

Users' Manual

SDI 10-Screen Multiview

Model: MVP9110

VER 10



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Precautions

To ensure the reliability, use and safety of the equipment, please observe the following when installing, using and maintaining:

Before the device is powered on, it is necessary to check to ensure that the chassis is well grounded to prevent electrostatic discharge from the chassis and endanger the equipment and personal safety, and to provide good shielding effect.

- ◆ Do not place system equipment in a location that is too cold or too hot.
- ◆ The power supply of the device will generate heat during operation, so keep the working environment well ventilated to avoid damage to the device due to excessive temperature.
- ◆ Turn off the main power switch when it is rainy or wet or when it is not used for a long time.
- ◆ Non-professionals, please do not try to open the equipment case without permission, and do not repair it yourself to avoid accidents or damage to the equipment.
- ◆ Do not spill any chemicals or liquids on or near the equipment.

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1. Product Introduction

1.1. Product Overview

This is a professional-grade SDI picture splitter that supports 10-CH SDI inputs, 2-CH HDMI inputs, and 2-CH AV inputs. 2-CH SDI+3-CH HDMI output. You can change the display resolution to 1080i50 / 60, 1080p25 / 30 or even more using the front panel keyboard. The device is a multi-screen splitter with 10-way matrix switching. The device can connect 10 SDI signals. When performing multi-picture synthesis, there are 2 identical SDI outputs (the two left SDI interfaces) and 3 HDMI outputs. The display mode of the screen can be flexibly configured through the network port using PC software. , can be configured for 1~10 screens. And the device supports SDI audio column display and character overlay function. The device integrates SDI input/output interface and control interface, which can conveniently process SDI signals for picture segmentation, signal delay, frequency conversion processing, and frame synchronization. The device supports network, RS422 and button control, and supports network interface to update internal software, which can realize more functions and simple operation.

1.2. Main Functions

- ◆ Art design style
- ◆ Up to 10 signal inputs, up to 10 signal outputs
- ◆ Support single screen enlargement, 4 screens, 6 screens, 9 screens, 10 screen modes
- ◆ Support input screen switching
- ◆ Support audio column display, audio de-embedding and embedding, optional any input audio plus embedded output
- ◆ Chinese and English character overlay (character color can be changed)
- ◆ Input port: SDI × 8; HDMI × 2;
- ◆ Output port: SDI × 2; HDMI × 3
- ◆ Input support matrix switching function
- ◆ SDI HD/SD Adaptive

- ◆ Support network, RS422 and button control
- ◆ Support network upgrade system function
- ◆ Support for later extension
- ◆ Support TALLY function
- ◇ Special features can be customized

1.3. Product Parameters

Name	SDI HD 10-Screen Multiview	
SDI Input	Input Signal	SDI HD serial digital video signal
	Rate	143Mbps~2.97Gbps
	Connector	BNC complies with IEC169-8
	Reflection loss	>15dB 5MHz~3GHz
	Signal amplitude	800mV ±10%
	Impedance	75Ω
	Balance	100m Belden 1694A HD 200m Belden 8281A HD
SDI Output	Output Signal	SDI HD serial digital video signal
	Connector	BNC complies with IEC169-8
	Reflection loss	>15dB 5MHz~3GHz
	Signal amplitude	800mV ±10%
	Impedance	75Ω
	Up/Down time	0.6ns ±100ps
	DC offset	0V ±0.5V
	Clock recovery	Auto output optional
	Overshoot	<5%
	Jitter	<0.2UI

HDMI Output	Output Signal	Standard HDMI signal
	Rate	270Mbps~2.97Gbps
	Signal amplitude	800mV \pm 10%(100R)
	Impedance	100 Ω
Control Parameter	Local control	button (front panel)
	Serial control	RS422
	Connection port	RJ45 standard network interface (UDP/HTTP)
	Control software	WINDOWS (customizable IOS/Android)
	Optional components	Central control keyboard
General Parameters	Power supply	100-240V/AC 50/60Hz
	Power Rating	25W-150W, According to host type
	Size	1U(standard power supply)
	Control Panel	YES
	Weight	2.1KG
	Operating Temperature	0 $^{\circ}$ C~50 $^{\circ}$ C without condensation
	Storage Temperature	-20 $^{\circ}$ C~75 $^{\circ}$ C
	Working Humidity	20%~70%RH
	Storage Humidity	0%~90%RH, No condensation

1.4. Standard List

- ◆ Multiview main part
- ◆ AC power cord x 1
- ◆ Control software x1
- ◆ User Manual x1

2. Operation and Function Description

2.1. Equipment operation

Note: Please use the following installation sequence. If the installation sequence is not followed correctly, the device may not work or work abnormally.

