灰度科技
HUIDU TECHNOLOGY

# Instruction Manual

Two-in-one video processor

**HD-VP620A & 820A**

V1.0

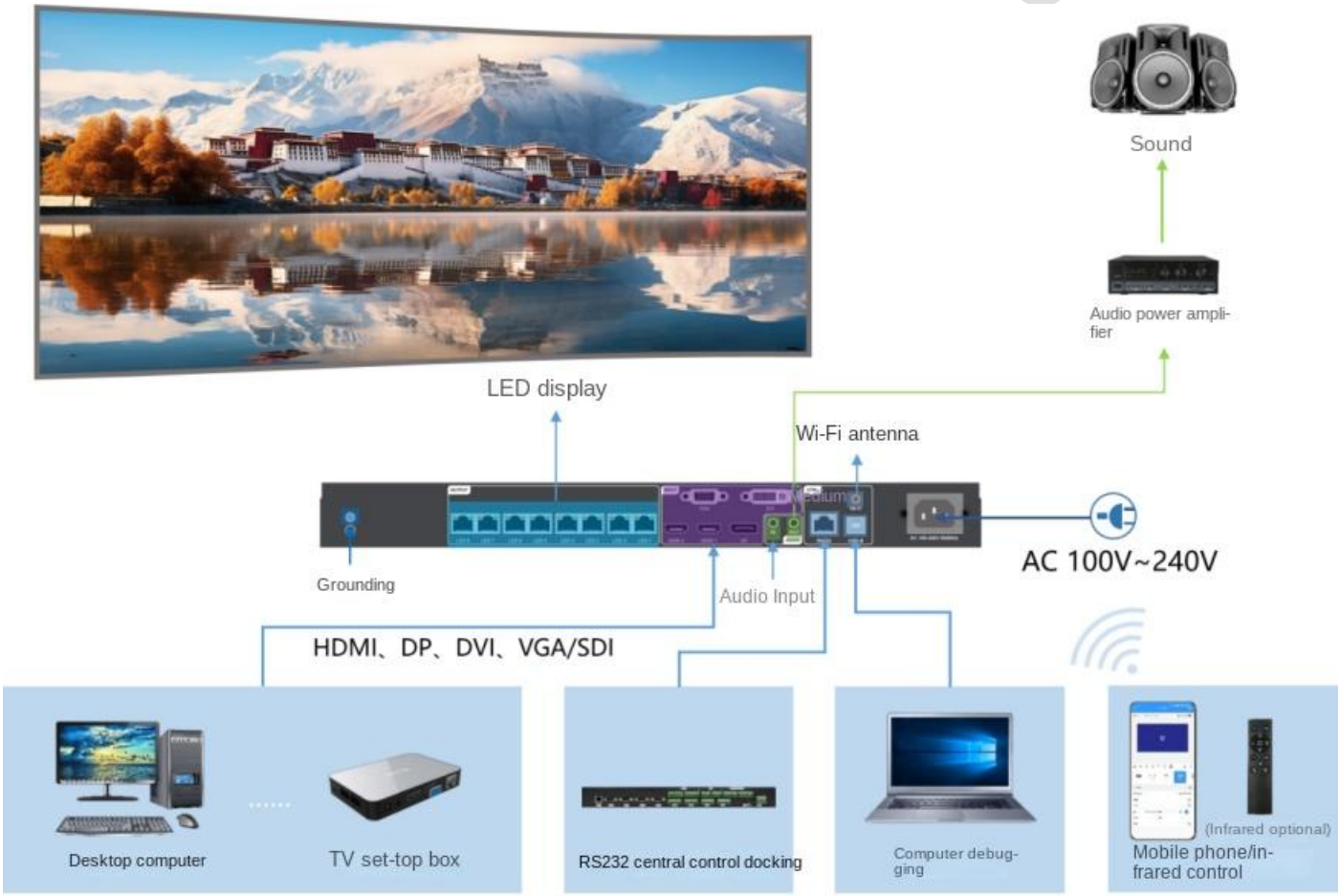
## Update History

| Release version | Release time | Update Notes |
|---|---|---|
| V1.0 | 2024.1 1 . 05 | First official release. |

# 1. System Overview

HD-VP 820A & VP620A is a two-in-one video processor that integrates a traditional video processor and 8 -way /6 -way Gigabit Ethernet output. It not only simplifies the on-site environment construction, but also improves the reliability of the product. It supports 5- way synchronous signal input and can be used in hotels, shopping malls, conference rooms, exhibitions, studios and other occasions that require synchronous playback; in addition, the device also supports point-to-point input/output, allowing the LED display to display clearer images.

