DeviceWell ®

Users' Manual

SDI 16-Screen Multiview

Model: MVP9116

VER 15

HD MI SDI AUDIO

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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.

Contents

1. Product Introduction

1.1. Product Overview

This is a professional-grade SDI multiview that supports 16-channel SDI signal input and 16-channel SDI output and 1-channel HDMI output. You can use the front panel keyboard to change the display resolution to 1080i50 / 60, 1080p25 / 30 or more. The device is a multi-screen splitter with 16 matrix switching functions. The device can connect 16 SDI signals and has 16 loop-out functions. When performing multi-picture synthesis, there are 2 identical SDI outputs (the two left SDI interfaces) and 1 HDMI output. The display mode of the screen can pass through the network port. Flexible configuration using PC-side software allows configuration options for 1 to 16 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 16 signal inputs, up to 16 signal outputs

◆ Support single screen enlargement, 4 screens, 6 screens, 9 screens, 10 screens, 16 screen modes

◆ Support input screen switching

◆ Audio column display and character overlay enabled or disabled

◆ Input port: SDI×16

◆ Output port: SDI $\times$ 16; SDI $\times$ 2; HDMI $\times$ 1

◆ SDI HD/SD Adaptive

◆ Support network, RS422, menu and button control

◆ Support network upgrade system function

◆ Support REF input expansion

◆ Support Tally extension

◇ Special features can be customized

1.3. Product Parameters

Name		SDI HD 16-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	<0.2Ul
HDMI Output	Output Signal	Standard HDMI signal
	Rate	270Mbps~2.97Gbps
	Signal amplitude	800mV±10%(100R)
	Impedance	100Ω
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℃~50℃ without condensation
	Storage Temperature	-20℃~75℃
	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（Multi-screen output） ③SDI×16 input
④SDI×16 Loop   ⑤Power Light   ⑥Network and RS422 interface
⑦USB interface   ⑧AC 100 – 240V   ⑨RS232 serial port

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

2.2.7. 16-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 window number of the multi-screen. 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 the channel number to be switched is greater than 9, you need to press 10+ first, then press 0, 1, 2, 3, 4, 5, 6 Input for 10, 11, 12...

2.3.2. Full Panel

In the multi-screen switching, you can select a certain way to display in full screen, press Full Panel to enter the full screen and then press the channel to be selected (for example, let the 5 screens in 16 screens display full screen: press Full Panel to enter full screen and then press 5) Press the Full Panel button again to return to the multi-screen state. If the channel switching operation has just been performed, the OUT is in the light state. You must first press OUT to turn the light off and then perform full-screen operation.

2.3.3. Mode

Multi-screen mode switching, a total of 1, 4, 6, 8, 9, 10, 16 seven modes 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, 1080i60, 1080i50, 1080p30, 1080p25, 1080p24, 720p60, 720p50 nine resolution options.

2.3.5. Audio

Press Audio ON/OFF to toggle the audio column display or hide of all channels.

