
Overview

HD- VP1220 or VP1620 is one powerful 2-in-1 controller which with twelve or sixteen network ports output, support dual live video windows integrated video processing and sending card functions.

It product supports 4K input and is a cost-effective video processor for mid-to-high-end video control equipment in the LED large-screen display, performance and rental, studio and other markets.

Practical video input interface—1 HD video input interface (HDMI), 1 digital video input interface (DVI), 1 analog input interface (VGA), 1 * extended EXT input interface (DVI)。

Audio input and output—HDMI/DP audio input , 1 independent analog audio input, select 1 from 3 to send to the audio output terminal.

Debug control interface—Square USB (Type B)、Wi-Fi。

Dual-screen layout—**Support dual images function**, picture-in-picture PIP, picture-outside-picture POP.

Input resolution adjustment—In DVI/HDMI/DP input mode, it supports preset and custom adjustment of common input resolutions.

Support 68network port output—maximum load 7.8 or 10.4 million pixels, maximum width 16000, maximum 3840.

Set-and-save —The set-and-save technology solves the user's cumbersome setting and manual storage process, the user no need to manually save after adjusting or adjusting the parameters, and the user parameters are automatically stored in EEPROM, even if the power is turned off After the power failure, the parameters before the power failure remain in the device.

Save template function—it can save the current settings, up to 8 groups of template parameters, and save the parameters to the corresponding mode, which is convenient for customers to call directly.

Key lock — lock the keys to prevent accidentally pressing the operation keys to change settings during operation.

Application Scenario

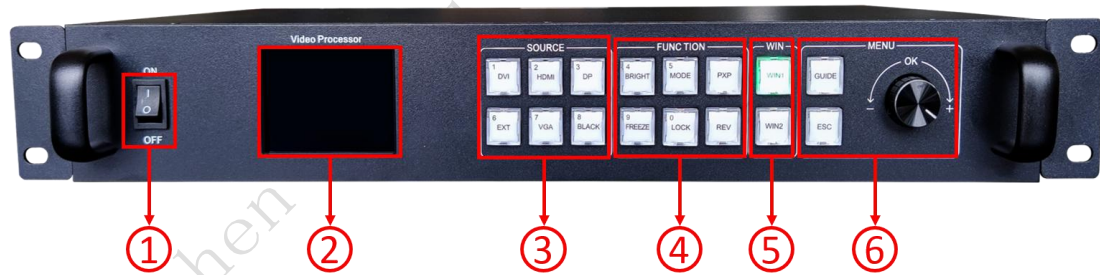
Displaying the screen of a video playback device such as a computer/TV/camera synchronously



Connection diagram

Appearance

Front panel



Interface Description	
1	Power Button
2	2.8" full-color LCD screen (320×240), display device menu information
3	SOURCE Area Input Source Select keypad , 6 buttons [DVI] ~ [DP], 5 input source port selection buttons, corresponding to the input interface identification on the back panel. Among them: when you press BLACK and the BALCK LED indicator is on, the output is in a black screen state.
4	FUNCTION Area [BRIGHT]: Quickly swap out the shortcut keys of the brightness adjustment menu. [FREEZE]: Shortcut key for screen freeze. [MODE]: Quickly pop up the preset mode call menu. [LOCK]: Quickly lock the keys to prevent miss operation.

	[PXP]: Quickly enter the dual picture layout menu. [REV]: reserved function keys.
5	WIN Area [WIN1]- [WIN2]Button: You can select the opened screen 1~2 window, and the LED light indicates the currently selected window.
6	MENU Area Short press the knob [OK] key: it means to enter the main menu or input confirmation. Turn the knob clockwise to increase or the next option, counterclockwise to decrease or the previous option. [GUIDE] key: can quickly switch out the "smart navigation" setting interface. Return key [ESC]: means to exit the current operation or option.

