VSP 9516S

User Manual

- Manual #: RGB-RD-UM-V9516S E001
- Revision: V1.1

VSP 9516S·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.

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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

Highlight 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.

Amendment Records

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

Format	Time	ECO#	Description	Principal
V1.0	2014-02-20	0000#	Release	Vira
V1.1	2014-10-15	0001#	1. Change the back panel. 2. Change the menu tree.	Vira

CONTENT

1. Brief Introduction

This chapter is designed to introduce you to the VSP 9516S User Manual. Areas to be covered are:

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

Chapter Structure

The following chapters provide instructions for all aspects of VSP 9516S operations.

How to Use the Manual

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

Navigation

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 54.
- For system setup and operations, refer to Chapter 6, “System Setup and Operations” on page 85.

Should you have any questions regarding the installation or operation of VSP 9516S, please consult with the factory. Refer to Appendix B “Contact information” on page 122.

Term 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 sub carrier 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 includes 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.

1. Brief Introduction

Terms and Definitions

- **“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 exist including progressive 1280x720 and interlaced 1920x1080 resolutions. Up to 32 audio signals are carried in the ancillary data.
- **“JPEG” (Joint photographic Expects Group):** Commonly used method of loss 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 allows 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 avoids 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 base band 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

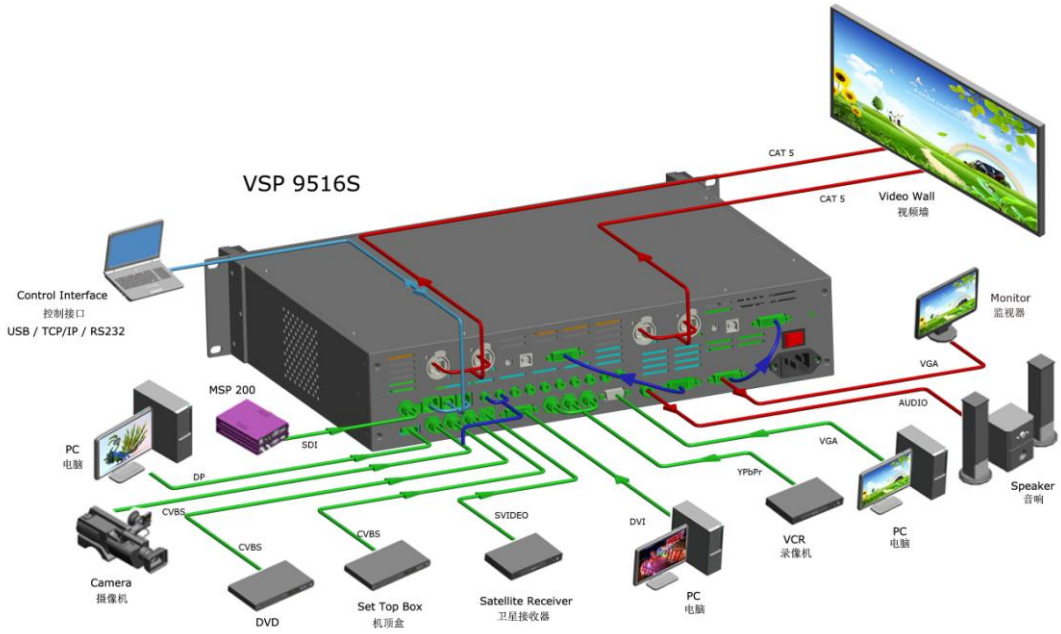
VSP 9516S is the first LED video processor developed by RGBlink which does support the LED screen connection function. It supports inputs including 3×CVBS, 1×S-Video, 1×YPbPr, 1×VGA, 1×DVI-I (compatible with HDMI), 1×Displayport, 1×3G-SDI, up to 9 channels inputs, and 2×DVI-I, 1×VGA, up to 3 simultaneous outputs. VSP 9516S is not only a video scaler for video and graphic processing or just provides power and makes room for the sending cards to install inside.

VSP 9516S embedded a special menu for local control LED screen by its each LED sending card in connected, operator will easily operate display connection, brightness adjustment, Gamma correction by <DISPLAY CONNECTION> menu after decide the sending card model.

VSP 9516S integrates Display Setting Remote Control Interface with the video processing remote control software also, operator will have more remote control options.

Application Questions

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



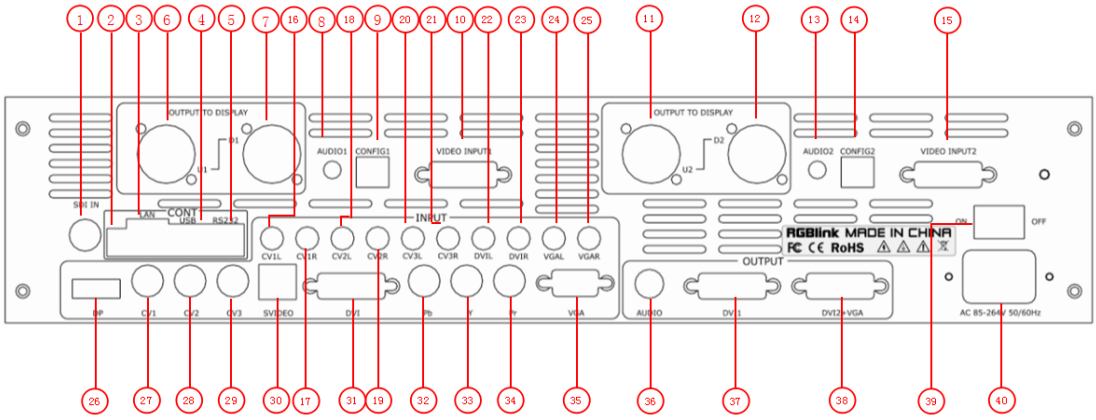
2. Hardware Orientation

In This Chapter

This chapter provides detailed information about the VSP 9516S hardware. The following topics are discussed:

VSP 9516S Back Panel

The figure below illustrates the professional interface and control signals of VSP 9516S back panel.



NO	INTERFACE	NO	INTERFACE
1	3G-SDI Input BNC Port	27~29	CVBS Input BNC port
2	Dial Switch	30	S-Video Input DIN 4
3	10/100M Interface RJ45	31	DVI Input DVI-I
4	USB Interface	32~34	YPbPr Input
5	RS232 Interface	35	VGA Input DB15 port
6.7.11.12	Gigabit Copper Port	36	Audio Output
8.13	Audio Input of Sending Card	37	DVI Output DVI-I
9.14	USB Control Port of Sending Card	38	DVI+VGA Output DVI-I
10.15	DVI Input Port of Sending Card	39	Switch and Power
16~25	Audio Input	40	Power IEC-3 port
26	Displayport Input		

CONT Interface

2: Dial Switch

If the two dial switches are upwards, the device is in normal work, and if they are downwards, the device is in upgrade state. OLED module light is off when the device is in upgrade state. Some of the button lights turn on,

and the device will not work.

3: 10/100M UDP Interface

Used to connect the windows control program or device upgrade.

4: USB Interface

Used to connect the windows control program.

5: RS232 Interface

Used to connect the windows control program or device upgrade.

INPUT Interface

It includes 1 3G-SDI input (SDI module), 3 CVBS inputs by BNC interfaces, 1 S-Video, 1 DVI-I input (compatible with HDMI), 1 VGA input by DB15 interface, 1 Displayport and 3 YPbPr and 10 audio inputs.

16~25: Audio Input

Audio Input, connect the audio signals of the DVD player, hardware player, and digital box.

1: 3G-SDI Input

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

26: Displayport Input

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

27~29: CVBS Input

CVBS input, input standard video signal from players, cameras etc., supported resolution 480i and 576i via BNC. Supported standards include: PAL, NTSC and SECAM.

30: S-Video DIN 4

S-Video input, used to input S-Video signal (PAL, NTSC, SECAM

compatible).

31: 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)

Note

DVI-I is compatible with HDMI.

32~34: YPbPr Input

R/Pr G/Y B/Pb BNC, support SD/HD analog video input, up to 1080p60.

35: VGA Input

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

OUTPUT

6.7.11.12: Gigabit Copper Port

Gigabit copper port, used to connect LED display.

9.14: USB Control Port of Sending Card

Remote communication device controls interface, and is used to connect the computer.

8.13: Audio Input of Sending Card

Audio input. Connect to microphone or the device with audio interface.

10.15: DVI Input Port of Sending Card

Connect the DVI Output in video processors.

(This DVI connector does not support hot-plugging)

36: AUDIO Output

It is used to access the speakers or audio power amplifier system. Can be

connected to the DVI output interface video processor directly.

(This connector does not support hot-plugging)

37: DVI Output

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

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

38: DVI +VGA DVI Output

DVI +VGA output via DVI connector connect to the monitor or LED display which has DVI interface.

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

DVI +VGA, VGA output connector can be connected to monitor or projector which has VGA interface.

Note

Via  adapter, can connect with DVI-based or VGA-based equipment, and via  DVI to VGA adapter, can output VGA only.

Switch and Power

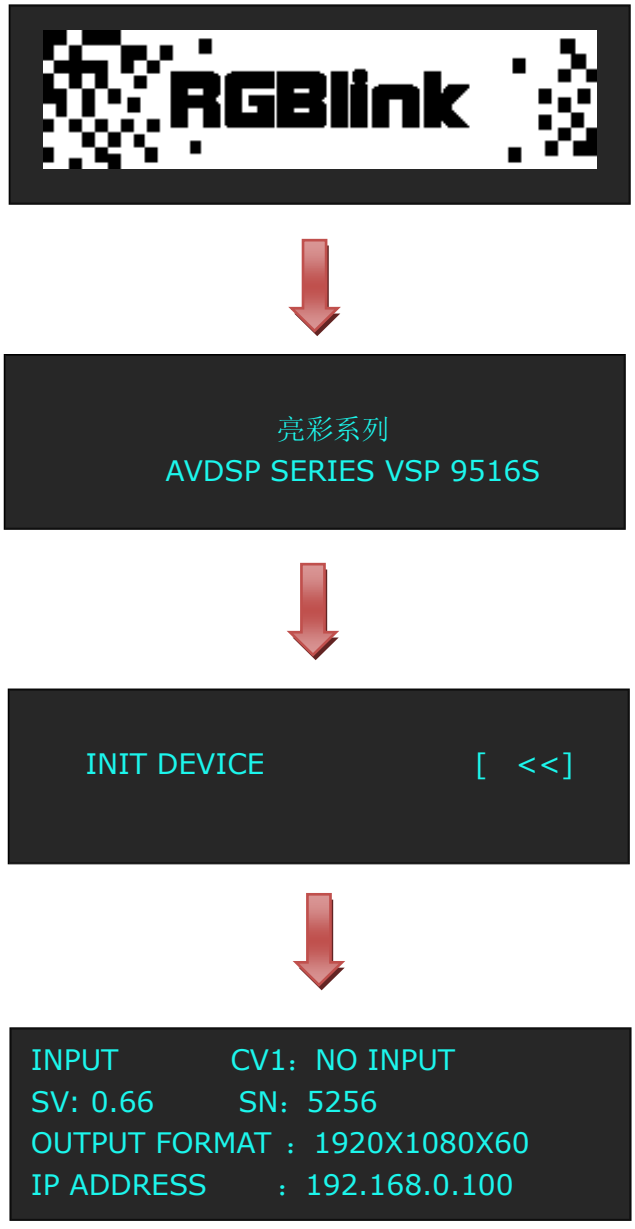
39.40: Power Interface and Switch

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

VSP 9516S 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 and send processed image to the target monitor. For the first setup, CV1 input is default source. With front panel keyboard, user can operate VSP 9516S through the menus on OLED module.

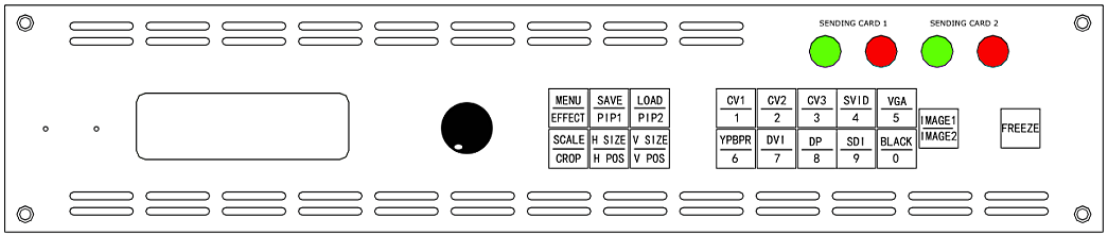
VSP 9516S front panel as shown in figure:



2. Hardware Orientation

VSP 9516S Front Panel

VSP 9516S front panel is as following:



OLED Panel

Used to show button menus and for interactive communication.

LED Sending Card Indicator

Red: Power indicator, the light is on when device has power supply.

Green: Signal indicator, the light is on when device has signal input.

Menu Buttons

MENU/EFFECT: Menu and Effect function reuse button.

Push the button to enter to **MENU** function, OLED panel shows **MENU** items, turn the knob to select menu option, push the knob to confirm, push the button to back to the last menu.

For details, please refer to MENU.

Push the button for two times to enter to **EFFECT** function, OLED panel shows the effect menu items. Turn the knob and push to select the **EFFECT** mode, then push the knob to confirm.

SAVE/PIP1: SAVE and PIP1 function reuse button.

Push the button to enter to **SAVE** mode, turn the knob or push the number button to select save position.

Currently, it supports 10 saving modes. The figure: 1, 2, 3, 4, 5, 6, 7, 8, 9, 0 means SAVE1~10.

The OLED panel will show finish after finish saving.

Push the button for two times to enter to **PIP1** shortcut key function, turn the knob for PIP setup. Push the button again to close PIP function.

2. Hardware Orientation

VSP 9516S Front Panel

LOAD/PIP2: LOAD and PIP2 function reuse button.

Push the knob to enter **LOAD** mode, turn the knob or push the number button to select LOAD position.

Currently, it supports 10 loading modes. The figure: 1, 2, 3, 4, 5, 6, 7, 8, 9, 0 means LOAD SAVE1~10.

The OLED panel will show finish after finish loading.

Push the button for two times to enter to **PIP2** shortcut key function, turn the knob for PIP setup. Push the button again to close PIP function.

SCALE/CROP: SCALE and CROP setting reuse button.

Push the button to enter to SCALE mode. Turn the knob for H SIZE, V SIZE, H POS and V POS setting. User can also push **H SIZE\H POS** button to set the width by knob or number button, push **H SIZE\H POS** button for two times to set the horizontal position by knob or number button. Push **V SIZE\V POS** button to set the height by knob or number button, push **V SIZE\V POS** button for two times to set the vertical position by knob or number button.

Push the button for two times to enter to CROP mode. Turn the knob to choose the crop menu items, and adjust the image by knob or number number.

H SIZE/H POS: Width and horizontal position setting reuse button.

Push the button to enter to the width setting.

Push the button for two times to enter to the horizontal position setting.

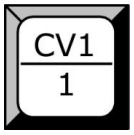
V SIZE/V POS: Height and vertical position setting reuse button.

Push the button to enter to the height setting.

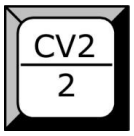
Push the button again to enter to the vertical position setting.

2. Hardware Orientation

VSP 9516S Front Panel

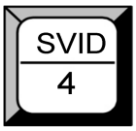


CV1 input selection button, push the button, its LED light is on, output will be switched to this channel.



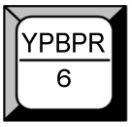
CV2 input selection button, push the button, its LED light is on, output will be switched to this channel.

CV3 input selection button, push the button, its LED light is on, output will be switched to this channel.

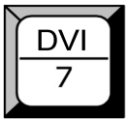


S-Video input selection button, push the button, its LED light is on, output will be switched to this channel.

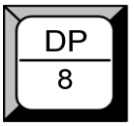
VGA input selection button, push the button, its LED light is on, output will be switched to this channel.



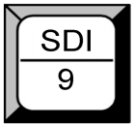
YPBPR input selection button, push the button, its LED light is on, output will be switched to this channel.



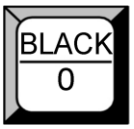
DVI input selection button, push the button, its LED light is on, output will be switched to this channel.



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



SDI input selection button, push the button, its LED light is on, output will be switched to this channel.



Black button, push the button, its LED light is on, user can select the display mode from the LCD panel, system default black. Push the button again to

disable the black function

IMAGE1/IMAGE2: IMAGEA and IMAGE B select reuse button.

Freeze button, push the button, its LED light is on, the output image is freeze, push the button again, its LED light is off, and return to live image.

Note

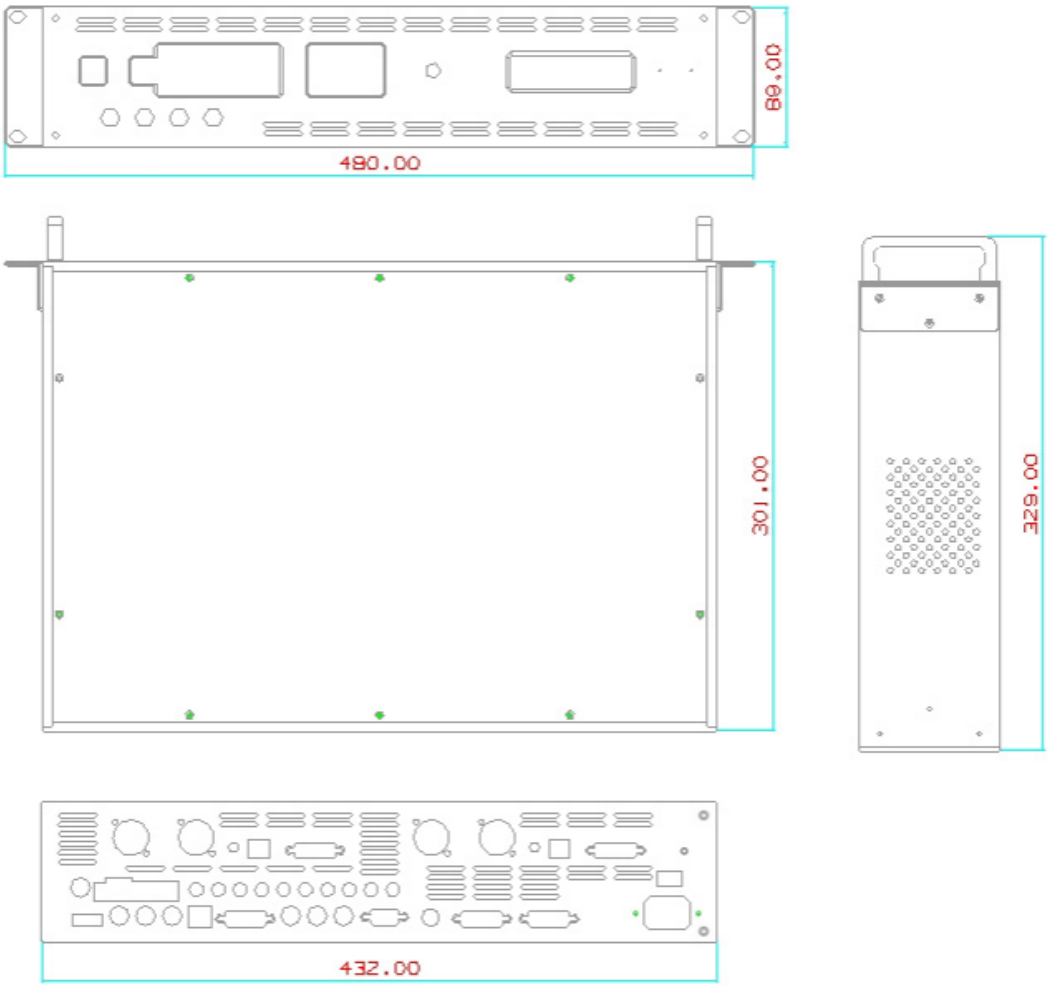
In PIP mode, both IMAGE1 and IMAGE2 are freeze.

3. Hardware Installation

In This Chapter

This chapter provides comprehensive installation instruction for VSP 9516S hardware.

Following is the size of VSP 9516S for your reference.



Safety Precautions

For all VSP 9516S 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 9516S process 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 9516S 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 9516S 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:

4. Menu Orientation

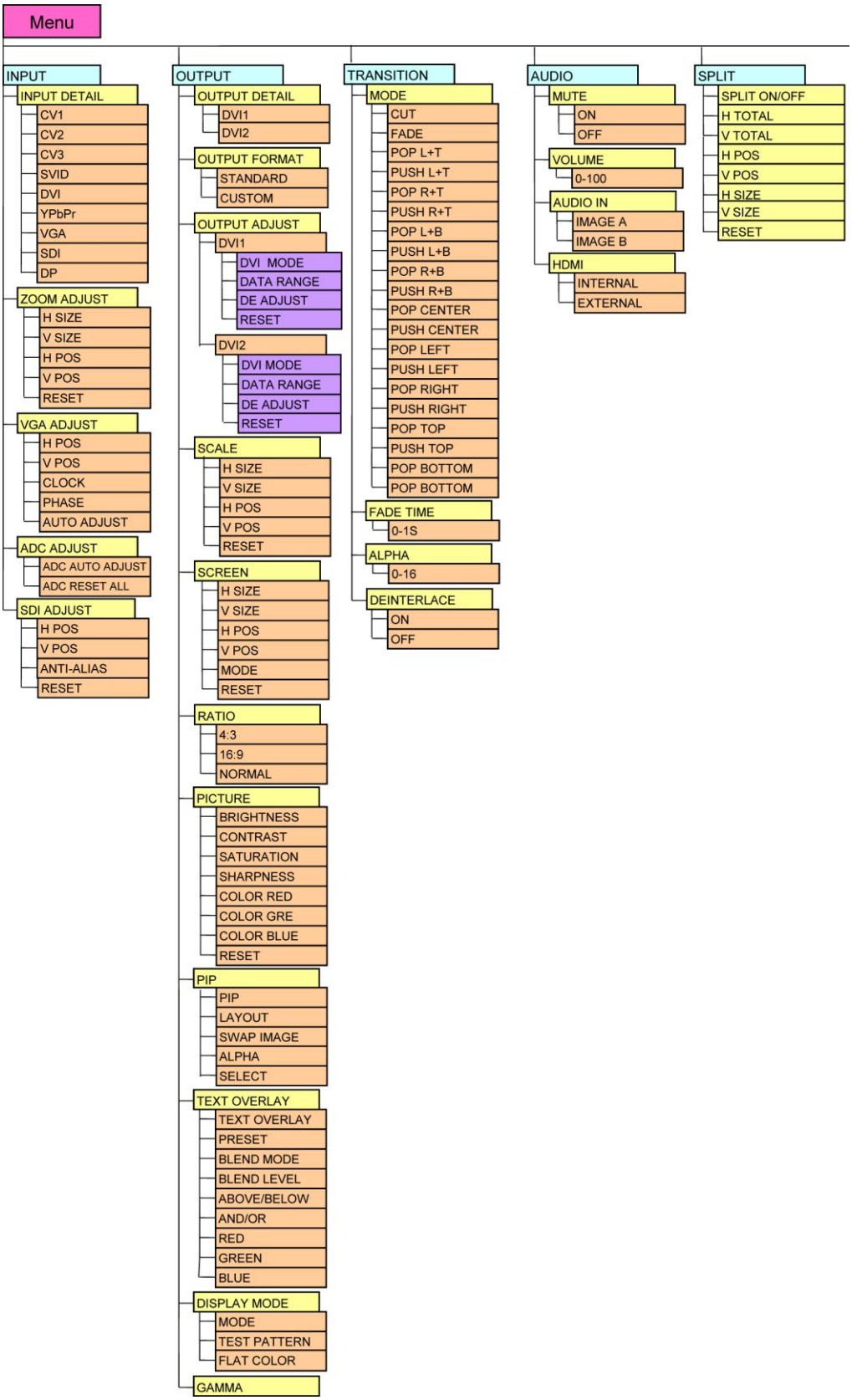
MENU

MENU

Push the [MENU/EFFECT] number to enter to the menu items, the menu shown as below. Turn the knob to select the menu item. “>” before the menu means it’s in selected state. Push the knob button to enter corresponding setting or view the menu.

