VSP 628PRO

User Manual

- Manual #: RGB-RD-UM-V628PRO E001
- Revision:V1.0
- This User Manual Applies to VSP 628PRO Series!

VSP 628PRO·User Manual

Thank you for choosing our products!
In order to allow you to learn how to use the video processor quickly, we bring you the detailed user manual. You can read the introduction and directions before using the video processor, please read all the information we provide carefully to use our products correctly.

Copyright

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Operators Safety Summary

The general safety information in this summary is for operating personnel.

Do Not Remove Covers or Panels

There are no user-serviceable parts within the unit. Removal of the top cover will expose dangerous voltages. To avoid personal injury, do not remove the top cover. Do not operate the unit without the cover installed.

Power Source

This product is intended to operate from a power source that will not apply more than 230 volts rms between the supply conductors or between both supply conductor and ground. A protective ground connection by way of grounding conductor in the power cord is essential for safe operation.

Grounding the Product

This product is grounded through the grounding conductor of the power cord. To avoid electrical shock, plug the power cord into a properly wired receptacle before connecting to the product input or output terminals. A protective-ground connection by way of the grounding conductor in the power cord is essential for safe operation.

Use the Proper Power Cord

Use only the power cord and connector specified for your product. Use only a power cord that is in good condition. Refer cord and connector changes to qualified service personnel.

Use the Proper Fuse

To avoid fire hazard, use only the fuse having identical type, voltage rating, and current rating characteristics. Refer fuse replacement to qualified service personnel.

Do Not Operate in Explosive Atmospheres

To avoid explosion, do not operate this product in an explosive atmosphere.

Terms In This Manual and Equipment Marking

WARNING

Highlights an operating procedure, practice, condition, statement, etc, which, if not strictly observed, could result in injury or death of personnel.

Note

Highlights an essential operating procedure, condition or statement.

CAUTION

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Change History

The table below lists the changes to the Video Processor User Manual.

Format	Time	ECO#	Description	Principal
V1.0	2014-12-02	0000#	Release	Vira

CONTENT

1. Introduction

This chapter is designed to introduce you to the VSP 628PRO User Manual. Areas to be covered are:

- Chapter Structure
- How to Use This Manual
- Terms and Definitions
- System Overview
- Application Questions

Chapter Structure

The following chapters provide instructions for all aspects of VSP 628PRO operations.

How to Use This Manual

Following are important tips for streamlining your use of this User Manual in its electronic “PDF” form.

Navigating

Use Acrobat Reader’s “bookmarks” to navigate to the desired location. All chapter files have the same bookmark structure for instant navigation to any section. Please note:

- Extensive hyperlinks are provided within the chapters.
- Use Acrobat’s “**Go to Previous View**” and “**Return to next View**” buttons to trace your complete navigational path.

- Use the “**Previous Page**” and “**Next Page**” buttons to go to the previous or next page within a file.
- Use Acrobat’s extensive search capabilities, such as the “**Find**” tool and “**Search Index**” tool to perform comprehensive searches as required.

Table of Contents and Index

Use the Table of Contents bookmarks to navigate a desired topic. Click any item to instantly jump to that section of the guide. You can also use the **Index** to jump to specific topics within a chapter. Each page number in the **Index** is a hyperlink.

General Operations

To ensure trouble-free operation, please follow all procedures as listed below:

- For detailed installation instructions, refer to chapter 3 “Hardware Installation” on page 35.
- For communication software control guide, refer to Chapter 5, “Communication Software Control Guide” on page 46.
- For system setup and operations, refer to Chapter 6, “System Setup and Operations” on page 59.

Should you have any questions regarding the installation or operation of VSP 628PRO, please consult with the factory. Refer to Appendix B, “Contact information” on page 85.

Terms and Definitions

The following terms and definitions are used throughout this guide.

- **“ASCII”:** American Standard for Information Interchange. The standard code consisting of 7-bit coded characters (8 bits including parity check) used to exchange information between data processing systems, data communication systems, and associated equipment. The ASCII set contains control characters and graphic characters.
- **“Aspect ratio”:** The relationship of the horizontal dimension to the vertical dimension of an image. In viewing screens, standard TV is 4:3, or 1.33:1; HDTV is 16:9, or 1.78:1. Sometimes the “:1” is implicit, making TV = 1.33 and HDTV = 1.78.
- **“AV”:** Audio visual, or audio video.
- A **“Background”** is an unscaled source, typically originating from a computer. A background source appears at the system’s lowest priority — visually in back of all other sources.
- **“Baudrate”：** Named of J.M.E. Baudot, the inventor of the Baudot telegraph code. The number of the electrical oscillations per second, called baud rate. Related to, but not the same as, transfer rate in bits per second (bps).
- **“Blackburst”:** The video waveform without the video elements. It includes the vertical sync, horizontal sync, and the chroma burst information. Blackburst is used to synchronize video equipment to align the video output. One signal is normally used to set up an entire video system or facility. Sometimes it is called House sync.
- **“BNC”:** Bayonet Neill-Concelman. A cable connector used extensively in television and named for its inventors. A cylindrical bayonet connector that operates with a twist-locking motion. To make the connection, align the two curved grooves in the collar of the male connector with the two projections on the outside of the female collar, push, and twist. This allows the connector to lock into place without tools.
- **“Brightness”:** Usually refers to the amount or intensity of video light produced on a screen without regard to color. Sometimes called “black level.
- “**CAT 5**”**:** Category 5. Describes the network cabling standard that consists of four unshielded twisted pairs of copper wire terminated by RJ-45 connectors. CAT 5 cabling supports data rates up to 100 Mbps. CAT 5 is based on the EIA/TIA 568 Commercial Building Telecommunications Wiring Standard.
- **“Color bars”:** A standard test pattern of several basic colors (white, yellow, cyan, green, magenta, red, blue, and black) as a reference for system alignment and testing. In NTSC video, the most commonly

used color bars are the SMPTE standard color bars. In PAL video, the most commonly used color bars are eight full field bars. In the computer, the most commonly used color bars are two rows of reversed color bars.

- **"Color burst":** In color TV systems, a burst of subcarrier frequency located on the back porch of the composite video signal. This serves as a color synchronizing signal to establish a frequency and phase reference for the chroma signal. Color burst is 3.58 MHz for NTSC and 4.43 MHz for PAL.
- **"Color temperature":** The color quality, expressed in degrees Kelvin(K), of a light source. The higher the color temperature, the bluer the light. The lower the temperature, the redder the light. Benchmark color temperature for the A/V industry include 5000°K, 6500°K, and 9000°K.
- **"Contrast ratio":** The radio of the high light output level divided by the low light output level. In theory, the contrast radio of the television system should be at least 100:1, if not 300:1. In reality, there are several limitations. In the CRT, light from adjacent elements contaminate the area of each element. Room ambient light will contaminate the light emitted from the CRT. Well-controlled viewing conditions should yield a practical contrast ratio of 30:1 to 50:1.
- **"DVI":** Digital Visual Interface. The digital video connectivity standard that was developed by DDWG (Digital Display Work Group). This connection standard offers two different connectors: one with 24 pins that handles digital video signals only, and one with 29 pins that handles both digital and analog video.
- **"EDID":** Extended Display Identification Data – EDID is a data structure used to communicate video display information, including native resolution and vertical interval refresh rate requirements, to a source device. The source device will then output the optimal video format for the display based on the provided EDID data, ensuring proper video image quality. This communication takes place over the DDC – Display Data Channel.
- **"Ethernet":** A Local Area Network (LAN) standard officially known as IEEE 802.3. Ethernet and other LAN technologies are used for interconnecting computers, printers, workstations, terminals, servers, etc. within the same building or campus. Ethernet operates over twisted pair and over coaxial cable at speeds starting at 10Mbps. For LAN interconnectivity, Ethernet is physical link and data link protocol reflecting the two lowest layers of the OSI Reference Model.
- **"Frame":** In interlaced video, a frame is one complete picture. A video frame is made up of two fields, or two sets of interlaced lines. In a film, a frame is one still picture of a series that makes up a motion picture.

- **"Gamma":** The light output of a CRT is not linear with respect to the voltage input. The difference between what you should have and what is actually output is known as gamma.
- **"HDMI" - High – Definition Multimedia Interface:** An interface used primarily in consumer electronics for the transmission of uncompressed high definition video, up to 8 channels of audio, and control signals, over a single cable. HDMI is the de facto standard for HDTV displays, Blu-ray Disc players, and other HDTV electronics. Introduced in 2003, the HDMI specification has gone through several revisions.
- **"HDSDI":** The high-definition version of SDI specified in SMPTE-292M. This signal standard transmits audio and video with 10 bit depth and 4:2:2 color quantization over a single coaxial cable with a data rate of 1.485 Gbit/second. Multiple video resolutions exists including progressive 1280x720 and interlaced 1920x1080 resolution. Up to 32 audio signals are carried in the ancillary data.
- **"JPEG" (Joint photographic Expects Group):** Commonly used method of lossy compression for photographic images using a discreet cosine transfer function. The degree of compression can be adjusted, allowing a selectable tradeoff between storage size and image quality. JPEG typically achieves 10:1 compression with little perceptible loss in image quality. Produces blocking artifacts.
- **"MPEG":** Motion Picture Expect Group. A standard committee under the auspices of the International Standards Organization working on algorithm standards that allow digital compression, storage and transmission of moving image information such as motion video, CD-quality audio, and control data at CD-ROM bandwidth. The MPEG algorithm provides inter-frame compression of video images and can have an effective compression rate of 100:1 to 200:1.
- **"NTSC":** The color video standard used in North America and some other parts of the world created by the National Television Standards Committee in the 1950s. A color signal must be compatible with black-and-white TV sets. NTSC utilizes an interlaced video signals, 525 lines of resolution with a refresh rate of 60 fields per second (60 Hz). Each frame is comprised of two fields of 262.5 lines each, running at an effective rate of 30 frames per second.
- **"PAL":** Phase Alternate Line. A television standard in which the phase of the color carrier is alternated from line to line. It takes four full pictures (8 fields) for the color-to-horizontal phase relationship to return to the reference point. This alternation helps cancel out phase errors. For this reason, the hue control is not needed on a PAL TV set. PAL, in many transmission forms, is widely used in Western Europe, Australia, Africa, the Middle East, and Micronesia. PAL uses 625-line,

50-filed (25 fps) composite color transmission system.

- **“Operator”:** Refers to the person who uses the system.
- **“PIP”:** Picture-in-Picture. A small picture within a larger picture created by scaling down one of the images to make it smaller. Each picture requires a separate video source such as a camera, VCR, or computer. Other forms of PIP displays include Picture-by-Picture (PBP) and Picture-with-Picture (PWP), which are commonly used with 16:9 aspect display devices. PBP and PWP image formats require a separate scaler for each video window.
- **“Polarity”:** The positive and negative orientation of a signal. Polarity usually refers to the direction or a level with respect to a reference (e.g. positive sync polarity means that sync occurs when the signal is going in the positive direction).
- **“RJ-45”:** Registered Jack-45. A connector similar to a telephone connector that holds up to eight wires, used for connecting Ethernet devices.
- “**RS-232”:** An Electronic Industries Association (EIA) serial digital interface standard specifying the characteristics of the communication path between two devices using either DB-9 or DB-25 connectors. This standard is used for relatively short-range communication and does not specify balanced control lines. RS-232 is a serial control standard with a set number of conductors, data rate, word length, and type of connector to be used. The standard specifies component connection standards with regard to the computer interface. It is also called RS-232-C, which is the third version of the RS-232 standard, and is functionally identical to the CCITT V.24 standard.
- **“Saturation”:** Chroma, chroma gain. The intensity of the color, or the extent to which a given color in any image is free from white. The less white in a color, the truer the color or the greater its saturation. On a display device, the color control adjusts the saturation. Not to be confused with the brightness, saturation is the amount of pigment in a color, and not the intensity. Low saturation is like adding white to the color. For example, a low-saturated red looks pink.
- **“Scaling”:** A conversion of a video or computer graphic signal from a starting resolution to a new resolution. Scaling from one resolution to another is typically done to optimize the signal for input to an image processor, transmission path or to improve its quality when presented on a particular display.
- **“SDI”:** Serial Digital Interface. The standard based on a 270 Mbps transfer rate. This is a 10-bit, scrambled, polarity independent interface with common scrambling for both component ITU-R 601 and composite digital video and four channels of (embedded) digital audio.
- **“Seamless Switching”:** A feature found on many video switchers. This

feature causes the switcher to wait until the vertical interval to switch. This avoid a glitch (temporary scrambling) which normally is seen when switching between sources.

- **"SMPTE":** Society of Motion Picture and Television Engineers. A global organization, based in the United States, that sets standards for baseband visual communications. This includes film as well as video and television standards.
- **"S-Video":** A composite video signal separated into the luma ("Y" is for luma, or black and white information; brightness) and the chroma ("C" is an abbreviation for chroma, or color information).
- **"Sync":** Synchronization. In video, sync is a means of controlling the timing of an event with respect to other events. This is accomplished with timing pulses to insure that each step in a process occurs at the correct time. For example, horizontal sync determines exactly when to begin each horizontal scan line. Vertical sync determines when the image is to be refreshed to start a new field or frame. There are many other types of sync in video system.(Also known as "sync signal" or "sync pulse.")
- **"TCP/IP":** Transmission Control Protocol/Internet Protocol. The communication protocol of the Internet. Computers and devices with direct access to the Internet are provided with a copy of the TCP/IP program to allow them to send and receive information in an understandable form.
- **"USB":** Universal Serial Bus. USB was developed by seven PC and telecom industry leaders (Compaq, DEC, IBM, Intel, Microsoft, NEC, and Northern Telecom). The goal was easy plug-and-play expansion outside the box, requiring no additional circuit cards. Up to 127 external computer devices may be added through a USB hub, which may be conveniently located in a keyboard or monitor. USB devices can be attached or detached without removing computer power. The number of devices being designed for USB continues to grow, from keyboards, mice, and printers to scanners, digital cameras, and ZIP drives.
- **"VESA":** Video Electronics Standards Association. A nonprofit number organization dedicated to facilitating and promoting personal computer graphics through improved standards for the benefit of the end-user. www.vesa.org
- **"VGA":** Video Graphics Array. Introduced by IBM in 1987, VGA is an analog signal with TTL level separate horizontal and vertical sync. The video outputs to a 15-pin HD connector and has a horizontal scan frequency of 31.5 kHz and vertical frequency of 70 Hz (Mode 1, 2) and 60 Hz (Mode 3). The signal is non-interlaced in modes 1, 2, and 3 and interlaced when using the 8514/A card (35.5 kHz, 86 Hz) in mode 4. It

has a pixel by line resolution of 640×480 with a color palette of 16 bits and 256,000 colors.

- **“YCrCb”:** Used to describe the color space for interlaced component video.
- **“YPbPr”:** Used to describe the color space for progressive-scan (non-interlaced) component video.

System Overview

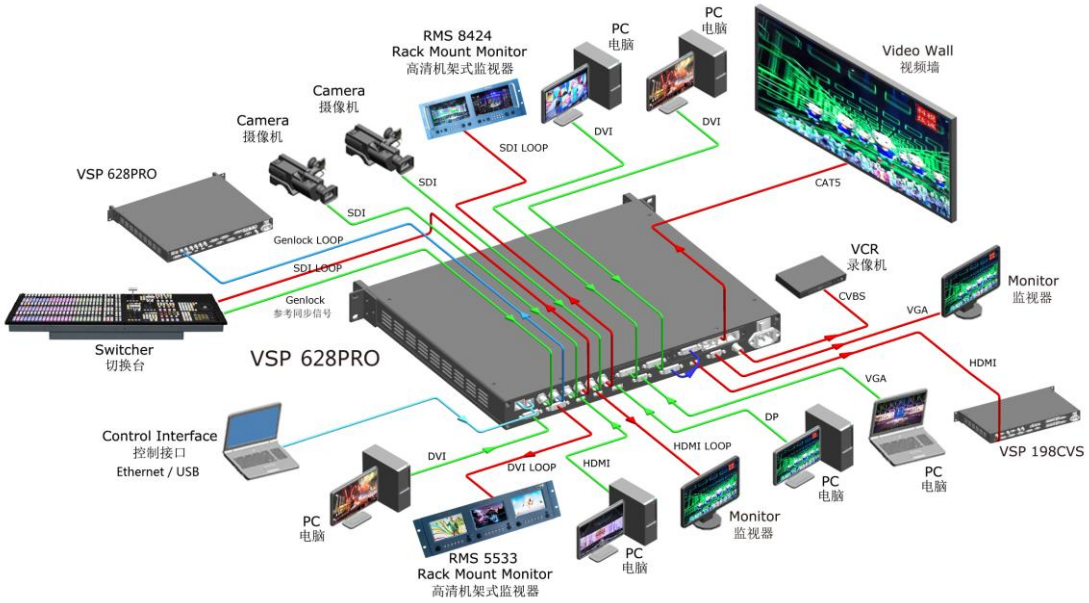
VSP 628PRO is an advanced high performance all-in-one video scaler, scan converter, switcher and transcoder converting any input signal format to any output signal format.

