VSP 3550

User Manual

- Manual #: RGB-RD-UM-V3550 E001

- Revision: V1.0

RGBlink

VSP 3550·User Manual

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

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Operators Safety Summary

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

Do Not Remove Covers or Panels

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

Power Source

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

Grounding the Product

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

Use the Proper Power Cord

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

Use the Proper Fuse

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

Do Not Operate in Explosive Atmospheres

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

Terms In This Manual and Equipment Marking

WARNING

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

Note

Highlights an essential operating procedure, condition or statement.

CAUTION

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

Change History

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

Format	Time	ECO#	Description	Principal
V1.0	2014-01-22	0000#	Release	Vira

CONTENT

1. Introduction

This chapter is designed to introduce you to the VSP 3550 User Manual. Areas to be covered are:

- Chapter Structure

- How to Use This Manual

- Terms and Definitions

- System Overview

- Application Questions

1. Introduction

Chapter Structure

The following chapters provide instructions for all aspects of VSP 3550 operations.

Chapter 1   Introduction

Chapter 2   Hardware Orientation

Chapter 3   Hardware Installation

Chapter 4   Menu Orientation

Chapter 5   System Setup and Operations

Chapter 6   Common Questions and Solution

Appendix A   Specification

Appendix B   Contact information

How to Use This Manual

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

Navigating

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

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

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

Table of Contents and Index

Use the Table of Contents bookmarks to navigate a desired topic. Click any item to instantly jump to that section of the guide. You c an also use the **Index** to jump to specific topics within a chapter. E ach 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 40.
- For system setup and operations, refer to Chapter 5, "System Setup and Operations" on page 57.

Should you have any questions regarding the installation or operation of VSP 3550, please consult with the factory. Refer to Appendix B, "Contact information" on page 88.

1. Introduction

Terms and Definitions

The following terms and definitions are used throughout this guide.

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

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

1. Introduction
Terms and Definitions

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

1. Introduction

Terms and Definitions

Africa, the Middle East, and Micronesia. PAL uses 625-line, 50-filed (25 fps) composite color transmission system.

- **"PIP":** image-in-image. A small image within a larger image created by scaling down one of the images to make it smaller. Each image requires a separate video source such as a camera, VCR, or computer. Other forms of PIP displays include image-by-image (PBP) and image-with-image (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

1. Introduction
Terms and Definitions

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

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

1. Introduction

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.

System Overview

The VSP 3550 is a multiple outputs video processor that accepts a wide variety of video signals, including RGB computer graphic by DVI, VGA video, standard and HDTV video by HDM. Composite, SDI (SD/HD/3G Compatible), DVI and SDI supports loop through output for cascade or preview. VSP 3550 combines truly seamless, fade in fade out, glitch-free switching with advanced scaling technologies to meet the requirements of high quality, high resolution video presentations. VSP 3550 also launches the latest, user defined image size and coordinate, dual image processing, multiple cascade mapping, different user configurations and controlling, Key in and out and other advanced functions for high-end show.

Features:

Multiple inputs

• VSP 3550 provides 2x Composite (CVBS), 1x DVI (compatible with HDMI 1.3), 2x DVI (4K×1K), 1x HDMI, 2xVGA, 1 x3G self-adaptive SDI input (3G SDI module), for the application if different signal inputs.

Multiple outputs:

• 1 x Preview VGA output.

• 1 x Preview DVI output.

• 4 X DVI outputs are provided for splitting into four different images or distributing the same four images, the four DVI outputs can be connected with LED display or other display.

Loop Through Interface

• Designed to boost the signal strength.

• The same video can be connected to a local monitor.