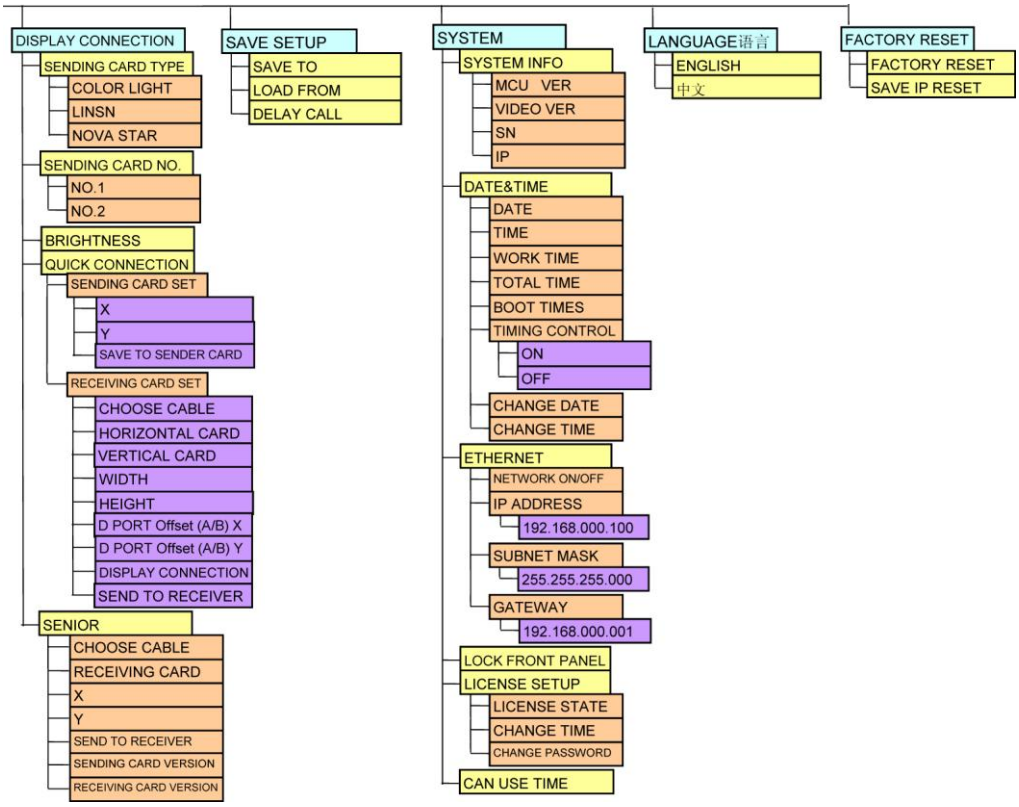
4. Menu Orientation

MENU



4. Menu Orientation

MENU



INPUT

Push the [MENU/EFFECT] button, OLED display menu, push the knob to select <INPUT>, show menus as follows:

INPUT DETAIL: Display input signal information, including CV1, CV2, CV3, S-Video, DVI, YPbPr, VGA, SDI and DP.

ZOOM ADJUST: It can adjust the image zoom size and positions, settings including as follows:

H SIZE: Width setting.

V SIZE: Height setting.

H POS: Horizontal position setting.

V POS: Vertical position setting.

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

VGA ADJUST: Adjust VGA input signal, sub menu as follows:

H POS: Image horizontal position.

4. Menu Orientation

MENU

V POS: Image vertical position.

CLOCK: Input signal clock.

PHASE: Input image phase.

Note

Only comments to professional operator.

AUTO ADJUST: Auto adjust VGA input signal 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.

ADC AUTO ADJUST: Brightness auto adjusting.

SDI ADJUST: When SDI input signal image shift, please adjust image's H POS and V POS to display in full screen image.

Sub menu as follows:

H POS: Image horizontal position.

V POS: Image vertical position.

ANTI-ALIAS: If there is sawtooth when input SDI signal, user can do anti-alias processing by modify STEP_1 to STEP_7, and different STEP with different effects. System default STEP_1.

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

OUTPUT

Push the [MENU/EFFECT] button, OLED panel show menu, push the knob to select <OUTPUT>, show menus as follows:

OUTPUT DETAIL: Display output signal information of DV1 and DV2, including OUTPUT FORMAT, DVI MODE, BIT DEPTH, DATA RANGE, DE,

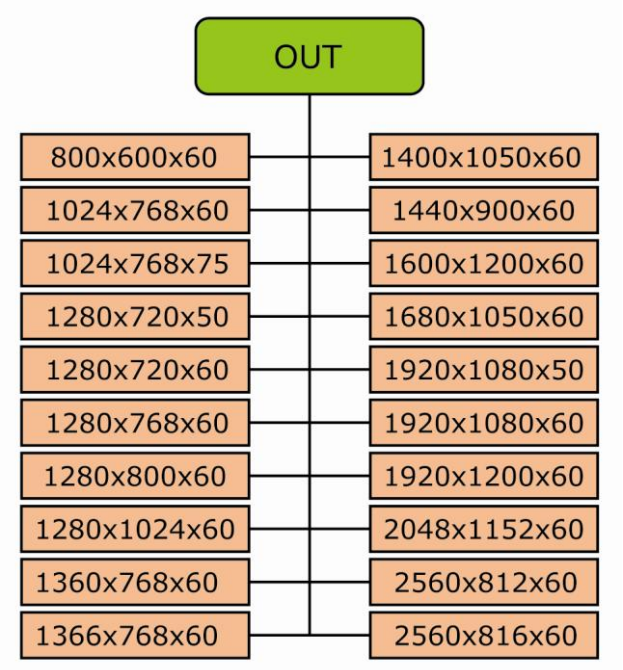
4. Menu Orientation

MENU

DE H POS, DE V POS, DE H SIZE, DE V SIZE, H POLARITY and V POLARITY.

OUT FORMAT: Output format setting, choose <OUTPUT FORMAT>, push the knob, OLED panel show menus as follows:

STANDARD: Push the knob to select the menu item, turn the knob for setting or view the menu. Users can choose different output formats by turning the knob, this option includes 20 common standard output resolutions, shown as follows:



CUSTOM: 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 Do customized Resolution.

OUTPUT ADJUST: Output adjust menus, the sub-menu as following:

DVI1, setting as following:

DVI MODE: Can set the protocol as HDMI or DVI, default is DVI output, HDMI signal output will enable when HDMI option checked.

DATE RANGE: DVI1 output range, can set as RGB (graphic mode or

4. Menu Orientation

MENU

YCbCr (video mode), RGB output scale range is between 0-255, YCbCr range from 16 to 235.

DE ADJUST: DE adjust, the sub-menu as following:

DE ON/OFF: Can choose to open or close, when choose open, it can be adjusted to DE, as follows:

H SIZE: Width setting.

V SIZE: Height setting.

H POS: Horizontal phase setting.

V POS: Vertical phase setting.

When the signal source of the screen appear black side, can use this function to shift the black out of the screen.

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

DVI2: Including DVI MODE, DATA RANGE, DE ADJUST, and RESET, same with DVI1.

Note

Only comments to professional operator.

SCALE: It can adjust the image scale size and image position settings including as follows:

H SIZE: Width setting.

V SIZE: Height setting.

H POS: Horizontal phase setting.

V POS: Vertical phase setting.

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

NOTE

The [SCALE/CROP] button can also fulfill this setting.

4. Menu Orientation

MENU

For details, please refer to the instructions in the manual: How to Set up the Size and Position of the Single Image.

SCREEN: Screen setting, user can change the screen through the digital setting parameters to easily change the screen size and position. Mainly used in the LED display. Settings as follow:

H SIZE: Width setting.

V SIZE: Height setting.

H POS: Horizontal phase setting.

V POS: Vertical phase setting.

Mode: Can choose SCREEN SIZE or FULL SIZE.

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

For details, please refer to the instructions in the manual: How to Realize the Screen Size Setting.

RATIO: Aspect ratio setting, user can choose 4:3, 16:9 and DEFAULT.

PICTURE: Picture setting, the sub-menu as following:

BRIGHTNESS: It can change the image brightness via BRIGHTNESS setting.

CONTRAST: It can change the image contrast via CONTRAST setting.

SATURATION: It can change the image saturation via SATURATION setting.

SHARPNESS: It can change the image sharpness via SHARPNESS setting.

COLOR RED: It can change the image color red via this setting.

COLOR GREEN: It can change the image color green via this setting.

COLOR BLUE: It can change the image color blue via this setting.

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

4. Menu Orientation

MENU

Note

Users can set according to their actual situation, this function mainly suitable for these professional operator who knows how to set the image quality correctly. Others are not comments to do these operations. If image distorted by improper operation, it can be initialized operated to recover by factory reset.

PIP: PIP setting, menus are as follows:

PIP: Choose ON to set PIP mode.

LAYOUT: There are 3 kinds of PIP layouts, the corresponding results are as follows:

PIP L+T PBP L+R PBP T+B

SWAP IMAGE: It can set PIP to swap exchange, when choose ON, it can switch IMAGE A and IMAGE B.

ALPHA: Use can set the image transparency, the regulating range is among 0 to 16.

SELECT: Can choose to set the size or position of IMAGE A or IMAGE B individually.

Note

User can choose image A or image B by [IMAGE 1/IMAGE 2] reuse button.

For details, please refer to the instructions in the manual: How to Set up the PIP.

4. Menu Orientation

MENU

TEXT OVERLAY: Text overlay function, settings are as follows:

TEXT OVERLAY: Can select “ON” or “OFF”, OFF is system default.

PRESET: Can preset value of the following functions, and total 13 modes:

User: User mode.

WhOnBk1: White On Black 1.

WhOnBk2: White On Black 2.

BkOnWh1: Black On White 1.

BkOnWh2: Black On White 2.

GrnOnBk1: Green On Black 1.

GrnOnBk2: Green On Black 2.

GrnOnWh1: Green On White 1.

GrnOnWh2: Green On White 2.

RedOnBk1: Red On Black 1.

RedOnBk2: Red On Black 2.

RedOnWh1: Red On White 1.

RedOnWh2: Red On White 2.

BLEND MODE: Blend mode, with two modes, “Mode 1” and “ Mode 2”.

Mode 1: Graphic content locate at the top and is non-transparent, background transparency is controlled by double-image transparency;

Mode 2: Graphic content is controlled by double-image transparency, the background is completely transparent.

BLEND LEVEL: Can set the image display transparency, the regulating range is among 0 to 16.

ABOVE/BELOW:

ABOVE: In image 2, if the pixel value is higher than the setting value, then the image is the graphic content pixel, otherwise, it is the graphic background pixel. It should combined with "AND/OR" conditions when judging.

BELOW: In image 2, if the pixel value is lower than the setting value, then

the image is the graphic content pixel, otherwise, it is the graphic background pixel. It should combined with "AND/OR" conditions when judging.

KEY IN/OUT:

KEY IN: Delete the background, and keep the text title.

KEY OUT: Delete the text title, and keep the background.

RED: Red limit, cut-off point condition of ABOVE and BELOW condition in red channel, the range is 0 ~ 248.

GREEN: Green limit, cut-off point condition of ABOVE and BELOW condition in green channel, the range is 0 ~ 248.

BLUE: Blue limit, cut-off point condition of ABOVE and BELOW condition in blue channel, the range is 0 ~ 248.

For details, please refer to the instructions in the manual: How to Realize the Text Overlay Setting.

DISPLAY MODE:

MODE: Image mode selection, user can choose different output modes according to their requirement, such as: black, video image, freeze image, flat color and test pattern.

Note

The [FREEZE] button can also fulfill this setting.

TEST PATTERN: Test pattern setting, rotate the knob, there are 66 kinds of modes for choose.

FLAT COLOR: When the output mode is pure color image, choose corresponding red, green and blue color value in this option to meet the practical needs.

GAMMA: Gamma setting, press it to adjust the image gamma value; Gamma values include: -1.2, -1.4, -1.6, 1, 1.2, 1.4, 1.6, sRGB.

4. Menu Orientation

MENU

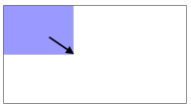
TRANSITION

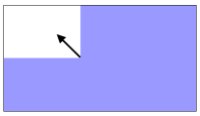
Push the [MENU/EFFECT] button, OLED panel show menu, push the knob to select <TRANSITION>, show menus as follows:

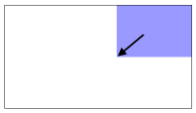
MODE: Switch mode, including the following modes:

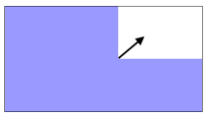
CUT: Seamless switching.

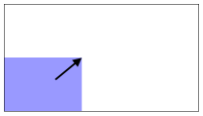
FADE: Fade in fade out.

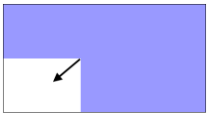
POP L+T: 

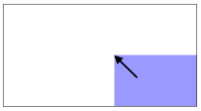
PUSH L+T: 

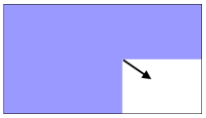
POP R+T: 

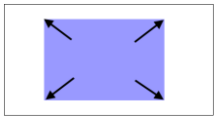
PUSH R+T: 

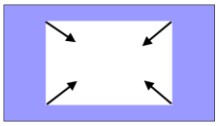
POP L+B: 

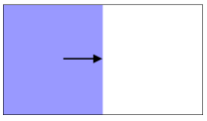
PUSH L+B: 

POP R+B: 

PUSH R+B: 

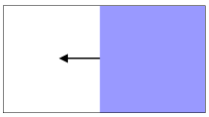
POP CENTRE: 

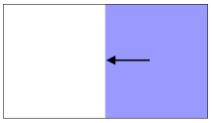
PUSH CENTRE: 

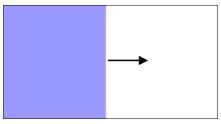
POP LEFT: 

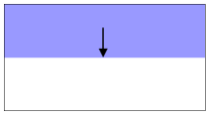
4. Menu Orientation

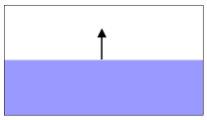
MENU

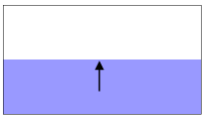
PUSH LEFT: 

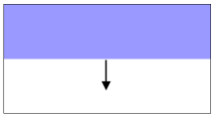
POP RIGHT: 

PUSH RIGHT: 

POP TOP: 

PUSH TOP: 

POP BOTTOM: 

PUSH BOTTOM: 

Note:  Means the image emerging.

 Means the image disappearing.

Arrows represents the direction of the image move, that is, the image that arrow point, is compressed or stretched to the direction that arrow indicates, until disappear or full screen.

FADE TIME: Switch time setting. Turn the knob to choose the time and push the knob to confirm. The switching time ranges from 0 to1.0.

ALPHA: Image transparency setting, the regulating range is among 0 to 16.

DEINTERLACE: Force Deinterlace function, can choose “ON” or “OFF”.

ON: Force interlace for interlaced signal without effect switching, but with effects switching for progressive signal.

OFF: No deinterlace, with effect switching.

4. Menu Orientation

MENU

AUDIO

MUTE: Mute, can open or close the mute function.

VOLUME: Volume adjustment.

AUDIO IN: Can choose audio input source for IMAGE A or IMAGE B.

HDMI: Choose internal or external audio for HMDI.

SPLIT

Push the [MENU/EFFECT] button, OLED panel show menu, push the knob to select <SPLIT>, show menus as follows:

SPLIT ON/OFF: Split function, can choose “ON” or “OFF”.

H TOTAL: The total width points of LED display that will split.

V TOTAL: The total height points of LED display that will split.

H POS: The horizontal position of the device when do split.

V POS: The vertical position of the device when do split.

H SIZE: The width of the device when do split.

V SIZE: The height of the device when do split.

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

DISPLAY CONNECTION

Push the [MENU/EFFECT] button, OLED panel show menu, push the knob to select <DISPLAY CONNECTION>, show menus as follows:

SENDING CARD TYPE: Choose the sending card type. Currently, the device supports Colorlight, Linsn and Nova sending card.

SENDING CARD NO.: User can choose NO.1 card or NO.2 card.

BRIGHTNESS: Set the brightness of sending card.

QUICK CONNECTION: Including the following settings:

SENDING CARD SET: User can set X, Y, and save the settings to sending card.

RECEIVING CARD SET: Including the following settings:

4. Menu Orientation

MENU

CHOOSE CABLE: User can choose PORT D or PORT U.

HORIZONTAL CARD.

VERTICAL CARD.

WIDTH.

HEIGHT.

D PORT Offset (A/B) X.

D PORT Offset (A/B) Y.

DISPLAY CONNECTION: There are 8 kinds of connection mode currently.

SEND TO RECEIVER: Save the above settings to receiver.

SENIOR: Including the following settings:

CHOOSE CABLE: Show PORT D or PORT U.

RECEIVING CARD: Show the receiving card number.

X: Show the X value.

Y: Show the Y value.

SEND TO RECEIVER: Send to receiver after setting.

SENDING CARD VERSION: Show the sending card version.

RECEIVING CARD VERSION: N/A.

SAVE SETUP

SAVE TO: VSP 9516S provides ten save modes, users can save the current operation to SAVE1 to SAVE10.

Note

The [SAVE/PIP1] button can also fulfill this setting.

LOAD FROM: It can call the saved user modes via the call save function.

DELAY CALL: Set delay the output time. When more than one equipment power on, and the processor is the end equipment in order to improve question that can't identify the input signal and phenomenon that LED screen appear messy code and flash screen, now need to delay the input

time.

SYSTEM

SYSTEM INFO: System information, including:

MCU VER: Information of MCU version.

VIDEO VER: Information of VIDEO version.

SN: Serial number of VSP 9516S.

IP: IP address.

DATE&TIME: Show and change the date or time.

DATE: Display date.

TIME: Display time.

WORK TIME: Show the working time from boot to present.

TOTAL TIME: Total working time.

BOOT TIMES: Boot times.

TIMING CONTROL: Timing control switch.

CHANGE DATE.

CHANGE TIME.

ETHERNET: Network setting, including:

NETWORK ON/OFF: Can choose “ON” or “OFF”.

IP ADDRESS: 192.168.000.100.

SUBNET MASK: 255.255.255.000.

GATEWAY: 192.168.000.001.

LOCK FRONT PANEL: Through this setting can choose whether to lock the keys, if the key is locked, the equipment will remind: "BUTTONS ARE LOCKED! PRESS MENU KEY AND HOLD 3s TO RELEASE!"

LICENSE SETUP: The device will not work if excess the prescribed time, there are no signal output, it needs to input password and modify the using time to continue to work.

CAN USE TIME: Display the rest of the working time.

4. Menu Orientation

MENU

LANGUAGE

Through this option, user can choose Chinese or English according to their needs to operate the interface more quickly.

FACTORY RESET

Enter FACTORY RESET to reset the IP, choose YES and push the knob to confirm, then VSP 9516S is reset to its factory settings. After 5 seconds, it completes factory settings and is ready for more operations.

5. Communication Software Guideline

In This Chapter

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

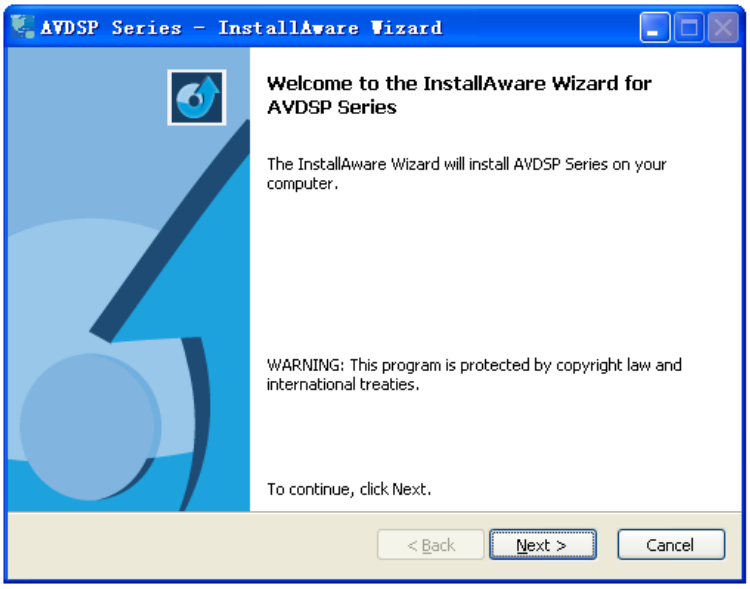
- Software Installation
- Software Operation
- How to Connect Windows Control Program by LAN Interface
- How to Connect Windows Control Program by RS232 Interface
- How to Connect Windows Control Program by USB Interface

Software Installation

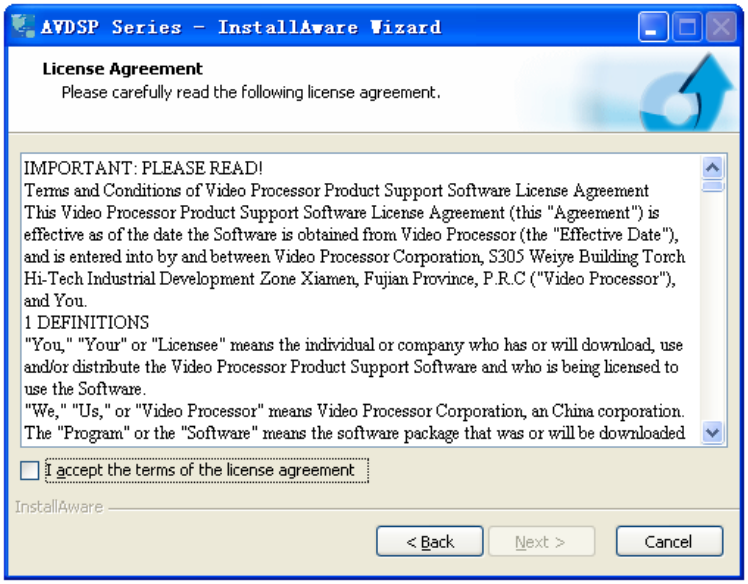
AVDSP video processor is very easy to be configured with user friendly communication software, support drag and drop operation for edit and display. Also it can be customized with schedule function.

