VSP 5162PRO

User Manual

- Manual #: RGB-RD-UM-V5162PRO E001

- Revision: V1.2

- This User Manual Applies to VSP 5162PRO Series!

RGBlink

VSP 5162PRO·User Manual

Thank you for choosing our products!

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

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Operators Safety Summary

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

Do Not Remove Covers or Panels

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

Power Source

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

Grounding the Product

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

Use the Proper Power Cord

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

Use the Proper Fuse

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

Do Not Operate in Explosive Atmospheres

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

Terms in This Manual and Equipment Marking

WARNING

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

Note

Highlights an essential operating procedure, condition or statement.

CAUTION

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

Amendment Records

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

Format	Time	ECO#	Description	Principal
V1.0	2014-06-06	0000#	Release	Vira
V1.1	2014-11-25	0001#	1. Change the product name. 2. Change the menu tree.	Vira
V1.2	2015-07-17	0002#	Add "Optional Module Installation and Replacement Instruction"	Vira

CONTENT

1. Brief Introduction

This chapter is designed to introduce you to the VSP 5162PRO User Manual. Areas to be covered are:

- Chapter Structure

- How to Use the Manual

- Terms and Definitions

- System Overview

- Application Questions

1. Brief Introduction

Chapter Structure

The following chapters provide instructions for all aspects of VSP 5162PRO operations.

Chapter 1   Brief 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

Appendix D   Optional Module Installation and Replacement

Instruction

1. Brief Introduction

How to Use the Manual

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

Navigation

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

● Extensive hyperlinks are provided within the chapters.

● Use Acrobat's "**Go to Previous View**" and "**Return to next View**" buttons to trace your complete navigational path.

● Use the "**Previous Page**" and "**Next Page**" buttons to go to the previous or next page within a file.

● Use Acrobat's extensive search capabilities, such as the "**Find**" tool and "**Search Index**" tool to perform comprehensive searches as required.

Table of Contents and Index

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

General Operations

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

● For detailed installation instructions, refer to chapter 3 "Hardware Installation" on page 36.

● For communication software control guide, refer to Chapter 5, "Communication Software Control Guide" on page 51.

● For system setup and operations, refer to Chapter 6, "System Setup and Operations" on page 76.

Should you have any questions regarding the installation or operation of VSP 5162PRO, please consult with the factory. Refer to Appendix B "Contact information" on page 104.

1. Brief Introduction

Terms and Definitions

Term and Definitions

The following terms and definitions are used throughout this guide.

- **"ASCII":** American Standard for Information Interchange. The standard code consisting of 7-bit coded characters (8 bits including parity check) used to exchange information between data processing systems, data communication systems, and associated equipment. The ASCII set contains control characters and graphic characters.

- **"Aspect ratio":** The relationship of the horizontal dimension to the vertical dimension of an image. In viewing screens, standard TV is 4:3, or 1.33:1; HDTV is 16:9, or 1.78:1. Sometimes the ":1" is implicit, making TV = 1.33 and HDTV = 1.78.

- **"AV":** Audio visual or audio video.

- A **"Background"** is an unscaled source, typically originating from a computer. A background source appears at the system's lowest priority — visually in back of all other sources.

- **"Baudrate"：** Named of J.M.E. Baudot, the inventor of the Baudot telegraph code. The number of the electrical oscillations per second, called baud rate. Related to, but not the same as, transfer rate in bits per second (bps).

- **"Blackburst":** The video waveform without the video elements. It includes the vertical sync, horizontal sync, and the chroma burst information. Blackburst is used to synchronize video equipment to align the video output. One signal is normally used to set up an entire video system or facility. Sometimes it is called House sync.

- **"BNC":** Bayonet Neill-Concelman. A cable connector used extensively in television and named for its inventors. A cylindrical bayonet connector that operates with a twist-locking motion. To make the connection, align the two curved grooves in the collar of the male connector with the two projections on the outside of the female collar, push, and twist. This allows the connector to lock into place without tools.

- **"Brightness":** Usually refers to the amount or intensity of video light produced on a screen without regard to color. Sometimes called "black level.

- "**CAT 5**": Category 5. Describes the network cabling standard that consists of four unshielded twisted pairs of copper wire terminated by RJ-45 connectors. CAT 5 cabling supports data rates up to 100 Mbps. CAT 5 is based on the EIA/TIA 568 Commercial Building Telecommunications Wiring Standard.

- **"Color bars":** A standard test pattern of several basic colors (white, yellow, cyan, green, magenta, red, blue, and black) as a reference for system alignment and testing. In NTSC video, the most commonly

1. Brief Introduction
Terms and Definitions

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

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Terms and Definitions

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

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Terms and Definitions

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

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

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Terms and Definitions

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

- **"SMPTE":** Society of Motion Picture and Television Engineers. A global organization, based in the United States that sets standards for base band visual communications. This includes film as well as video and television standards.

- **"S-Video":** A composite video signal separated into the luma ("Y" is for luma, or black and white information; brightness) and the chroma ("C" is an abbreviation for chroma, or color information).

- **"Sync":** Synchronization. In video, sync is a means of controlling the timing of an event with respect to other events. This is accomplished with timing pulses to insure that each step in a process occurs at the correct time. For example, horizontal sync determines exactly when to begin each horizontal scan line. Vertical sync determines when the image is to be refreshed to start a new field or frame. There are many other types of sync in video system. (Also known as "sync signal" or "sync pulse.")

- **"TCP/IP":** Transmission Control Protocol/Internet Protocol. The communication protocol of the Internet. Computers and devices with direct access to the Internet are provided with a copy of the TCP/IP program to allow them to send and receive information in an understandable form.

- **"USB":** Universal Serial Bus. USB was developed by seven PC and telecom industry leaders (Compaq, DEC, IBM, Intel, Microsoft, NEC, and Northern Telecom). The goal was easy plug-and-play expansion outside the box, requiring no additional circuit cards. Up to 127 external computer devices may be added through a USB hub, which may be conveniently located in a keyboard or monitor. USB devices can be attached or detached without removing computer power. The number of devices being designed for USB continues to grow, from keyboards, mice, and printers to scanners, digital cameras, and ZIP drives.

- **"VESA":** Video Electronics Standards Association. A nonprofit number organization dedicated to facilitating and promoting personal computer graphics through improved standards for the benefit of the end-user. www.vesa.org

- **"VGA":** Video Graphics Array. Introduced by IBM in 1987, VGA is an analog signal with TTL level separate horizontal and vertical sync. The video outputs to a 15-pin HD connector and has a horizontal scan frequency of 31.5 kHz and vertical frequency of 70 Hz (Mode 1, 2) and 60 Hz (Mode 3). The signal is non-interlaced in modes 1, 2, and 3 and interlaced when using the 8514/A card (35.5 kHz, 86 Hz) in mode 4. It

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Terms and Definitions

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.

1. Brief Introduction

System Overview

VSP 5162PRO is the seamless switcher that accepts a wide variety of video signals, including analog RGB, Video, HDTV and Digital video and graphic inputs.

It combines truly seamless, glitch-free switching with advanced scaling technology producing high quality, high resolution video presentations. The VSP 5162PRO offers seamless transition effects CUT and Fade between the inputs switching, 4K×1K output splicing and quick configuration local control panel and remote control ports with free of charge Window based software and open protocol for system integration.

Compared with the old version, VSP 5162PRO improves the operation performance based on the feedback, also introduces new features which had been successful in other products, including Displayport input supports, user defined output resolution and up to 4K×1K splicing processing. All these advanced capabilities feature VSP 5162PRO the best cost to performance choice for high-end presentation environments.

1. Brief Introduction

Application Questions

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

2. Hardware Orientation

In This Chapter

This chapter provides detailed information about the VSP 5162PRO hardware. The following topics are discussed:

- VSP 5162PRO Back Panel

- VSP 5162PRO Front Panel

VSP 5162PRO Back Panel

The figure below illustrates the professional interface and control signals of

VSP 5162PRO back panel.

NO	INTERFACE	NO	INTERFACE
1. 2. 3	CVBS Input BNC port	12	Power IEC-3 port
4. 5	VGA Input DB15	13. 14	Displayport Input
6	S. V. D. U Optional Module	15.16. 17	DVI Input DVI-I
7	Dial Switch	17	Lock Port
8	10/100M Interface RJ45	18	SDI Input
9	USB Interface	19	SDI Loop Out
10	RS-232 Interface	20. 21	DVI Output DVI-I
11	Switch	22	VGA Output DB15

CONT Interface

7. Dial Switch

If the two dial switches are upwards, the device is in normal work, and if

they are downwards, the device is in upgrade state. OLED module light is

off when the device is in upgrade state. Some of the button lights turn on,

and the device will not work.

8. 10/100M UDP Interface

Used to connect the windows control program or device upgrade.

9. USB Interface

2. Hardware Orientation

VSP 5162PRO Back Panel

Used to connect the windows control program or device upgrade.

10. RS-232 Interface

Used to connect the windows control program or device upgrade.

Input Interface

It includes 3 CVBS inputs by BNC interfaces, 2 VGA input by DB15 interface, 3 DVI-I input (compatible with HDMI), 2 Displayport and 1 3G-SDI input.

1. 2. 3：CVBS Input

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

4. 5：VGA Input

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

13. 14：Displayport Input

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

15. 16. 17：DVI Input

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

(This Connection does not support hot-plugging).

Note

> When input DVI3 signal, the device has Genlock function.

18：3G-SDI Input

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

2. Hardware Orientation

VSP 5162PRO Back Panel

19：SDI Loop Out

SDI loop out, connect to the SDI input of the next VSP 5162PRO or the device with SDI input.

Output Interface

20. 21：DVI Output

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

(This connector does not support hot-plugging).

22：VGA Output

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

(This connector does not support hot-plugging).

Switch and Power

11. 12：Power Interface and Switch

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

Optional Module

6: S. V. D. U Optional Module

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

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

SDI Loop Out (S Optional Module): Connect to the SDI input of the next VSP 5162PRO or the device with SDI input.

2. Hardware Orientation

VSP 5162PRO Back Panel

VGA Input (V Optional Module): Input the video signal from HD player

and Computer, etc. input signal via the DB15 interface.

DVI Input (D Optional Module): Input the video signal from computer, DVI

signal generator. Connect to the same DVI interface on VSP 5162PRO.

(This connector does not support hot-plugging).

Note

> DVI-I is compatible with HDMI.

USB Input (U Optional Module): Can access the USB device or mobile

hard disk with USB storage function. Support general image and video

formats.

VSP 5162PRO Front Panel

Insert power cord and push power to ON position. OLED module on the front panel will show RGBlink and go into self verification before it load last setting and send processed image to the target monitor. For the first setup, CV1 input is default source. With front panel keyboard, user can operate VSP 5162PRO through the menus on OLED panel.

RGBlink

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亮彩系列
AVDSP SERIES VSP 5162PRO

↓

Wait Init Device...

↓

Wait Init Device
Finish！

↓

```
PROGRAM      CV1： 720×480×60i
PROGRAM      CV2： 720×480×60i
OUTPUT FORMAT ： 1920X1080X60
IP ADDRESS    ： 192.168.0.100
```

2. Hardware Orientation
VSP 5162PRO Front Panel

VSP 5162PRO front panel is as following:
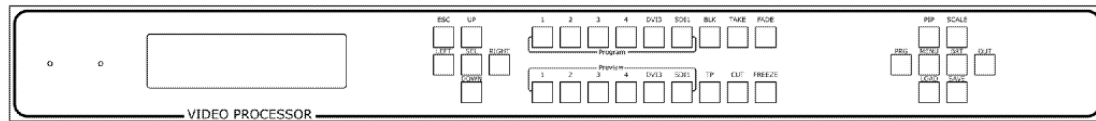
OLED Panel

Used to show button menu and menus for interactive communication.

Menu Buttons
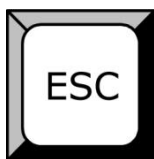
Push **ESC** to quit from current menu items.

Push **SEL** to confirm the current menu items or setting value.
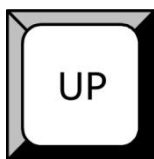
Push **UP** to select the previous item or increase the setting value.
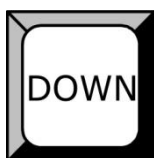
Push **Down** to select the previous item or decrease the setting value.
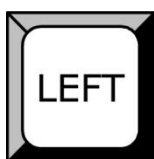
Push **LEFT** to select the item on the left.
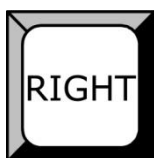
Push **RIGHT** to select the item on the right.

2. Hardware Orientation
VSP 5162PRO Front Panel

Signal Buttons

Program
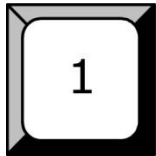
Program button 1. Push the button, its LED light turns on, program output will be switched to channel 1.
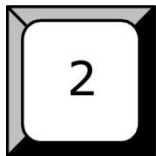
Program button 2. Push the button, its LED light turns on, program output will be switched to channel 2.

Program button 3. Push the button, its LED light turns on, program output will be switched to channel 3.

Program button 4. Push the button, its LED light turns on, program output will be switched to channel 4.

DVI3 input signal button, push the button, its LED light turns on, program output will be switched to DVI3 signal.

SDI1 input signal button, push the button, its LED light turns on, program output will be switched to SDI1 signal.

Preview
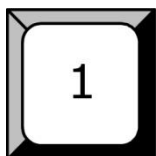
Preview button 1. Push the button, its LED light turns on, preview signal will be switched to channel 1.
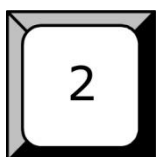
Preview button 2. Push the button, its LED light turns on, preview signal will be switched to channel 2.

2. Hardware Orientation

VSP 5162PRO Front Panel
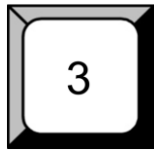
3   Preview button 3. Push the button, its LED light turns on, preview signal will be switched to channel 3.

4   Preview button 4. Push the button, its LED light turns on, preview signal will be switched to channel 4.

DVI3   DVI3 input signal button, push the button, its LED light turns on, preview output will be switched to DVI3 signal.

SDI1   SDI1 input signal button, push the button, its LED light turns on, preview output will be switched to SDI1 signal.

Function
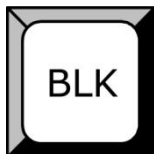
BLK   Black button is an additional input video source. Push the [BLK] button, and then push [TAKE] or [CUT] button, the LED lights turn on and the program output will be switched to black. Push the [BLK] button again to disable BLK signal and video processor returns to original preview output.
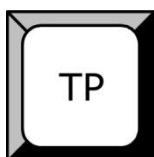
TP   Test Pattern button, push the button to enable the test pattern function. Test pattern can be set and selected from OLED panel, push the button again to disable the test pattern function.

—>PROGRAM OUT TP	ON
PREVIEW OUT TP	ON

Note

TP is in the form of Color Bar and with the resolution of 1024x768x60. Test pattern is used to check whether the output is OK without the inputs, and can use to qualify the output quality and display quality.

2. Hardware Orientation

VSP 5162PRO Front Panel

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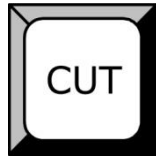
CUT — Seamless cut switch, push the button, the preview signal will be switched to program output.

FADE — Fade in fade out switch button, user can set the fade time between the range of 0~10S.

FREEZE — Freeze button, push the button, its LED light lights, and he current image is freeze. Push the button again, its LED light is off, and disable the freeze function.
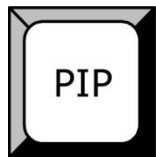
PIP — Single image and double images switch button. Push the button, user can switch the mode between single image and picture in picture.

SCALE — Size and position setting button. Push the button, user can set the H size, V size, H POS and V POS.
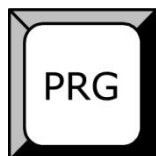
PRG — Program button, push the button to enter channel configuration.

MENU — Menu button. Push the button to enter the menu items. Push the [LEFT/RIGHT] button to select the menu and push the [SEL] button to confirm.
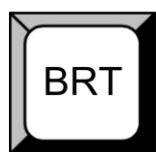
BRT — Brightness button, push the button, user can set the brightness and contrast.

2. Hardware Orientation

VSP 5162PRO Front Panel
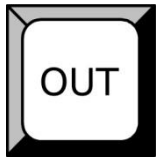
OUT — Output resolution selection button. Push the [UP/DOWN] button to select different output resolutions , Push the [SEL] button to select.
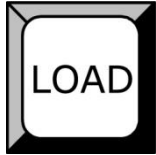
LOAD — Load Button, push the button to load the parameters. Push the [LEFT/RIGHT] button to choose the load mode.