- (1) Connect the signal output of the signal source to the input of the unit.
- (2) Configure the corresponding I/O card according to the input and output of the site.
- (3) Connect the signal output of this unit to the signal input of the display unit.
- (4) Turn on the power of the device and turn on the power button switch.
- (5) Use the manual button to select the input and output ports.
- (6) Rear panel interface description:



- | | |
|------------------------------|--------------------------------|
| ① SDI×2(Multi-screen output) | ② HDMI x3(Multi-screen output) |
| ③SDI×10 input | ④RS422 interface |
| ⑤REST Reset | ⑥Power Indicator |
| ⑦Network and USB interface | ⑧AC 100 – 240V |

2.2. Multi-screen Mode Description

2.2.1. 1-screen mode



2.2.2. 4-screen mode



2.2.3. 6-screen mode



2.2.4. 8-screen mode



2.2.5. 9-screen mode



2.2.6. 10-screen mode



2.3. Keypad Operation Instructions



2.3.1. Channel switching operation

Switching operation can be performed according to the input signal and the multi-screen window number. IN x OUT y (such as switching the 2nd signal to the 5th display, IN + 2 + OUT + 5), you can also switch all the way at the same time. To multi-channel display, IN 2 OUT 1, 2, 3, 4.... If you want to switch 10 channels, press 10+ first, then press 0.

2.3.2. Full Panel

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In the multi-screen switching, you can select a certain way to display in full screen, press the full screen window number + Full Panel (such as the full screen display of 5 screens in the 16 screen: 5 + Full Panel), press the Full Panel button again to return In the multi-picture state, if the channel switching operation has just been performed, the OUT is in the light-on state, and it is necessary to first press OUT to turn off the light and then perform full-screen operation.

2.3.3. Mode

Multi-screen mode switching, there are six modes of 1, 4, 6, 8, 9, 10 to select, you can press the Mode button to cycle.

2.3.4. Reso

Output resolution setting, press the Reso button to switch between different output resolutions, a total of 1080p60, 1080p50, 1080p30, 1080p25, 1080i50, 1080i60, 720p60, 720p50 eight resolution options.

2.3.5. Audio

Switch the display or hide of the audio columns of all channels.

2.3.6. Char

Switch between displaying or hiding the characters of all channels.

2.4. LCD function

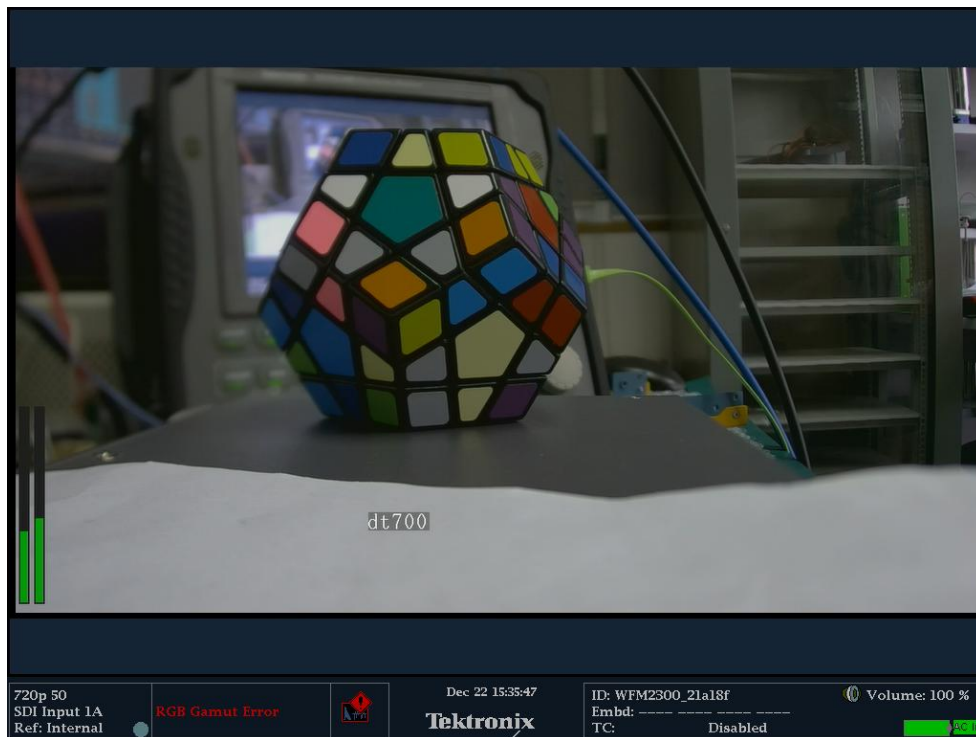
When Mode is switched, the LCD will display the current multi-picture status, and the number in the small grid represents the current input channel number.

When you perform a software upgrade, the status of the upgrade and the version information of the program are displayed.