# 2. Connection diagram



# 3. Product Features

**enter**

- Supports up to 4096*2160 @60Hz synchronous signal input ;
- Supports 2-channel HDMI, 1-channel DP, 1-channel DVI, and 1-channel VGA signal input, and can switch multiple video signals at will;
- Supports 1 TRS 3.5mm standard dual-channel audio input and HDMI /DP audio input.

**Output**

- Supports two-screen layout, 2×4K or 4K+2K or 2×2K windows;
- Standard 8-channel Gigabit network port, directly cascade receiving card;
- The maximum control is 5.2 million pixels, the maximum horizontal support is 8192 pixels, and the maximum vertical support is 4000 pixels ;
- 1 TRS 3.5mm standard two-channel audio output .

**Function**

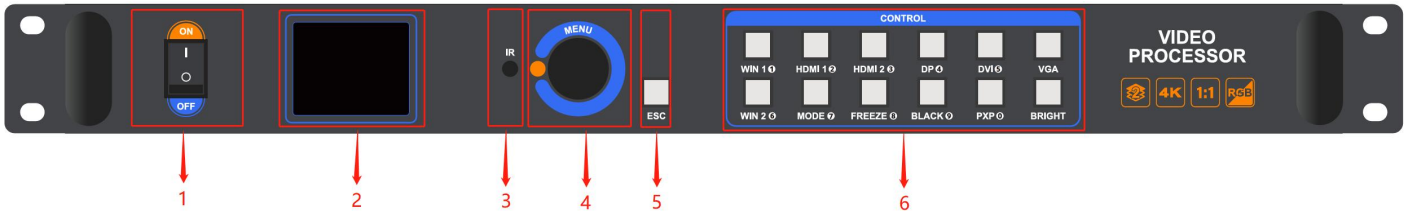
- Video signals can be switched, cropped, and scaled at will;
- Support 16 scene presets and calls ;
- Support brightness adjustment, color temperature adjustment and key lock functions ;
- Support non-rectangular load;
- Support point-to-point display and limited to full conversion;
- Support RS232 serial port protocol control and docking with central control equipment;
- Support Wi -Fi Station mode, AP mode, Wi-Fi Station + AP mode;
- Support mobile phone APP wireless control;
- Support infrared remote control (optional);
- Support SDI (optional);

- Support 4G (customized).

