MAGNIMAGE

LED-FW10-C

LED Video control server

Instructions for Use, 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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update log

Document version	release time	Update instructions
V1.0	2024-11-20	First release
V1.1	2025-03-18	● Add DP1.1/DVI 2 selection menu ● Add time task management

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.
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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 input interface: HDMI 2.0 x 1, DP1.1 x 1, DVI x 2, 1 x 3GSDI, 10 G OPT x 2, Audio in x 1
- Support for HDMI 2.0 loop out
- Support the image arbitrary scaling function
- Support quick light-up screen, no need computer software connection
- Support 4K@ 60Hz, RGB 4:4:4 processing
- Support the layer size and position adjustment and image crop function
- Supports 4 layers, full-screen roaming
- Support for input signal and preset seamless switching
- Supports custom output resolution
- Support for external and independent audio input and output
- Support for input EDID management
- 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 multi-machine splicing
- Support central control
- Support output freezing
- Support time tasks
- Support key lock
- Support for optical port hot backup / optical port input

safety instruction

The input voltage range of the power supply of this product is 100~2 40V, 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 to remove the hardware device from the product, confirm that all signal and power cables have been removed.

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-FW10-C is a video control server integrating video processing, splicing, switching and sending card functions by MAGNIMAGE. This series integrates various professional input interfaces, supporting up to 4K x 2K / 60Hz input. LED-FW10-C has three working modes: Normal, Mach and FiberCon. In Mach mode, the single network port carries 2.20 million pixels, the whole network port 4 main 4 backup, the machine carries 8.80 million pixels; in normal mode, the single network port carries 0.98 million pixels, the machine 10 network port output, the machine carries 8.80 million pixels; it can be used with the companys C-Link 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 1,1 x 3G SDI, 10G OPT x 2, HDMI2.0 LOOP x 1 (loop out HDMI 2.0 input signal source), support Audio in & out. The device supports network port, square port USB and RS232 port control. The network port has built-in router function, which

can realize the cascade control of multiple machines and facilitate the interconnection control with various video controller devices.

Figure of the front panel

Key instructions			
Spinning knob	Use in menu operations to select menu items and adjust the parameters	HDMI	HDMI input port selection key / Template # 3
OK	By default, the menu status is the confirmation key	DP	DP input port selection key / Template # 6
⮌	Return to the key, return to the previous level menu	OPT	OPT input port selection key / Template number 7
LAYER 1	Layer 1	SDI	The SDI input port selection key / Template # 8
LAYER 2	Layer 2	PRESET	Quickly call out the preset template call interface / template number 4
LAYER 3	Layer 3	SIZE	Layer size adjustment shortcut key / template # 5
LAYER 4	Layer 4	BRIGHT	Large screen brightness adjustment shortcut key / template number 9
DVI1	DVI 1 input port selection key / Template # 1	LOCK	Key lock / template number 10
DVI2	DVI 2 input port selection key / Template # 2		

The rear panel is shown

LED-FW10-C

technical specifications

Input Specifications		
port	Number	explain
DVI	2	Maximum resolution: 3840x1080 / 60Hz, downward compatibility Support for EDID management
DP 1.1	1	Maximum resolution: 3840x1080 / 60Hz, downward compatibility Support for EDID management Custom resolution, MAX width 3840 pixels,MAX height 2160 pixels
HDMI 2.0	1	Maximum resolution: 3840x2160 / 60Hz, downward compatibility Support for EDID management Custom resolution, MAX width 4094 pixels,MAX height 3840 pixels pixels,Inbuilt audio is supported Front-end forced input maximum support: 7680x1080 / 60Hz
3G SDI	1	Support for HD-SDI, 3G-SDI
OPT 2-3	2	10G optical fiber optic input
Audio in	1	3.5mm interface, can be connected to audio, multi-function card output audio signal

Description: Only layer 4 supports HDMI and SDI input-row separation processing;

OPT 2-3 input only receives OPT output data of EC40 Pro, V12, V16 and other devices;

Output Specifications		
port	Number of ports	explain
Gigabit network port	10	The maximum band load is 8.80 million pixels The widest limit: 8192 pixels, the highest limit: 3840 pixels Normal mode: single network port with 0.98 million pixel load, the whole machine 10 network port output; Mach mode: single network port with 2.20 million pixel, the whole machine network port fixed 4 main 4 backup, network port 9-10 is not available;

		Maximum refresh rate: 120Hz
HDMI 2.0 LOOP	1	The signal source of HDMI 2.0 can be circled, and the resolution of the loop out is consistent with the input resolution of HDMI 2.0
OPT 1	1	It can be used for optical port backup or copy signal output
Audio out	1	3.5mm interface, support HDMI 2.0 audio parsing output

control interface	
Network port communication port	Two RJ 45 control ports for connecting the upper computer or multi-machine cascade communication
Square port USB communication port	Used to connect the upper computer computer
The RS232 port	Used to connect the central control device

Complete machine specification	
Enter the power supply	100-240V AC~50/60Hz 0.6A
working temperature	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 display to display the entire user menu. 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; 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

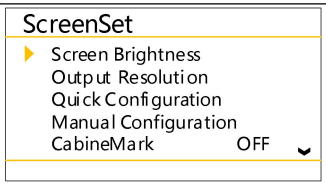
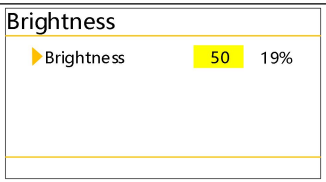
The front panel button of the video control server is divided into four areas, namely: MENU, LAYER, INPUT, and FUNCTION

MENU:

This area contains 2 keys and a knob: OK⮌Keys and knobs.

Press the knob for the same function as the confirm key (OK); 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 mode and the setting mode, 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 4 keys: LAYER1, LAYER2, LAYER3, LAYER4; 4 active layers.

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

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.

For the currently selected input, the key displays the red color.