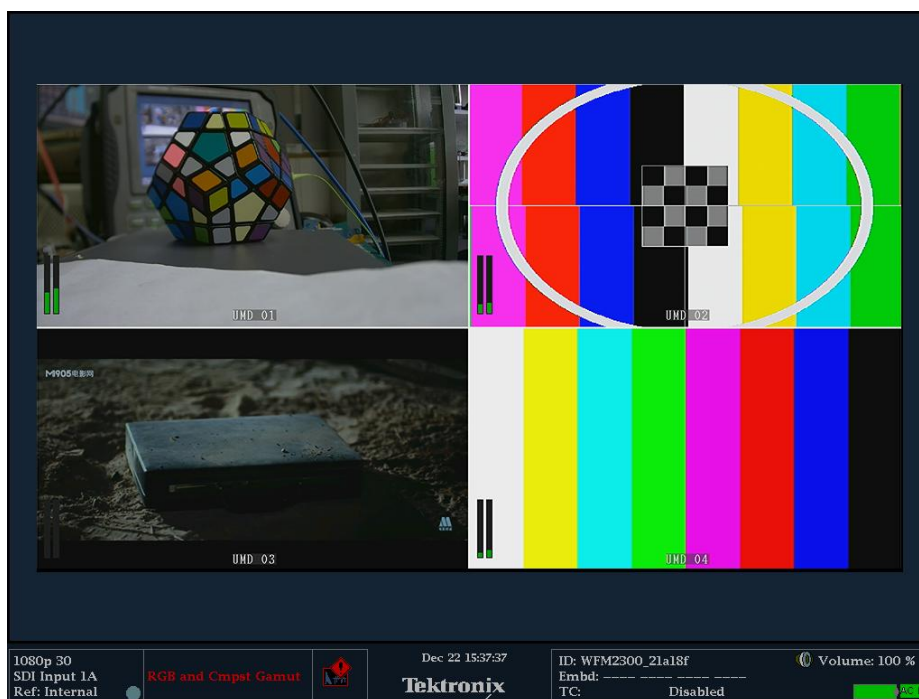
2.5. Function capture

2.5.1. Single-screen zoom function

Audio video can be output at the same time, characters can be added arbitrarily, drag in different positions.