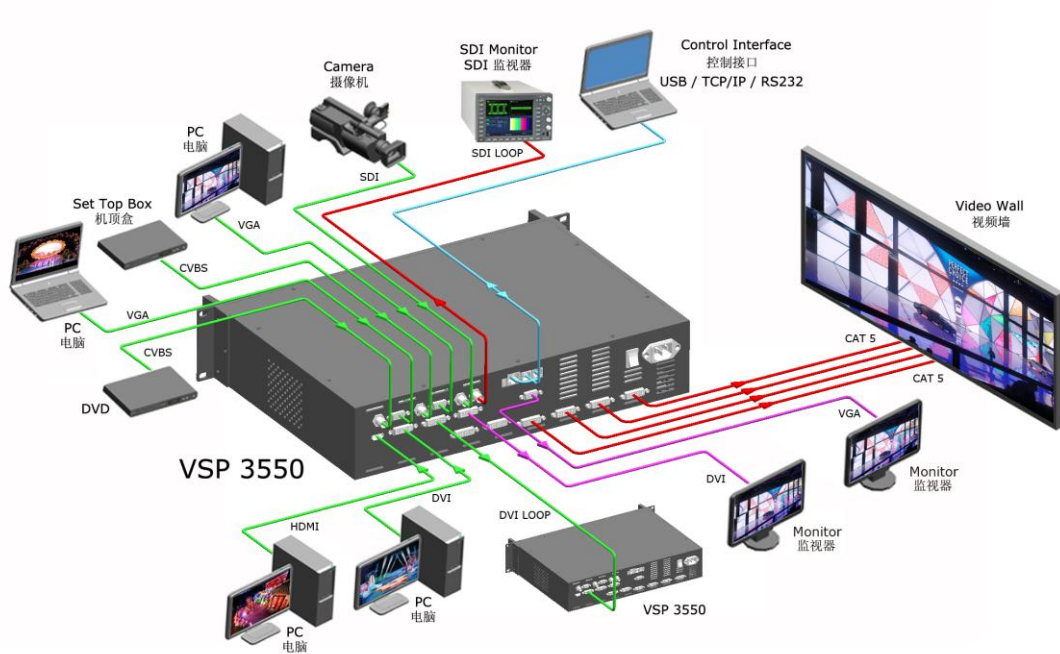• The same video available for other equipments.

Multiple Control Methods

• Local Front Panel.

Application Questions

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

2. Hardware Orientation

In This Chapter

This chapter provides detailed information about the VSP 3550 hardware. The following topics are discussed:
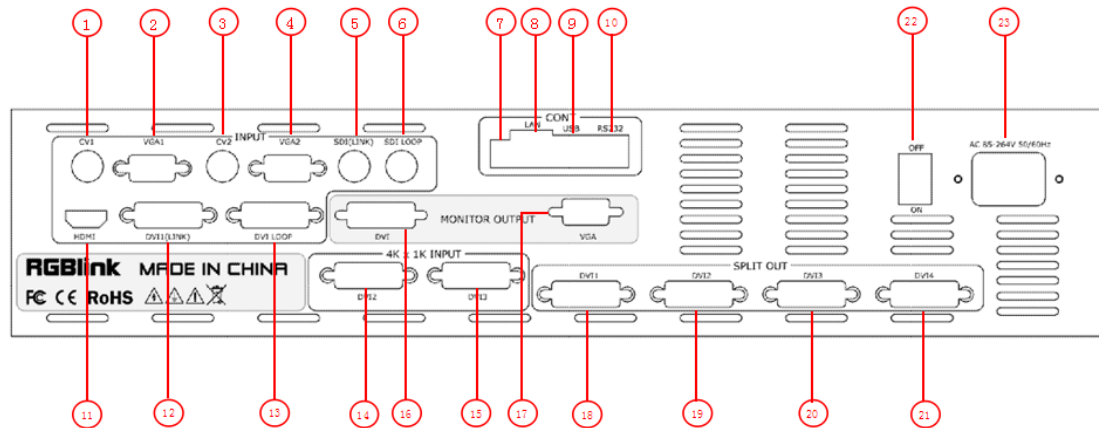
- VSP 3550 Back Panel

- VSP 3550 Front Panel

VSP 3550 Back Panel

The figure below illustrates the professional interface and control signals of

VSP 3550 back panel.