VSP 628PRO supports composite, component, VGA, DVI signal and dual link, HDMI, DisplayPort and SD/HD/3G-SDI signal formats. Loop-through outputs are provided for the DVI and SDI input and Genlock signals. With features like LOGO capture and standard test pattern built in, 3D processing, HDCP and EDID management, Web page control interface seamless switching between the inputs, VSP 628PRO is one of the most advanced and flexible signal processor in the industry.

VSP 628PRO is based on module based structure, its standard version comes with all the features you need and expect to find in old versions. In addition to the standard features, with different modules, you can reach more possibility and application range.

Application Questions

RGBlink offers solutions to demanding technical problems. Any application questions, or required further information, please contact with our Customer Support Engineers. Refer to Appendix B for contact details.



2. Hardware Orientation

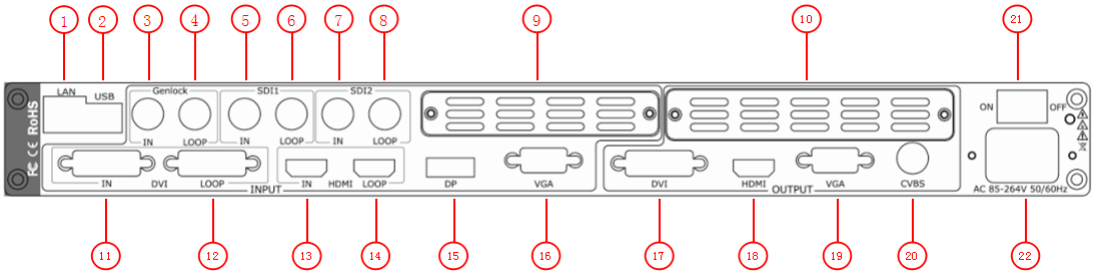
In This Chapter

This chapter provides detailed information about the VSP 628PRO hardware. The following topics are discussed:

- VSP 628PRO Back Panel
- VSP 628PRO Front Panel

VSP 628PRO Back Panel

The figure below illustrates the professional interface and control signals of VSP 628PRO back panel.



NO	INTERFACE	NO	INTERFACE
1	10/100M Interface	13	HDMI Input
2	USB Interface	14	HDMI Loop Out
3	Genlock Input	15	Displayport Input
4	Genlock Loop Out	16	VGA Input DB15 port
5.7	SDI Input	17	DVI Output
6.8	SDI Loop Out	18	HDMI Output
9	S. V. D. H. U Optional Module	19	VGA Output
10	F Optional Module/Sending card interface	20	CVBS Output (OC optional module)
11	DVI Input	21	Switch
12	DVI Loop Out	22	Power IEC-3 port

CONT Interface

1. 10/100M UDP Interface

Used to connect the windows control program.

2. USB Interface

Used to connect the windows control program or device upgrade.

2. Hardware Orientation

VSP 628PRO Back Panel

INPUT Interface

It includes 1 Genlock input by BNC interfaces, 2 3G-SDI inputs, 1 DVI-I input, 1 HDMI input, 1 VGA input by DB15 interface, and 1 Displayport input. Can realize all the inputs (except VGA, Displayport) loop out.

3：Genlock Input

Genlock input, input video synchronization signal from controller or signal generator, etc.

5.7：SDI Input

SDI input, input video signal from HD camera and radio processing equipment, connect SDI interface via 75 ohms impedance BNC port.

11：DVI Input

DVI input, input the video signal from computer, DVI signal generator. If the EDID is HDMI, the DVI can be compatible with HDMI 1.3.

(This Connection does not support hot-plugging)

13. HDMI Input

HDMI input interface, input the image signal from computer.

15：Displayport Input

Displayport input, Input the video signal from HD player, computer.

16：VGA Input

VGA input, input the video signal from HD player and Computer, etc. compatible with YPbPr signal, input signal via the DB15 interface.

4：Genlock Loop Out

Genlock loop out, connect to the Genlock input of the next VSP 628PRO or the device with Genlock input.

6.8：SDI Loop Out

SDI loop out, connect to the SDI input of the next VSP 628PRO or the

device with SDI input.

12：DVI Loop Out

DVI loop out, connect to the DVI input of the next VSP 628PRO or the device with DVI input.

14：HDMI Loop Out

HDMI loop out, connect to the HDMI input of the next VSP 628PRO or the device with HDMI input.

OUTPUT Interface

17：DVI Output

Connect to the monitor or LED display which has DVI interface.

(This DVI connector does not support hot-plugging).

18：HDMI Output

HDMI output interface, used to connect to the display device, video processor or matrix.

19：VGA Output

Connect to the monitor or LED display which has VGA interface.

(This DVI connector does not support hot-plugging).

20：CVBS Output

CVBS can output PAL and NTSC, output signal can access to the TV, etc.

Switch and Power

21.22：Power Interface and Switch

AC 85-264V 3.8A　50/60Hz　IEC-3 Power Interface.

Optional Module

9: S. V. D. H. U Optional Module

Compatible with SDI, VGA, DVI, HDMI or USB optional module. SDI optional module includes 2 3G-SDI input and 2 SDI loop out. VGA optional module includes 2 VGA input (DB15port), DVI optional module includes 2 DVI-I (compatible with HDMI) input, HDMI optional includes 2 HDMI input, and USB optional includes 2 USB input.

3G-SDI Input (S Optional Module): Input video signal from HD camera and radio processing equipment, connect SDI interface via 75 ohms impedance BNC port.

SDI Loop Out (S Optional Module): Connect to the SDI input of the next VSP 628PRO or the device with SDI input.

VGA Input (V Optional Module): Input the video signal from HD player and Computer, etc. input signal via the DB15 interface.

DVI Input (D Optional Module): Input the video signal from computer, DVI signal generator. Connect to the same DVI interface on VSP 628PRO. (This Connection does not support hot-plugging).

HDMI Input (U Optional Module): Input the image signal from computer.

USB Input (U Optional Module): Can access the USB device or mobile hard disk with USB storage function. Support general image and video formats.

10: F Optional Module/Sending Card Interface

F Optional Module/Sending card interface. F optional module includes 1 fiber output, 1 SDI output and 1 HDBaseT output.

Fiber Output: LC interface, use single mode twin-core fiber or multimode twin-core fiber. Connect one end of the fiber cable to LC interface, and the other end to fiber input interface of MSP 214 extender or other device.

2. Hardware Orientation

VSP 628PRO Back Panel

SDI Output: Connect to the device with SDI input.

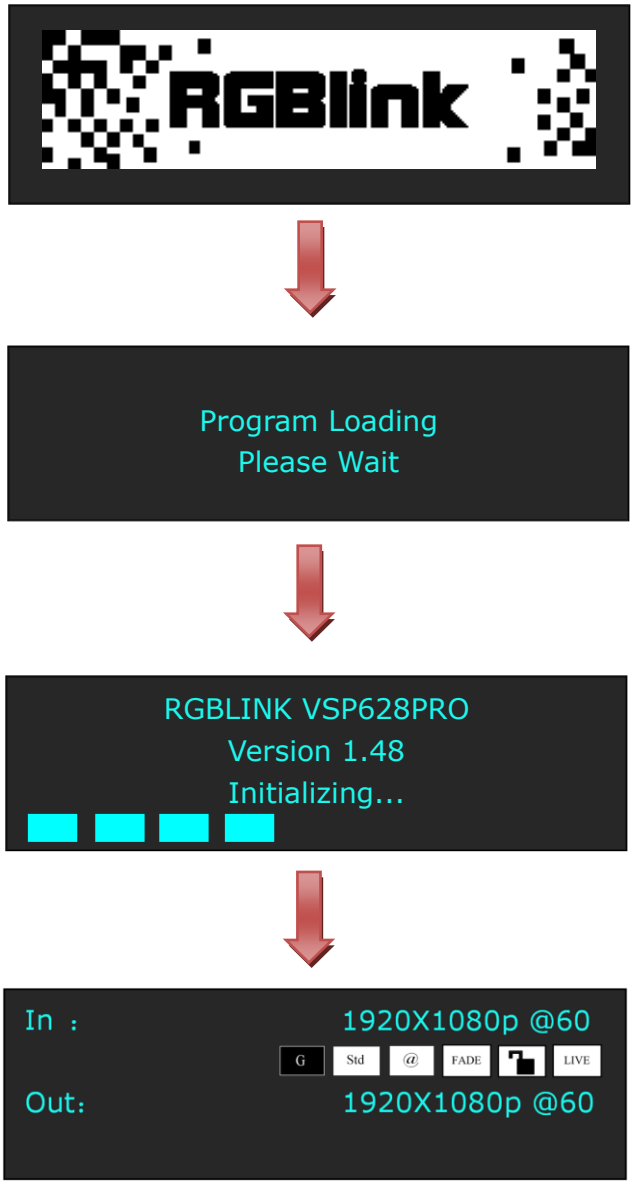
HDBaseT Output: RJ45 interface. Connect one end of the CAT5e or CAT6 cable to RJ45 interface, and the other end to HDBaseT input interface of MSP 215 extender or other device.

Sending Card Interface: Power has been already supplied by video processor itself, no external power supply needed for sending card.

VSP 628PRO Front Panel

Insert power cord and push power to ON position. OLED module on the front panel will show RGBLINK and go into self verification before it load last setting config and send processed image to the target monitor. For the first setup, DVI1 input is default source. With front panel keyboard, user can operate VSP 628PRO through the menus on the OLED panel.

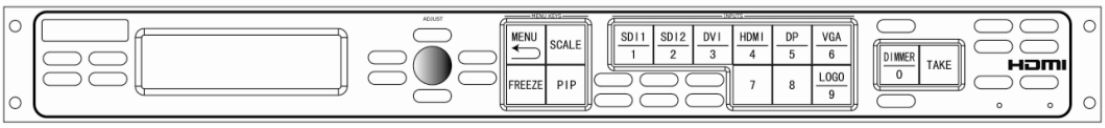
VSP 628PRO front panel as shown in figure:



2. Hardware Orientation

VSP 628PRO Front Panel

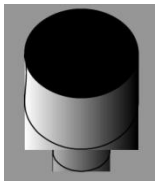
VSP 628PRO front panel as following:



OLED Panel

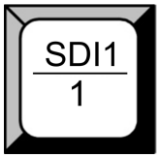
Used to show button menu and menus for interactive communication.

Menu Buttons

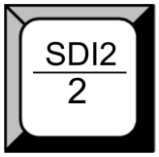


Used to adjust OLED menu and information interaction and with the same function with enter to confirm current options.

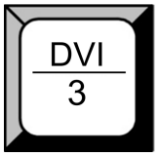
Signal keys



SDI1 input selection button, its LED light turns on, output will be switched to this channel.

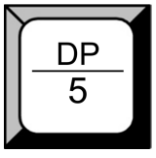


SDI2 input selection button, its LED light turns on, output will be switched to this channel.



DVI input selection button, its LED light turns on, output will be switched to this channel.

HDMI input selection button, its LED light turns on, output will be switched to this channel.

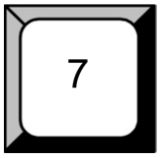


Displayport input selection button, its LED light turns on, output will be switched to this channel.

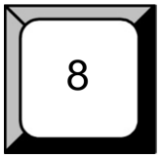
2. Hardware Orientation

VSP 628PRO Front Panel

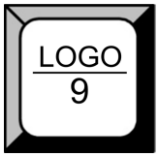
VGA input selection button, its LED light turns on, output will be switched to this channel.



Optional module input selection button 7, push the button, its LED light is on, output will be switched to optional module channel 1.

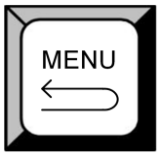


Optional module input selection button 8, push the button, its LED light is on, output will be switched to optional module channel 2.



Test pattern adjustment button, push the button, and enter the test pattern menus, user can choose the type, or enable the raster box, diag motion and AOI raster box function.

Function



Menu and exit function reuse key. Push the button to enter to the menu items, turn the knob to choose the menu and push the knob to confirm. Push the button again to return to the last level menu or exit the menu.

For more details, please refer to MENU part.

Size and position setting button. Push the button, user can set the H size, V size, H POS and V POS.

Freeze button, push the button, its LED light lights, and he current image is freeze. Push the button again, its LED light is off, and disable the freeze function.

Single image and double images switch button. Push the button, user can switch the mode between single image and picture in picture.

2. Hardware Orientation

VSP 628PRO Front Panel

Dimmer adjust button, push the button, its LED light turns on, and enable the dimmer function, the adjustment range is among 0~100. User can also choose effects and set the brightness, contrast and so on. User can also choose CHA or CHB by pushing [DIMMER] button.

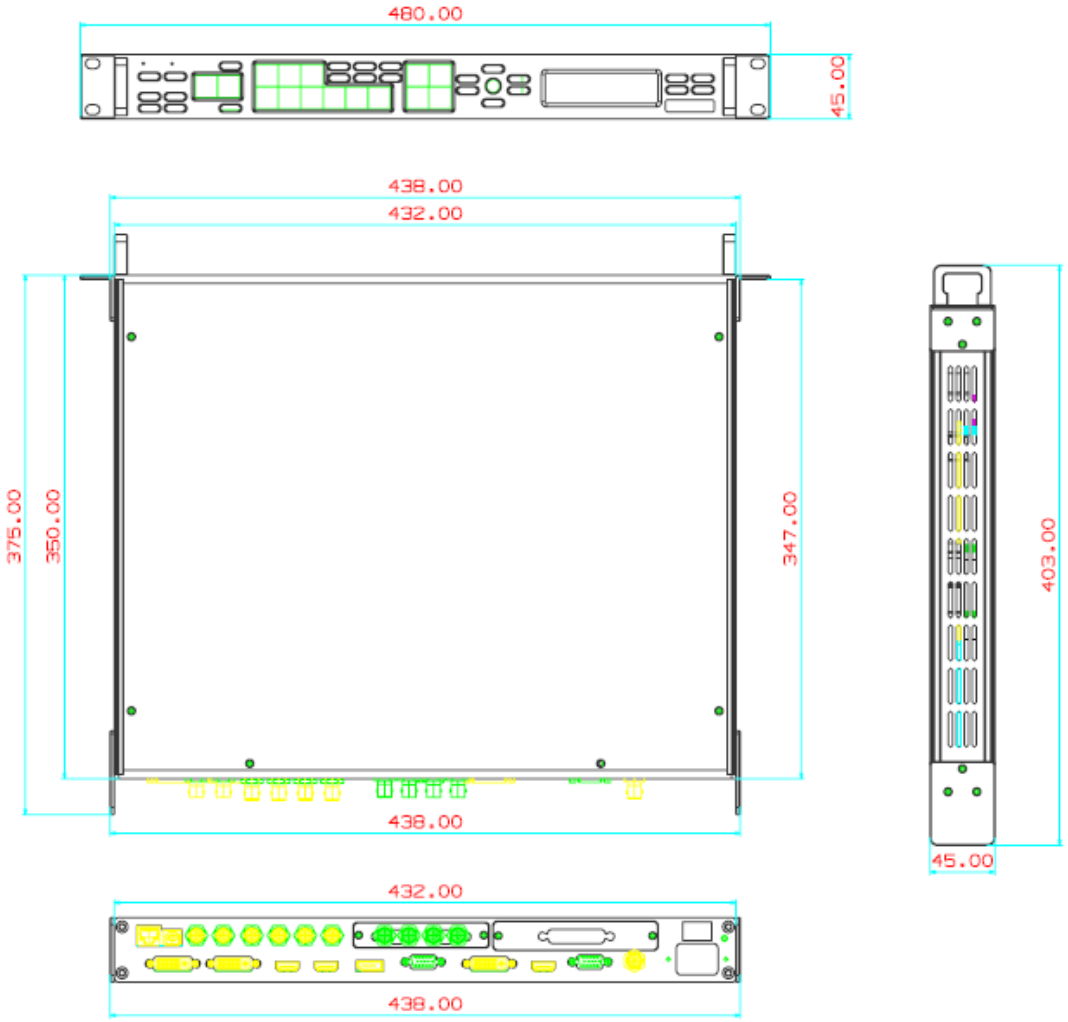
Seamless effect switch, push the button, the preview signal will be switched to program output.