2.5.2. 4- screen resolution change

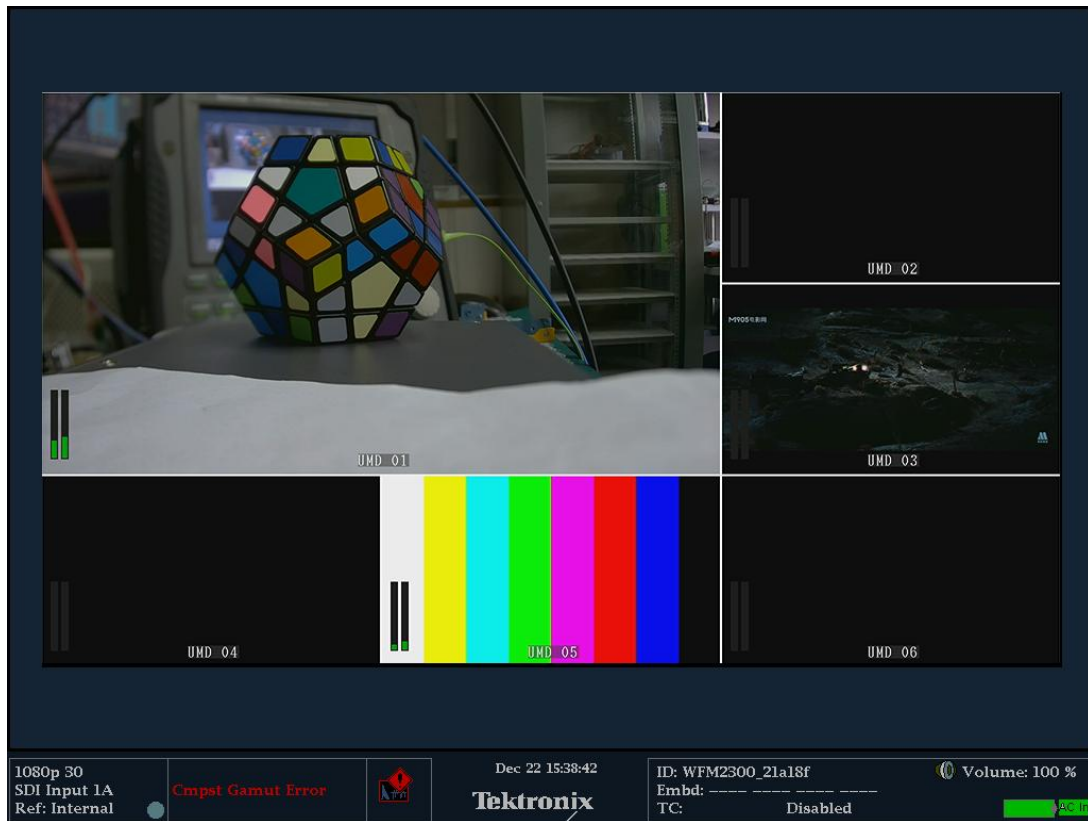


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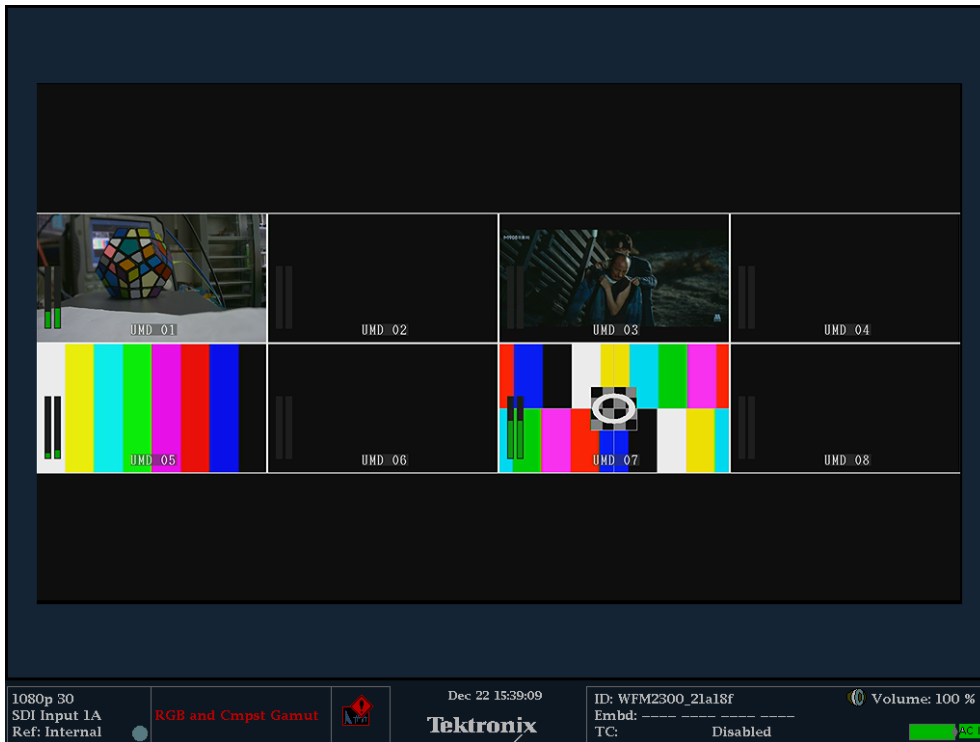
Email: support@devicewell.cn

2.5.3. 6-screen No signal input

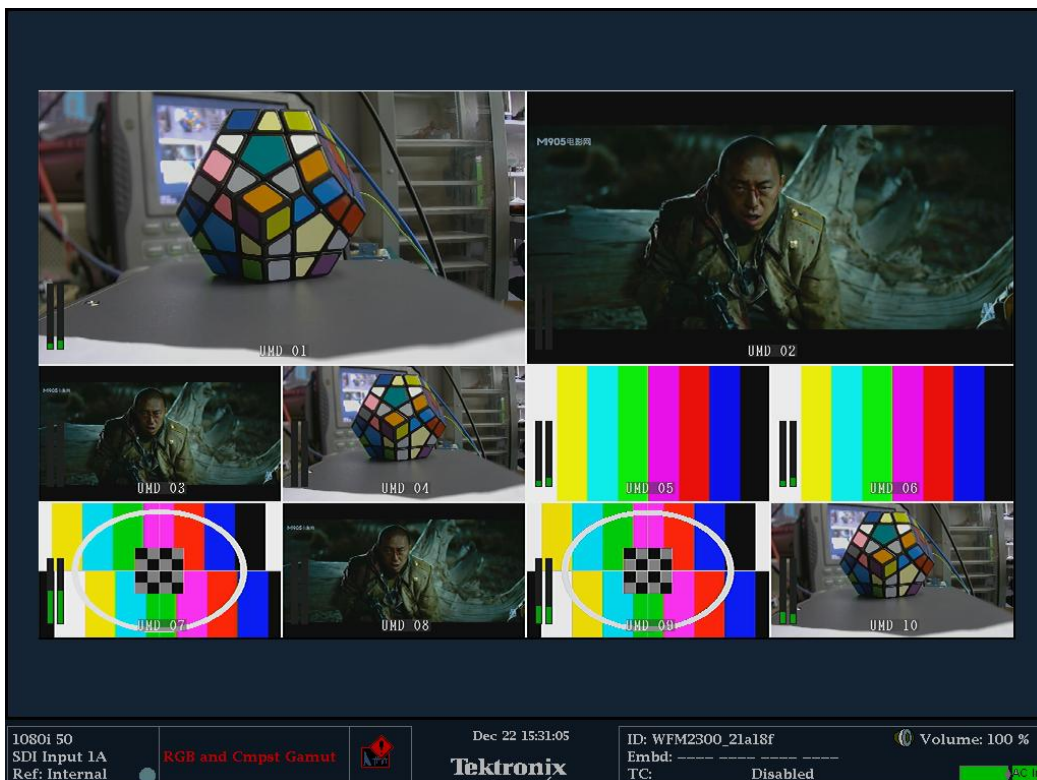
Any base map can be added, such as: company group photo logo