2.3.6. Char

Press Char ON/OFF to toggle the display or hide of characters on all channels.
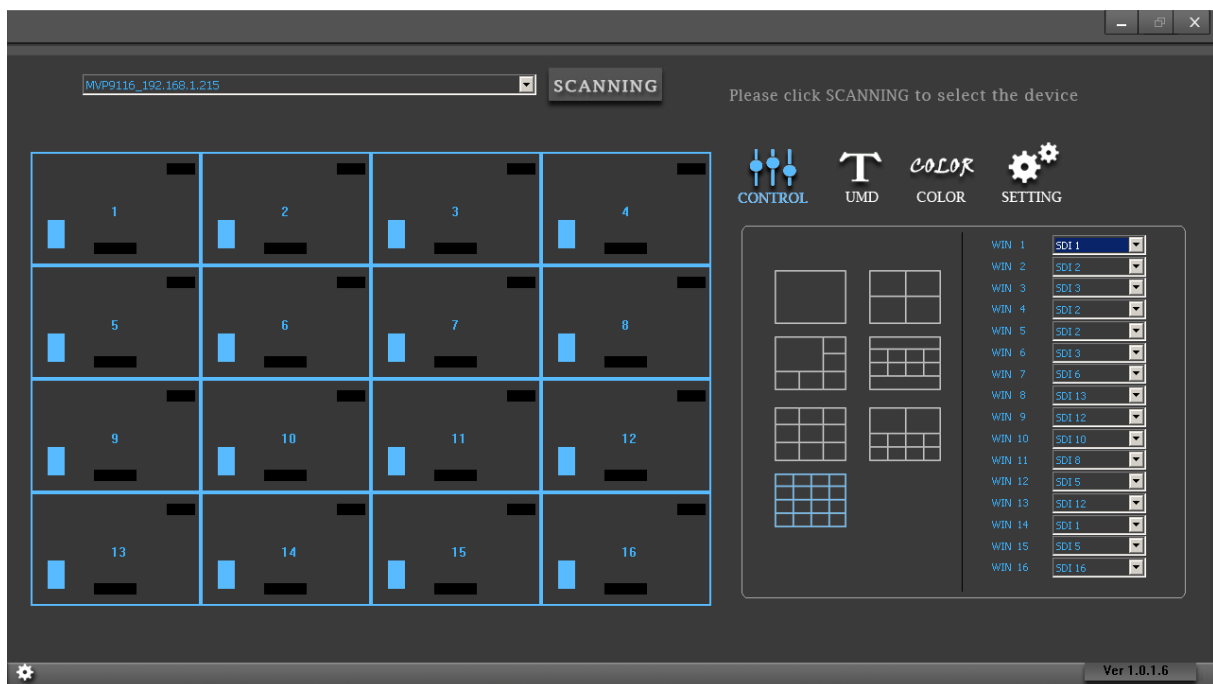
2.3.7. Knob

Reserved for LCD menu control.

2.4. 16-Screen character setting control software description

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, etc. The software function is divided into four modules:
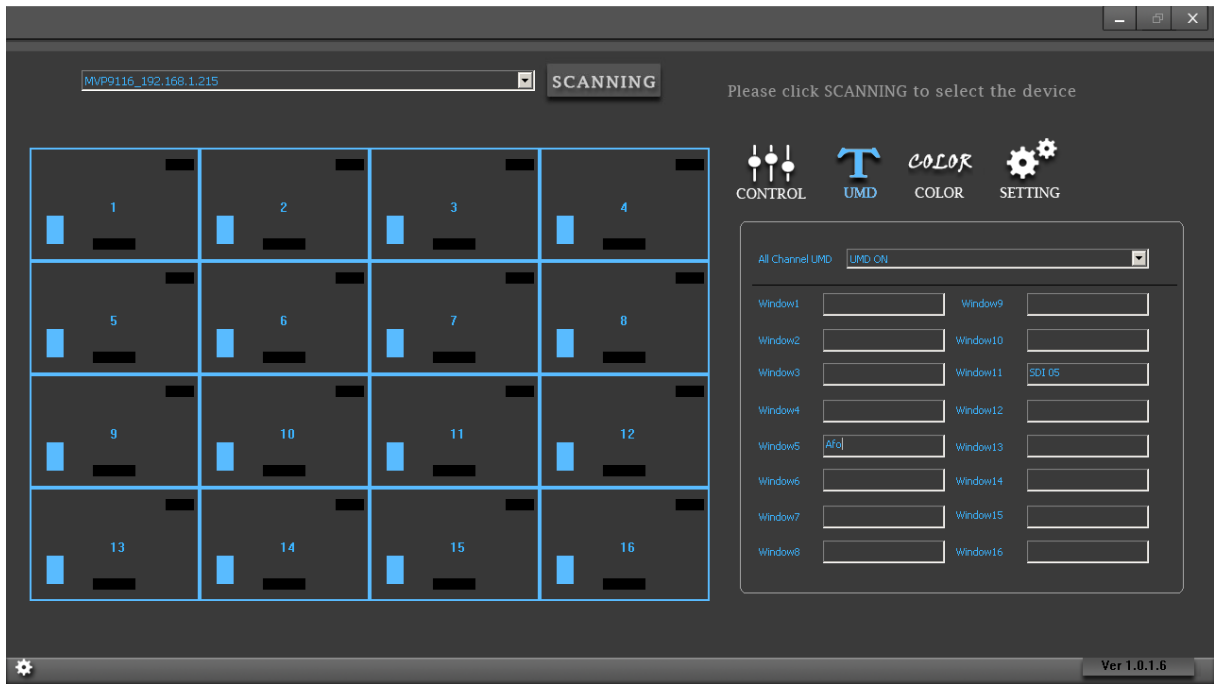
2.4.1. CONTROL module

Click the CONTROL icon to enter the module, which can control the device output picture mode and select the input source of each window.