Double click 

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

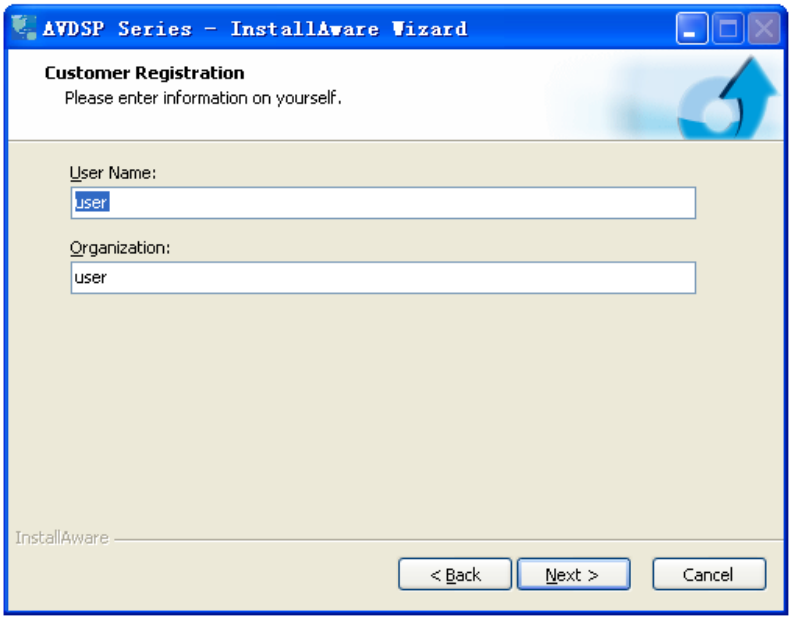


And in next dialog is the user agreement of the software, click Agree to go on:

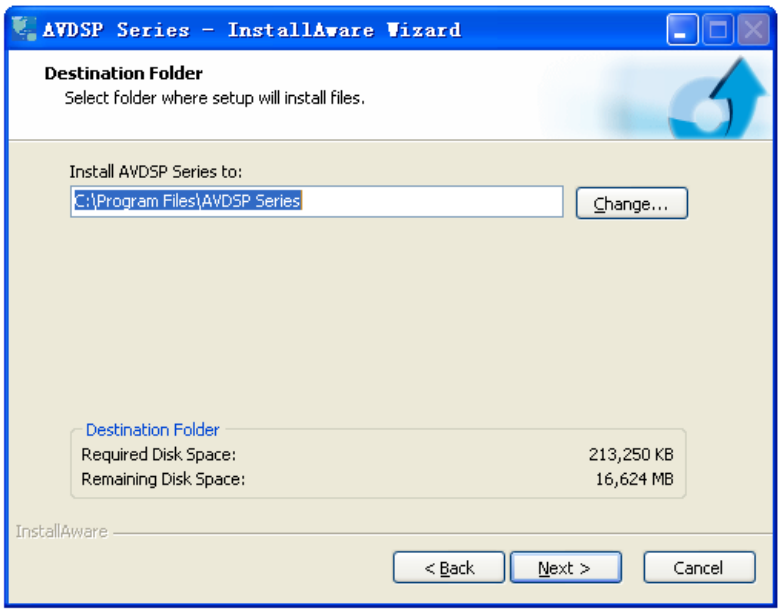


5. Communication Software Guideline

Software Installation



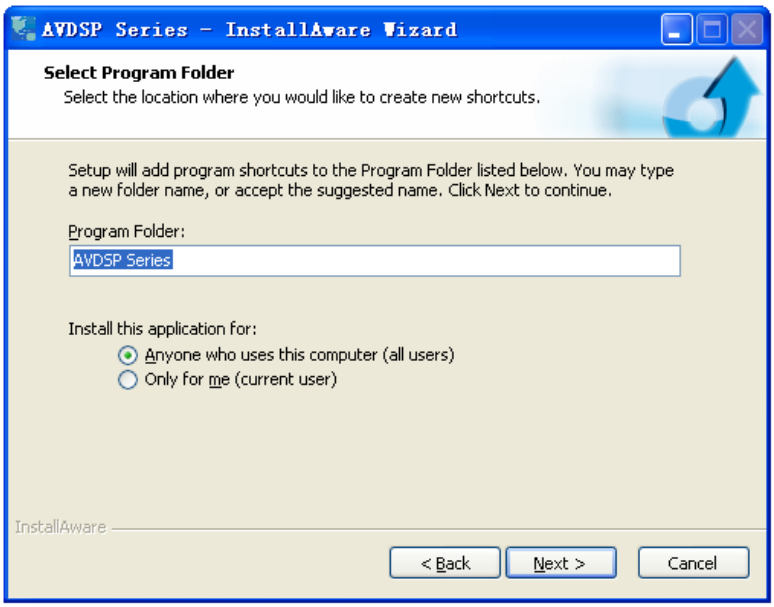
User can select “Change” to choose the VSP 9516S install software:



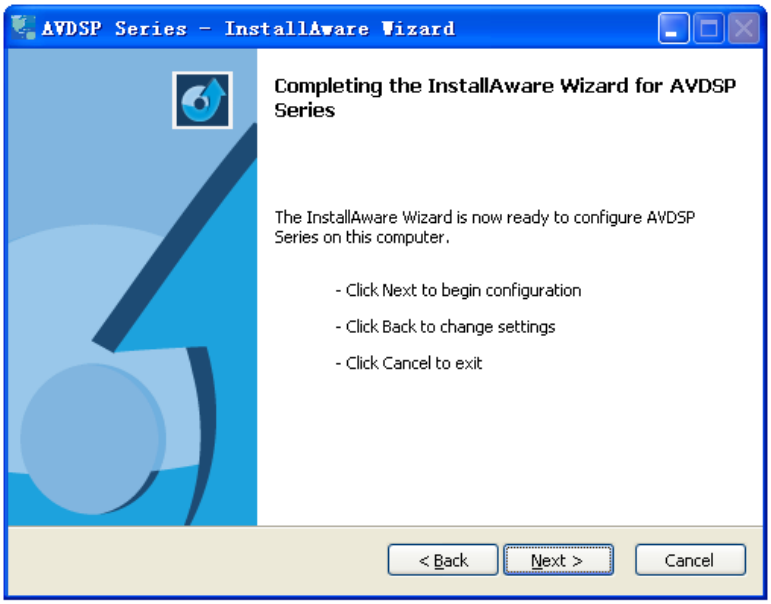
5. Communication Software Guideline

Software Installation

Click “Next” to go on:



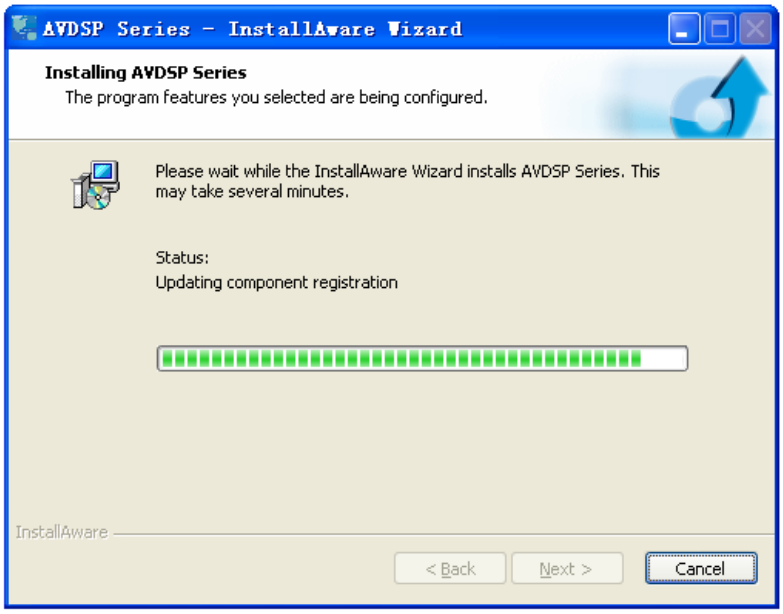
Click “Next” to go on:



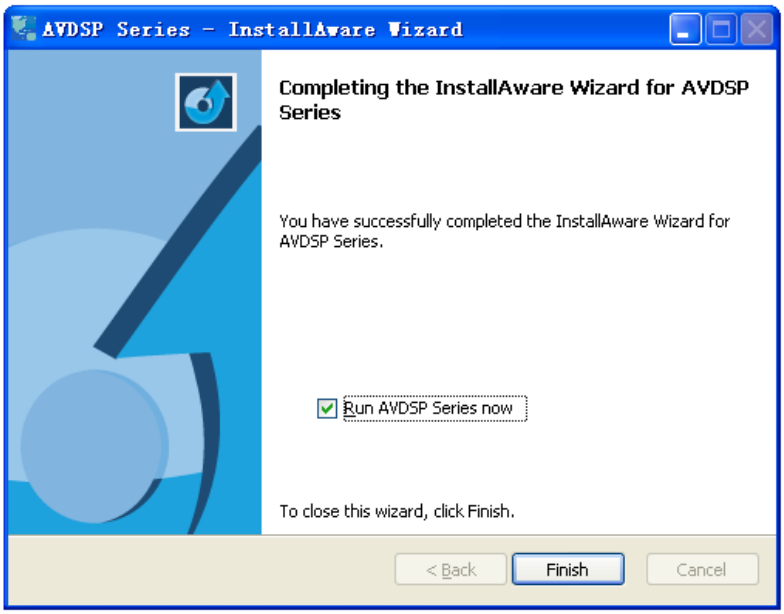
5. Communication Software Guideline

Software Installation

Click “Next” to go on:



Click “Finish” and ready to run VSP 9516S console:



Software Operation

Install communication which comes with the package of VSP 9516S device.

Double click 

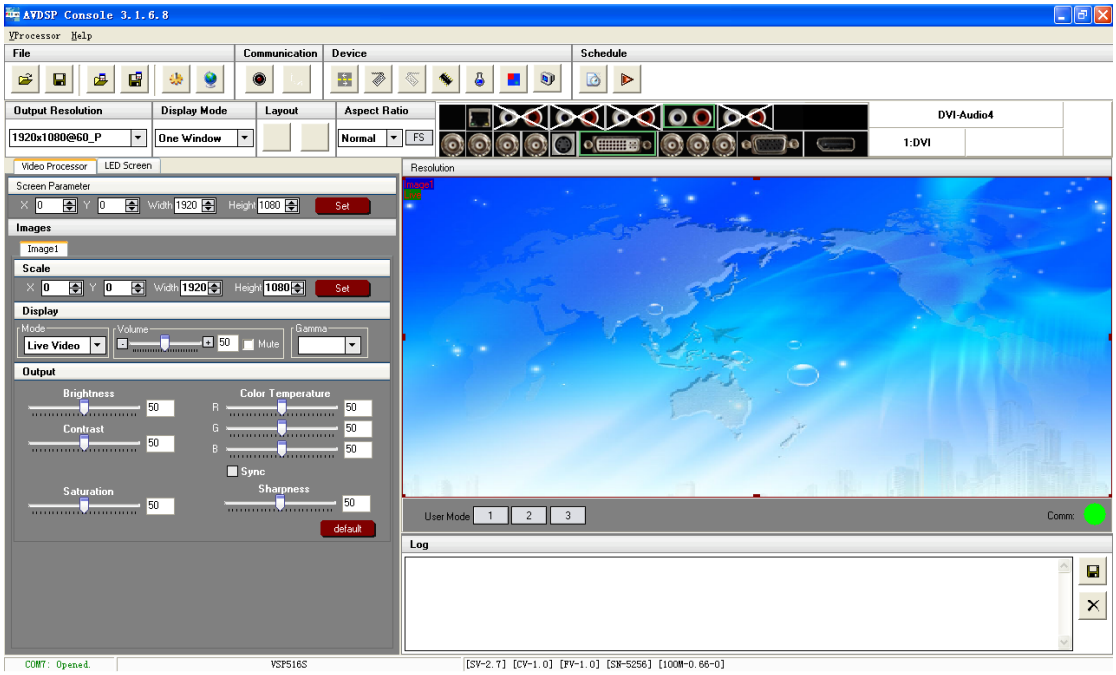
icon from home screen to run the software.

Double click 

icon, choose and click 

to run the software.

VSP 9516S communication software interface as shown:



Connection

Besides the power cord, the product default equip with the RS-232 line, DB9F line, and RJ11 (6 B4C) line to connect VSP 9516S to the windows control program.

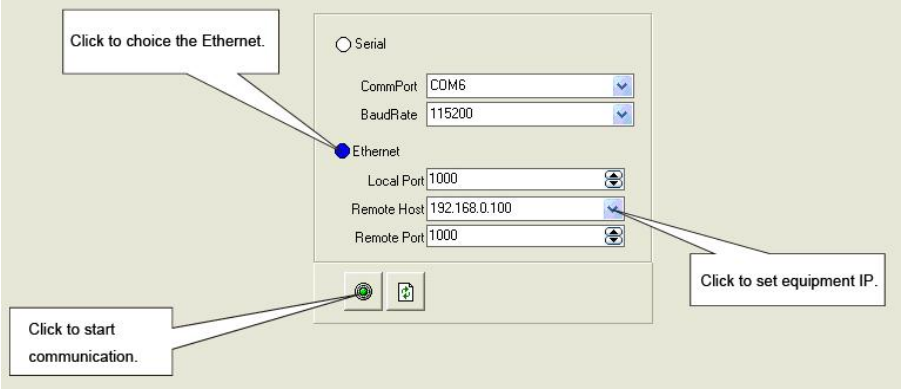
For more detailed information, please refer to: “How to Connect Windows Control Program by RS232 Interface”. In addition, we also equipped with USB line, user can also connect the computer and video processor with it to control PC software. Please refer to “How to Connect Windows Control Program by USB Interface” for more detailed information.

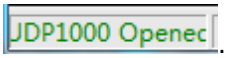
5. Communication Software Guideline

Software Operation

Note

RS 232 COM line can upgrade 100M program, while USB can't.

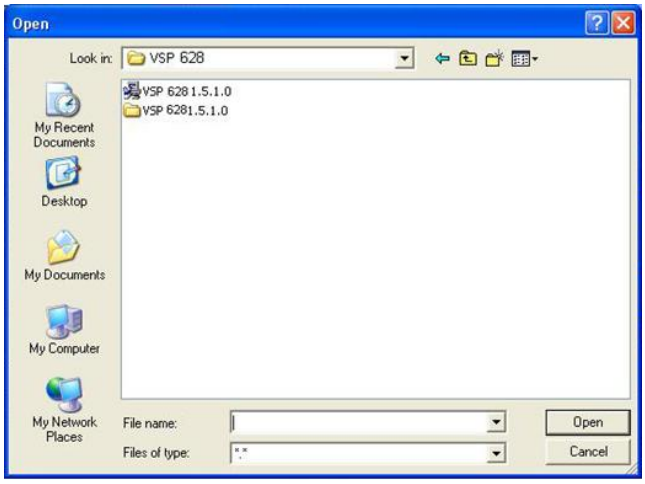


Ethernet , user can fill any number less than 1023 in local port, the remote port must be 192.168.0.100 and the remote port must be 1000. After setting above, click the icon  to connect with the net work. If successful connect, the icon becomes  , status on the left button showing  .

Use

File Toolbar

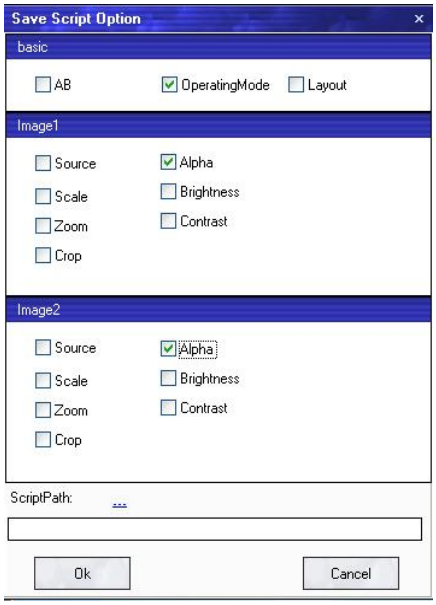
 : Open script. User can open saved script and alter its parameters.



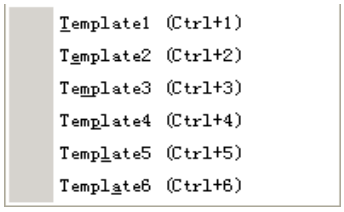
5. Communication Software Guideline

Software Operation

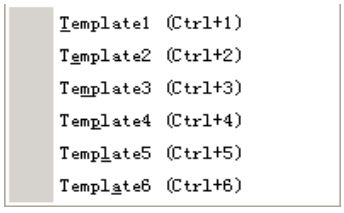
 : Save script. Save current user parameters as script to the prescribed path.



 : Import template. There are six templates for user. Users can setup one of templates as the common one.



 : Export template. Export current config as template.

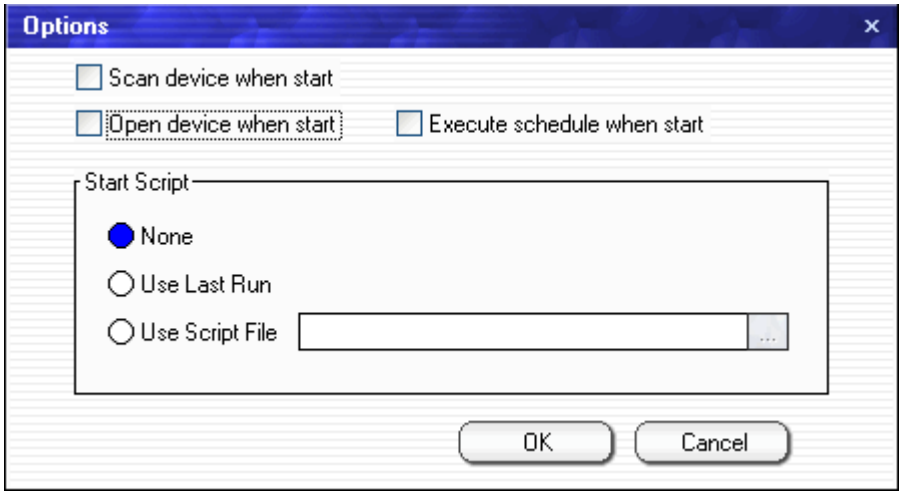


 : Option: User can choose open device when start and using script saved before or execute schedule edited before when start.

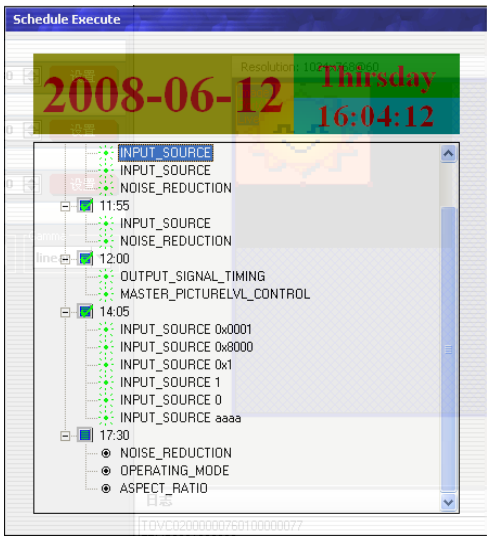
If user choose open device when start, user can use last run, use script file or none when user start. User can click  to choose which script user want to open.

5. Communication Software Guideline

Software Operation



If user choose execute schedule when start, the next dialogue will display when software run.

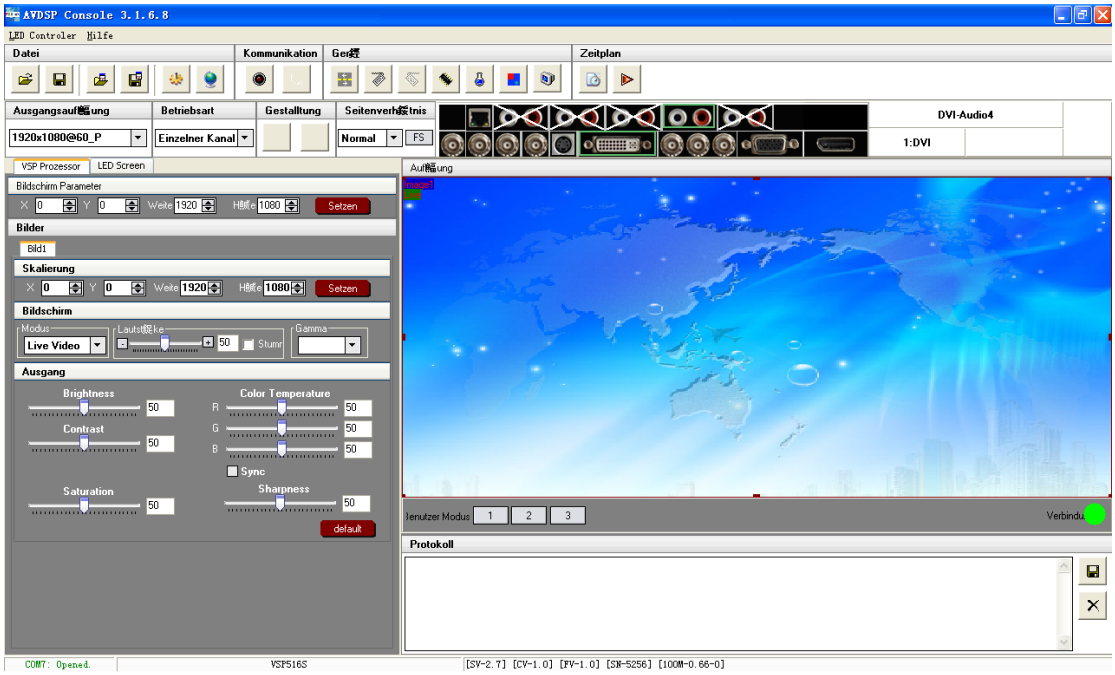


 : Language: The software supports Chinese, English and German version.