2.5.4. 8- Screen



2.5.5. 10-screen



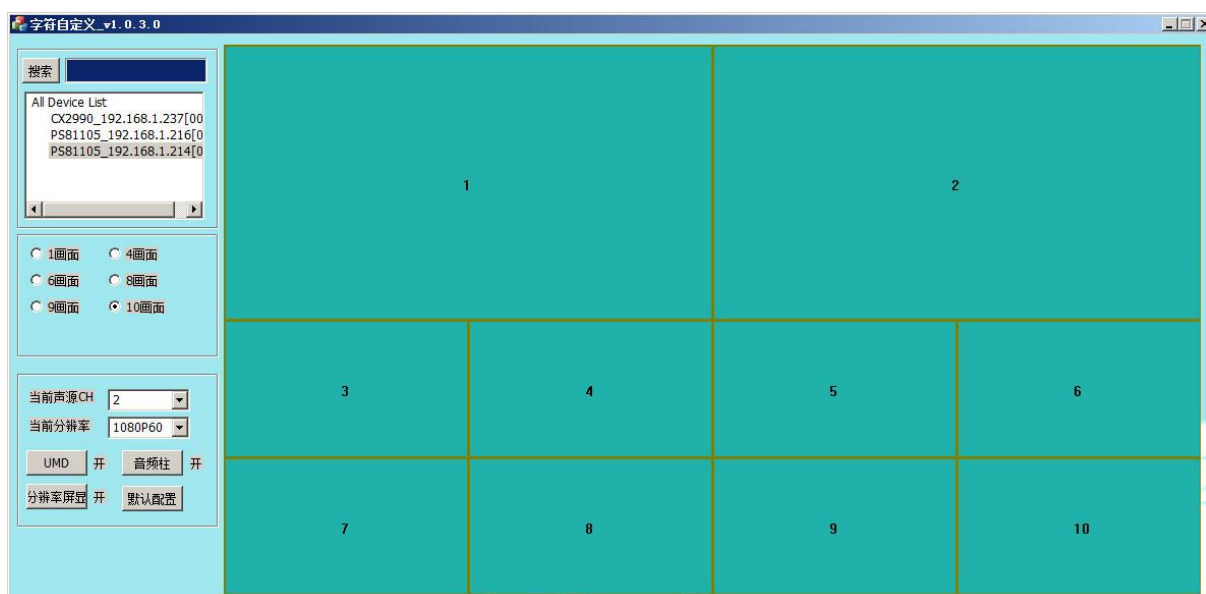
2.6. 10-screen character setting control software description

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2.6.1. Open the software

Run the exe file, click the "Search" button, you can list the device, the left mouse button to select the corresponding device, you can read out the current device display mode and characters, audio column status, as shown in Picture 1.

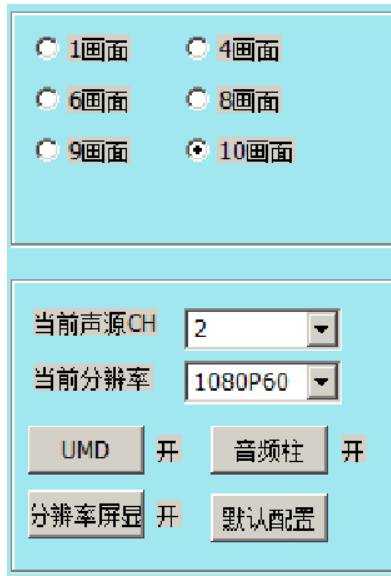


Picture 1

Note: This software will be continuously updated. If you need the latest software, please contact us. The software version of this example is: ItemMove_16P_PcSet_r_v1.0.3.0_20170425.exe, the software 10 screen is shared with our 16 screens.