For more details, please refer to How to Load the Saved Parameter.

SAVE — Save Button, push the button to save the parameters. Push the [LEFT/RIGHT] button to choose the save mode.

For more details, please refer to How to Save the Parameter.

3. Hardware Installation

In This Chapter

This chapter provides comprehensive installation instruction for VSP 5162PRO hardware.

Following is the size of VSP 5162PRO for your reference.
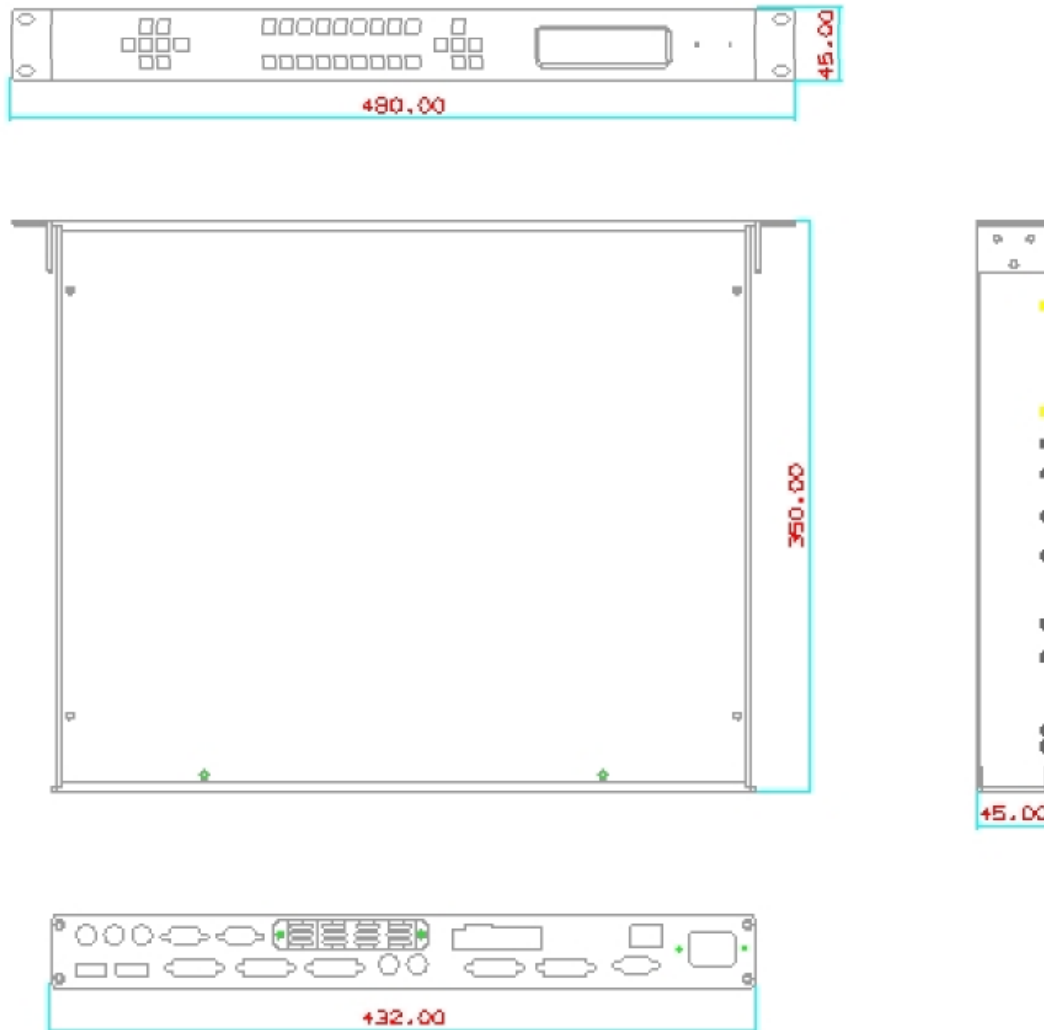
Safety Precautions

For all VSP 5162PRO processor installation procedures, please observe the following important safety and handling rules to avoid damage to yourself and the equipment.

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

Unpacking and Inspection

Before opening VSP 5162PRO 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 5162PRO 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 5162PRO 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**
  - ➢ OUTPUT FORMAT
  - ➢ SCREEN PARAMETERS
  - ➢ SPLIT
  - ➢ INPUT SETUP
  - ➢ SYSTEM
  - ➢ LANGUAGE 语言
  - ➢ FACTORY RESET

4. Menu Orientation

MENU

Push the [MENU] button to enter the menu items, shown as below. Push the [UP/DOWM] button to select the menu item. ">" before the menu means it is in selected state. Push the [SEL] button to enter corresponding setting or view the menu.

Menu

OUTPUT FORMAT
- **COMMON FORMAT**
  - 1024x768x60
  - 1280x720x60
  - 1280x768x60
  - 1280x800x60
  - 1280x1024x60
  - 1360x768x60
  - 1366x768x60
  - 1400x1050x60
  - 1440x900x60
  - 1600x1200x60
  - 1680x1050x60
  - 1920x1080x60
  - 1920x1200x60
  - 2048x1152x60
  - 2560x816x60
- **OTHERS FORMAT**
  - 720x480x60i
  - 720x576x50i
  - 800x600x60
  - 1024x768x75
  - 1024x768x85
  - 1280x720x23.98
  - 1280x720x24
  - 1280x720x25
  - 1280x720x29.97
  - 1280x720x30
  - 1280x720x50
  - 1280x720x59.94
  - 1920x1080x23.98
  - 1920x1080x24
  - 1920x1080x25
  - 1920x1080x29.97
  - 1920x1080x30
  - 1920x1080x50
  - 1920x1080x50i
  - 1920x1080x59.94
  - 1920x1080x59.94i
  - 1920x1080x60i
- **CUSTOMIZED**
- **GENLOCK**
  - ON
  - OFF
- **EDID**
  - SOURCE PORT
  - DEST PORT
  - START WRITE EDID

SCREEN PARAMETERS
- SCREEN H SIZE
- SCREEN V SIZE
- SCREEN H POS
- SCREEN V POS
- MODE
  - SCREEN SIZE
  - FULL SIZE
- RESET

SPLIT
- SPLIT
  - ON
  - OFF
- HORIZONTAL 1/2
  - H TOTAL
  - V TOTAL
  - FIRST WIDTH
  - RESET
- VERTICAL 1/2
  - H TOTAL
  - V TOTAL
  - FIRST HEIGHT
  - RESET

INPUT SETUP
- **ZOOM**
  - V UP
  - V DOWN
  - V UP/DOWN
  - H LEFT
  - H RIGHT
  - H LEFT/RIGHT
  - CENTER
  - RESET
- **MIRROR AND ROTATE**
  - PROGRAM 90 ROTATE
  - PROGRAM MIRROR
- **VGA ADJUST**
  - AUTO ADJUST
  - H POS
  - V POS
  - CLOCK
  - PHASE
  - hStart
  - vStart
  - INPUT MODE
- **ADC ADJUST**
  - ADC AUTO ADJUST
  - ADC RESET ALL
- **SDI ADJUST**
  - H POS
  - V POS
  - BRIGHTNESS RED
  - BRIGHTNESS GREEN
  - BRIGHTNESS BLUE
  - CONTRAST
  - SATURATION
  - SHARPNESS
  - COLOR RED
  - COLOR GRN
  - COLOR BLUE
  - RESET
- **OPTION INPUT**
  - USB OPERATE
  - H POS
  - V POS
  - RESET
  - UPDATE USB INPUT BOARD

4. Menu Orientation
MENU

OUTPUT FORMAT

Push [MENU] button, OLED shows the menu, push [UP/DOWN] button and

select <OUTPUT FROMAT>, push [SEL] button to confirm, show level 2

4. Menu Orientation

menus as follows:

COMMON FORMAT: Push [LEFT/RIGHT] button, and choose the different

resolutions, there are 15 kinds of common resolutions, show as follows:

1024×768×60, 1280×720×60, 1280×768×60, 1280×800×60,

1280×1024×60, 1360×768×60, 1366×768×60, 1400×1050×60,

1440×900×60, 1600×1200×60, 1680×1050×60, 1920×1080×60,

1920×1200×60, 2048×1152×60, 2560×816×60.

OTHER FORMAT： There are 22 kinds of other resolutions, show as

follows:

720×480×60i, 720×576×50i, 800×600×60, 1024×768×75,

1024×768×85, 1280×720×23.98, 1280×720×24, 1280×720×25,

1280×720×29.97, 1280×720×30, 1280×720×50, 1280×720×59.94,

1920×1080×23.98, 1920×1080×24, 1920×1080×25, 1920×1080×29.97,

1920×1080×30, 1920×1080×50, 1920×1080×50i, 1920×1080×59.94,

1920×1080×59.94i, 1920×1080×60i.

CUSTOMIZED: The special display project or LED display application

would like to require special resolution settings to meet the requirement.

Details please refer to the instructions in the manual: How to customized

output resolution.

GENLOCK: When input DVI3 signal, user can enable the genlock function.

EDID: The settings are as follows:

SOURCE PORT: Choose the source file RGBDVI, RGBHDMI or CUSTOM

EDID.

DEST PORT: Choose the dest port DVI1, DVI2 or DVI3.

START WRITE EDID: Start write EDID after choose the source port and

dest port.

SCREEN PARAMETERS

Push [MENU] button, OLED shows the menu, push [UP/DOWN] button and

4. Menu Orientation
MENU

select <SCREEN PARAMETERS>, push [SEL] button to confirm, show

level 2 menus as follows:

SCREEN H SIZE: Width setting.

SCREEN V SIZE: Height setting.

SCREEN H POS: Screen horizontal position setting.

SCREEN V POS: Screen vertical position setting.

MODE: User can choose screen size or full size.

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

reset.

For more details, please refer to: How to Set up the Screen Parameter.

SPLIT

Push [MENU] button, OLED shows the menu, push [UP/DOWN] button and

select <SPLIT>, push [SEL] button to confirm, there are 2 kinds of split

modes, shown as follows:

SPLIT ON/OFF: User can choose open or shutoff the split function.

HORIZONTAL 1/2: Settings are as follows:

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

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

FIRST WIDTH: The width of the device when do split.

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

reset.

VERTICAL 1/2: Settings are as follows:

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

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

FIRST HEIGHT: The height of the device when do split.

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

reset.

4. Menu Orientation
MENU

INPUT SETUP

Push [MENU] button, OLED shows the menu, push [UP/DOWN] button and select <INPUT SETUP>, push [SEL] button to confirm, show the level 2 menu as follows:

ZOOM：Push [MENU] button, OLED shows the menu, push [UP/DOWN] button and select <ZOOM>, push [SEL] button to confirm, OLED shows as follows:

V UP: Enlarge the image from the bottom.

V DOWN: Enlarge the image from the top.

V UP/DOWN: Enlarge the image to the top and bottom.

H LEFT: Enlarge the image from the right.

H RIGHT: Enlarge the image from the left.

H LEFT/RIGHT: Enlarge the image to the left and right.

CENTER: Enlarge the image to the center.

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

For more details, please refer to: How to Zoom the Image.

MIRROR AND ROTATE：Push [UP/DOWN] button and select [MIRROR AND ROTATE], push [LEFT/RIGHT] button for setting, the submenus are as follows:

PROGRAM 90 ROTATE: Push [LEFT/RIGHT] button, user can choose NO ROTATE, LEFT ROTATE and RIGHT ROTATE.

LEFT ROTATE:

4. Menu Orientation
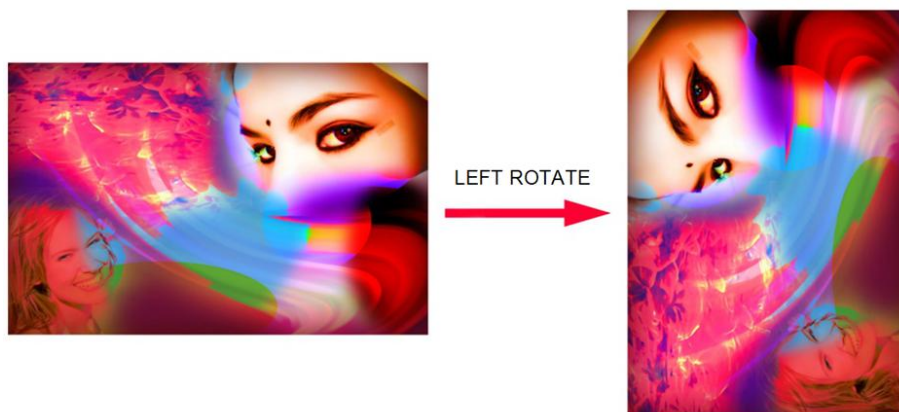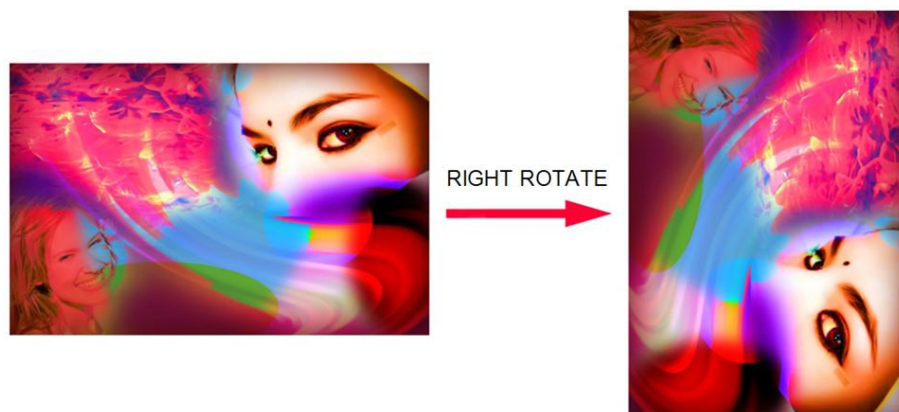
MENU

LEFT ROTATE

RIGHT ROTATE:

RIGHT ROTATE

PROGRAM MIRROR: Push [LEFT/RIGHT] button, user can choose NO

MIRROR, H MIRROR, V MIRROR and IMAGE MIRROR.

H MIRROR:

H MIRROR

V MIRROR:

V MIRROR
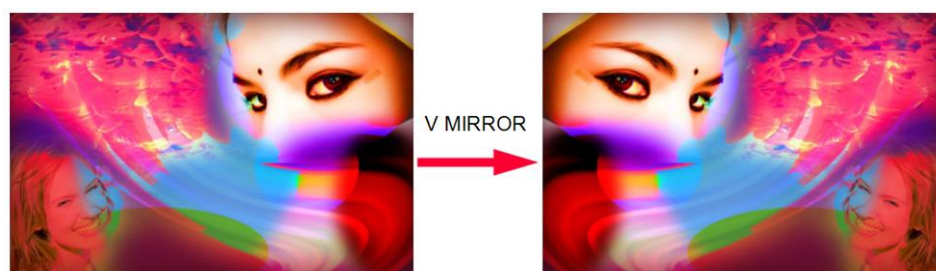
4. Menu Orientation
MENU

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

AUTO ADJUST: Auto adjust VGA input signal H POS, V POS, CLOCK,

PHASE, auto adjust to display in full screen image.

Note

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

H POS: Adjust the horizontal position.

V POS: Adjust the vertical position.

CLOCK: Adjust the input signal clock.

PHASE: Adjust the input image phase.

hStart: Adjust the horizontal start.

vStart: Adjust the vertical start.

Note

Only comments to professional operator.

INPUT MODE: Choose VGA or YPbPr.

ADC ADJUST：Brightness auto adjusting.

SDI ADJUST: When SDI input signal image shift, please adjust image's H

POS and V POS to display in full screen image.

Sub menu as follows:

H POS: Image horizontal position.

V POS: Image vertical position.

BRIGHTNESS RED: It can change the image brightness via

BRIGHTNESS RED setting.

BRIGHTNESS GRN: It can change the image brightness via

BRIGHTNESS GRN setting.

BRIGHTNESS BLUE: It can change the image brightness via

BRIGHTNESS BLUE setting.

4. Menu Orientation
MENU

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

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

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

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

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

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

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

OPTION INPUT ADJUST: Settings are as follows:

USB OPERATE: Choose the USB file by turn the knob.

H POS: Image horizontal position.

V POS: Image vertical position.

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

UPDATE USB INPUT BOARD: Update the USB input board version.

SYSTEM

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

ETHERNET: Network setting, including:

NETWORK ON/OFF: Can choose "ON" or "OFF".