5. Communication Software Guideline

Software Operation

The picture following is the German dialogue.



: Exit.

Communication Toolbar

: Open the COM.

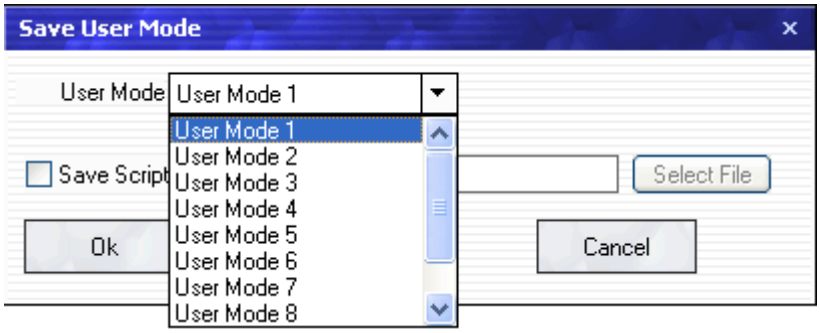
: Close the COM.

: Set the COM.

Device Toolbar

: Synchronization.

: Save to flash.



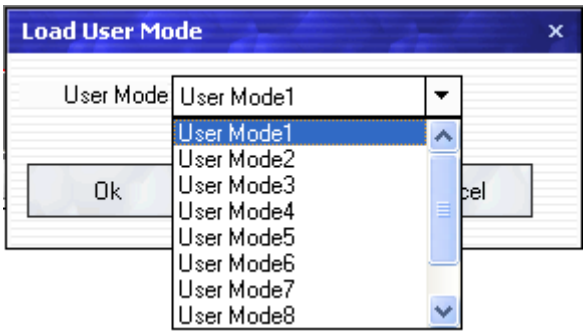
5. Communication Software Guideline

Software Operation

Note

Same as MENU ⟶ SAVE SETUP ⟶ SAVE TO or the same as the SAVE key.

 : Load form Flash.

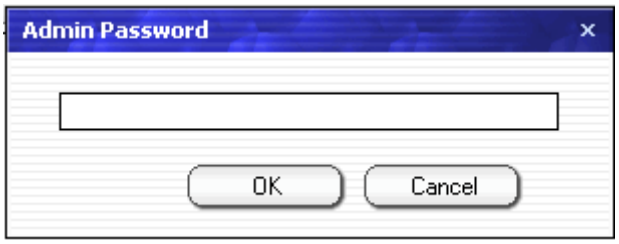


Note

Same as MENU ⟶ SAVE SETUP ⟶ LOAD FROM.

 : Factory setup.

 : Advance.



Note

Advance is only done by engineer. Please connect us for password.

 : Audio patterns, can choose audio input source for IMAGE A or IMAGE B.

Note

Same as MENU ⟶ AUDIO ⟶ AUDIO IN.

5. Communication Software Guideline

Software Operation

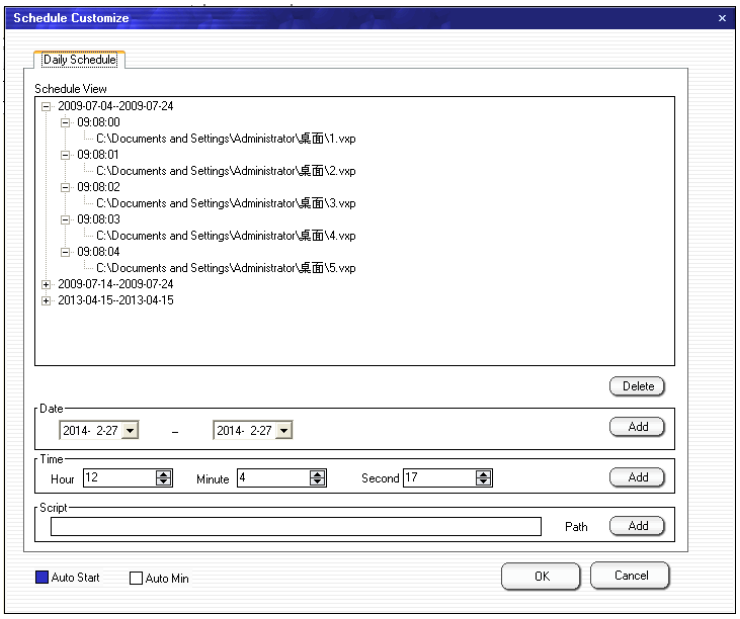
 : VGA adjustment.

Note

Same as MENU ⟶ INPUT ⟶ VGA ADJUST.

Schedule Toolbar

 : Customize schedule.



 : Execute schedule. Execute tasks according to schedule.

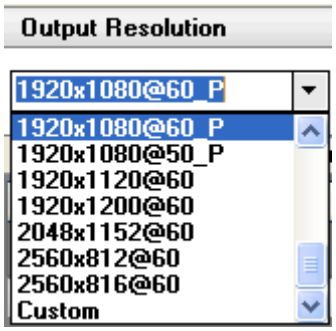
5. Communication Software Guideline

Software Operation

Output Resolution Toolbar

User can choose different output resolution by selecting from pull down list.

VSP 9516S has 20 output resolutions for users selection.

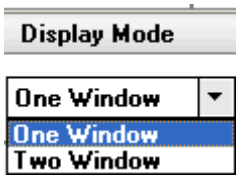


Note

Same as MENU → OUTPUT → FORMAT OUT.

Images Display Mode Toolbar

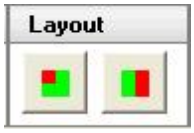
Choose to work in single channel or dual channel.



Layout Toolbar

If in single channel mode, the dialog is in grey and it is in limited use.

If in dual channel mode, user can set the device to work in PIP or PBP mode directly with quick preset layout button as following.



Note

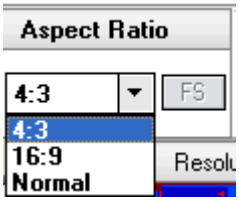
Same as MENU → OUTPUT → PIP → LAYOUT.

5. Communication Software Guideline

Software Operation

Aspect Ratio Toolbar

Users can select 4:3, 16:9 or Normal in the pull-down options.

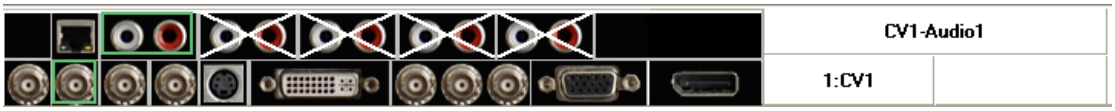


Note

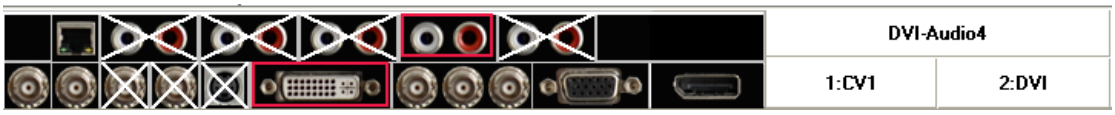
Same as MENU → OUTPUT → RATIO.

Signal Input Toolbar

The white area displays the input signal when click the signal interface on the left. The green pane means current selected signal interface.



If select two window mode, user can select any channel signal by clicking the signal interface on the left. The red box means the selected signal for channel 1, system default the last selected signal as channel 2 signal. And the white area will show the input signal.



Screen Parameter Toolbar

User can set size and position of the screen, it applies to LED display users. After setting, the display picture will show on the corresponding screen.

Note

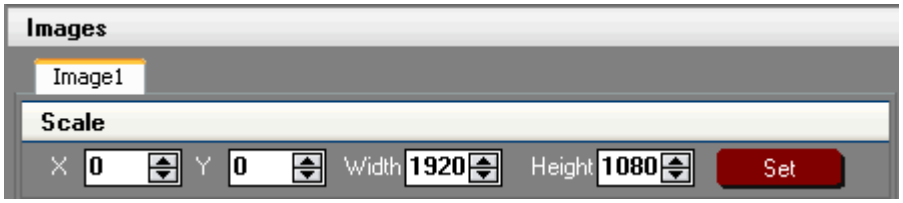
Same as MENU → OUTPUT → SCREEN

5. Communication Software Guideline

Software Operation

Image Toolbar

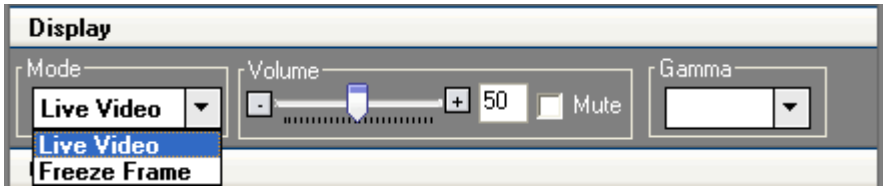
User can scale the images. Image 2 can't be choose in one window mode.



Note

Same as MENU → OUTPUT → SCALE, or SCALE/CROP key.

Display Toolbar



Display toolbar Users can set Alpha value of "Live Video" and "Freeze Frame" through display toolbar. When it is in Live Video, the video plays properly, when it is in Freeze Frame, the video stop playing.

Note

Same as MENU → OUTPUT → DISPLAY MODE → MODE or FREEZE key.

Through the volume toolbar users can adjust the volume of audio, or mute.

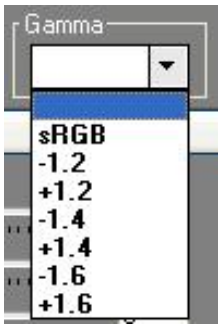
Note

Same as MENU → AUDIO → MUTE.

Setting Gamma is generally not recommended, since LED display itself has Gamma function. For further information, users can contact with our customer service team.

5. Communication Software Guideline

Software Operation

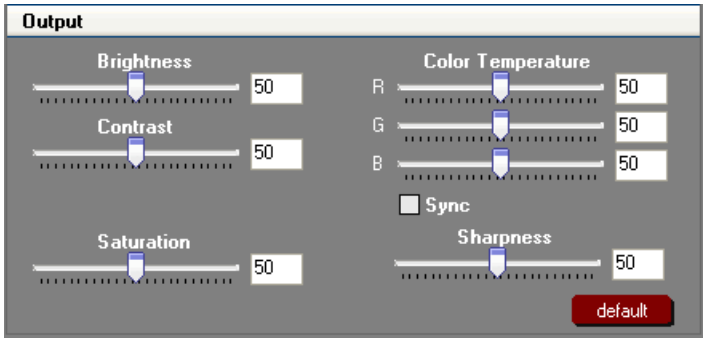


Note

Same as MENU → OUTPUT → GAMMA

Output Image Setup Toolbar

User can customize the brightness, the contrast and so on.



Note

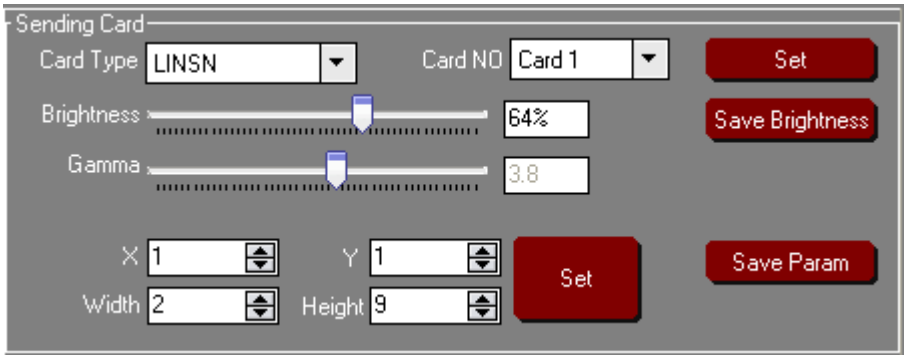
Same as MENU → OUTPUT → PICTURE.

5. Communication Software Guideline

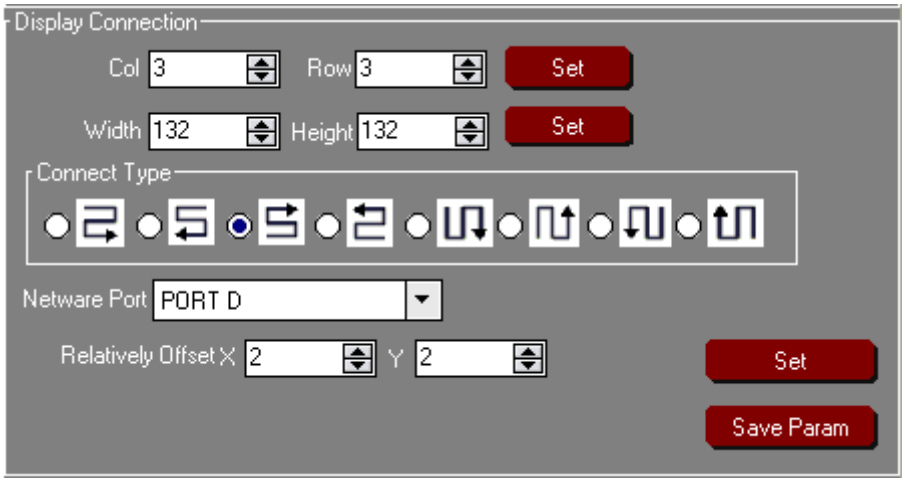
Software Operation

LED Screen Toolbar

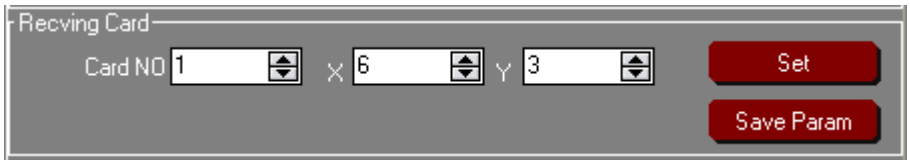
Sending Card：User can choose the sending card type, sending card number, and set the brightness, gamma, X, Y, width and height.



Display Connection：User can choose the column, row, width, height, connect type, and so on.



Receiving Card：User can choose the receiving card number, and set the X, Y value.



Box Link：Show the current setting.

5. Communication Software Guideline

Software Operation

Note

Same as MENU⟶ DISPLAY CORRECTION.

Images Display Toolbar

User can customize image or images position and size just by dragging the image in this area. This process is sync to the parameters setting in images toolbars.

User Mode Toolbar

Users can recall the saved user mode1, mode2 or mode3.

Log Toolbar

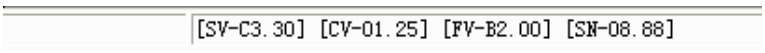
User can save or delete the operate log file.

5. Communication Software Guideline

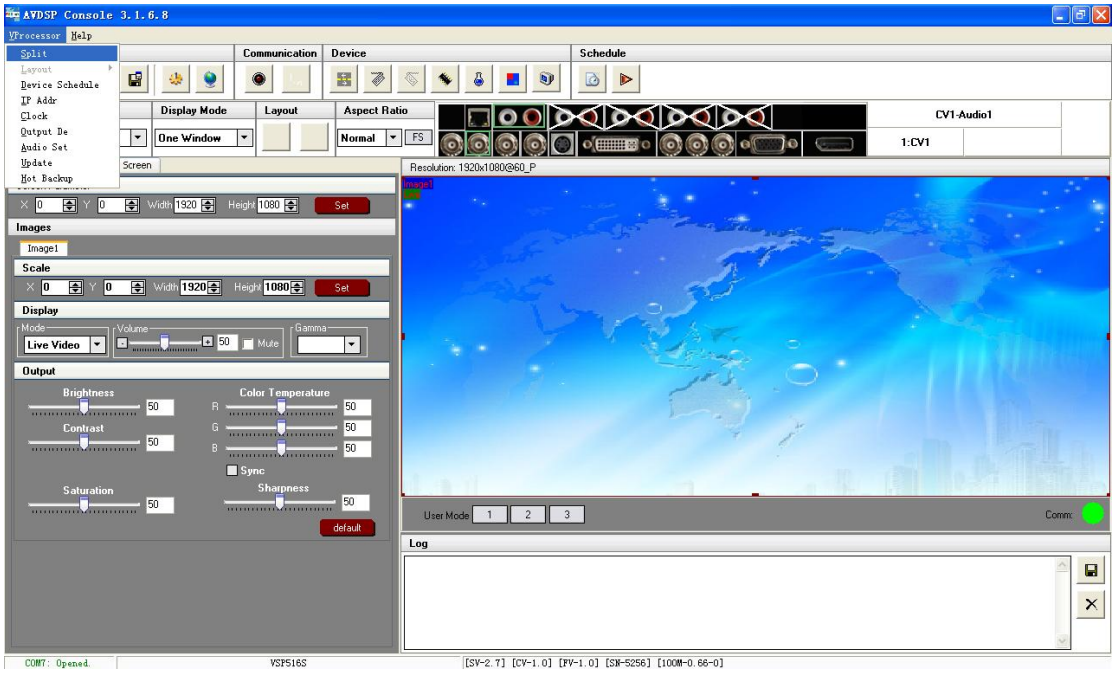
Software Operation

Information Toolbar

It is the VSP 9516S software version, core board version, firmware version and the serial number in bottom of the software interface.

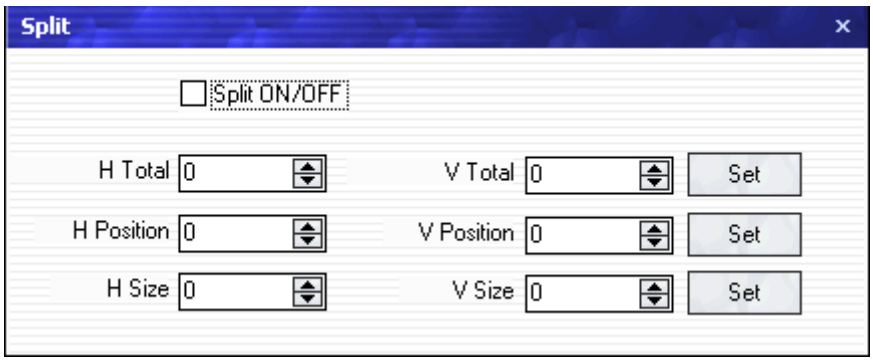


[Video Processor] Options



Split:

Split function, choose “ON” can set H total, V total, H position, V position, H size and V size.



Note

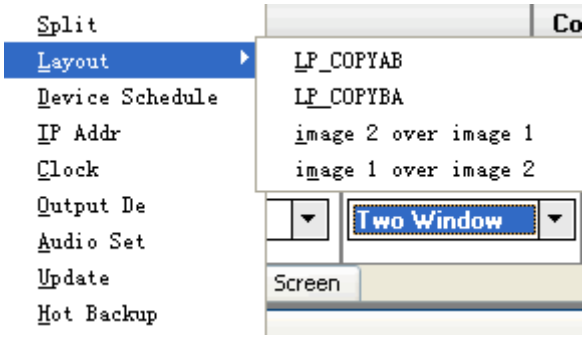
Same as MENU → SPLIT.

5. Communication Software Guideline

Software Operation

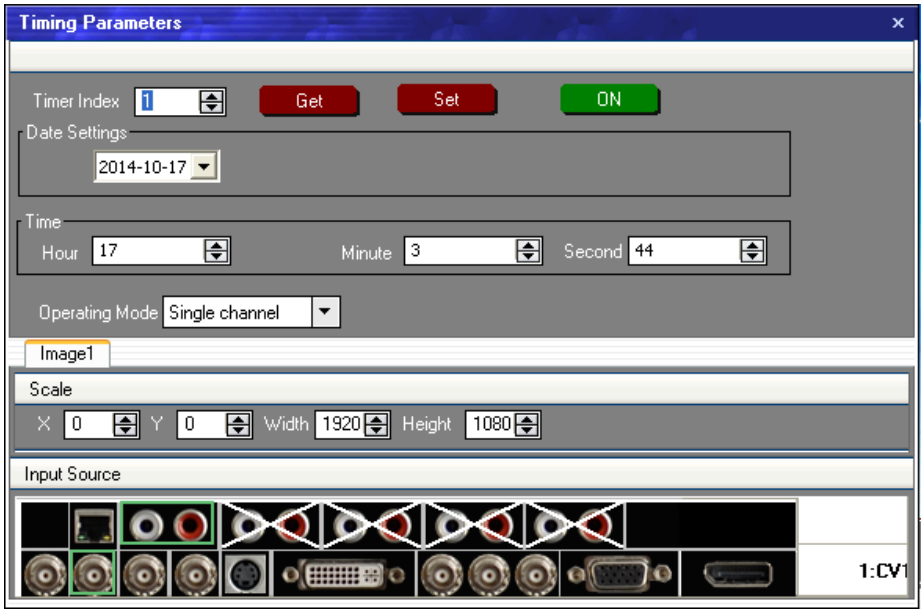
Layout:

Through the layout of the user can set a variety of double-picture modes.



Device Schedule:

Users can set up VSP 9516S to play the appointed input video automatically in time and operation of single or dual channels, ratio place. Users can setup up to 10 timing operation in the schedule.