2.6.2. Controlling device

The control button area is roughly divided into two parts, as shown below



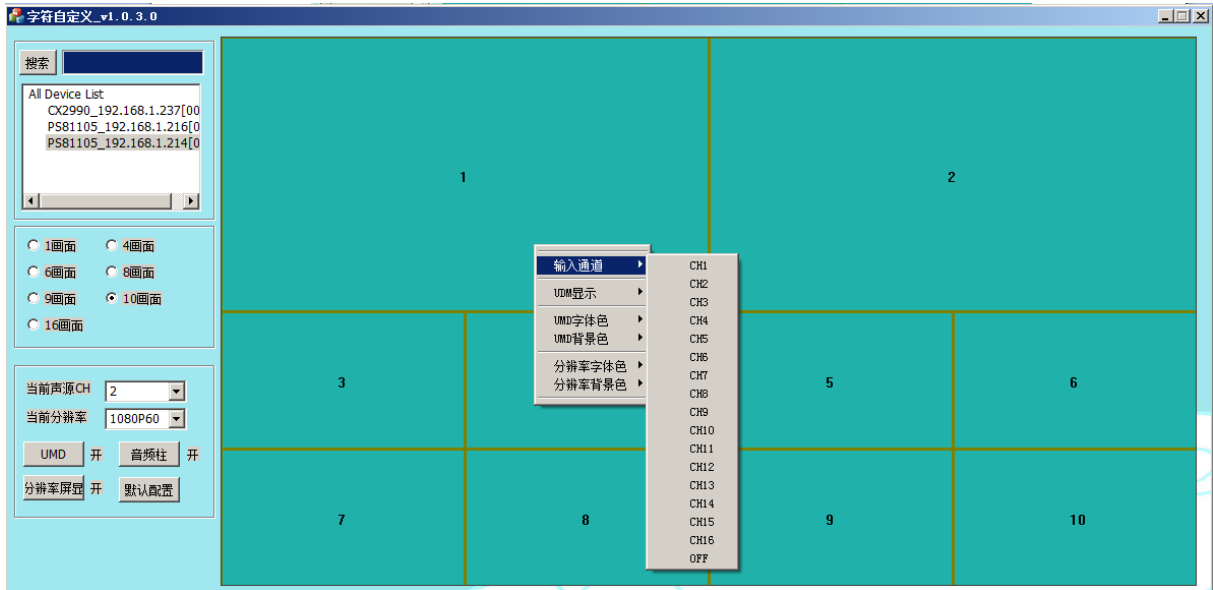
Zone 1: Radio button is only used as a switch display mode.

Zone 2: The Functions for the 3 buttons as follows:

- (1) Switch the output resolution of multi-screen split
- (2) Switch the channel of the output sound source
- (3) Audio column button, operation and status with subtitle button
- (4) The default configuration button clears all character settings and channel switching, making it the exit mode.
- (5) UMD button, click to turn UMD display on or off
- (6) Change the face switch button, click to switch the screen display mode

2.6.3. Right click menu bar

The contents of the entire right button are as shown in Picture 3 below.



Picture 3

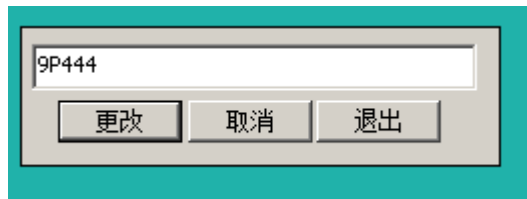
All its functions are as follows

(1) Switching channels

The mouse pops up in that area, and any input channel is selected to switch the video of the corresponding window to the selected channel.

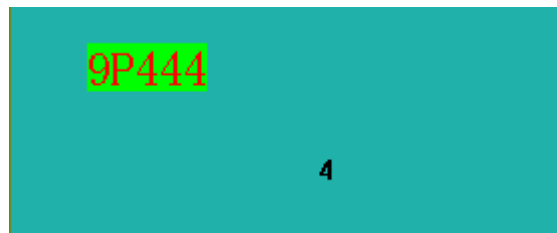
(2) UDM display (character overlay)

Right click on the UDM display and click on “Character Customization” to pop up the change character before entering the box.



Only English letters and Arabic numerals can be entered in the input box, and try to be within 16 characters.

Click “Change” and the following words will appear in the schematic area.



At this point, the mouse moves to the green area, and the mouse changes to the shape of

the four-directional arrow. Press the left mouse button to move within the area.

(As shown in the figure above, move within 4), then release the left mouse button to change the position information of the character in real time.

Right-click on the UDM display and click "Close Single Character" to turn off the character information of the current area.

Note: The character display of each multi-picture mode is independent. Switching mode will only display the character information of the switched mode.

(3) Audio column switch

Right-audio column, click "On" or "Off" to switch the audio column of the corresponding screen in real time. The bottom layer of the position is uniformly configured.

(4) Resolution switching

Right-resolution, select and click any resolution, ie switch the resolution of the output display

(5) Single channel amplification and reduction

Right-click one-way operation, click "Zoom in" to zoom in on the current channel for full screen display. Conversely, if it is already in full screen mode, click "Restore" to switch back to the original multi-picture mode.

