VSP 3500

User Manual

- Manual #: RGB-RD-UM-V3500 E001
- Revision: V1.0

RGBlink

VSP 3500·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

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

Note

Highlights an essential operating procedure, condition or statement.

CAUTION

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

Change History

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

Format	Time	ECO#	Description	Principal
1.0	2013-07-11	0000	Release	Vira

CONTENT

1. Introduction

This chapter is designed to introduce you to the VSP 3500 User Manual. Areas to be covered are:

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

Chapter Structure

The following chapters provide instructions for all aspects of VSP 3500 operations:

Chapter 1 Introduction

Chapter 2 Hardware Orientation

Chapter 3 Hardware Installation

Chapter 4 Menu Orientation

Chapter 5 Communication Software Guideline

Chapter 6 System Setup and Operations

Chapter 7 Common Questions and Solution

Appendix A Specification

Appendix B Contact information

Appendix C Software Upgrade

How to Use This Guide

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

Navigating

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

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

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

Table of Contents and Index

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

General Operations

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

- For detailed installation instructions, refer to chapter 3 “Hardware Installation” on page 44.
- For communication software control guide, refer to Chapter 5, “Communication Software Control Guide” on page 53.
- For system setup and operations, refer to Chapter 6, “System Setup and Operations” on page 84.

Should you have any questions regarding the installation or operation of VSP 3500, please consult with the factory. Refer to Appendix B, on page 107 for “Contact information”.

Terms and Definitions

The following terms and definitions are used throughout this guide;

- **"ASCII":** American Standard for Information Interchange. The standard code consisting of 7-bit coded characters (8 bits including parity check) used to exchange information between data processing systems, data communication systems, and associated equipment. The ASCII set contains control characters and graphic characters.
- **"Aspect ratio":** The relationship of the horizontal dimension to the vertical dimension of an image. In viewing screens, standard TV is 4:3, or 1.33:1; HDTV is 16:9, or 1.78:1. Sometimes the ":1" is implicit, making TV = 1.33 and HDTV = 1.78.
- **"AV":** Audio visual, or audio video.
- A **"Background"** is an unscaled source, typically originating from a computer. Abackground source appears at the system's lowest priority — visually in back of all other sources.
- **"Baudrate"：** Named of J.M.E. Baudot, the inventor of the Baudot telegraph code. The number of the electrical oscillations per second, called baud rate. Related to, but not the same as, transfer rate in bits per second (bps).
- **"Blackburst":** The video waveform without the video elements. It includes the vertical sync, horizontal sync, and the chroma burst information. Blackburst is used to synchronize video equipment to align the video output. One signal is normally used to set up an entire video system or facility. Sometimes it is called House sync.
- **"BNC":** Bayonet Neill-Concelman. A cable connector used extensively in television and named for its inventors. A cylindrical bayonet connector that operates with a twist-locking motion. To make the connection, align the two curved grooves in the collar of the male connector with the two projections on the outside of the female collar, push, and twist. This allows the connector to lock into place without tools.
- **"Brightness":** Usually refers to the amount or intensity of video light produced on a screen without regard to color. Sometimes called "black level.
- "**CAT 5**"**:** Category 5. Describes the network cabling standard that consists of four unshielded twisted pairs of copper wire terminated by RJ-45 connectors. CAT 5 cabling supports data rates up to 100 Mbps. CAT 5 is based on the EIA/TIA 568 Commercial Building Telecommunications Wiring Standard.
- **"Color bars":** A standard test pattern of several basic colors (white, yellow, cyan, green, magenta, red, blue, and black) as a reference for system alignment and testing. In NTSC video, the most commonly used color bars are the SMPTE standard color bars. In PAL video, the most commonly used color bars are eight full field bars. In the computer, the most commonly used color bars are two rows of reversed color bars.
- **"Color burst":** In color TV systems, a burst of subcarrier frequency located on the back porch of the composite video signal. This serves as a color synchronizing signal to establish a frequency and phase reference for the chroma signal. Color burst is 3.58 MHz for NTSC and 4.43 MHz for PAL.
- **"Color temperature":** The color quality, expressed in degrees Kelvin(K), of a light source. The higher the color temperature, the bluer the light. The lower the temperature, the redder the light. Benchmark

color temperature for the A/V industry include 5000°K, 6500°K, and 9000°K.

- **"Contrast ratio":** The radio of the high light output level divided by the low light output level. In theory, the contrast radio of the television system should be at least 100:1, if not 300:1. In reality, there are several limitations. In the CRT, light from adjacent elements contaminate the area of each element. Room ambient light will contaminate the light emitted from the CRT. Well-controlled viewing conditions should yield a practical contrast ratio of 30:1 to 50:1.
- **"DVI":** Digital Visual Interface. The digital video connectivity standard that was developed by DDWG (Digital Display Work Group). This connection standard offers two different connectors: one with 24 pins that handles digital video signals only, and one with 29 pins that handles both digital and analog video.
- **"EDID":** Extended Display Identification Data – EDID is a data structure used to communicate video display information, including native resolution and vertical interval refresh rate requirements, to a source device. The source device will then output the optimal video format for the display based on the provided EDID data, ensuring proper video image quality. This communication takes place over the DDC – Display Data Channel.
- **"Ethernet":** A Local Area Network (LAN) standard officially known as IEEE 802.3. Ethernet and other LAN technologies are used for interconnecting computers, printers, workstations, terminals, servers, etc. within the same building or campus. Ethernet operates over twisted pair and over coaxial cable at speeds starting at 10Mbps. For LAN interconnectivity, Ethernet is physical link and data link protocol reflecting the two lowest layers of the OSI Reference Model.
- **"Frame":** In interlaced video, a frame is one complete picture. A video frame is made up of two fields, or two sets of interlaced lines. In a film, a frame is one still picture of a series that makes up a motion picture.
- **"Gamma":** The light output of a CRT is not linear with respect to the voltage input. The difference between what you should have and what is actually output is known as gamma.
- **"HDMI" - High – Definition Multimedia Interface:** An interface used primarily in consumer electronics for the transmission of uncompressed high definition video, up to 8 channels of audio, and control signals, over a single cable. HDMI is the de facto standard for HDTV displays, Blu-ray Disc players, and other HDTV electronics. Introduced in 2003, the HDMI specification has gone through several revisions.
- **"HDSDI":** The high-definition version of SDI specified in SMPTE-292M. This signal standard transmits audio and video with 10 bit depth and 4:2:2 color quantization over a single coaxial cable with a data rate of 1.485 Gbit/second. Multiple video resolutions exists including progressive 1280x720 and interlaced 1920x1080 resolution. Up to 32 audio signals are carried in the ancillary data.
- **"JPEG" (Joint photographic Expects Group):** Commonly used method of lossy compression for photographic images using a discreet cosine transfer function. The degree of compression can be adjusted, allowing a selectable tradeoff between storage size and image quality. JPEG typically achieves 10:1 compression with little perceptible loss in image quality. Produces blocking artifacts.
- **"MPEG":** Motion Picture Expect Group. A standard committee under the auspices of the International Standards Organization working on

algorithm standards that allow digital compression, storage and transmission of moving image information such as motion video, CD-quality audio, and control data at CD-ROM bandwidth. The MPEG algorithm provides inter-frame compression of video images and can have an effective compression rate of 100:1 to 200:1.

- **"NTSC":** The color video standard used in North America and some other parts of the world created by the National Television Standards Committee in the 1950s. A color signal must be compatible with black-and-white TV sets. NTSC utilizes an interlaced video signals, 525 lines of resolution with a refresh rate of 60 fields per second (60 Hz). Each frame is comprised of two fields of 262.5 lines each, running at an effective rate of 30 frames per second.
- **"Operator":** Refers to the person who uses the system.
- **"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.
- **"PIP":** Picture-in-Picture. A small picture within a larger picture created by scaling down one of the images to make it smaller. Each picture requires a separate video source such as a camera, VCR, or computer. Other forms of PIP displays include Picture-by-Picture (PBP) and Picture-with-Picture (PWP), which are commonly used with 16:9 aspect display devices. PBP and PWP image formats require a separate scaler for each video window.
- **"Polarity":** The positive and negative orientation of a signal. Polarity usually refers to the direction or a level with respect to a reference (e.g. positive sync polarity means that sync occurs when the signal is going in the positive direction).
- **"RJ-45":** Registered Jack-45. A connector similar to a telephone connector that holds up to eight wires, used for connecting Ethernet devices.
- "**RS-232":** An Electronic Industries Association (EIA) serial digital interface standard specifying the characteristics of the communication path between two devices using either DB-9 or DB-25 connectors. This standard is used for relatively short-range communication and does not specify balanced control lines. RS-232 is a serial control standard with a set number of conductors, data rate, word length, and type of connector to be used. The standard specifies component connection standards with regard to the computer interface. It is also called RS-232-C, which is the third version of the RS-232 standard, and is functionally identical to the CCITT V.24 standard.
- **"Saturation":** Chroma, chroma gain. The intensity of the color, or the extent to which a given color in any image is free from white. The less white in a color, the truer the color or the greater its saturation. On a

display device, the color control adjusts the saturation. Not to be confused with the brightness, saturation is the amount of pigment in a color, and not the intensity. Low saturation is like adding white to the color. For example, a low-saturated red looks pink.

- **“Scaling”:** A conversion of a video or computer graphic signal from a starting resolution to a new resolution. Scaling from one resolution to another is typically done to optimize the signal for input to an image processor, transmission path or to improve its quality when presented on a particular display.
- **“SDI”:** Serial Digital Interface. The standard based on a 270 Mbps transfer rate. This is a 10-bit, scrambled, polarity independent interface with common scrambling for both component ITU-R 601 and composite digital video and four channels of (embedded) digital audio.
- **“Seamless Switching”:** A feature found on many video switchers. This feature causes the switcher to wait until the vertical interval to switch. This avoid a glitch (temporary scrambling) which normally is seen when switching between sources.
- **“SMPTE”:** Society of Motion Picture and Television Engineers. A global organization, based in the United States, that sets standards for baseband visual communications. This includes film as well as video and television standards.
- **“S-video”:** A composite video signal separated into the luma (“Y” is for luma, or black and white information; brightness) and the chroma (“C” is an abbreviation for chroma, or color information).
- **“Sync”:** Synchronization. In video, sync is a means of controlling the timing of an event with respect to other events. This is accomplished with timing pulses to insure that each step in a process occurs at the correct time. For example, horizontal sync determines exactly when to begin each horizontal scan line. Vertical sync determines when the image is to be refreshed to start a new field or frame. There are many other types of sync in video system.(Also known as “sync signal” or “sync pulse.”)
- **“TCP/IP”:** Transmission Control Protocol/Internet Protocol. The communication protocol of the Internet. Computers and devices with direct access to the Internet are provided with a copy of the TCP/IP program to allow them to send and receive information in an understandable form.
- **“USB”:** Universal Serial Bus. USB was developed by seven PC and telecom industry leaders (Compaq, DEC, IBM, Intel, Microsoft, NEC, and Northern Telecom). The goal was easy plug-and-play expansion outside the box, requiring no additional circuit cards. Up to 127 external computer devices may be added through a USB hub, which may be conveniently located in a keyboard or monitor. USB devices

can be attached or detached without removing computer power. The number of devices being designed for USB continues to grow, from keyboards, mice, and printers to scanners, digital cameras, and ZIP drives.

- **“VESA”:** Video Electronics Standards Association. A nonprofit number organization dedicated to facilitating and promoting personal computer graphics through improved standards for the benefit of the end-user. www.vesa.org
- **“VGA”:** Video Graphics Array. Introduced by IBM in 1987, VGA is an analog signal with TTL level separate horizontal and vertical sync. The video outputs to a 15-pin HD connector and has a horizontal scan frequency of 31.5 kHz and vertical frequency of 70 Hz (Mode 1, 2) and 60 Hz (Mode 3). The signal is non-interlaced in modes 1, 2, and 3 and interlaced when using the 8514/A card (35.5 kHz, 86 Hz) in mode 4. It has a pixel by line resolution of 640×480 with a color palette of 16 bits and 256,000 colors.
- **“YCrCb”:** Used to describe the color space for interlaced component video.
- **“YPbPr”:** Used to describe the color space for progressive-scan (non-interlaced) component video.

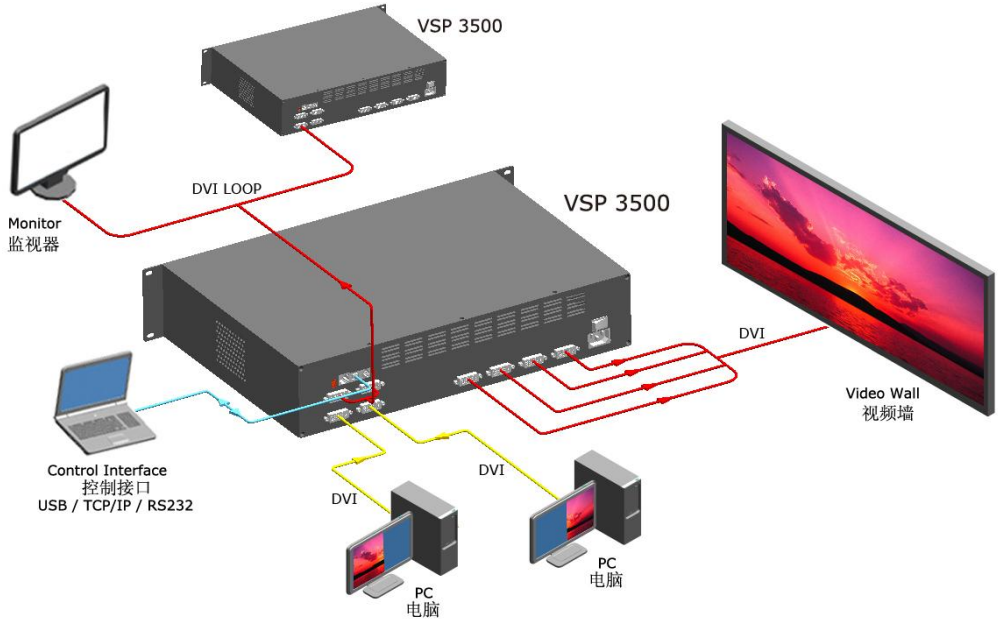
System Overview

The VSP 3500 is a dedicated seamless Video Wall Processor and it does have some features not found on any other models that make setup easier. VSP 3500 offer the advantage that when basic video wall control is not required, it can be used for scaling applications, and can setup as rotary possibility. In addition to local control via the front panel, control can be from the Windows Control Panel or the optional remote control panel.

The VSP 3500 is ideal for a wide range of applications requiring up to 4096*2304 resolution for rotary of high resolution content with the highest quality. Because of the remote control panel support and unprecedentedly super video processing functions, VSP 3500 supports full flexibility for rental and staging, and presentation.

Application Question

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



2. Hardware Orientation

In This Chapter

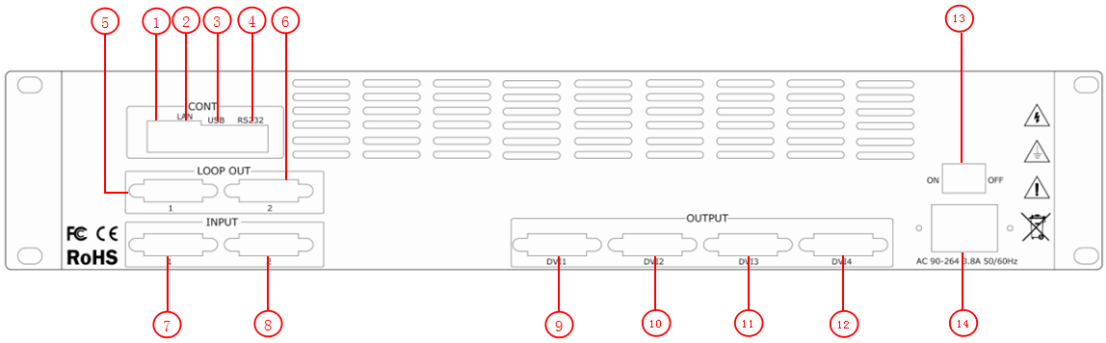
This chapter provides detailed information about the VSP 3500 hardware.

The following topics are discussed:

- VSP 3500 Back Panel
- VSP 3500 Front Panel
- VSP 3500 Front Panel Button Part

VSP 3500 Back Panel

The figure below illustrates the professional interface and control signals of VSP 3500 back panel:



NO.	INTERFACE	NO.	INTERFACE
1	Dial switch	5.6	DVI Loop Out
2	10/100M Interface	7.8	DVI Input
3	USB Interface	9~12	DVI Output
4	RS232 Interface	13.14	Switch and Power

INPUT

2 DVI input by DVI-I port.

7.8: DVI Input

DVI1/2 input. Support DVI from high definition player, DVD, PC. Through DVI-I port.

Input resolution:

SMPTE：1080P50, 1080P59.94/60,720p50,720p59.94/60；

VESA：

800×600×60/75/85Hz,1024×768×60/75/85Hz,1280×768×60/75/80Hz,1280x960x60/85Hz,1280×1024×60/75/85Hz,1360x768x60Hz,1366x768x60Hz,1400x1050x60Hz,1440x900x60Hz,1680x1050x60Hz,1600×1200×60Hz,1920x1200x60Hz,1920×1080×50/59.94/60Hz, 2048x1152x60Hz；

Note

DVI1,2 applies the standard DVI-I port, and is compatible with HDMI1.3.

5.6: DVI Loop Out

DVI loop out, can connect the next level VSP 3500 or the device with DVI loop out.

OUTPUT

9~12: DVI Output

DVI output. HDMI or DVI are output. It can connect to display system or LED screen through sending card.