FUNCTION :

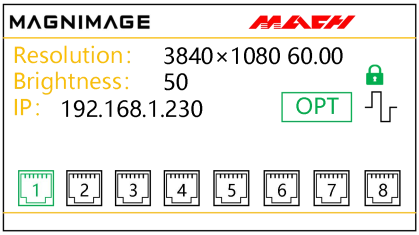
This area contains 4 keys: PRESET, SIZE, BRIGHT, and LOCK.

key	explain
PREST	Quickly call out the preset menu interface, you can quickly save, load, or delete the preset operation
SIZE	Quickly exhale the currently selected layer size / position parameter interface
BRIGHT	Quick call out LED display brightness parameter adjustment menu
LOCK	Device key lock, short press to lock or unlock

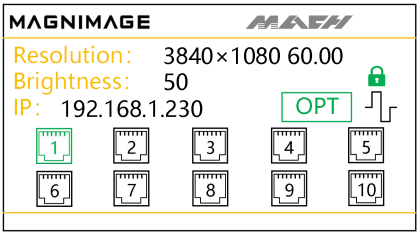
Default status introduction

After opening the video control server, the LCD screen displays on the front panel. After the startup, the LCD screen displays the initial state of the device, as shown in the figure below:

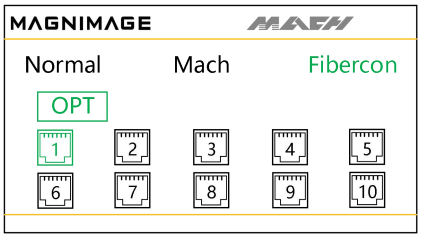
Model: LED-FW10-C:



Mach mode initial interface



Normal mode initial interface

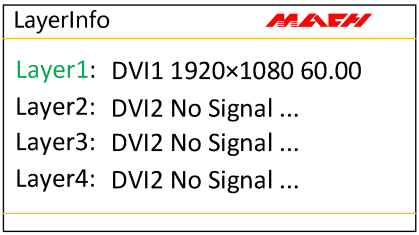


FiberCon mode initial interface

The information in the figure above is described below:

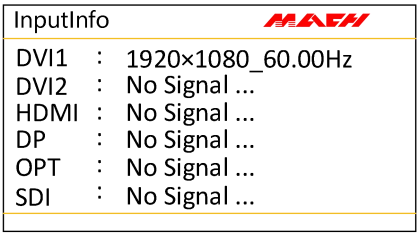
	explain
Resolution	Output resolution of the current device
Brightness	Current LED display brightness value
IP	The IP address of the local machine
	The MACH icon is shown in red, and the device currently works in the Mach mode The MACH icon is gray and the current operating mode is normal mode
fibercon	The panel shows the green word "fibercon", and the current working mode of the device is the photoelectric mode
	The device is locked and unlocked by pressing LOCK
	OPT icon shows green cable communication normal, gray cable or communication abnormal
	Synchronization icon for input splicing synchronization / multi-machine splicing synchronization
	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 knob clockwise in the initial state to see layer information as see the figure below:



The interface can visually see the layer on or off state and the resolution of the input source and the input source

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



The interface visually shows the state and input resolution of all the input sources

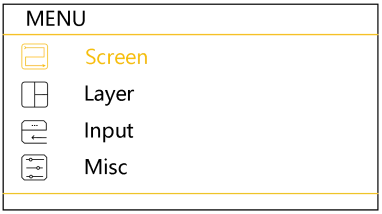
Main menu introduction

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

symbol	explain
Open the main menu	Press OK by default or press the rotation knob by default
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 project is "►", press OK
Execute a function	Use the knob to select the item and press OK
Return to the superior menu	press"⮌"key
Confirm the operation	In order to avoid misoperation, the "OK" key is used to confirm the operation

primary menu

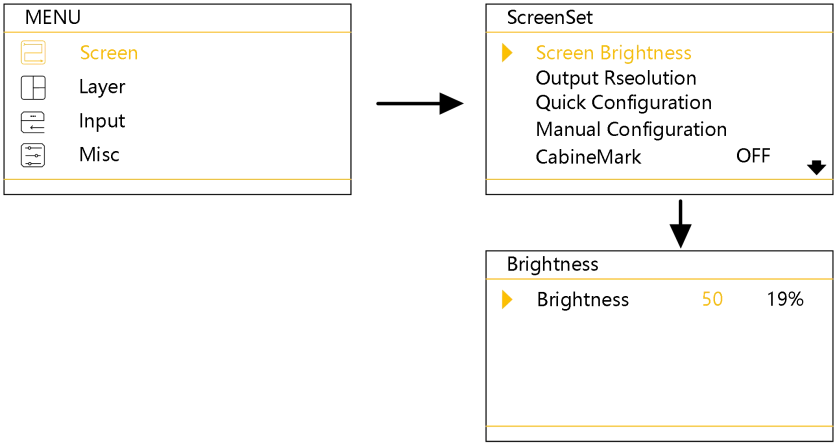
At the initial interface, press the "OK" button or the short button. This is as shown on the LCD screen:



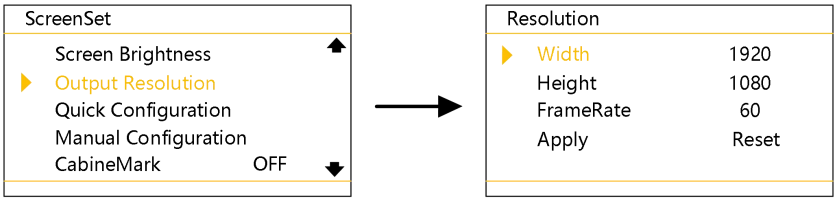
Main menu 4 common sub-menu, select the 4 sub-menus listed above through the knob, press "OK" to enter the selected sub-menu option and press"⮌"Key returns to the upper level menu.

screen configuration

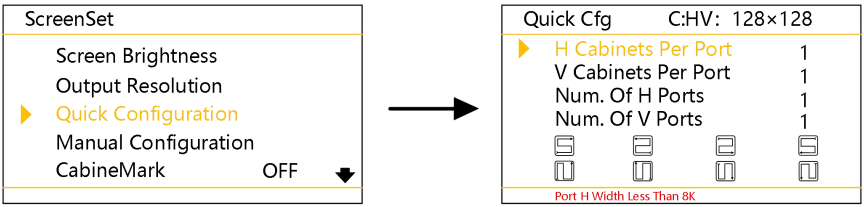
Screen brightness:



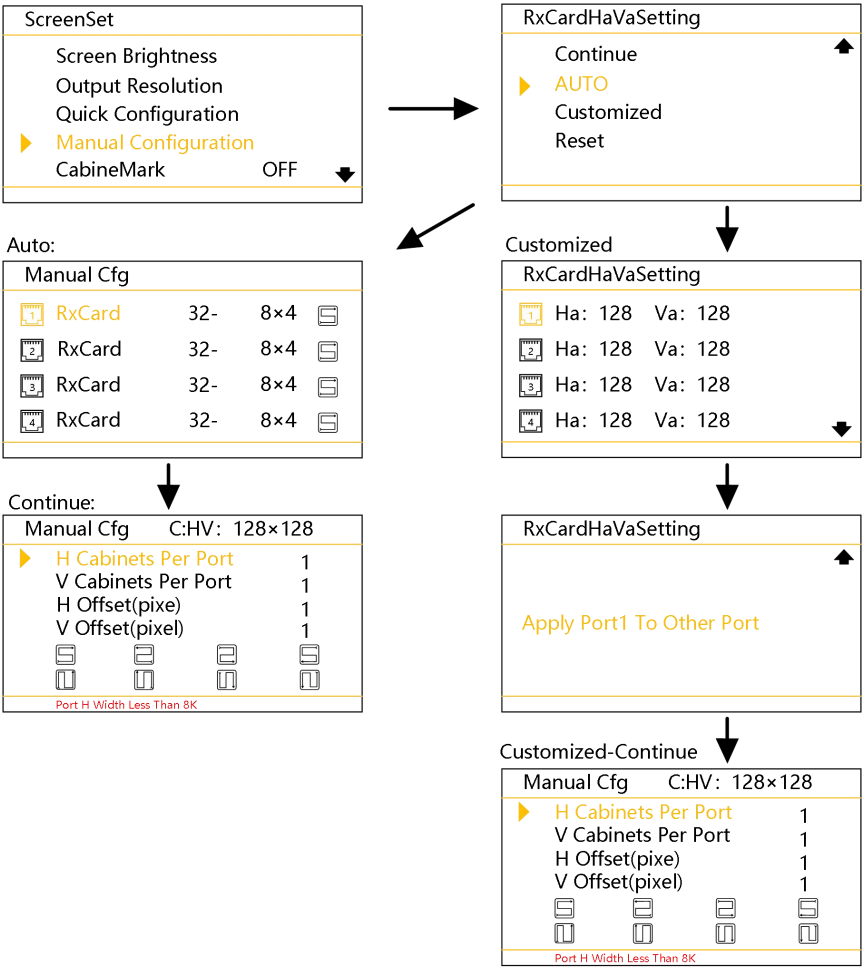
Output resolution:



Quick configuration:



Manual configuration:

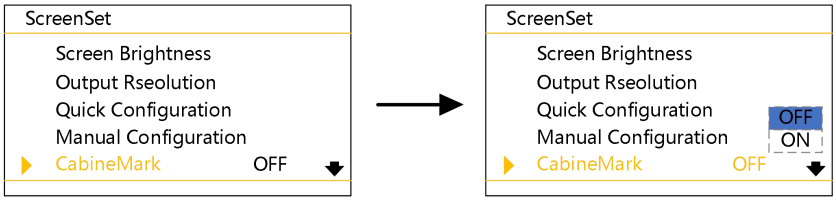


Large screen brightness	Adjust the brightness value of the LED display (default is 50, brightness range 0 to 256)
Output resolution	Customize the output resolution of the setup device
Quick configuration	The display should be regular, non-alien, and the cabinet size and resolution When the width and height of the cabinet, the cable routing mode is the

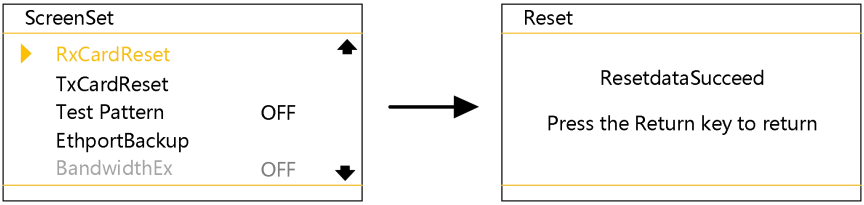
	same, and the serial number of the network port is connected in turn, the screen can be quickly completed through the quick configuration function
Manual configuration	The display should be regular, non-alien, and the cabinet size and resolution Set the parameters of width and height of cabinet and horizontal / vertical position of network cable offset for each network port

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

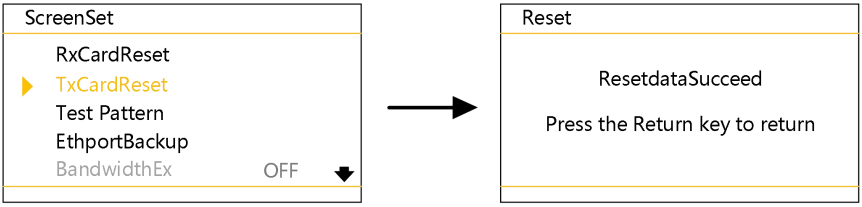
CabineMark:



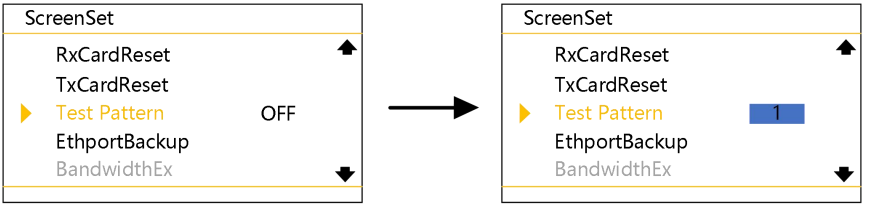
Rx card reset:



Tx card reset:



Test pattern:

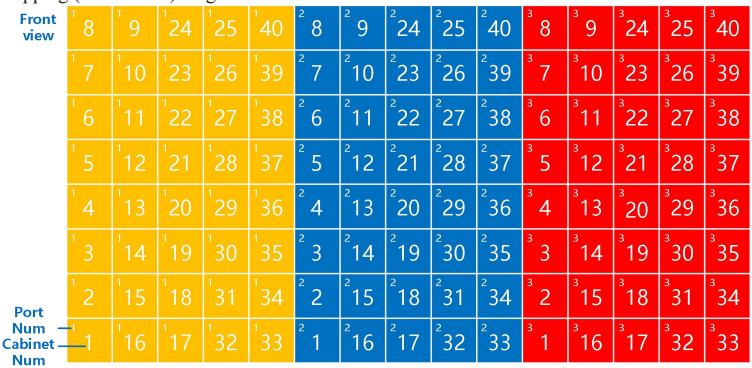


Test drawing card

1~10

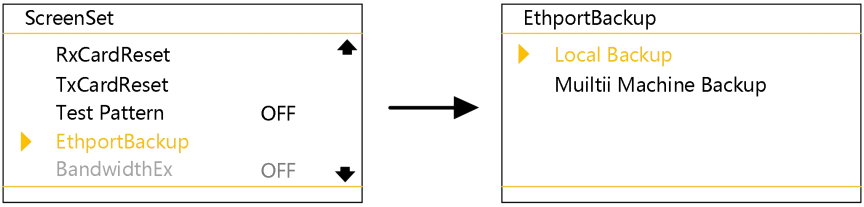
Cabinet mapping	Open the cabinet mapping, the LED display screen displays the serial number with the network port and the cabinet serial number, convenient and intuitive to connect the display screen
Rx card reset	Reset the reception card brightness, color temperature, Gamma and other parameters
Tx card reset	Reset the sending card connecting screen parameters
Test pattern	The default is off state, supporting 10 map card test screens

Cabinet mapping (MAPPING) diagram:

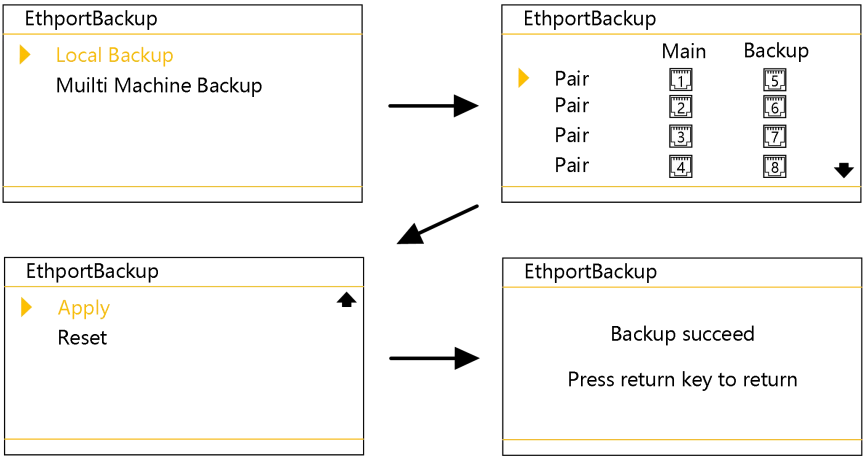


Description: The number in the upper left corner is the network port number, and the middle number is the cabinet number

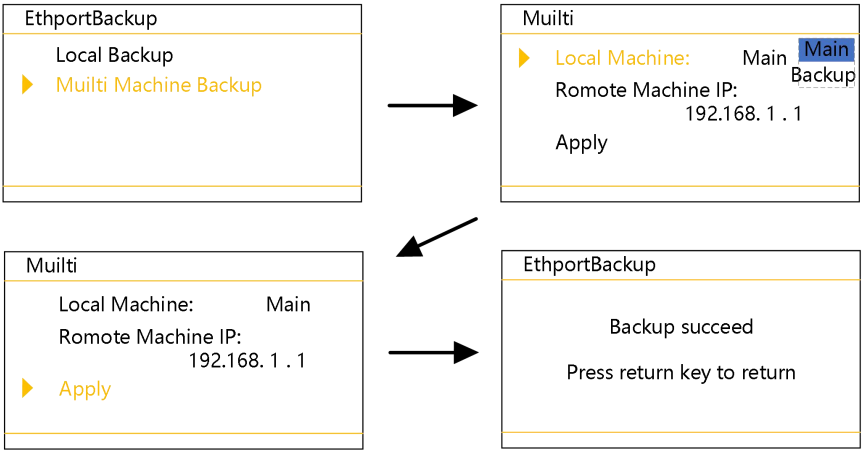
Ethport backup:



Local backup:

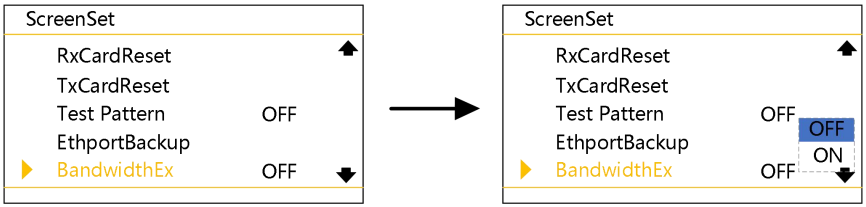


Multi-machine backup:

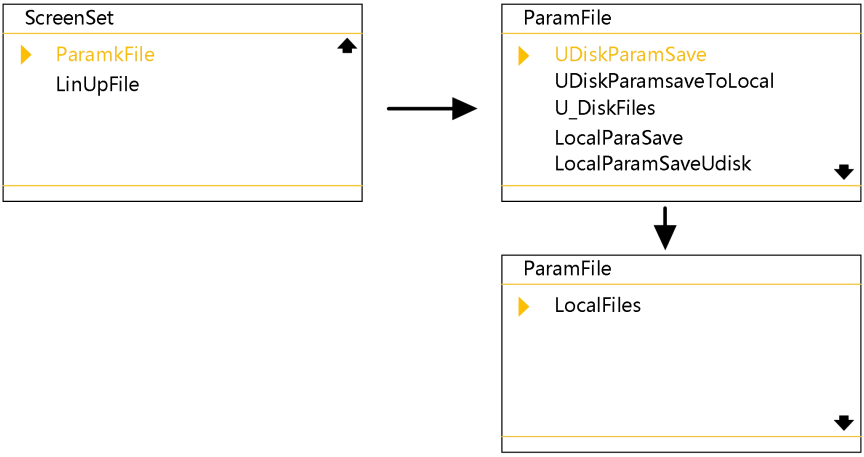


Ethport backup	Local backup	In normal mode, a single machine can specify a backup between any network port In Mach mode, this function is not available, the port is fixed 1-4,5-8 is backup, the port 9-10 is not available
	Multi-machine backup	When there are multiple devices in the same LAN, one device can be selected as backup or main, and another IP address set can achieve quick backup

Bandwidth extension:



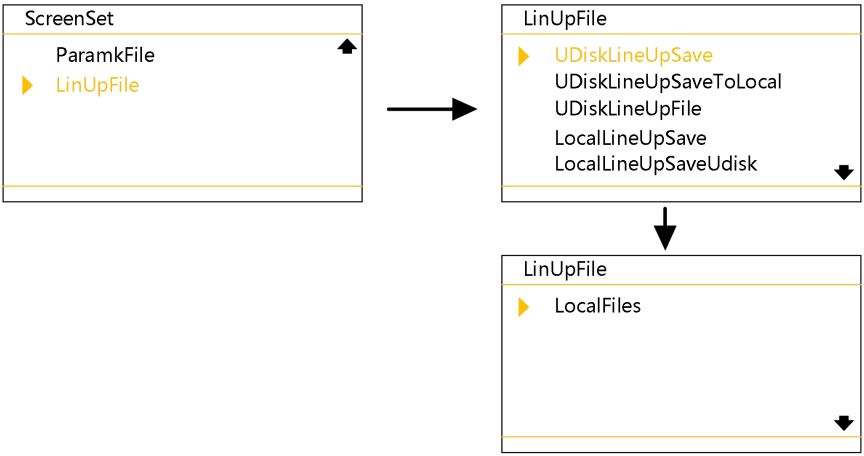
Parameter file:



Bandwidth expansion	Available in normal mode, this feature is not available in Mach mode; The default state is off. The receiving card is required to support this function, which can carry 0.98million pixels with a single network port
parameter file	U-disk parameter save Save the screen single-box parameters to the U disk

(form:DTR)	U disk parameters Save to local	Save the U-disk in-box screen parameters to the machine
	U-disk files	Get all the screen single-box parameter files in the U disk
	LocalparaSave	Save the screen single-box parameters to the machine
	Local para Save to U disk	U disk that save the single box of parameter files stored in the machine
	Local file	Obtain all single-box parameter files stored in the machine in DTR format

Screen file:

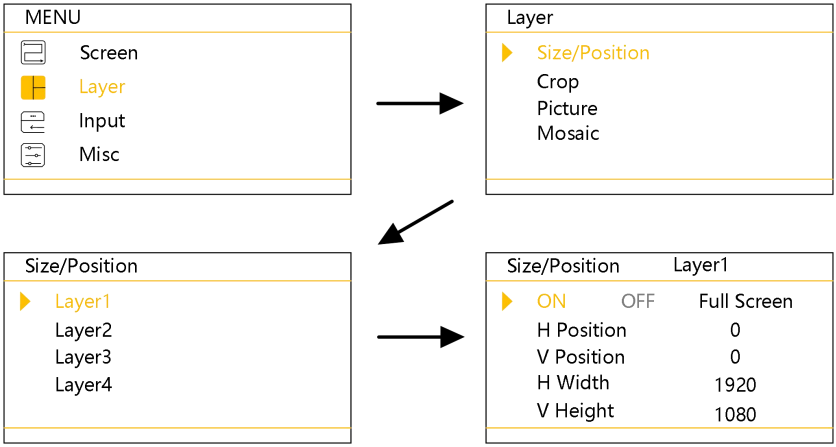


Even screen file (form:LMC)	UDiskLineupSave	Save the display connection cable file to the U disk
	U disk lineup save to local	Save the in-disk U display connected to the wire file to the machine
	U disk lineup file	Get all display screens in U disk
	Local lineup save	Save the display-connected routing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

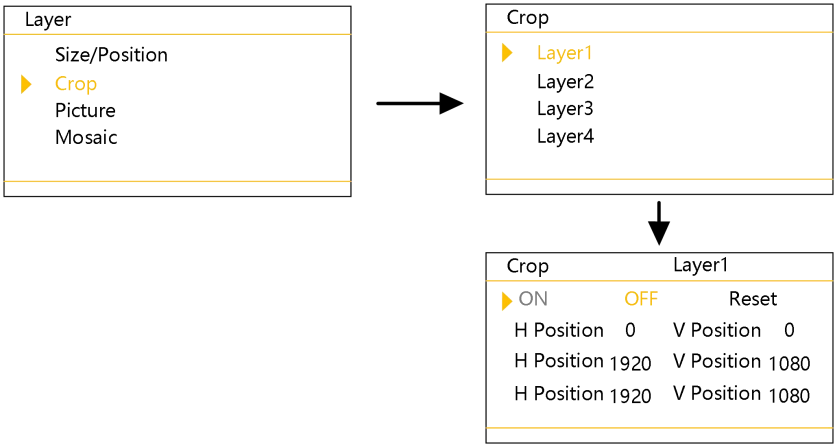
Note: The function of single box parameter file and screen file should be inserted into U disk in the USB interface of the device, and the USB can be switched to U disk file in the communication Settings. If the U disk is not inserted or the USB communication to U disk file is modified, some functions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

Layer Settings

Size / position:

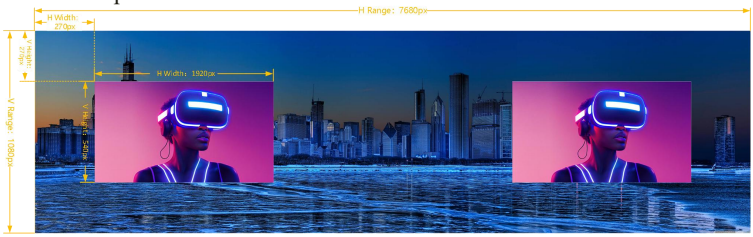


crop:



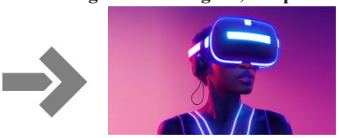
Size / position	Set the layer on or off. The full screen option can set the full screen display of the selected layer with one click The horizontal position, horizontal position, horizontal width, and vertical height parameters can also be adjusted	
crop	Each layer can be intercepted independently without 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
	upright 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 reference level
	vertical height	The maximum value is the height of the vertical reference base
	horizontal reference	Configure the width value for the input resolution
	Vertical reference	Configure the height value for the input resolution

Figure of intercept:



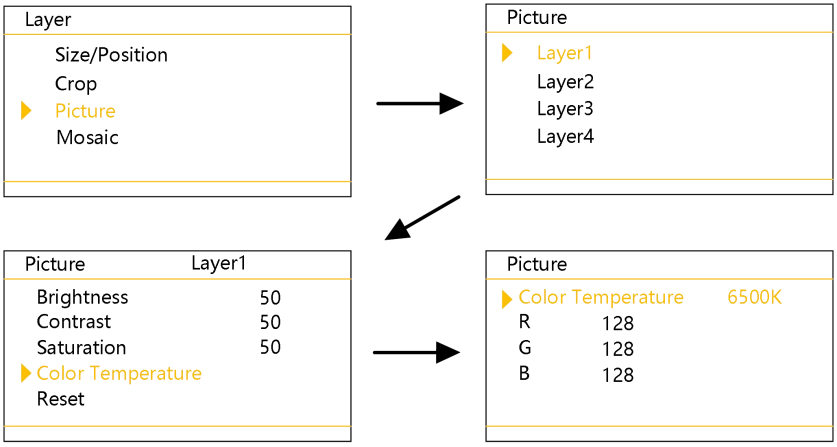
Note: The horizontal / vertical reference parameters can be simulated as the resolution points of the front-end input signal. If the left portrait picture is captured in the figure above figure, the parameters are set as shown in the table:

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



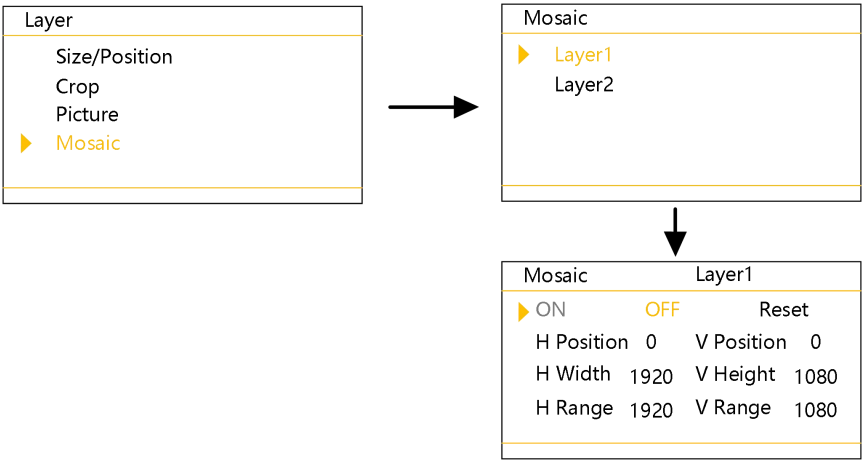
Interception the resulting picture

picture:



picture	brightness	Values range from 0-100, with a default value of 50
	contrast	Values range from 0-100, with a default value of 50
	saturation	Values range from 0-100, with a default value of 50
	colour temperature	4000K, 5000K, 6500K, 7500K, 8200K, 9300K, 10000K, 11500K, user and other 9 modes
	reset	Recovery brightness, contrast, saturation, and color temperature parameters are the factory default values

mosaic:

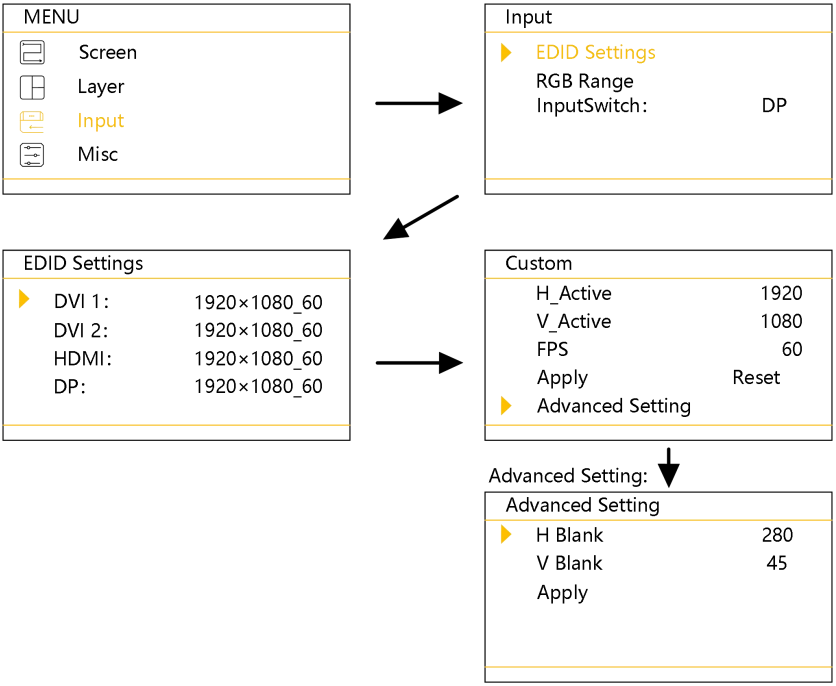


monsaic	horizontal position	The maximum value is the difference of Horizontal Width minus Horizontal Width
	vertical position	The minimum value is 0 and the maximum value is the difference of Vertical Height minus Vertical Width.
	Horizontal width	The maximum value is the width of the horizontal reference level
	vertical height	The maximum value is the height of the vertical reference base
	horizontal range	The number of physical pixels on the LED display in the horizontal direction
	Vertical range	The number of physical pixels of the LED display in the vertical direction

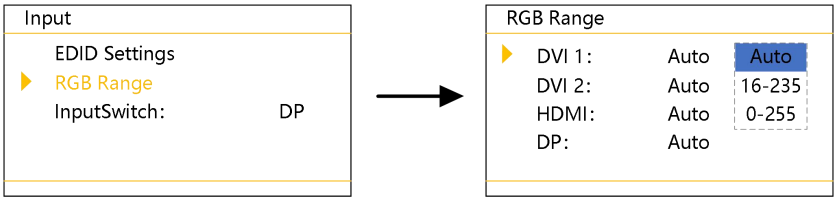
Note: When multi-machine splicing, the synchronous lock setting function should be set to the open state in the function setting menu.

Input settings

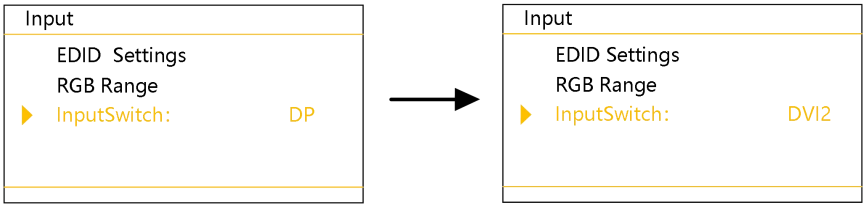
EDID setting:



RGB range:



Input Switch:

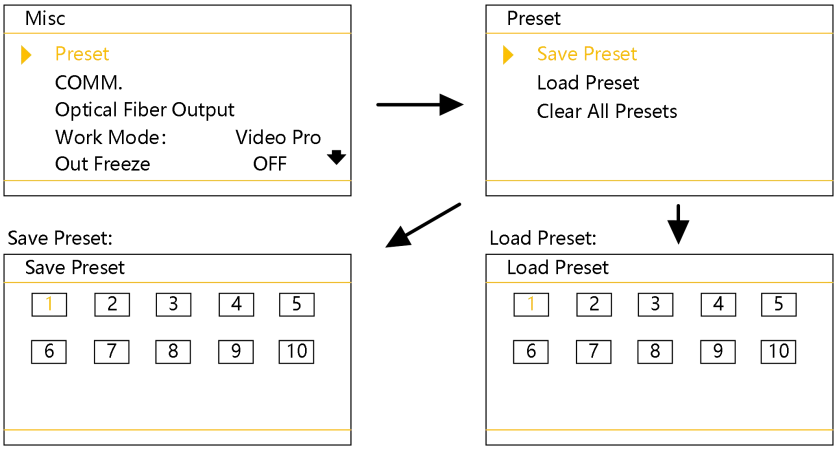


EDID setting	Support DVI, HDMI, DP input EDID management
H_ Active	Custom horizontal width
V_ Active	Custom vertical height
FPS	Custom refresh rate, refresh rate range: 23-241Hz
advanced setting	Adjust the input H and V Black parameters, and select Apply for the parameters to take effect
RGB range	The color range of DVI, HDMI and DP input can be modified into "automatic", "0-255" and "16-235"
Input switch	Choose DP/DVI 2 interface

Note: After setting the EDID parameters, different computer or graphics card types may need to restart the computer or unplug the signal line. Select the corresponding resolution in the display Settings menu of the computer.