2.6.4. Single screen display function

When you need to zoom in on a certain output channel in a multi-screen, you can press the output channel number and press the ALL button to zoom in. (Example: Full screen display of the third screen in the current 10 screens: 3+ ALL), the number of the output channel can be turned on by turning on the character display switch. To return to the previous multi-picture mode, press the Menu button to switch.

2.6.5. Display screen switching function

If you want to switch the current output screen, you can switch it according to the "X input Y output" mode: "X" indicates the input channel number of 1~10, "Y" indicates the output channel number of the current multi-screen, "Enter" Replaced by MON on the keyboard, "out" is replaced by CAM on the keyboard (example: the current picture is 10

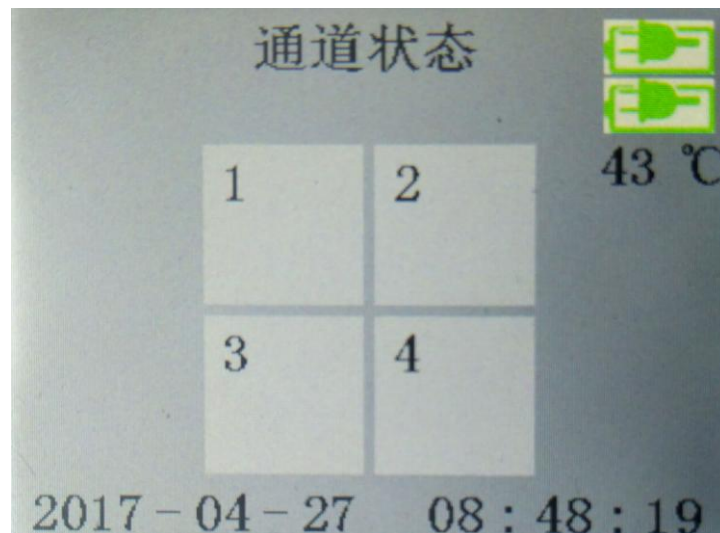
screens, if you want to switch the 10th way to the 2nd display, you can press: 10 MON 2 CAM).

Other buttons are not defined yet, and will be added if required by the function.

2.7. Menu usage and LCD display instructions

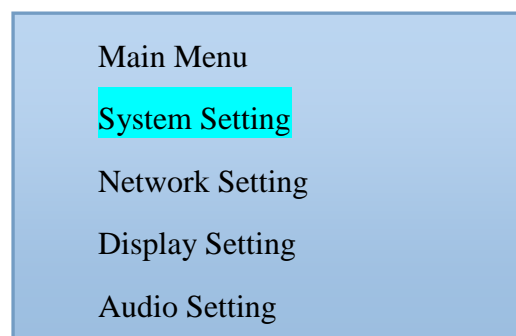
2.7.1. Boot LCD status

After powering on, you can see the status of the power supply, the internal temperature of the chassis, the channel status and time on the LCD panel. If the dual power supply is broken, a power icon on the power supply will turn red.



2.7.2. Menu

After pressing the knob on the front panel, enter the main menu as shown below.

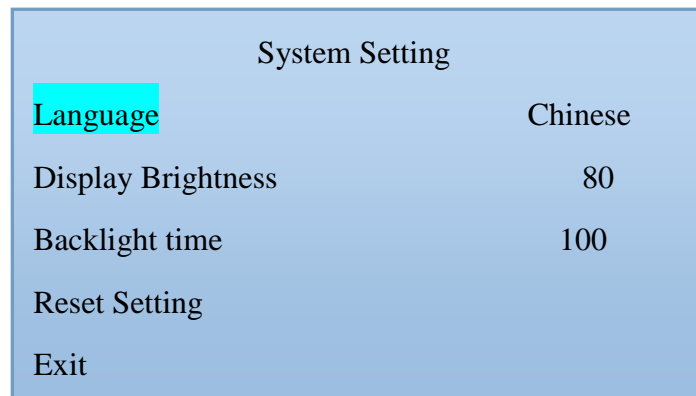


2.7.2.1. How to use the knob

- 1) Rotate clockwise to select down.
- 2) Counterclockwise for upward selection.
- 3) The font background is blue when selected.
- 4) Press to confirm.

2.7.2.2. System setting

Select the system menu and press the knob to enter the system setting screen, as shown below.