NO	INTERFACE	NO	INTERFACE
1.3	CVBS Input	12	DVI Input
2.4	VGA Input	13	DVI Loop Out
5	SDI Input	14.15	DVI Input (4K×1K)
6	SDI Loop Out	16	DVI Preview Output
7	Push Button Switch	17	VGA Preview Output
8	10/100M Interface	18.19.20.21	DVI Output
9	USB Interface	22	Power Switch
10	RJ11 (RS232) Interface	23	Power Interface
11	HDMI Input		

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.

8. 10/100M UDP Interface

Used to connect the computer for control or device upgrade.

2. Hardware Orientation
VSP 3550 Back Panel

9. USB Interface

Remote communication device control interface, used to connect to the computer or console.

10. RS232 Interface

Used to connect the computer for control or device upgrade.

INPUT Interface

1) 2 CVBS inputs by BNC interfaces, (CV2 is CV module).

2) 2 VGA input by DB15 interface, (VGA2 is CV module).

3) 1 HDMI-A interface, can be compatible with HDMI inputs.

4) 1 DVI-I interface, can be compatible with HDMI, and support loop

through output for cascade or preview.

5) 3G SDI input (SDI module), and support loop through output for cascade

or preview.

1. 3：CVBS Input

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

2. 4：VGA Input

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

Note

3 and 4 input interface is option module .

5：SDI Input

Can receive video signal from HD player, and HD camera, connect interface 16 via 75 ohms impedance BNC.

Note

5 and 6 input interface is option S module .

2. Hardware Orientation
VSP 3550 Back Panel

6：SDI Loop Out

SDI loop output: can connect the next level VSP 3550 for cascade or the

device with SDI input.

11：HDMI Input

HDMI input interface: HDMI input interface. Input the signal from HD

player, DVD, computer, and so on.

(This Connection does not support hot-plugging).

12：DVI Input

DVI input interface: Input the video signal from computer, DVI signal

generator. Can be compatible with HDMI 1.3.

（This Connection does not support hot-plugging）.

13：DVI Loop Out

DVI loop out, can connect to the next level VSP 3550 or the device with

DVI loop out.

14. 15：DVI Input (4K×1K)

DVI input interface: Input the video signal from computer. Can be

compatible with HDMI 1.3. Used for 4K×1K split, the split modes depend on

video cards.

(This Connection does not support hot-plugging).

OUTPUT Interface

16：DVI Preview Output

Connect to the monitor or LED screen which has DVI interface. (This DVI

connector does not support hot-plugging).

17：VGA Preview Output

VGA output connector can be connected to monitor or projector which has

VGA interface.

2. Hardware Orientation

VSP 3550 Back Panel

18. 19. 20. 21：DVI Output

Connect to the monitor or LED screen which has DVI interface. (This DVI

connector does not support hot-plugging).