Output resolution:

VESA：

1024×768×60Hz,1280×720×60Hz,1280×768×60Hz,1280×1024×60Hz,

1280x1280x60Hz,1440x900x60Hz,1600×1200×60Hz,1680x1050x60Hz,

1920×1080×60Hz,1920x1200x60H,2048x1152x60Hz,2560x816x60Hz.

CONT

1. Dial Switch

Switch down and it works normally. Switch up and it is ready for update.

2. 10/100M Interface

Remote control port for software.

3. USB Interface

Remote control port for software.

8. RS232 Interface

Remote control port for software.

Switch and Power

13. Switch

Switch on. It means power on;

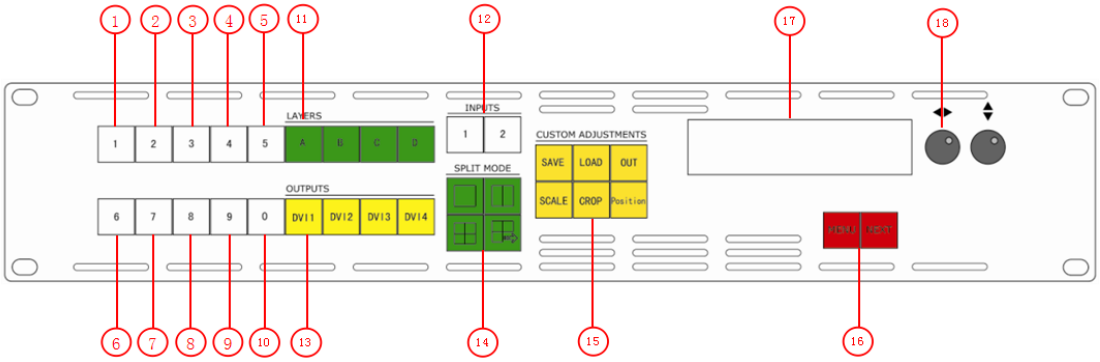
Switch off. It means power off.

14. Power Port

AC 90-264V 50/60Hz IEC-3 power interface

VSP 3500 Front Panel

Brief introduction of its front panel as the following picture:



NO.		NO.	
1~10	Number Keys	15	CUSTOM ADJUSTMENTS
11	LAYERS	16	Control Button
12	INPUTS	17	LCD Panel
13	OUTPUTS	18	Knob
14	SPLIT MODE		

Number Keys

Number keys 0 ~ 9 is used to save and load, and input the required number for SCALE, CROP, and POSITION directly.

For details, please confer to: Number Keys Part.

Layers

VSP 3500 supports 4 layers operation, that is layer A, B, C, D.

For details, please confer to: Layers Part.

Inputs

VSP 3500 support 2 inputs, button 1, 2.

For details, please confer to: Inputs Part..

Outputs

Buttons DVI1, DVI2, DVI3, DVI4 are corresponding to DVI output 1, 2, 3, 4 interface.

For details, please confer to: Outputs Part.

Layer Functions

Buttons LAYER FUNCTIONS is used for program layer A, B, C, D.

For details, please confer to: Layer Functions Part.

Split Mode

Used for split effects output.

For details, please confer to: Split Mode Part.

Custom Adjustments

Used for signal edit, save, output format selection, scale and so on.

For details, please confer to: Custom Adjustments Part.

Control Button

NEXT: push the button for current subordinate option or confirm;

MENU: push the button to go back to superior option;

For details, please confer to: Control Button Part

LCD Panel

Interactive menu for display button and communication;

For details, please confer to: LCD Panel Part

Knob

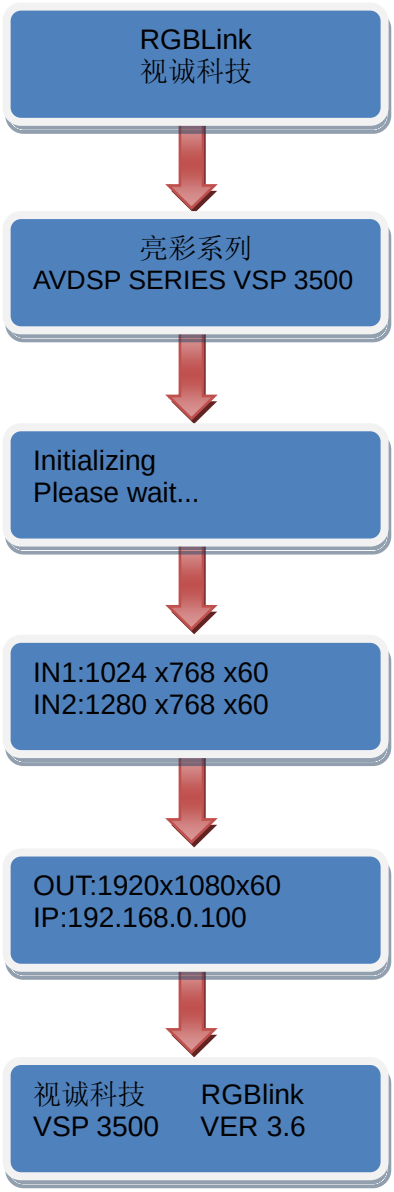
Rotate the knob to adjust the option menu shown on the LCD panel;

For details, please confer to: Knob Part

VSP 3500 Front Panel Button Part

Plug power and push to ON. LCD module on the front panel will show RGBLINK and go into self verification before it load last setting config and send processed image to the target monitor. For the first setup, DVI input is default source. With front panel keyboard, user can operate UVM 360 through the menus on LCD panel.

VSP 3500 front panel as shown in figure:

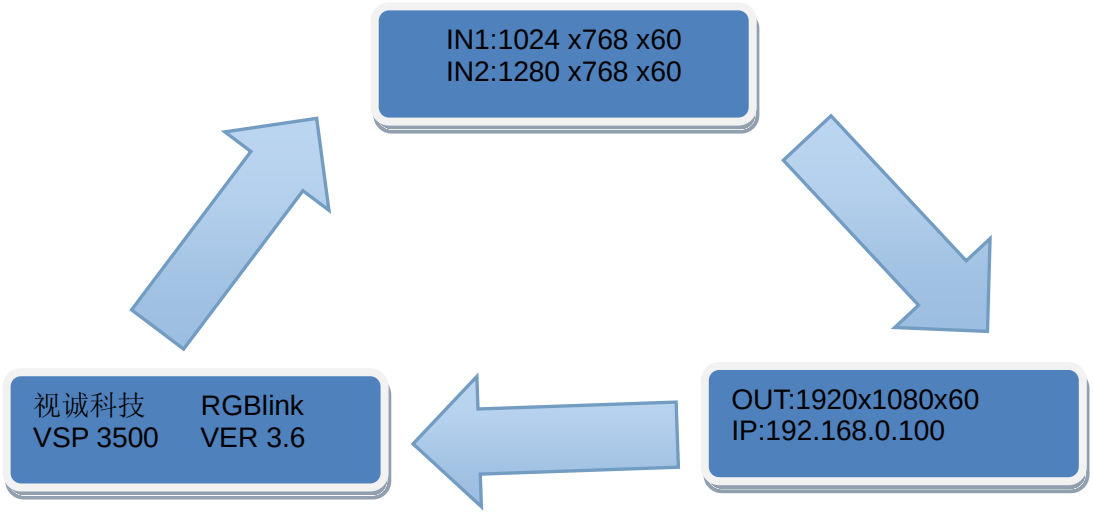


2. Hardware Orientation

VSP 3500 Front Panel Button Part

Into the cycle:

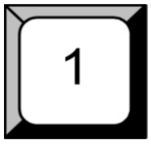
When in to the cycle, it shows the current input format, preview, the current output format, the current software information, the current device serial number. User have the device serial number will acquire more effective service and support.



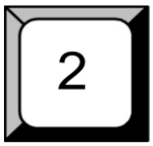
2. Hardware Orientation

VSP 3500 Front Panel Button Part

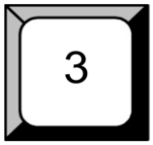
Number Keys Part



1: Number Key 1. Press SAVE, LOAD, SCALE, CROP and POSITION key, The light lights, user can choose SAVE to 1 or LOAD from 1, or input number 1 directly.

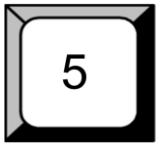


2: Number Key 2. Press SAVE, LOAD, SCALE, CROP and POSITION key, The light lights, user can choose SAVE to 2 or LOAD from 2, or input number 2 directly.

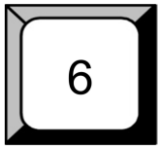


3: Number Key 3. Press SAVE, LOAD, SCALE, CROP and POSITION key, The light lights, user can choose SAVE to 3 or LOAD from 3, or input number 3 directly.

4: Number Key 4. Press SAVE, LOAD, SCALE, CROP and POSITION key, The light lights, user can choose SAVE to 4 or LOAD from 4, or input number 4 directly.



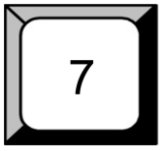
5: Number Key 5. Press SAVE, LOAD, SCALE, CROP and POSITION key, The light lights, user can choose SAVE to 5 or LOAD from 5, or input number 5 directly.



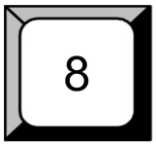
6: Number Key 6. Press SAVE, LOAD, SCALE, CROP and POSITION key, The light lights, user can choose SAVE to 6 or LOAD from 6, or input number 6 directly.

2. Hardware Orientation

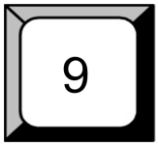
VSP 3500 Front Panel Button Part



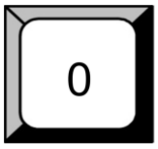
7: Number Key 7. Press SAVE, LOAD, SCALE, CROP and POSITION key, The light lights, user can choose SAVE to 7 or LOAD from 7, or input number 7 directly.



8: Number Key 8. Press SAVE, LOAD, SCALE, CROP and POSITION key, The light lights, user can choose SAVE to 8 or LOAD from 8, or input number 8 directly.

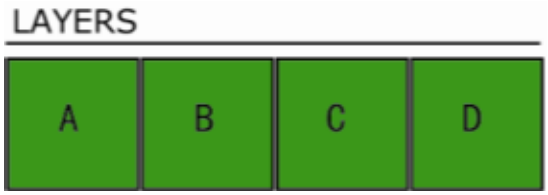


9: Number Key 9. Press SAVE, LOAD, SCALE, CROP and POSITION key, The light lights, user can choose SAVE to 9 or LOAD from 9, or input number 9 directly.



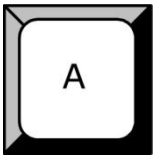
0: Number Key 0. Press SAVE, LOAD, SCALE, CROP and POSITION key, The light lights, user can choose SAVE to 10 or LOAD from 10, or input number 0 directly.

Layers Part



VSP 3500 supports 4 layers processing. Buttons A, B, C, D are corresponding to DVI1, DVI2, DVI3, DVI4. Buttons light mean they are selected;

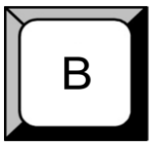
For details, please confer to: How to edit and define layer?



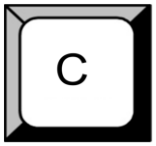
A: Layer A. It lights means being selected and brinks means can be programmed;

2. Hardware Orientation

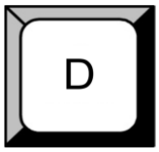
VSP 3500 Front Panel Button Part



B: Layer B. It lights means being selected and brinks means can be programmed;



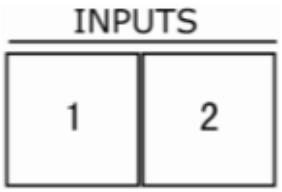
C: Layer C. It lights means being selected and brinks means can be programmed;

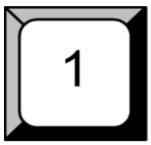


D: Layer D. It lights means being selected and brinks means can be programmed;

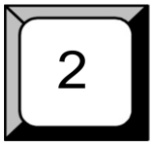
Push A-D button, LCD panel will display as follows (select A)：

Inputs Part



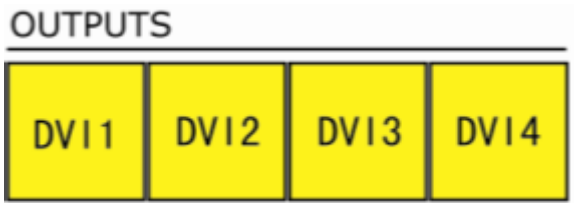


1: Channel 1. The light lights means it is selected.



2: Channel 2. The light lights means it is selected.

Outputs Part



VSP 3500 supports 4 outputs. OUTPUTS buttons DVI1, DVI2, DVI3, DVI4 are corresponding to the output ports DVI1, DVI2, DVI3, DVI4 in back panel. Button lights show its corresponding output are selected.

For details, please refer to: How to edit and define outputs?

Note

OUTPUTS Button DVI1 corresponding DVI1 is the default as output.

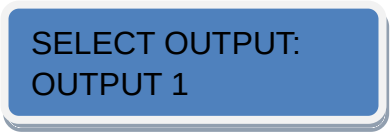
DVI1: It is corresponding to DVI1 on back panel. It lights means being selected;

DVI2: It is corresponding to DVI2 on back panel. It lights means being selected;

DVI3: It is corresponding to DVI3 on back panel. It lights mean being selected;

DVI4: It is corresponding with DVI4 on back panel. It lights means being selected;

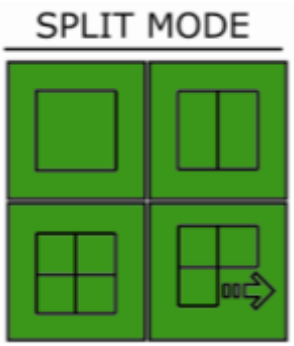
Push DVI1-DVI4, LCD panel will display as follows (select DVI 1):



2. Hardware Orientation

VSP 3500 Front Panel Button Part

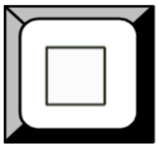
Split Mode Part



Split effect button, press it and it lights, it can achieve split effects, that is VSP 3500 4 outputs are in the form of output split. Single equipment can be set at max,: 2048x4*1152 or 2048*1152x4 or 2048x2*1152x2, it is mainly suitable for LED screen users.

For details, please refer to: How to achieve split function, How to set picture size in split effects?

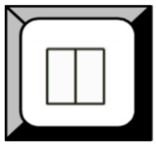
VSP 3500 provides 8 kinds of split modes as follows:



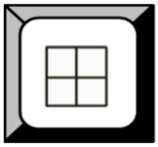
Split Mode 1: STRAIGHT Mode

2. Hardware Orientation

VSP 3500 Front Panel Button Part



Split Mode 2: HORIZONTAL 1/2



Split Mode 3: FIELD GLYPH

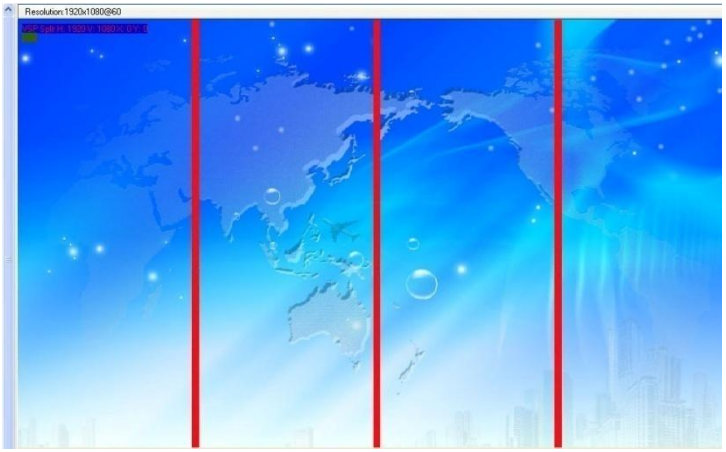
Other split modes, including the following:

Split Mode 4: VERTICAL 1/2

2. Hardware Orientation

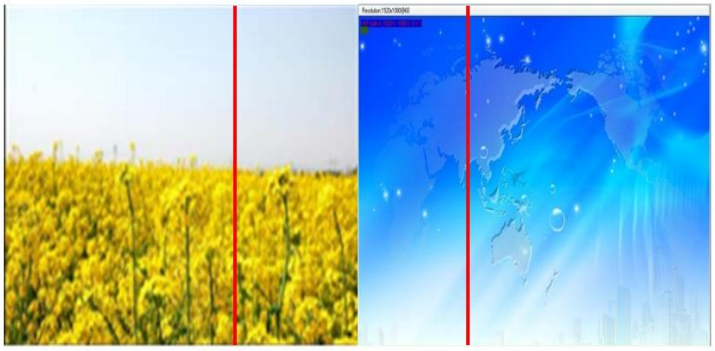
VSP 3500 Front Panel Button Part

Split Mode 5: HORIZONTAL 1/4



Split Mode 6: VERTICAL 1/4

Split Mode 7: 2 IN 3 OUT

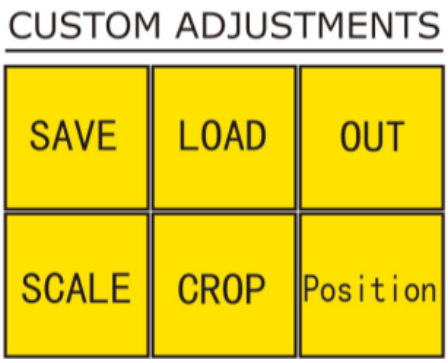


2. Hardware Orientation

VSP 3500 Front Panel Button Part

Split Mode 8: 2 IN 4 OUT

Custom Adjustments Part



CUSTOM ADJUSTMENTS set function shortcut button for users, shortcut button is the most commonly used functions for users , shortcut setting the most frequent use function for the convenience of customers operate.

