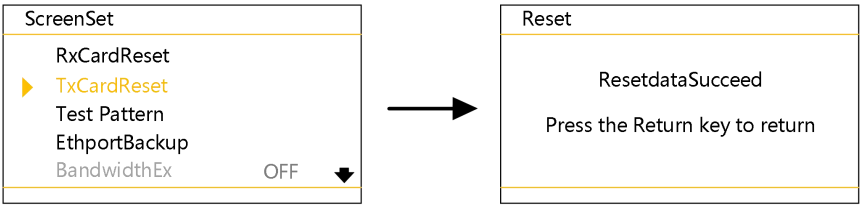
CabineMark (MAPPING) diagram:


**Description: The number in the upper left corner is the network port number, and the middle number is the box number**

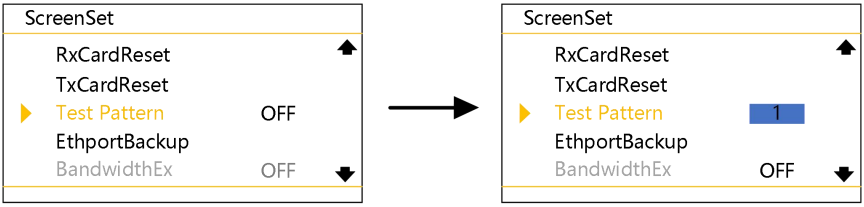
## Rx card reset:




## Tx card reset:




## Test Pattern:

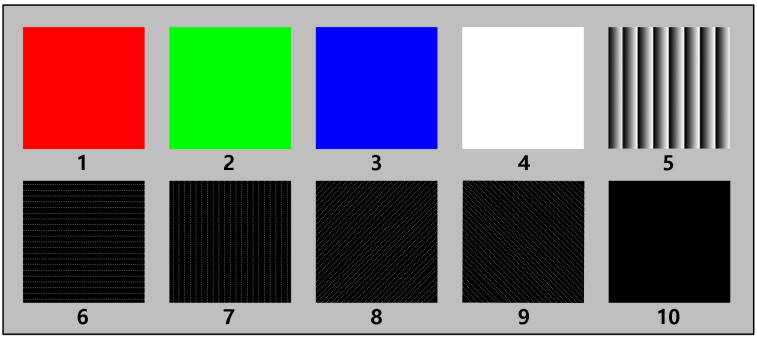



Test drawing card 1~10

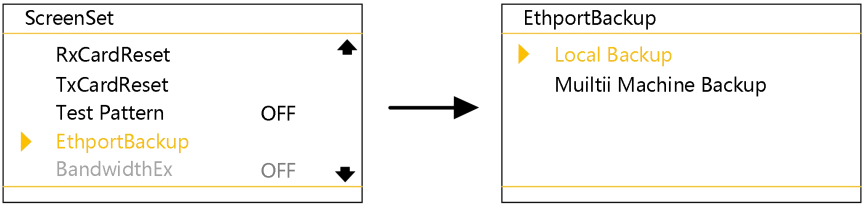
| | |
|---|---|
| Rx card reset | Reset the reception card brightness, color temperature, Gamma and |

| | |
|---|---|
| | other parameters |
| Tx card reset | Reset the sending card connecting screen parameters |
| Test pattern | The default is off state, supporting 10 map card test screens |

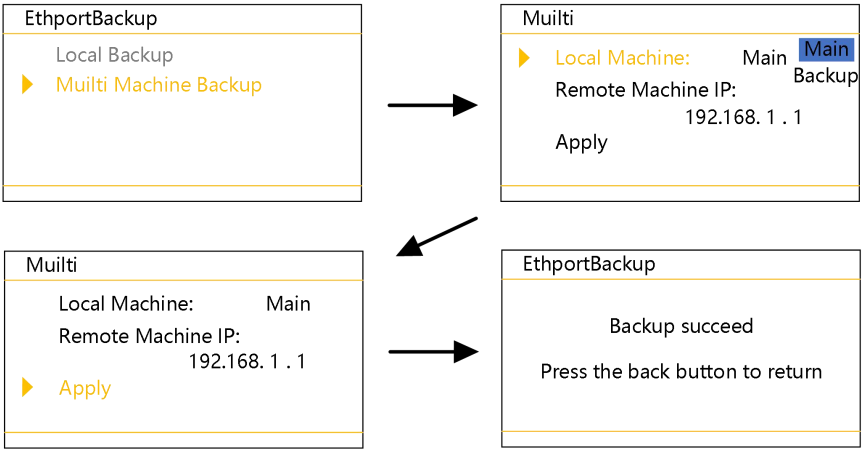
Test Drawing card style:



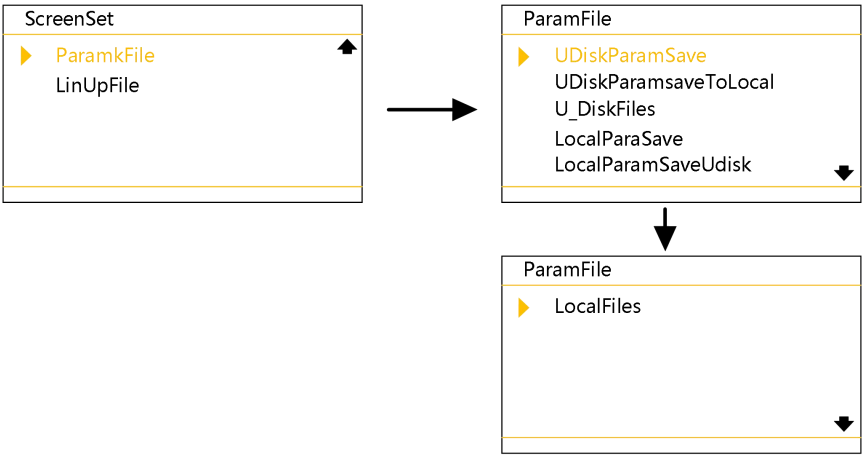

## Ethport backup:




Multi-machine backup:

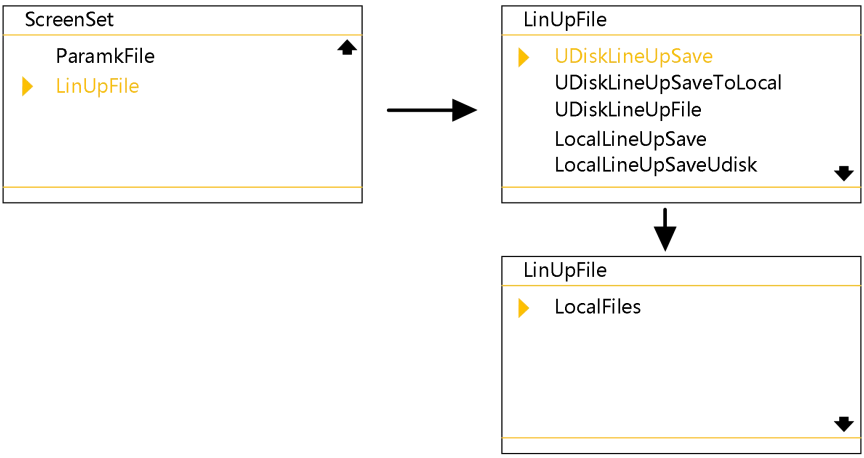


Param file:




| | | |
|---|---|---|
| Ethport backup | Local backup | This function is not available, the device is mainly fixed network port 1-2, network port 3-4 for backup |
| | Multi-machine backup | When multiple machines are in the same LAN, you can choose another device as backup or mainly, and set another IP address to achieve fast backup |
| Bandwidth expansion | This feature is not available | |
| paramr file (form:DTR) | U disk param save | Save the screen single-box parameters to the U disk |
| | U disk parameters Save to local | Save the U-disk screen parameters to the machine |
| | U-disk files | Get all the screen parameter files in the U disk |
| | Local para save | Save the screen parameters to the machine |
| | Local parameters Save to U disk | U disk that save the parameter files stored in the machine |
| | local files | Obtain all single box parameter files stored in the machine in DTR |

Screen file:

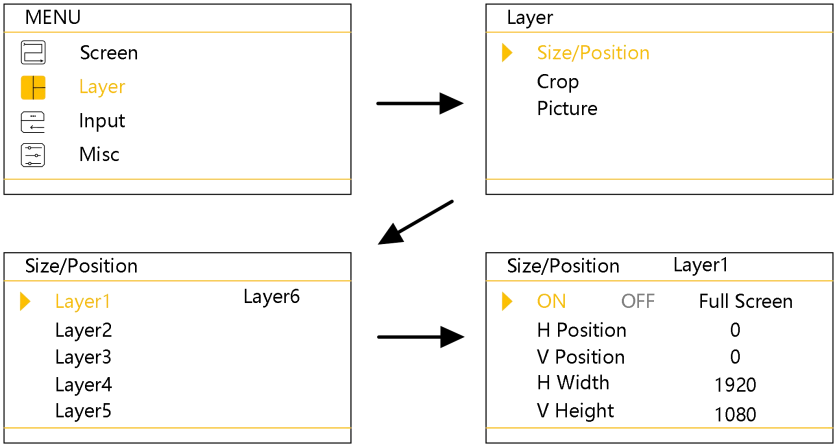



| | | |
|---|---|---|
| Even screen file (form:LMC) | UDiskLineupSave | Save the display connection cable file to the U disk |
| | U disk lineup save to local | Save the in-disk U display connected to the wire file to the machine |
| | U disk lineup file | Obtain all display screens in U disk |
| | Local lineup save | Save the display-connected routing file to the machine |
| | Local lineup save U disk | Connect the display stored by the machine to the U disk |
| | local files | Obtain all display connection files stored in the machine |

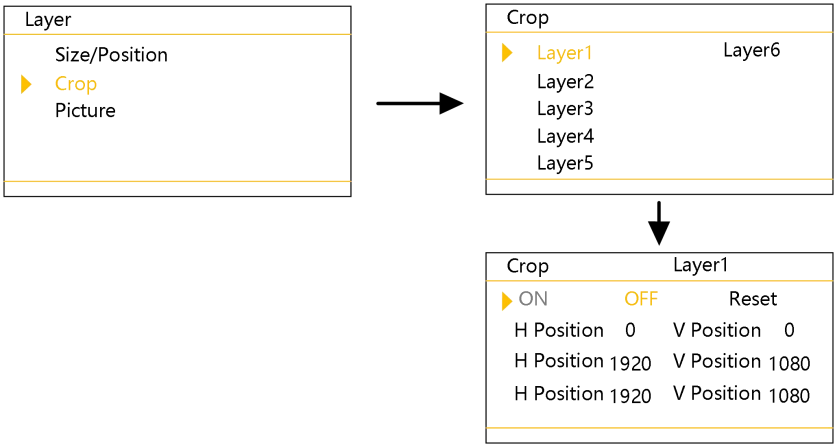
**Note: The function of single box parameter file and screen file should be inserted into U disk in the USB interface of the device, and the USB can be switched to U disk file in the communication Settings. If the U disk is not inserted or the USB communication to U disk file is modified, some functions are not available in gray.**

## Layer Settings

Size / position:



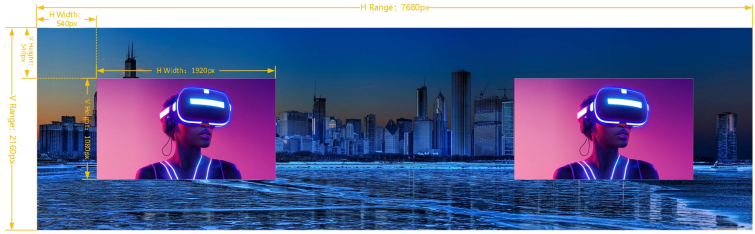

Crop:




| | | |
|---|---|---|
| Size / position | You can change the horizontal position, vertical position, vertical width, and vertical position of each layer | |
| Crop | Each layer can be intercepted independently without affecting each other, and this intercept is the signal source intercept of the layer | |
| | horizontal position | The maximum value is the difference of Horizontal Width minus Horizontal Width |
| | Vertical position | The minimum value is 0, and the maximum value is the difference of Vertical Height minus Vertical Width. |
| | Horizontal width | The maximum value is "the width of the horizontal baseline" |

| | | |
|---|---|---|
| | vertical height | The maximum value is "the height of the vertical reference" |
| | horizontal reference | Configure the width of the input resolution |
| | Vertical reference | Configure the height of the input resolution |

Figure of intercept:

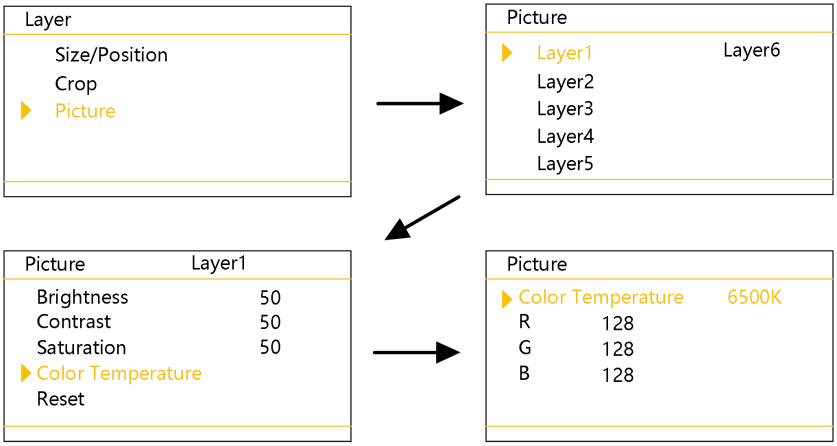



**Note: The horizontal / vertical reference parameters can be simulated as the resolution points of the front-end input signal. If the left portrait picture is captured in the figure above figure, the parameters are set as shown in the table:**

| | | | |
|---|---|---|---|
| horizontal position | 270 | upright position | 270 |
| Horizontal width | 1920 | vertical height | 540 |
| horizontal reference | 7680 | Vertical benchmark | 1080 |

Interception the resulting picture

picture:




| | | |
|---|---|---|
| picture | luminance | Range 0-100, with a default value of 50 |
| | contrast ratio | Range 0-100, with a default value of 50 |
| | colour temperature | 4000K, 5000K, 6500K, 7500K, 8200K, 9300K, 10000K, 11500K, user and other 9 modes |
| | reset | Return the brightness, contrast, and color temperature parameters set by the user to the factory default value |

Color temperature effect:

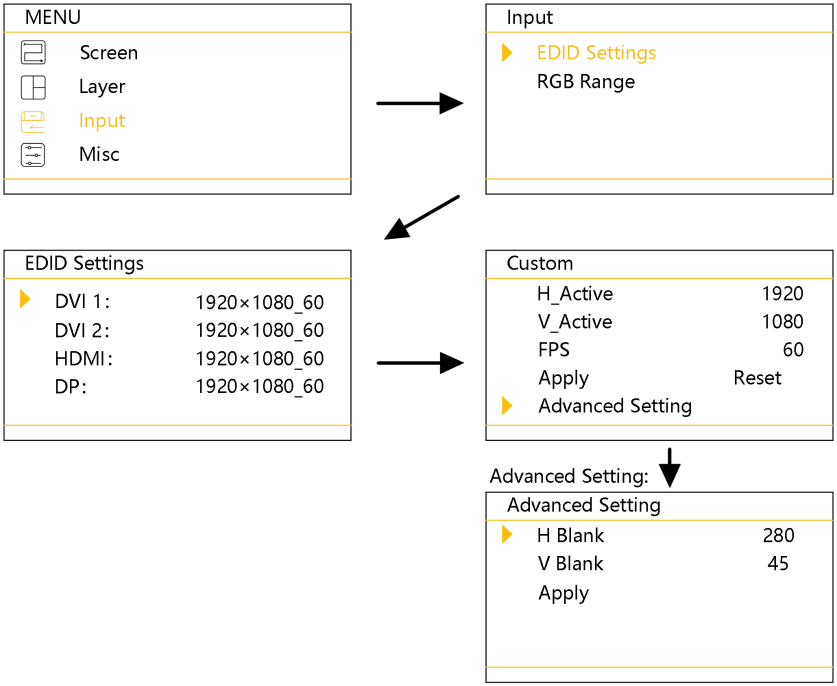
Warm (<6500K)

Normal (6500K)

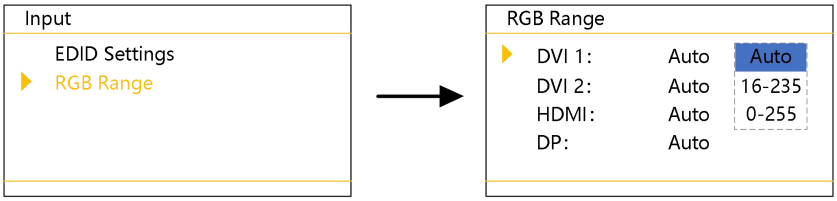
Cold (> 6500K)