3. Hardware Installation

In This Chapter

This chapter provides comprehensive installation instruction for VSP 628PRO hardware:

Following is the size of VSP 628PRO for your reference.



Safety Precautions

For all VSP 628PRO processor installation procedures, please observe the following important safety and handling rules to avoid damage to yourself and the equipment.

- To protect users from electric shock, ensure that the chassis connects to earth via the ground wire provided in the AC power Cord.
- The AC Socket-outlet should be installed near the equipment and be easily accessible.

Unpacking and Inspection

Before opening VSP 628PRO processor shipping box, inspect it for damage. If you find any damage, notify the shipping carrier immediately for all claims adjustments. As you open the box, compare its contents against the packing slip. If you find any shortages, contact your sales representative.

Once you have removed all the components from their packaging and checked that all the listed components are present, visually inspect the system to ensure there was no damage during shipping. If there is damage, notify the shipping carrier immediately for all claims adjustments.

Site Preparation

The environment in which you install your VSP 628PRO should be clean, properly lit, free from static, and have adequate power, ventilation, and space for all components.

4. Menu Orientation

In This Chapter

This chapter describes all VSP 628PRO processor menus, including how they are accessed, the functions that are available, and descriptions of each menu tree (in block diagram format).

The following topics are discussed:

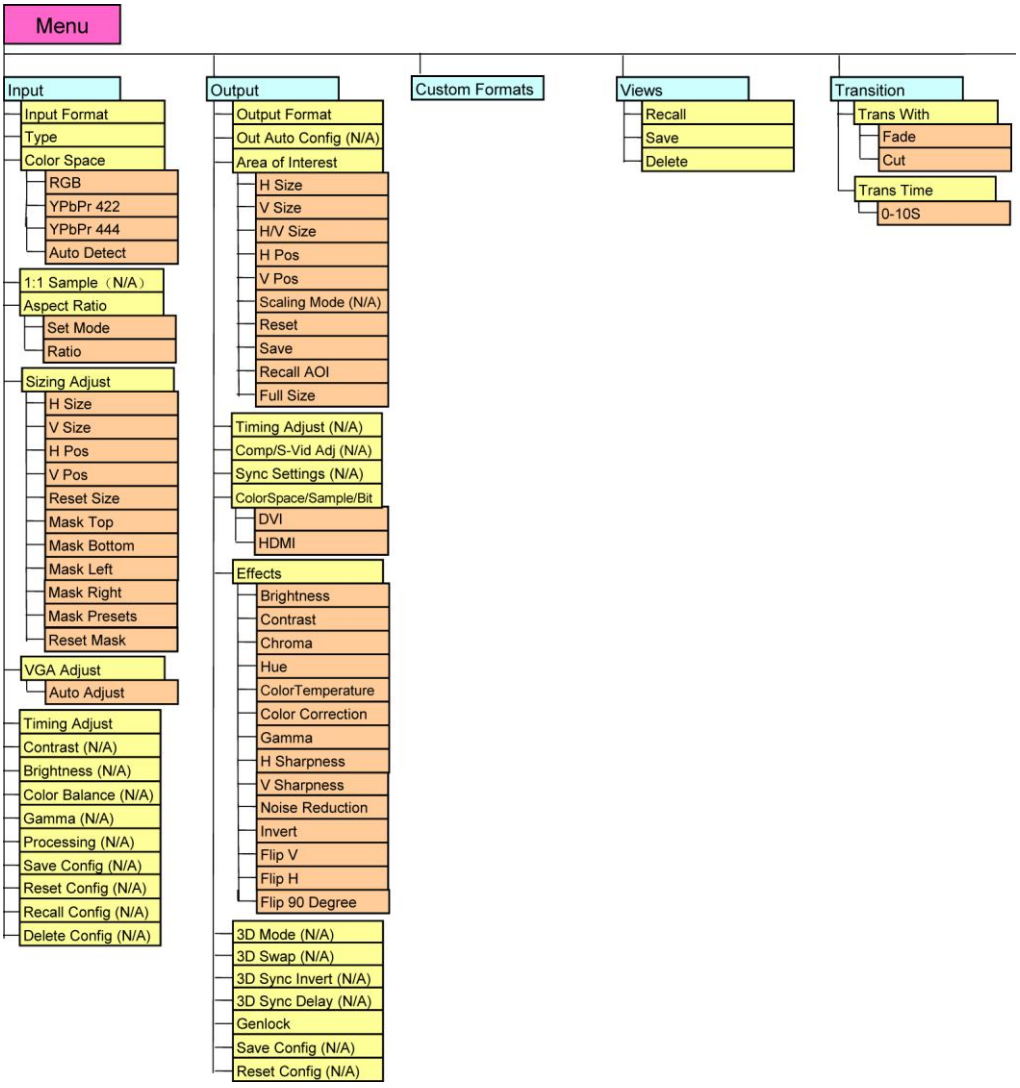
- **MENU**
  - Input
  - Output
  - Custom Formats
  - Views
  - Transition
  - System
  - Logo
  - Display Setup
  - Test Pattern
  - Tech Support
  - Factory Reset

4. Menu Orientation

Menu

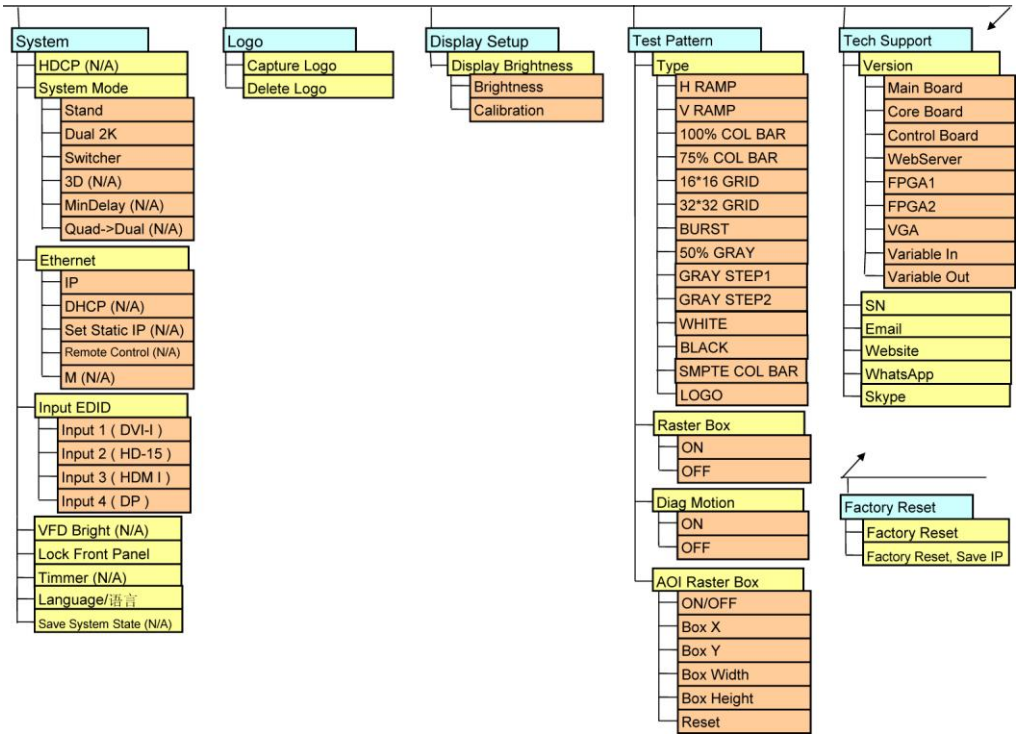
MENU

Push the [MENU] button to enter the menu items, shown as below: Turn the knob to select menu items. -> before the menu means it is in selected state. Push the knob to enter corresponding setting or view the menu.



4. Menu Orientation

Menu



Input

Push the [MENU] button, OLED shows the menu, turn the knob and select <Input>, push the knob to confirm, show level 2 menu as follows:

Input Format: Show the current input video signal (such as SDI1) and the corresponding resolution (such as 720 x576x50i). Genlock input support input resolutions including 480i, 576i, 1080i59.94, 1080i50, 720p50, 720p59.94, 1080p50, 1080p59.94, 1080p60, 1080psf23.98, 1080psf24.

Type: The input type is DVI1.

Color Space: Set the color space as RGB, YPbPr 422, YPbPr 444 and Auto Detect.

Aspect Ratio: User can set the mode and choose the ratio.

Sizing Adjust: Settings including as follows:

H Size: Zoom the width

V Size: Zoom the height.

H Pos: Horizontal phase setting.

V Pos: Vertical phase setting.

4. Menu Orientation

Menu

Reset Size: If image quality distorts by improper operation, it can be recover by reset size.

Mask Top: Mask the top of the image.

Mask Bottom: Mask the bottom of the image.

Mask Left: Mask the left of the image.

Mask Right: Mask the right of the image.

Mask Presets: Choose the mask presets, including 16:9, 5:4, 4:3, 3:2 or 1:1.

Reset Mask: If image quality distorts by improper operation, it can be recover by reset mask.

VGA Adjust: Adjust VGA input signal, VSP 628PRO support auto adjust VGA input signal include H POS, V POS, CLOCK, PHASE, auto adjust to display in full screen image.

Note

Comments customers to use this operation in adjusting the VGA input shiftment.

Output

Push the [MENU] button, OLED shows the menu, turn the knob and select <Output>, push the knob to confirm, show level 2 menu as follows:

Output Format: Show the output resolution, there are 66 kinds of common resolutions, show as follows:

NTSC(480i), 720P×480p, PAL(576i), 720P×576p, 640X480@60, 640X480@75, 640X480@85, 800X600@50, 800X600@60, 800X600@75, 800X600@85, 1024X768@50, 1024X768@60, 1024X768@75, 1024X768@85, 1152X864@75, 1280X720p@23.98, 1280X720p@24, 1280X720p@25, 1280X720p@29.97, 1280X720p@30, 1280X720p@50, 1280X720p@59.94, 1280X720p@60, 1280X768@60, 1280X768@75, 1280X800@50, 1280X800@60, 1280X960@50, 1280X960@60, 1280X960@85, 1280X1024@50, 1280X1024@60, 280X1024@75,

1280X1024@85, 1360X768@60, 1366X768@60, 1400X1050@50, 1400X1050@60, 1400X1050@75, 1440X900@60, 1440X900@75, 1440X900@85, 1600X1200@50, 1600X1200@60, 1680X1050@60, 1920X1080p@23.98, 1920X1080p@24, 1920X1080p@25, 1920X1080p@29.97, 1920X1080p@30, 1920X1080p@50, 1920X1080p@59.94, 1920X1080p@60, 1920X1080sF@23.98, 1920X1080sF@24, 1920X1080sF@25, 1920X1080sF@29.97, 1920X1080sF@30, 1920X1080i@50, 1920X1080i@59.94, 1920X1080i@60, 1920X1200p@50, 1920X1200p@60, 2048X1152p@60, 1920X1080@60.0 (Custom).

Area of Interest: Settings including as follows:

H Size: Width setting.

V Size: Height setting.

H/V Size: Zoom by the aspect of output resolution.

H Pos: Horizontal phase setting.

V Pos: Vertical phase setting.

Scaling Mode: Choose the scaling modes, including FULL, Same With Input, 3:2, 4:3, 5:4 and 16:9.

Reset: If image quality distorts by improper operation, it can be recover by reset.

Save: User can save the parameters after setting.

Recall AOI: Recall the saved parameters.

Full Size: User can set the image as full size.

Color Space/Sample/Bit: Can set the protocol as HDMI or DVI, default is DVI output, HDMI signal output will enable when HDMI option checked.

Bits: Bit depth setting, system default as 8 bit for DVI signal, user need not set it. And system default as 10 bit, user can also choose 8 bit or 12 bit.

Data range: DVI out range adjustment can choose RGB or YCBCR; among them the RGB adjusting range is between 0~255, YCBCR adjusting range

from 16 to 235.

Effects: Settings including as follows:

Brightness: Set the Brightness, Brightness RED, Brightness GREEN and Brightness BLUE of the image.

Contrast: Set the Contrast, Contrast RED, Contrast GREEN and Contrast BLUE of the image.

Chroma: Set the Chroma, Y, U, V.

Hue: Hue setting, the adjustment value range is -180~180.

Color Temperature: Depth of processing for the image color, can set 6500K or 9300K.

Color Correction: Blue, green and skin color correction.

Gamma: Gamma setting, items including 1, 1.1, 1.2, 1.3, 1.4,1.5, 1.6.

H Sharpness: H sharpness setting can change the image edge sharpening processing, the adjustment value range is -10~10.

V Sharpness: V sharpness setting can change the image edge sharpening processing, the adjustment value range is -10~10.

Noise Reduction: Settings including Horizontal NR, Vertical NR, Temporal NR, Block NR, Mosquito NR and Combing NR.

In addition, user can do invert, flip V, flip H and flip 90 degree processing.

Genlock: User can enable or disable the genlock function.

Custom Formats

The special display project or LED display application would like to require special resolution settings to meet the requirement.

Details please refer to the instructions in the manual: How to customized output resolution.

4. Menu Orientation

Menu

Views

Push the [MENU] button, OLED shows the menu, turn the knob and select <Views>, push the knob to confirm, show level 2 menu as follows:

SAVE TO: Push the [LEFT/RIGHT] button to choose the save channel.

Recall: Turn the knob to choose the recall the save mode.

Save: Turn the knob to choose the save channel, VSP 628PRO supports 23 kinds of save modes.

Delete: Delete the save mode.

Transition

Push the [MENU] button, OLED shows the menu, turn the knob and select <Transition>, push the knob to confirm, show level 2 menu as follows:

Trans With: Can choose transition mode include Fade or Cut.

Trans Time: Set the transition time. The transition time adjustment range is from 0 to 10S.

System

Push the [MENU] button, OLED shows the menu, turn the knob and select <System>, push the knob to confirm, show level 2 menu as follows:

System Mode: VSP 628PRO supports 3 kinds of system modes, user can choose the mode according to actual need:

Stand: In this mode, all the inputs are the same image, the same resolution, and support fade in fade out switch. Each input signal supports scale, effects setting independently.

Dual 2K: In this mode, the two channels output independently, CHA outputs to DVI and VGA, CHB outputs to HDMI, CHA and CHB can input any signal and set different resolutions, but can not support fade in fade out switch. Each input signal supports scale, effects setting independently.

4. Menu Orientation

Menu

User can push the [MENU] button to enter to menu items, choose <Output>, push the knob to confirm, turn the knob, choose <Channel select>, turn the knob to choose CHA or CHB.

Switcher: In this mode, the HDMI output is preview image, and the DVI and VGA output is program image, preview signal can not support fade in fade out switch, and program signal supports.

Ethernet: Set the IP address, system default 192.168.000.100.

Input EDID: Settings include Input 1 (DVI-I), Input 2 (HD-15), Input 3 (HDMI), Input 4 (DP).

Lock Front Panel: In order to avoid the wrong operations, user can lock front panel.

Note

The OLED panel will show: Locked Panel! Press SCALE Key For 5 Seconds To Unlock Panel!