IP ADDRESS: 192.168.000.100.

SUBNET MASK: 255.255.255.000.

GATEWAY: 192.168.000.001.

OUTPUT ADJUST: Settings are as follows:

DVI1 setting as follows:

4. Menu Orientation

MENU

OUTPUT: User can choose PROGRAM or PREVIEW.

DVI MODE: Can select HDMI agreement or DVI, system default is DVI output.

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

DATE RANGE: DVI1 out range adjustment can choose RGB or YCBCR; among them the RGB adjusting range is between 0-255, YCBCR adjusting range from 16 to 235.

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

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

H POS: Horizontal phase setting.

V POS: Vertical phase setting.

H SIZE: Width setting.

V SIZE: Height setting.

H POLARITY: Horizontal polarity setting.

V POLARITY: Vertical polarity setting.

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

DVI2: The operations are the same with DVI1.

VGA: Can choose program or preview.

DSK SETUP: DSK function, settings as follows:

DSK: Can select "ON" or "OFF", OFF is the default state.

SELECT INPUT: Select the input signal.

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

User: User mode.

WhOnBk1: White On Black 1.

WhOnBk2: White On Black 2.

4. Menu Orientation

MENU

BkOnWh1: Black On White 1.

BkOnWh2: Black On White 2.

GrnOnBk1: Green On Black 1.

GrnOnBk2: Green On Black 2.

GrnOnWh1: Green On White 1.

GrnOnWh2: Green On White 2.

RedOnBk1: Red On Black 1.

RedOnBk2: Red On Black 2.

RedOnWh1: Red On White 1.

RedOnWh2: Red On White 2.

ALPHA: It can set the image transparency, regulating range between 0 - 128.

SET VALUE:

INSIDE: In image 2, if the pixel value is higher than the setting value, then the image is the graphic content pixel, otherwise, it is the graphic background pixel.

OUTSIDE: In image 2, if the pixel value is lower than the setting value, then the image is the graphic content pixel, otherwise, it is the graphic background pixel.

RED: Red limit, cut-off point condition of INSIDE and OUTSIDE condition in red channel, the range is 0 ~ 255.

GREEN: Green limit, cut-off point condition of INSIDE and OUTSIDE condition in green channel, the range is 0 ~ 255.

BLUE: Blue limit, cut-off point condition of INSIDE and OUTSIDE condition in blue channel, the range is 0 ~ 255.

For more details, please refer to: How to Realize DSK Setting.

TRANSITION: The FADE TIME is between the range of 0~10S.

SAVE SETUP: Settings are as follows:

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

4. Menu Orientation

MENU

LOAD: Push the [LEFT/RIGHT] button to choose the load channel.

CLEAR: Clear one save mode.

CLEAR ALL: Clear all save modes.

DELAY RECALL: User can set the delay recall time, range from 0-255S.

SYSTEM INFO: System information, including Com Board version, Core Image Pro version, Back Pro Fireware version, Front Pro Fireware version, SDI version and serious number.

TECH SUPPORT: Include the sales hotline, customer service number, company telephone number, email and website.

DATE&TIME: Display date or time.

DATE: Display date.

TIME: Display time.

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

TOTAL TIME: Total working time.

BOOT TIMES: Boot times.

CHANGE DATE.

CHANGE TIME.

LOCK FRONT PANEL: In order to avoid the wrong operations, user can lock front panel.

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

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

PREVIEW FOLLOW: User can enable or disable the preview follow function.

USB UPDATE: User can update the device by USB.

LANGUAGE 语言

User can choose Chinese or English according to their needs to operate

4. Menu Orientation

the interface more quickly.

FACTORY RESET

Enter FACTORY RESET to reset the IP, push the knob to confirm, and VSP

5162PRO is reset to its factory settings. After 5 seconds, it completes

factory settings and is ready for more operations.

5. Communication Software Guideline

In This Chapter

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

- Software Installation
- Software Operation
- How to Connect Windows Control Program by LAN Interface
- How to Connect Windows Control Program by RS-232 Interface
- How to Connect Windows Control Program by USB Interface

Software Installation

AVDSP video processor is very easy to be configured with user friendly

communication software, support drag and drop operation for edit and

display.

Also it can be customized with schedule function.

Double click to install, English version default

for use, click "Next" to next dialog:
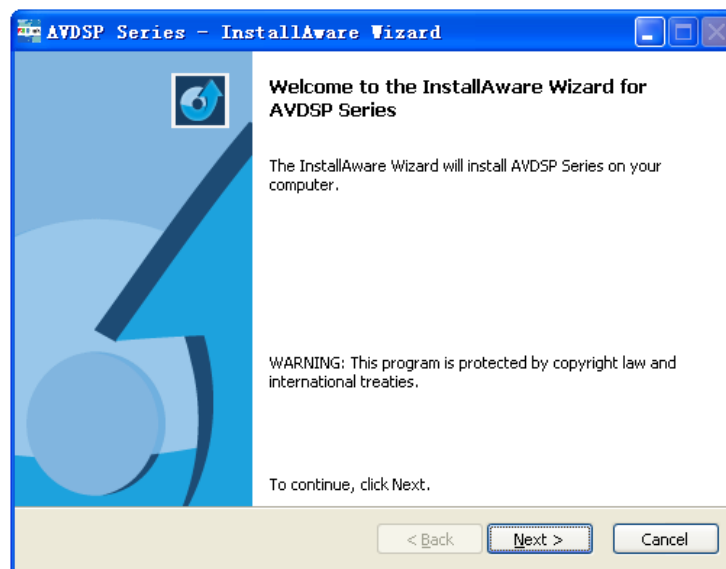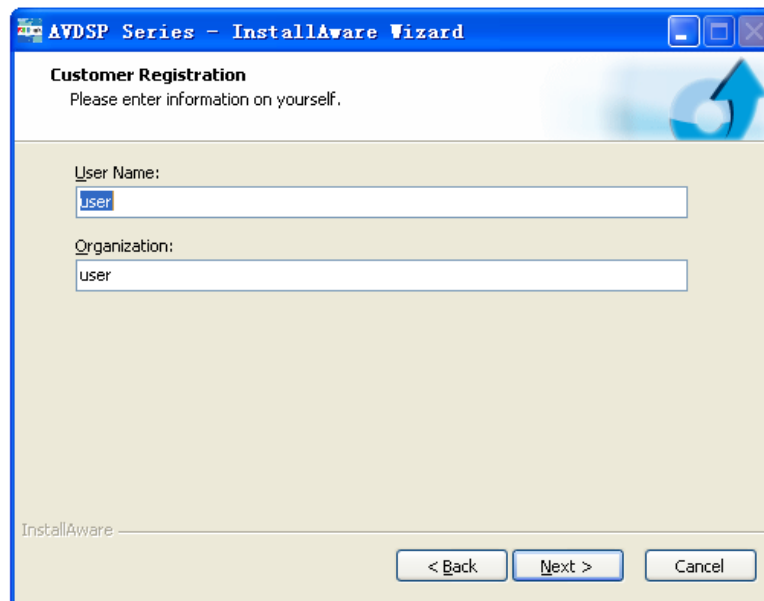
And in next dialog is the user agreement of the software, click Agree to go

on:
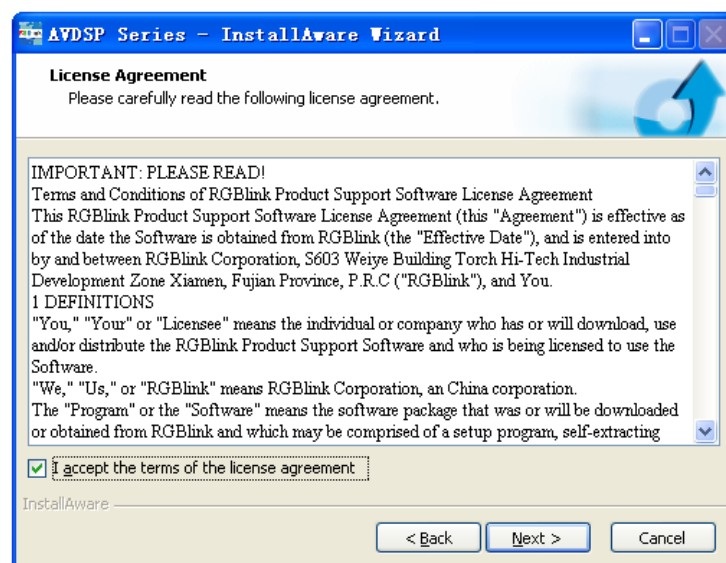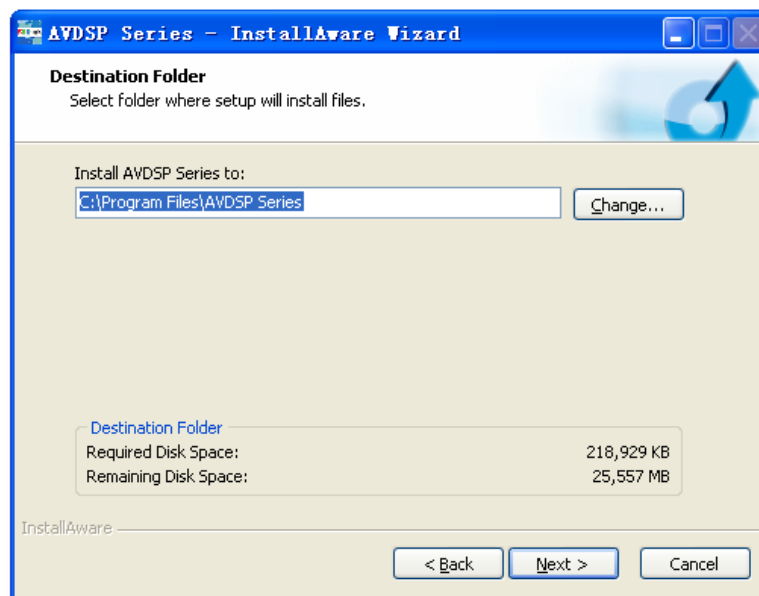
5. Communication Software Guideline
Software Installation

User can select "Change" to choose the VSP 5162PRO install software:

5. Communication Software Guideline

Software Installation

Click "Next" to go on:

Click "Next" to go on:
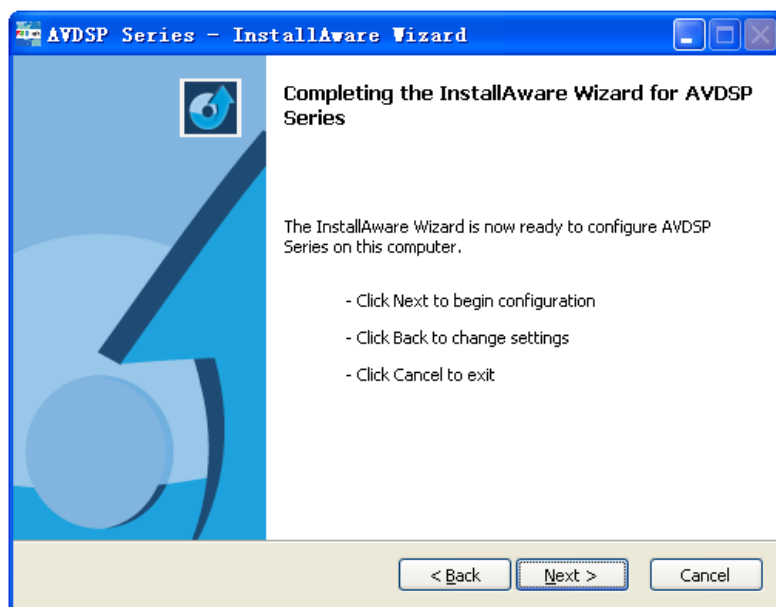
5. Communication Software Guideline
Software Installation

Click "Next" to go on:
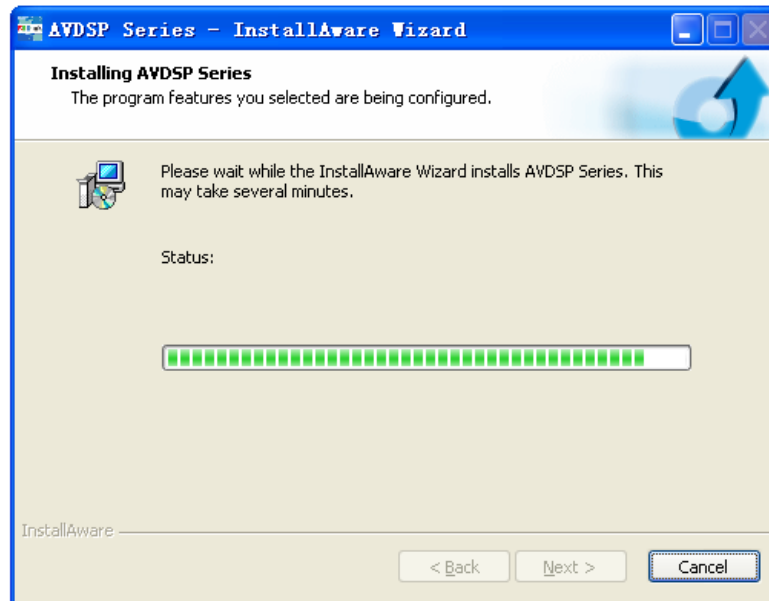
Click "Finish" and ready to run VSP 5162PRO console:
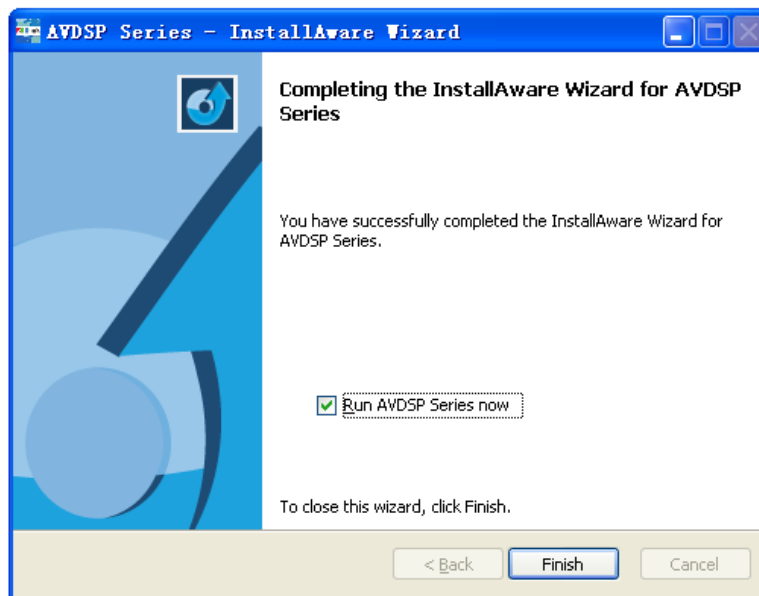
Software Operation

Install communication which comes with the package of VSP 5162PRO.

Double click ![AVDSP Series icon] icon from home screen and choose ![RGBlink VSP5162_2] to run

the software. VSP 5162PRO communication software interface as shown:
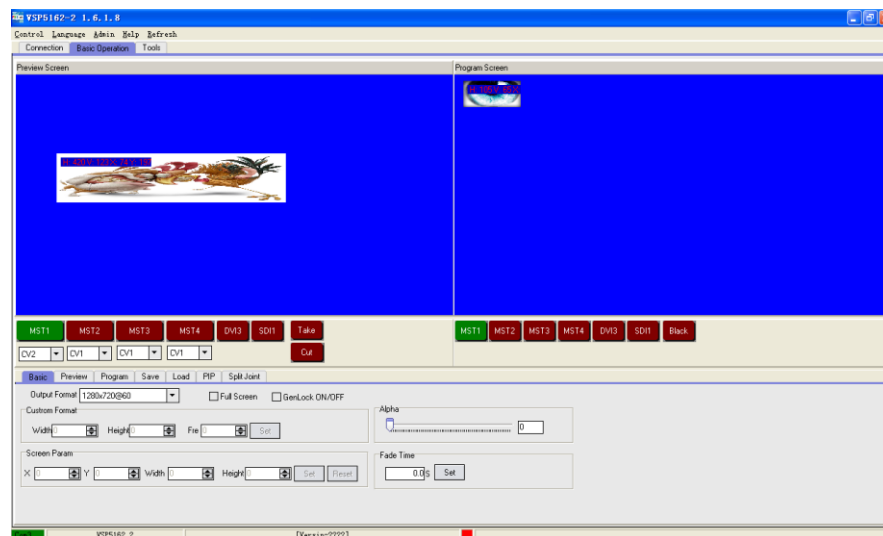
Set up Communication

Besides the power cord, the product default equip with the RS-232 line, DB9F line, and RJ11 (6 B4C) line to connect VSP 5162PRO to the windows control program.