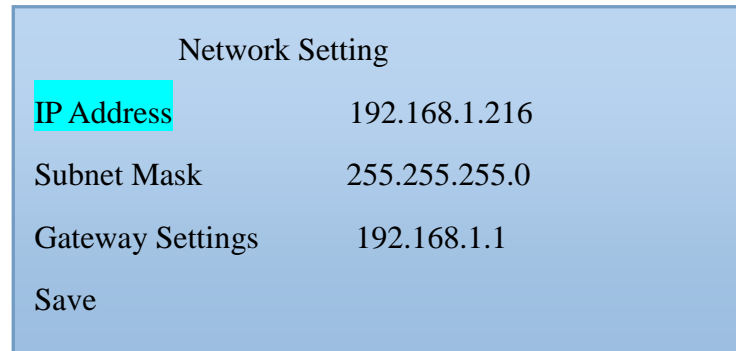
System settings include language settings, LCD screen brightness settings, backlight time, and reset settings

- 1) The language setting supports two languages, Simplified Chinese and English. Set the mode: Turn the knob to the language selection → press the knob → turn the knob to select the language you want to set → press the knob.
- 2) Screen brightness setting: The brightness of the LCD panel can be adjusted by the knob. The setting method is the same as above.
- 3) Backlight time: You can freely adjust the time to adjust the backlight constant according to your own use.
- 4) Reset Settings: This option restores the factory settings. After setting, all settings including

all settings and device IP on the PC will be cleared.

2.7.2.3. Network Settings

Select the network and press the knob to enter the network setting screen, as shown below.



In the network settings, you can set the IP, subnet mask, and network management of the device.

Set the IP address: press the knob after selecting the IP address → you can set the first segment of the IP. Figure 192. Rotate the knob to adjust the number to small. → Enter the second segment to set the above figure 168. After setting, press the knob → set After the third paragraph is completed, press the knob → set the last segment. After setting 216, press the knob, and then set the subnet mask and gateway. The setting method is the above. Remember to save after the setting is completed. If it is not saved, the setting will be invalid.

2.7.2.4. Display settings

Select the display setting and press the knob to enter the display setting screen, as shown below.

Display Setting	
Item Selection	UMD
Display Enable	ON
Channel Selection	1
Word Color	Gray
Background Color	Wine red
Exit	

Display setting:

- 1) Set the font color and background of the selected channel UMD
- 2) Set the font color and background of the selected channel resolution
- 3) Turn on or off the screen output of the selected channel

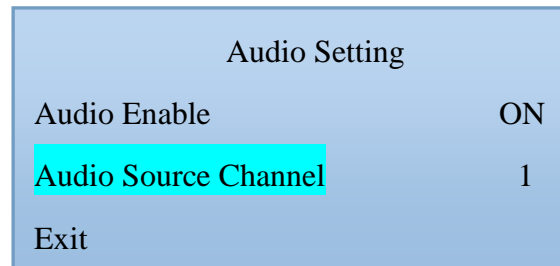
Setting method:

Custom font color and background color: Rotate the knob to adjust the channel. Select Knob → Rotate the knob to select the channel to be controlled. Press the knob → Rotate the knob to the item. Select Knob → Rotate the knob to select UMD or the resolution to press the knob. → Rotate the knob to the text color or background color to change the background color and font color of the UMD and resolution of the channel.

Turn on or off the screen output of the selected channel: Select knob to channel selection Press the knob → select the channel under the knob to be controlled → select display enable press the knob → can select whether; turn on the channel screen display, or close the channel The screen is displayed.

2.7.2.5. Audio settings

Select the display setting and press the knob to enter the display setting screen, as shown below.



Audio settings option to turn the specified channel audio on or off

Setup steps:

- ① Rotate the knob to the audio source channel to select the channel to control.
- ② Turn the knob to Audio Enable to turn the channel's audio on or off.

2.7.2.6. Device Information

Select the device information; press the knob to enter the device information screen, and you can see some system information of the device on the page.

2.8. Tally Function

This device supports Tally display.

2.9. REST Reset

This device supports hardware reset. It is designed as a built-in button to prevent accidental collision. If you need to restore the factory settings, you can reset it by pressing and holding for 1 second. After the reset is completed, the system will restart automatically.

2.10. Dual power supply

This device supports dual power supply. It can be used together with two power supplies or one power supply. One power supply is displayed on the LCD panel. The normal status is

green. The green LCD panel displays a green icon, and the rear panel has two POWER indicators. The work is lit green.

3. Failure and Maintenance

3.1. Common Faults and Solutions

- (1) The output image is disturbed and may be disturbed by other devices.
- (2) When plugging in the audio and video interface, if there is obvious static electricity, the device power ground wire may not be good grounding, please ground in the correct way; otherwise it will easily damage the host and shorten the life of the mainframe.
- (3) When RJ45 (generally: computer serial port) cannot control the screen splitter, check whether the communication port set by the control software corresponds to the serial port of the connected device; check if the communication port of the computer is good.

3.2. Maintenance

Use a soft, dry cloth to clean the device. Do not use alcohol, paint thinner or benzene to clean. Make sure that the device is stored and operated in an environment away from liquids and stains.

3.3. Warranty information

The company guarantees that the process and materials of the product are not defective within 12 months after purchase from the company or its authorized distributors, under normal use and service support. We offer a one-year warranty after sale.