LANGUAGE/语言: User can choose Chinese or English according to their needs to operate the interface more quickly.

Logo

Use can capture or delete the logo.

Display Setup

Push the [MENU] button, OLED shows the menu, turn the knob and select <Display Setup>, push the knob to confirm, show level 2 menu as follows:

Display Brightness: Display brightness setting, including:

Brightness: Brightness setting, the adjustment range is 0~10.

Calibration: Calibrate the brightness, the adjustment range is 0~10.

4. Menu Orientation

Menu

Test Pattern

Push the [MENU] button, OLED shows the menu, turn the knob and select <Test Pattern>, push the knob to confirm, show level 2 menu as follows:

Type: Choose the test pattern type, including H RAMP, V RAMP, 100% COL BAR, 75% COL BAR, 16*16 GRID, 32*32 GRID, BURST, 50% GRAY, GRAY STEP1, GRAY STEP2, WHITE、BLACK, SMPTE COL BAR and LOGO.

Raster Box: User can choose enable or disable the raster box function.

Diag Motion: User can choose enable or disable the diag motion function.

AOI Raster Box: User can choose enable or disable the AOI raster box function. If choose “ON”, user can choose the types including Box X, Box Y, Box Width and Box Height. If image quality distorts by improper operation, it can be recover by reset.

Tech Support

User can view the device version (include Main Board, Core Board, Control Board, WebServer, FPGA1, FPGA2, VGA, Variable In, Variable Out), SN, Email, Website, WhatsApp and Skype.

Factory Reset

Enter Factory Reset to reset the IP, push the knob to confirm, and VSP 628PRO is reset to its factory settings. After 5 seconds, it completes factory settings and is ready for more operations.

Note

All the items marked <N/A> is the functions not avail, we will complement it with the functional improvement.

5. Communication Software Guideline

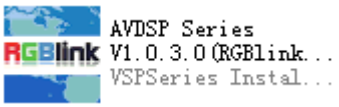
In This Chapter

This chapter provides detailed information about the control communication software. The following topics are discussed:

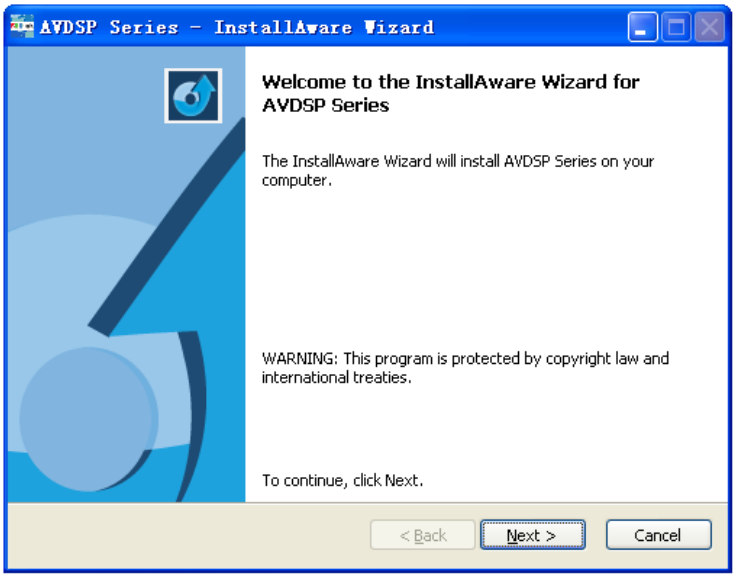
- Software Installation
- Software Operation

Software Installation

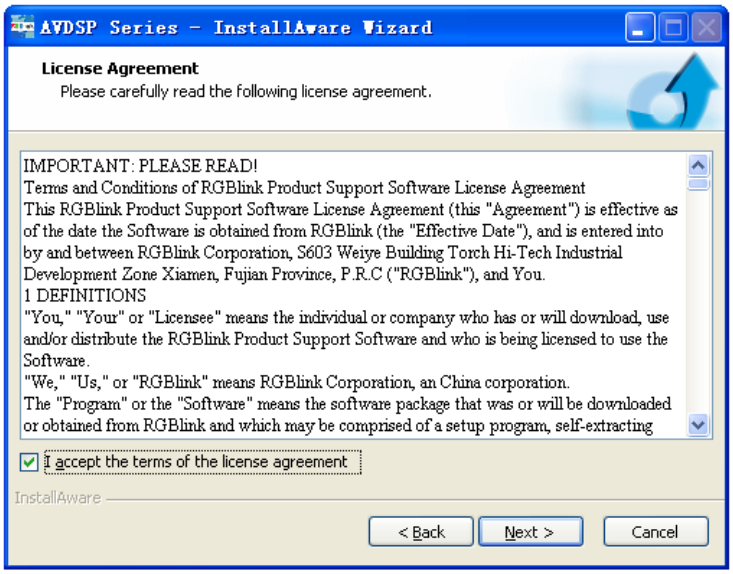
AVDSP video processor is very easy to be configured with user friendly communication software, support drag and drop operation for edit and display. Also it can be customized with schedule function.

Double click 

to install, English version default for use, click “Next” to next dialog:

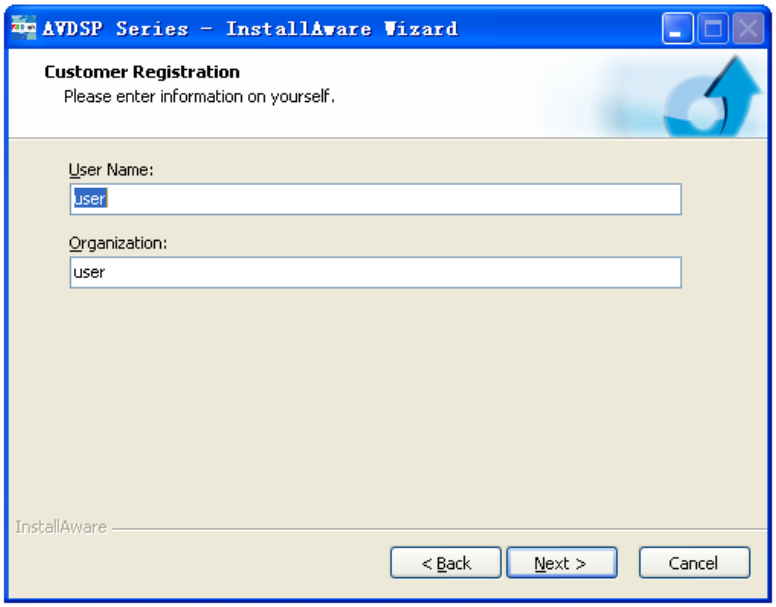


And in next dialog is the user agreement of the software, click Agree to go on:

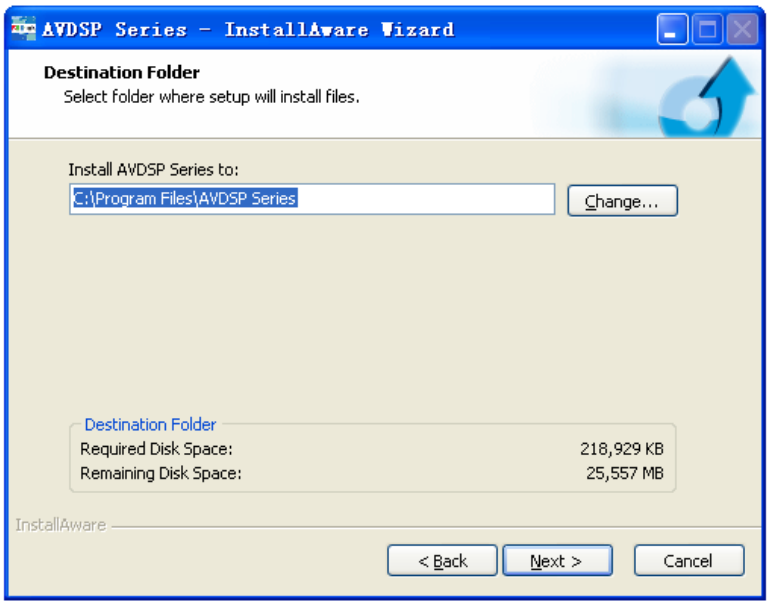


5. Communication Software Guideline

Software Installation



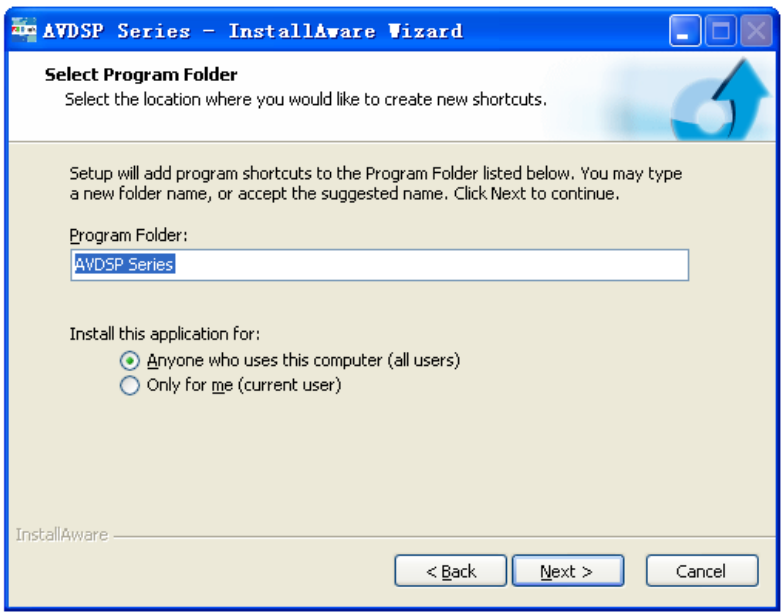
User can select “Change” to choose the VSP 628PRO install software:



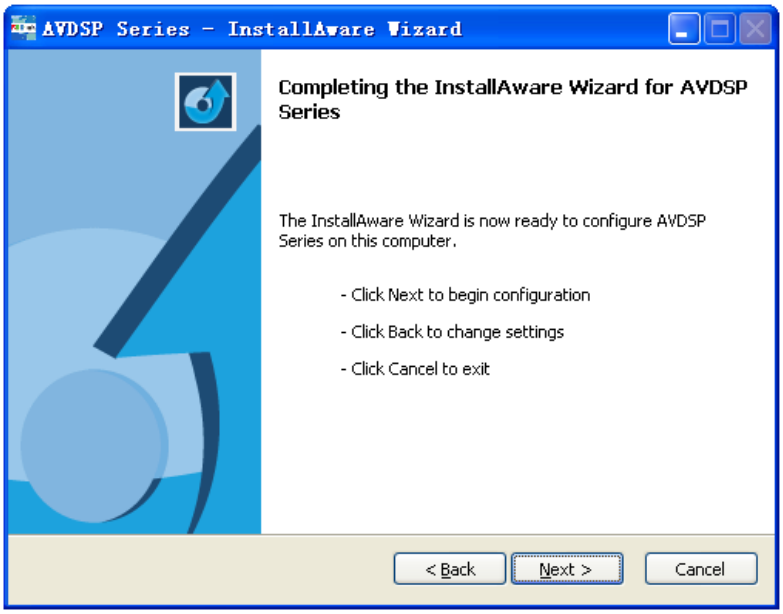
5. Communication Software Guideline

Software Installation

Click “Next” to go on:



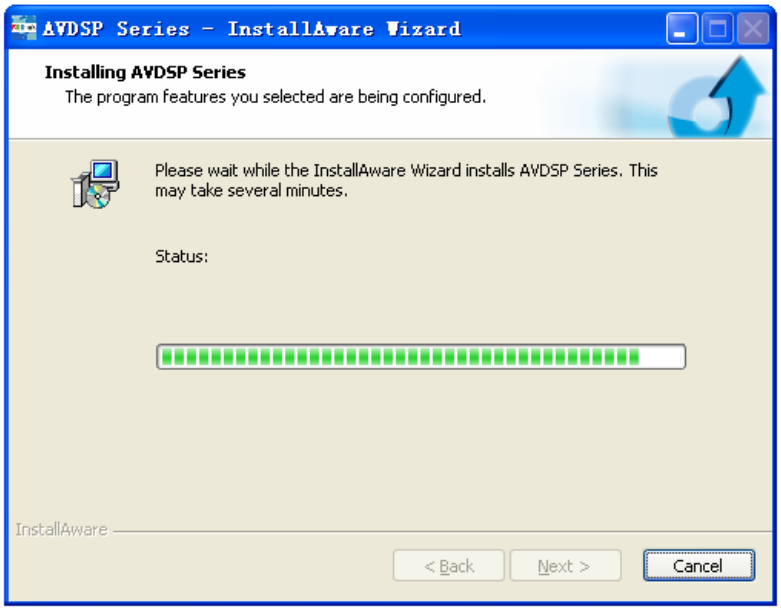
Click “Next” to go on:



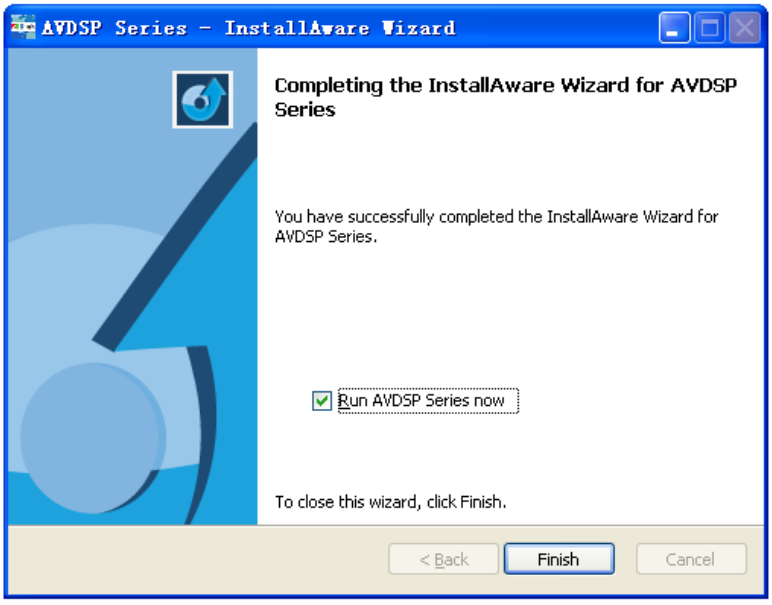
5. Communication Software Guideline

Software Installation

Click “Next” to go on:



Click “Finish” and ready to run VSP 628PRO console:



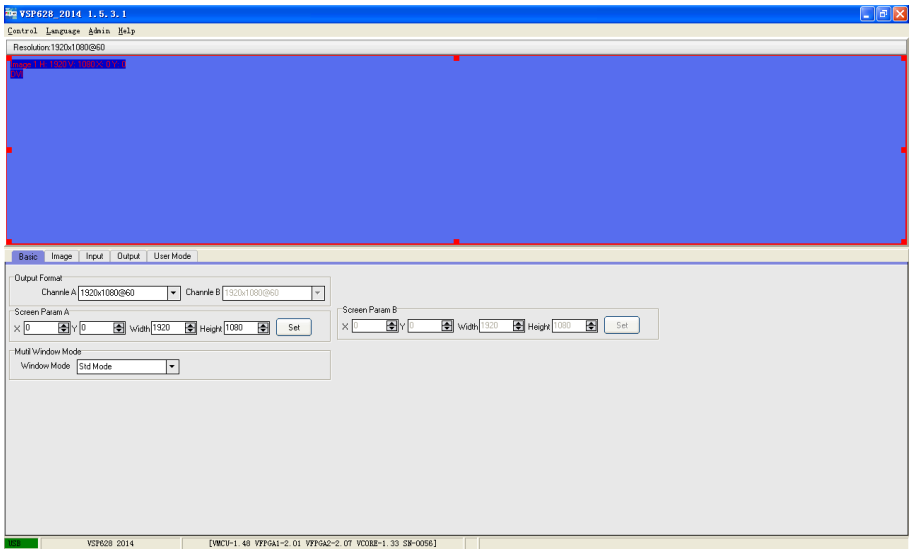
Software Operation

Install communication which comes with the package of VSP 628PRO device.