Switch and Power

22. 23：Power Interface and Switch

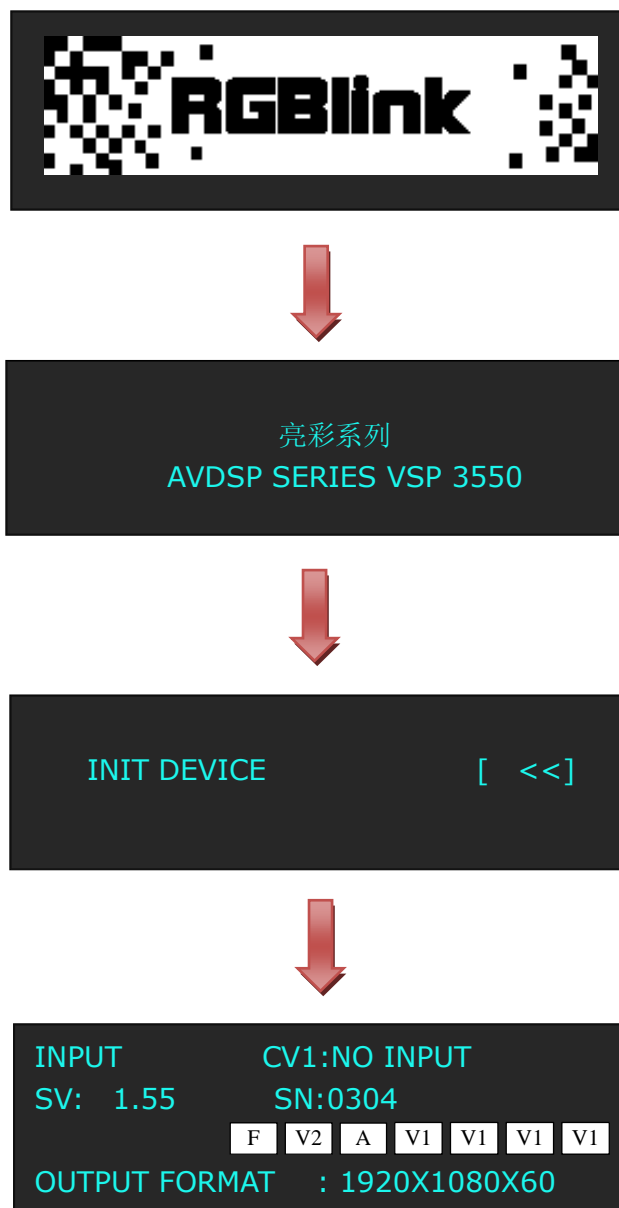AC 85-264V   50/60Hz   IEC-3 Power Interface.

2. Hardware Orientation

VSP 3550 Front Panel

VSP 3550 Front Panel

Insert power cord and push power to ON position. OLED module on the front panel will show RGBLINK and go into its self verification before it load last setting config and send processed image to the target monitor. For the first setup, CV1 input is the default source. With front panel keyboard, user can operate VSP 3550 through the menus on OLED module.
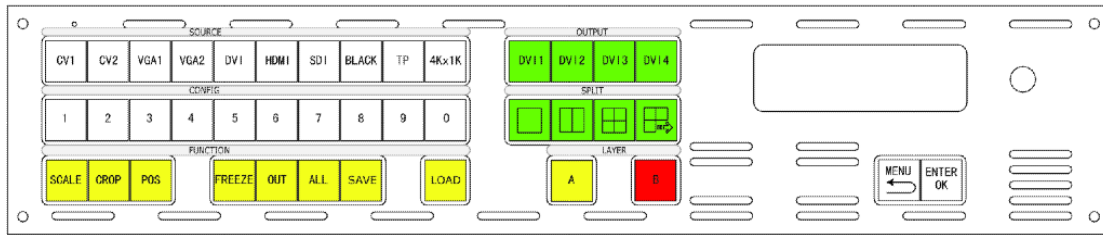
VSP 3550 front panel as shown in figure:

亮彩系列
AVDSP SERIES VSP 3550

INIT DEVICE   [<<]

INPUT   CV1:NO INPUT
SV: 1.55   SN:0304
                 F | V2 | A | V1 | V1 | V1 | V1
OUTPUT FORMAT   : 1920X1080X60
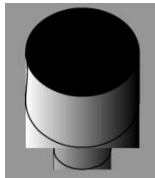
2. Hardware Orientation

VSP 3550 Front Panel

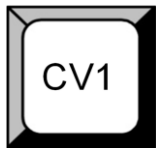VSP 3550 front panel as following:

OLED Panel

Used to show button menu and menus for interactive communication.
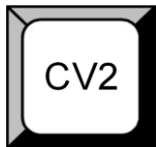
Menu Buttons

Used to adjust menu on OLED and for information interaction. Push the rotary button to confirm current options.

SOURCE Part

CV1 input selection button, its LED light flashes, output will be switched to this channel.