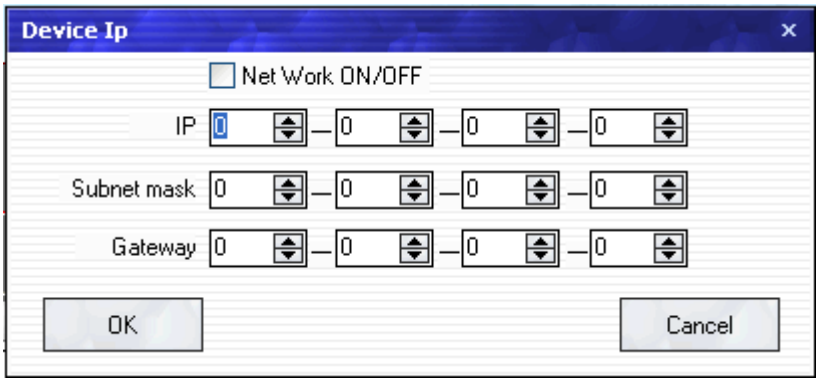


IP Address：

Users can set equipment IP, subnet mask and gateway, usually used under the condition of one computer control or remote control several computers. It takes effect immediately after users change IP through serial port, and when users change IP through network, it takes effect after reopen the software.

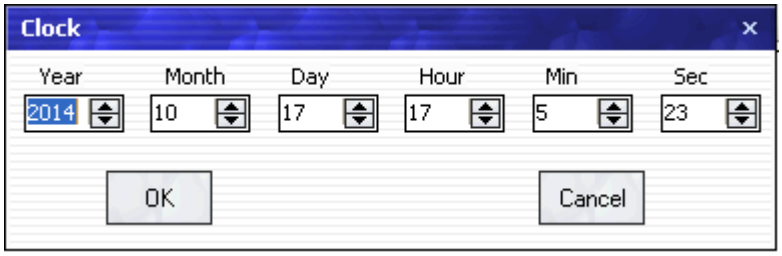
5. Communication Software Guideline

Software Operation

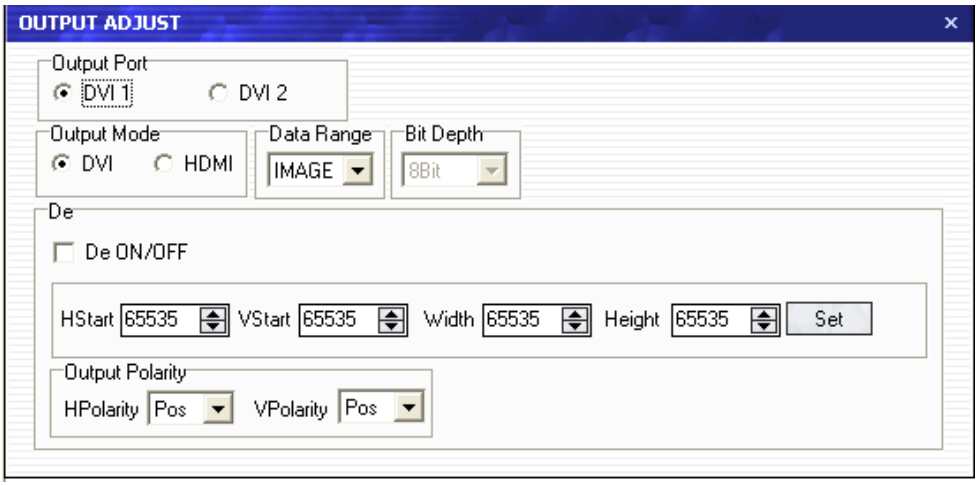


Clock：

Users can set or adjust lower computer time through” clock”



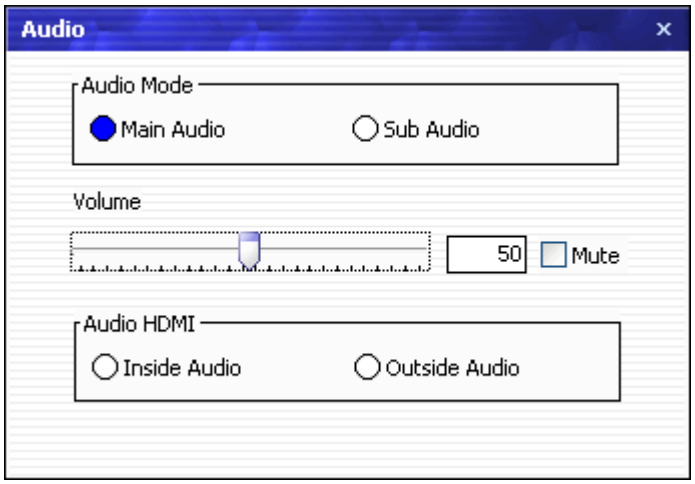
Output Adjust：



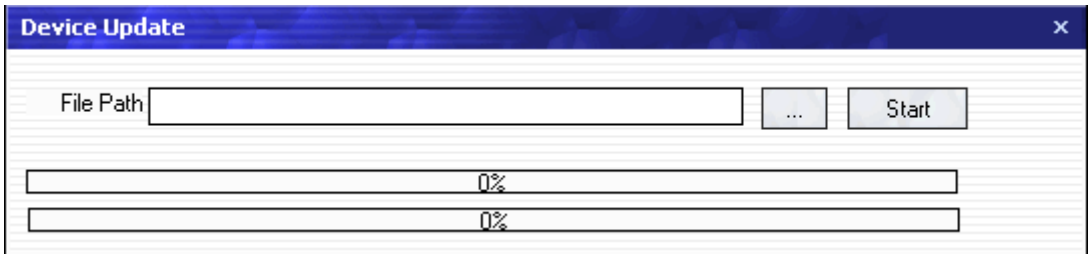
Audio setting：

5. Communication Software Guideline

Software Operation



Device Update：



[Help] Options

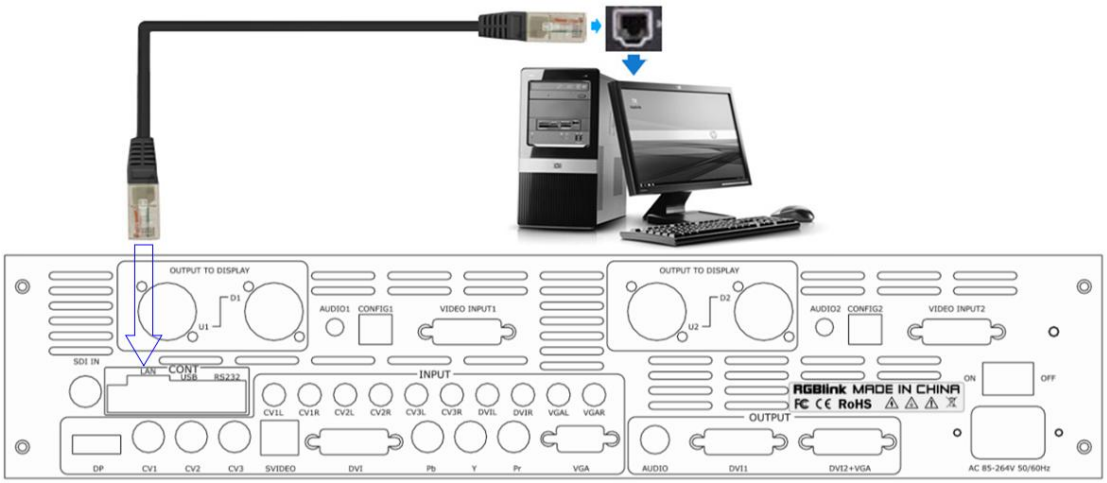
Version History: The update of software.

About: The information of the software version and the company.

How to Connect Windows Control Program by LAN Interface

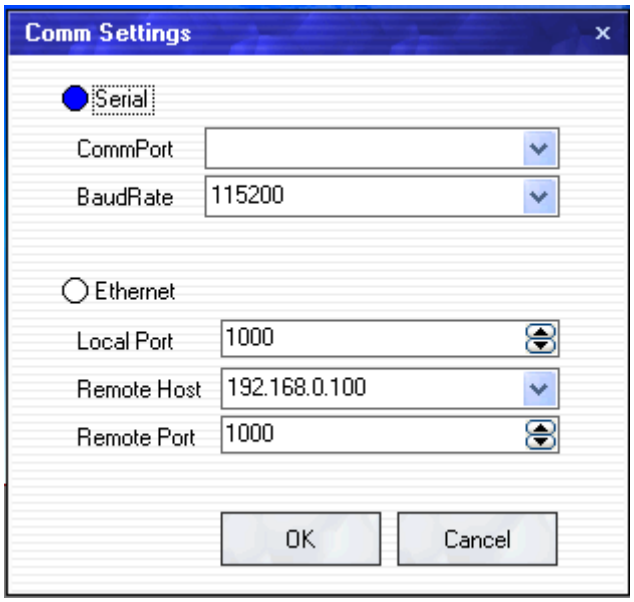
First, install the upper computer software in the computer.

Connect VSP 9516S and computer with cable, the connection diagram is as follows:



Power on VSP 9516S, start the network function, specific steps are as follows: MENU--SYSTEM -- ETHERNET -- NETWOEK if it is consistent with the computer, such as 192.168.0.***, take 192.168.0.100 for example.

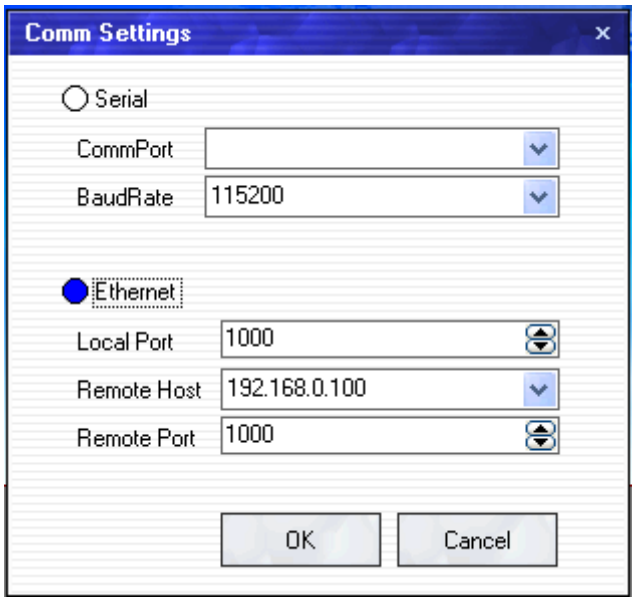
Open the upper computer software, click  , interface is shown as follows:



5. Communication Software Guideline

How to Connect Windows Control Program by LAN Interface

Choose <Ethernet>.



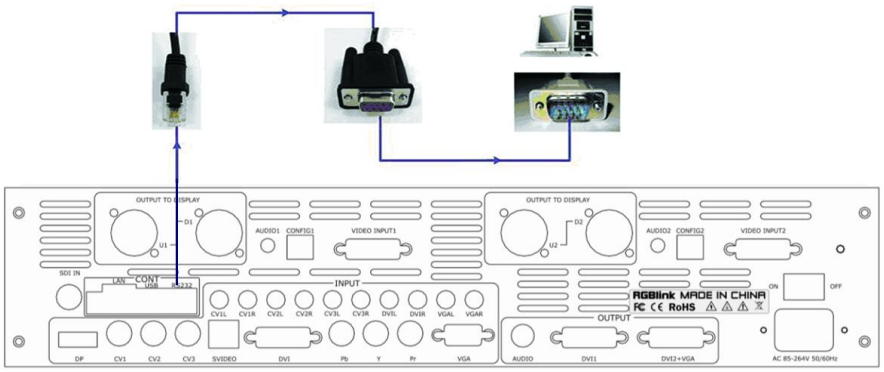
Input IP address, click <OK>.

Click  to open the serial port, check the if the <Comm> icon in the lower-right corner of the control software interface is green, and log outputs information smoothly, then it can control the device through PC software.

How to Connect Windows Control Program by RS232 Interface

Firstly, install the control software in your PC.

Take out the RS 232 cable as following（RS-232, with 9-pin on one end, RJ 11 on the other side）. Connect one side of the RJ11 download line to the RS232 on the video processor VSP 9516S, and the other side to be connected to the serial port on the PC.

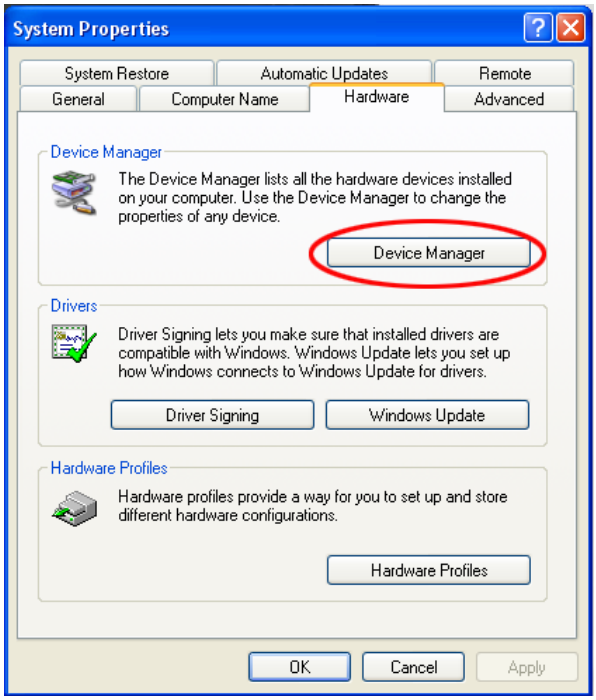


There is no any serial port on your PC, user need another Serial to USB adapter. Connect one end of the RJ11 download line to the RS232 on the video processor. Connect the end of USB-side to the PC. Ensure the cable connection is good. Turn on the Video Processor VSP 9516S.

Right click the [My Computer] on the home screen of control PC. Enter [Attribute], Find [Hardware] option, as following:

5. Communication Software Guideline

How to Connect Windows Control Program by RS232 Interface



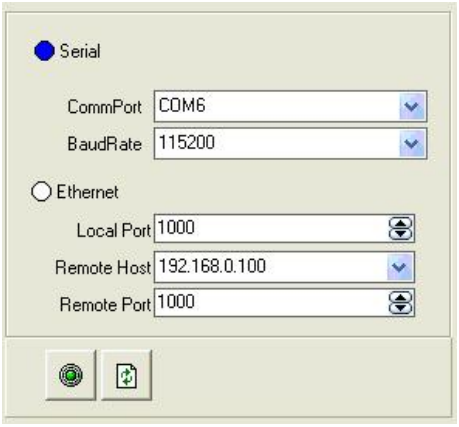
Click [Device Manager] “+” on the left, check the COM number, as following,

COM1 is offered.

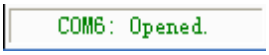
Remember the COM you are using and then run the control software, find [Communication] option. In default, first time user have to click  button, as following:

5. Communication Software Guideline

How to Connect Windows Control Program by RS232 Interface



Check and tap [Serial], Serial Port , for example, is **COM6** which is checked from device manager. Set VSP 9516S Boud Rate to be :115200. Click [Confirm] after setting.

Click  [open serial], check if [COM] icon is on the bottom right corner，when there is the prompt green 

showing on the software, it means the communication is ok , and you can use the software to control the device now.

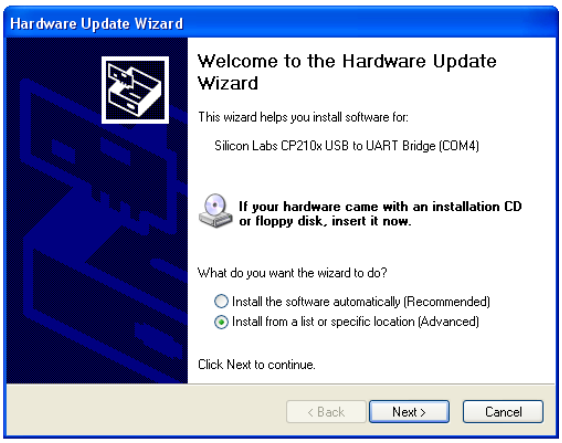
Note

If power off during communication, should close the port  , by first, and plug in out of the USB  and do communication.

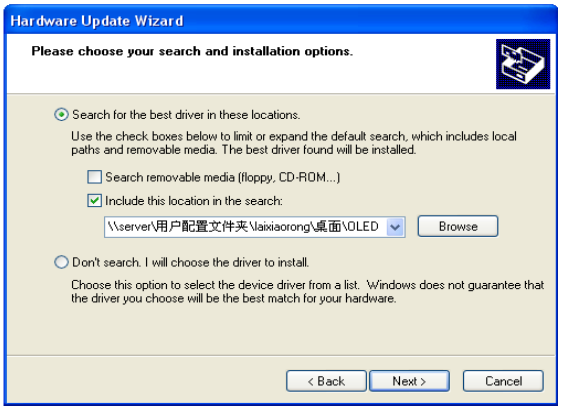
How to Connect Windows Control Program by USB Interface

Install the driver.

Connect the USB cable to the PC and the video processor. Turn on the VSP 9516S, for the first time to use USB, the PC will remind finding the new hardware and ask to install the driver for this new driver:



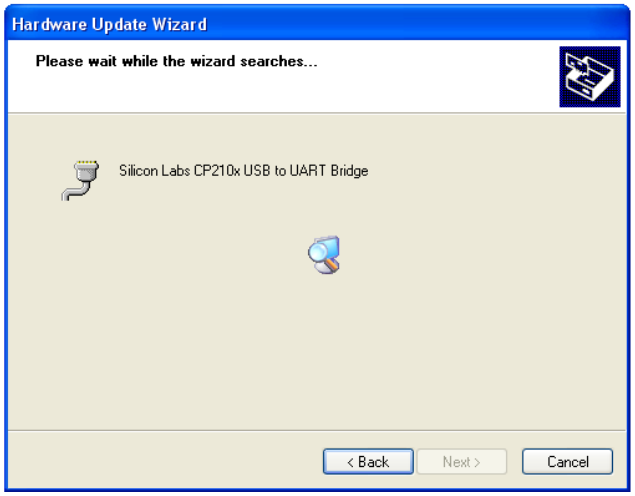
Install from the list or specified location, press “NEXT”:



Press “browser” to find the driver, and press “NEXT”:

5. Communication Software Control Guide

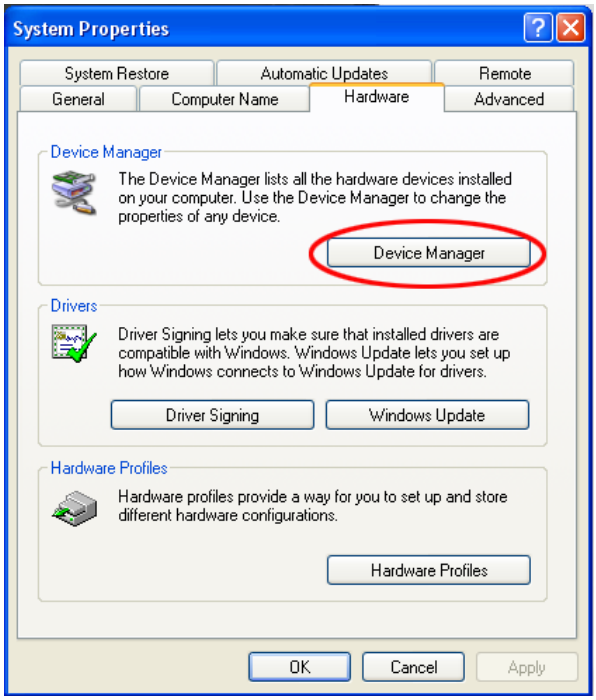
How to Connect Windows Control Program by USB Interface

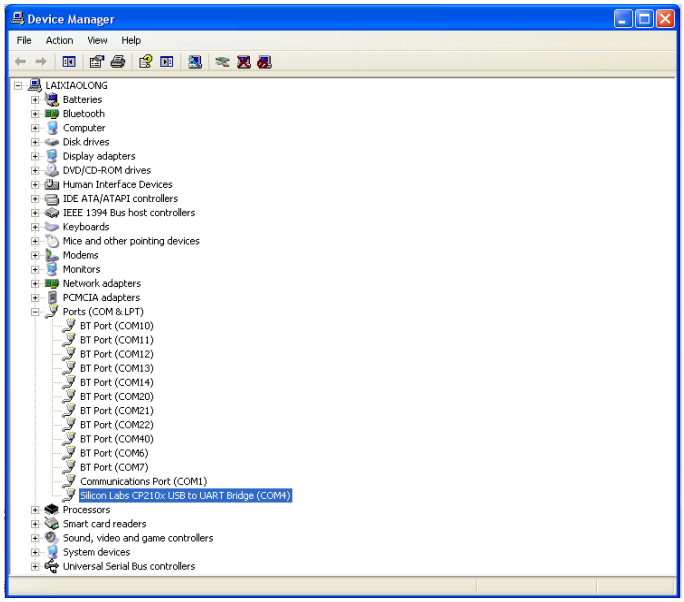


When the installation finish, can go to check the installed COM port inside the device management, as following picture shows:

5. Communication Software Control Guide

How to Connect Windows Control Program by USB Interface



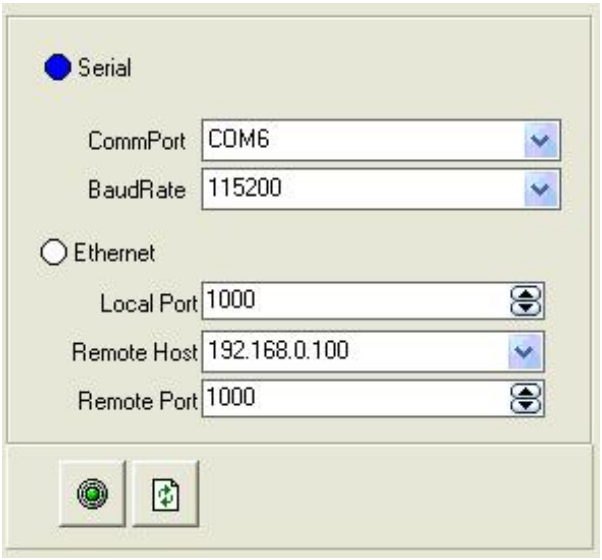


Install the console software, and run after install, shows the interface of the console as following:

Select the COM as installed just now, and set the VSP 9516S Boud Rate to be: 115200.

5. Communication Software Control Guide

How to Connect Windows Control Program by USB Interface



Push  to start communication, when there is green point in the right down corner showing on the software, it means the communication is ok, and you can use the software to control the device now, the software operation is the same as VSP 9516S.