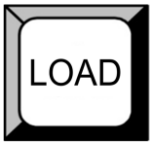
SAVE: press the key to save the user data, and meanwhile button 0~9 light, choose the corresponding position and save.

SAVE TO 1 ~SAVE TO 9 corresponding button 1~9, SAVE TO 10 corresponding button 0.

For details, please refer to: How to save the current setting parameters?

2. Hardware Orientation

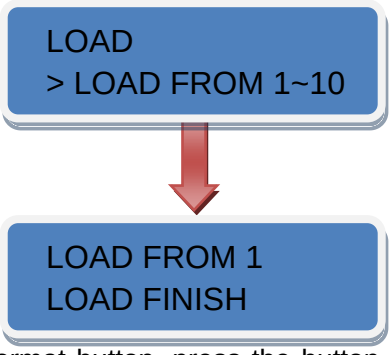
VSP 3500 Front Panel Button Part

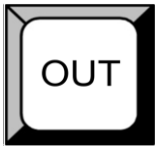


Load: press the button to load the saved user data, and meanwhile button 0~9 light, choose the corresponding position to load.

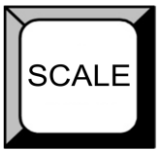
LOAD FROM 1~LOAD FROM 9 corresponding button 1~9, LOAD FROM 10 corresponding button 0.

For details, please refer to: How to load the saved parameters?

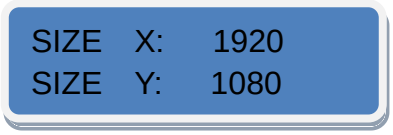




OUT: Output format button, press the button, key lights, and enter the current output format, user can select different output formats by rotating the left-right knob.



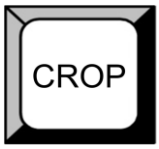
SCALE: Scale button, press the button, key lights, the user can adjust the size of selected layer image currently by using the up-down and left-right knob. It is subject to button A, B, C, D key light when select the current layer. For details, please refer to: How to scale the layer image?



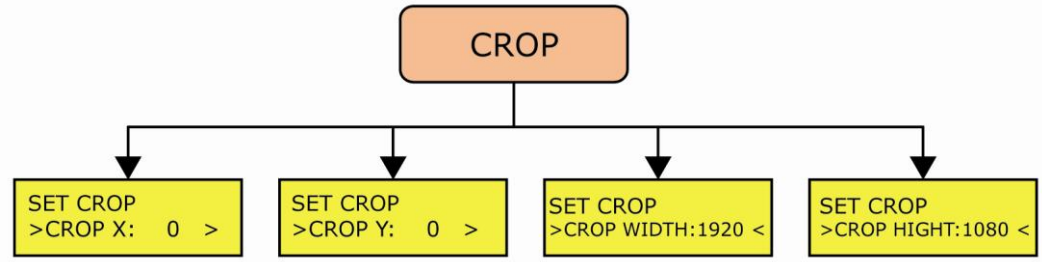
2. Hardware Orientation

VSP 3500 Front Panel Button Part

Users can change the screen size and position easily by changing the digital setting parameters. It is mainly suitable for the LED large screen users.

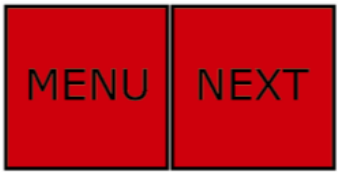


CROP: Crop button, press it and it lights, users can crop the current selected layer image through the up-down and left-right sides knob, and can adjust the crop position, size, the current selected layer is subject to button A, B, C, D. For details, please refer to: How to crop the layer image?



Position: Image position adjustment button, press it and it lights, users can adjust the selected layer image through the up-down and left-right knob, the current selected layer is subject to button A, B, C, D. For details, please refer to: How to set the position of layer image?

Control Button Part

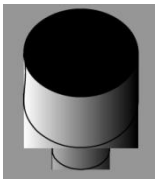


Menu, confirm button, press it to return to the superior option; when it is used as menu key, it includes menu content as follows: DEV INFO, INPUT

CONFIG, OUTPUT CONFIG, LAYER CONFIG, RESET. Users can adjust the needed install option combined with knob according to need.

Confirm button or lower key, press the key to confirm options or enter-out the current options.

Knob Part



Up-down knob: rotate the knob, you can adjust menu page or function option on the control LCD panel.
Left-right knob: rotate the knob, you can adjust menu page concrete numerical value or numerical value of function options on the control LCD panel.

LCD Panel Part

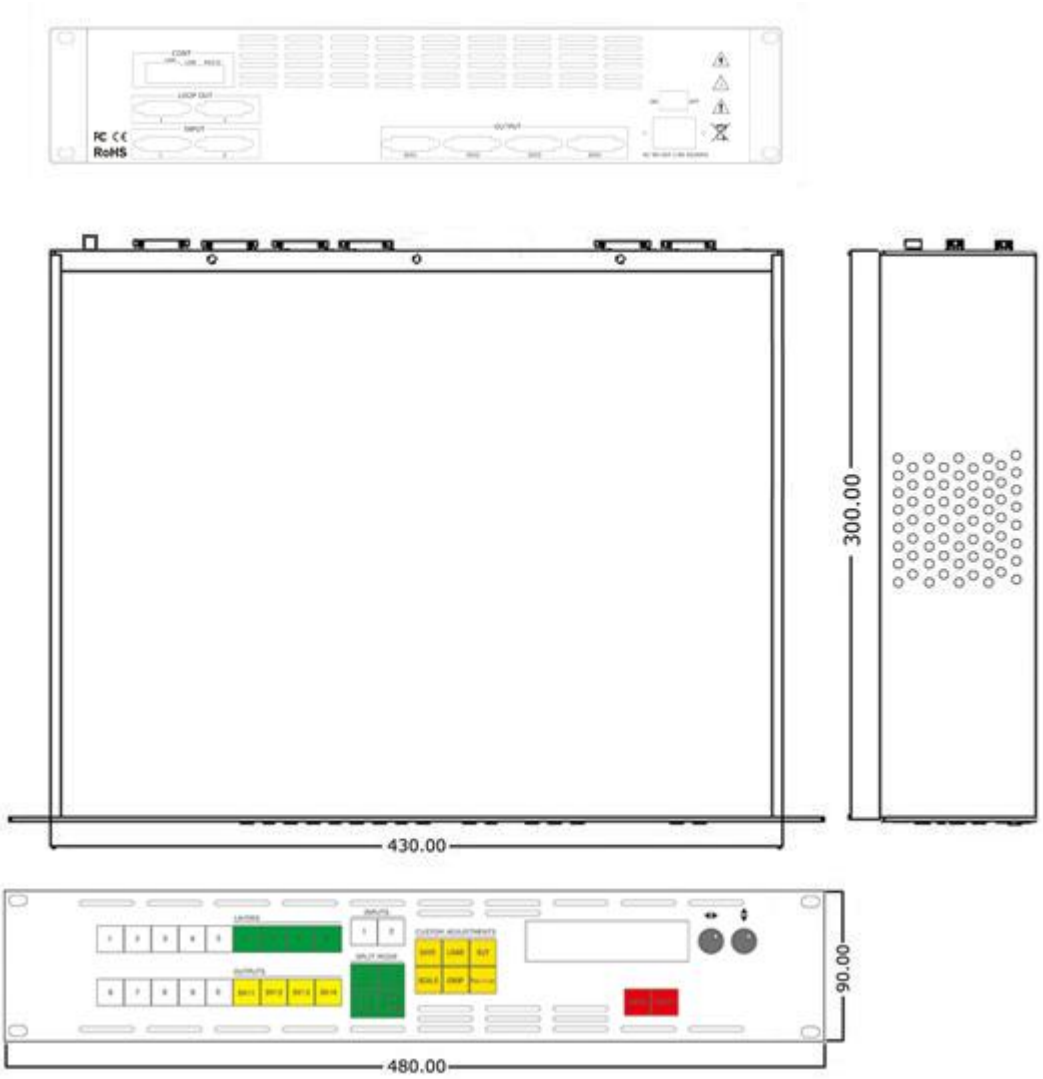
Used as interactive menu of display buttons and communication.

3. Hardware Installation

In This Chapter

This chapter provides comprehensive installation instruction for VSP 3500 hardware:

Following is the size of VSP 3500 for your reference:



Safety Precautions

For all VSP 3500 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 through 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 3500 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 3500 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 3500 processor menus, including how they are accessed, the functions that are available, and descriptions of each menu tree (in block diagram format).

The following topics are discussed:

- **MENU**
  - DEV INFO
  - INPUT CONFIG
  - OUTPUT CONFIG
  - LAYER CONFIG
  - VIEW
  - SYSTEM
  - RESET

4. Menu Orientation

MENU

MENU

Press MENU button to enter the main MENU;

Rotate UP/DOWN knob to browse level 1 menu;

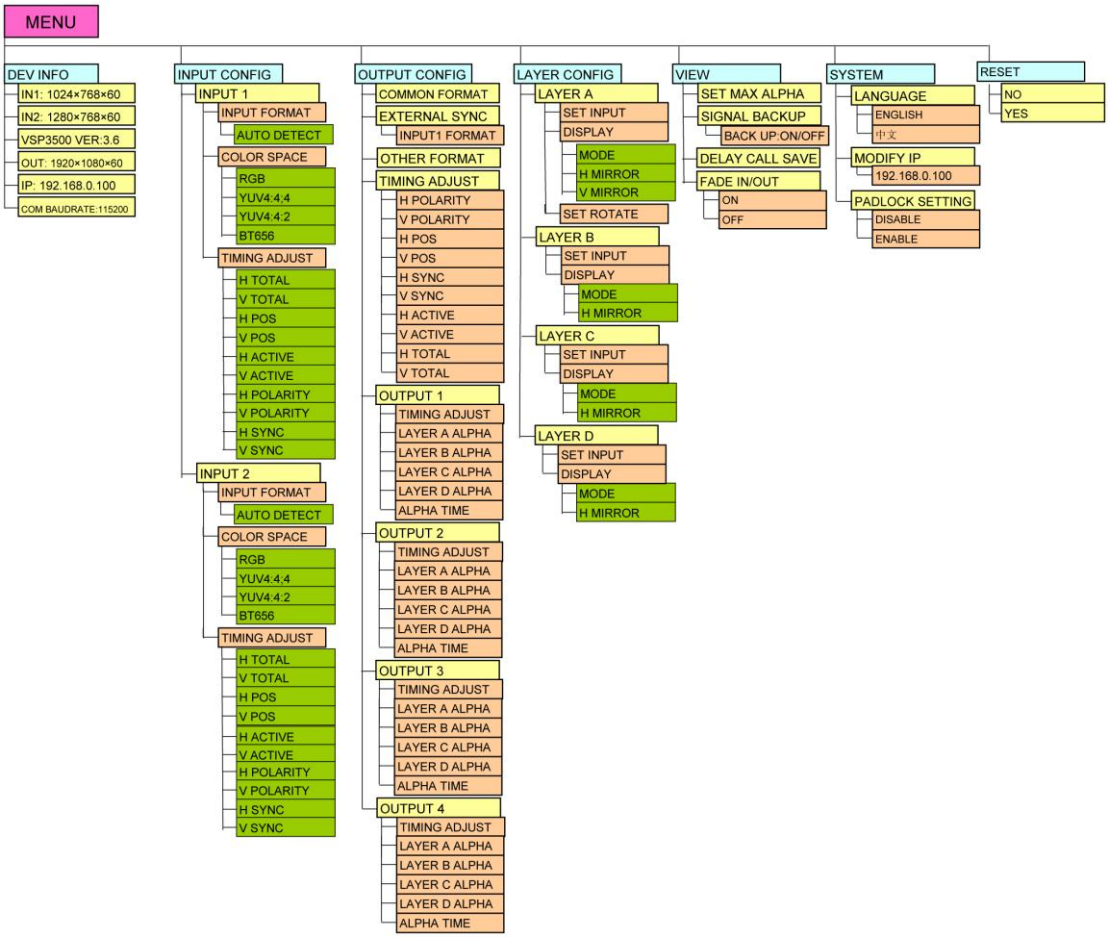
Press NEXT to level 2 menu.

Repeat above operations can access to level 3 and level 4 menu ;

Rotate LEFT/RIGHT knob to set and adjust for the current menu;

Again press MENU to return to the superior MENU;

VSP 3500 menu tree are as follows:

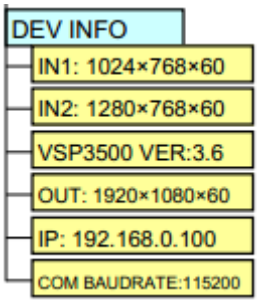


4. Menu Orientation

MENU

DEV INFO

Select Dev Info, pressing NEXT, It will show the information of input and output video signals. As picture above, running the knob switch can check preview output format, output format, program version, the current device IP address and baud rate;



INPUT CONFIG

Select Input Config (Input configuration), press NEXT, rotate LEFT/RIGHT knob can set the input format.

INPUT FORMAT: Input resolution choice, VSP 3500 support 56 kinds of resolutions, specific as follows:

720x480x60,720x576x50,1280x720x60,1280x720x59.94,1280x720x50, 1280x720x30, 1280x720x29.97, 1280x720x25, 1280x720x24, 1280x720x23.98, 1920x1080x60, 1920x1080x59.94, 1920x1080x50, 1920x1080x30, 1920x1080x30s, 1920x1080x29.97, 1920x1080x29.9s, 1920x1080x25, 1920x1080x25s, 1920x1080x24, 1920x1080x24s, 1920x1080x23.98, 1920x1080x23.9s, 640x480x60, 640x480x75, 640x480x85, 800x600x60, 800x600x75, 800x600x85, 1024x768x60, 1024x768x75, 1024x768x85, 1280x1024x60, 1280x1024x75, 1280x1024x85, 1600x1200x60, 720x480x60i, 720x576x50i, 1920x1080x60i, 1920x1080x50i, 1152x864x75, 1280x768x60, 1280x960x60, 1280x960x85, 1360x768x60, 1366x768x60, 1400x1050x60, 1440x900x60, 2048x1152x60,1680x1050x60, 1920x1200x60,1600x1200x60_r, 1920x1080x60_r, 1440x900x60_r,

4. Menu Orientation

MENU

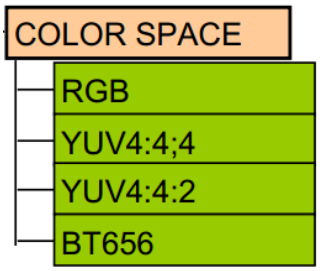
1680x1050x60_r,1400x1050x60_r.

AUTO DETECT: Auto detect input resolution, this option general choose ON open state, users will not need to choose manually, the equipment will read input resolution automatically.

Note

The system is default for ON state;

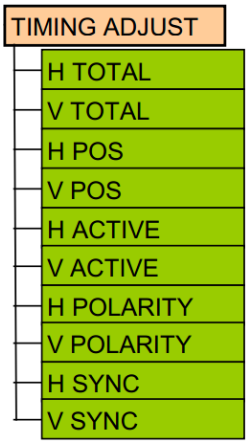
COLOR SPACE: Color space choice, specific includes 4 kinds as follows:



Note

When the image color of input signal source is not normal, it needed to regular.

TIMING ADJUST: Input image sequence settings;



Note

Adjust only permitted under the guidance of our engineers.

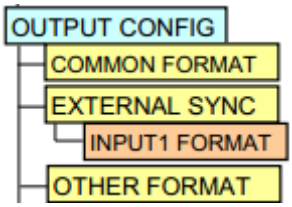
OUTPUT CONFIG

Select Output Config (output configuration), then press NEXT key, rotate

4. Menu Orientation

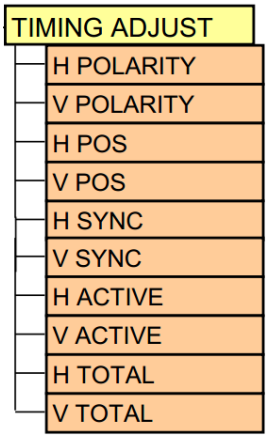
MENU

LEFT/RIGHT knob to set the following options separately:



OUTPUT FORMAT: Output resolution choice, VSP 3500 support 12 kinds of common and other for total 17 resolutions, specific as follows: 1024x768x60,1280x720x60, 1280x768x60, 1280x1024x60,1360x768x60, 1366x768x60,1400x1050x60, 1440x900x60, 1440x900x60_r, 1600x1200x60, 1600x1200x60_r,1680x1050x60, 1680x1050x60_r, 1920x1080x60, 1920x1080x60_r, 1920x1200x60,2048x1152x60.

TIMING ADJUST: Output image sequence settings;



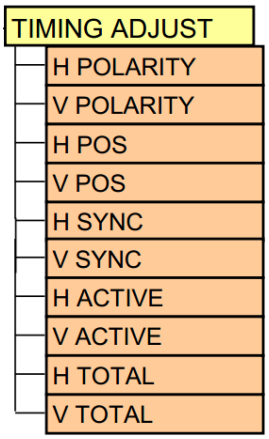
Note

Adjust only permitted under the guidance of our engineers.

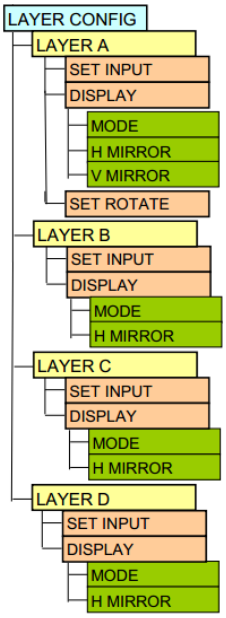
ALPHA：Set the current layer (A ~ D) image output transparency value (range from 0 to 128), and control switching speed between layers (range from 0 to 6000ms, namely 0 ~ 6s).