For more detailed information, please refer to: "**How to Connect Windows Control Program by RS-232 Interface**". In addition, we also equipped with USB line, you can also connect the computer and video processor with it to control PC software. Please refer to "**How to Connect Windows Control Program by USB Interface**" for more detailed information.

> **Note**
>
> RS-232 serial line and USB cable can do 100M program upgrade.

5. Communication Software Guideline
Software Operation

Ethernet, user can fill any number less than1023 in local port, the remote

port must be 192.168.0.100 and the remote port must be 1000. After

setting above, click the icon [icon] to connect with the net work. If

successful connect, the icon becomes [icon], status on the left button

showing UDP1000 Opened.
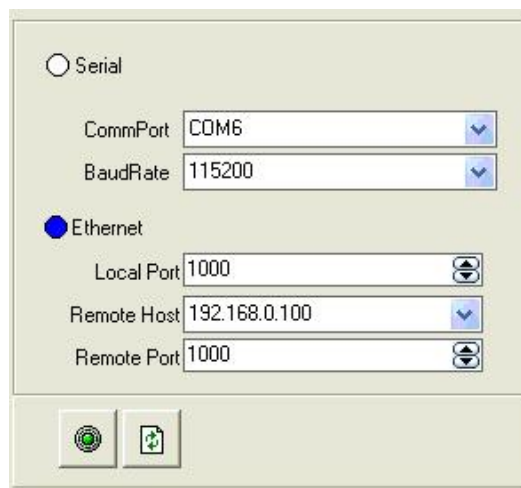
Basic Operation

Image Toolbar

Show the image information, including layer, size and position.
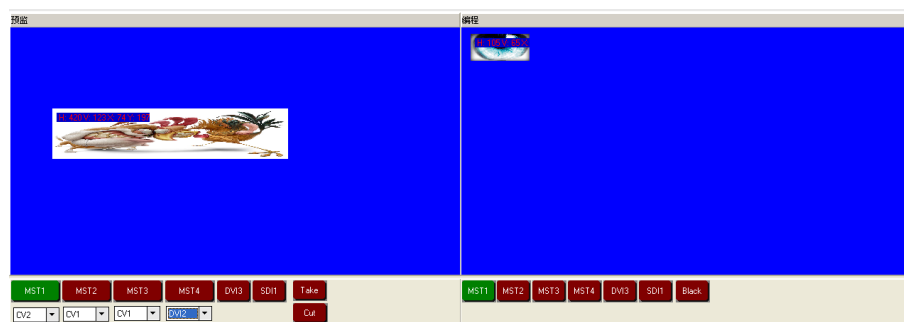
Preview

Left part is preview screen, the top left corner H: 420 V: 123 X: 74 Y: 197

shows input signal information, layer, size and position, can preview the

input signals.

5. Communication Software Guideline

Software Operation

 buttons

correspond with preview channel, can be switched to program screen by

 or button.

Program

Right part is program screen, the top left corner shows

input signal information, layer, size and position.

 buttons correspond

with program channel, and program output image can be switched by

these button. User can adjust the program image by setting the size and

position.

Basic

Interface is as follows:
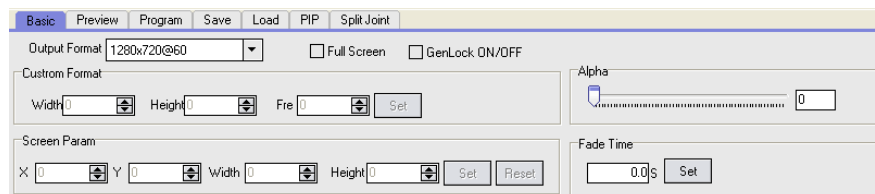
Choose different output resolutions by selecting from scrolling down list:
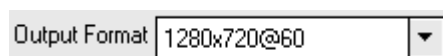
Custom format setting.

User can choose enable or disable the Full Screen, Output Synchro.

5. Communication Software Guideline
Software Operation

Set the X, Y, Width and Height according to actual need. Click Set after

finish. If image quality distorts by improper operation, it can be recover by

reset.
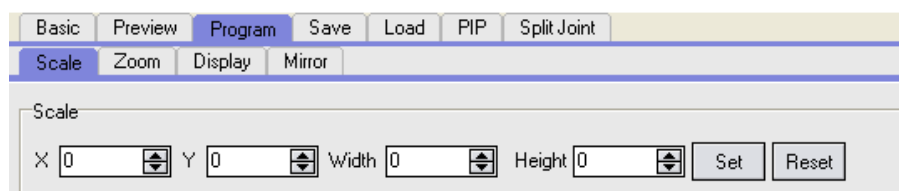

Set the alpha, the setting range is among 0 to 128.
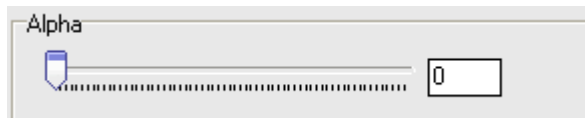

Fade time setting.
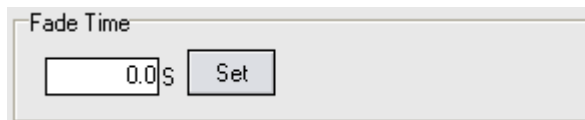
Preview

Scale

Scale the image by adjust X, Y, Width and Height. Click "Set" after finish. If

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

Zoom

Zoom the image. Click "Set" after finish. If image quality distorts by

improper operation, it can be recover by reset.
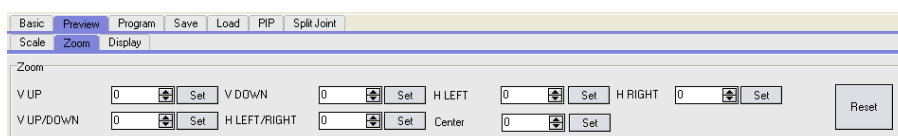
Display

Set the brightness, contrast, sharpness, saturation and color temp. If

quality image distorts by mistake in improper operation, it can be

initialized operation to recover factory setting.

5. Communication Software Guideline
Software Operation
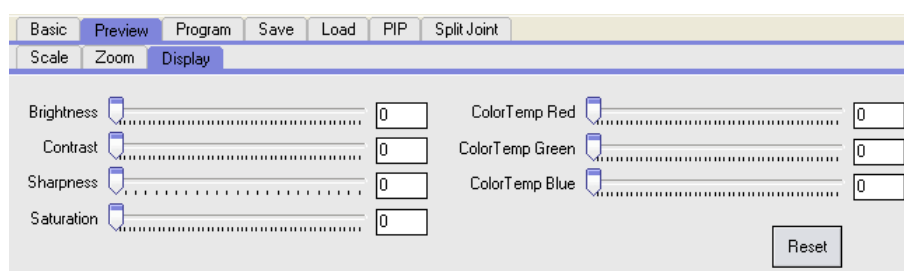
Program

### Scale

Scale the image by adjust X, Y, Width and Height. Click "Set" after finish. If

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

Zoom

Zoom the image. Click "Set" after finish. If image quality distorts by

improper operation, it can be recover by reset.
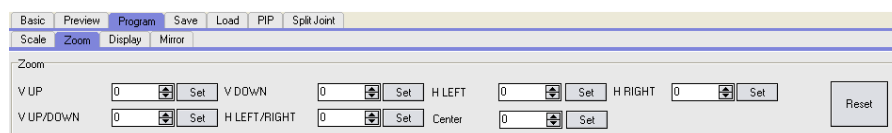
Display

Set the brightness, contrast, sharpness, saturation and color temp. If

quality image distorts by mistake in improper operation, it can be

initialized operation to recover factory setting.
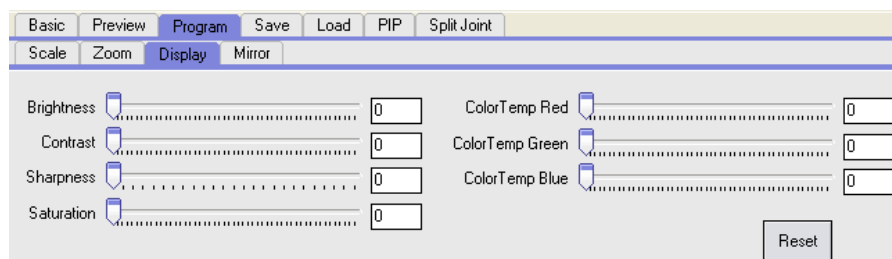
5. Communication Software Guideline
Software Operation

Mirror

Rotate: User can choose None, Left 90 and Right 90.

Mirror: User can choose None, H Mirror, V Mirror and HV Mirror.
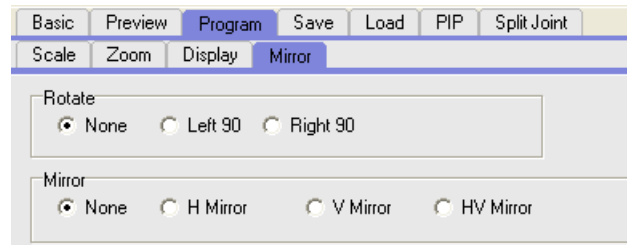
Save
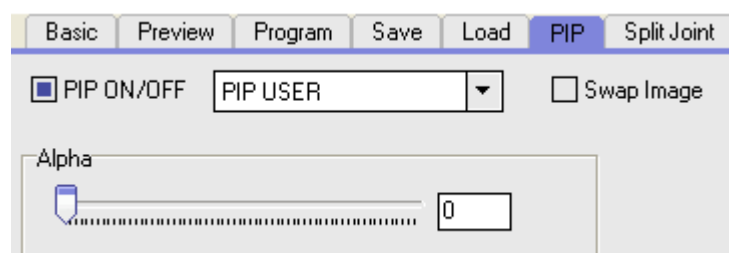
Click the following save button to save the parameters.
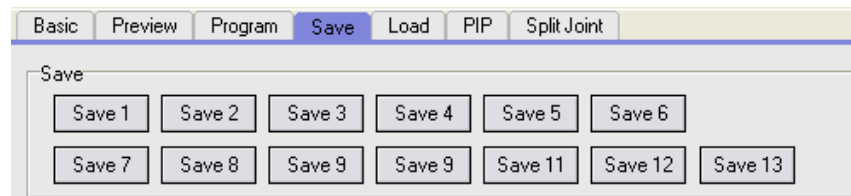
Load

Click the following save button to load the saved parameters.
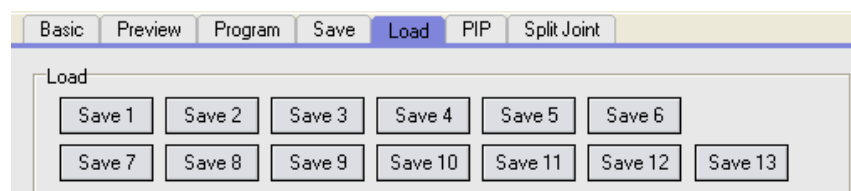
PIP

PIP setting, enable the PIP function, choose the PIP mode, and set the alpha.

5. Communication Software Guideline
Software Operation

Split Joint

Choose the split mode and set the split parameters.

Tools

Output Adjust

Select output port, output mode, output type, etc, and set the parameters.

EDID

User can read, write and custom EDID.

SDI

Set the position, brightness, saturation, contrast, sharpness and color temp of SDI signal.

5. Communication Software Guideline
Software Operation
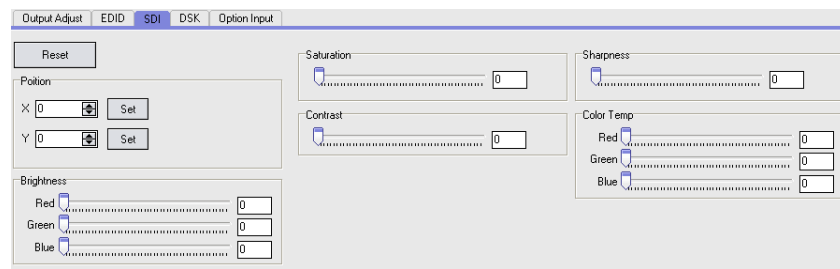
DSK

Enable the DSK switch function, select title input source, default mode

and set value, and set the alpha and color.
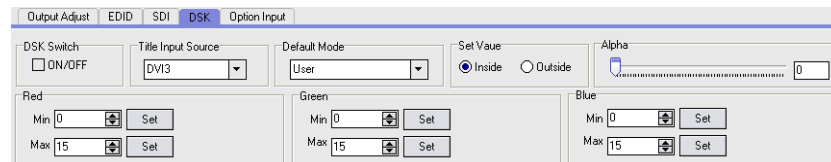
Option Input

Set the position of the option input, anti-alias processing is available for

SDI signal.

5. Communication Software Guideline
Software Operation

Control

Device Update
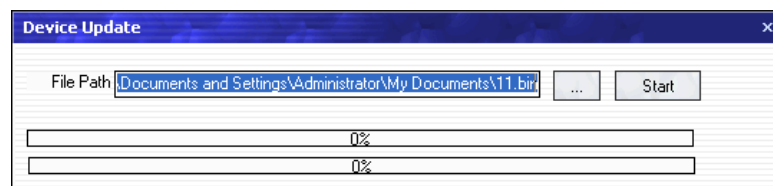
User Info

User can input device user information, and then click Write to save.

5. Communication Software Guideline
Software Operation

Device IP

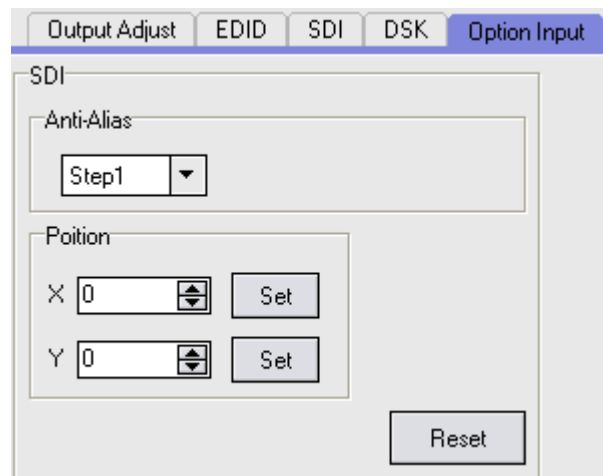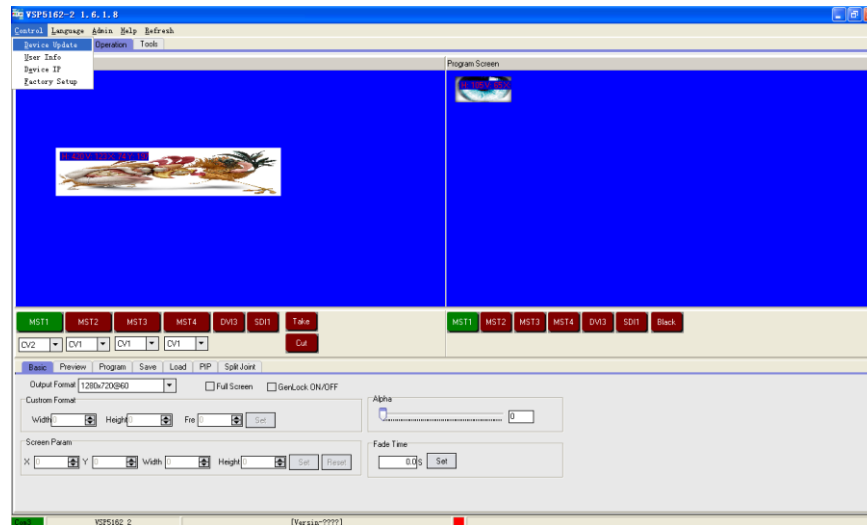Users can set equipment IP, usually used when one computer control many devices or remote control. It takes effect immediately after users change IP through serial port; and when users change IP through network, it takes effect after reopen the software.
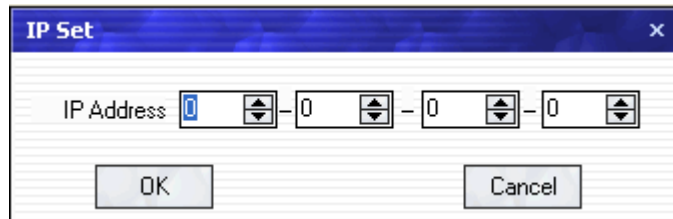
Factory Setup

Click "Factory Setup", previously saved user mode will be cleared.