6. System Setup and Operations

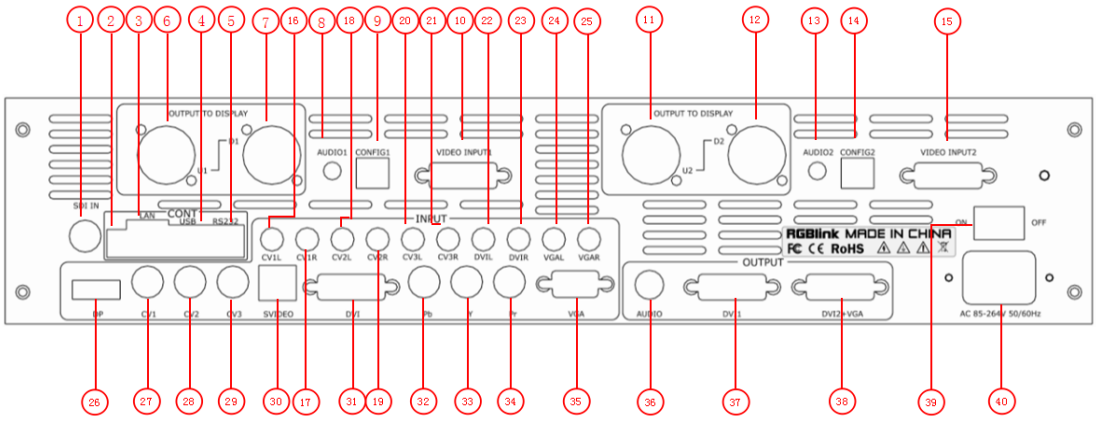
In This Chapter

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

- Interface and Input Signal Option
- How to Change the Language
- How to Do Customized Output Resolution
- How to Realize Single Image Switching
- How to Set up the PIP
- How to Set up the Size and Position of the Single Image
- How to Realize the Screen Size Setting
- How to Realize the Text Overlay Setting
- How to Realize the Freeze and the Live Image Switching
- How to Set up the Volume
- How to Realize LED Display Connection
- How to Use Black Out
- How to Save the Parameter
- How to Load the Saved Parameter

Interface and Input Signal Option

VSP 9516S Back Panel:



NO	INTERFACE	NO	INTERFACE
1	3G-SDI input BNC port	27~29	CVBS Input BNC port
2	Dial Switch	30	S-Video DIN 4
3	10/100M Interface RJ45	31	DVI Input DVI-I
4	USB Interface	32~34	YPbPr Input
5	RS232 Interface	35	VGA Input DB15 port
6.7.11.12	Gigabit Copper Port	36	Audio Output
8.13	Audio Input of Sending Card	37	DVI Output DVI-I
9.14	USB Control Port of Sending Card	38	DVI+VGA DVI-I Output
10.15	DVI Input Port of Sending Card	39	Switch and Power
16~25	Audio Input	40	Power IEC-3 port
26	Displayport Input		

37. DVI1 output , use for connecting the sending card of LED display. VSP 9516S support resolution format as following:

800x600x60Hz, 1024x768x60Hz, 1024x768x75Hz, 1280x720x60Hz, 1280x720x50Hz, 1280x768x60Hz, 1280x800x60Hz, 1280x1024x60Hz, 1360x768x60Hz, 1366x768x60Hz, 1400x1050x60Hz, 1440x900x60Hz, 1600x1200x60Hz,1680x1050x60Hz,1920x1080x60Hz,1920x1080x50Hz,

1920x1200x60Hz, 2048x1152x60Hz, 2560x812x60Hz, 2560x816x60Hz.

38. DVI2 + VGA output, output DVI video signal or VGA video signal, connect the display or other device with DVI or VGA interface, and output the signal by DVI-I interface. Support resolution format as following: 800x600x60Hz,1024x768x60Hz,1024x768x75Hz,1280x720x60Hz, 1280x720x50Hz, 1280x768x60Hz, 1280x800x60Hz, 1280x1024x60Hz, 1360x768x60Hz, 1366x768x60Hz, 1400x1050x60Hz, 1440x900x60Hz, 1600x1200x60Hz,1680x1050x60Hz,1920x1080x60Hz,1920x1080x50Hz, 1920x1200x60Hz, 2048x1152x60Hz, 2560x812x60Hz, 2560x816x60Hz.

1. 3G-SDI（BNC Port）Can receive video signal from HD player and radio processing equipment, connect SDI interface via 75 ohms BNC port.

26. Displayport interface: Input the video signal from HD player, computer, input signal via displayport interface.

27~29. CVBS（BNC Port）Can receive standard video signal from players, cameras etc. Input supported resolution 480i and 576i via BNC. Supported standards include: PAL, NTSC and SECAM.

30. S-Video（DIN 4 Port）Can used to input S-Video signal.

31. DVI（DVI-I Port）Computer graphics interface may receive the DVI output interface can also through the DVI turn HDMI cable to connect the computer graphics HDMI output or DVD HDMI output.

32~34. YPbPr（BNC Port）Can support DVD player, video signal. Through the BNC × 3 this equipment component interface, as the Pb, Y, Pr.

35. VGA（DB15 Port）Can support HD player, computer, video signal. Through the DB15 interface input signal.

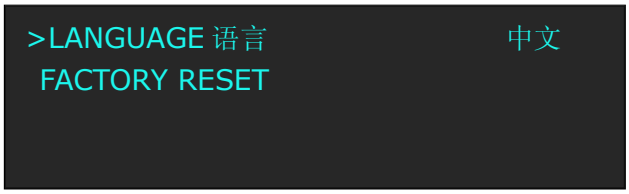
39. Power：Power has been already supplied for video processor.

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

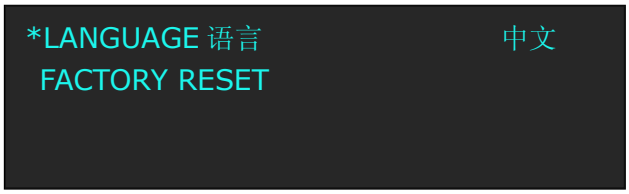
How to Change the Language

1. Push the [MENU/EFFECT] button, and enter to the menu items.

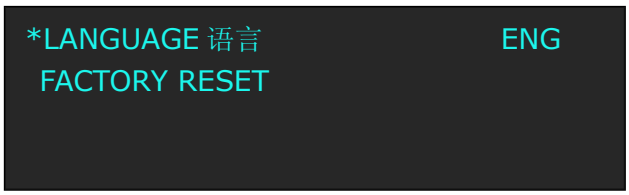
2. Turn the knob, choose <LANGUAGE 语言>.



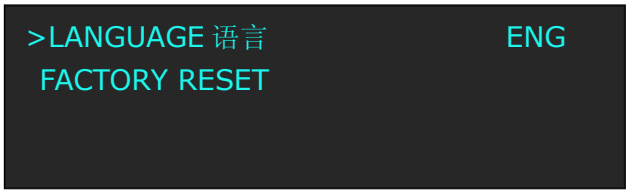
3. Push the knob to confirm, change the status of option“**>**”to“*****”.



4. Turn the knob again, change “Chinese” to “EN”.



5. After finishing, push the knob to confirm, and the language on OLED panel has been changed to English.



6. The same operation, change the language from English to Chinese.

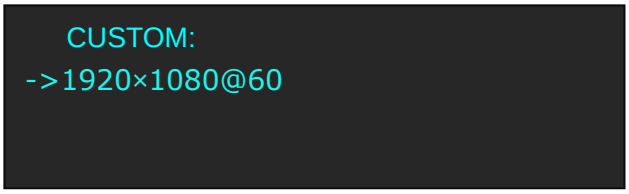
How to Do Customized Output Resolution

Push the [MENU/EFFECT] button to enter the menu items, turn the knob and choose [OUTPUT], push the knob to confirm. Turn the knob, choose <OUTPUT FORMAT>, push the knob to confirm and go into the output format menus, OLED module show as following:

STANDARD--Standard resolution.

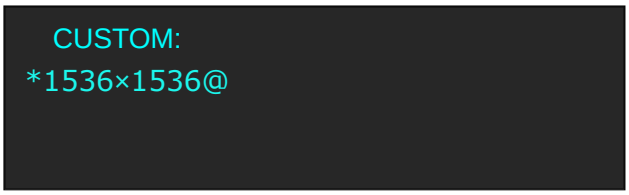
CUSTOM--Used defined resolution setting.

Push the knob and go into <CUSTOM> menu:



Turn knob on each digital position, and change the value of the digital by the digital buttons on the front panel. For example, input 1536 as following:

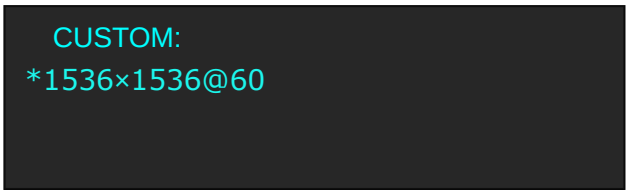
After the digital, push knob will add *, means before the * is the horizontal size. Same operation for vertical size, for example input1536 as following:



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. Use the digital buttons to finish the settings, . For example to input refresh rate 60.

6. System Setup and Operation

How to Do Customized Output Resolution



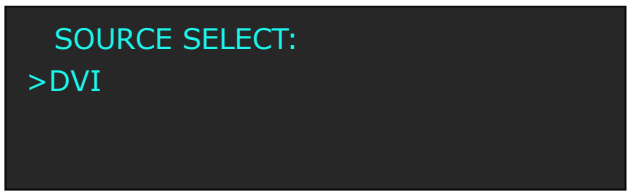
After input all the values, push knob to enable VSP 9516S to output this resolution. VSP 9516S will take 5 to 10 seconds to enable this output resolution.

Note

All the resolution inside the value 2048 x 1152 x 60 = 141557760 can support.
For example:
1) 1536x1536x60=141557760 is OK.
2) 2560x1536x60=235929600 is too big, can not support.
3) 2560x1152x50 is OK.

How to Realize Single Image Switching

Boot the system default CV1 to the current input source, if need seamless switching other source such as DVI, push DVI button, OLED module show as follows:



CV1 button light turns off after pushing DVI button. DVI button light is on if the DVI signal is effective and stable. And if the DVI signal is invalid or no input, DVI button light will flash.

The same method can switch the signals among CV2, CV3, S-Video, YPbPr, VGA, SDI and DP.

Note

Only cut switching is supported among the switch of CV1, CV2 and CV3.

How to Set up the PIP

Push the [SAVE/PIP1] or [LOAD/PIP2] button for two times, button led light turn on, and enter the PIP function menu. OLED module show as follows:

LAYOUT: Can choose PIP layout, the corresponding results are as follows:

PIP L+T PBP L+R PBP T+B

SWAP IMAGE: It can set PIP to swap exchange, when choose ON, it can realize the IMAGE A and IMAGE B exchange.

ALPHA: Can set the image transparency, the regulating range is among 0 to 16.

SELECT: Can choose to set the size or position of IMAGE A or IMAGE B individually.

Note

User can also select IMAGE A or IMAGE B by [IMAGE1/IMAGE2] reuse button.

.

How to Set up the Size and Position of the Single Image

Push the [SCALE/CROP] button, and enter the scale function menus, the OLED module show as follows:

The lights of number button 0~9 turn on, user can adjust the following items by knob or number buttons.

H SIZE: Width setting.

V SIZE: Height setting.

H POS: Horizontal phase setting.

V POS: Vertical phase setting.

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

How to Realize the Screen Size Setting

VSP 9516S supports the screen parameters to meet the requirement where user want to switch between scale screen size and full display size (like monitor). This is only enable for a single display window. Following is an example of a screen size is1408 x 832.

Operator can defined the VSP 9516S output resolution from standard output resolution list or customized the output resolution which is higher than 1408 x 832. For this application 1440x900 is an example:

Push the [MENU/EFFECT] button to go into the menu items, turn the knob and choose <OUTPUT>, push the knob to confirm, then turn the knob and choose <SCREEN>, push the knob and goes into the screen menus as following:

H SIZE--Horizontal pixels, turn knob or use the digital button to input the value1408.

V SIZE--Vertical pixels, turn knob or use the digital button to input the value 832.

H POS--Horizontal position, default value is 0, set the value as the way of H SIZE and V SIZE.

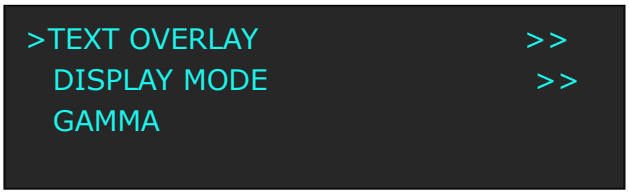
V POS--Vertical position, default value is 0, set the value as the way of H SIZE and V SIZE.

MODE-- Mode option, choose SCREEN SIZE.

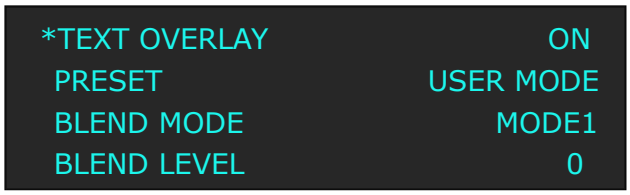
How to Realize the Text Overlay Setting

Before setting the text overlay, please make sure the input channel of the text. For example, set VGA input as the text channel. Then make sure the channel that the text will overlay, for example, overlay the text on CV1 channel. The operations are as follows:

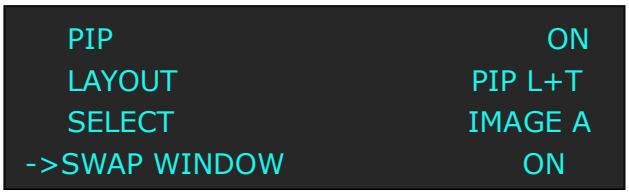
1. Push VGA button to make sure there is VGA input.
2. Push CV1 button to make sure there is CV1 input.
3. Push the [MENU/EFFECT] button, turn the knob, choose <OUTPUT>, push the knob to confirm, turn the knob, and choose <TEXT OVERLAY>, push the knob to confirm.



Then enter into <TEXT OVERLAY> menu items, turn the knob, and choose <TEXT OVERLAY>, push the knob to confirm, turn the knob again, and choose “ON” to enable the text overlay function.



4. Make sure VGA input is IMAGE B, and CV1 input is IMAGE A, if not, choose <SWAP WINDOW> option in <PIP>, and choose “ON” for <SWAP WINDOW>.

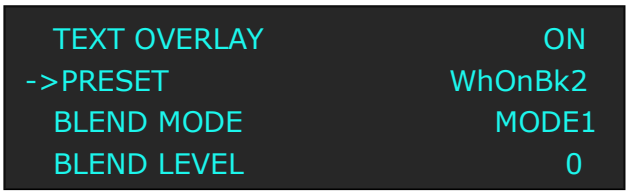


5. Choose the VGA image in “IMAGE B” in <SELECT> in <PIP> menu,

and push [SCALE/CROP] button to adjust the size and position of VGA image, then set the VGA image to the required position.

The standard position and size is: ensure the VGA image overlay on the CV1 image, display normally and without black edges. If there are black edges around VGA image, choose <ZOOM> option in <PICTURE> to adjust.

6. Set the text overlay mode: choose <PRESET> option in <TEXT OVERLAY>, push the knob to enter into the <PRESET> menu items. Turn the knob to choose the preset mode, for example, set the VGA text as WhOnBk, choose WhOnBk1 or WhOnBk2 (Note: Text Overlay only support monochrome subtitles), user can also adjust the <BLEND MODE> or <BLEND LEVEL> to get a better effect.



7. Push the [SAVE/PIP1] button to save the above parameters.

How to Realize the Freeze and Live Image Switching

1. Push the [FREEZE] button, and freeze the current image.

2. Push the [FREEZE] button again, the current freeze image is switched to live image:

Note

Can choose FREEZE IMAGE or LIVE VIDEO via MENU → OUTPUT → DISPLAY MODE → MODE

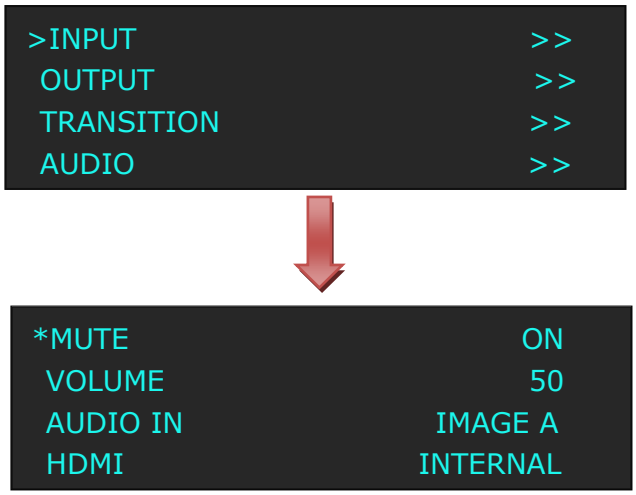
Note

Under the PIP mode, IMAGE A at the same time be frozen or live.

How to Set up the Volume

In single image mode, the operations are as follows:

1. Push [MENU/EFFECT] to enter the menu items, turn the knob, choose <AUDIO>, push the knob to confirm, turn the knob and choose <MUTE>.



2. Turn the knob, and choose “OFF”, disable the mute function.

3.Turn the knob, choose <VOLUME>, turn the knob to adjust the volume.

For example, turn the volume down to 20:

In PIP mode, first, choose IMAGE A or IMAGE B as audio input source, specific steps are as follows:

MENU → AUDIO → AUDIO IN → IMAGE A/IMAGE B, or push the [IMAGE1/IMAGE2] button, choose IMAGE A or IMAGE B, then repeat the step1 to 3 above.

6. System Setup and Operation

How to Set Up the Volume

Note

Volume is adjustable only choose internal for HDMI.

How to Realize LED Display Connection

VSP 9516S can realize three connections as follows: connecting the Port D or Port U of one sending card to LED display, connecting the both Port D and Port U of one sending card to LED display, connecting the Port D and Port U of two sending cards to LED display. The following are the detailed operation steps of the three connections.

1. Connect the Port D or Port U of One Sending Card to LED Display

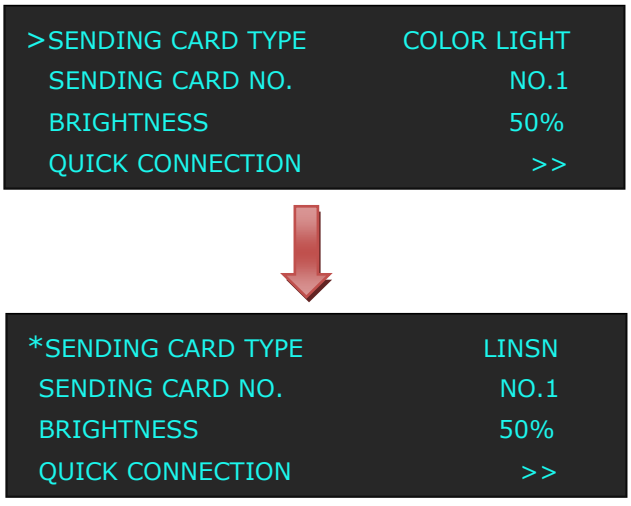
Here we take No.1 sending card, port U1 for example. (Note: No.1 sending card corresponding to port D1 and port U1, No.2 sending card corresponding to port D2 and port U2.

(1) First, make sure that the device is in normal operation. The red power indicator lights when the device has power supply and the green signal indicator lights when device has signal input.

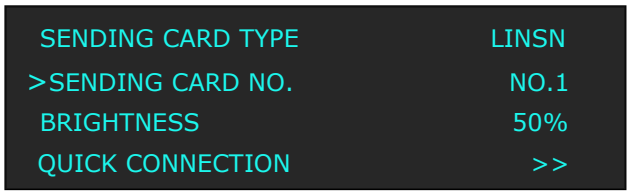
(2) Choose the input signal, for example, choose DVI.

(3) Connect the cable to Port U1.

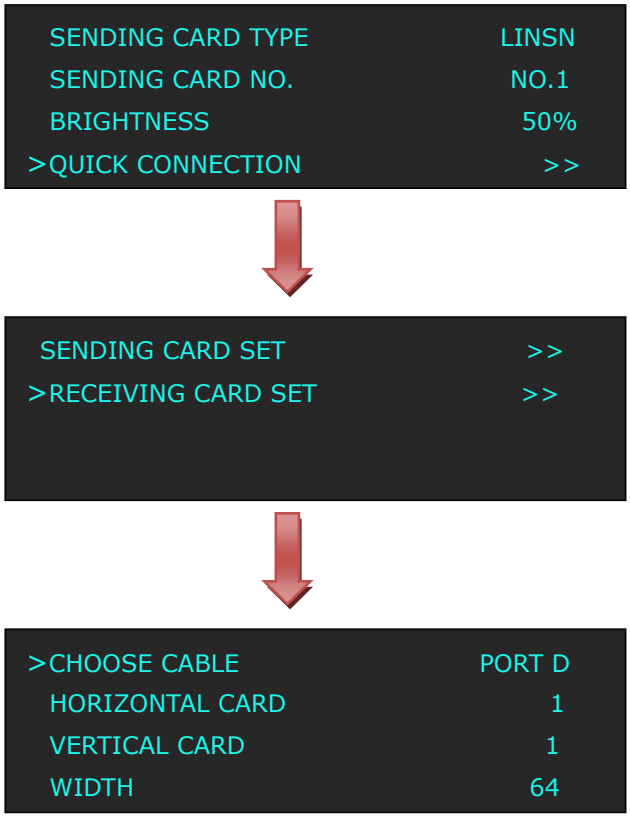
(4) Turn the knob, choose <SENDING CARD TYPE>, push the knob to confirm, turn the knob, choose the sending card type, for example, choose Linsn (VSP 9516S can only support Linsn and Colorlight sending card). Shown as follows:



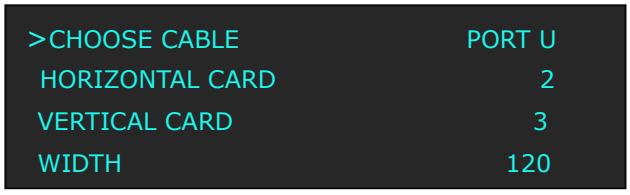
（5）Turn the knob, choose <SENDING CARD NO.>, push the knob to confirm, turn the knob, choose NO.1, push the knob to confirm.