CV2 input selection button, its LED light flashes, output will be switched to this channel.

VGA1 input selection button, its LED light flashes, output will be switched to this channel, (compatible with YPbPr).

VGA2 input selection button, its LED light flashes, output will be switched to this channel, (compatible with YPbPr).

DVI input selection button, its LED light flashes, output will be switched to this channel.
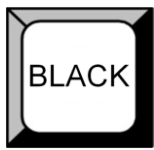
2. Hardware Orientation

VSP 3550 Front Panel

**HDMI** — HDMI input selection button, its LED light flashes, output will be switched to this channel.

SDI — SDI input selection button, its LED light flashes, output will be switched to this channel.

BLACK — BLACK button, its LED light turns on, default setting of the test pattern.Test pattern can be set and selected from OLED menu, push the button again, to exit black.
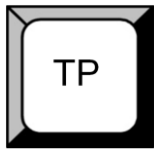
TP — Test Pattern button, push the button, its LED light turns on, output will be switched to test pattern mode. User can choose the modes from OLED menu. Push the button again, and exit test pattern mode.
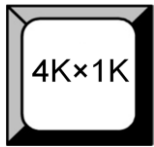
4K×1K — 4K×1K Split button, input DVI2 and DVI3, support split modes for: 2 IN 2 OUT, 2 IN 3 OUT, and 2 IN 4 OUT, shown as follows:

Split Mode 1: 2 IN 2 OUT

2. Hardware Orientation

VSP 3550 Front Panel

Split Mode 2: 2 IN 3 OUT
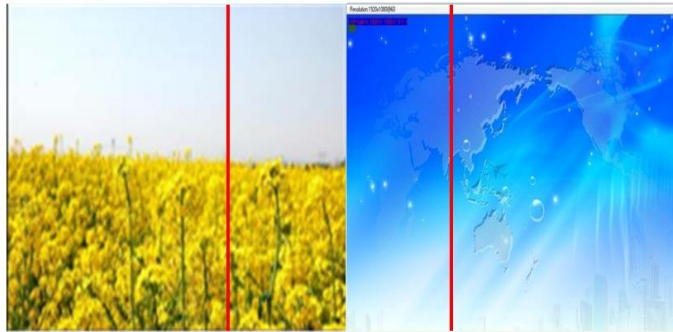
Split Mode 3: 2 IN 4 OUT
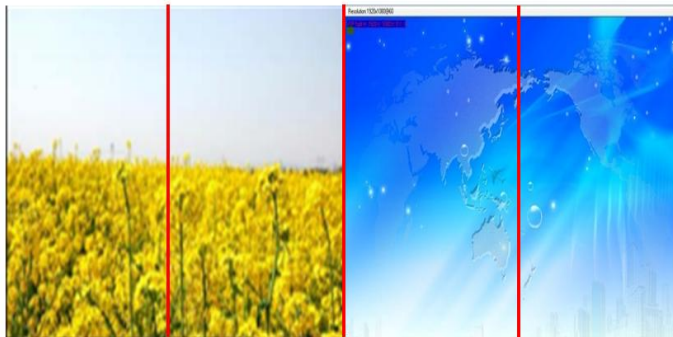
CONFIG Part
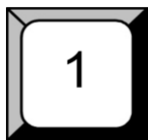
 Number Key 1. Press SAVE, LOAD, SCALE, CROP and POS key, Key 0-9 LED light turns on. Push Key 1, user can choose SAVE to 1 or LOAD from 1, or input number 1 directly.

 Number Key 2. Press SAVE, LOAD, SCALE, CROP and POS key, Key 0-9 LED light turns on. Push Key 2, user can choose SAVE to 2 or LOAD from 2, or input number 2 directly.

 Number Key 3. Press SAVE, LOAD, SCALE, CROP and POS key, Key 0-9 LED light turns on. Push Key 3, user can choose SAVE to 3 or LOAD from 3, or input number 3 directly.