Note: This software will be continuously updated. If you need the latest software, please contact us.
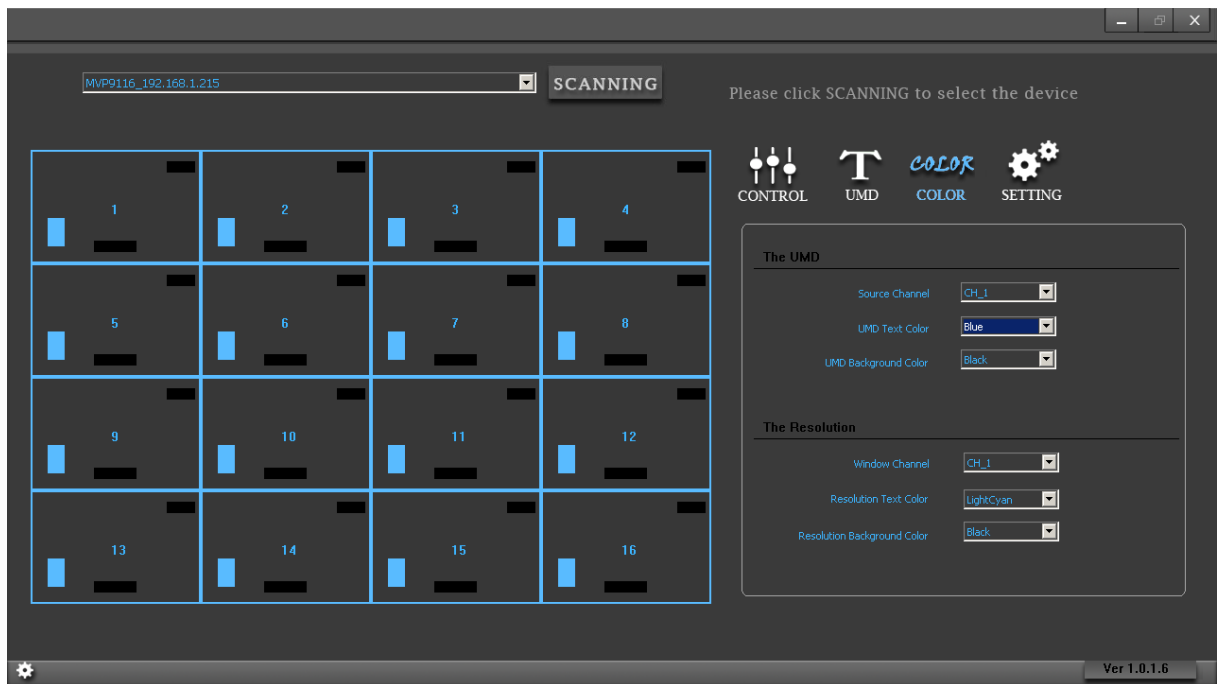
2.4.2. UMD Module

Click the UMD icon to enter the module. The UMD module can open and close the screen characters. At the same time, you can customize the characters of each window. Press Enter in the corresponding window bar to save.