4. Menu Orientation

MENU



LAYER CONFIG



SET INPUT: Input selection, you can choose needed programming input 1, 2, after choosing, you can set display, rotate.

DISPLAY: Display Setting, you can set LIVE or FREEZE, H Mirror or V Mirror switch.

SET ROTATE: Rotate Setting, you can set image rotation and choose the image rotate to LEFT or rotate to RIGHT, and also can choose to OFF image rotation function.

VIEW

SET MAX ALPHA: Alpha value setting, the adjustable range is between

2~128.

SIGNAL BACKUP: Signal back up, user can choose ON/OFF. If one channel signal interrupted, the device will switch to next channel signal in ON station.

DELAY CALL SAVE: 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.

FADE IN/OUT: FADE IN/OUT effect, user can choose ON/OFF. If choose ON, it will first darken, and then get fade in fade out effect when save call. If choose OFF, it will directly get fade in fade out effect.

SYSTEM

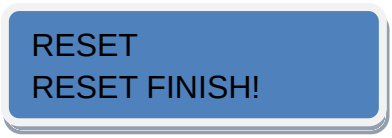
LANGUAGE: Through this option, user can choose Chinese or English according to their needs to operate the interface more quickly.

MODIFY IP.

PADLOCK SETTING: Key lock function, user can choose ON/OFF, and also can press MENU and NEXT button simultaneously to lock the key keyboard, press MENU and NEXT button simultaneously again can cancel the key lock function.

RESET

If select Reset, press NEXT to previously saved user-mode will be clear; and it will show as picture above:



5. Communication Software Guideline

In This Chapter

This chapter mainly introduce the control of communication software, mainly includes as follows:

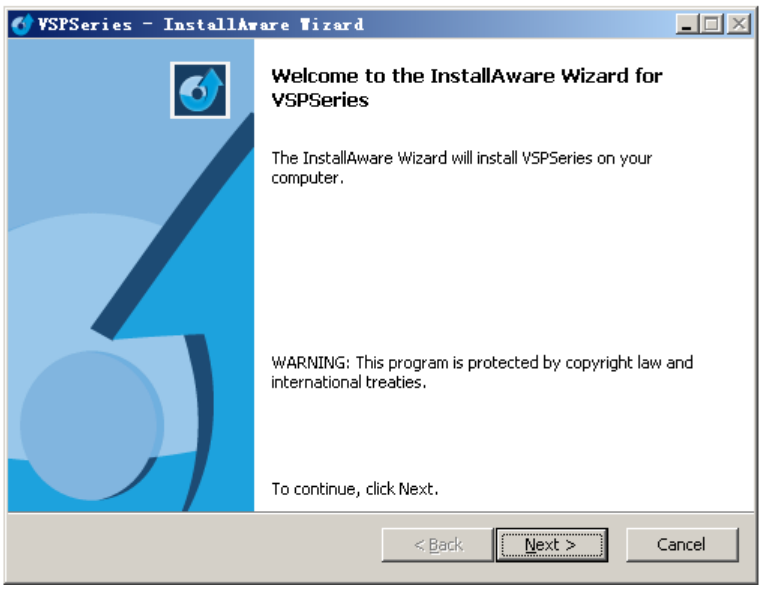
- Install Software
- Run Software
- How to control processor through RS232?
- How to control processor with console software by USB?

Install Software

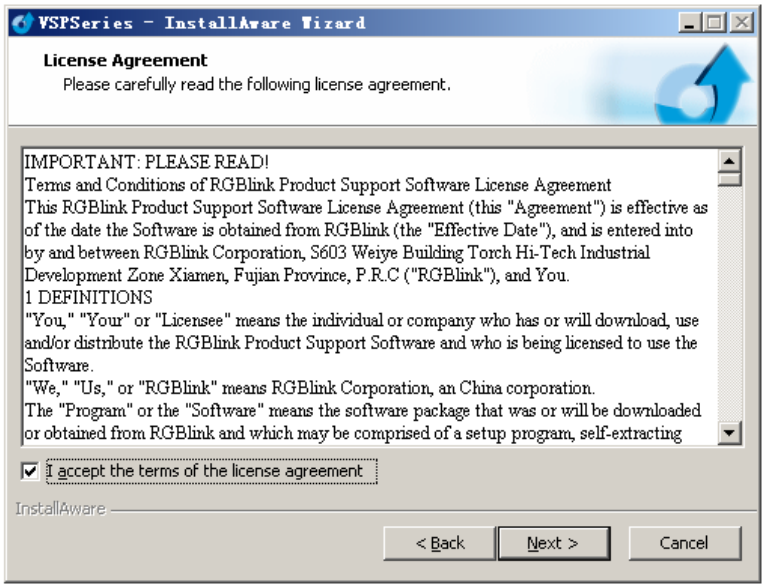
VSP 3500 video processor is very easy to be configured with user friendly communication software, support drag and drop operation for edit and display. Also it can be customized with schedule function.

Double click 

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

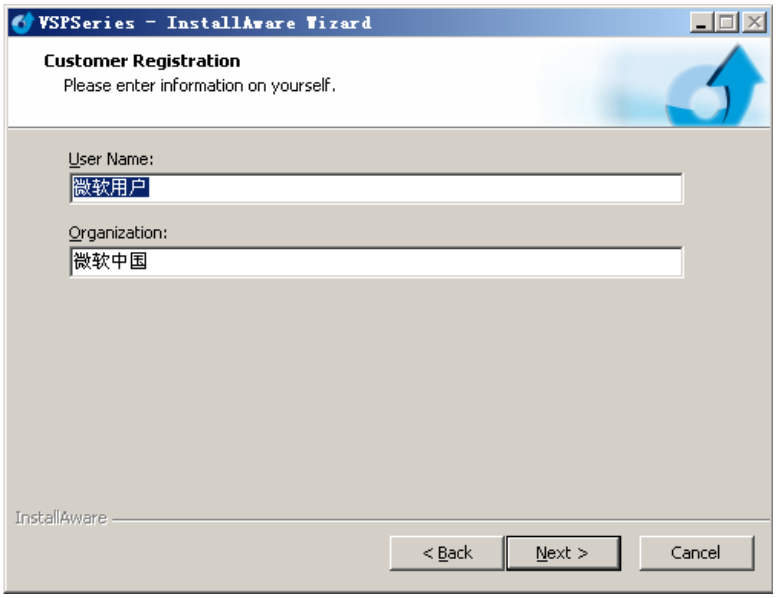


Please read the terms of service before you install VSP 3500 PC software, choose "Agree" to continue installation; Select "Disagree" will exit the installation, as shown in figure:

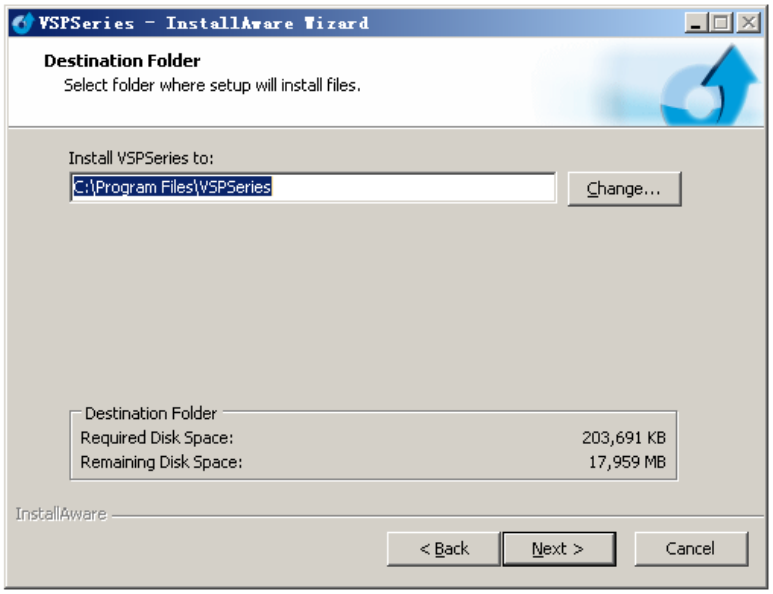


5. Communication Software Guideline

Install Software



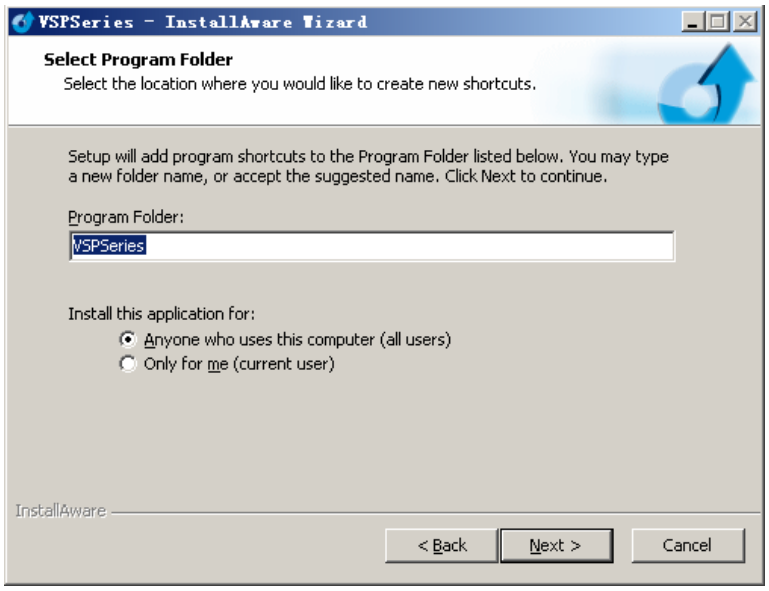
Users can choose installation path of the VSP 3500 PC software through the "Destination Directory", as shown in figure:



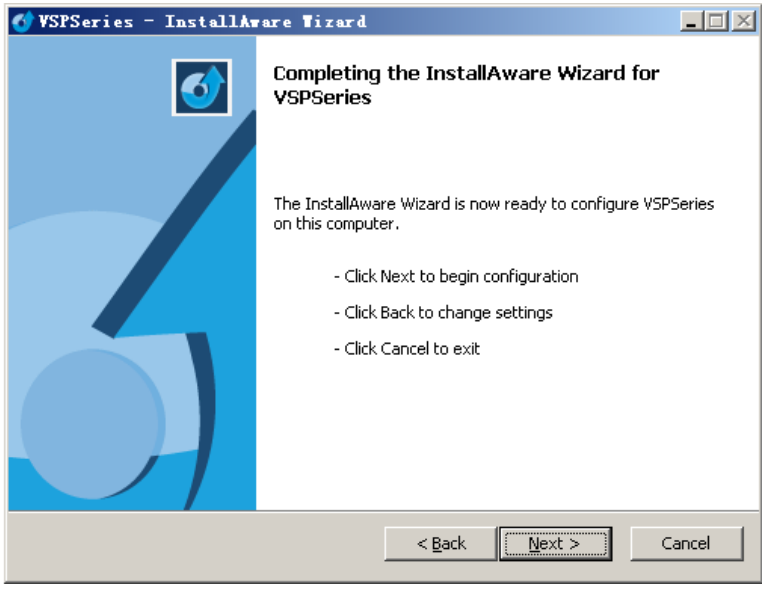
5. Communication Software Guideline

Install Software

Choose "Next" to continue installation, as shown in figure:



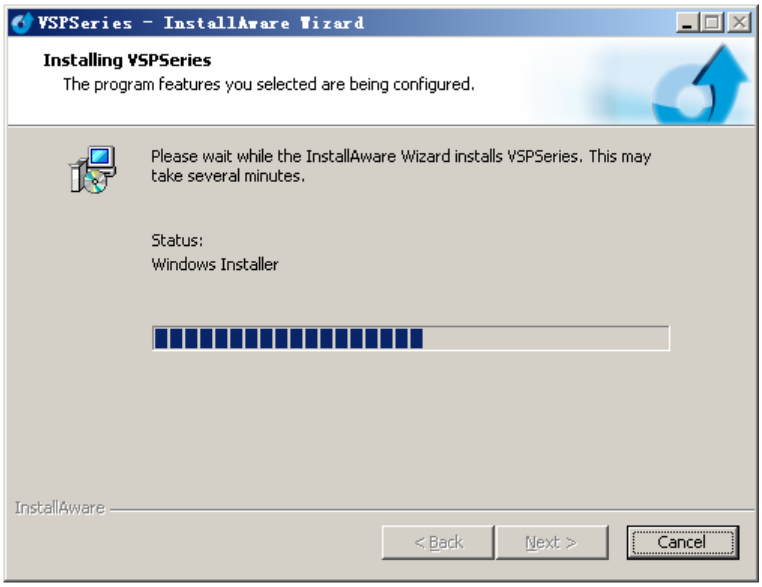
Choose "Next" to continue installation, as shown in figure:



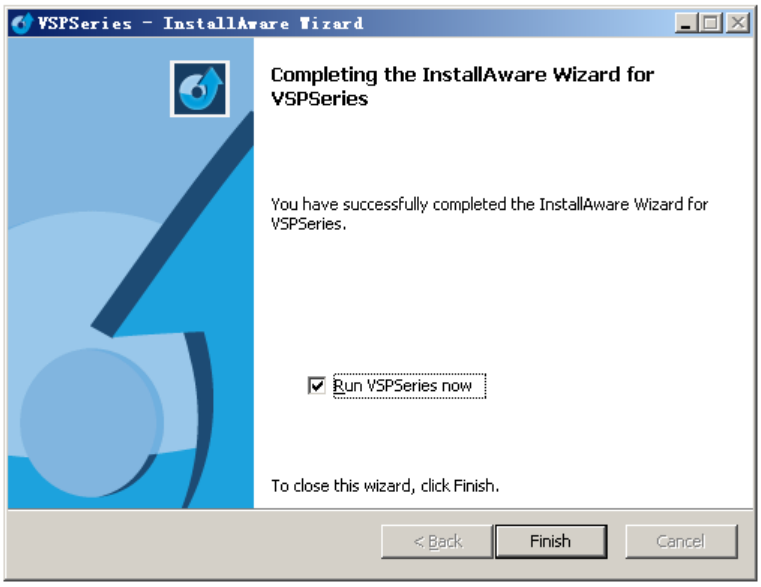
5. Communication Software Guideline

Install Software

Choose "Next" to continue installation, as shown in figure:



Click “Finish” and ready to run VSP 3500 console, as shown in figure:



Run Software

The user install VSP 3500 PC software in the random attached disk 

. Install the software to the specified directory according to the software prompt, the installation steps as follows: Run Software

Double-click on the desktop shortcut to operate and control software 

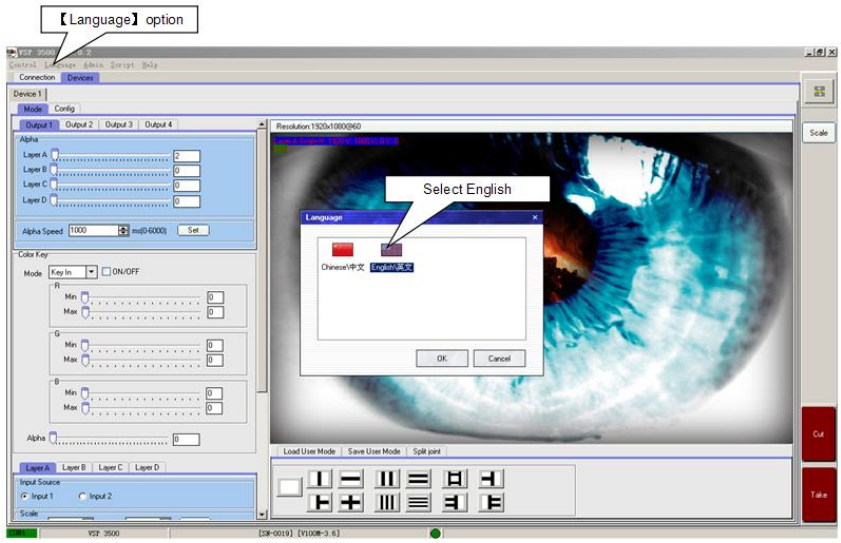
, choose and double-click 

.

VSP 3500 control software interface as shown:

Language Selection

In order to using PC software more efficiently, please choose the correct language version before use.



5. Communication Software Guideline

Run Software

Connection

Through the PC software to control video processor, the product is equipped with a control line that is serial lines by default (RS-232), end nine-pin port (DB9F), four-pin COM Crystal head at one end (6B4C), besides the power line.

Connection steps are described in detail below:

First, connect nine-pin port (DB9F) to corresponding ports on computer and connect COM Crystal head to the RS232 port on the video processor. Open the video processor, then operate the computer, back to the computer's desktop window, click on【 My computer】right mouse button and go into 【 Properties】to find the 【Hardware】 tab, as described in the following, click on 【Device Manager】on the left mouse button.

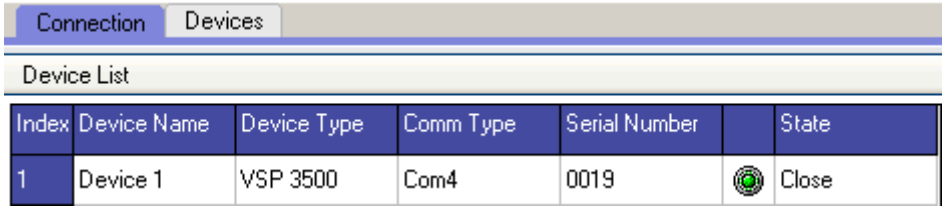
Find the "ports (COM and LPT)" in the Device Manager, then click the plus sign on the left and record your computer's serial port name, as following figure, the using serial port is COM1.