Function Settings

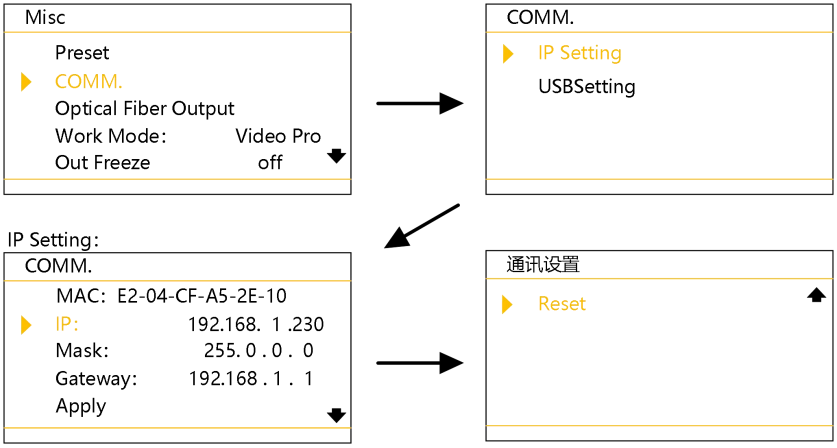
preset:



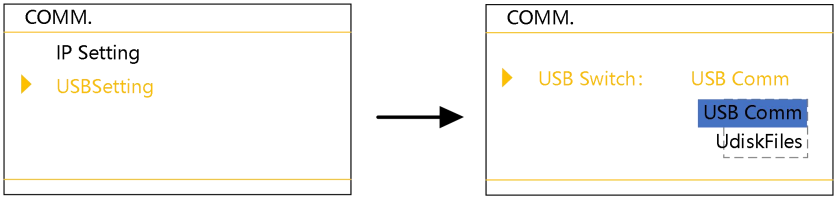
Clear all presets:

Save preset	Enter the save preset interface, press the number key or rotate the knob to save the preset. You can use the front panel PRESET button to enter the save preset interface
Load preset	Enter the loading preset interface, press the number key or press the rotation knob to load; enter the loading interface using the front panel PRESET key
Clear all presets	Clear all saved presets and enter the clear all preset screen using the front panel PRESET button

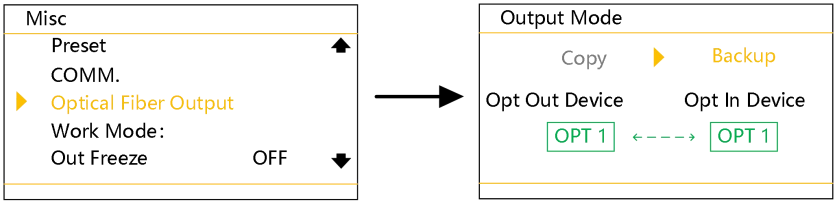
Communication Settings:



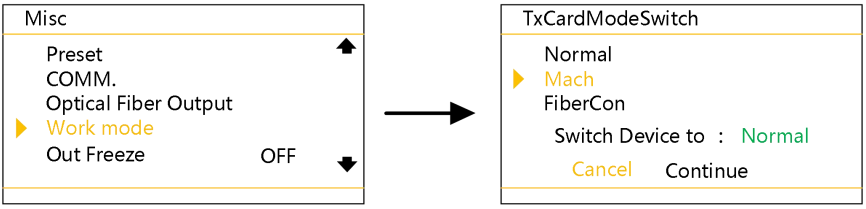
USB setting:



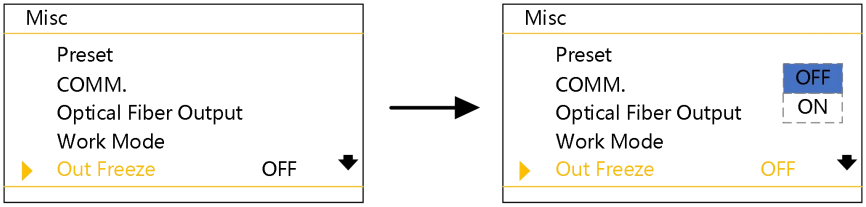
Fiber output settings:



work mode:



Output Freeze:

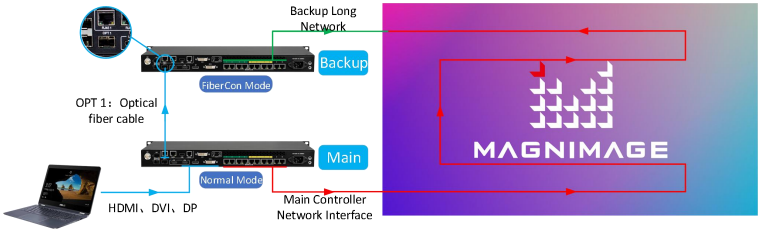


Communication Settings	IP position	You can change the local IP address	
	USB set up	USB communication	Switch to this mode, you can use the square port USB communication
		U disk file	Switch to this mode, you can upgrade the machine using the flat port USB
Fibre Output Settings	Support "optical port hot backup" and "optical port copy output" two optical port working mode, the default is optical port hot backup mode.		
work mode	The equipment supports Normal modes, Mach and FiberCon modes Normal mode: single network port with 0.98 million pixel load, the whole machine 10 network port output; Mach mode: single network port with 220W pixel, the whole machine network port fixed 4 main 4 backup, network port 9-10 is not available; FiberCon mode: the working mode set by the two devices through the OPT optical port		

output freeze	Freeze the current frame of the device output screen

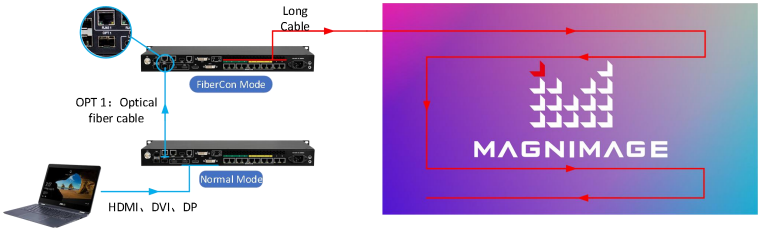
Note: Normal mode supports large load (single network port with 983040 pixels), leave empty without load function (Mach mode does not support these two functions);

Description of optical port hot backup connection:



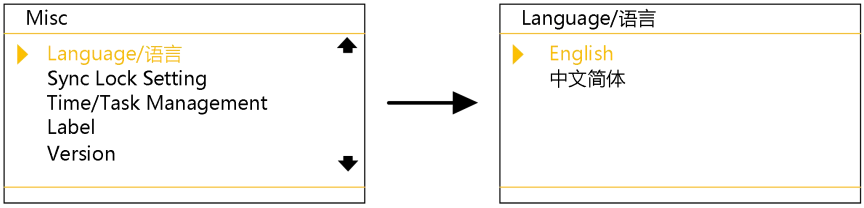
Note: If the long screen of a device in the main control or backup device or the short screen network and the box network port in the loop fail, the LED display can work normally;

Diagram of optical port replication connection:

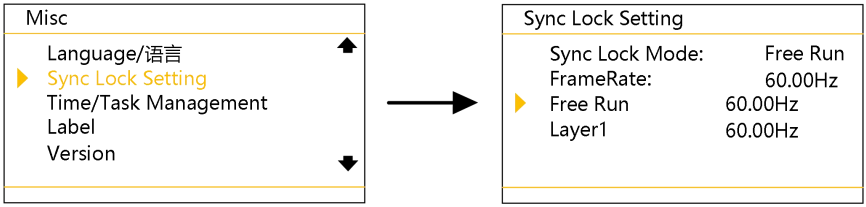


Note: The front-end device can be used as a switching control device, copy the network port data to the back-end device through the optical port, and then control the LED display open layer, switch input source, etc