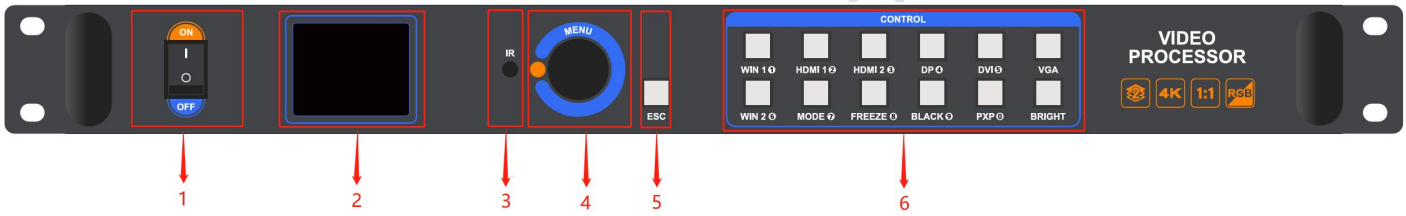
# 4. Appearance Description

**Front Panel:**

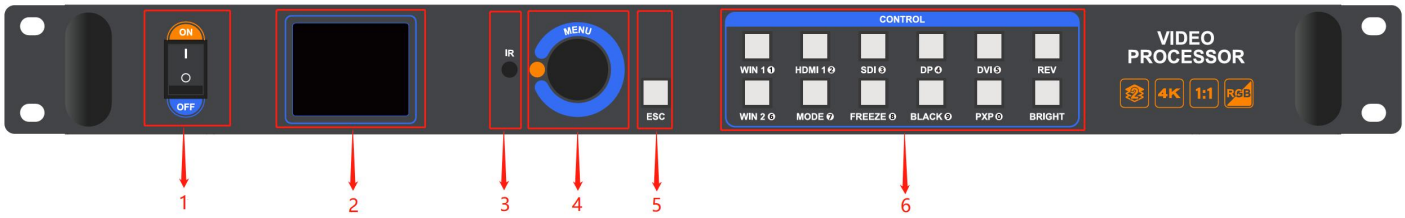
**VP620A front panel:**



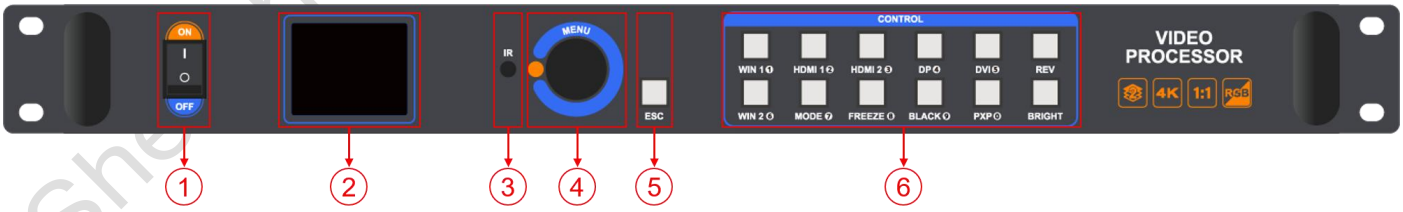

**VP820A standard version front panel:**




**VP820A SDI version front panel:**




**VP820A 4G front panel:**



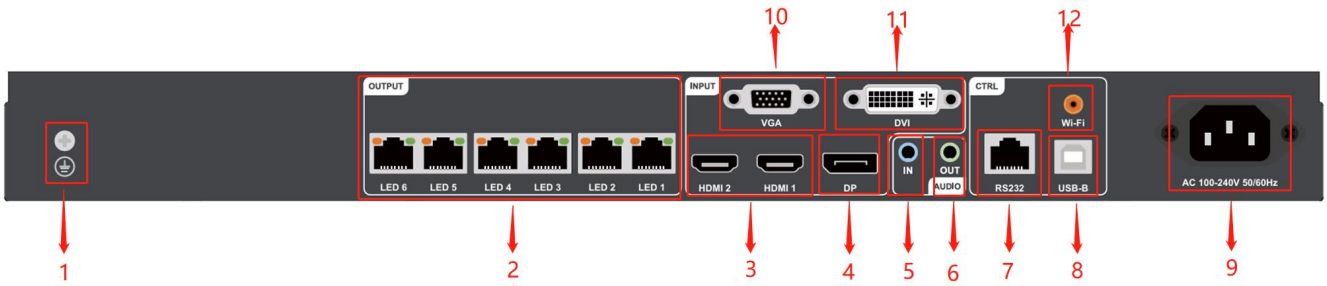

| **Button Description** | | |
|---|---|---|
| Serial number | button | illustrate |
| 1 | Power switch | Control AC power input |

| | | |
|---|---|---|
| 2 | LCD display screen | Debug display menu, screen parameters and other information |
| 3 | IR | Receive infrared remote control (optional) |
| 4 | MENU knob | Press the knob to enter a submenu or confirm a selection<br>Rotate the knob to select menu items or adjust parameters |
| 5 | ESC | Exit key /Back key |
| 6 | WIN1~WIN2 | Select an open window<br>Function key: The key multiplexing function is digital selection, generally used when setting the resolution |
| | HDMI1 | Select HDMI 1 signal playback<br>Function key: The key multiplexing function is digital selection, generally used when setting the resolution |
| | HDMI2 | Select HDMI 2 signal playback<br>Function key: The key multiplexing function is digital selection, generally used when setting the resolution |
| | DP | Select DP signal to play<br>Function key: The key multiplexing function is digital selection, generally used when setting the resolution |
| | DVI | Select DVI signal playback<br>Function key: The key multiplexing function is digital selection, generally used when setting the resolution |
| | VGA(REV) | Select HDMI signal playback ( SDI/4G models do not have VGA, and the REV button is reserved but has no actual function) |
| | MODE | Quickly call up the preset mode call menu |

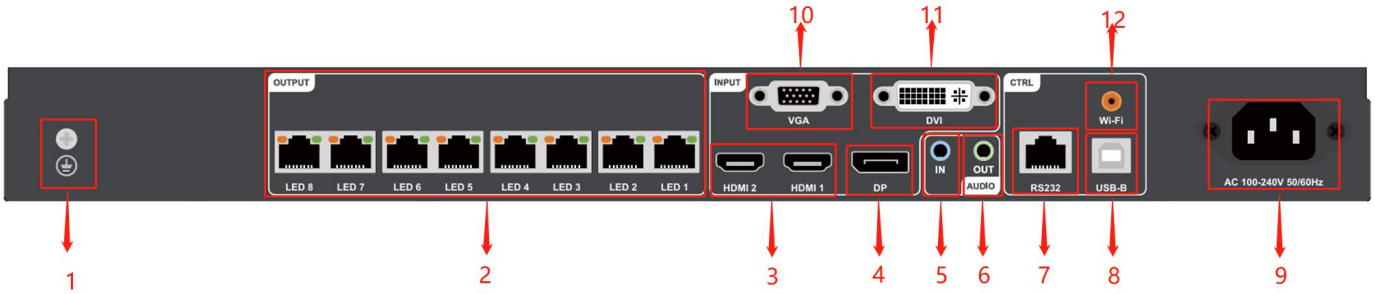
| | | |
|---|---|---|
| | | Function key: The key multiplexing function is digital selection, generally used when setting the resolution |
| | FREEZE | click freeze button<br>Function key: The key multiplexing function is digital selection, generally used when setting the resolution |
| | BLACK | One-touch black screen button<br>Function key: The key multiplexing function is digital selection, generally used when setting the resolution |
| | PXP | Quickly enter the two- screen layout menu<br>Function key: The key multiplexing function is digital selection, generally used when setting the resolution |
| | BRIGHT | Quickly call out the brightness setting button |