Rear Panel



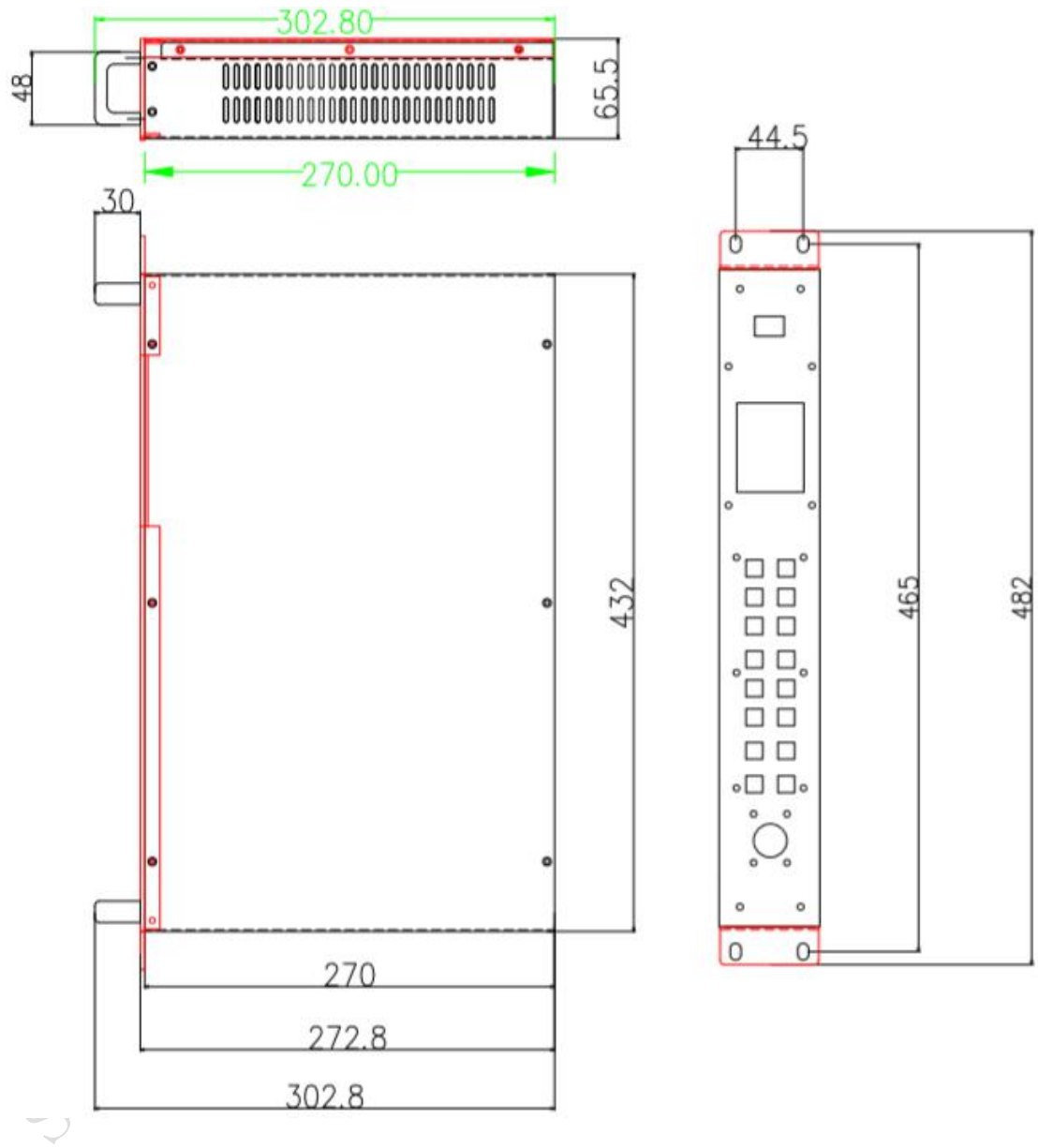
Output Port	
LED1~LED16	12/16-way network port output interface, Connect to the LED screen receiving card

Input Port	
EXT	Expansion input port, the default is DVI
DVI	DVI port
HDMI	HDMI port
DP	DP port
VGA	VGA port

Audio input and output	
AUDIO_IN	Analog audio input port
AUDIO_OUT	Analog audio output port , Selectable input source audio.

CONTROL interface	
COM	USB Control debugging interface
WIFI	WIFI Wireless control

Dimensions



5. Product Operation

5.1 Operation steps

Step 1: Connect the display power to the screen.