Language

This software supports both Chinese and English, User can switch the language by "Language" option.

Admin

Advance Debug：User should input the password in the "Admin Password" dialog for advance debug.
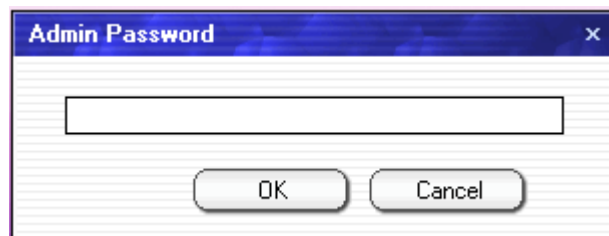
Note

Advance is only done by engineer. If need,

please connect us for password.

5. Communication Software Guideline

Software Operation

Help

Version Explain: Show the content of software update history.

About: Show software version and company information.
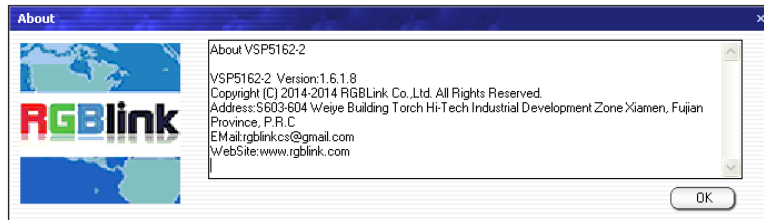
Refresh

Refresh the current page.

Information Toolbar

It shows the VSP 5162PRO software version, core board version, firmware version and the serial number in the bottom of the software interface.

How to Connect Windows Control Program by LAN Interface

First, install the upper computer software in the computer.

Connect VSP 5162PRO and computer with cable, the connection diagram is as follows:
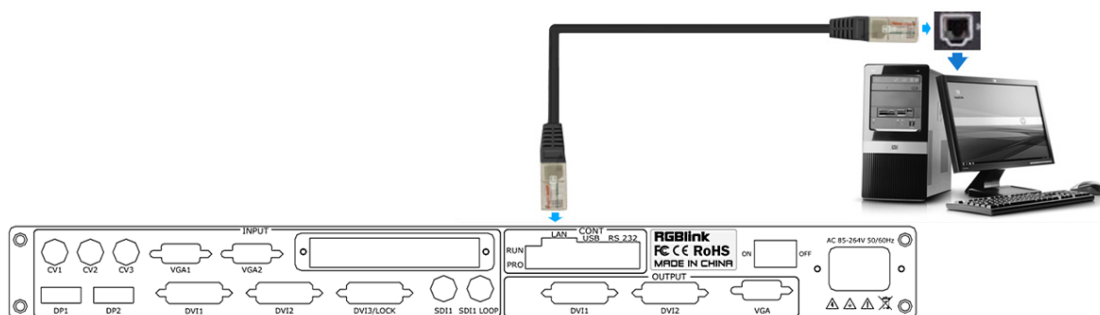
Power on VSP 5162PRO, start the network function, specific steps are as follows: MENU--SYSTEM -- ETHERNET -- NETWORK, select ON, and check the IP address of the equipment, confirm if it is consistent with the computer, such as 192.168.0.***, take 192.168.0.100 for example.

Open the upper computer software, click [icon], interface is shown as follows:
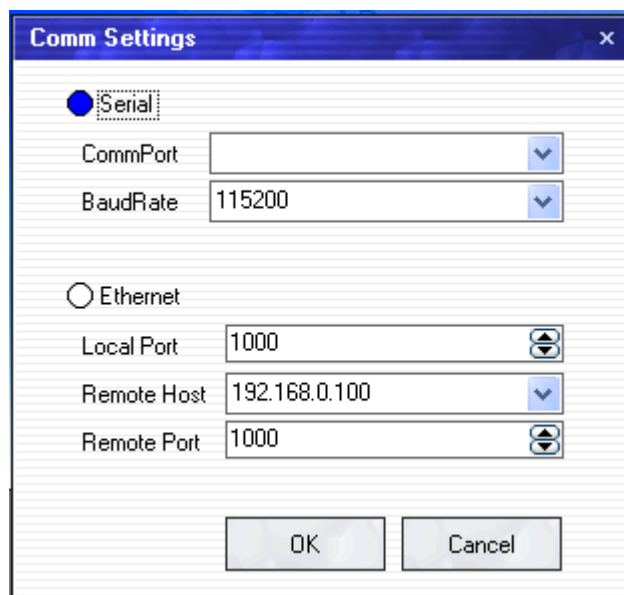
Choose [Ethernet]:

5. Communication Software Guideline
How to Connect Windows Control Program by LAN Interface
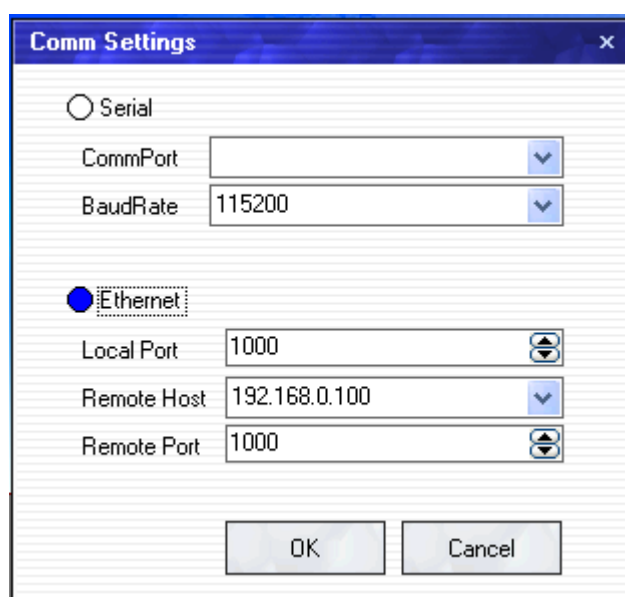
Input IP address, click [OK].

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

How to Connect Windows Control Program by RS-232 Interface

Firstly, install the control software in your PC.

Take out the RS-232 cable as following（RS-232, with 9-pin on one end，

RJ 11 on the other side.） Connect one side of the RJ11 download line to

the RS-232 on the video processor VSP 5162PRO, and the other side to

be connected to the serial port on the PC.
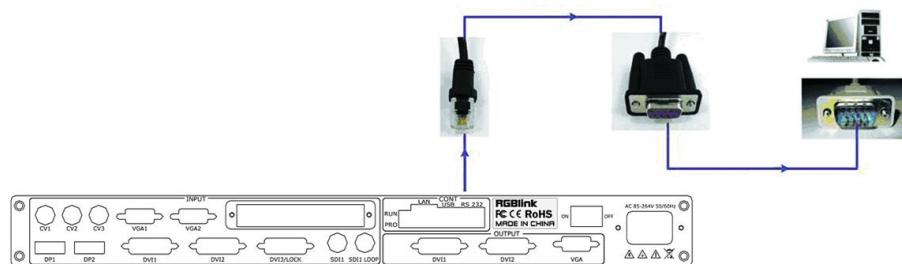
If there is no any Serial port on your PC, you will need another Serial to

USB adapter. Connect one end of the RJ11 download line to the RS-232

on the video processor. Connect the end of USB-side to the PC, Ensure

the cable connection is good. Turn on the Video Processor VSP 5162PRO.

Right click the [My Computer] on the home screen of control PC. Enter

[Attribute], Find [Hardware] Option, as following.

5. Communication Software Guideline
How to Connect Windows Control Program by RS-232 Interface
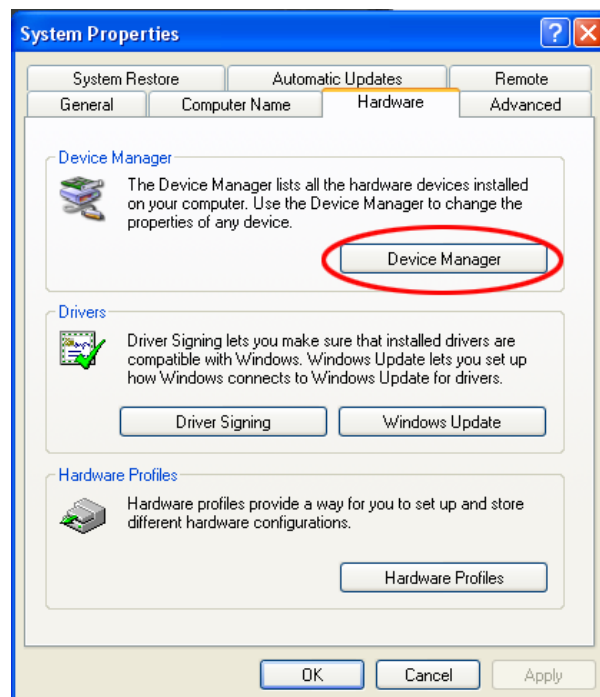
Click [Device Manager "+" on the left, check the COM number, as following,

COM1 is offered.

Remember the COM you are using and then run the control software, find

[Communication] option. In default, first time user have to click
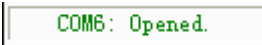
button, as following:

5. Communication Software Guideline
How to Connect Windows Control Program by RS-232 Interface
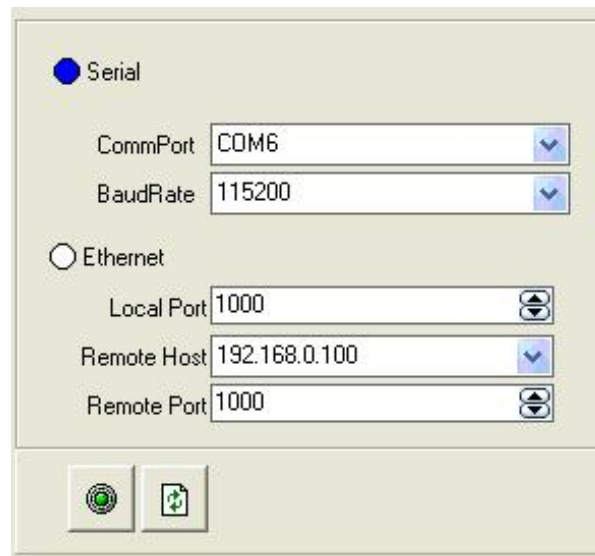
Check and tap [Serial], Serial Port , for example, is **COM6** which is checked

from device manager. Set VSP 5162PRO Boud Rate to be :115200, Click

[Confirm] after setting.

Click ⊙ [open serial], check if [COM] icon on the bottom right corner,

when there is the prompt green ⌈ COM6: Opened. ⌉ showing on the

software, it means the communication is ok , and you can use the software

to control the device now.

Note

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

How to Connect Windows Control Program by USB Interface

Install the driver.

Connect the USB cable to the PC and the video processor .turn on the VSP 5162PRO, 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, push "NEXT":
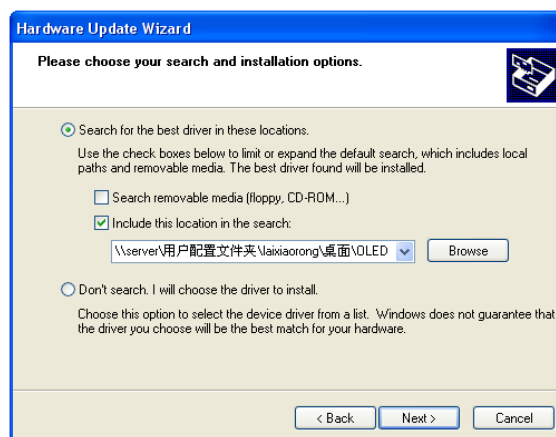
Push "browser" to find the driver, and press "NEXT":

5. Communication Software Control Guide

How to Connect Windows Control Program by USB Interface

When the installation finish, can go to check the installed COM port inside

the device management, as following picture shows:

5. Communication Software Control Guide
How to Connect Windows Control Program by USB Interface
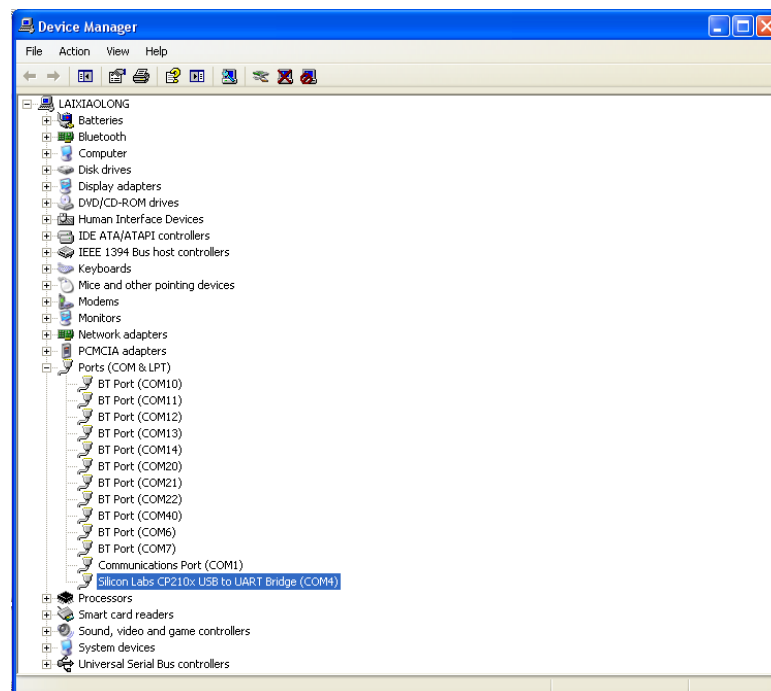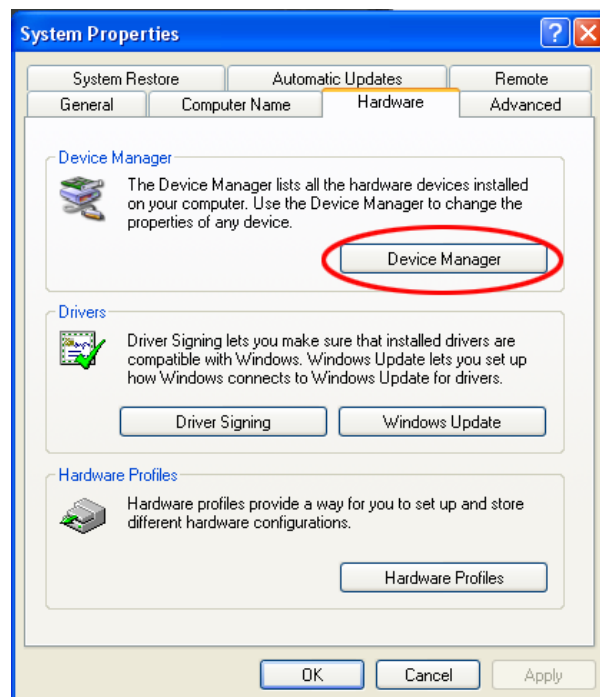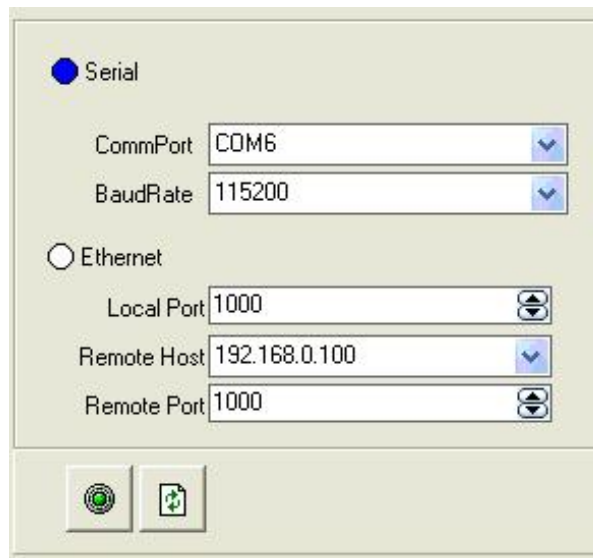
Install the console software, and run after install, shows the interface of the console as following:

Select the COM as installed just now, and set the VSP 5162PRO Boud Rate to be: 115200.

5. Communication Software Control Guide
How to Connect Windows Control Program by USB Interface

Push to start communication, when there is green point in the right

down corner showing on the software, it means the communication is ok,

and you can use the software to control the device now, the software

operation is the same as VSP 5162PRO.