**Rear Panel:**

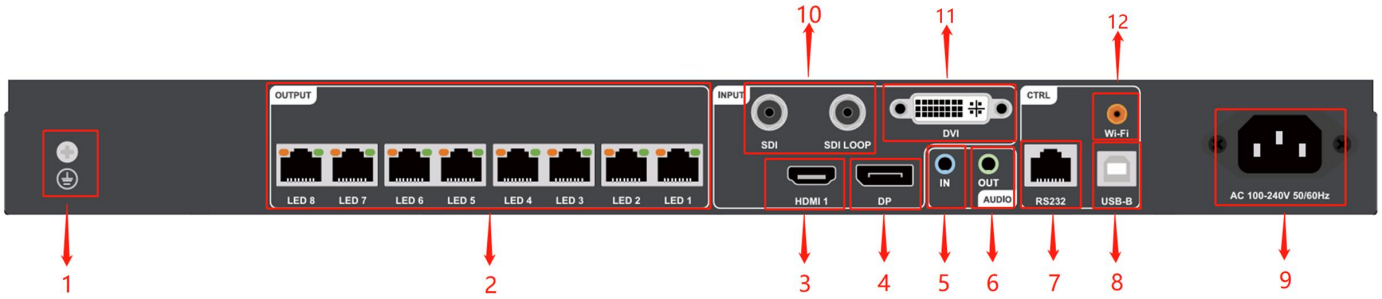
**VP620A rear panel:**



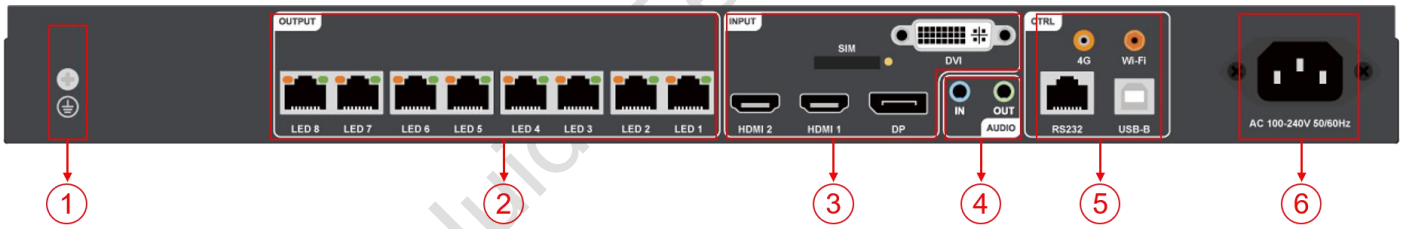

**VP820A Standard Edition rear panel:**




**VP820A SDI version rear panel:**




**VP820A 4G model rear panel:**




| **Input Interface** | | | |
|---|---|---|---|
| Serial number | Interface Name | quantity | illustrate |
| 3 | HDMI | 2 | HDMI2.0 input interface × 1 (HDMI1)<br>Interface type: HDMI-A<br>Signal standard: HDMI 2.0 backward compatible<br>Resolution: VESA standard, ≥800×600@60Hz, ≤4096×2160@60Hz<br>Support audio input<br>HDMI1.4 input interface × 1 (HDMI2) |

| | | | |
|---|---|---|---|
| | | | Interface type: HDMI-A<br>Signal standard: HDMI 1.4 backward compatible<br>Resolution: VESA standard, ≥800×600@60Hz, ≤ 4096x2160@30Hz<br>Support audio input |
| | DP | 1 | DP input interface<br>Interface type: DP<br>Signal standard: DP1.2 backward compatible<br>Resolution: VESA standard, ≥720×480@60Hz, ≤4096× 2160@60Hz<br>Support audio input |
| | DVI | 1 | DVI input interface<br>Interface type: DVI-I socket<br>Signal standard: DVI1.0, HDMI1.3 backward compatible<br>Resolution: VESA standard, ≥800×600@60Hz, ≤1920× 1200@60Hz |
| | VGA | 1 | VGA input<br>Interface type: DB15 socket<br>Signal standard: R, G, B, Hsync, Vsync: 0 to1Vpp±3dB (0.7V Video+0.3v Sync)<br>75 ohm black level: 300mV Sync-tip: 0V |

| | | | |
|---|---|---|---|
| | | | Resolution: VESA standard, ≥720×480@60Hz, ≤1920×1080@60Hz |
| | SDI | 1 | SDI Input<br>Interface type: BNC<br>Signal standards: SD-SDI, HD-SDI, 3G-SDI<br>Resolution: VESA standard, ≤1920×1080@60Hz |
| 4 | AUDIO IN | 1 | TRS 3.5mm dual channel audio input interface |
| 6 | power supply | 1 | AC 100 ~ 240V 50/60Hz |