Double click 

icon from home screen and choose 

to run the software. VSP 628PRO communication software interface as shown:



Set up Communication

Connect the computer and windows control program with the network cable or USB cable, it will automatically connect without setting.

Note

USB cable can do 100M program upgrade.

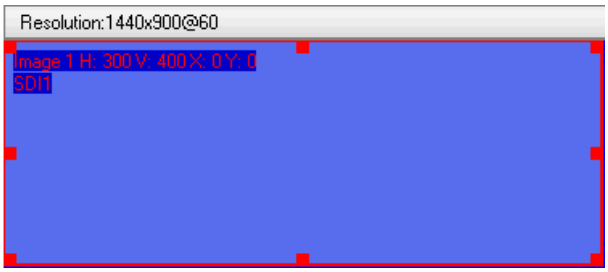
Use

Image Toolbar

Show the image information, size, position and size.

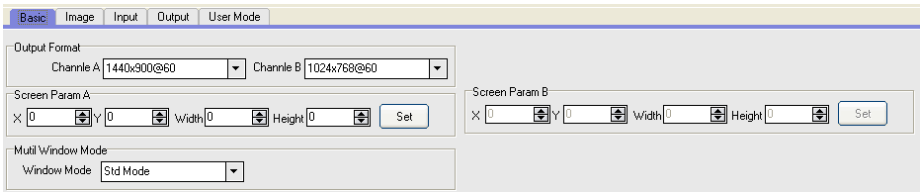
5. Communication Software Guideline

Software Operation

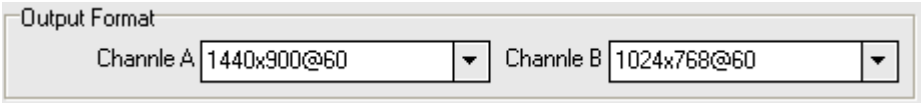


Basic

Interface is as follows:



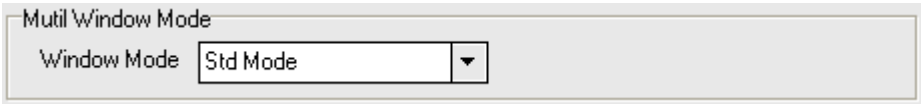
Choose different output resolutions of CHA and CHB by selecting from scrolling down list:



Set the X, Y, Width and Height of Screen Parameter A according to actual need. Click “Set” after finish.

Set the X, Y, Width and Height of Screen Parameter B according to actual need. Click “Set” after finish.

Choose the window mode by selecting from scrolling down list. VSP 628PRO support standard mode, dual 2K and Switcher.



5. Communication Software Guideline

Software Operation

Image

In single mode, the interface is as follows:

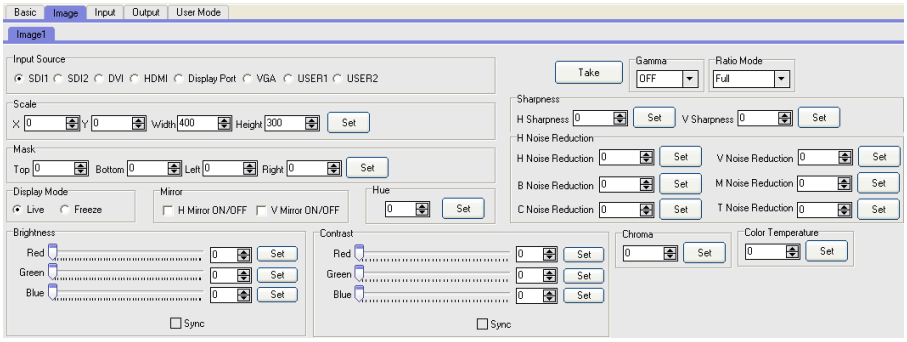
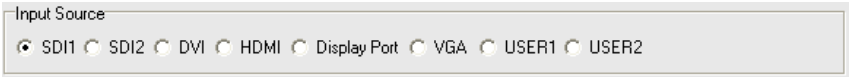


Image 1

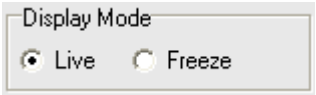
Choose the input source of image 1.



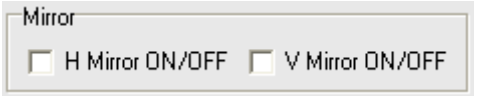
Scale the image by adjusting X, Y, Width and Height. Click “Set” after finish.

Mask the top, bottom, left and right of the image. Click “Set” after finish.

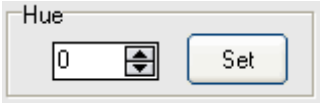
Choose the display mode as live or freeze.



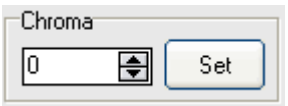
Enable or disable the H Mirror or V Mirror function.



Set the hue of the image according to actual need. Click “Set” after finish.



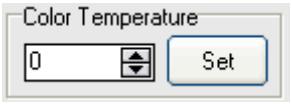
Set the chroma of the image according to actual need. Click “Set” after finish.



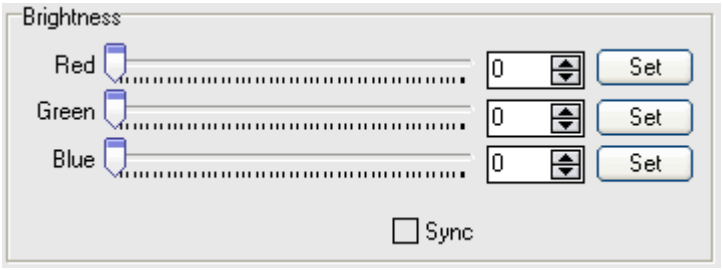
5. Communication Software Guideline

Software Operation

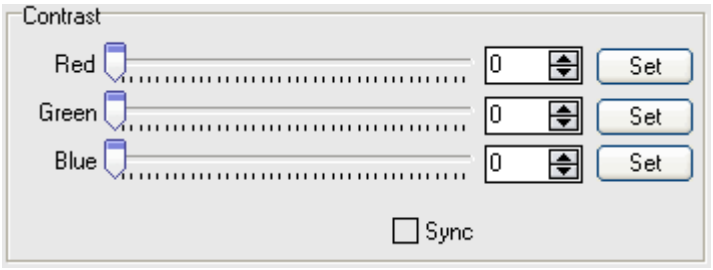
Set the color temperature of the image according to actual need. Click “Set” after finish.



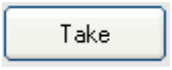
Set the brightness, including red, green and blue. Click “Set” after finish. If choose “Sync”, when drag one color, the other two color values will change accordingly to the same value.



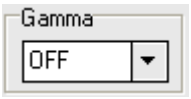
Set the contrast, including red, green and blue. Click “Set” after finish. If choose “Sync”, when drag one color, the other two color values will change accordingly to the same value.



Click “Take”, the image will be switched to the LED display with seamless effect.



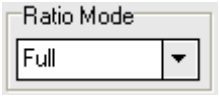
Enable the gamma function and set the gamma value by selecting from scrolling down list.



Set the ratio mode by selecting from scrolling down list.

5. Communication Software Guideline

Software Operation



Set the H sharpness and V sharpness according to actual need, click “Set” after setting.

User can do noise reduction processing for the image, which including H Noise Reduction, V Noise Reduction, B Noise Reduction, M Noise Reduction, C Noise Reduction and T Noise Reduction. Click “Set” after setting.

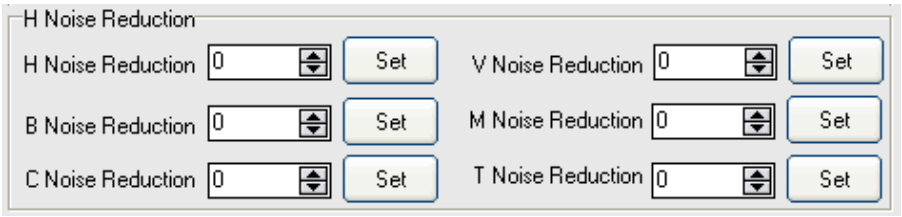
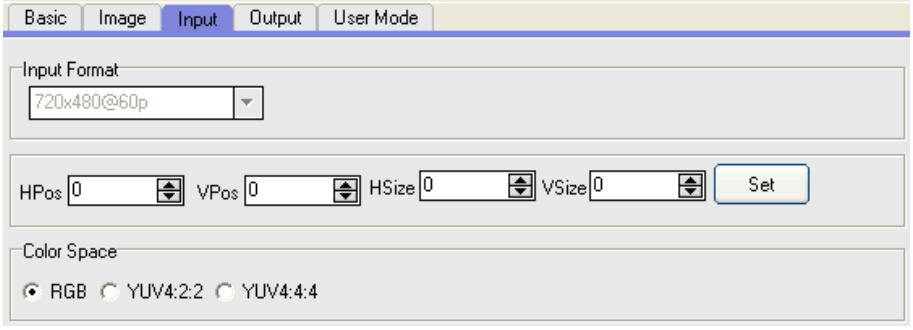


Image 2: The operation is same with image 1.

Input

Interface is as follows:



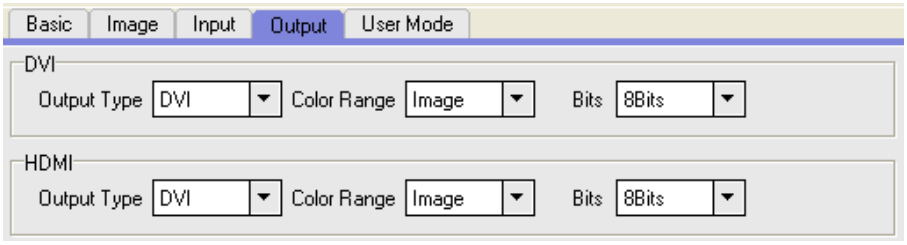
Set the input format by selecting from scrolling down list.

Scale the image according to actual need, click “Set” after finish..

Choose color space, including RGB, YUV4:2:2 and YUV4:4:4.

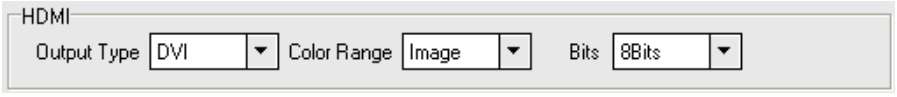
Output

Interface is as follows:



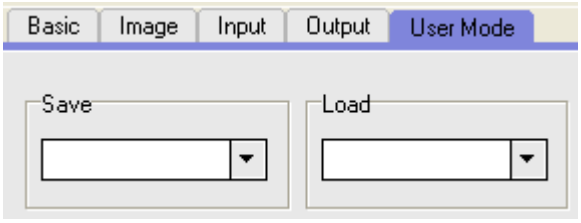
DVI setting, including output type, color range and bits.

HDM setting, including output type, color range and bits.

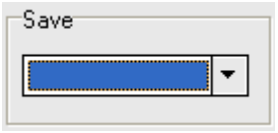


User Mode

Interface is as follows:



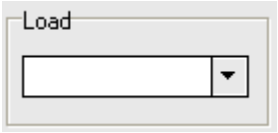
Choose the save mode by selecting from scrolling down list. VSP 628PRO supports 23 kinds of save modes.



5. Communication Software Guideline

Software Operation

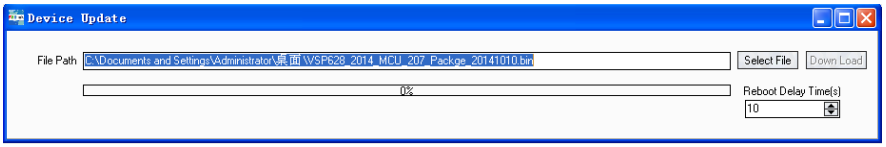
Choose the load mode by selecting from scrolling down list. VSP 628PRO supports 23 kinds of save modes.



Control

Synchronization: Refresh the current page.

Device Update



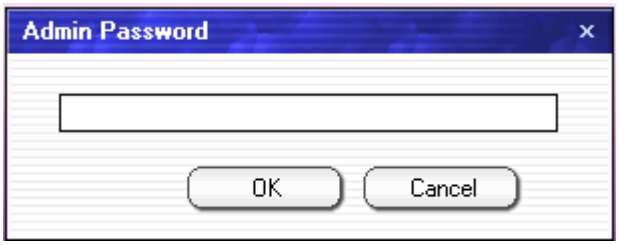
Factory Setup: Click “Factory Setup”, previously saved user mode will be cleared.

Language

This software supports both Chinese and English, user can switch the language by “Language” option.

Admin

Advance Debug： User should input the password in the “Admin Password” dialog for advance debug:



Note

Advance is only done by engineer. If need, please connect us for password.

5. Communication Software Guideline

Software Operation

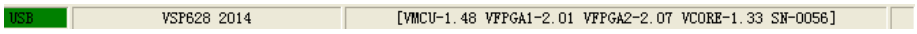
Help

Version Explain: Show the content of software update history.

About: Show software version and company information.

Information Toolbar

It shows the VSP 628PRO connection state, software version and serial number in the bottom of the software interface.



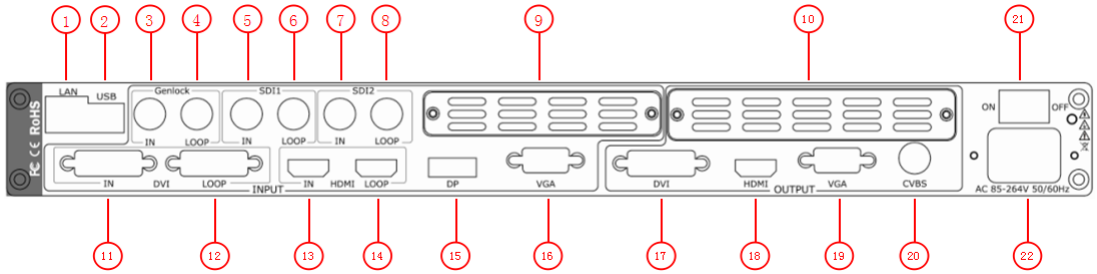
6. System Setup and Operations

In This Chapter

This chapter provides comprehensive instructions for system setup and operations. The following topics are discussed:

- Interface and Input Signal Option
- How to Realize the System Mode Setting
- How to Do Customized Output Resolution
- How to Realize the Test Pattern Setting
- How to Realize LAN Remote Control Setting
- How to Realize WEB SERVER Cross-platform Setting
- How to Save the parameter
- How to Load the Saved Parameter

Interface and Input Signal Option



NO	INTERFACE	NO	INTERFACE
1	10/100M Interface	13	HDMI Input
2	USB Interface	14	HDMI Loop Out
3	Genlock Input	15	Displayport Input
4	Genlock Loop Out	16	VGA Input DB15 port
5.7	SDI Input	17	DVI Output
6.8	SDI Loop Out	18	HDMI Output
9	S. V. D. H. U Optional Module	19	VGA Output
10	F Optional Module/Sending card interface	20	CVBS Output (OC Optional Module)
11	DVI Input	21	Switch
12	DVI Loop Out	22	Power IEC-3 port

17. DVI is LED screen output , and connected with sending card of LED screen, the VSP 628PRO support 66 kinds of common resolutions, user can choose the output resolution in <Output Format> in <Output> option by pushing [MENU] button.

18. VGA is preview output interface, connect the display or other device with VGA interface.

4.6.8.12.14. Loop output interface of the signal source, it can output the input signal without any treatment and change. This is the advantage of VSP 628PRO. Any input signal can be realized without changing its format, and output the original image.

6. System Setup and Operations

Interface and Input Signal Option

In addition to CONT part and the sending cards and the power and the interface above-mentioned, the other interfaces are video signal input interface, including Genlock, 3G-SDI, DVI, HDMI, Displayport and VGA.

How to Realize the System Mode Setting

VSP 628PRO supports 3 kinds of system modes: Stand, Dual 2K and Switcher. Push the [MENU] button to enter to the menu items, choose <System>, push the knob to confirm. Turn the knob, choose <System Mode>, user can choose the mode according to actual need.