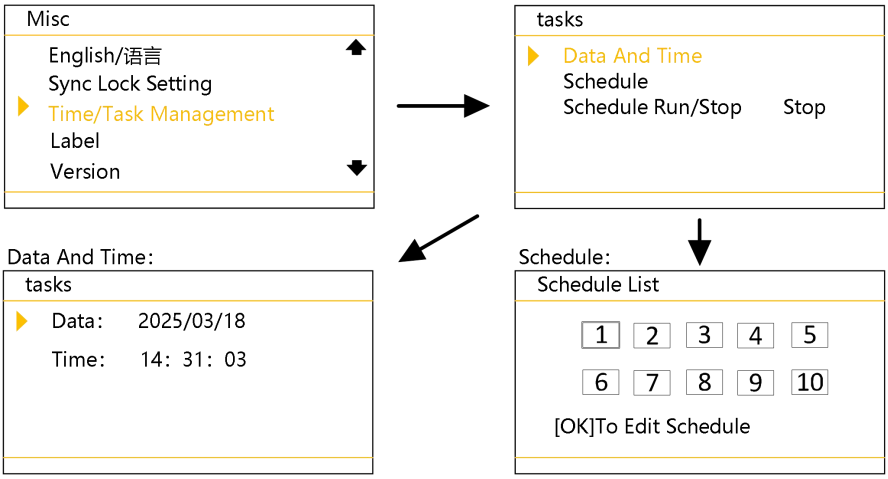
Language / English:

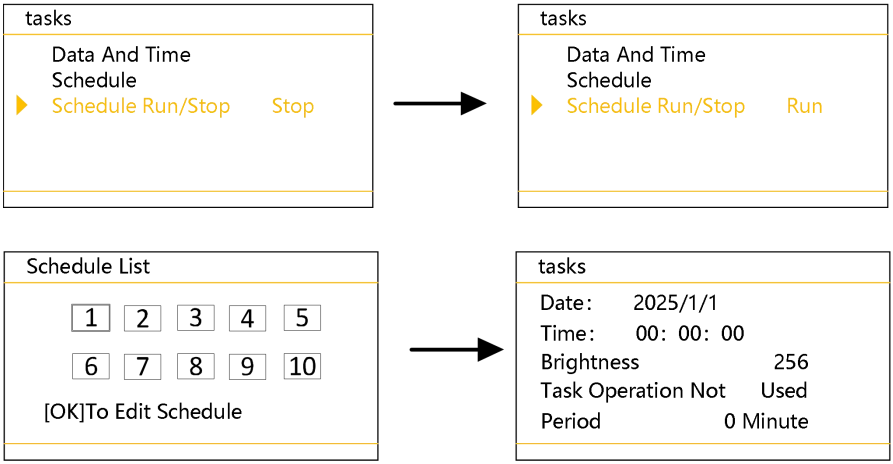


Synchronous Lock Settings:



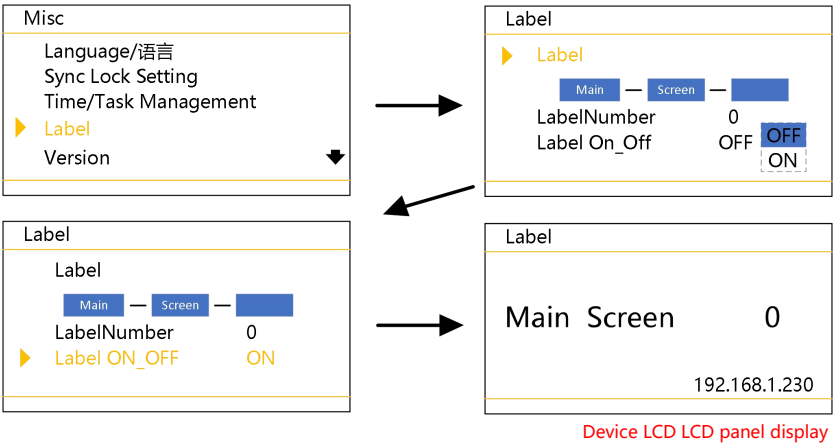
Time/Task Management:





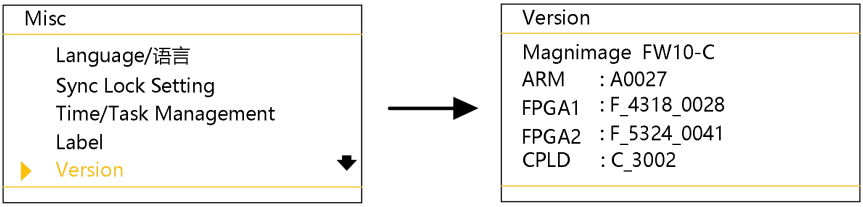
Language/ 语言	You can switch to English or simplified Chinese style
Synchronous locking settings	There are two synchronization modes: free scrolling and layer 1, and the default synchronization mode is free scrolling
Time/task management	Set time task management and adjust time presets

label:



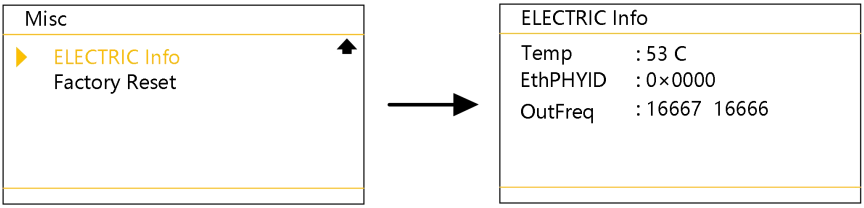
Device LCD LCD panel display

Version information:

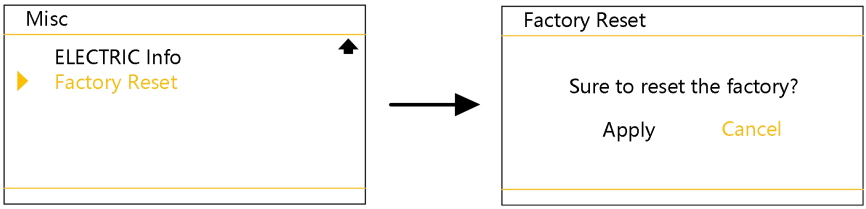


label	Users can customize tags for the device: support top, side, left, middle, right, screen, bottom, main, and secondary tags, label number range 1-99, open the tag function can display the user custom tags on the LCD screen of the device
Version information	View the current operating temperature of the ARM, FPGA, CPLD version and the equipment of the machine

Electrical status:



Factory reset:



Electrical state	Display the current operating temperature of the machine
Factory reset	Delete all user data to restore the device to the initial state

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 this 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.