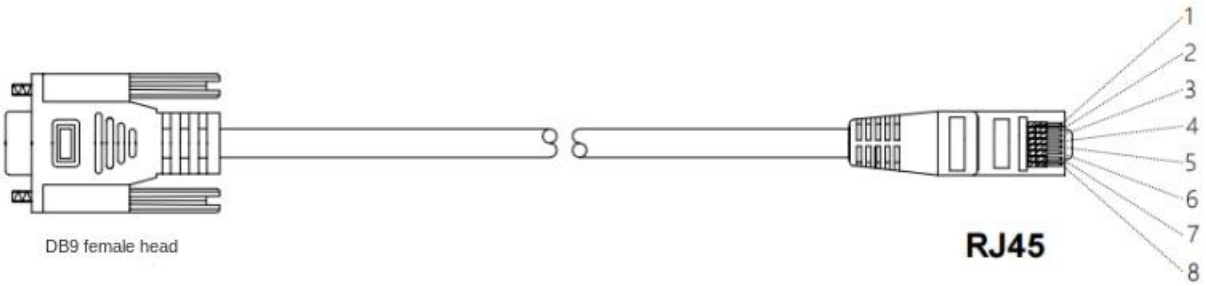
| **Output Interface** | | | |
|---|---|---|---|
| Serial number | Interface Name | quantity | illustrate |
| 1 | Grounding interface | 1 | Anti-static/leakage protection, personal safety protection and equipment normal operation protection |
| 2 | Gigabit Ethernet | 8 | Used for cascading receiving cards, transmitting RGB data stream, each network port controls 650,000 images, supports docking multi-function cards |
| 3 | SDI-LOOP | 1 | SDI signal loop-out interface<br>Interface type: BNC<br>Signal standards: SD-SDI, HD-SDI, 3G-SDI<br>Resolution: VESA standard, ≤1920x1080@60Hz |
| 4 | AUDIO OUT | 1 | TRS 3.5mm dual-channel audio output interface<br>Connect to an audio amplifier for high-power external |

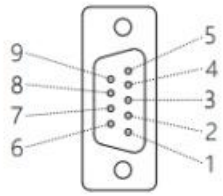
| | | | |
|---|---|---|---|
| | | | speakers |

| **Control interface** | | | |
|---|---|---|---|
| Serial number | Interface Name | quantity | illustrate |
| 3 | SIM card slot | 1 | SIM card slot<br>Currently only standard cards are supported: size W×H×D/ 25mmx15mmx0.8mm |
| 5 | RS232 | 1 | RJ45 interface, connected to the central control device |
| | USB-B | 1 | Connect to a computer for debugging the device |
| | Wi-Fi antenna interface | 1 | Connect a Wi-Fi antenna to enhance Wi-Fi signal |
| | 4G antenna interface | 1 | Connect a 4G antenna to enhance 4G signal |



* The RJ 45 to DB9 cable diagram is as follows. It is optional. If you need it, please contact Grayscale sales or technical support in advance.