Stand Mode Setting

In this mode, all the inputs are the same image, the same resolution, and support fade in fade out switch. Each input signal supports scale, effects setting independently.

Single Image Switching

VSP 628PRO can realize seamless effects switching between two channels. Push the signal button, and the signal will be switched to the LED display. For example, the [SDI1] button light is on, it means the signal of LED display is SDI1, if user need to switch to VGA signal, push the [VGA] button, and the signal will be seamless cut or fade in fade out to the LED display. User can adjust the switch speed in <Trans Time> option in <Transition>by pushing the [MENU] button.

PIP Setting

Enable the PIP function:

VSP 628PRO supports seamless switch in single image and double images. Push the [PIP] button, the button light is on, and enable the PIP function.

Choose the signal in PIP:

VSP 628PRO can output two same or different signals to the LED display, the settings are as follows:

6. System Setup and Operations

How to Realize the System Mode Setting

1. Push the [PIP] button, and enable the PIP function.
2. Push the [SCALE] or [DIMMER] button, choose <Layer Select>, and push the knob to confirm. (User can also choose <Layer Select> in <Input> or <Output> option by pushing the [MENU] button.
3. Turn the knob, and choose main or sub image.
4. Choose the signal, and the selected image will be switched to this signal.

Scale Setting

Push the [SCALE] button, and enter to the scale function menus, user can adjust the H size, V size, H/V size, H pos, V pos and scaling mode by knob or number buttons. If image quality distorts by improper operation, it can be recover by reset.

Note: In PIP mode, user need to choose the image that to set in <Layer Select> option before setting.

Image Size Adjust

Push the [MENU] button, and enter to the menu items. Turn the knob, and choose <Input>, push the knob to confirm. Turn the knob, choose <Sizing Adjust>, push the knob to confirm. User can adjust the H size, V size, H pos V pos, and mask top, bottom, left and right of the image by knob or number buttons. If image quality distorts by improper operation, it can be recover by reset.

Note: In PIP mode, user need to choose the image that to set in <Layer Select> option before setting.

Dimmer and Effects Setting

Push the [DIMMER] button, and enter to the menu items, user can set the dimmer and effects. The adjustment value range of dimmer is 0~100.

The setting for effects include brightness, contrast, chroma, hue, color

temperature, color correction, gamma, brightness, H sharpness, V sharpness, noise reduction, Invert, Flip V, Flip H and Flip 90 Degree.

Note: User can also choose <Effects> in <Output> option by pushing the [MENU] button for setting.

Dual 2K Setting

In this mode, the two channels output independently, CHA outputs to DVI and VGA, CHB outputs to HDMI, CHA and CHB can input any signal and set different resolutions, but can not support fade in fade out switch. Each input signal supports scale, effects setting independently.

Same operation with stand mode, in this mode, user can switch the signal, set the size and position, mask the image and adjust the dimmer and effects. User need to choose the channel in <Channel Select> before setting.

For example, choose the signal of CHB, first, push the [MENU] button to enter to menu items, choose <Output>, push the knob to confirm, turn the knob, choose <Channel select>, turn the knob to choose CHB. Then choose the signal, CHB will switch to the selected signal.

In addition, dual 2K can realize max 4K×1K mapping of single VSP 628PRO and Multiple synchronization mapping, the operations are as follows:

Mapping of Single VSP 628PRO

When mapping of single VSP 628PRO, first, choose the same single for CHA and CHB, then choose CHA or CHB in <Channel Select> option in <Output> by pushing [MENU] button, and adjust the size according to actual need in <Size Adjusting> option in <Input> by pushing [MENU] button.

Here, we take total width 1920, total height 1080, V split for example.

1. Choose the signal of CHA and CHB, for example, choose DVI.
2. Push the [MENU] button to enter to menu items, choose <Output>, push

the knob to confirm, turn the knob, choose <Channel select>, turn the knob to choose CHA or CHB, for example, choose CHB.

3. Push the [MENU] button to enter to menu items, choose <Input>, push the knob to confirm, turn the knob, choose <Sizing Adjust>, set V size as 960.
4. Push the [MENU] button to enter to menu items, choose <Output>, push the knob to confirm, turn the knob, choose <Channel select>, turn the knob to choose CHA.
5. Push the [MENU] button to enter to menu items, choose <Input>, push the knob to confirm, turn the knob, choose <Sizing Adjust>, set V size as 960, and set V size as 960.

Multiple Synchronization Mapping

User need enable the Genlock function in <Output> option by pushing [MENU] button before multiple synchronization, and then do signal distribution and split, etc.

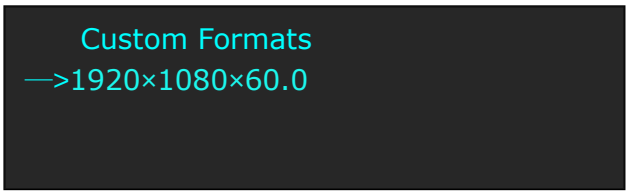
Switcher Setting

In this mode, the HDMI output is preview image, and the DVI and VGA output is program image, preview signal can not support fade in fade out switch, and program signal supports.

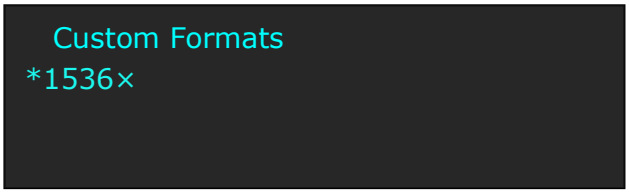
Same operation with stand mode, in this mode, user can switch the signal, set the size and position, mask the image and adjust the dimmer and effects. All the settings above are for preview, push [TAKE] button after setting, and the preview image will be cut or fade in fade out to the program.

How to Do Customized Output Resolution

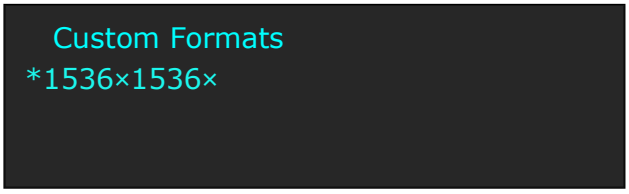
Push the [MENU] button to enter to the menu items, turn the knob and choose <Custom Formats>, push the knob and confirm.



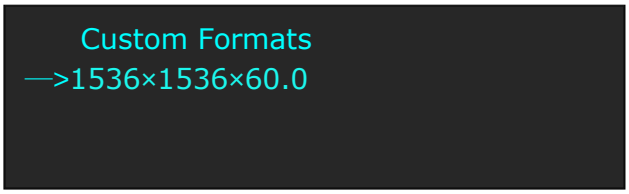
1. Turn the knob on each digital position, and change the value of the digital by the digital buttons on the front panel. For example, input 1526 as following:



2. After the digital, push the knob will add ×, means before × is the horizontal size. Same operation for vertical size, For example, input 1526 as following:



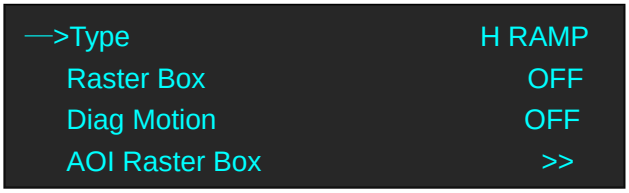
3. After the digital, push the knob will add ×, means before the × is the vertical size, and after the × is the refresh rate. Only digital 50 or digital 60 supports for the refresh rate. For example, input 60 as following. Use the digital buttons to finish the settings.



4. After input all the values, push the knob to enable VSP 628PRO to output output this resolution. VSP 628PRO will take 5~10 seconds to enable this output resolution.

How to Realize the Test Pattern Setting

Push the [LOGO] button, user can set the test pattern, the settings are as follows:



Type: Choose the test pattern type, including H RAMP, V RAMP, 100% COL BAR, 75% COL BAR, 16*16 GRID, 32*32 GRID, BURST, 50% GRAY, GRAY STEP1, GRAY STEP2, WHITE、BLACK, SMPTE COL BAR and LOGO.

Raster Box: User can choose enable or disable the raster box function.

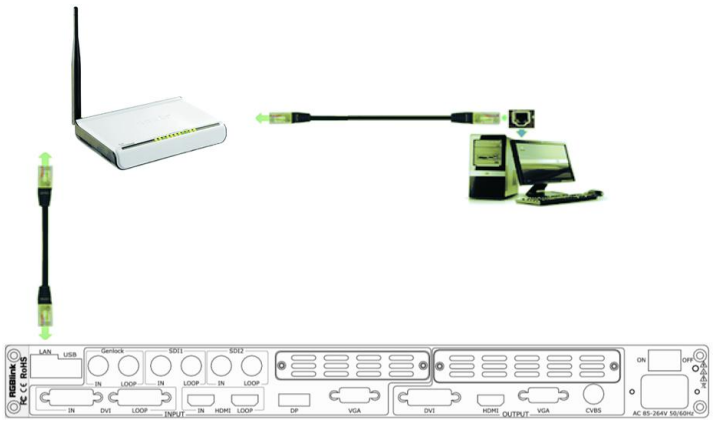
Diag Motion: User can choose enable or disable the diag motion function.

AOI Raster Box: User can choose enable or disable the AOI raster box function. If choose “ON”, user can choose the types including Box X, Box Y, Box Width and Box Height. If image quality distorts by improper operation, it can be recover by reset.

How to Realize LAN Remote Control Setting

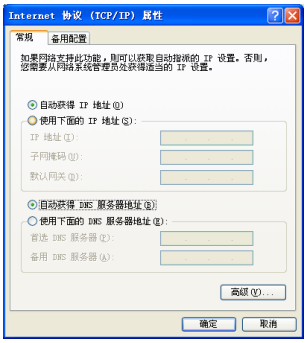
Firstly, To realize LAN remote control need to build up a LAN platform including: ①One computer (Laptop or computer, used to do remote control which installed windows control software in the computer).②One router (Better to have wireless function which may realize WEB control cross different platform; without wireless function is available but only realize cable remote control. No limitation for router's model and brand, such as VPN router model: Netcore 255 or 266; Volans VE 760W or 982W). ③One VSP 628PRO processor (as long as the router's network ports can connect to, user can place multi pieces of VSP 628PRO).

Step one: LAN physical connection. Connect VSP 628PRO and router with network cable, then connect computer and router with network cable also, use the LAN port of router, WAN port is used for connecting to outer net. Sketch map as below:



Step two: IP address setting (processor's default IP address is 192.168.0.100)

Firstly change computer's local connection to "automatically getting the IP", showed as below:



6. System Setup and Operations

How to Realize LAN Remote Control Setting

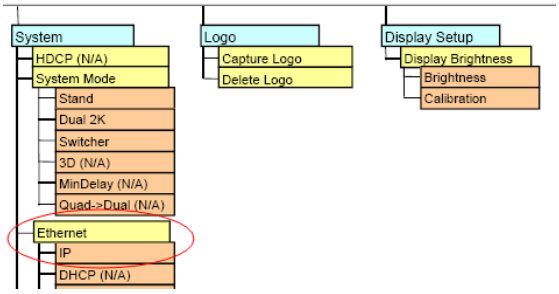
Secondly refer to router's instruction (user manual, specification), and find out router's default network segment.

If router's default network segment is 192.168.0.1, then it is same to processor IP address segment, open up windows control software and user can directly control on VSP 628PRO.

If router's default network segment is 192.168.1.1, then user need to change router's default gateway or change processor's IP, both methods are available, but we suggest to change processor's IP.

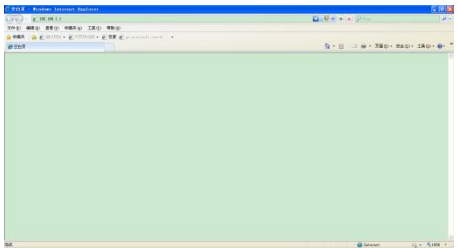
Method one: Change processor's IP.

Push the [MENU] button on front panel and go into items as below picture shows. Change processor's IP to be 192.168.1.100, confirm and restart the processor, then user can directly control on VSP 628PRO via windows control software.



Method two: Change router's gateway.

Type in 192.168.1.1 on the browser and go into router setting.

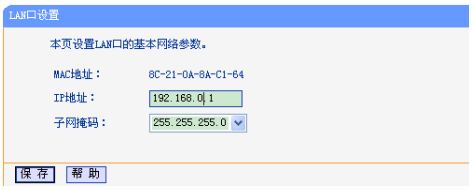


Type in default account and code (please refer to the router user manual for the information).

6. System Setup and Operations

How to Realize LAN Remote Control Setting

Go to router setting part and find out “LAN port setting”, change the default value “192.168.1.1” to be “192.168.0.1”.



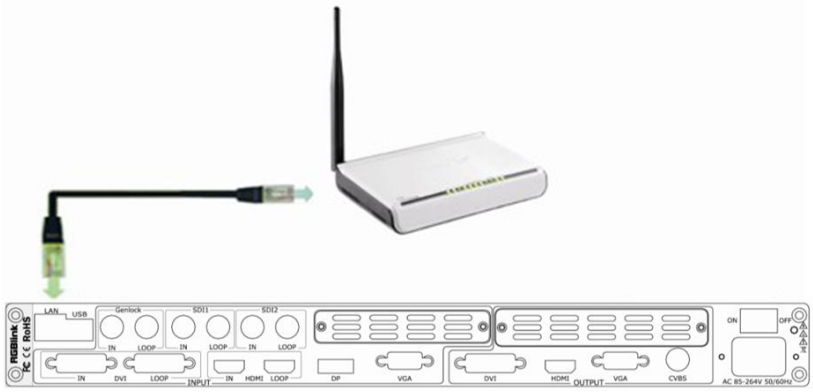
Save the setting and restart the router, then user can directly control on VSP 628PRO via windows control software.

How to Realize WEB SERVER Cross-platform setting

First, the formation of LAN Remote Control Platform: one Ipad or one Iphone, one router (with wireless functions, for example with a wireless-enabled VPN router models: Netcore 255 and 266. Volans VE760W, 982W.), one VSP 628PRO processor (can be more processors, as long as the network interface can be connected to the router)

The first step: LAN Physical Connection: connect VSP 628PRO and routers by CAT5, and connect routers by CAT5, please use the LAN Ethernet port, WAN port is only used to connect to external networks, it's not allowed to use in this step.

Connection diagram is as below:



The second step: IP address setup. Please refer to IP Setup steps which in the "How to Realize LAN Remote Control Setting" section. (Make sure that processors IP address and router IP address are in the same band.)

When users use Ipad or Iphone, you can directly use the Safari browser, enter the URL 192.168.0.100 (default) and run. If user using other types of devices will need to install the kernel webkit browser such as: Apple Safari, Google Chrome or Maxthon browser. The Installing package will provide Google Chrome browser (windows version).

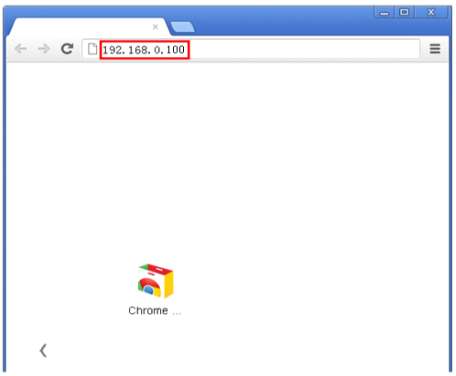
The third step: Make connections.

Click 

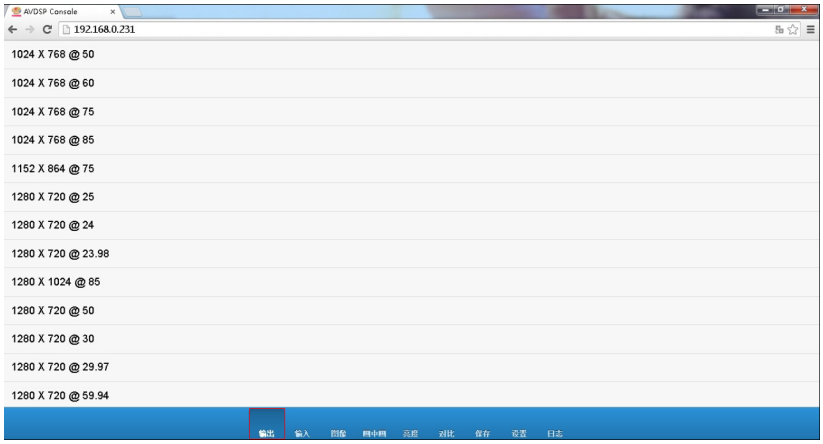
ico, run Google Chrome browser, open the page enter 192.168.0.100 (default) and run.