## Input settings

EDID setting:




RGB Range:

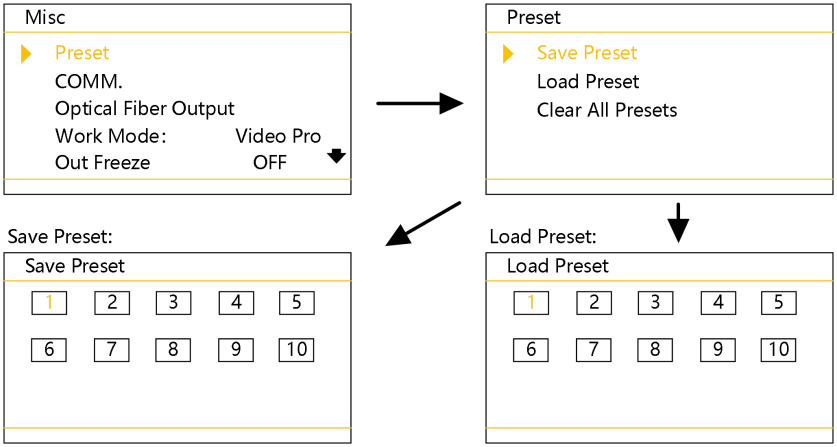



| | |
|---|---|
| EDID select | Support DVI, HDMI, and DP input EDID management |
| H_ Active | Custom horizontal width |
| V_ Active | Custom vertical height |
| FPS | Custom refresh rate, refresh rate range: 23-241Hz |
| advanced setting | Adjust the input H and V Black parameters and select Apply to take effect |
| RGB range | The color range of DVI, HDMI and DP input can be modified into "automatic", "0-255" and "16-235" |

**Note: After setting the EDID, different computers, different graphics card output, may need to restart the computer or unplug the signal line, in the computer display Settings menu, select the corresponding resolution.**

## Function Settings

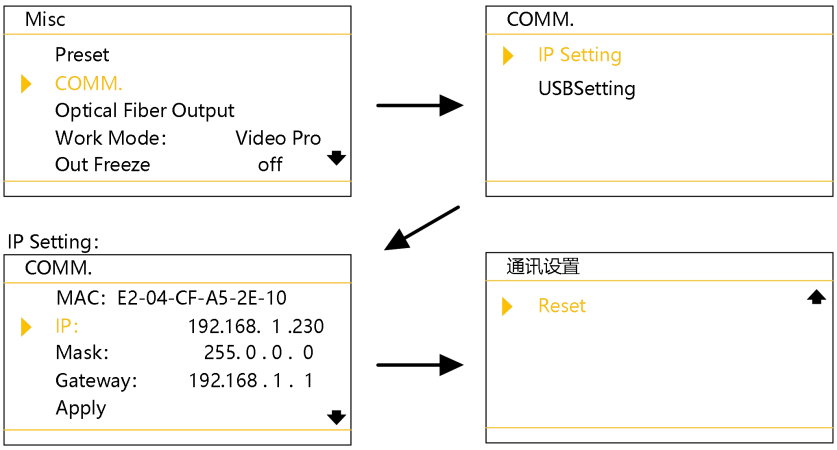
Preset:



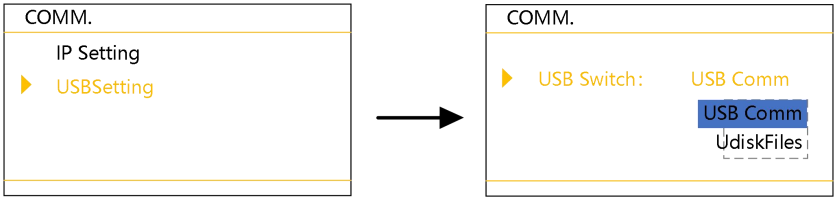

Clear all presets:


| | |
|---|---|
| Save the preset | Enter the save preset interface, save the preset by rotating the knob selection and pressing the knob button |
| Load preset | Enter the loading preset interface, perform the preset loading by rotating the knob selection and pressing the knob key |
| Clear all presets | Clear all user-saved presets by rotating knob selection and pressing button |