Step 2: Connect a playable input source to the HD-VP620 or VP820.

Step 3: Use the USB serial port to connect to the computer to setting screen parameters.

5.2 Input Source Switching

HD-VP410 supports simultaneous access to 5 types of signal sources, which can be switched to the input source to be played at any time according to requirements.

Switch input source There are two ways to switch the input source. One is to quickly switch by pressing the “SOURCE” button on the front panel, and the other is to select through the input source of the menu interface.

Step 1: Press the knob to select “Input Settings → Input Source” to enter the input source interface.

Step 2: Turn the knob to select the input source.

Step 3: Press the knob to confirm that the currently selected input source is the input of the playback screen.

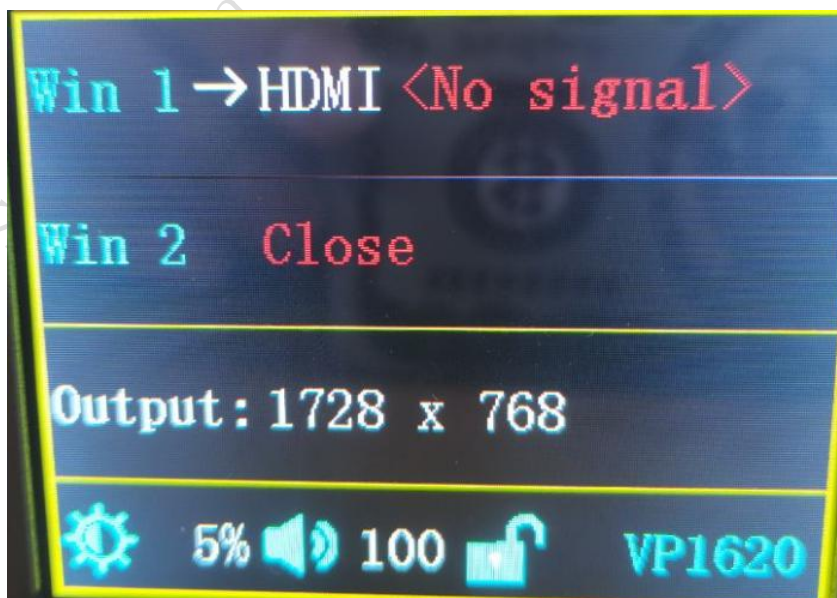
Set resolution

Step 1: Press the knob to select “Input Settings → Input Resolution” to enter the input resolution interface.

Step 2: Rotate the knob to select the desired resolution or select a custom resolution setting.

Step 3: After setting the resolution, press the knob to determine the resolution.

5.3 Interface description



The icons in the bottom column from left to right are: brightness, sound, button lock

Main interface



Navigation interface

1. Output settings are used to set the load range and connection relationship of the sending card network port.
2. The screen layout is used to set the output screen, and supports up to 2 screens to display at the same time.
3. Image effects are used to set image sharpness, saturation, color temperature, brightness and other settings.
4. Image capture is used to capture the input source of the screen. You can set the screen and coordinates captured after the input source is entered.
5. Save mode to save current parameters forming the template file, to facilitate subsequent quick set.
6. Advanced settings are used to set input source resolution, restore factory settings, display firmware version, and adjust VGA.



1. Output settings are used to set the coordinates and range of the network port:
Horizontal width: 256—the width of the LED screen;
Vertical height: 128—the height of the LED screen;
Horizontal start: setting parameter range = LED screen width-horizontal width;
Vertical start: setting parameter range = LED screen height-vertical height;
2. The connection relationship is set as the connection relationship processing of the receiving card. Currently, only standard general mode is supported, and complex connection relationships are not supported.

Screen layout		
	Switch	Open
Win 1 →	Width	1344
	Height	768
Win 2	X	0
	Y	0
LED SCREEN:1344 x 768		

The screen switch setting of screen 1 cannot be set to off

Horizontal starting value + horizontal width cannot exceed the width of the LED screen

The vertical starting value + vertical width cannot exceed the height of the LED screen

Effect	
Brightness	43
Sharpness	10
Contrast	9
Saturation	34
Hue	→

Brightness: 0-100 default 50

Sharpness: 0-10, default 5

Contrast: 0-100, default 100

Saturation: 0-100, default 50

Color temperature: warmer, natural, colder, customize. Default: Warmer



When the intercept switch is off, the knob cannot select the intercept width, height, horizontal, and vertical start.