5. Communication Software Guideline

Run Software

After confirmation of serial port then open control software, find the 【Connection】tab, click to enter setup option:

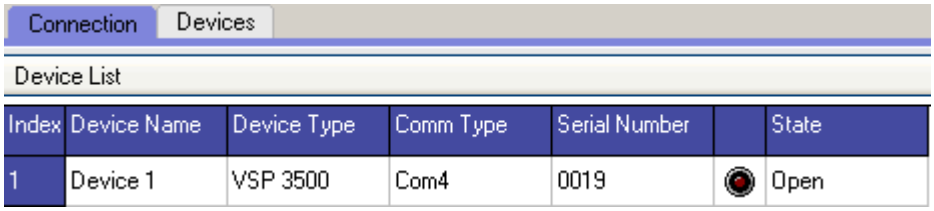
Software serial connection by default, when the user use at the first time, set the serial port;



Interface left bottom display 

, after serial port setup finished, click the button  , serial displays button  , after successful connection, it displays 

, on left corner, which means that the Connector has already been connected with video processors, and you can control video processor through the PC software.



More details may refer to: “**How to control processor through RS232?**”

In addition, the product is also equipped with a USB control line, which is also available to connect the computer and the video processor to control

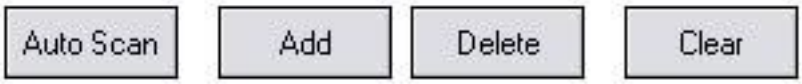
5. Communication Software Guideline

Run Software

PC software, concreteness can refer to: **“How to control processor with console software by USB？”**

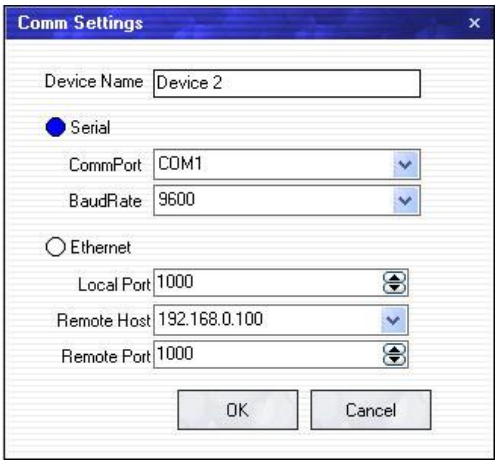
Note

RS 232 Serial line, all USB line can upgrade procedures.



After USB connection or serial connection, click to **search equipment**, the equipment search and connect automatically. If you use network, equipment IP address by default is: 192.168.0.100, please set the IP address of the computer firstly, set up the computer in the same network segment, different IP address, you can communicate, such as: 192.168.0.99.

In addition, VSP 3500 PC software can also control many set of equipment, if the user need more table control, you can click to **add**, appear interface as follows:



Input equipment name, if you choose a serial port or USB communication, need to choose communication COM port and baud rate, if you choose network communication, you need to set equipment IP address, the local port and remote port is 1000 by default.

If you need to reduce the connected device, click delete or delete all to clear.

5. Communication Software Guideline

Run Software

Mode Settings

After confirm the equipment can communicate, you can use after you set up equipment display. set the 【 Mode 】 options in figure:

Output Settings

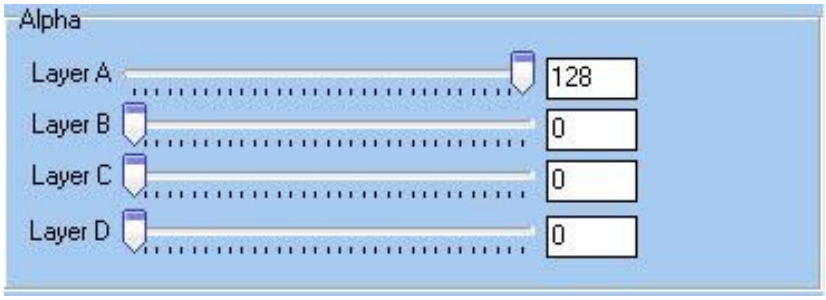
Set output way information, you can set output 1, 2, 3, 4 channel respectively;

5. Communication Software Guideline

Run Software

Alpha Settings

You can set the alpha value of each layer respectively (range in 0 ~ 128), when the transparency is 0, the layer image will not display, when the transparency is 128, the layer image display fully.



Note

The function is the same as MENU→ Output Config → Output 1 → Layer A~D Alpha

Alpha Speed Settings

Alpha speed refers to image switching speed between layers of degree, scope in 0 ~ 6 seconds;

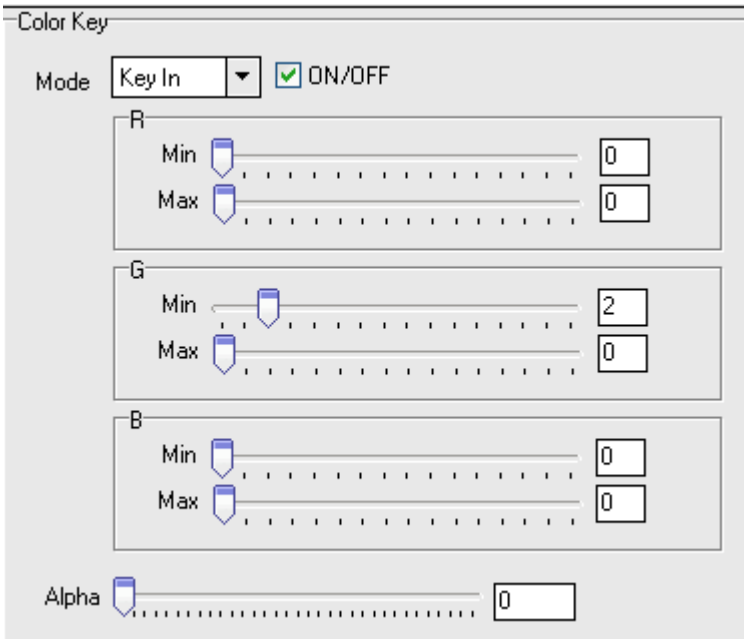
Note

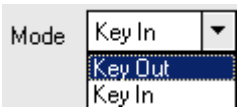
The function is the same as MENU→ Output Config → Output 1 → Alpha Time

Color Key Settings

5. Communication Software Guideline

Run Software





Available/close: Select and tick available option, the color key function open;

Key in: Select color to remove;

Key out: Select color to reserve;

Red, green, and blue article regulation bar: Adjust color value of the color key.

Note

VSP 3500 version 1. 0 is unavailable.

Layer Settings

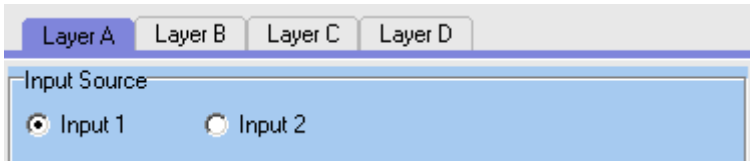
You can set up A,B,C,D layer respectively;

5. Communication Software Guideline

Run Software

Input Port Settings

VSP 3500 is multi-layer image processing, set all layer data in this interface, the layer data can configurate input way arbitrarily, namely, four layers can be configured to the same or different way data, and realize matrix function.

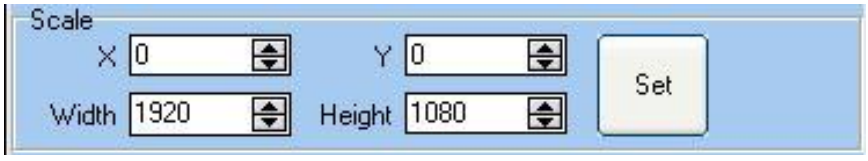


Note

The function is the same as MENU→ Output Config → Layer A → Set Input → Set Input 1~2

Scale Settings

You can adjust image X and Y coordinate values, the width and height value; The user can narrow or enlarge image by changing the number or click on the pull down arrow or drag the edge of image.

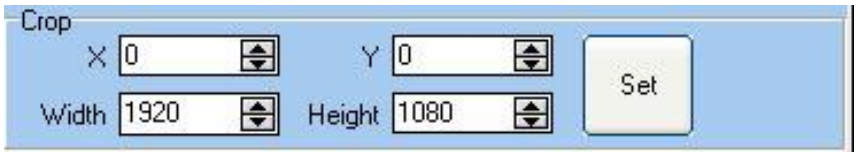


Note

This set also can realize through the SCALE key

Crop Settings

You can set crop function to signal input image. The user can cut image by changing the number or click on the pull down arrow, or drag the edge of image.



Note

This set also can realize through the CROP key

Display Mode

There are two different display modes, when selecting the live video that is normally broadcast video; when selecting a still frame, it ceases to play video but only shows a frame of picture.

Note

The function is the same as MENU→ Output Config → Layer A → Display →

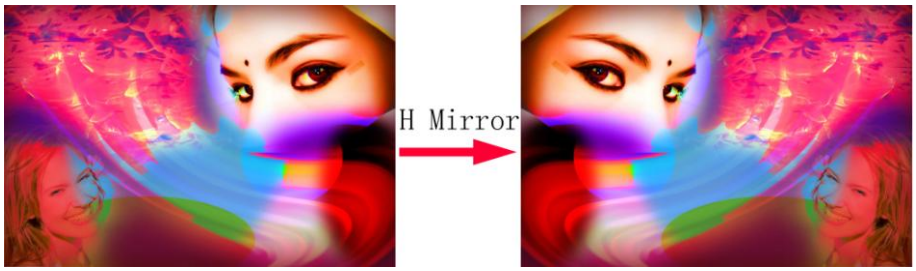
MODE: Freeze/Live

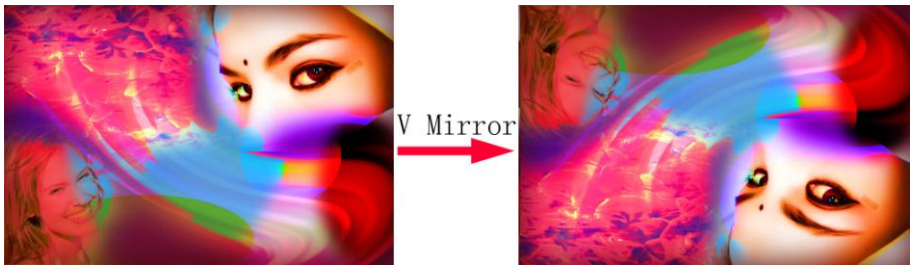
5. Communication Software Guideline

Run Software

Mirror Image and Test Pattern Settings

There are two mirror modes, namely level image and vertical mirror; you can also choose test images;





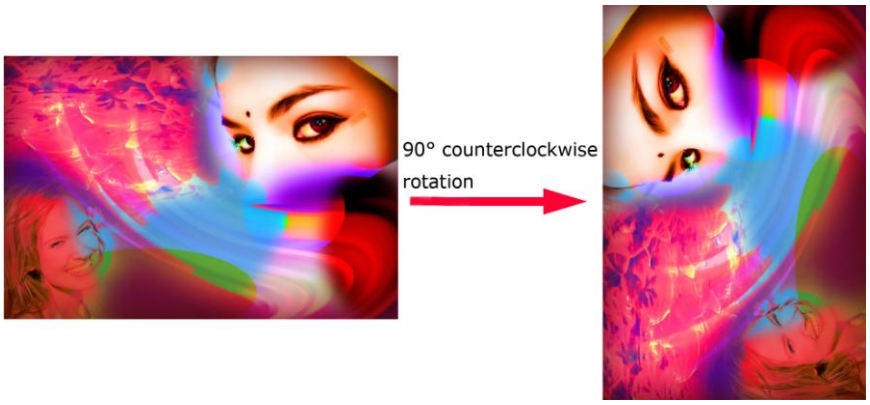
Note

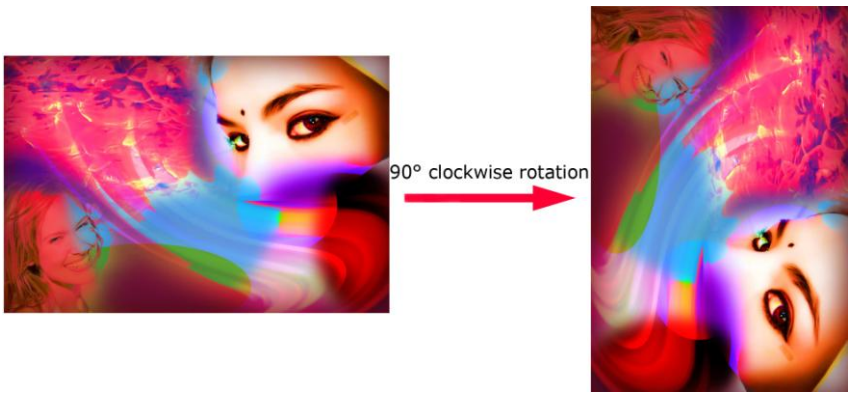
The function is the same as MENU→ Output Config → Layer A → Display → H/V Mirror.

Rotate Settings

5. Communication Software Guideline

Run Software





Note

The function is the same as MENU⟶ Output Config ⟶ Layer A ⟶ Set Rotate

Switch Mode Settings

Swap: After switch Cut/Take, Program input and Preview input, the image exchange.

Stay: After switch Cut/Take, Program follow Preview input image.

Note

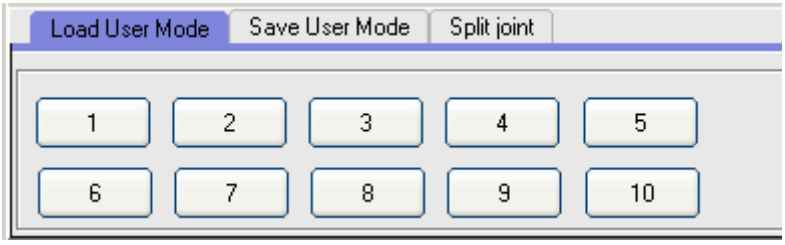
VSP 3500 version 1.0 is unavailable.

5. Communication Software Guideline

Run Software

Load User Mode

Click on the loading user mode options, you can transfer to the user save information directly, the system provides 10 kinds of save modes for customers choose.



Note

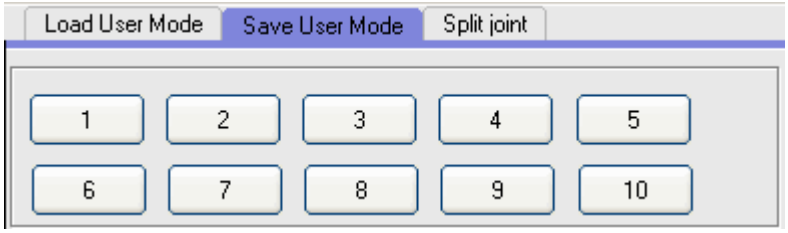
This setting also can realize through Load key.

Note

Without electricity to restart, equipment loads user mode 1 automatically.

Save User Mode

Click save user mode to confirm after the completion of all parameter adjustment, save all settings, for the convenience of user to realize different patterns of scene application quickly, the system provides 10 kinds of save mode, prompt the user save data position, save after the success, the user can recall save parameters in the recall save button directly after save successfully.



5. Communication Software Guideline

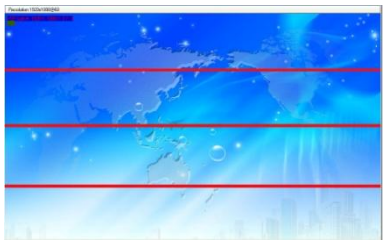
Run Software

Note

This setting also can realize through Save key.

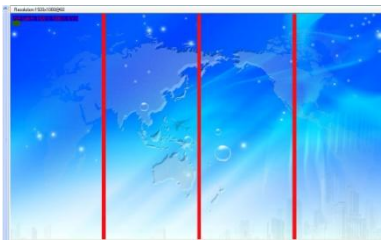
Split Screen Mode

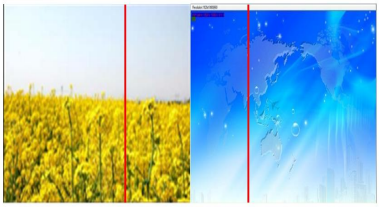
It provides 8 kinds of cascade modes for the user to choose. The corresponding rendering is listed below:



5. Communication Software Guideline

Run Software





Note

This setting also can realize through keys in Split Mode area.

CUT

Seamless switch button;

Note

VSP 3500 version 1.0 is unavailable.

Take

Seamless special effects switch button;

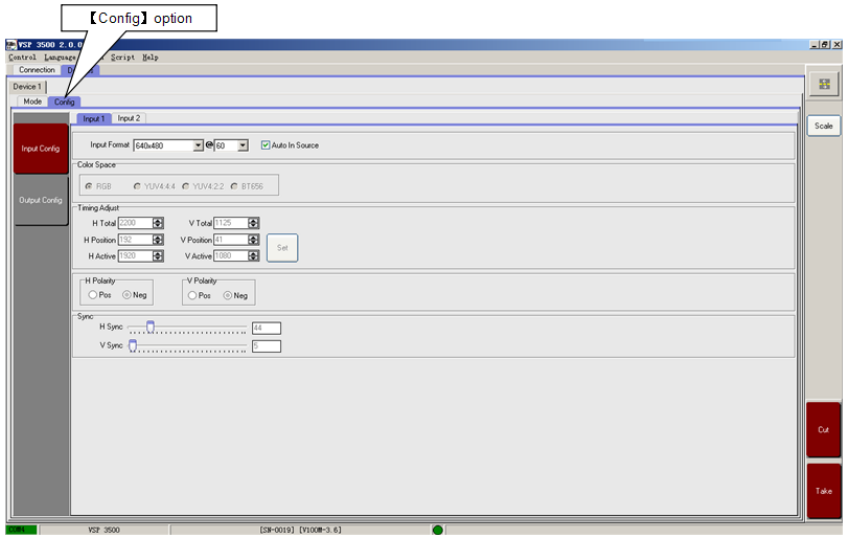
5. Communication Software Guideline

Run Software

Note

VSP 3500 version 1.0 is unavailable.