## Communication Settings:

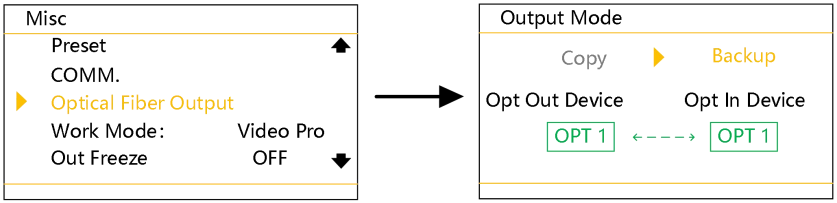



USB setting :




Machine LCD LCD panel display

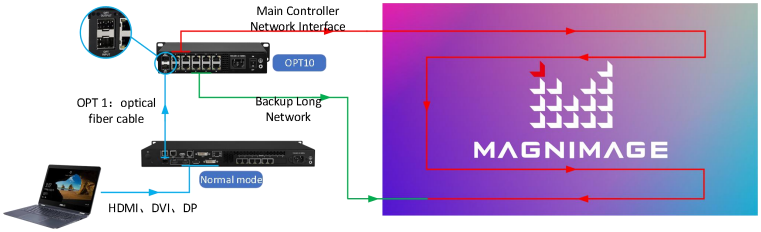
## Fiber output settings:




| | | | |
|---|---|---|---|
| Communication Settings | IP position | You can change the native IP address | |
| | USB set up | USB communication | Switch to this mode, you can use the square port USB communication |
| | | U disk file | Switch to this mode, you can upgrade the machine using the flat port USB |

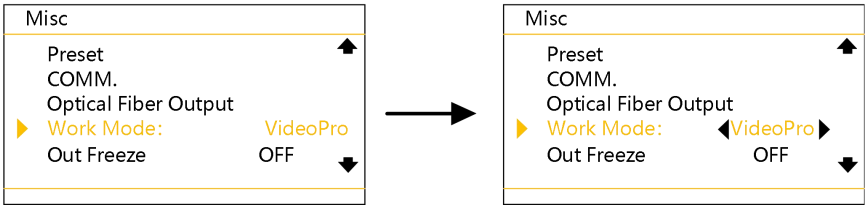
| | |
|---|---|
| Fibre Output Settings | Support "optical port hot backup" and "optical port copy output" two optical port working mode, the default is optical port copy output mode. |

Diagram of optical port replication connection:

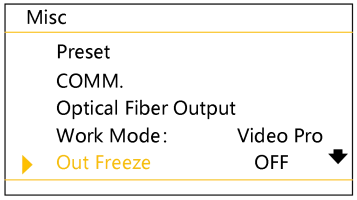



**Note: The front-end device can be used as a control, through the optical port transmission to the same device or the device photoelectric conversion box OPT 10, and then control the LED display screen, open layer, switch input source, etc**

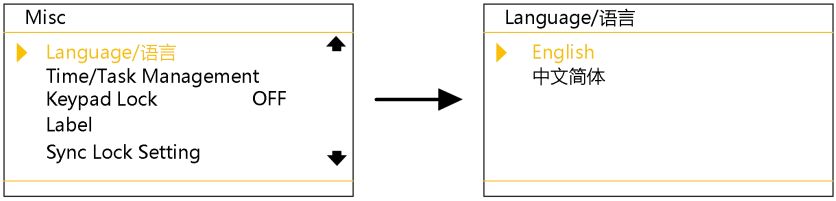
Work mode:



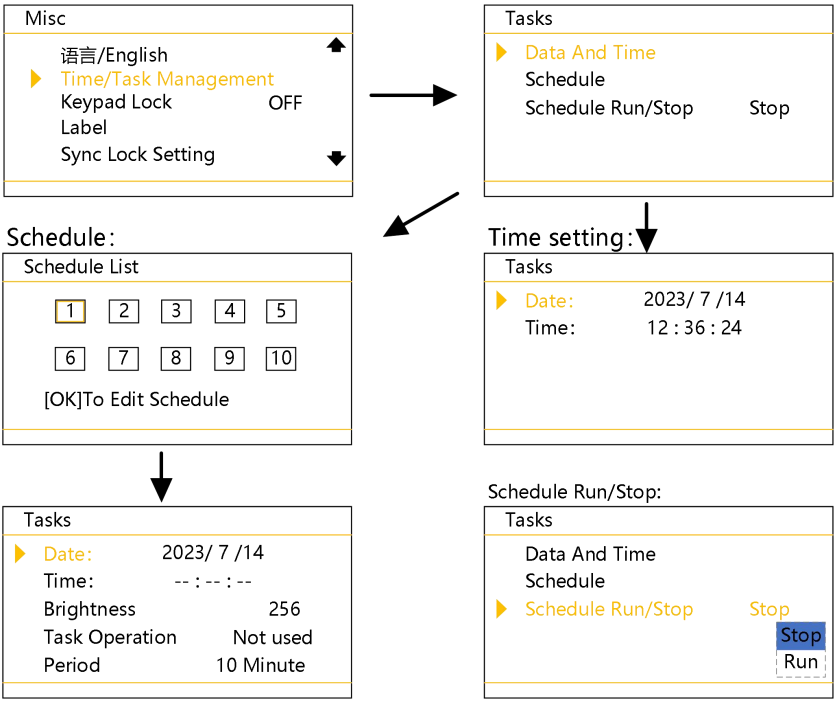

Output Freeze:



Language / English:




Time task management:

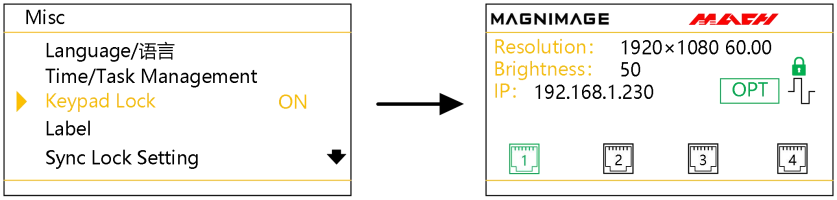



| | | |
|---|---|---|
| work mode | Support the "two-in-one" and "photoelectric" two working modes, the default for the two-in-one mode. | |
| output freeze | Freeze the current frame of the device output screen | |
| Language / Language | You can switch to English or simplified Chinese style | |
| Time task management | Time setting | Set the time and date of the machine itself |
| | assignment | You can set 10 time tasks, which can be edited separately, select a trigger time, and then select the trigger time point screen brightness or load the preset, task operation: |

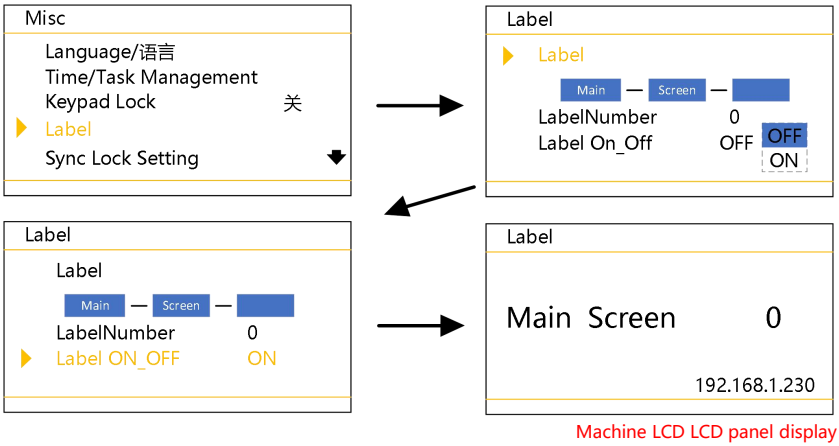
| | |
|---|---|
| | "once", "everyday", "period".<br>For example, when task 1 is daily at 18:00:00, the screen brightness is adjusted to 128, the time is set to 18:00:00, the brightness is set "128", the task operation is set to "everyday", and then return to the running schedule, and task 1 will show yellow |
| schedule | Run or stop the schedule |

**Description: The brightness task can only use one time task at the same time.**

Key lock:

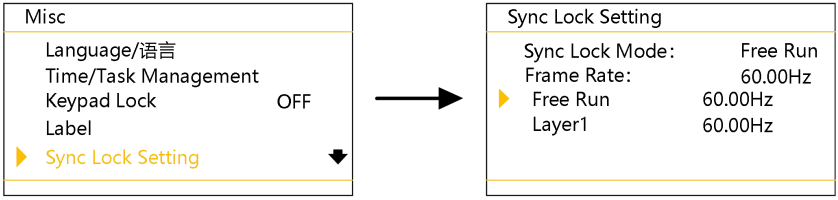



label:



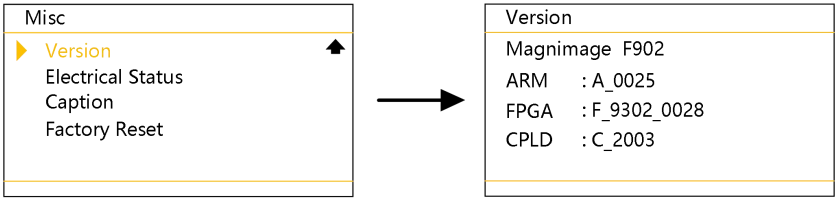

Machine LCD LCD panel display

Synchronous Lock Settings:

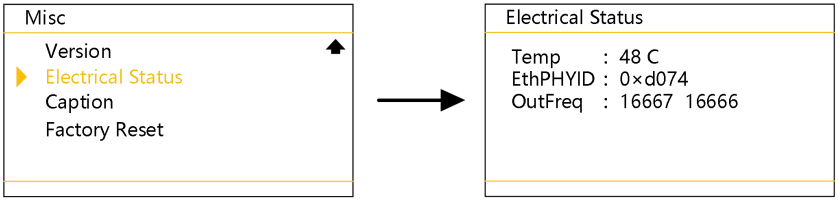


| | |
|---|---|
| Key lock | Device key lock, default "off" status; open the key lock and unlock the password is "1234" |
| label | It is convenient to mark which areas the machine carries, and you can define the serial number for the machine. The function can be displayed on the LCD screen of the machine. The default interface becomes the note, as shown in the figure above |
| Synchronous locking settings | There are two synchronization modes: free scrolling and layer 1, and the default synchronization mode is free scrolling |

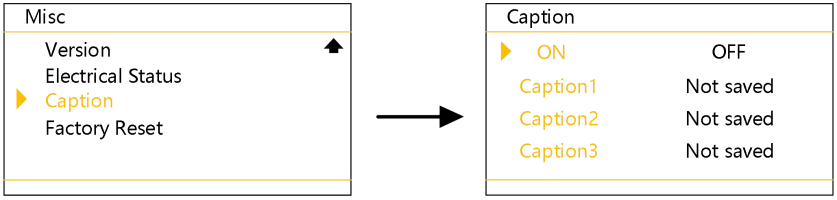
## Version information:



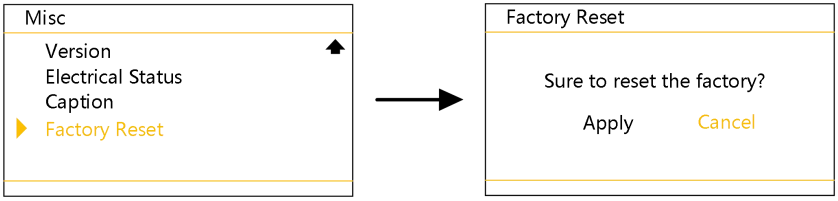

## Electrical status:




## Caption function:




## Factory reset:



| | |
|---|---|
| Version information | Check the ARM, FPGA, CPLD version and the current operating temperature of the machine |
| Electrical state | Display the current operating temperature of the machine |
| Caption function | It can save 3 subtitles, and the subtitle text, font color, background color should be set in the upper computer software |
| Factory reset | Restore all the user settings to the factory status |

# Warranty instructions

## Complete machine warranty period

- 12 months from the date of the users purchase invoice;
- If the user purchase invoice is lost, the 60 days after the production date of this product is the warranty start date for that product.

## Non-warranty provisions

- Fault or damage caused by other abnormal use reasons, such as immersion, collision and use of the machine;
- Disassembly and refit without the consent of our company;
- Fault or damage caused by use in the working environment specified by the product (e. g. too high temperature, too low or voltage instability, etc.);
- Fault or damage caused by irresistible force (such as fire, earthquake, etc.) or natural disasters (such as lightning strike, etc.);
- Product is out of the warranty period.