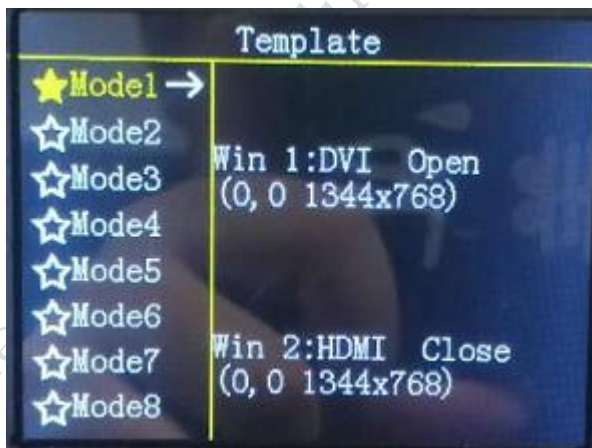
Intercept width: 128—Maximum width of input source

Intercept height: 64—Maximum height of input source

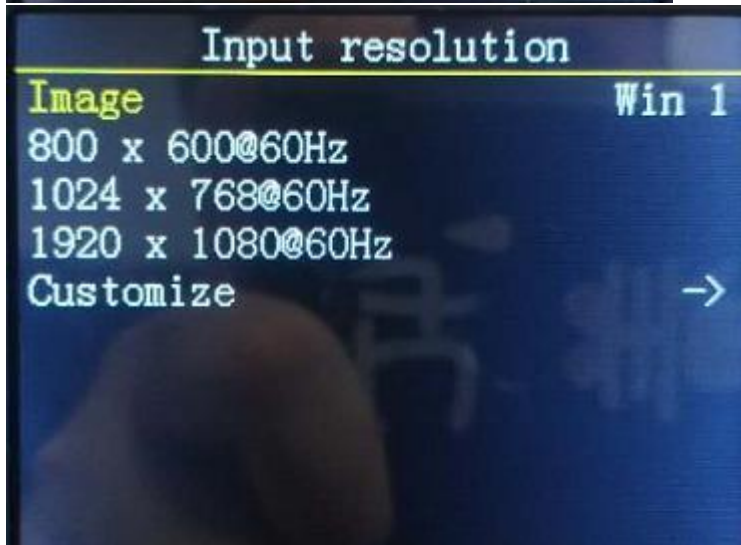
Horizontal start: horizontal start value range = input source width-interception width

Vertical start: vertical start value range = input source width-interception width.

Note: If the size of the captured screen is the same as the screen size, it will be displayed point-to-point. If the size of the captured screen is different from the screen size, it will be displayed by zooming.

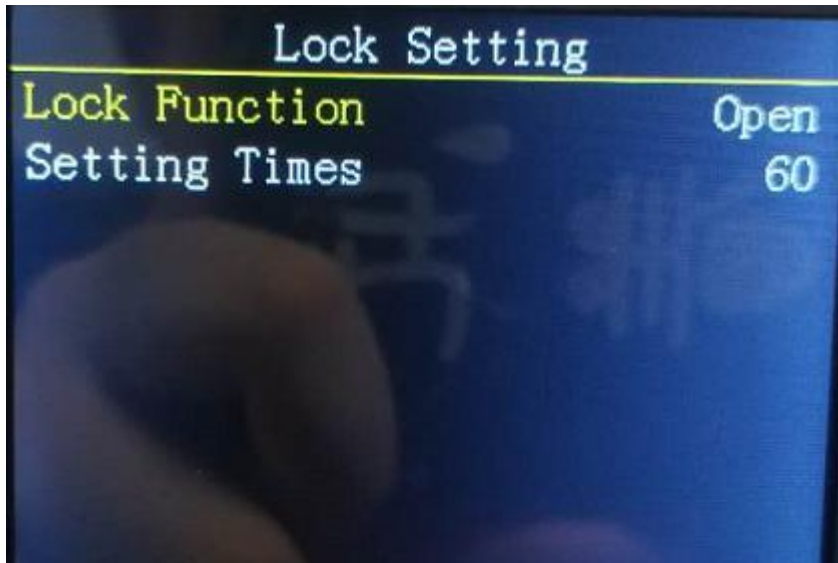


Existing templates support replacement, deletion, and loading non-existent template option, supports saving up to 8 template files



Supports three sets of general resolutions and supports custom resolution settings. The default is 60Hz.