6. System Setup and Operations

In This Chapter

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

- Interface and Input Signal Option
- How to Program the Input Signal
- How to Realize the Preview and Program Output Switching
- How to Set up the PIP
- How to Do Customized Output Resolution
- How to Scale the Image
- How to Zoom the Image
- How to Use Black Out
- How to Realize the Screen Size Setting
- How to Realize DSK Setting
- How to Realize Mirror and Rotate Setting
- How to Realize 4K×1K Mapping
- How to Realize Different Pixels Mapping
- How to Save the Parameter
- How to Load the Saved Parameter

6. System Setup and Operations

Interface and Input Signal Option

The figure below illustrates the professional interface and control signals of

VSP 5162PRO back panel.

NO	INTERFACE	NO	INTERFACE
1. 2. 3	CVBS Input BNC port	12	Power IEC-3 port
4. 5	VGA Input DB15	13. 14	Displayport Input
6	S. V. D. U Optional Module	15.16. 17	DVI Input DVI-I
7	Dial Switch	17	Lock Port
8	10/100M Interface RJ45	18	SDI Input
9	USB Interface	19	SDI Loop Out
10	RS-232 Interface	20. 21	DVI Output DVI-I
11	Switch	22	VGA Output DB15

20. 21. DVI output , use for connecting the sending card of LED display.

VSP 5162PRO support resolution format as following:

1024×768×60, 1280×720×60, 1280×768×60, 1280×800×60,

1280×1024×60, 1360×768×60, 1366×768×60, 1400×1050×60,

1440×900×60, 1600×1200×60, 1680×1050×60, 1920×1080×60,

1920×1200×60, 2048×1152×60, 2560×816×60.

22. VGA output, connect the display or other device with VGA interface:

1024×768×60, 1280×720×60, 1280×768×60, 1280×800×60,

1280×1024×60, 1360×768×60, 1366×768×60, 1400×1050×60,

1440×900×60, 1600×1200×60, 1680×1050×60, 1920×1080×60,

6. System Setup and Operations
Interface and Input Signal Option

1920×1200×60, 2048×1152×60, 2560×816×60.

1. 2. 3. CVBS (BNC Port） Can receive standard video signal from players, cameras etc. Input supported resolution 480i and 576i via BNC. Supported standards include: PAL, NTSC and SECAM.

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

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

15. 16. 17. DVI（DVI-I Port） Computer graphics interface may receive the DVI output interface can also through the DVI turn HDMI cable to connect the computer graphics HDMI output or DVD HDMI output;

18. 3G-SDI（BNC Port） Can receive video signal from HD player and radio processing equipment, connect SDI interface via 75 ohms BNC port.

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

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

6. System Setup and Operations

How to Program the Input Signal

1. Push any button of [1], [2], [3], [4] in Preview area, and choose the input

   signal.

2. Push [PRO] button, then finish the input signal program.

   For example, program DVI1 signal, first push [4] button, the LED light is on,

   then push [PRO] button, the OLED panel shows as follows:

—>PROGRAM SOURCE   DVI1
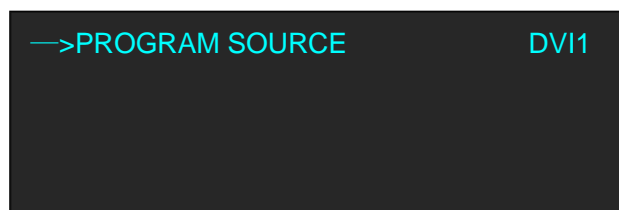
Note

If choose the same signal in Program and Preview area, the signal can not be programmed.

6. System Setup and Operation

How to Realize the Preview and Program Output Switching

VSP 5162PRO can realize seamless effects switch between two channels, choose the signal in Preview area, then push [CUT] or [TAKE] button, the signal will be switched to LED display.

For example, switch the signal of channel 2 to LED display, first push the [2] button in Preview area, then push the [CUT] or [TAKE] button, and the LED display will show channel 2 signal.

System default the switch time is 1 seconds for [TAKE] button, if need to adjust the fade in fade out time, push the [FADE] button, then push the [UP/DOWN] or [LEFT/RIGHT] button for setting, and push the [SEL] button to confirm. Push [TAKE] button again, the signal will be switched to the LED display with the adjusted time.

User can also switch the signal by pushing the signal button in Program area, but the signal in monitor will not change.

How to Set up the PIP

Push the [PIP] button, the button led light turn on, and enter the PIP

function menu. Choose <PIP>, and set <ON> to enable the PIP function.

```
—>PIP                        ON
  LAYOUT                 PIP L+T
  ALPHA                      0
  SWAP IMAGE               OFF
```

```
—>SELECT                    PIP
```
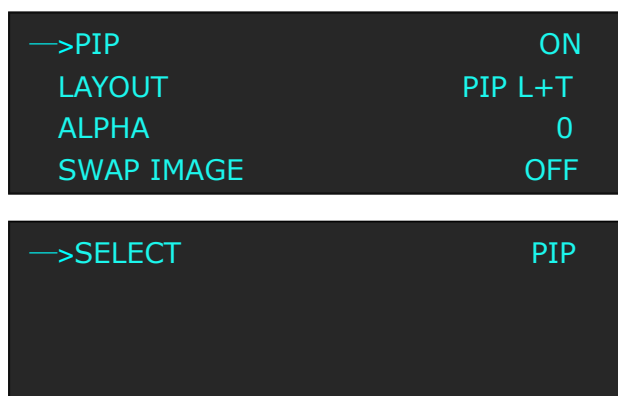
LAYOUT: Can choose PIP layout, the corresponding results are as follows:

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

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

to 128.

SWAP IMAGE: It can set PIP to swap exchange, when choose ON, it can

realize the IMAGE A and IMAGE B exchange.

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

individually.

How to Do Customized Output Resolution

1. Push [MENU] button to enter the menu items, push the [UP/DOWN]

   button and choose <OUTPUT FORMAT>, push the [SEL] button to

   confirm. Shown as following:

   ```
   —>COMMON FORMAT              >>
      OTHERS FORMAT             >>
      CUSTOMIZED                >>
      GENLOCK                  OFF
   ```

2. Push the [UP/DOWN] button and choose [CUSTOMIZED], push the

   [SEL] button to confirm:

   ```
      CUSTOMIZED:
   —>1024×0768@60
   ```

3. Push the [SEL] or [LEFT/RIGHT] button, and choose the position that

   need to adjust. Then push the [UP/DOWN] button to adjust the width. For

   example, input 1920 as following:

   ```
      CUSTOMIXZED:
   * 1920×0768@60
   ```

4. Same operation for height and rate, for example adjust the height as

   1080 and the rate as 50, shown as follows:

   ```
      CUSTOMIXZED:
   * 1920×1080@50
   ```

6. System Setup and Operation

5. After adjust all the values, push the [SEL] button to enable

VSP 5162PRO to output this resolution.

6. System Setup and Operation

How to Scale the Image

Push the [SCALE] button, and enter the SCALE menu items, push the
[UP/DOWN] button to choose the items that need to adjust, push the [SEL]
button to confirm. Push the [SEL] or [LEFT/RIGHT] button to choose the
position that need to adjust, and adjust the setting values by pushing the
[UP/DOWN button], push the [SEL] button to confirm.

SCALE menu are as follows:

H SIZE: Width setting.

V SIZE: Height setting.

H POS: Horizontal position setting.

V POS: Vertical position setting.

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

```
—>H SIZE                    1920
   V SIZE                    1080
   H POS                     0000
   V POS                     0000
```

```
—>RESET
```

6. System Setup and Operation

How to Zoom the Image

Image vertical and horizontal zoom, the effect can stretch the image according to one direction.

Push the [MENU] button, and enter the menu item, push the [UP/DOWN] button and choose <INPUT SETUP>, push the [SEL] button to confirm and choose <ZOOM>, push the [SEL] button to confirm, settings are as follows:

```
—>V UP                      0
   V DOWM                   0
   V UP/DOWN                0
   H LEFT                   0
```

```
—>H RIGHT                   0
   H LEFT/RIGHT             0
   CENTER                   0
   RESET
```

V UP: Enlarge the image from the bottom.

V DOWN: Enlarge the image from the top.

V UP/DOWN: Enlarge the image to the top and the bottom.

H LEFT: Enlarge the image from the right.

H RIGHT: Enlarge the image from the left.

H LEFT/RIGHT: Enlarge the image to the left and the right.

CENTER: Enlarge the image from the center.

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

6. System Setup and Operation

How to Use Black Out

Black description:

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

VSP 5162PRO BLACK provides effect processing on Program output and Preview output, BLACK uses fade in fade out effect. Operations are as follows:

1. Choose output signal.

2. Push the [BLACK] button, the LED light is on.

3. Push the [TAKE] or [CUT] button, then output switch to black with fade in fade out effect, as shown below:
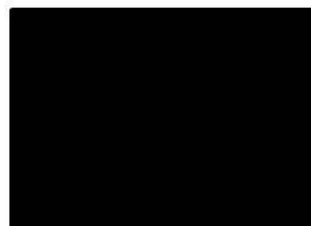
6. System Setup and Operation

How to Realize the Screen Size Setting

VSP 5162PRO supports the screen parameters to meet the requirement where user want to switch between scale screen size and full display size (like monitor). This is only enable for a single display window. Following is an example of a screen size is1408 x 832.

Operator can defined the VSP 5162PRO output resolution from standard output resolution list or customized the output resolution which is higher than 1408 x 832. For this application 1440x900 is an example:

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

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

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

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

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

MODE-- Mode option, choose SCREEN SIZE.

SCREEN SIZE   FS   FULL SIZE
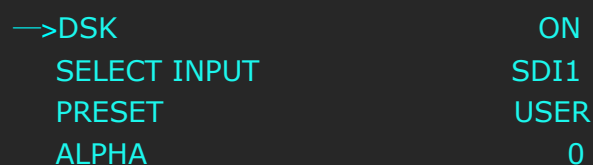
6. System Setup and Operation

How to Realize DSK Setting

Before setting the text overlay, please make sure the input channel of the text. For example, choose DVI3, the operations are as follows:

1. Choose the image input signal in Preview area, for example, choose SDI1.

2. Push the [MENU] button, push the [UP/DOWN] button and choose <SYSTEM> option, push the [SEL] button to confirm. Again push the [UP/DOWN] button and choose <DSK SETUP> option, choose <DSK> and set "ON" to enable the DSK function.

```
—>DSK                          ON
   SELECT INPUT              SDI1
   PRESET                    USER
   ALPHA                        0
```

3. Push the [UP/DOWN] button and choose <SELECT INPUT>, push the [SEL] button to confirm, choose the text input signal, for example, choose DVI3.

```
—>DSK                          ON
   SELECT INPUT              DVI3
   PRESET                    USER
   ALPHA                        0
```

4. Set the size and position of DVI3: Push the [DVI3] button in Preview area, the button light is on, and the image can be edited, push the [SCALE] button to set the size.

```
—>H SIZE                     1920
   V SIZE                     1080
   H POS                      0000
   V POS                      0000
```

6. System Setup and Operation

How to Realize DSK Setting

```
—>RESET
```

5. Push the [MENU] button, push the [UP/DOWN] button and choose
<SYSTEM> option, push the [SEL] button to confirm. Again push the
[UP/DOWN] button and choose <DSK SETUP> option. Push the
[UP/DOWN] button and choose <PRESET>, push the [SEL] button to
confirm, choose the preset mode, for example, WhOnBk2, push the
[SEL] button to confirm.

```
   DSK                           0
   SELECT INPUT              DVI3
—>PRESET                  WhOnBk2
   ALPHA                        0
```

6. Push the [SAVE] button, and save the above settings.

6. System Setup and Operation

How to Realize Mirror and Rotate Setting

1. Push the [MENU] button, and enter the menu items as follows:

```
—>OUTPUT FORMAT              >>
   SCREEN PARAMETERS         >>
   SPLIT                     >>
   INPUT SETUP               >>
```

2. Push [UP/DOWN] button, choose <INPUT SETUP>, push the [SEL]

button to confirm.

```
   OUTPUT FORMAT             >>
   SCREEN PARAMETERS         >>
   SPLIT                     >>
—>INPUT SETUP                >>
```

```
—>ZOOM                       >>
   MIRROR AND ROTATE         >>
   VGA ADJUST                >>
   ADC
```

3. Push [UP/DOWN] button, choose <MIRROR AND ROTATE>, push the

[SEL] button to confirm.

```
—>PROGRAM 90 ROTATE    NO ROTATE
   PROGRAM MIRROR      NO MIRROR
```

PROGRAM 90 ROTATE: Push [LEFT/RIGHT] button, user can choose NO

ROTATE, LEFT ROTATE and RIGHT ROTATE.

LEFT ROTATE:

6. System Setup and Operation
How to Realize Mirror and Rotate Setting
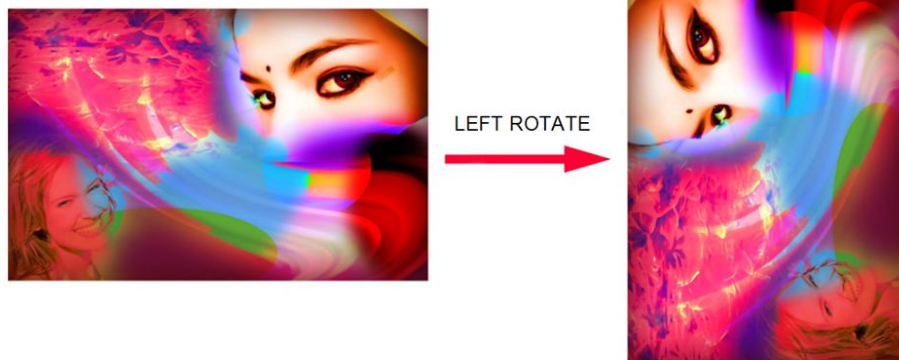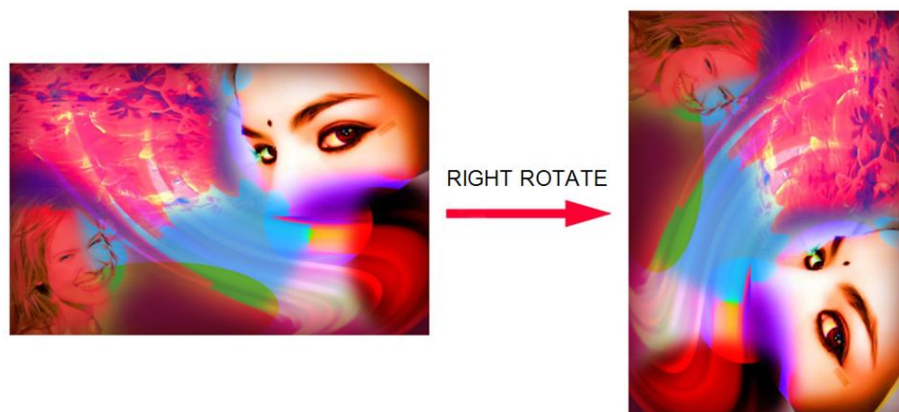
LEFT ROTATE

RIGHT ROTATE:

RIGHT ROTATE

PROGRAM MIRROR: Push [LEFT/RIGHT] button, user can choose NO

MIRROR, H MIRROR, V MIRROR and IMAGE MIRROR.