2. Hardware Orientation

VSP 3550 Front Panel

4 — Number Key 4. Press SAVE, LOAD, SCALE, CROP and POS key, Key 0-9 LED light turns on. Push Key 4, user can choose SAVE to 4 or LOAD from 4, or input number 4 directly.

5 — Number Key 5. Press SAVE, LOAD, SCALE, CROP and POS key, Key 0-9 LED light turns on. Push Key 5, user can choose SAVE to 5 or LOAD from 5, or input number 5 directly.
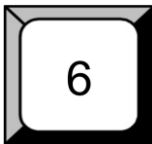
6 — Number Key 6. Press SAVE, LOAD, SCALE, CROP and POS key, Key 0-9 LED light turns on. Push Key 6, user can choose SAVE to 6 or LOAD from 6, or input number 6 directly.

7 — Number Key 7. Press SAVE, LOAD, SCALE, CROP and POS key, Key 0-9 LED light turns on. Push Key 7, user can choose SAVE to 7 or LOAD from 7, or input number 7 directly.

8 — Number Key 8. Press SAVE, LOAD, SCALE, CROP and POS key, Key 0-9 LED light turns on. Push Key 8, user can choose SAVE to 8 or LOAD from 8, or input number 8 directly.

9 — Number Key 9. Press SAVE, LOAD, SCALE, CROP and POS key, Key 0-9 LED light turns on. Push Key 9, user can choose SAVE to 9 or LOAD from 9, or input number 9 directly.
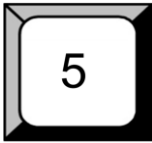
0 — Number Key 0. Press SAVE, LOAD, SCALE, CROP and POS key, Key 0-9 LED light turns on. Push Key 0, user can choose SAVE to 10 or LOAD from 10, or input number 0 directly.
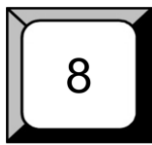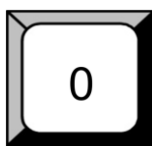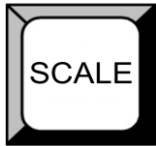
2. Hardware Orientation

VSP 3550 Front Panel

FUNCTION Part

SCALE

Scale function button: Image size adjustment, push the button to enter the scale menu. Turn the knob to select the relevant submenu. For details please refer to SCALE FUNCTION in menu orientation.

```
—>H SIZE                        1920
   V SIZE                       1080
   RESET
```
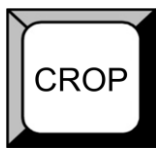
CROP

Crop function button: Push the button, its LED light lights, user can rotate the knob or input the number directly to crop the size for the current layer. Button DVI~DVI4 in OUTPUT part which flashes mean the layer is selected.

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

```
—>CROP WIDTH                    1920
   CROP HEIGHT                  1080
   CROP X                          0
   CROP Y                          0
   RESET
```

POS
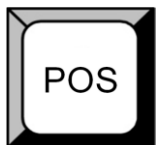
Position function button: Push the button, its LED light lights, user can rotate the knob or input the number directly to adjust the position for the current layer. Button A, B, and DVI~DVI4 which flashes means the layer is selected.

For more details, please refer to: How to Set the Position of Layer Image.

```
—>POS X                            0
   POS Y                           0
   RESET
```

FREEZE

Freeze button: Push the button, its LED light lights, and the current image is freeze. Push the button again, its LED light is off, and exit freeze function.

```
   FREEZE IMAGE
```

VSP 3550   User Manual   34

2. Hardware Orientation

VSP 3550 Front Panel

OUT
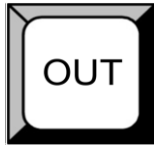
Output Format select button. Push the button, its LED light is on, and enter the current output format. User can rotate the knob to choose the different output formats.

```
—>COMMON FORMAT              >>
   OTHER FORMAT              >>
   CUSTOMIZED               >>
   EXTERNAL SYNC.
```

ALL

ALL: Push the button, its LED light is on, and Layer DVI1~DVI4 are All being selected.

```
FOUR LAYER OPERATION
AT THE SAME TIME ON
```

SAVE

Save button: Push it to enter **SAVE** mode, turn the knob to select save position or push the user mode buttons which light up from 0~9 directly. Currently, it supports 10 saving modes from 1，2，3，4，5，6，7，8，9，0 means SAVE1~10.