Note: The input field supports up to 10 characters.
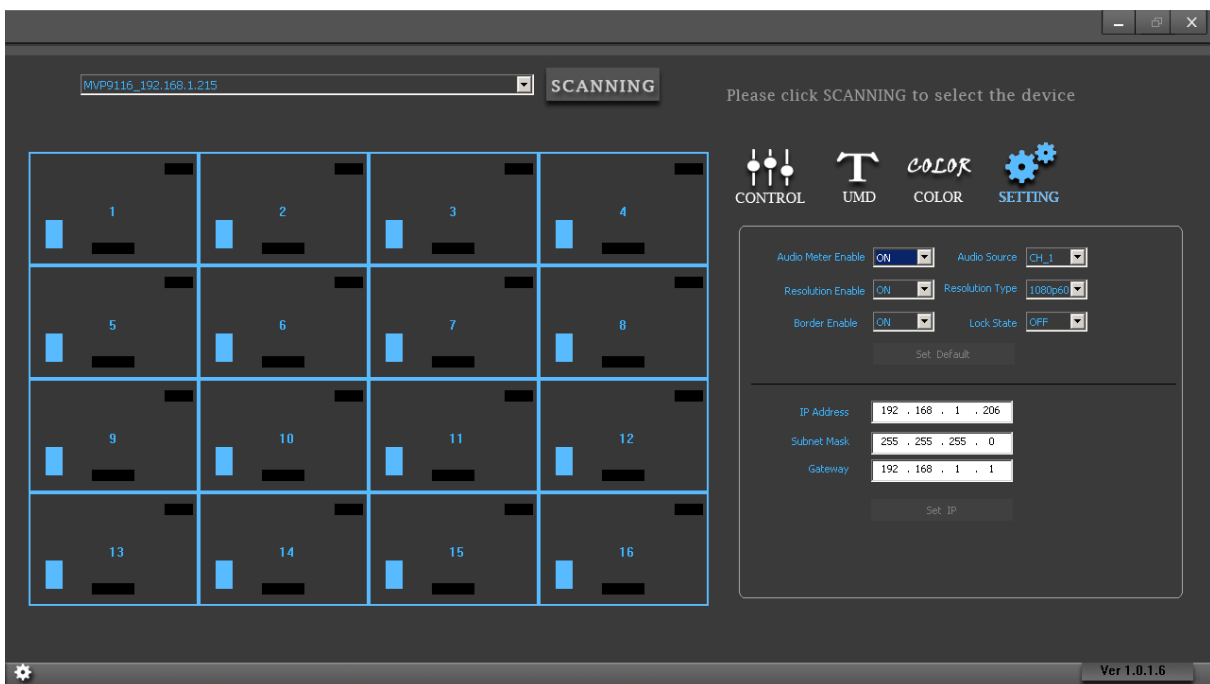
2.4.3. COLOR Module

Click the COLOR icon to enter the module. Under this module, you can change the color of UMD (character) and input resolution. Click the drop-down selection window to change the font color and background color.

2.4.4. SETTING Module

Click the SETTING icon to enter the module. This module has the following functions:

1) The audio main switch turns on and off the audio master;

2) Sound input source, select the channel to input the sound source;

3) output resolution, switch output resolution;

4) On-screen display switch, turn on and off the input resolution characters;

5) Border state, open and close the screen border;

6) Lock the status, lock and unlock the device, the device buttons and software have no function when the device is locked, and the device can be controlled after unlocking;

7) Restore factory settings; after clicking this button, the device will clear the user settings and restore the default settings;

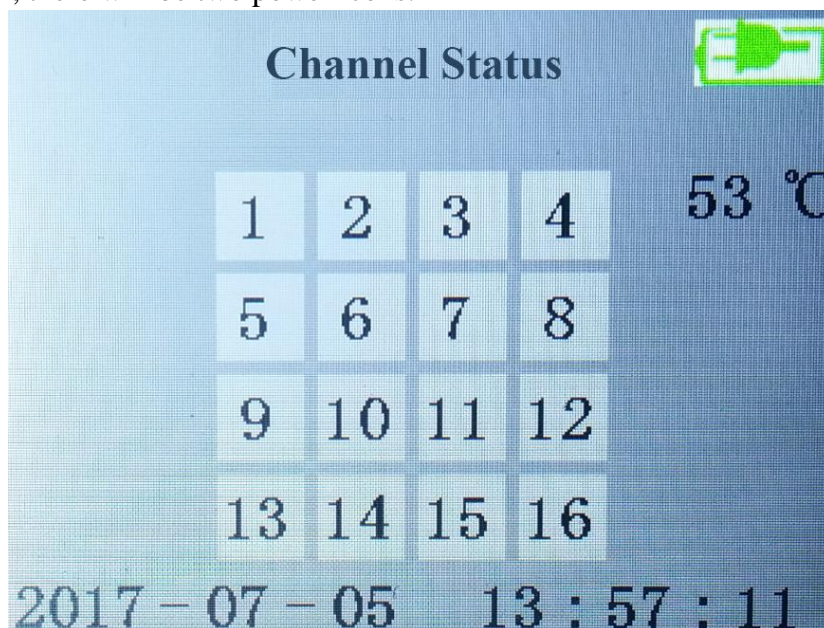8) Modify IP: After changing the IP address, click Modify IP to save the settings.