6. System Setup and Operations

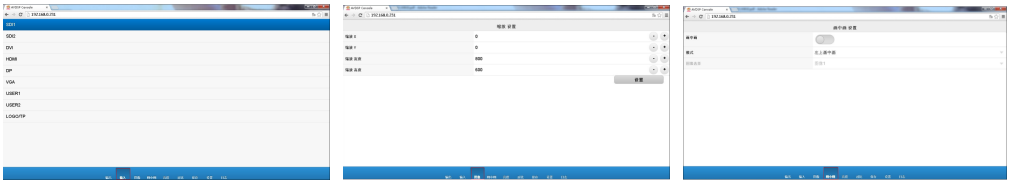
How to Realize WEB SERVER Cross-platform Setting



After connection successfully, Web page appears as VSP 628PRO system control interface.



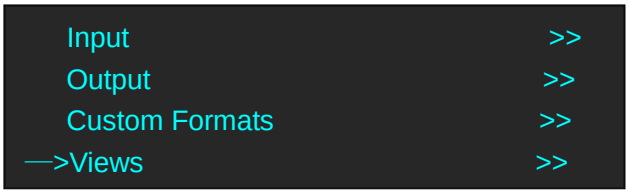
Click on the toolbar below the control interface, then accesses setup menu, now WEB control on VSP 628PRO is available.



How to Save the Parameter

VSP 628PRO provides 23 kinds of save modes, the settings are as follows:

1. Push the [MENU] button to enter to the menu items, turn the knob, choose <View>, push the knob to confirm.



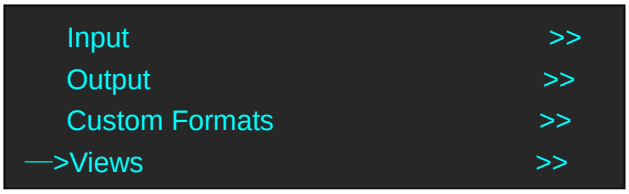
2. Turn the knob, and choose <Save>, push the knob to confirm.

3. Turn the knob, and choose the location that need to save, push the knob to confirm.

How to Load the Saved Parameter

VSP 628PRO provides 23 kinds of save modes, the settings are as follows:

1. Push the [MENU] button to enter to the menu items, turn the knob, choose <View>, push the knob to confirm.



2. Turn the knob, and choose <Recall>, push the knob to confirm.

3. Turn the knob, and choose the location that need to load, push the knob to confirm.

7. Common Questions and Solution

In This Chapter

This chapter provides the common questions and solution for the video processor. The following topics are provided:

No Output in LED Display

Confirm if there are any input singles

Check whether the input signal is normal, if normal, check the front-end signal lines, and please note to do dual display or extended in computer . User can enter other format signals to view in the same operation.

Confirm If Signal Output

Find a belt VGA input (best for DVI) display, connect to the corresponding output port of processor, and check whether the signal is correct on the monitor. If not display properly, please check whether there is input signal, or if input wire interface is taken tight, output wire interface is picked up tightly. If display normally, check if sending card is normally working or need to replace sending card test.

Flash Point in LED Display Output

Confirm if monitor output is normal

Find a belt VGA input (best for DVI) display, connect to the corresponding output port of processor, and check whether the signal is correct on the monitor. If display normally shows and no flash point, please check whether DVI outlets put tight or replace to DVI line of sending card. If display flashes point, please judge if input signal, wire, and interface are normal.

LED Display Only Displays Part of the Image

Signal need to scale

Push the [SCALE] button in the processor and knob to adjust the actual screen size of the screen, including “H Size”, “V Size”, “H Pos”, “V Pos” and “Reset”. Push the knob to confirm.

No Display in the Second Half Part of LED Display

Resolution is Insufficient

Please make sure the points of the screen width and height, choose the resolution to be bigger than screen width via push **[MENU]** button to find [OUTPUT FORMAT], and push SEL button to confirm.

A. Specification

Genlock Input	
Number of Inputs	1
Connector	Standard BNC Socket
Supported Standards	480i, 576i, 1080i59.94, 1080i50, 720p50, 720p59.94, 1080p50, 1080p59.94, 1080p60, 1080psf23.98, 1080psf24
3G-SDI Input	
Number of Inputs	2
Connector	BNC
Data Rate	2.97Gb/s, 2.97/1.001Gb/s, 1.485Gb/s, 1.485/1.001Gb/s and 270Mb/s
Supported Standard	SMPTE 425M (Level A and Level B), SMPTE424M, SMPTE 292M, SMPTE 259M-C and DVB-ASI
Balance	Belden 1694A cable: 150m at 2.97Gb/s 250m at 1.485Gb/s 480m at 270Mb/s
VGA DB15 Input	
Number of Inputs	1
Connector	Standard DB15 Socket
Supported Standard	VGA-UXGA
Signal Level	R、G、B、Hsync、Vsync:0 to1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm black level: 300mV Sync-tip: 0V
Supported Resolution	VGA-UXGA (800×600@60, 1024×768@60, 1280×1024@60, 1440×900@60,1600×1200@60)
DVI Input	
Number of Inputs	1
Connector	Standard DVI-I socket
Supported Resolution	SMPTE: 625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50,1080P59.94/60,1080i50,1080i59.94/60, 720p50,720p59.94/60 VESA: 800×600@60Hz, 1024×768@60Hz, 1280×768@60Hz, 1280×1024@60Hz, 1600×1200@60Hz, 1920×1080@60Hz
Signal Level	TMDS pwl, single pixel input,165MHz bandwidth
Format Standard	HDMI 1.3
DP (Displayport) Input	

Number of Inputs	1
Connector	Standard
Supported Resolution	Support resolution: WQXGA + (1920 x 1200), and color depth: 30/36 bit (each primary 10/12 bit)
Supported Bandwidth	10.8Gb/s
Format Standard	DP1.1
HDMI Input	
Number of Inputs	1
Connector	HDMI standard type A interface
Supported Resolution	SMPTE: 625/25 PAL, 525/29.97 NTSC, 625/50p PAL, 525/59.94p NTSC 720p50,720p59.94/60,1080i50,1080i59.94/60 VESA: 800×600×60Hz, 1024×768×60Hz, 1280×768×60Hz, 1280×1024×60Hz, 1600×1200×60Hz, 1920×1080×60Hz, 1920×1080×50Hz
Embedded Audio Channels	Choose 1 in 2
Format Standard	HDMI 1.3
Genlock Loop Out	
Number of Loop Out	1
Connector	Standard BNC Socket
Supported Standards	480i, 576i, 1080i59.94, 1080i50, 720p50, 720p59.94, 1080p50, 1080p59.94, 1080p60, 1080psf23.98, 1080psf24
SDI Loop Out	
Number of Loop Out	2
Data Rate	2.97Gb/s, 2.97/1.001Gb/s, 1.485Gb/s, 1.485/1.001Gb/s and 270Mb/s
Supported Standard	SMPTE 425M (Level A and Level B), SMPTE424M, SMPTE 292M, SMPTE 259M-C and DVB-ASI
Supported Resolution	720P50, 720P60, 1080i59.94, 1080i60, 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p59, 1080p59.94, 1080p60, 1080psf23.98, 1080psf24, 1080psf25, 1080psf29.97, 1080psf30
Balance	Belden 1694A cable: 150m at 2.97Gb/s 250m at 1.485Gb/s 480m at 270Mb/s
HDMI Loop Out	
Number of Loop Out	1
Connector	HDMI standard type A interface
Supported Resolution	SMPTE: 625/25 PAL, 525/29.97 NTSC, 625/50p PAL, 525/59.94p NTSC

	720p50,720p59.94/60,1080i50,1080i59.94/60 VESA: 800×600×60Hz, 1024×768×60Hz, 1280×768×60Hz, 1280×1024×60Hz, 1600×1200×60Hz, 1920×1080×60Hz, 1920×1080×50Hz
Format Standard	HDMI 1.3
DVI Loop Out	
Number of Loop Out	1
Connector	Standard DVI-I Socket
Supported Resolution	SMPTE: 625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50,1080P59.94/60,1080i50,1080i59.94/60, 720p50,720p59.94/60，1280×720×23.98, 1280×720×24, 1280×720@25,1280×720@29.97, 1280×720@30, 1920×1080@23.98, 1920×1080@24, 1920×1080@25, 1920×1080@29.97, 1920×1080@30. VESA: 800×600@60, 1024×768@60, 1024×768@75, 1024×768@85, 1280×720@60, 1280×768@60, 1280×800@60, 1280×1024@60, 1360×768@60, 1366×768@60, 1400×1050@60, 1440×900@60, 1600×1200@60, 1680×1050@60, 1920×1080@60, 1920×1200@60, 2048×1152@60, 2560×816@60
Signal Level	TMDS pwl,single pixel input,165MHz bandwidth
Standard	HDMI 1.3
CVBS Output	
Number of Outputs	1
Standard	PAL/NTSC
Signal Level	1Vpp±3db (0.7V Video+0.3v Sync) 75ohm
HDMI Output	
Number of Outputs	1
Connector	HDMI standard type A interface
Supported Resolution	625/25 PAL, 525/29.97 NTSC, 720p50/59.94/60, 1080i50/59.94/60, 1080p23.98/24/25/29.97/30, 1080P50/59.94/60
Format Standard	HDMI 1.3
VGA Output	
Number of Outputs	1
Connector	Standard DB15 Socket
Supported Resolution	VESA: 800×600@60, 1024×768@60, 1024×768@75, 1024×768@85, 1280×720@60, 1280×768@60, 1280×800@60, 1280×1024@60, 1360×768@60, 1366×768@60, 1400×1050@60, 1440×900@60, 1600×1200@60,

	1680×1050@60, 1920×1080@60, 1920×1200@60, 2048×1152@60, 2560×816@60
Signal Level	R、G、B、Hsync、Vsync:0 to1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm black level: 300mV Sync-tip: 0V
DVI Output	
Number of Outputs	1
Connector	Standard DVI-I Socket
Signal Level	TMDS pw, 165MHz bandwidth
Supported Resolution	SMPTE: 625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50,1080P59.94/60,1080i50,1080i59.94/60, 720p50,720p59.94/60，1280×720×23.98, 1280×720×24, 1280×720@25,1280×720@29.97, 1280×720@30, 1920×1080@23.98, 1920×1080@24, 1920×1080@25, 1920×1080@29.97, 1920×1080@30. VESA: 800×600@60, 1024×768@60, 1024×768@75, 1024×768@85, 1280×720@60, 1280×768@60, 1280×800@60, 1280×1024@60, 1360×768@60, 1366×768@60, 1400×1050@60, 1440×900@60, 1600×1200@60, 1680×1050@60, 1920×1080@60, 1920×1200@60, 2048×1152@60, 2560×816@60
VGA Input (Optional Module)	
Number of Inputs	2
Connector	Standard DB15 Socket
Supported Standard	VGA-UXGA
Signal Level	R、G、B、Hsync、Vsync:0 to1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm black level: 300mV Sync-tip: 0V
Supported Resolution	VGA-UXGA (800×600@60, 1024×768@60, 1280×1024@60,1440×900@60,1600×1200@60)
DVI Input (Optional Module)	
Number of Inputs	2
Connector	Standard DVI-I socket
Supported Resolution	SMPTE：625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50,1080P59.94/60,1080i50,1080i59.94/60, 720p50,720p59.94/60 VESA：800×600@60Hz, 1024×768@60Hz, 1280×768@60Hz, 1280×1024@60Hz, 1600×1200×60Hz, 1920×1080×60Hz
Signal Level	TMDS pwl, single pixel input,165MHz bandwidth
Format Standard	HDMI 1.3
SDI Input (Optional Module)	

SDI Input	
Number of Inputs	2
Connector	BNC
Data Rate	2.97Gb/s, 2.97/1.001Gb/s, 1.485Gb/s, 1.485/1.001Gb/s and 270Mb/s
Supported Standard	SMPTE 425M (Level A and Level B), SMPTE424M, SMPTE 292M, SMPTE 259M-C and DVB-ASI
Supported Resolution	720P50, 720P60, 1080i59.94, 1080i60, 1080p23.98, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080p59, 1080p59.94, 1080p60, 1080psf23.98, 1080psf24, 1080psf25, 1080psf29.97, 1080psf30
Balance	Belden 1694A cable: 150m at 2.97Gb/s 250m at 1.485Gb/s 480m at 270Mb/s
SDI Loop Out	
Number of Loop Out	2
Connector	BNC
Data Rate	2.97Gb/s, 2.97/1.001Gb/s, 1.485Gb/s, 1.485/1.001Gb/s and 270Mb/s
Supported Standard	SMPTE 425M (Level A and Level B), SMPTE424M, SMPTE 292M, SMPTE 259M-C and DVB-ASI
Balance	Belden 1694A cable: 150m at 2.97Gb/s 250m at 1.485Gb/s 480m at 270Mb/s
HDMI Input (Optional Module)	
Number of Inputs	2
Connector	HDMI standard type A interface
Supported Resolution	SMPTE: 625/25 PAL, 525/29.97 NTSC, 625/50p PAL, 525/59.94p NTSC 720p50,720p59.94/60,1080i50,1080i59.94/60 VESA: 800×600×60Hz, 1024×768×60Hz, 1280×768×60Hz, 1280×1024×60Hz, 1600×1200×60Hz, 1920×1080×60Hz, 1920×1080×50Hz
Embedded Audio Channels	Choose 1 in 2
Format Standard	HDMI 1.3
Function	
Input channel configuration	Support each input channel signal programming configuration
PIP	Support PIP、PBP for any two inputs
Transition effects	Fade in and fade out switching between any two inputs

Extras	
Communication	USB TCP/IP
Power Supply	85-264V IEC-3
Working Environment	0°C~45°C
Stored Environment	10% to 90%
Product Warranty	3-year parts and labor warranty

B. Contact Information

Warranty:

All video products are designed and tested to the highest quality standard and backed by a full 3-year parts and labor warranty. Warranties are effective upon delivery date to customer and are non-transferable. RGBlink warranties are only valid to the original purchase/owner. Warranty related repairs include parts and labor, but do not include faults resulting from user negligence, special modification, lighting strikes, abuse(drop/crush), and/or other unusual damages.

The customer shall pay shipping charges when unit is returned for repair.

Headquarter: S603~604 Weiye Building Torch Hi-Tech Industrial Development Zone Xiamen, Fujian Province, P.R.C.

- **Tel:** +86-592-5771197
- **Fax:** +86-592-5771202
- **Customer Hotline：**4008-592-315
- **Websites：**
  - ~ http://www.rgblink.com
  - ~ http://www.rgblink.cn
- **E-mail：**rgblinkcs@gmail.com

C. Upgrading Software

USB Upgrade Guideline

1. Connect the device and the PC with USB cable.

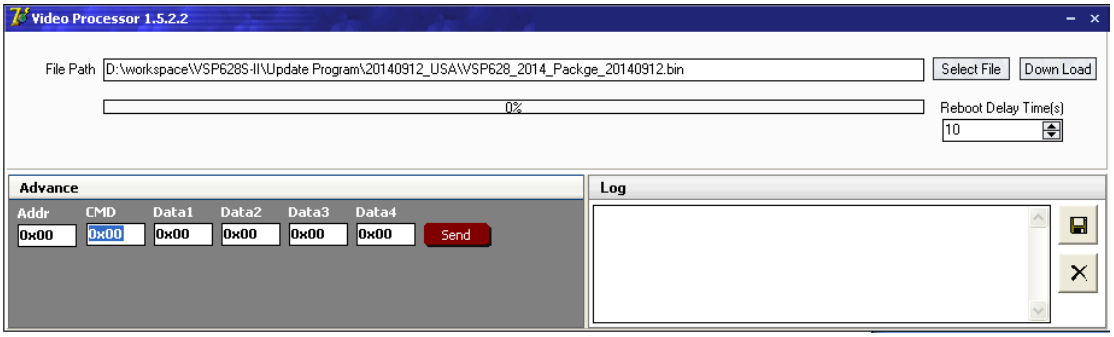
2. Prepare the windows control program: 

   The name of the upgrade software is VSP628_2014_Packge_xx.bin.