(6) Turn the knob, choose <QUICK CONNECTION>, push the knob to confirm. Turn the knob, choose <RECEIVING CARD SET>, push the knob to confirm, and enter to the to the next level menu, the OLED module show as follows:

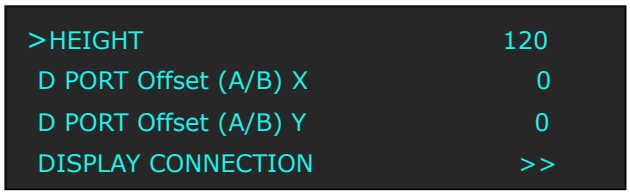


(7) Choose <PORT U>, and set the horizontal card, vertical card, width and height. For example, set horizontal card as 2, vertical card as 3, width and height as 120, shown as follows:

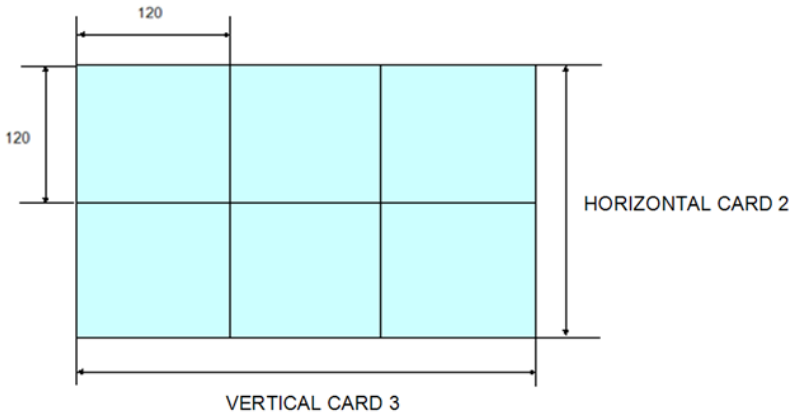


6. System Setup and Operation

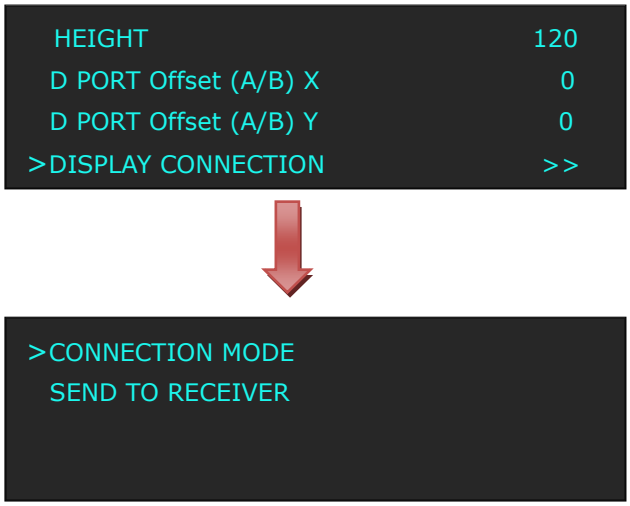
How to Realize LED Display Connection



The setting is as follows:



(8) After setting, turn the knob, choose <DISPLAY CONNECTION>, push the knob to confirm, turn the knob again, and choose <CONNECTION MODE>. VSP 9516S supports 8 kinds of connection modes, they are , , , , , , and , user can choose the mode according to actual connection mode.



Send to receiver after choose the connection mode, observe the LED display and make sure if display image is correct. If wrong, change the connection modes. Then connect the Port D or Port U of One Sending Card to LED display is finished.

(9) The setting for port D1 is same as the above setting.

Rendering is as follows:

2. Connect the Port D and Port U of One Sending Card to LED Display

(1) First, make sure the device is in normal operation. The red power indicator lights when device has power supply and the green signal indicator lights when device has signal input.

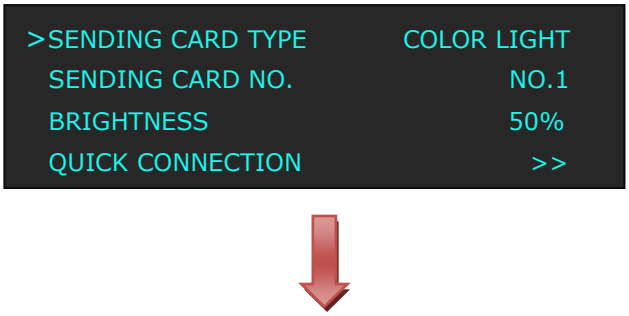
(2) Choose the input signal, for example, choose DVI.

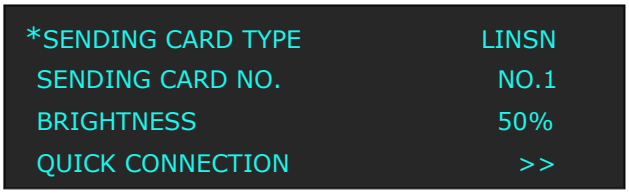
(3) Connect one end of the cable to Port D1, and the other one to U1.

(4) Connect Port U1 of No.1 Sending Card to LED display, the settings are the same as Step 4 to Step 8 of "**Connect the Port D or Port U of One Sending Card to LED Display**".

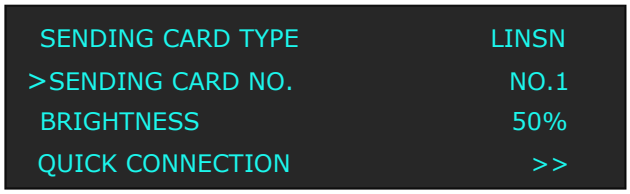
(5) Connect Port D1 of No.1 Sending Card to LED display, setting steps are as follows:

a. Turn the knob, choose <SENDING CARD TYPE>, push the knob to confirm, turn the knob, choose the sending card type, for example, choose Linsn (VSP 9516S can only support Linsn and Colorlight sending card). Shown as follows:

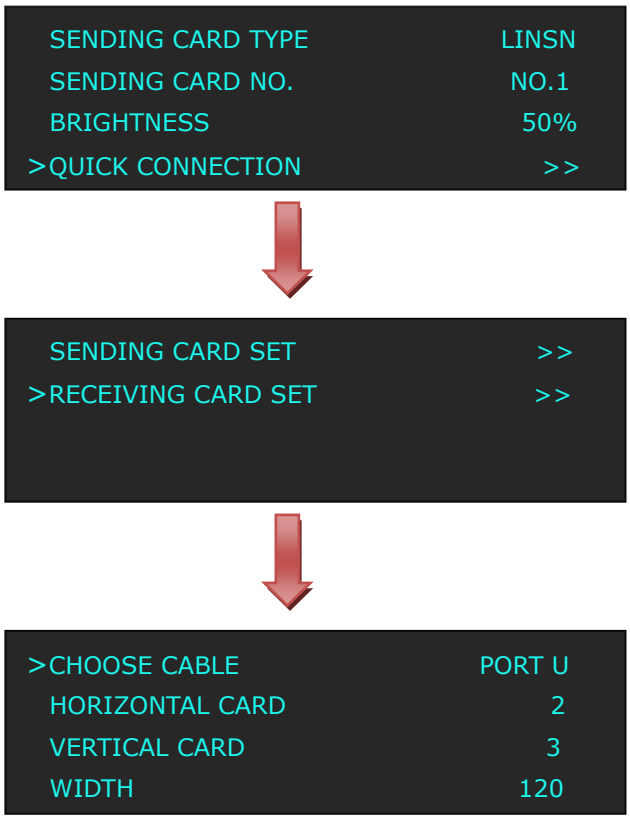




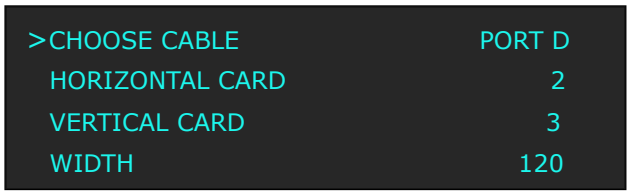
b. Turn the knob, choose <SENDING CARD NO.>, push the knob to confirm, turn the knob, choose NO.1, push the knob to confirm.



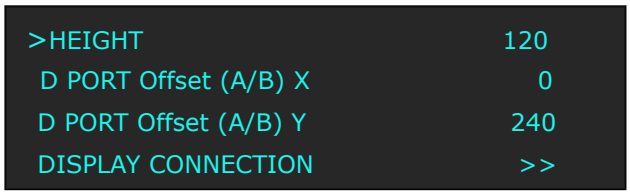
c. Turn the knob, choose <QUICK CONNECTION>, push the knob to confirm. Turn the knob, choose <RECEIVING CARD SET>, push the knob to confirm, and enter to the to the next level menu, the OLED module show as follows:



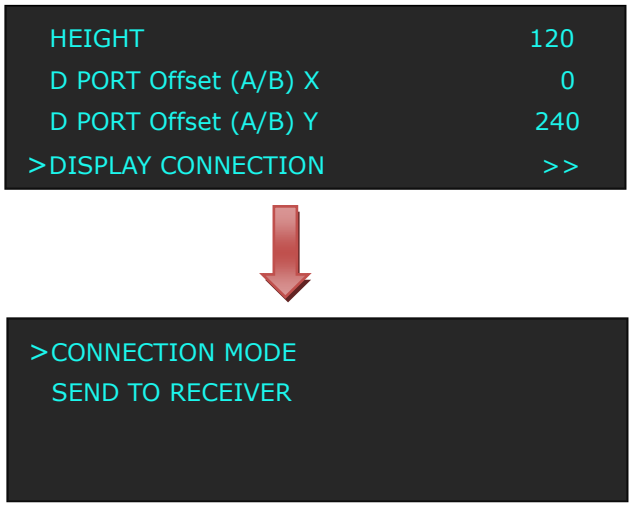
d. Turn the knob, choose <CHOOSE CABLE>, push the knob to confirm. Turn the knob, choose <PORT D>, push the knob to confirm.



e. Turn the knob, and choose <D PORT Offset (A/B) Y>, and set D PORT Offset (A/B) Y as 240 (Note: D PORT Offset (A/B) Y=HORIZONTAL CARD×HEIGHT, before we set horizontal card as 2 and height as 120). Shown as follows:



f. Turn the knob, choose <DISPLAY CONNECTION>, push the knob to confirm, turn the knob again, and choose <CONNECTION MODE>. the OLED module show as follows:

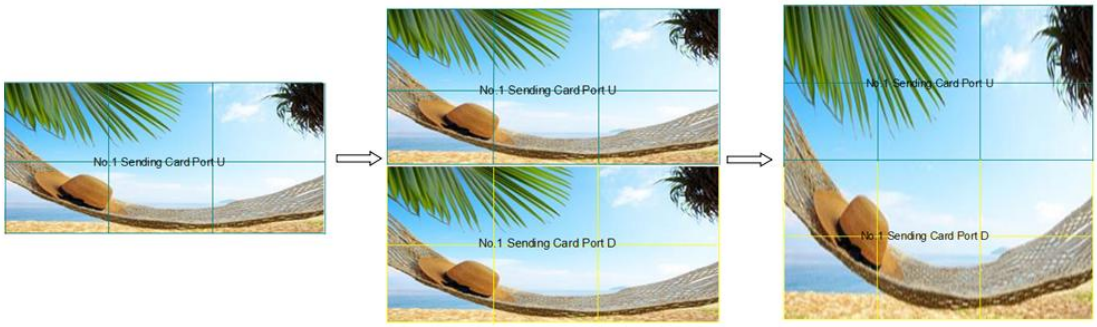


Choose the connection mode, the setting is same as Port U1. Then connection of both the Port D and Port U of One Sending Card to LED Display is finished.

Rendering is as follows:

6. System Setup and Operation

How to Realize LED Display Connection



3. Connect the Port D and Port U of Two Sending Cards to LED Display

(1) First, make sure the device is in normal operation. The red power indicator lights when device has power supply and the green signal indicator lights when device has signal input.

(2) Choose the input signal, for example, choose DVI.

(3) Connect four cables to Port U1, Port D1, Port U2 and Port D2 respectively.

(4) Connect Port D1 and Port U1 of No.1 Sending Card to LED display, the settings are same as "**Connect the Port D and Port U of One Sending Card to LED Display**".

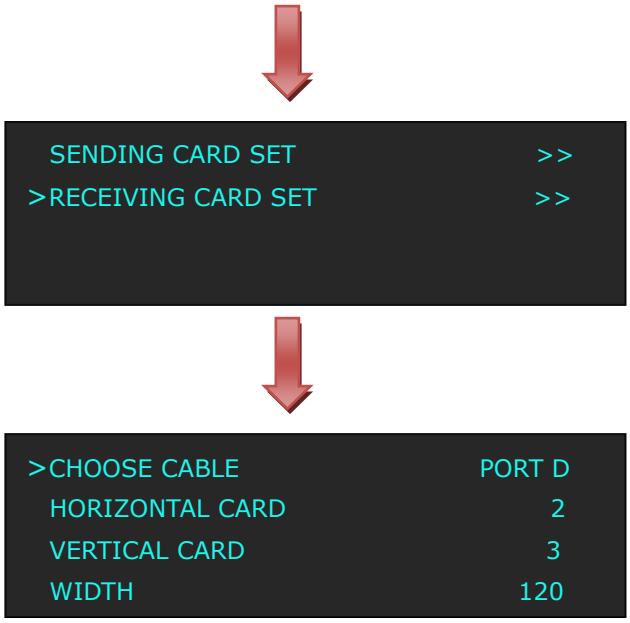
(5) Same as above, connect Port D2 and Port U2 of No.2 Sending Card to LED display.

(6) Turn the knob, choose <DISPLAY CONNECTION>, push the knob to confirm, turn the knob again, choose <SENDING CARD NO.>, push the knob to confirm, turn the knob, choose NO.2, push the knob to confirm.

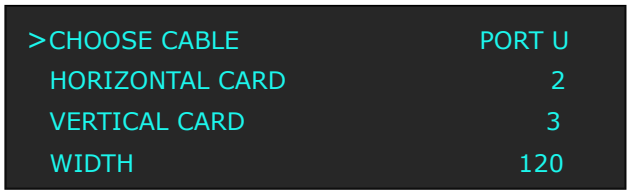
SENDING CARD TYPE	LINSN
>SENDING CARD NO.	NO.2
BRIGHTNESS	50%
QUICK CONNECTION	>>

(7) Turn the knob, choose <QUICK CONNECTION>, push the knob to confirm. Turn the knob, choose <RECEIVING CARD SET>, push the knob to confirm, and enter to the to the next level menu, the OLED module show as follows:

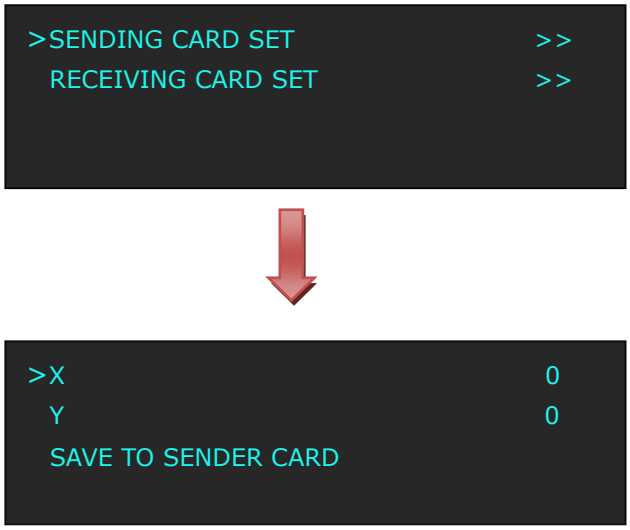
SENDING CARD TYPE	LINSN
SENDING CARD NO.	NO.2
BRIGHTNESS	50%
>QUICK CONNECTION	>>



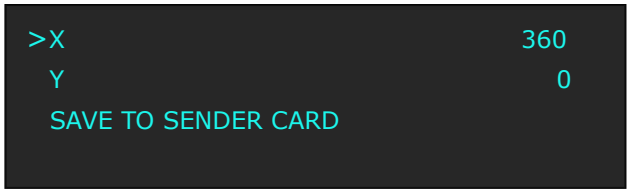
(8) Turn the knob, choose <CHOOSE CABLE>, push the knob to confirm. Turn the knob, choose <PORT U>, push the knob to confirm.



(9) Push the [MENU/EFFECT] button to return to the previous menu, turn the knob, and choose <SENDING CARD SET>, push the knob to confirm, and enter to the next level menu:

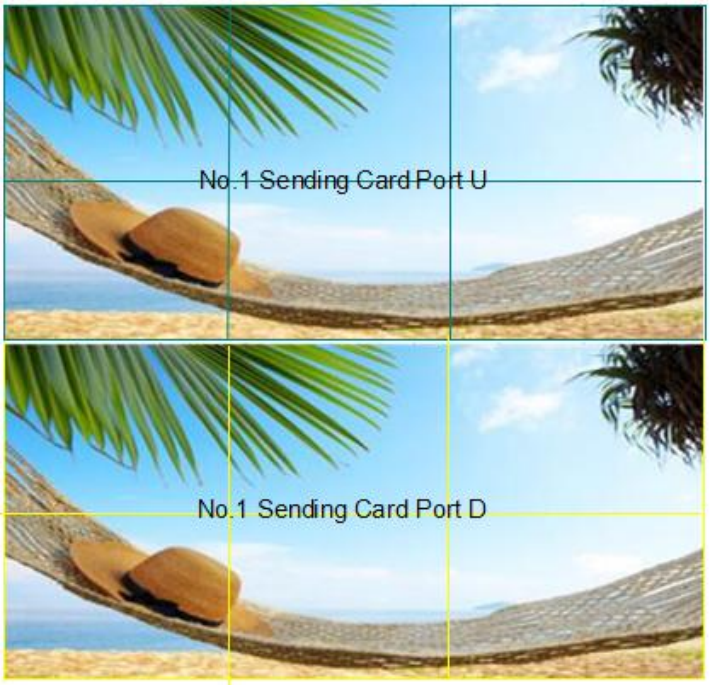


(10) Turn the knob, choose <X>, and set X as 360 (Note: X=VERTICAL CARD×WIDTH, before we set vertical card as 3 and width as 120). Shown as follows:



(11) Same as above, set X of Port D of No.2 sending card as 360. Then connect the Port D and Port U of Two Sending Cards to LED display is finished.

Rendering is as follows:



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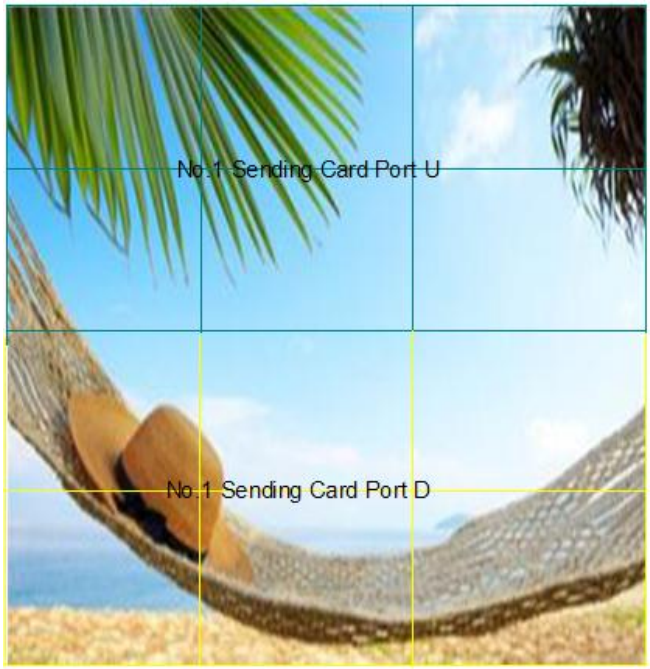
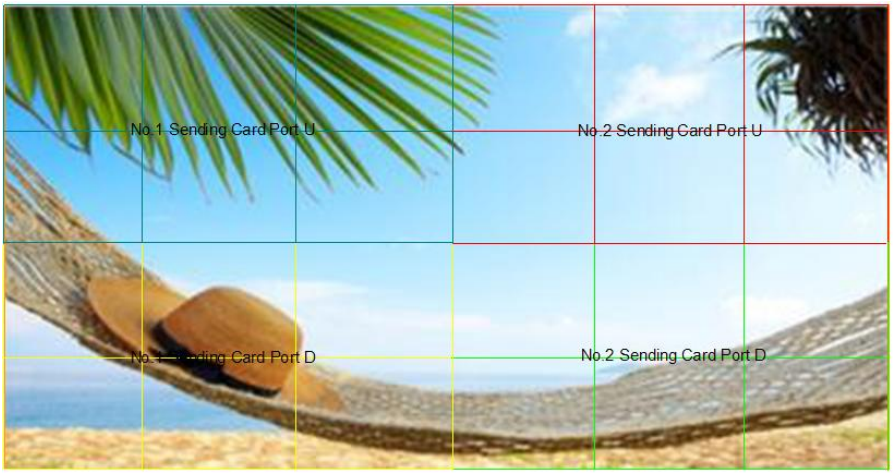


6. System Setup and Operation

How to Realize LED Display Connection



How to Use Black Out

Black out description:

Black signal realizes one-key-touch to a black screen.

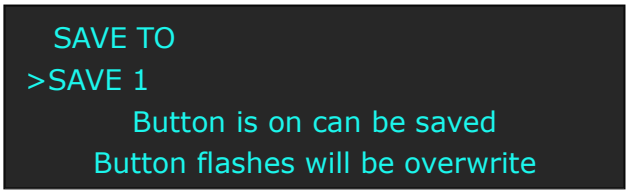
VSP 9516S black provides effect processing when output, Black switching with fade in fade out effect. The operation is as below:

Push [BLACK/0] button, and the output turns to BLACK with fade in fade out effect.

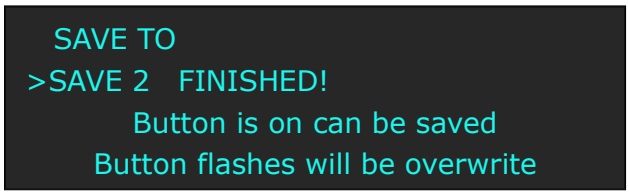
As shown below:

How to Save the Parameter

1. Push the [SAVE/PIP1] button, the button light is on, and enable the SAVE function.



2. Turn the knob, and choose the position that will save, push the knob to confirm.
3. The figure: 1, 2, 3, 4, 5, 6, 7, 8, 9, 0 means SAVE1~10, user can push any button on to save. For example, save to SAVE 2, push button 2, the OLED panel will show as follows after saving.