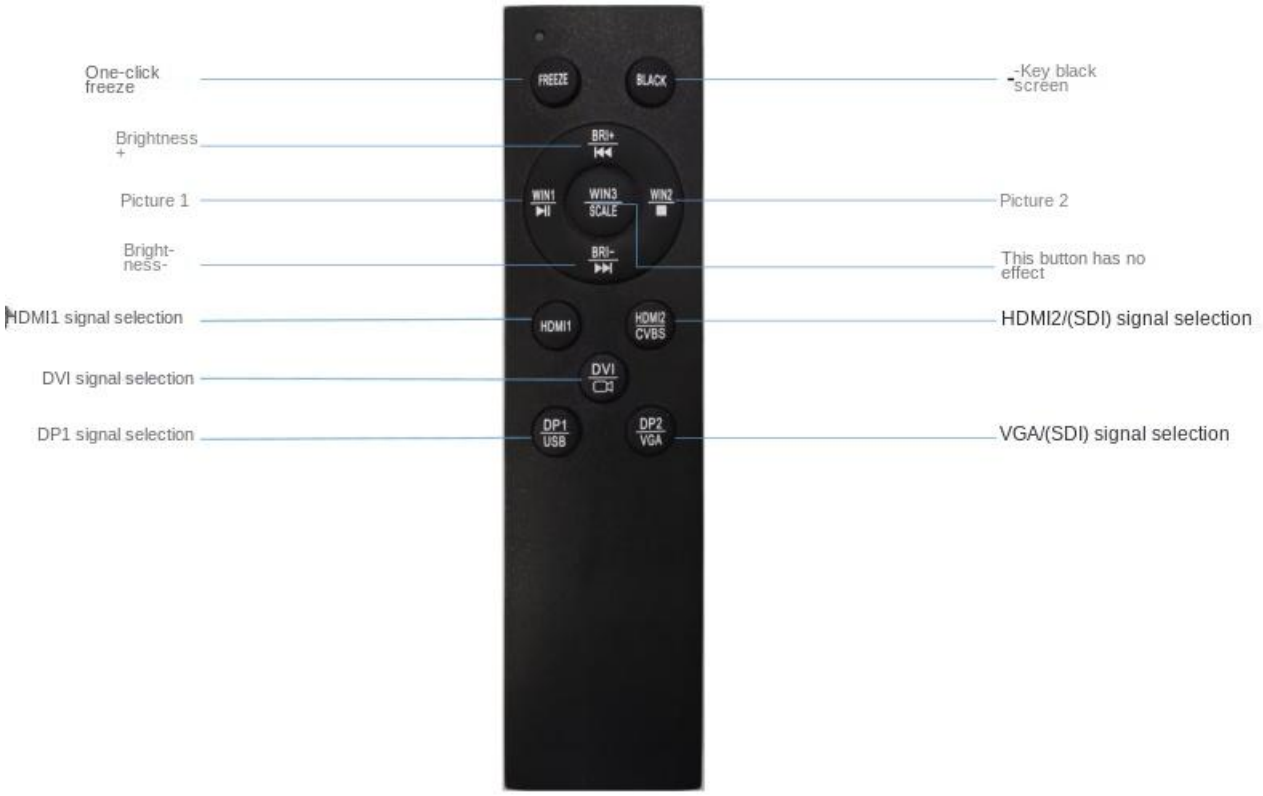


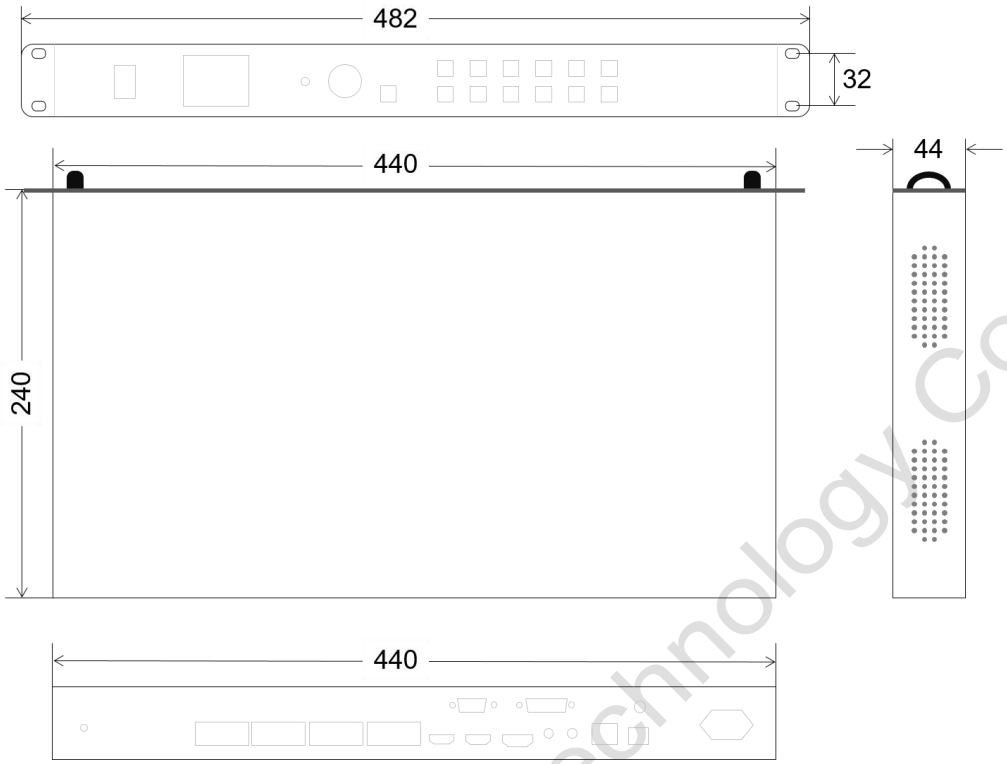

Line Sequence Diagram:

| DB9 female head | Crystal head |
|---|---|
| 2-RX | TX-1 (red) |
| 3-TX | RX-2 (blue) |
| 5-GND | GND-3 (black) |

* The remote control diagram is as follows. It is optional. If you have any needs, please contact Grayscale sales or technical support in advance.