Config Mode



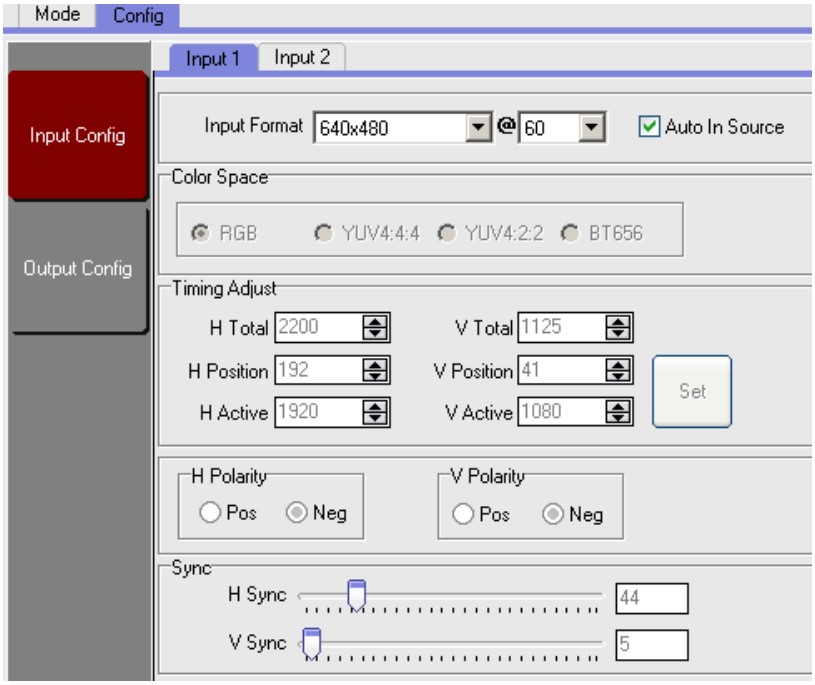
Input Config

Click home page on the configuration, tick in the input configuration option,

, it needn't to choose manually, the system can search the resolution of the input automatically, the other set terms is gray, namely, you needn't to set, equipment is the default settings, as the following graph:

5. Communication Software Guideline

Run Software



Note

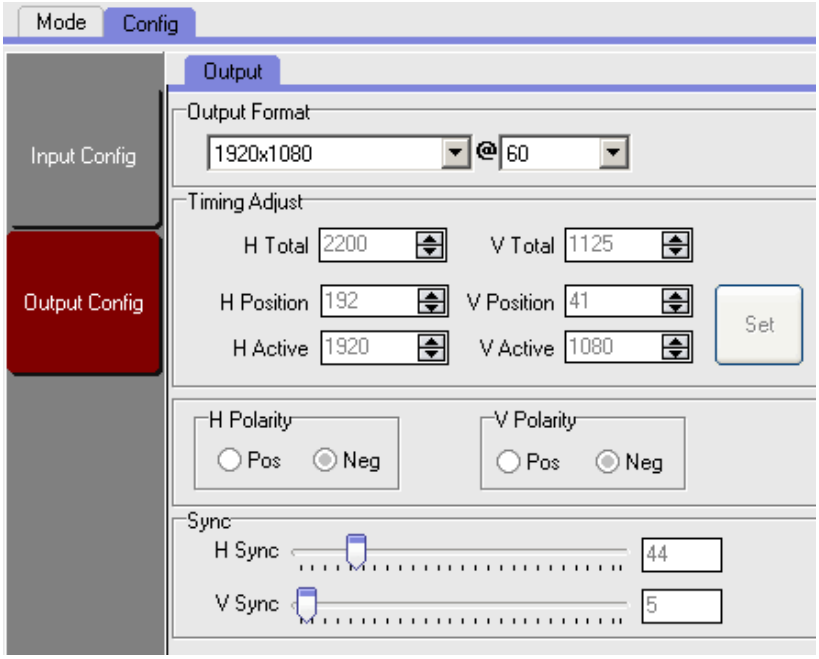
The choice of output resolution, the function is the same as MENU → Input Config → Input 1 → Input Format

Output Config

Click on the configuration mode page, users only need to select output resolution in the output configuration option, other settings items is gray, namely, when you needn't to set, equipment is the default settings, as the following graph:

5. Communication Software Guideline

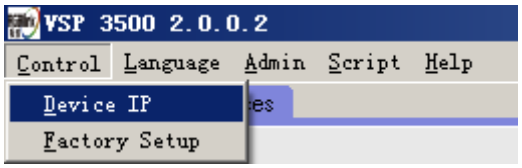
Run Software



Note

The choice of output resolution, the function is the same as MENU → Output Config → Common Format

Control

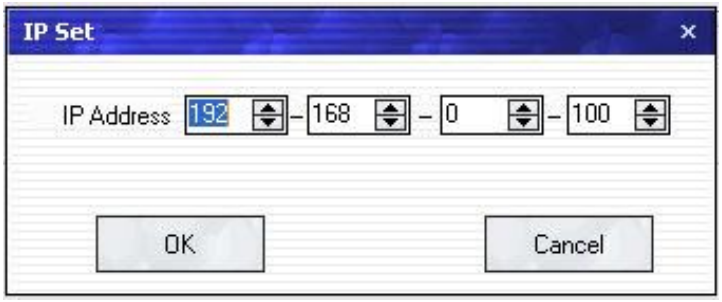


IP Setting

User can set IP through this function, and it often used for the same computer to operate a few devices at the same time or remote control. If you use a serial port to change IP, it can become effective directly; If you use the Internet to change IP, after change, upper machine should be shut off, then to open again, the IP value can normal connection after filling and changing of network IP.

5. Communication Software Guideline

Run Software



Factory reset

Click on the device factory initialization, all set back the factory value.

Note

The function is the same as Reset in the menu.

Language

Language choice; The software supports Chinese and English

Management

Advanced Test

5. Communication Software Guideline

Run Software

Note

Advanced test only for engineers, please contact our customer personnel for the administrator password if you need;

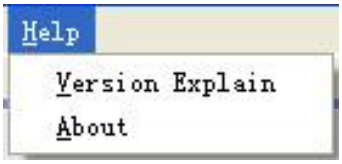
Script

Load Customer Script

The Users can input previous script and change the parameters.

Save Customer Script

Save the current script in operation to the specified path;



Version Explain

Show the content of the software version upgrade;

About

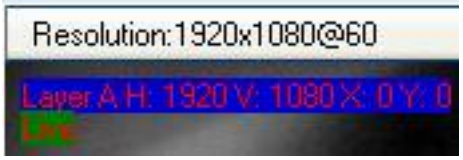
Shows the software version and company information;

5. Communication Software Guideline

Run Software

Image Display Toolbar

Display the location, size and output resolution information of the current image. When the user modify parameters in the image toolbar, display image may change follow it.



Information Toolbar

5. Communication Software Guideline

Run Software

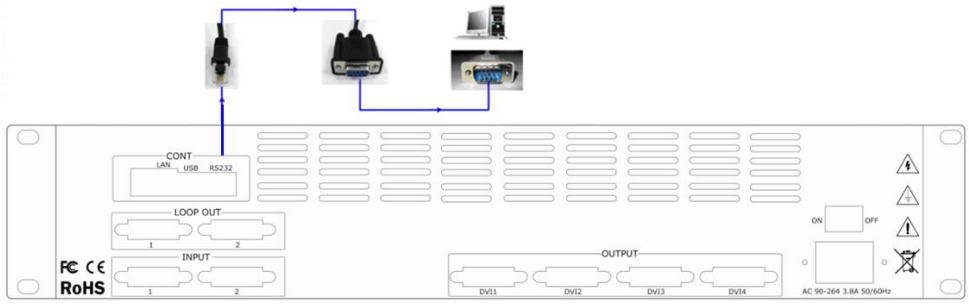
The bottom of Software connector displays software version, core board version, firmware version and product serial number of the current used device.

How to control processor through RS232?

First, install PC software in control computer；

Connecting PC and VSP 3500 through a serial port needs to use serial line of device standard (RS-232, one end is nine-pin, the other end is four needle crystal COM head.) COM four needle crystal head access VSP 3500 RS232 control Connector, the other end access PC serial.

Connection schemes are as follows:



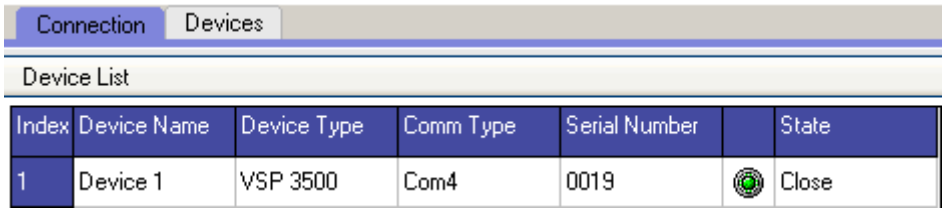
If there is no any Serial port on your PC, you will need another Serial to USB adapter. Connect one end of the RJ11 download line to the RS232 on the video processor. Connect the end of USB-side to the PC, Ensure the cable connection is good. Right click the【My Computer】on the home screen of control PC. Enter【Attribute】, Find【Hardware】Option，as following, Click【Device Manager】.

Click【Device Manager】“+” on the left，check the COM number，as following， **COM1 is offered.**

5. Communication Software Guideline

How to control processor through RS232?

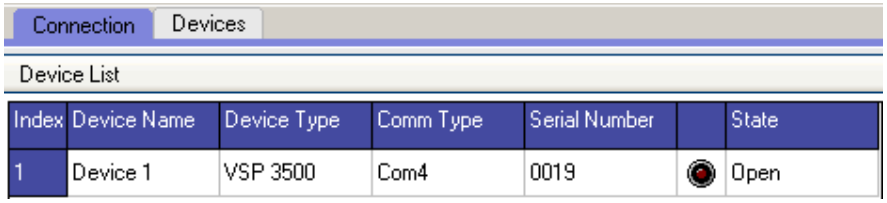
Software is default serial connection, first time user has to set serial port.



Interface left bottom display 

, after serial port setup finished, click the button  , serial displays button  after successful connection, it displays 

on left corner, which means that the connector has already been connected with video processors, and you can control video processor through the PC software.

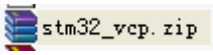


Note

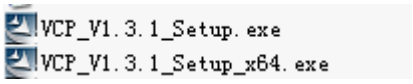
If power off during communication, should close the port  , by first, and plug in out of the USB  and do communication.

How to control processor with console software by USB?

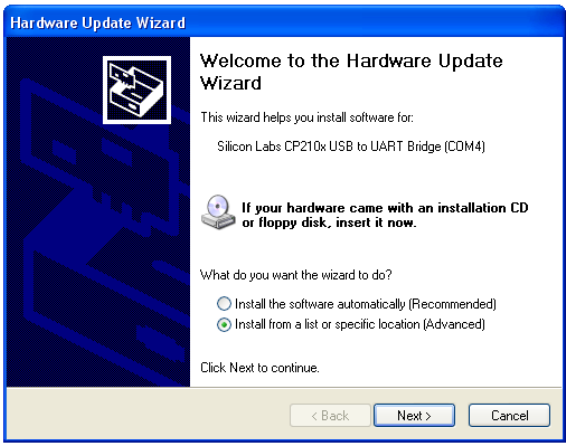
Install the driver

Firstly, release the following compression bag: 

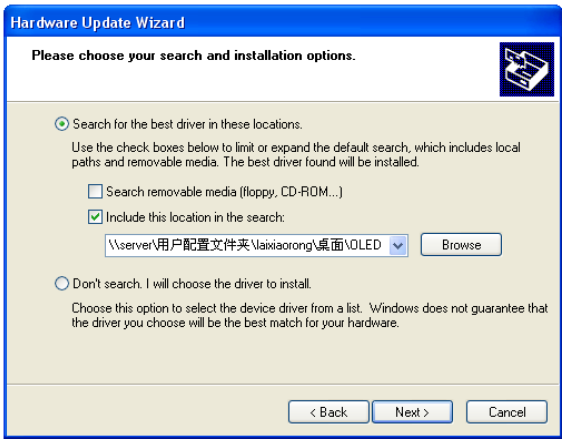
;

Secondly, find 

in the file: **Dfuse;** (Install **VCP_V1.3.1_Setup.exe** if the computer system is 32 bit system, and if the computer system is 64 bit system, install **VCP_V1.3.1_Setup_amd64.exe**） . Connect the USB cable to the PC and the video processor .turn on the VSP 3500, 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:



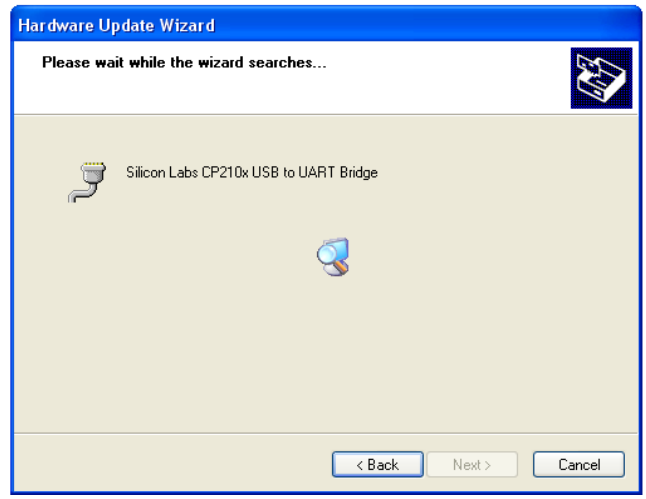
Install from the list or specified location, press “NEXT”:



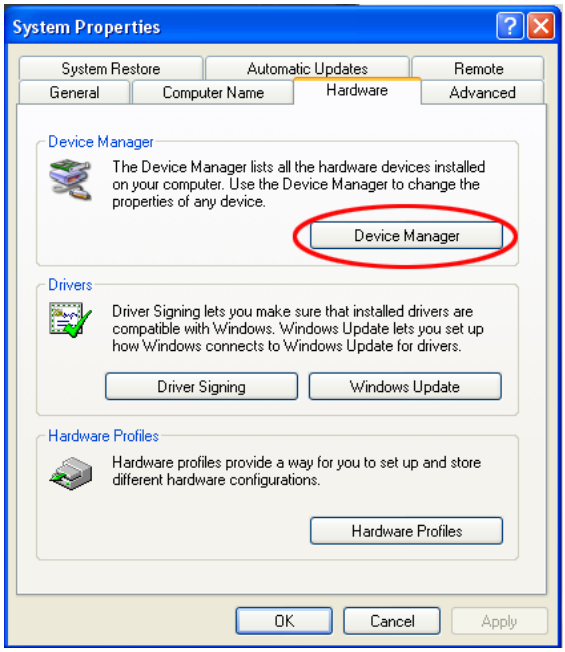
Press “browser” to find the driver, and press “NEXT”:

5. Communication Software Guideline

How to control processor with console software by USB?



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

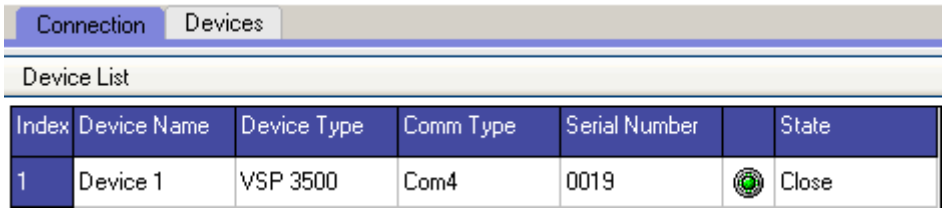


5. Communication Software Guideline

How to control processor with console software by USB?

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

Select the COM as installed just now.



Press  to start communication，when there is  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 3500.

6. System Setup and Operations

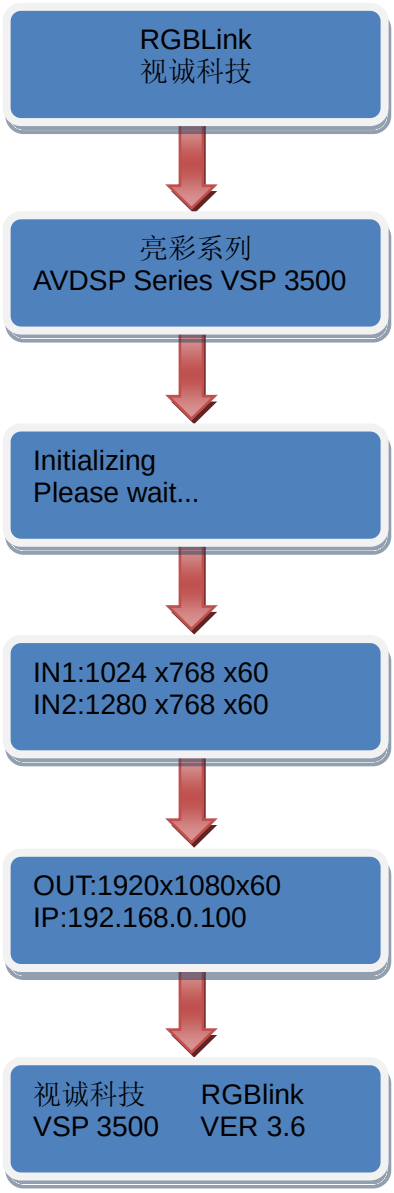
In This Chapter

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

- How to determine equipment run normally?
- How to change the output resolution?
- How to add layer?
- How to clear layer?
- How to edit and define outputs?
- How to scale the layer image?
- How to crop the layer image?
- How to set the position of layer image?
- How to achieve split function?
- How to achieve quick split?
- How to set picture size in split effects?
- How to rotate layer image?
- How to save the current setting parameters?
- How to recall the saved parameters?