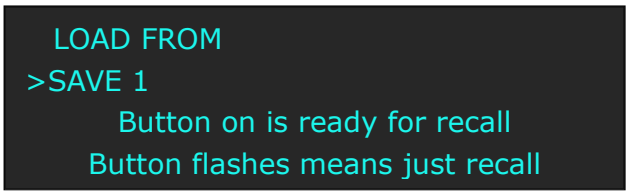


User can also push the [MENU/EFFECT] button to enter to the menu items, turn the knob to choose <SAVE SETUP>, and choose “SAVE TO” to save the parameter.

4. Again push the [SAVE/PIP1] button, the button light is off, and disable the SAVE function.

How to Load the Saved Parameter

1. Push the [LOAD/PIP2] button, the button light is on, and enable the LOAD function.



2. Turn the knob, and choose the position that will load, push the knob to confirm.

   User can also push the [MENU/EFFECT] button to enter to the menu items, turn the knob to choose <SAVE SETUP>, and choose “LOAD FROM” to load the saved parameter.

3. Push the [LOAD/PIP2] button again, the button light if off, and disable the LOAD function.

7. Common Questions and Solutions

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 is Any Input Signal

Push [MENU/EFFECT] button, and choose "INPUT" to see whether the input signal is normal, if OLED panel show "NO INPUT", it suggest there is no signal, 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 Needs to Scale

Push [SCALE/CROP] button in the processor and adjust the actual screen size of the screen, including the "H SIZE", "V SIZE", “H POS” and "V POS", 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 by button [MENU/EFFECT] , and push the knob to confirm.

Left Screen Appears Two Black Sides

Adjust DE Deviation

This phenomenon needs to adjust the DVI output and DE migration of the processor, push the [MENU/EFFECT] button, choose "OUTPUT" and find the corresponding output name, such as "DVI1 OUT ADJUST", and find "DVI1 DE" again, make an adjustment for corresponding horizontal and vertical DE, please remember to save to the corresponding channel after setting up, save to SAVE1 by default.

All Key Lights Light on Simultaneously

Check If Dial Switch is Normal

Shut the power, check if two red dial switches near CV are upward. Reboot if they face down, and reboot. The function of the red dial switched is mainly upgraded.

Aliasstep or Shake When Input SDI Signal

Push [MENU/EFFECT] button and enter to the menu items, choose <INPUT>, push the knob to confirm and choose “SDI ADJUST” option, turn the knob, and choose “ANTI-ALIASSTEP”, user can get different effects by setting ANTI-ALIASSTEP STEP_1 to STEP_7. Generally, STEP_1 corresponds to 1080i, and STEP_4 is to solve the shake. It the device shake again, push [MENU/EFFECT] button for two times, and enter to the effects menu, choose “DEINTERLACE” to solve it.

Spottted Image or Freeze When Switch CV Signal

Normal Phenomenon

This is the normal phenomenon, user can set consistent CV input resolutions to avoid spotted image, but this is cut seamless switching, without fade in fade out effect.

If DP Port Can Connect DVI or HDMI Signal

DP Port Can Only Connect DP Signal

DP port can only connect DP signal, please choose graphics card with DP output port. If need 2 DVI or HDMI, you can choose HDMI to DP, SDI, VGA converter for signal switching.

A. Specification

BNC Input	
Number of Inputs	3
Supported Standards	PAL/NTSC
Signal Level	1Vpp±3db (0.7V Video+0.3v Sync) 75 ohm
Multiplex	480i,576i
S-Video Input	
Number of Inputs	1
Supported Standard	PAL/NTSC
Signal Level	Y:1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm U/V:0.7Vpp±3dB 75ohm
Multiplex	480i,576i
YPbPr BNC Input	
Number of Inputs	BNC*3
Supported Standard	analog signals
Signal Level	Y:1Vpp±3dB(0.7V Video+0.3v Sync)75 ohm Pb/Pr:0.7Vpp±3dB 75 ohm
Supported Resolution	480i,576i,480p,576p,720p50,1080i50,1080p50 1080i50,1080i60
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	1024×768@60Hz, 800×600@60Hz, 640×480@60Hz, 1280×720@60Hz, 1280×800@60Hz, 1280×960@60Hz, 1280×1024@60Hz, 1440×900@60Hz, 1400×1050@60Hz, 1600×1200@60Hz, 1680×1050@60Hz, 1920×1080@60Hz, 1366×768@60Hz
DVI Input	
Number of Outputs	1
Connector	Standard DVI-I socket
Supported Resolution	SMPTE: 625/25 PAL, 525/29.97 NTSC, 625/50p PAL, 525/59.94p NTSC 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, 1920×1080@50Hz
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
3G-SDI Input	
Number of Inputs	1
Connector	BNC
Supported Standard	SMPTE 259M SD-SDI 270 Mbit/s 480i, 576i SMPTE 292M HD-SDI 1.485 Gbit/s 720p, 1080i SMPTE 424M 3G-SDI 2.970 Gbit/s 1080p
Balance	Belden 1694A 100m self-adaptive 3G,200m self-adaptive 1.485G,350m self-adaptive 270Mbps
Audio Input	
Number of Inputs	10
Connector	Standard RCA Socket
Audio Standard	48Kbps 24bit
DVI Output	
Number of Outputs	2
Connector	Standard DVI-I Socket
Signal Level	TMDS pw, 165MHz bandwidth
Supported Resolution	VESA: 800×600@60Hz, 1024×768@60Hz, 1024×768@75Hz, 1280×720@60Hz, 1280×720@50Hz, 1280×768@60Hz, 1280×800@60Hz, 1280×1024@60Hz, 1360×768@60Hz, 1366×768@60Hz, 1400×1050@60Hz, 1440×900@60Hz, 1600×1200@60Hz, 1680×1050@60Hz, 1920×1080@60Hz, 1920×1080@50Hz, 1920×1200@60Hz, 2048×1152@60Hz, 2560×812@60Hz, 2560×816×60Hz
VGA Output	
Number of Outputs	1
Connector	Standard DB15 Socket
Supported Resolution	VESA: 800×600@60Hz, 1024×768@60Hz, 1024×768@75Hz, 1280×720@60Hz, 1280×720@50Hz, 1280×768@60Hz,

	1280×800@60Hz, 1280×1024@60Hz, 1360×768@60Hz, 1366×768@60Hz, 1400×1050@60Hz, 1440×900@60Hz, 1600×1200@60Hz, 1680×1050@60Hz, 1920×1080@60Hz, 1920×1080@50Hz, 1920×1200@60Hz, 2048×1152@60Hz, 2560×812@60Hz, 2560×816@60Hz
Signal Level	R、G、B、Hsync、Vsync:0 to1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm black level: 300mV Sync-tip: 0V
Audio Output	
Number of Outputs	1
Audio standard	48Kbps 24bit
Function	
Input channel configuration	Support each input channel signal programming configuration
PIP	Support PIP, PBP between inputs
Audio sync switch	support
Extras	
Communication	RS232 USB TCP/IP
Power Supply	85-264V 2.1A IEC-3
Working Temperature	0°C~45°C
Relative Humidity	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.

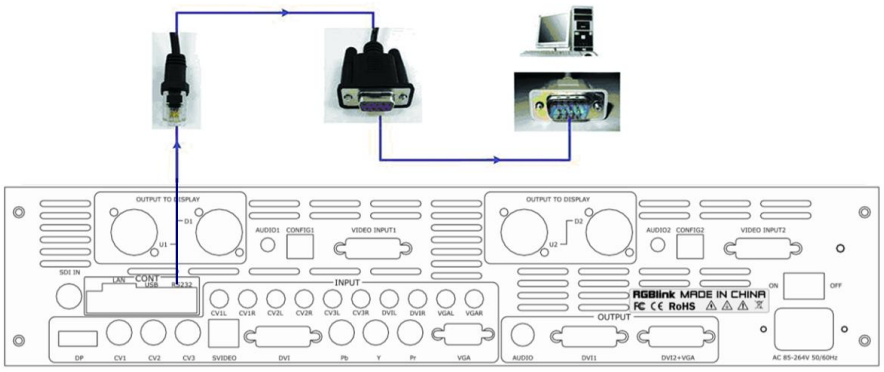
- **Tel:** +86-592-5771197
- **Fax:** +86-592-5771202
- **Customer Hotline：** 4008-592-315
- **Websites：**
  - ~ http://www.rgblink.com
  - ~ http://www.rgblink.cn
- **E-mail：** rgblinkcs@gmail.com

C. Software Upgrade

IP Software Download Instruction

Turn off the power, take the two coding switch to “ON” state as below:

Connect one side of the RJ11 download line to the RS232 on the video processor, and the other side being connected to the serial port on the PC.



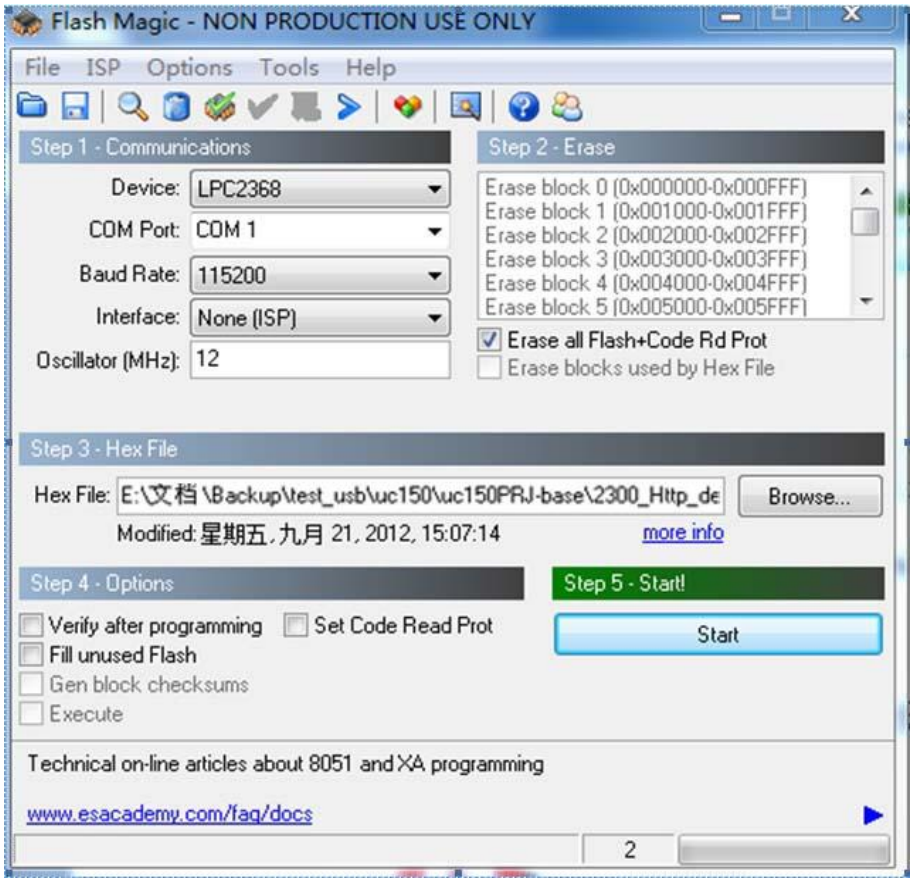
Double click 

to run flash magic, setting as below:

Firstly, users can choose the right serial port, set the Boud rate to 9600, choose LPC2368, and to load the aim document (hex file) for IP board upgrading.

Secondly, tick the item below to confirm.

Finally, click the “start” button.



After download, exit the program, turn off the power, tack the two coding switch back, as below restart the equipment power, check if the equipment work normally.

Note

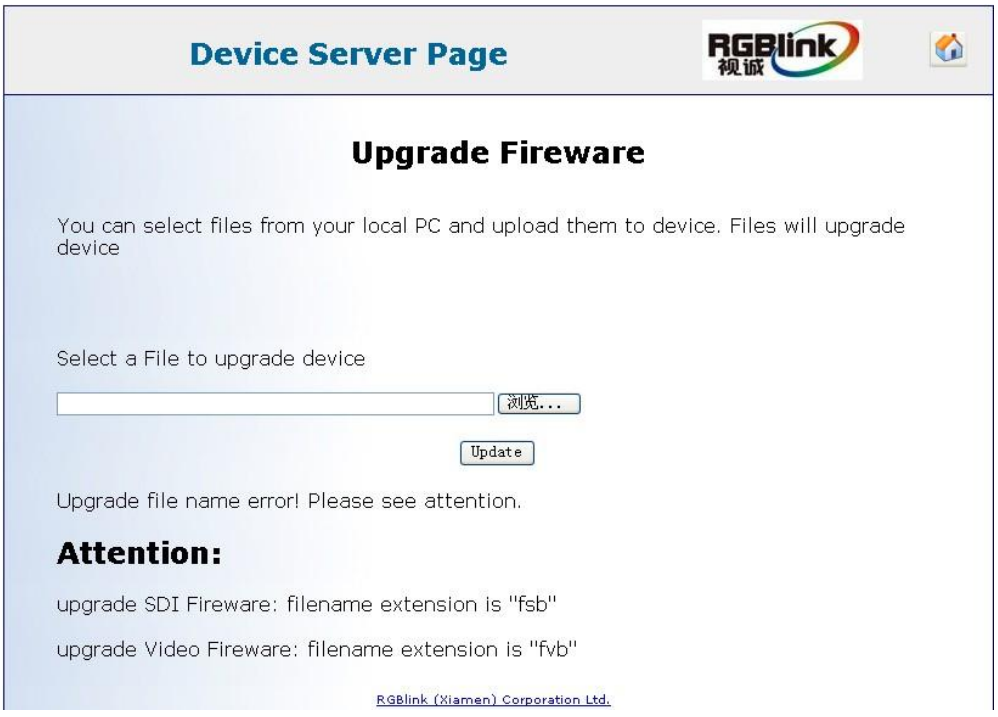
Flash Magic download website: http://www.flashmagictool.com/download.html&d=FlashMagic.exe

Fireware Upgrade

Fireware upgraded is via webpage, specific steps are as follows:

1. Connect VSP 9516S and computer with cable.
2. Start the network function, specific steps are as follows:

   MENU--SYSTEM -- ETHERNET -- NETWORK, select “ON”, and check the IP address of the equipment, confirm if it is consistent with the computer, such as 192.168.0.***, take 192.168.0.100 for example.
3. Open the webpage, input IP: 192.168.0.100 (this is the default state, if the IP address is changed, the IP address input should be consistent with the changed IP address), then input the user name: admin, password: rgblink123, click OK.
4. Enter the webpage, click "Fireware Upgrade" and load the page, as shown:



5. Click "Browse...", choose fireware directory path, the format should be "FVB", then select "Update" to load the program.

6. If display "UPDATE FIREWARE..." in the device's LCD screen, it means it's in loading program status.

7. If display "UPDATE SUCCESS! PLEASE RESTART!"

Or display "Video Fireware Update Success!" on webpage, it means the program is loaded successfully, otherwise, it needs to reload.

8. Reboot the device and check the running state, then end the fireware update.

How to Install the SDI Optional Module

The VSP 9516S can be modified to install or remove optional boards that change the input and/or output formats that the processor can process. We will introduce " How to Install the SDI Optional Module" in the following parts, specific steps are as follows:

1. Take Apart the VSP 9516S
2. Install the SDI Optional Module
3. Assemble the VSP 9516S

Part 1: Take Apart the VSP 9516S

Specific steps are as follows:

1. Disconnect the AC power cord from the VSP 9516S to remove power from the unit.

Warning: To prevent electric shock, always unplug the VSP 9516S from the AC power source before opening the enclosure.

2. Disconnect all signal and control cables.
3. Remove the 7 screws on the top cover (Figure 1).

(Figure 1)

4. Remove all the screws on the back panel .

5. Lift the top cover and back panel.

Caution: Do not touch any electronic components inside the VSP 9516S. Doing so could damage the processor. Electrostatic discharge (ESD) can damage IC chips even though you cannot feel it. You must be electrically grounded before proceeding with maintenance. A grounding wrist strap is recommended.

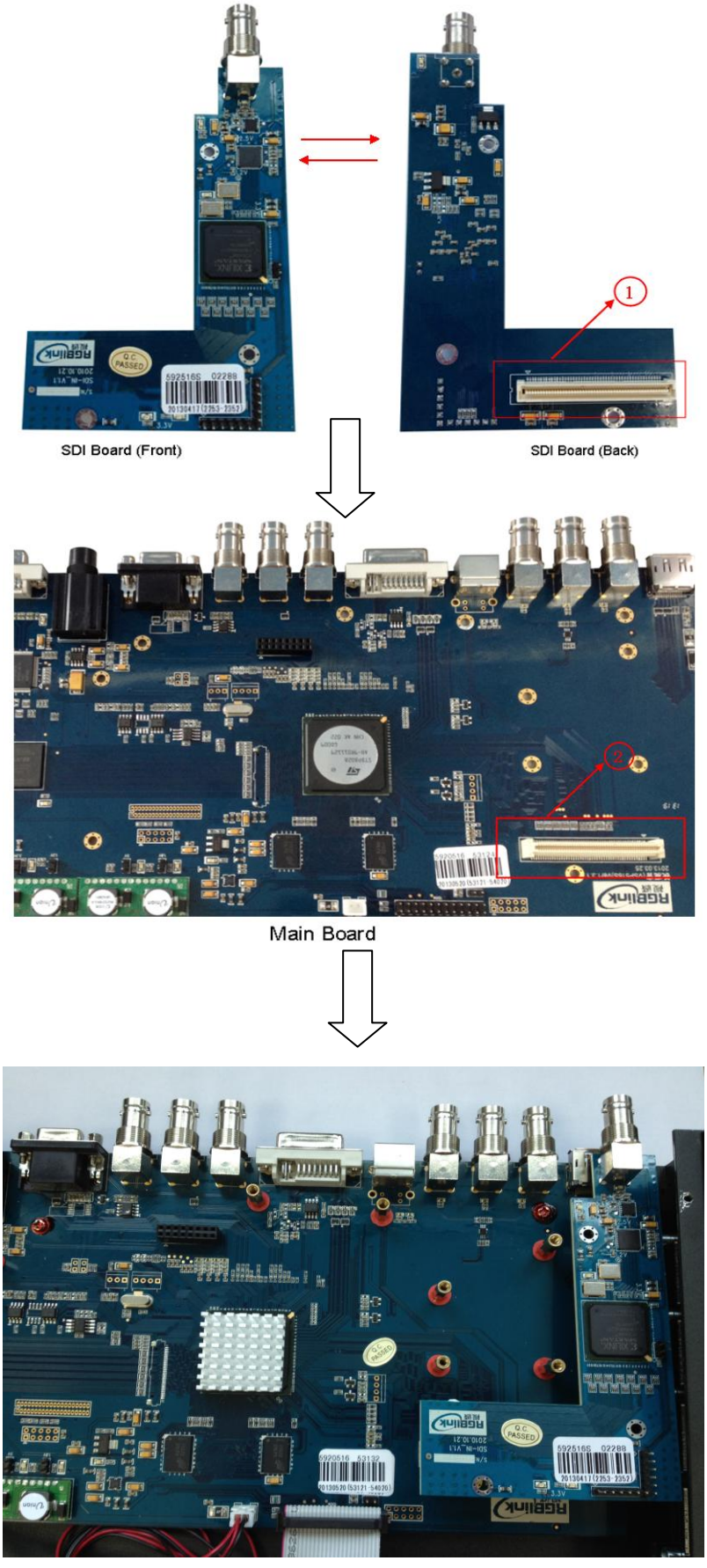
6. Perform the desired maintenance procedure. See “Install the SDI Optional Module” in Part 2.

Part 2: Install the SDI Optional Module

Install an optional SDI input board in the VSP 9516S as follows:

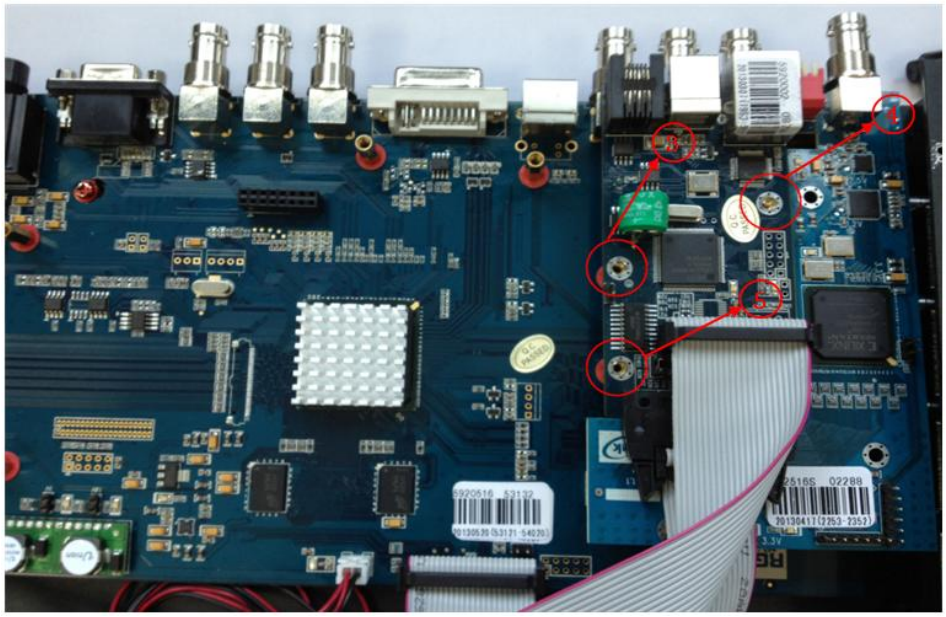
Warning: Changes to electronic components must be performed by authorized service personnel only.

1. Open the processor. See “Take Apart the VSP 9516S” in Part 1.
2. On the main board port 2, locate SDI input board port 1, align and gently apply pressure to mate input board with main board, as shown in Figure 2.



(Figure 2)

3. Locate the Gigabit network board port 3, 4, 5 into the main board, tighten the screws, as shown in Figure 3.



(Figure 3)

4. Close and install the processor again, see “Assemble the VSP 9516S” in Part 3.

Part 3: Assemble the VSP 9516S

Specific steps are as follows:

1. Secure the back panel with the screws.
2. Replace the top cover on the VSP 9516S.
3. Fasten it with the screw that were removed in “Take Apart the VSP 9516S” part.
4. If need, reconnect all cables.