# 5. Product size






# 6. Instructions for use

## 6. 1 Procedure

Step 1 Connect the display power supply to power on the screen
Step 2 Connect a playable input source to the HD-VP 620/820
Step 3 Use USB serial port to connect to computer to debug screen parameters

## 6. 2 Input source switching

HD-VP620/820 supports simultaneous access to 5 signal sources and can switch to the input source to be played at any time according to needs.

Switch input source

There are two ways to switch input sources. One is to press the "SOURCE" area button on the front panel to switch quickly. The other is to select the input source through the menu interface.

Step 1 Press the knob to select "Advanced Settings → Input Resolution" to enter the input resolution interface;

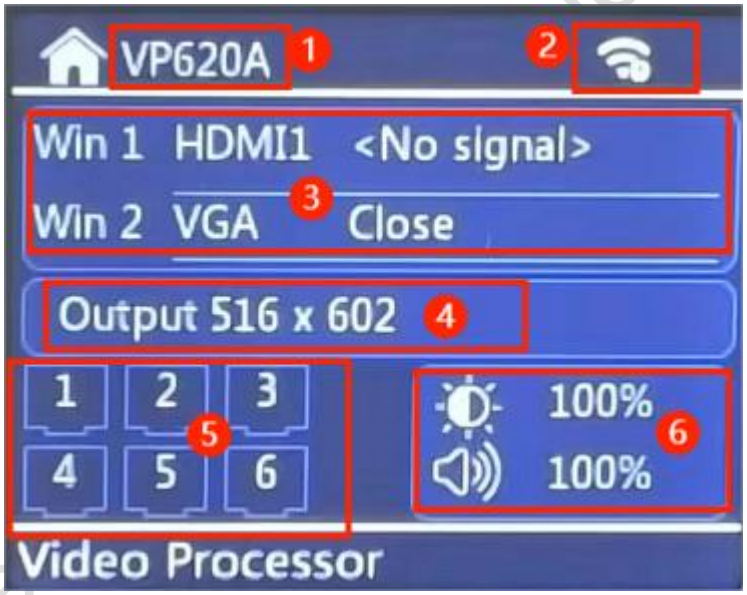
Step 2 Rotate the knob to select the required resolution or select a custom resolution setting;

Step 3 After setting the resolution, press the knob to confirm the resolution.

## 6. 3 Interface Description

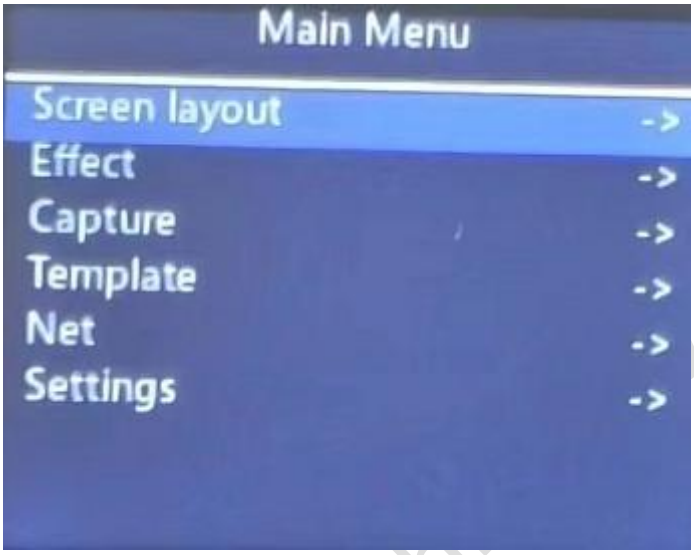
*Note: The following pictures are of the HD-VP620A operation panel. The HD-VP820A operation interface is the same.*

### 6. 3. 1 Main Interface




① Device model;
② WIFI/SDI switch icon;
③ Picture signal display;
④ Output resolution display;
⑤ Network port usage status display;
⑥ Brightness/volume display;

## 6. 3. 2 Menu interface




Screen layout: set the position and size of screen 1 and screen 2;

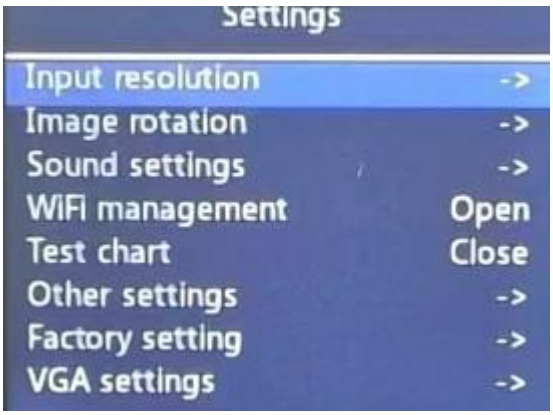

Image effect: Set device brightness, display effect and limited conversion (applicable to the phenomenon of dark and bright background on black background)


Image capture: 1/2 of the signal source can be cropped and displayed;


Template settings: The currently set screen position and screen signal can be saved to the template to facilitate multiple scene calls and switching.