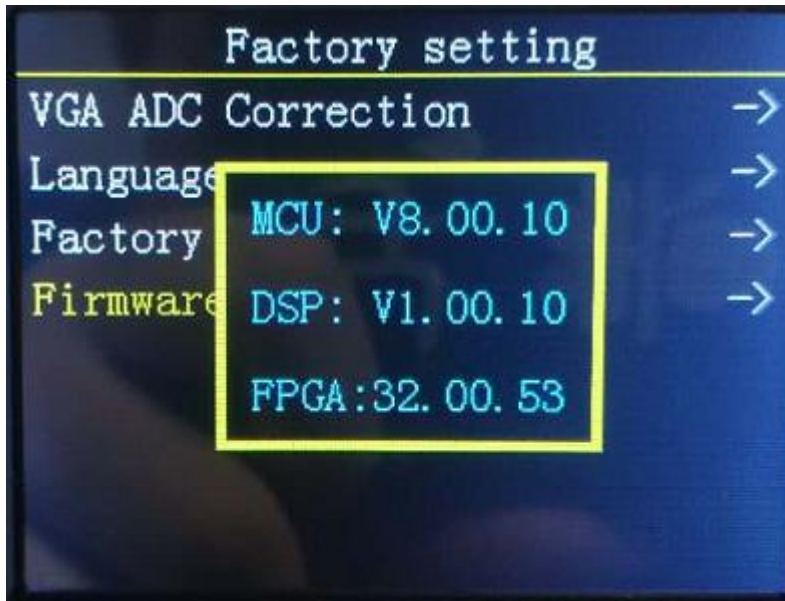




The key lock, the maximum support time is 3600 seconds, the key lock is automatically locked after the set time, except that the key lock button functions normally, other buttons are locked, and the function does not work.



Language selection: support English, Chinese



Firmware version

Digital function description:

When entering numbers, such as setting the width and height of the screen. The keypad is multiplexed with related buttons. During the inputting numbers, the multiplexed buttons and ESC are removed, and the knob can be used. Other key functions are forbidden, and they can not be used until they are exited. The key multiplexing is as follows:

Original button function	Function after reuse
DVI	1
HDMI	2
DP	3
BRIGHT	4
MODE	5
EXT	6
VGA	7
BLACK	8
FREEZE	9
LOCK	0

Button status lights explanation

1. When the button is pressed, the button's light is on. When no other command and release the button, the light is off.
2. If the input source of the current window is DVI/HDMI/DP/EXT/VGA, when there is no

input source signal detected, it will flash off at an interval of 125ms, and this status will last until an input source signal is detected. If the input source signal is lost during usage, it will continue to blink.

3. When the BLACK button, DVI, HDMI, DP, EXT, VGA lights are all off, the BLACK light is always on, press the BLACK button again, the BLACK light is off, and then proceed to step 2 according to the input source light of the current window Light status.
4. After pressing the FREEZE button, the button light is always on, press it again to go out.
5. LOCK, LOCK state is always on, and off when unlocked.
6. REV, currently has no function and does not support light status.
7. WIN1, WIN2. Which one of the windows is currently selected by TV, then which button light will be lit. To switch between different windows, the button light of the input source needs to synchronize the input source type of the current window.
8. When power off and restart, the following states need to be saved: the input source type of the current window, the state of the BLACK light, the state of FREEZE, the selection state of win1, win2.

Enter/Exit keypad lock explanation

1. Press LOCK to lock keypad.
2. Menu newly add function of keypad lock, could be set to turn on or turn off. If turned on, the internal timer in the MCU will lock the keypad after the set time is recorded. At the same time, the lock button lights up.
3. When in the locked state, press the LOCK key to unlock directly. If the timer automatic lock button function is turned on, the timer will restart to count again.