2.5. USB Interface

The USB interface is a reserved interface.
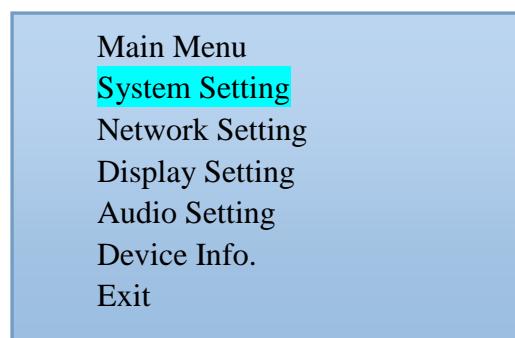
2.6. Menu usage and LCD display instructions

2.6.1. 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 turned on, there will be two power icons.

2.6.2. Menu

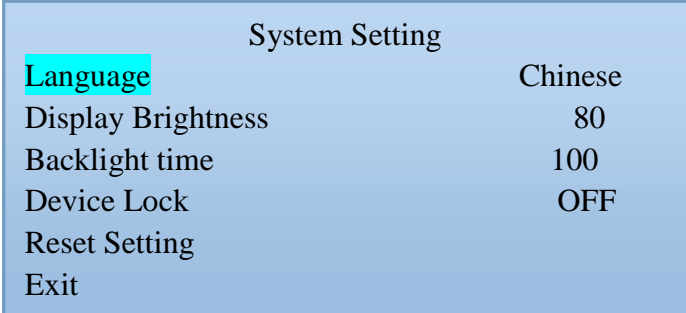After pressing the knob on the front panel, enter the main menu as shown below.

2.6.2.1.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.

2.6.2.2.System setting

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

```
                    System Setting
Language                              Chinese
Display Brightness                      80
Backlight time                          100
Device Lock                            OFF
Reset Setting
Exit
```

System settings include language settings, LCD screen brightness settings, device lock, backlight time, 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) Device lock: After the device is locked, the button and PC software will not be able to control the device.
5) Reset Settings: This option restores the factory settings. After setting, all settings including all settings and device IP on the PC will be cleared.

2.6.2.3.Network Settings

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

```
              Network Setting
IP Address              192.168.1.215
Subnet Mask             255.255.255.0
Gateway Settings        192.168.1.0
Save
Exit
```

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.

2.6.2.4.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 Switch              ON
Channel Selection            1
Word Color               Magenta
Backgroud Color          Light green
Border Switch               ON
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

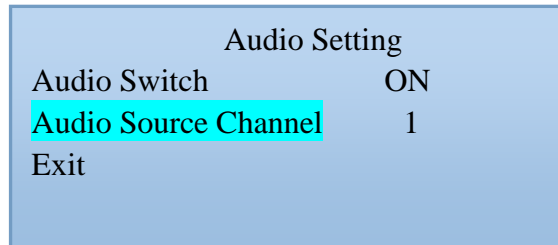3) Turn on or off the screen output of the selected channel

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.
4) Border switch: Open and close the screen border.

2.6.2.5. Audio Settings

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

```
                    Audio Setting
Audio Switch                ON
Audio Source Channel         1
Exit
```
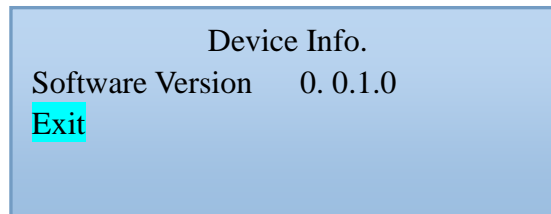
Audio settings option to turn the specified channel audio on or off
Setup steps:
①　Rotate the knob to the audio source channel to select the channel to control.
②　Turn the knob to Audio Enable to turn the channel's audio on or off.

2.6.2.6. 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.

```
                Device Info.
Software Version      0. 0.1.0
Exit
```

2.7. Tally Function

This device has a matching RS232 to Tally board and supports tally expansion.

2.8. Dual power supply

This device supports dual power supplies. 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.