3. Open the device and make sure the device is in normal operation.

4. Open the windows control program: 

, shown as below:



5. User need not to install the driver, after the windows control program auto identification the VSP 628PRO, the interface will show “Down Load” button.

6. If the windows control program can not auto identification, the button is gray.

7. Click “Select File” button, choose the upgrade path: VSP628_2014_Packge_xx.bin.

8. Click “Down Load” button, and wait for the upgrade until finish.

9. The upgrade process lasts approximately 2~3 minutes. It will be prompted "Update OK" dialog box when completion, please restart the device after upgrade.

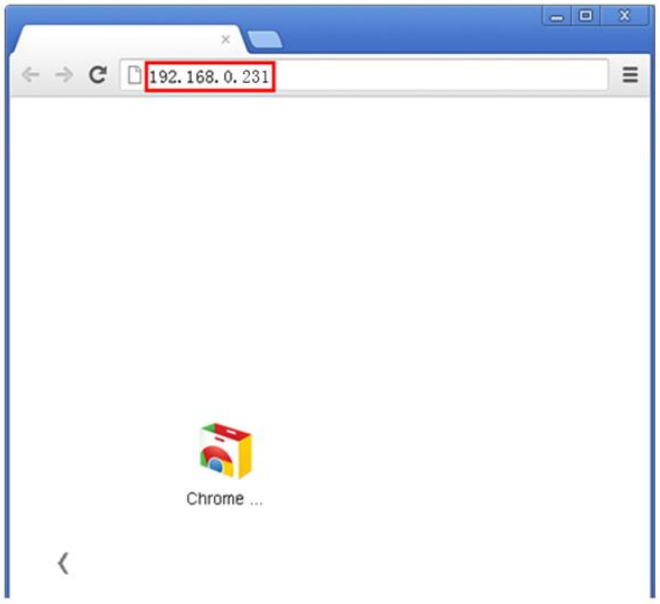
WEB SERVER Cross-platform Control Operation Interface

If users use Ipad or Iphone, they can input the website 192.168.0.100 (default) or 192.168.0.231 in Safari browsers to operate. If users need to modify VSP 628PRO IP address, they can input corresponding modified IP address.

If users use other device, they need to install webkit kernel browser, such as: apple Safari, Google Chrome or Maxthon. Installation package provides Google Chrome browser (Windows version). Now take Google Chrome browser for example, specific steps are as follows:

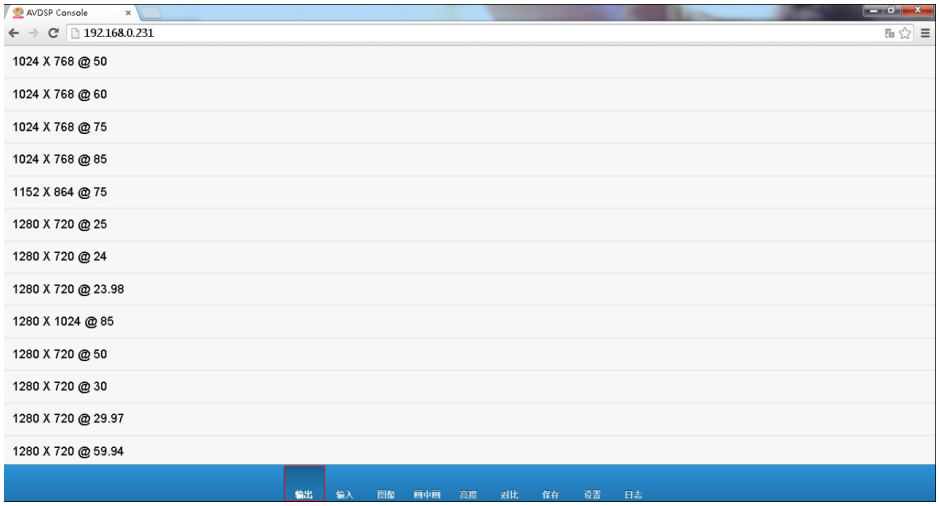
Step 1: click 

to run Google Chrome browser, open the webpage and input 192.168.0.231 to operate:



Step 2: Enter the default home page, the system provides 13 kinds of output resolutions for choose, blue stripe means current selected output resolution. Selected, then VSP 628PRO will automatically update the

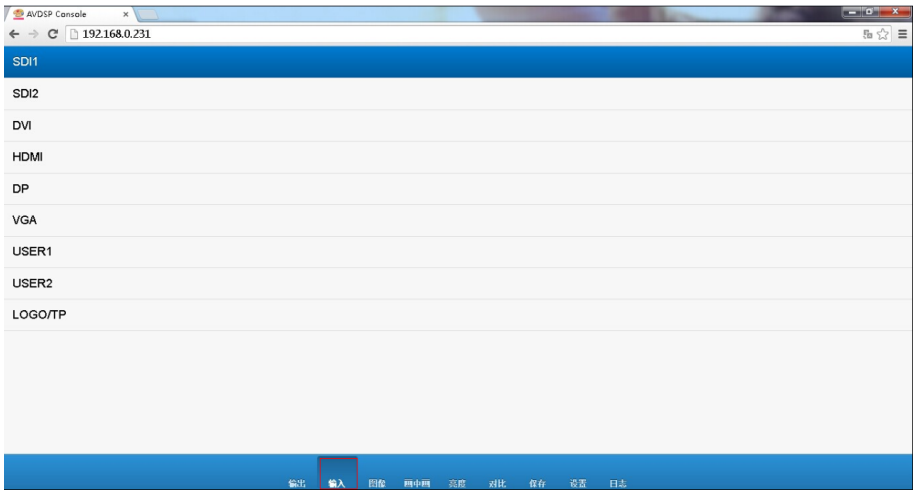
output resolution.



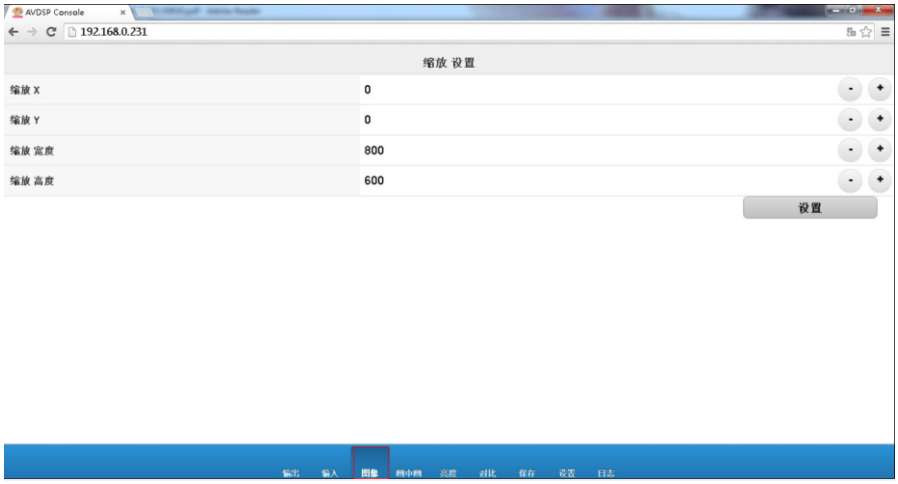
Note

Users can freely switch the icons in title bar to set relevant functions, following will introduce the relevant settings.

Step 3: Select "Input" icon in title bar, user can click the signal source that need, VSP 628PRO will automatically update input signal source.



Step 4: Select "Image" icon in title bar to scale the image, user can modify digital setting parameters and image size and position easily through "-+" icon. Click "Set" after modify the digital, VSP 628PRO image will display the latest Settings.



Step 5: Select "PIP" icon in title bar. When the PIP sliding block icon is grey, then it is single channel picture mode, and if image selection is gray, then image 1 is default for single image output image, and can't be chosen.

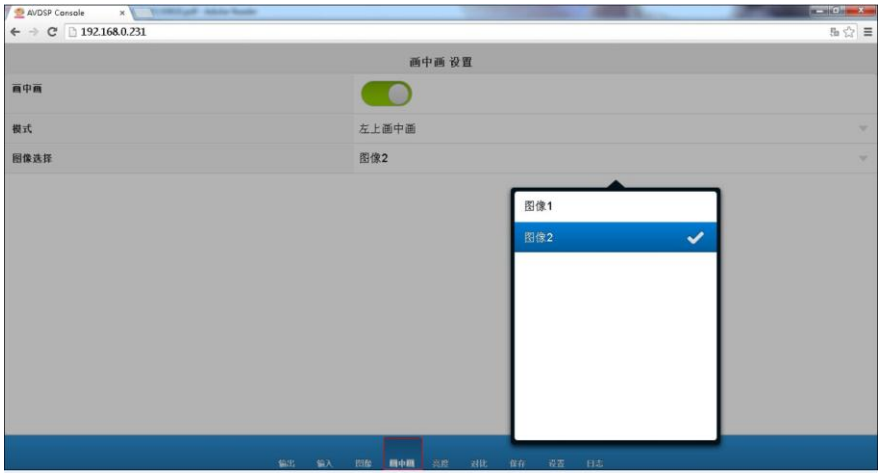
Note

User can preset the image mode that switch the current single picture mode to double-picture mode and the position of the two images in the mode.

Drag the slider rolling ball, when the slide block is green, pip starts.

Then user can set PIP location, in addition to system default PIP upper left picture, also can choose picture above picture and picture edge picture.

In PIP mode, the default image1 is the main image, image2 for PIP sprite, click the corresponding image when need to edit image1 or image2 , the selected image with blue stripes, tick, as shown below: image2 is selected, all settings will for image 2. For example, you can switch "Input" icon in title bar to choose image 2 input source.



Note

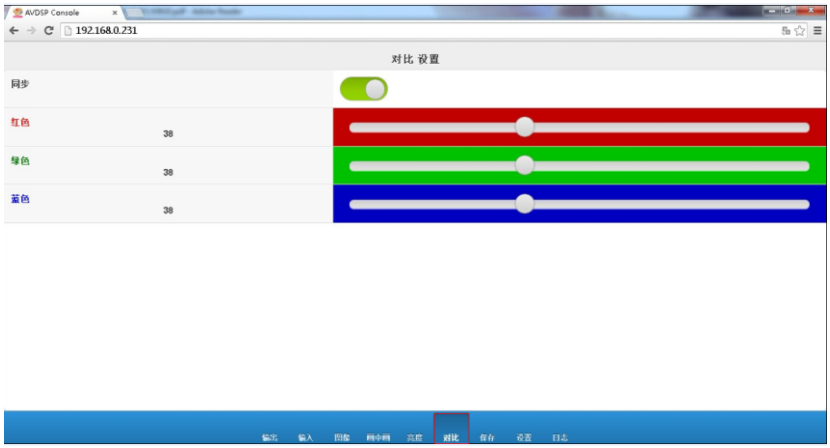
If image1 and image2 with the same input source, then it will display the same picture in PIP.

Step 6: Image brightness setting, it is mainly for output image setting. If "Sync" is grey, you can adjust one color alone, when "Sync" is green, it means it starts, drag one color, and the other two color values will change accordingly to the same value.

Note

User can adjust setting according to actual condition, the function mainly suitable for the personage that is very processional in image quality. Nonprofessional isn't recommend to the above operations, if distortion of image quality as of improper operation errors, you can reset to the factory initialization.

Step 7: Image contrast setting, it is mainly for output image contrast. If "Sync" is grey, you can adjust one color alone, when "Sync" is green, it means it starts, drag one color, and the other two color values will change accordingly to the same value.



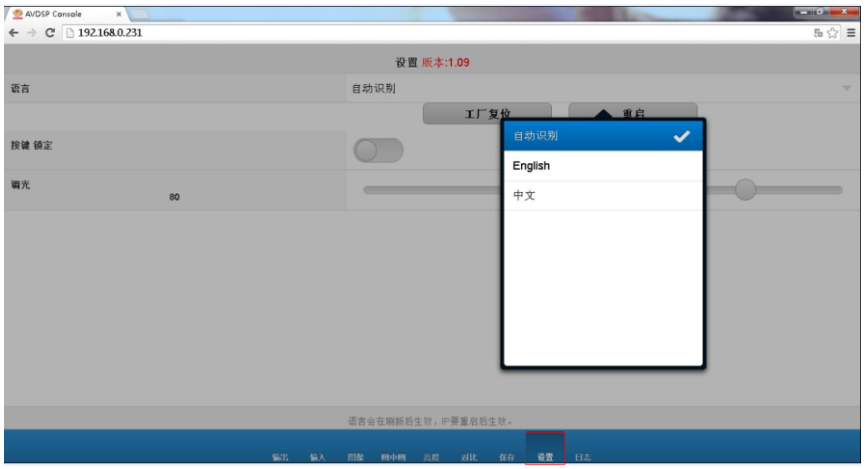
Note

User can adjust setting according to actual condition, the function mainly suitable for the personage that is very processional in image quality. Nonprofessional isn't recommend to the above operations, if distortion of image quality as of improper operation errors, you can reset to the factory initialization.

Step 8: Save and Call function. User can save the parameters to UserMode1 and UserMode2, and can also load UserMode1 and UserMode2 that saved before.

Step 9: Page setting.

First, choose the language according to user's need. And the default is automatic identification.



Click "Set" after select the language (such as select Chinese), pay attention to system prompt "Language will effect after the next time and after reboot IP will affect" (at green box); Now you need to refresh the page to complete the setting.

If need to modify IP address, user can push MENU->SYSTEM ->Ethernet->IP, it will take effect after restart the device.

Reset: If appear wrong operation, click "Reset" to factory default.

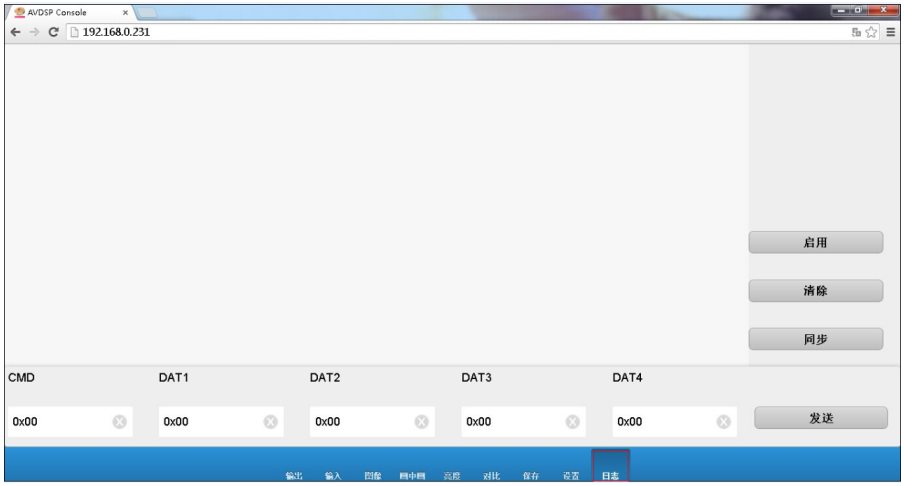
Key Lock: If slide block is gray, it is unlock, and VSP 628PRO keys can normally operate. And if slide block is green, the VSP 628PRO keys locked, and user can't operate any button.

Dimmer: ALPHA transparency regulation. Drag ball to change the transparency value, transparency value is between 0 ~ 100 levels.

Note

Operation is invalid in PIP mode.

Step 10: Log function is mainly for research and development personnel as debugging use.


AVDSP Console
192.168.0.231
启用
清除
同步
CMD
DAT1
DAT2
DAT3
DAT4
0x00
0x00
0x00
0x00
0x00
发送
输出
输入
图像
画中画
云控
对比
保存
设置
日志