How to determine equipment run normally?

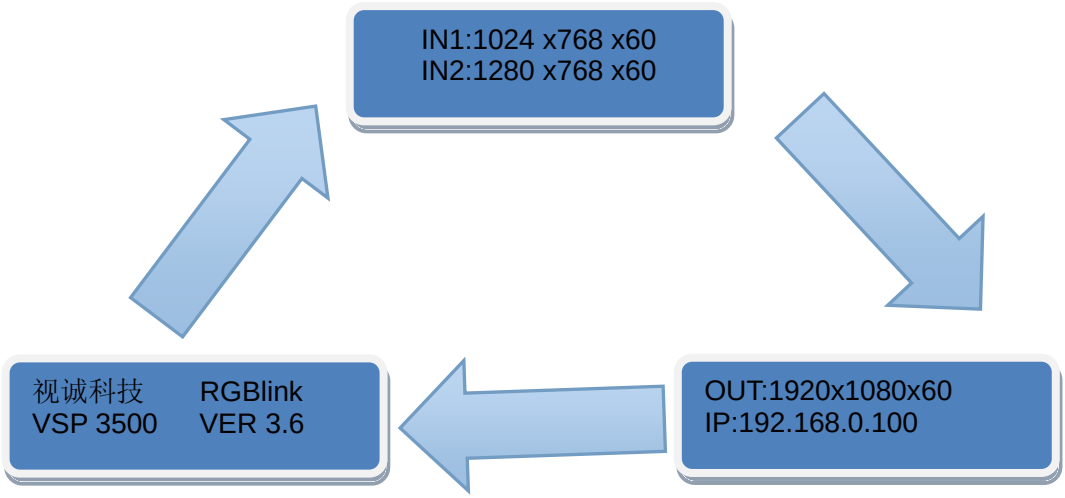
1. Firstly, ensure the equipment is on power and run normally;
2. After the equipment into self-check state, starts the fan, scan button one by one;
3. After button scanning is completed, equipment into the starting state, equipment LCD display as follows:



6. System Setup and Operations

How to determine equipment run normally?

4. After start, the equipment default recall factory parameter or save 1 system parameters, individual functional keys among key lights light up, equipment liquid crystal cycle as shown below:



5. Equipment starts normally.

How to change the output resolution?

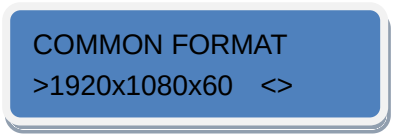
Firstly, ensure the equipment is on power and run normally. For details, please refer to: How to determine equipment run normally?

Button operation is as follows:

1. VSP 3500 provides 12 kinds of common output formats for user;
2. Click【MENU】key, key lights;
3. Set LED panel scan menu, rotate UP/DOWN knob to select OUTPUT CONFIG;

4. Press【NEXT】to enter the menu, rotate LEFT/RIGHT knob to select COMMON FORMAT;

5. Press【NEXT】 to enter to the menu, rotate LEFT/RIGHT knob to select output resolution;



6. Press 【NEXT】 to set, that is, to realize the operation of changing output resolution.

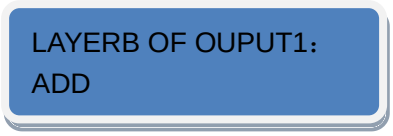
How to add layer?

Firstly, ensure the equipment is on power and run normally. For details, please refer to: How to determine equipment run normally?

Operation is as follows:

In LAYERS area, choose layer that need to increase layer, that is press any key of layer A, B, C, D (or select all the 4 keys), key lights, then the layer is selected, and add layer finished.

For example, add layer B, layer B key lights and blinks, LCD panel shows as follows:



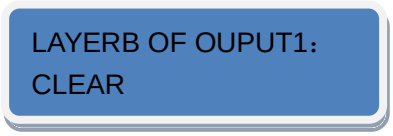
How to clear layer?

Firstly, ensure the equipment is on power and run normally. For details, please refer to: How to determine equipment run normally?

Operation is as follows:

1. In LAYER area, press any key of layer A, B, C, D that need to clear, key blinks.
2. Press the key again, key light is off, and clear layer finished.

For example, clear layer B, LCD panel shows as follows:



How to edit and define outputs?

Firstly, ensure the equipment is on power and run normally. For details, please refer to: How to determine equipment run normally?

Button operation is as follows:

1. In OUTPUTS area, first press any key of DVI1, DVI2, DVI3, DVI4, key lights, and it means output can be edited;
2. OUTPUTS key 【DVI1】is corresponding to back panel output DVI1;
   OUTPUTS key 【DVI2】is corresponding to back panel output DVI2;
   OUTPUTS key 【DVI3】is corresponding to back panel output DVI3;
   OUTPUTS key 【DVI4】is corresponding to back panel output DVI4;

   Note

OUTPUTS key【DVI1】is corresponding to output DVI1 and is the default output;

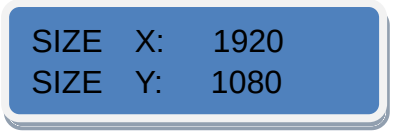
3. In CUSTOM ADJUSTMENTS area, press 【 SCALE 】key, set the layer input image size, that is zoom in/out for output window;
4. In CUSTOM ADJUSTMENTS area, press 【 CROP 】 key, cut the layer input image, that is crop input signal source for output window;
5. In CUSTOM ADJUSTMENTS area, press 【 Position 】key, set Position of input image for the layer, that is adjust the position for output window.

How to scale the layer image

Firstly, ensure the equipment is on power and run normally. For details, please refer to: How to determine equipment run normally?

Button operation is as follows:

1. In CUSTOM ADJUSTMENTS area, press 【SCALE】 key, key lights, and start the scale function;
2. In LAYER area, press any bright key of A, B, C, D (light key among layer key is optional), key lights, and it can be edited;
3. Rotate the up/down knob to adjust window width; Rotate the left/right knob to adjust window height;
4. LCD screen displays control value;



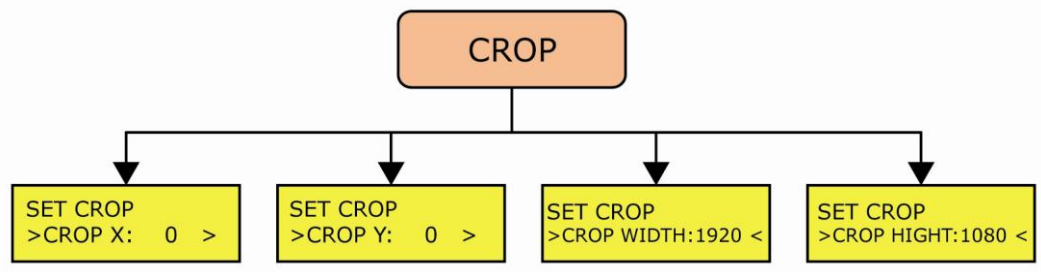
5. Press 【SCALE】 key again, key light is off, and close the scale function.

How to crop the layer image?

Firstly, ensure the equipment is on power and run normally. For details, please refer to: How to determine equipment run normally?

Button operation is as follows:

1. In CUSTOM ADJUSTMENTS area, press【CROP】 key, key lights, and start crop the layer image function;
2. In LAYER area, press any bright key of A, B, C, D (keys light are optional), key lights, and it can be edited;
3. Rotate left/right knob, and adjust the menu options, menu displays as follows:



CROP X: X axis starting point; CROP Y: Y axis starting point;

CROP WIDTH: Crop width; CROP HIGHT: Crop height;

4. Rotate left/right knob, and adjust the optional value;
5. Press【CROP】key again, key light is out, and close crop function.

How to set the position of layer image?

Firstly, ensure the equipment is on power and run normally. For details, please refer to: How to determine equipment run normally?

Button operation is as follows:

1. In CUSTOM ADJUSTMENTS area, press 【Position】 key, key lights, and start the set the position of layer image function;
2. In LAYER area, press any bright key of A, B, C, D (keys light are optional), key lights, and it can be edited;
3. Rotate left/right knob to adjust window level position, and rotate up/down knob to adjust window vertical position;
4. LCD screen displays the value;

5. Press 【Position】 key again, key lights is off and close the set the position of layer image function.

How to achieve split function?

Firstly, ensure the equipment is on power and run normally. For details, please refer to: How to determine equipment run normally?

Button operation is as follows:

1. In SPLIT MODE area, press any key, key lights, then start the output split function;
2. VSP 3500 provides 8 kinds of split modes for user.

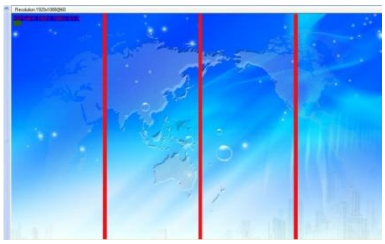
Split Mode 1: STRAIGHT

Split Mode 2: HORIZONTAL 1/2

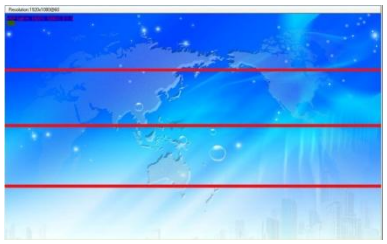
Split Mode 3: VERTICAL 1/2

Split Mode 4: FIELD GLYPH

Split Mode 5: HORIZONTAL 1/4



Split Mode 6: VERTICAL 1/4

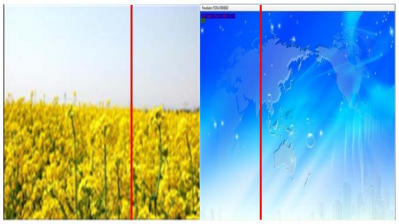


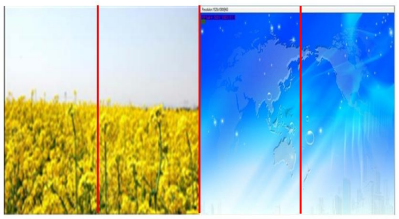
Split Mode 7: 2 IN 3 OUT

Split Mode 8: 2 IN 4 OUT

6. System Setup and Operations

How to achieve split function?





3. Rotate left/right knob, user can select the split mode according to actual demand;

4. In OUTPUTS area, press any key of DVI1, DVI2, DVI3, DVI4, select preset output, key lights, and it is selected;

5. In CUSTOM ADJUSTMENTS area, press 【 SCALE 】 key and 【 Position 】 key , key lights, user can set the size and position of output image;

6. Rotate left/right knob and up/down knob, user can set the size and position of output image;

7. In OUTPUTS area, press DVI1, DVI2, DVI3, DVI4 again, regulate the selected output, repeat step 5 and 6 to complete regulation setting.

Note

When VSP 3500 is in split mode, it only split for A layer, and is invalid for other layers.

How to achieve quick split?

Firstly, ensure the equipment is on power and run normally. For details, please refer to: How to determine equipment run normally?

There are single device split and multiple split modes, specific operations are as follows:

1. For multiple split mode, first press MENU button, and choose “OUTPUT CONFIG” option, rotate the knob, choose “EXTERNAL SYNC”.

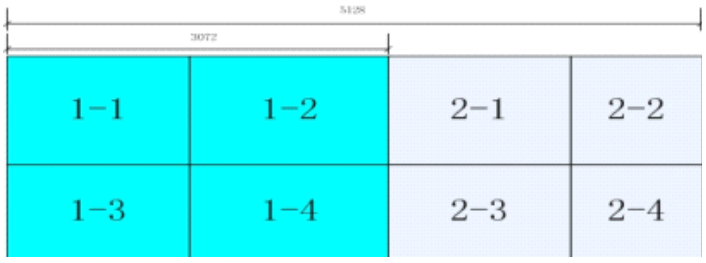
   Note

If choose “EXTERNAL SYNC”, the output resolutions should be the same.

2. Press any key in SPLIT MODE area, and choose split modes.
3. Rotate the knob, choose “START X” and “START Y” option (The horizontal starting position and vertical starting position that current device corresponding screen area in the entire LED display).
4. Rotate the knob again to set “START X” and “START Y”.
5. When finish, press 【SAVE】 key to save.

Here we will take field glyph mode with two devices for example:

Total screen width 5128, total screen height 1536, the width of the four screens are 1440, 1632, 1344, 712, and height is 896, 640, settings are as follows:



6. System Setup and Operations

How to achieve quick split?

Field glyph split on left side:

Total screen width is 5128, total screen height is1536, the width of the first screen is1440, the height of the first screen is 896.

Then Start X is 0, Start Y is 0.

Field glyph split on right side:

Total screen width is 5128, total screen height is1536, the width of the first screen is1344, the height of the first screen is 896.

Then Start X is1440+1632=3072, and Start Y is 0.

How to set picture size in split effects?

Firstly, ensure the equipment is on power and run normally. For details, please refer to: How to determine equipment run normally?

Button operation is as follows:

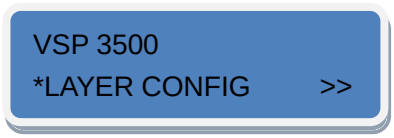
1. When VSP 3500 is in split mode, press any key of DVI1, DVI2, DVI3, DVI4 in OUTPUTS area, select preset outputs, key lights, and it is selected;
2. In CUSTOM ADJUSTMENTS area, press 【 SCALE 】 keys, key lights, user can set the size of output image;
3. Rotate Up/Down knob and Left/Right knob, set the size of output image;
4. In OUTPUTS area, press DVI1, DVI2, DVI3, DVI4 again, regulate the selected output, repeat step 2 and 3 to complete regulation setting.

How to rotate layer image?

Firstly, ensure the equipment is on power and run normally. For details, please refer to: How to determine equipment run normally?

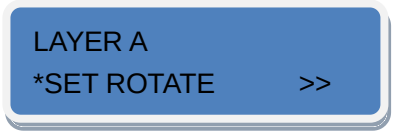
Button operation is as follows:

1. Press MENU key, choose 【LAYER CONFIG】 option:



2. Press NEXT, and enter to Layer A:

3. Press NEXT again, and enter SET ROTATE:



4. Press NEXT, choose SET ROTATE, rotate LEFT/RIGHT knob to choose rotate mode;
5. LCD panel shows rotate mode, VSP 3500 provides 2 kinds of rotate modes for user, that is image rotate to left or right.

Note

Rotate effects setting is only for Layer A, and are invalid for other layers.

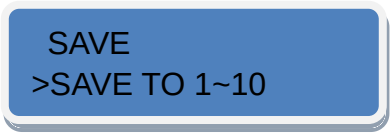
How to save the current setting parameters?

Firstly, ensure the equipment is on power and run normally. For details, please refer to: How to determine equipment run normally?

Button operation is as follows:

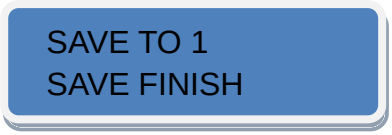
When VSP 3500 function setting is finished, VSP 3500 provide 10 save modes to avoid setting again when you use the same function or set again after restarting because of power out.

1. Press 【SAVE】 key, key lights, and meanwhile button 0~9 light, start the save option:



2. Choose the corresponding position and save. SAVE TO 1 ~SAVE TO 9 corresponding button 1~9, SAVE TO 10 corresponding button 0.

For example, choose SAVE TO 1, LCD panel shows as follows:



How to load the saved parameters?

Firstly, ensure the equipment is on power and run normally. For details, please refer to: How to determine equipment run normally?

Button operation is as follows:

When VSP 3500 function setting is finished, VSP 3500 provide 10 save modes to load in order to avoid setting again when use the same function or set again after restarting because of power out.

1. Press 【LOAD】 key, key lights, and meanwhile button 0~9 light, start the load option:

2. Choose the corresponding position and load. LOAD FROM 1 ~LOAD FROM 9 corresponding button 1~9, LOAD FROM10 corresponding button 0.

   For example, choose LOAD FROM 1, LCD panel shows as follows:

Note

VSP 3500 is default recall SAVE 1 parameters.

7. Common Questions and Solution

In This Chapter

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

No Output in Large Screen

Confirm if there are any input singles

Press 【MENU】to find "Device information" , check if the INPUT signal is normal via 【 NEXT 】, if suggest "NO INPUT", means no signal. Check the front-end signal line, please note do double show or expand for computer. Can enter other formats signal to do the same operation.

Confirm if single output

Find a display with DVI input, connect to the corresponding output port of processor, 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.

Large Screen Output Flash Point

Confirm if preview output is normal

Find a display with DVI input, connect to the corresponding output port of processor, 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 flash point, please judge if input signal, wire, and interface is normal.

Large Screen only Display Part of the Image

Signal need to scale

Press 【SCALE】, rotate the knob to adjust the size of screen size, including "Width", "Height" etc. Press【NEXT】to confirm.

No Display in the Second Half Part of Large Screen

Resolution is inadequate

Confirm the wide and high points on the screen, and select more adequater resolution than screen width. Press 【NEXT】 to confirm.

All Key Lights Light Simultaneously

Check if dial switches are normal

Shut the power, check if two red dial switches near DVI1 are upward. Reboot if they face down, and reboot. The function of the red dial switched is mainly upgrade.