H MIRROR:

H MIRROR

V MIRROR:

V MIRROR
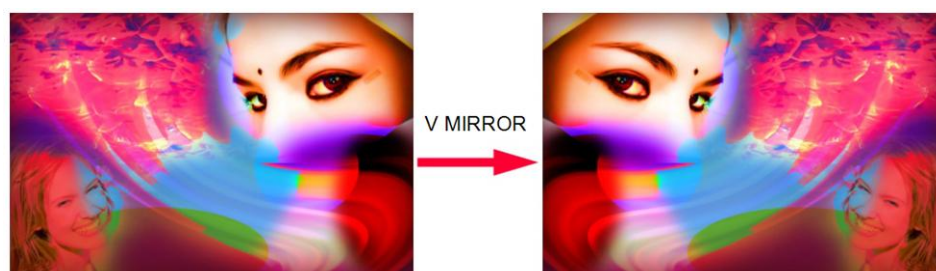
How to Realize 4K×1K Mapping

1. Connect the input signals that will map.

2. Push the [MENU] button to enter to the menu items, push the [UP/DOWN] button, and choose <SPLIT>.

```
    OUTPUT FORMAT              > >
    SCREEN PARAMETERS          > >
—>SPLIT                        > >
    INPUT SETUP                > >
```

3. Push the [SEL] button to confirm. Push the [LEFT/RIGHT] button, choose "ON", and enable the split function.

```
—>SPLIT                         ON
```

```
—>SPLIT                         ON
    HORIZONTAL 1/2             > >
    VERTICAL 1/2              > >
```

4. Push the [UP/DOWN] button, choose <HORIZONTAL 1/2>, push the [SEL] button to confirm.

```
—>H TOTAL                     3840
    V TOTAL                   1080
    FIRST WIDTH              1920
    RESET
```

5. Set H TOTAL as 4096, V TOTAL as 1152, FIRST WIDTH as 2048, and 4K×1K mapping is finished.

```
—>H TOTAL                     4096
    V TOTAL                   1152
    FIRST WIDTH              2048
    RESET
```

How to Realize Different Pixels Mapping

1. Push the [MENU] button to enter to the menu items, push the [UP/DOWN]

button, and choose <SPLIT>.

```
    OUTPUT FORMAT              >>
    SCREEN PARAMETERS         >>
—>SPLIT                       >>
    INPUT SETUP               >>
```

2. Push the [SEL] button to confirm. Push the [LEFT/RIGHT] button, choose

"ON", and enable the split function

```
—>SPLIT                        ON
```

```
—>SPLIT                        ON
    HORIZONTAL 1/2            >>
    VERTICAL 1/2             >>
```

3. Push the [UP/DOWN] button, choose split mode, for example, choose

<HORIZONTAL 1/2>, push the [SEL] button to confirm.

```
    SPLIT                      ON
—>HORIZONTAL 1/2             >>
    VERTICAL 1/2             >>
```

4. Push the [SCALE] button, and enter to the split image as follows:

```
—>SPLIT IMAGE1               >>
    SPLIT IMAGE1             >>
```

6. System Setup and Operation

How to Realize Different Pixels Mapping

5. Choose the split image that need to scale, push the [SEL] button to confirm.

```
—>H SIZE                    1920
   V SIZE                    1080
   H POS                     0000
   V POS                     0000
```

```
—>RESET
```

6. Scale the split image according to actual need.

6. System Setup and Operation

How to Save the Parameter

VSP 5162PRO provides several save preferences.

1. Push the [SAVE] button, the LED light flashes, and enable the save

function.

2. Push the [LEFT/RIGHT] button to choose the save position, push the

[SEL] to confirm. For example, choose SAVE3, shown as follows:

```
    SAVE TO
—>SAVE3    FINISHED!
```
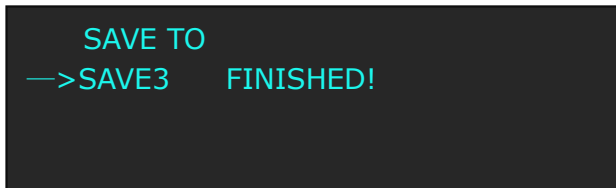
6. System Setup and Operation

How to Load the Saved Parameter

VSP 5162PRO provides several save preferences.

1. Push the [LOAD] button, the LED light flashes, and enable the load

   function.

2. Push the [LEFT/RIGHT] button to choose the save mode that will load

   from, push the [SEL] to confirm. For example, choose SAVE3, shown as

   follows:

```
    LOAD FROM
—>SAVE3    FINISHED!


```
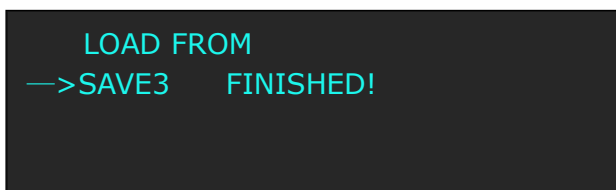
7. Common Questions and Solutions

In This Chapter

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

- No Output in LED Display

- Flash Point in LED Display Output

- LED Display only Shows Part of the Image

- No Display in the Second Half Part of LED Display

- All Key Lights Light on Simultaneously

No Output in LED Display

Confirm If There is Any Input Signal

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

Confirm If Signal Output

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

Flash Point in LED Display Output

Confirm If Monitor Output is Normal

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

LED Display Only Displays Part of the Image

Signal Needs to Scale

Push the [SCALE] button in the processor and knob to adjust the actual

screen size of the screen, including "H Size", "V Size", "H Pos", "V Pos" and

"Reset". Push the [SEL] button to confirm.

No Display in the Second Half Part of LED Display

Resolution is Insufficient

Please make sure the points of the screen width and height, choose the

resolution to be bigger than screen width via push **[MENU]** button to find

[OUTPUT FORMAT], and push SEL button to confirm.

All Key Lights Light on Simultaneously

Check If Dial Switch is Normal

Shut the power, check if two red dial switches near CV are upward. Reboot

if they face down, and reboot. The function of the red dial switched is

mainly upgraded.

A. Specification

BNC Input	
Number of Inputs	3
Supported Standards	PAL/NTSC
Signal Level	1Vpp±3db (0.7V Video+0.3v Sync) 75 ohm
Multiplex	480i,576i
VGA DB15 Input	
Number of Inputs	2
Connector	Standard DB15 Socket
Supported Standard	VGA-UXGA
Signal Level	R、G、B、Hsync、Vsync:0 to1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm black level: 300mV Sync-tip: 0V
Supported Resolution	VGA-UXGA (800×600@60, 1024×768@60, 1280×1024@60, 1440×900@60,1600×1200@60)
DVI Input	
Number of Outputs	3
Connector	Standard DVI-I socket
Supported Resolution	SMPTE: 625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50,1080P59.94/60,1080i50,1080i59.94/60, 720p50,720p59.94/60 VESA: 800×600@60Hz, 1024×768@60Hz, 1280×768@60Hz, 1280×1024@60Hz, 1600×1200@60Hz, 1920×1080@60Hz
Signal Level	TMDS pwl, single pixel input,165MHz bandwidth
Format Standard	HDMI 1.3
DP (Displayport) Input	
Number of Inputs	2
Connector	Standard
Supported Resolution	Support resolution: WQXGA + (1920 x 1200), and color depth: 30/36 bit (each primary 10/12 bit)
Supported Bandwidth	10.8Gb/s
Format Standard	DP1.1
3G-SDI Input	
Number of Inputs	1
Connector	BNC
Data Rate	2.97Gb/s, 2.97/1.001Gb/s, 1.485Gb/s, 1.485/1.001Gb/s and 270Mb/s
Supported Standard	SMPTE 425M (Level A and Level B), SMPTE424M, SMPTE 292M, SMPTE 259M-C and DVB-ASI

Balance	Belden 1694A cable: 150m at 2.97Gb/s 250m at 1.485Gb/s 480m at 270Mb/s
SDI Loop Out	
Number of Inputs	1
Connector	BNC
Data Rate	2.97Gb/s, 2.97/1.001Gb/s, 1.485Gb/s, 1.485/1.001Gb/s and 270Mb/s
Supported Standard	SMPTE 425M (Level A and Level B), SMPTE424M, SMPTE 292M, SMPTE 259M-C and DVB-ASI
Balance	Belden 1694A cable: 150m at 2.97Gb/s 250m at 1.485Gb/s 480m at 270Mb/s
DVI Output	
Number of Outputs	2
Connector	Standard DVI-I Socket
Signal Level	TMDS pw, 165MHz bandwidth
Supported Resolution	SMPTE: 625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50,1080P59.94/60,1080i50,1080i59.94/60, 720p50,720p59.94/60，1280×720×23.98, 1280×720×24, 1280×720@25,1280×720@29.97, 1280×720@30, 1920×1080@23.98, 1920×1080@24, 1920×1080@25, 1920×1080@29.97, 1920×1080@30. VESA: 800×600@60, 1024×768@60, 1024×768@75, 1024×768@85, 1280×720@60, 1280×768@60, 1280×800@60, 1280×1024@60, 1360×768@60, 1366×768@60, 1400×1050@60, 1440×900@60, 1600×1200@60, 1680×1050@60, 1920×1080@60, 1920×1200@60, 2048×1152@60, 2560×816@60
VGA Output	
Number of Outputs	2
Connector	Standard DB15 Socket
Supported Resolution	VESA: 800×600@60, 1024×768@60, 1024×768@75, 1024×768@85, 1280×720@60, 1280×768@60, 1280×800@60, 1280×1024@60, 1360×768@60, 1366×768@60, 1400×1050@60, 1440×900@60, 1600×1200@60, 1680×1050@60, 1920×1080@60, 1920×1200@60,

	2048×1152@60, 2560×816@60
Signal Level	R、G、B、Hsync、Vsync:0 to1Vpp±3dB　(0.7V Video+0.3v Sync) 75 ohm
	black level: 300mV Sync-tip: 0V

VGA Input (Optional Module)	
Number of Inputs	2
Connector	Standard DB15 Socket
Supported Standard	VGA-UXGA
Signal Level	R、G、B、Hsync、Vsync:0 to1Vpp±3dB　(0.7V Video+0.3v Sync) 75 ohm
	black level: 300mV Sync-tip: 0V
Supported Resolution	VGA-UXGA (800×600@60, 1024×768@60, 1280×1024@60,1440×900@60,1600×1200@60)

DVI Input (Optional Module)	
Number of Outputs	2
Connector	Standard DVI-I socket
Supported Resolution	SMPTE：625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50,1080P59.94/60,1080i50,1080i59.94/60, 720p50,720p59.94/60 VESA：800×600@60Hz, 1024×768@60Hz, 1280×768@60Hz, 1280×1024@60Hz, 1600×1200×60Hz, 1920×1080×60Hz
Signal Level	TMDS pwl, single pixel input,165MHz bandwidth
Format Standard	HDMI 1.3

SDI Input (Optional Module)	
SDI Input	
Number of Inputs	2
Connector	BNC
Data Rate	2.97Gb/s, 2.97/1.001Gb/s, 1.485Gb/s, 1.485/1.001Gb/s and 270Mb/s
Supported Standard	SMPTE 425M (Level A and Level B), SMPTE424M, SMPTE 292M, SMPTE 259M-C and DVB-ASI
Balance	Belden 1694A cable: 150m at 2.97Gb/s 250m at 1.485Gb/s 480m at 270Mb/s
SDI Loop Out	
Number of Inputs	2
Connector	BNC
Data Rate	2.97Gb/s, 2.97/1.001Gb/s, 1.485Gb/s, 1.485/1.001Gb/s

	and 270Mb/s
Supported Standard	SMPTE 425M (Level A and Level B), SMPTE424M, SMPTE 292M, SMPTE 259M-C and DVB-ASI
Balance	Belden 1694A cable: 150m at 2.97Gb/s 250m at 1.485Gb/s 480m at 270Mb/s
USB Input	
Number of Inputs	2
Connector	Standard USB port
Supported Standard	Support general Image and video formats
Function	
Input channel configuration	Support each input channel signal programming configuration
Switch	Support any two inputs fade in fade out
Extras	
Communication	RS-232 USB TCP/IP
Power Supply	85-264V IEC-3
Working 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

Application Upgrade

The VSP 5162PRO software upgrade steps are as follows:

1. Communication Board Upgrade

Communication board upgrade by USB port, and detailed upgrade steps are as follows:

(1) Connect the USB interface of VSP 5162PRO to the computer with a USB cable.
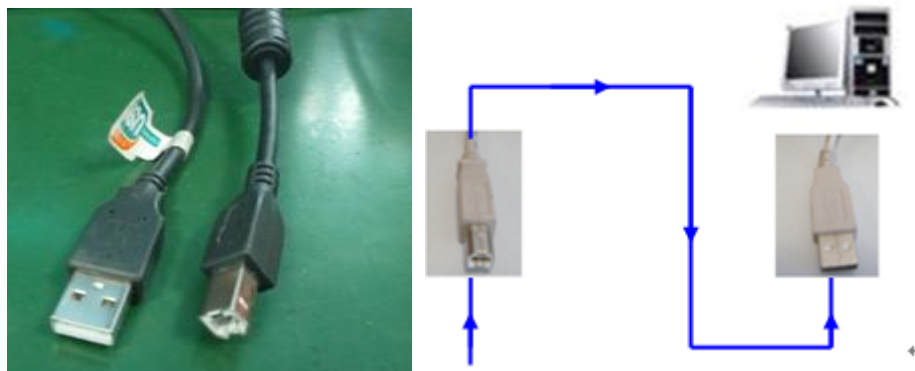
(2) Plug in the power cord, and make sure the device is in normal operation.

(3) Push the [MENU] button, and enter [USB UPDATE] option, operation steps are:

MENU→SYSTEM→USB UPDATA→SEL.

(4) Open the USB drive that plug into the computer, and delete the "firmware. Bin" file in the USB drive, then copy the 100M file of VSP 5162PRO to the USB drive, program loading is complete after the file has been copied.

(5) Restart the device, and enter the menu to check if the version is right, factory reset is completed. Operation steps are: MENU→SYSTEM→SYSTEM INFO→MCU VER.

2. Fireware Upgrade

Fireware upgrade by personal computer, the form of the file is: .bin, and detailed upgrade steps are as follows:
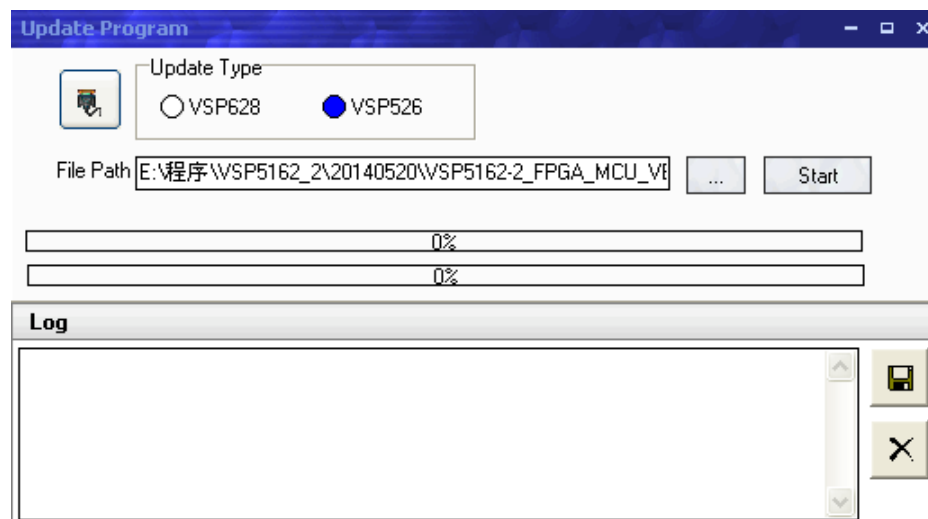
1. Connect the device to the PC with a RS-232 serial line or USB cable. Then double
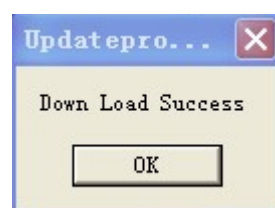
click the software: UpdateProgram.exe .

2. Click , and then set the comm parameters, shown as follows:
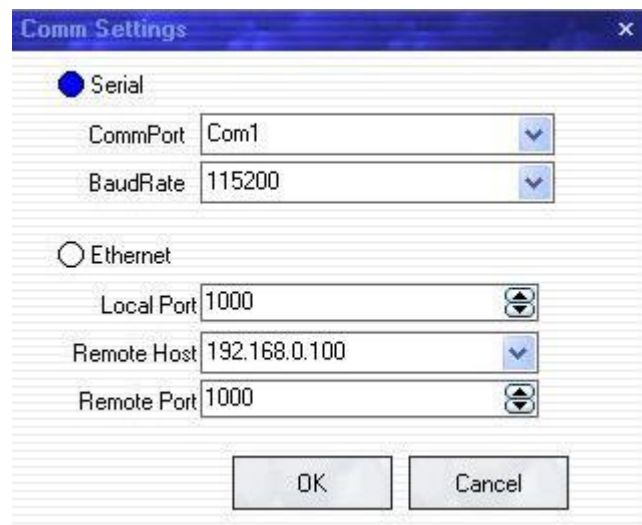
3. Load the file path, then click "Start".

4. The window pop up the following tips after finishing the update, or user need to reload.
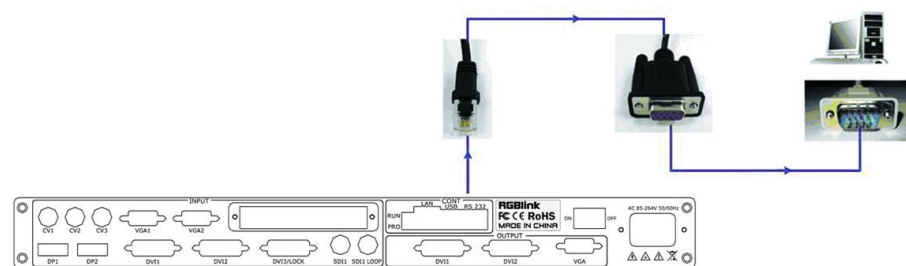

5. Restart the device, and enter the menu to check if the version is right. Operation steps

are: MENU→SYSTEM→SYSTEM INFO→firmware.