Network port settings: used to set the sending card network port load range and connection relationship.


Advanced settings:




Input resolution: Change the resolution of the input source of the picture 1/2, and the resolution can

be customized (within 4k);

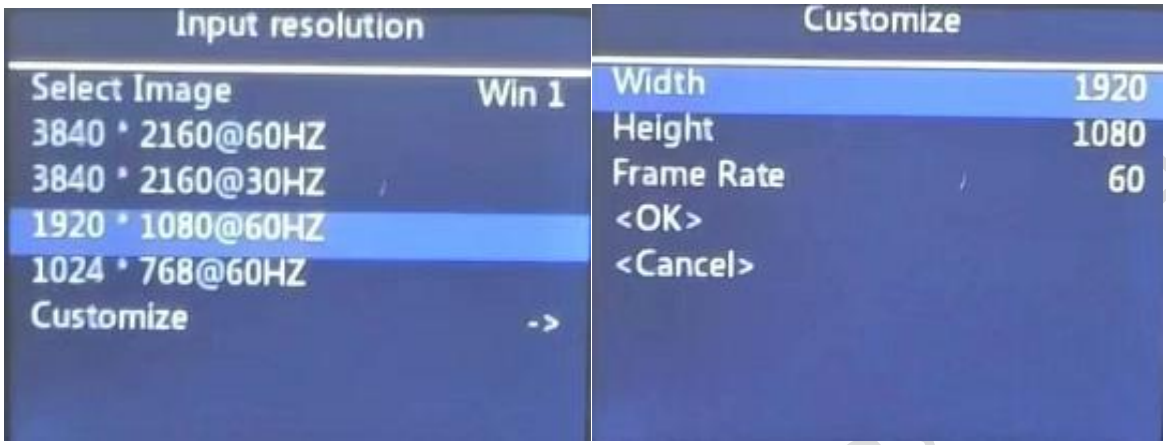
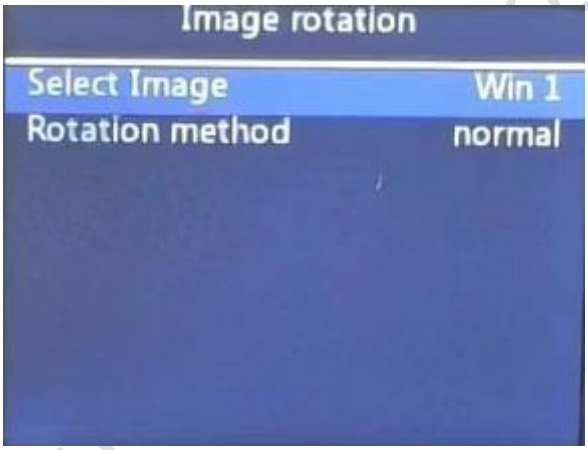



Image rotation: can rotate/mirror the image 1/2;

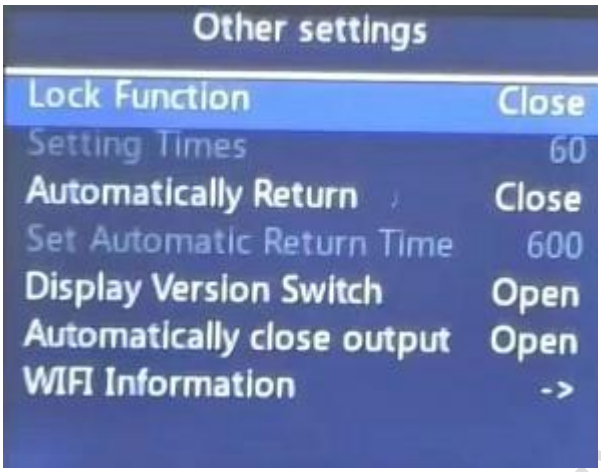



Sound settings: adjust the volume and switch;


WI-FI management: you can turn wifi on or off;

Test image: used to test the screen status, displaying pure colors such as red, green, blue, white, yellow, cyan, and purple;

Other settings: used to set functions such as wifi information, key lock delay, etc.




Factory settings: used to change the language (the device comes with Chinese and English), view device firmware information and factory reset;

VGA Settings: Used to identify that the VGA may be offset and can be corrected in this interface