A.Specification

HDMI Input DVI-I Interface	
Number of Inputs	2
Connector	Standard DVI-I socket
Supported Resolution	SMPTE：1080P50, 1080P59.94/60,720p50,720p59.94/60, VESA： 800×600×60/75/85Hz,1024×768×60/75/85Hz,1280×768×60/75/80Hz, 1280x960x60/85Hz,1280×1024×60/75/85Hz,1360x768x60Hz, 1366x768x60Hz,1400x1050x60Hz,1440x900x60Hz,1680x1050x60Hz, 1600×1200×60Hz,1920x1200x60Hz,1920×1080×50/59.94/60Hz, 2048x1152x60Hz
Signal Level	TMDS pwl,single pixel input,165MHz bandwidth
Standards	HDMI 1.3
Signal level	TMDS pwl , 165MHz bandwidth
DVI Loop Out Interface	
Number of Inputs	2
Connector	Standard DVI-I socket
Supported Resolution	SMPTE：1080P50, 1080P59.94/60,720p50,720p59.94/60, VESA： 800×600×60/75/85Hz,1024×768×60/75/85Hz,1280×768×60/75/80Hz, 1280x960x60/85Hz,1280×1024×60/75/85Hz,1360x768x60Hz, 1366x768x60Hz,1400x1050x60Hz,1440x900x60Hz,1680x1050x60Hz, 1600×1200×60Hz,1920x1200x60Hz,1920×1080×50/59.94/60Hz, 2048x1152x60Hz
Signal Level	TMDS pwl,single pixel input,165MHz bandwidth
Standards	HDMI 1.3
Signal level	TMDS pwl , 165MHz bandwidth
DVI output DVI-I Interface	
Number of outputs	4
Connector	Standard DVI-I socket
Signal level	TMDS pwl , 165MHz bandwidth
Supported Resolution	VESA： 720x480x60i, 720x576x50i, 720x480x60i_2, 720x576x50i_2, 1024x768x60, 1024x768x75, 1024x768x85, 1024x1280x60, 1024x1920x60, 1080x1920x60, 1152x864x75, 1248x936x60, 1280x720x23.98, 1280x720x24, 1280x720x25, 1280x720x29.97, 1280x720x30, 1280x720x50, 1280x720x59.94, 1280x720x60, 1280x768x60, 1280x800x60,1280x960x60, 1280x960x85, 1280x1024x60, 1280x1024x75, 1280x1024x85, 1280x1280x60, 1360x768x60, 1366x768x60, 1440x900x60, 1400x1050x60_r, 1400x1050x60, 1440x900x60_r, 1600x1200x60, 1600x1200x60_r,

	1680x1050x60, 1680x1050x60_r, 1872x1040x60, 1920x1080x23.98, 1920x1080x23.9s, 1920x1080x24, 1920x1080x24s, 1920x1080x25, 1920x1080x25s, 1920x1080x29.97, 1920x1080x29.9s, 1920x1080x30, 1920x1080x30s, 1920x1080x50, 1920x1080x50i, 1920x1080x59.94, 1920x1080x59.94i, 1920x1080x60, 1920x1080x60i, 1920x1080x60_r, 1920x1200x60, 1976x1144x60, 2048x1152x60, 2560x816x60.
Function	
Input way configuration	Support each input way signal programming configuration
Multi-image split	Support multiple image split effects
Extras	
Communication	RS232 USB TCP/IP
Power Supply	90-264V 2A IEC-3
Work Environment	0°C~45°C
Stored Environment	10% to 90%
Product Warranty	3 years parts and labor warranty

B.Contact Information

Warranty:

All video products are designed and tested to the highest quality standard and backed by full 3 years 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.

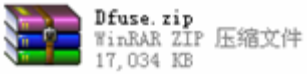
Headquarter: S603~604 Weiye Building Torch Hi-Tech Industrial Development Zone Xiamen, Fujian Province, P.R.C.

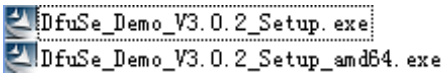
- **Tel:** +86-592-5771197
- **Fax:** +86-592-5771202
- **Customer Hotline:** 4008-592-315
- **Websites:**
  - ~ http://www.rgblink.com
  - ~ http://www.rgblink.cn
- **E-mail:** support@rgblink.com

C. Software Upgrade

Main board MCU program upgrading steps

Decompression and install upgrade file:



Install USB upgrade file: find 

in **Dfuse,** and install to the system default directory.

You also can choose by yourselves. (You can install **DfuSe_Demo_V3.0.2_Setup.exe** if the computer system is 32 bit system, and you can install **DfuSe_Demo_V3.0.2_Setup_amd64.exe** if the computer system is 64 bit system）.

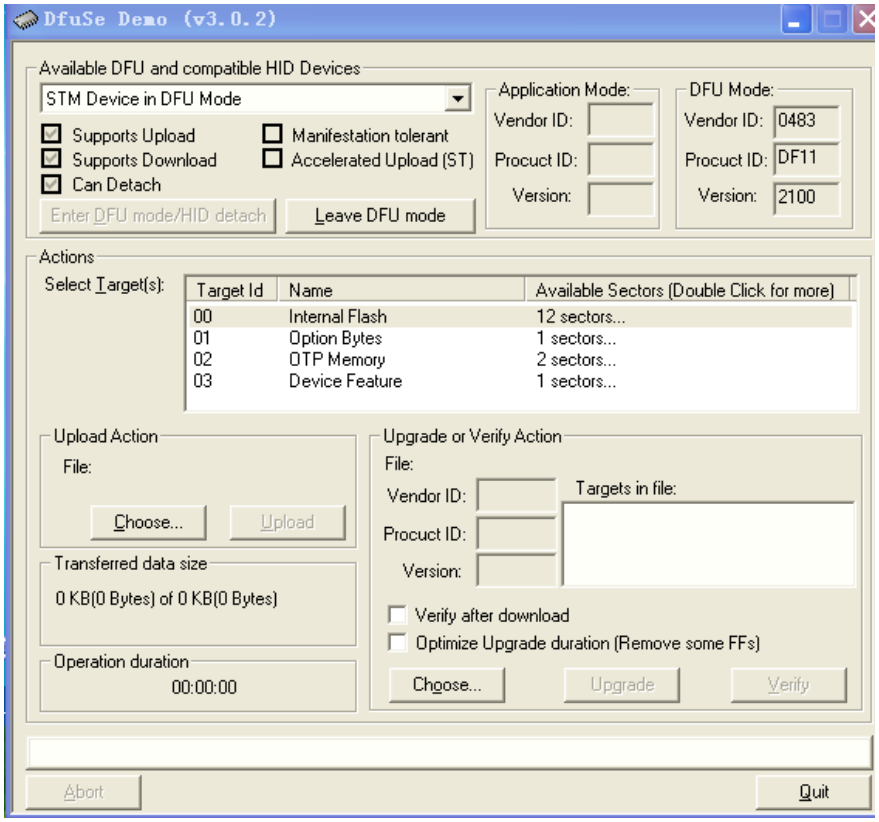
Using USB interface upgrade methods: connect USB interface and computer interface by USB line, as shown in figure:

Upgrade the two dial switch next to the LAN port::

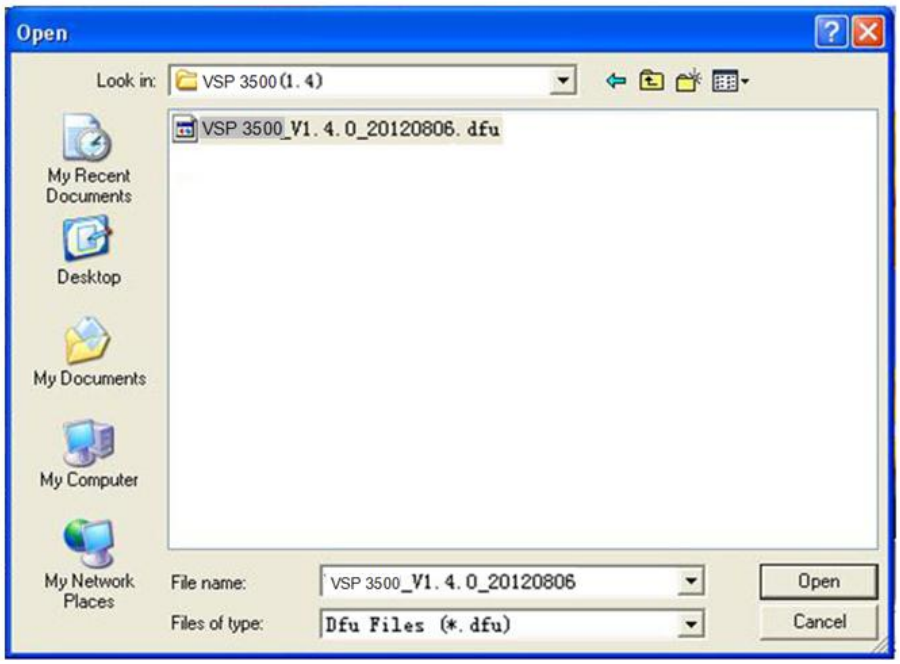
Supply power to the machine;

Upgrade program:

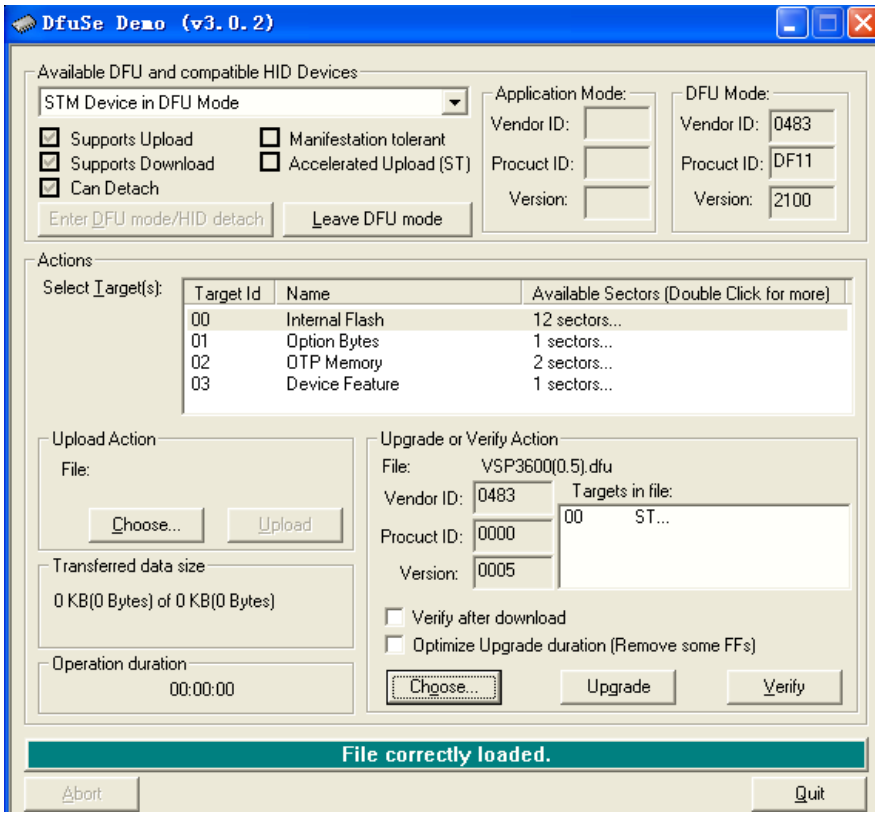
Open **“DefuSe Menonstration”** program file（"Start" menu - all program - STMicroelectronics ─ DefuSe ─ DefuSe Menonstration），then pop-up dialog box as follows:



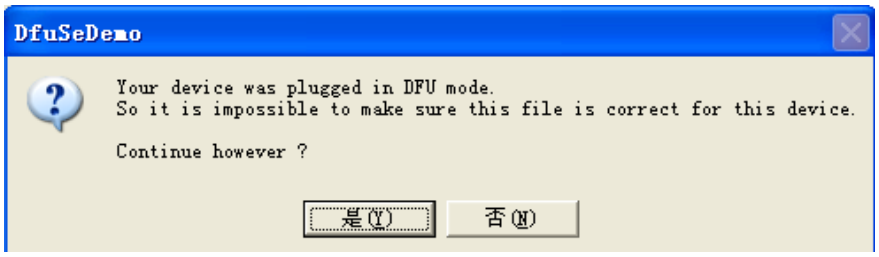
Click "Choose" button; pop-up dialog box, as shown in figure:



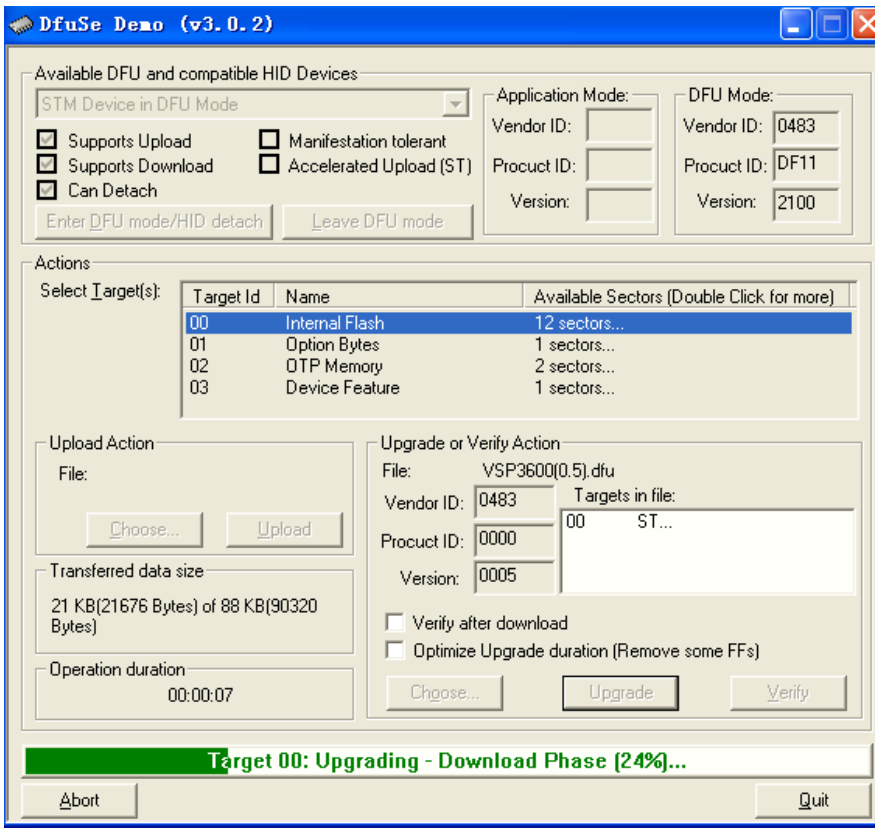
Choose upgraded software**"VSP3500_V1.4.0_20120806_the n .dfu"** company formally issued edition, click "open "button, pop-up dialog box, as shown in figure:



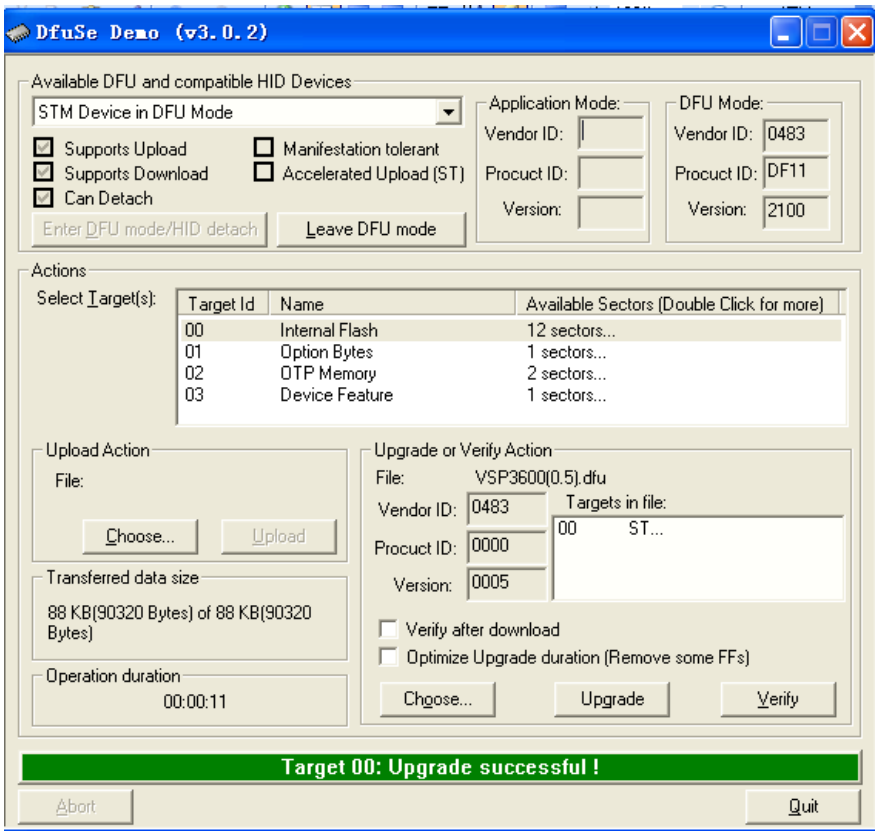
Click “**Upgrade**” button, pop-up dialog box, as shown in figure:



Click on the "yes" button; Enter the program updates states, as shown in figure:



Program updates completion status as shown in figure, click "Quit" button to exit:



Close power after the completion of the Program upgrade, downward the two dial switches next to the LAN port, dial back to its original position, as shown in figure: the state of switch downward:

Restart the equipment power, reset through the front panel operation after the completion of restart, upgrade process finish.