IP Software Download Instruction

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

Connect one side of the RJ11 download line to the RS-232 on the video

processor, and the other side being connected to the serial port on the PC.

Double click to run flash magic, setting as below:

Firstly, users can choose the right serial port, set the Boud rate to 9600,

choose LPC2368, and to load the aim document (hex file) for IP board

upgrading;

Secondly, tick the item below to confirm.

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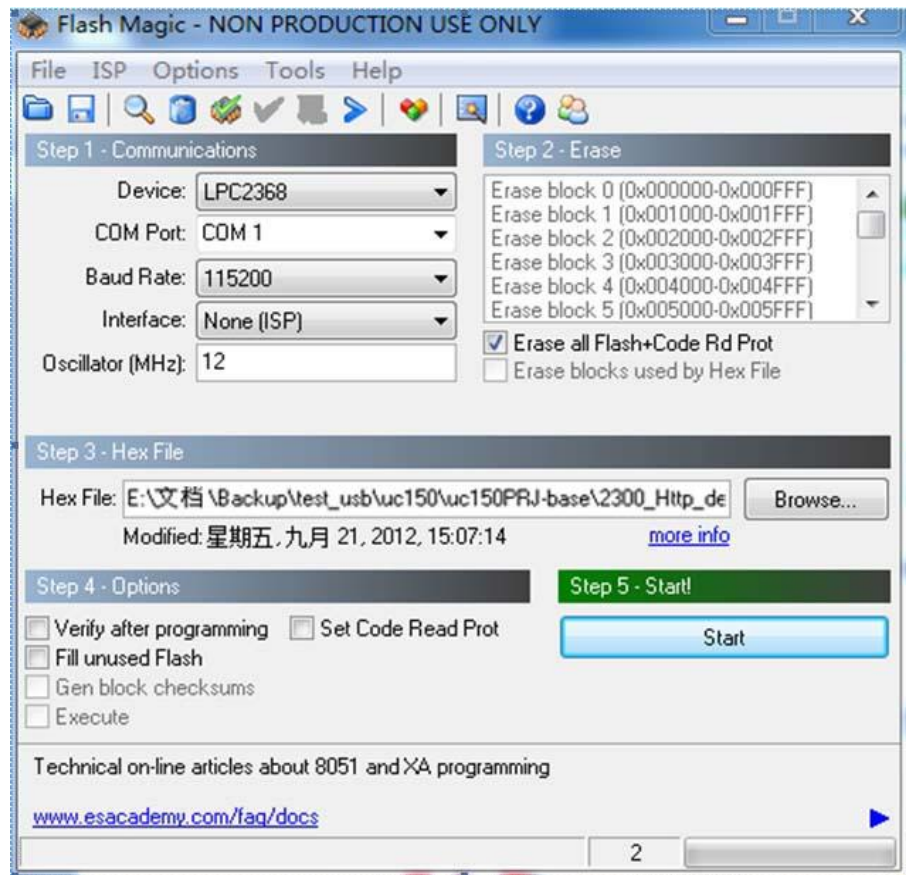
After download, exit the program, turn off the power, tack the two coding switch back, as below restart the equipment power, check if the equipment work normally.

Note

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

D. Optional Module Installation and Replacement Instruction

VSP 5162PRO, VSP 5360 and VSP 628PRO are based on module based structure, user can install or replace the optional module according to actual need. The installation steps of VSP 5162PRO, VSP 5360 and VSP 628PRO are the same. Here we take VSP 628PRO for example, specific steps are as follows:
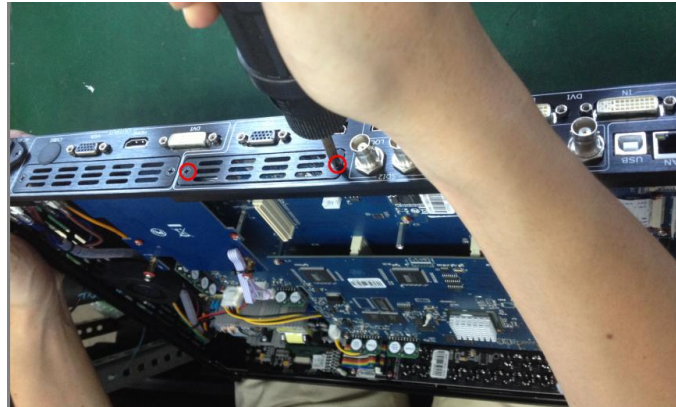
Install the Optional Module

1. Disconnect the power and all the signal and control cables.

2. Unscrew the 5 fixed screws on the top panel and remove the top panel (Figure 1):
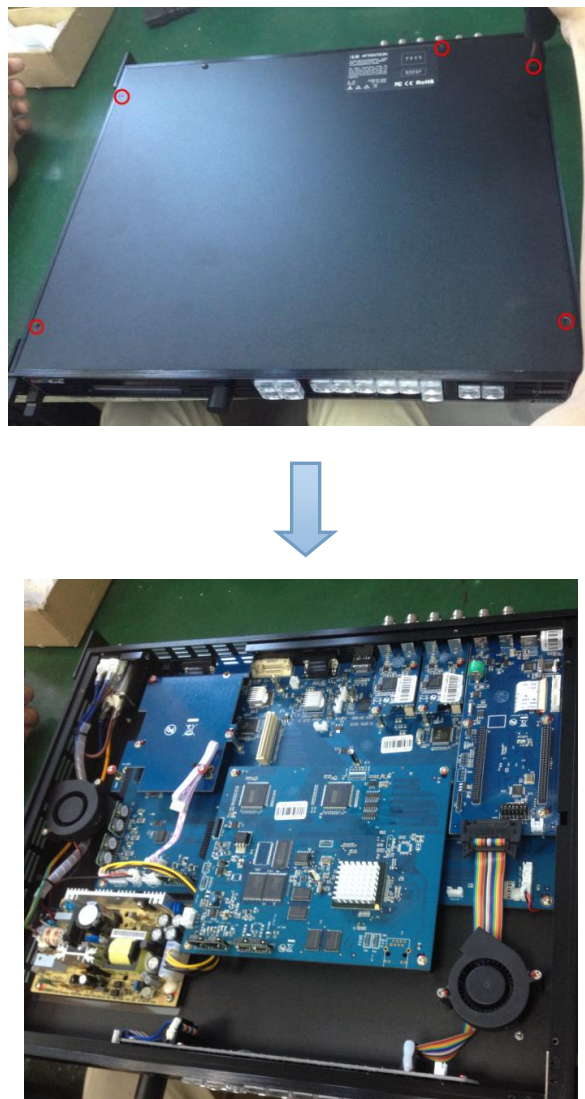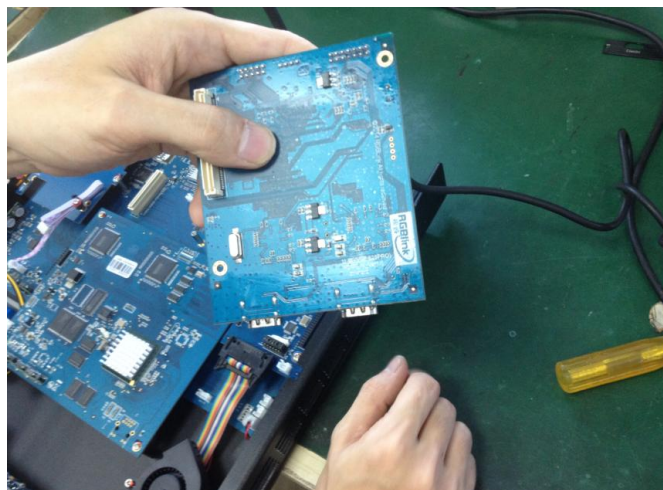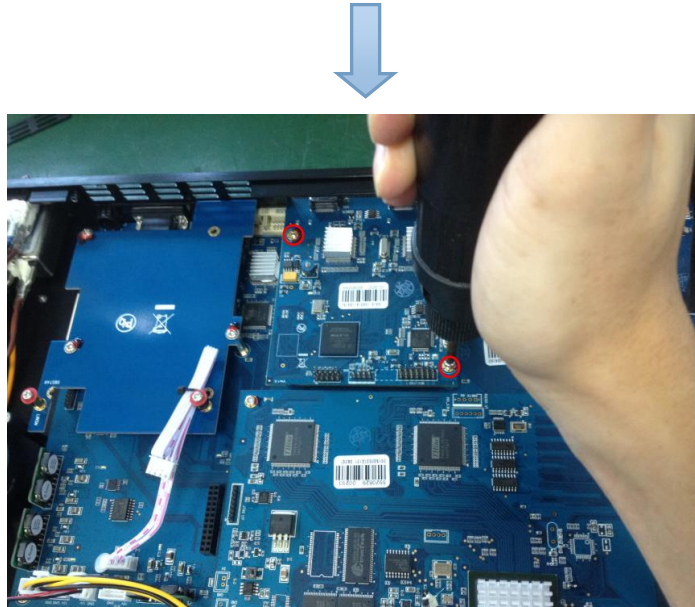

(Figure 1)

3. Unscrew the 2 fixed screws on input optional module slot, and pull out the input block

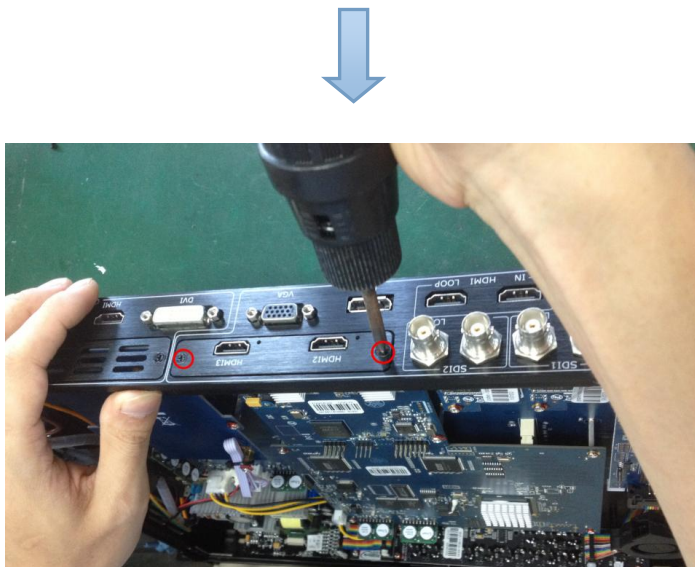   (Figure 2):

(Figure 2)

4. Push the input module into the input module slot, and fix it with 2 fixed screws (Figure
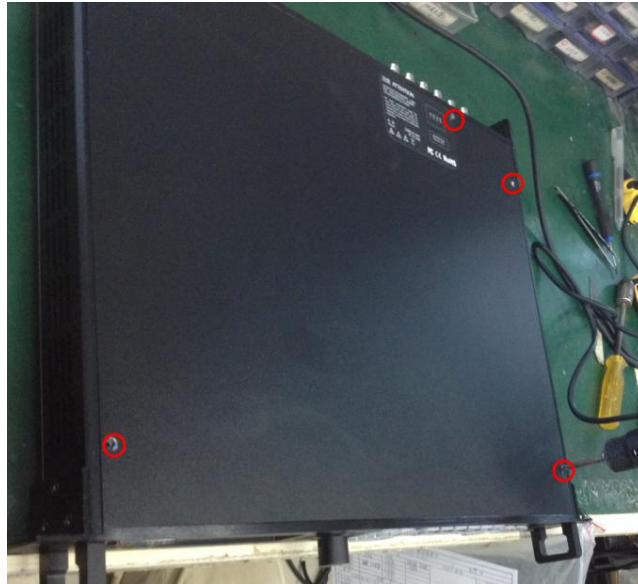
   3):

(Figure 3)

5. Embed the input module block in the input module slot, and fix it with 2 fixed screws

(Figure 4):

(Figure 4)

6. Assemble the top panel, and fix it with 5 fixed screws that removed in step 2, then

optional module installation is finished (Figure 5):

(Figure 5)

Note: Above instructions are only for input optional module. For VSP 628PRO, if user

would install the output optional module, first, take apart the top panel, and unscrew the 3

fixed screws on sending card board to remove it (Figure 6).

(Figure 6)

Then unscrew the 2 fixed screws on output optional module, and pull out the output

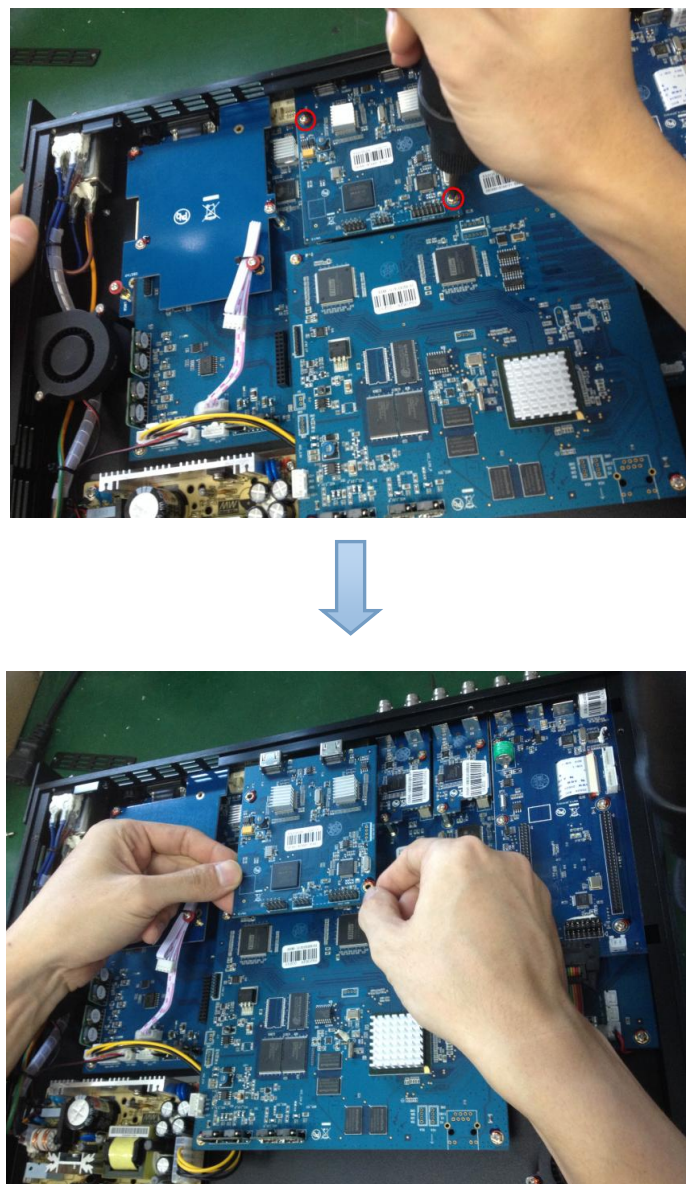module block (Figure 7).

(Figure 7)

Finally, push the output module into the output module slot, the install steps are the same as step 4 to step 6 in "**Install the Optional Module**" part.

Replace the Optional Module

The install steps for optional module replacement are the same as above, but the following need to note:
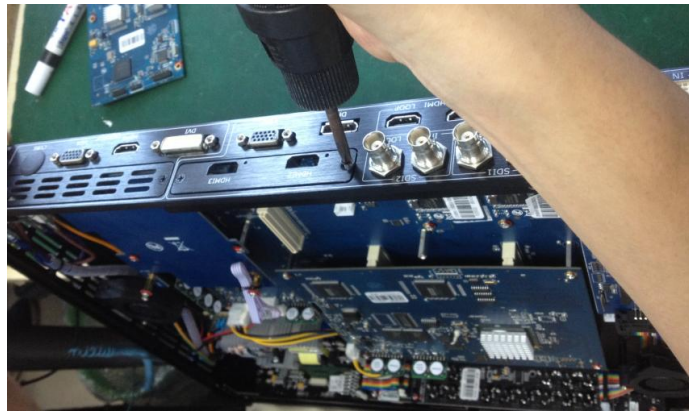
1. Take apart the top panel, and unscrew the 2 fixed screws on input optional module to remove it (Figure 8).

(Figure 8)

2. Unscrew the 2 fixed screws on input optional module, and pull out the input module

block (Figure 9).

(Figure 9)

3. Push the input module into the input module slot, the install steps are the same as step

4 to step 6 in "**Install the Optional Module**" part.

Note: The install steps for output optional module replacement are the same as above.