The OLED menu will show Finish after finish saving.

For details please refer to MENU SAVE FUNCTION and How to Save the Parameter.
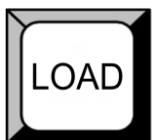
LOAD

LOAD button: Press it to enter **LOAD** mode, turn the knob to select LOAD position or push the user mode buttons which light up from 0~9 directly. Currently, it supports 10 loading modes from 1，2，3，4，5，6，7，8，9，0 means LOAD user mode 1~10.

The OLED menu will show Finish after finish loading.

For details please refer to MENU LOAD FUNCTION and How to Load the

2. Hardware Orientation

VSP 3550 Front Panel

Saved Parameter.

OUTPUT Part

VSP 3550 supports 4 outputs. OUTPUT buttons DVI1, DVI2, DVI3,

DVI4 are corresponding to the output ports DVI1, DVI2, DVI3, DVI4 in

back panel. Button flashes show its corresponding output are selected.

Note

OUTPUT Button DVI1 corresponding DVI1 is the default as output.

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

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

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

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

Push DVI1-DVI4, LCD panel will show as follows, for example, push DVI1:

```
SELECT OUTPUT: OUTPUT1
CURRENT SPLIT LAYER IS SPLIT1
```

2. Hardware Orientation

VSP 3550 Front Panel

SPLIT Part

Split effect button, press it and it lights, it can achieve split effects, that is VSP 3550 4 outputs are in the form of output split. Single device can be set at max.: 2048x4*1152 or 2048*1152x4 or 2048x2*1152x2, it is mainly suitable for LED screen users.

For details, please refer to: How to Achieve Split Function.

VSP 3550 provides 9 kinds of split modes, and split mode: 2 IN 2 OUT, 2 IN 3 OUT, 2 IN 4 OUT can be operated with 4K×1K button. The other 6 split modes are shown as follows:
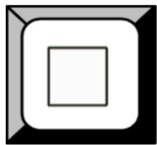
Split Mode 1: STRAIGHT Mode
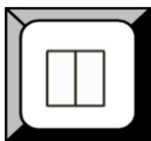
Split Mode 2: HORIZONTAL 1/2

2. Hardware Orientation
VSP 3550 Front Panel
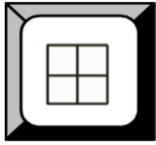
Split Mode 3: FIELD GLYPH
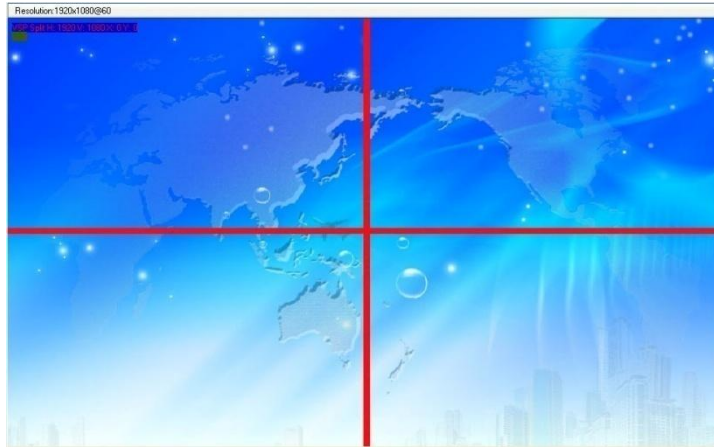
Other split modes, including the following:

Split Mode 4: VERTICAL 1/2

Split Mode 5: HORIZONTAL 1/4
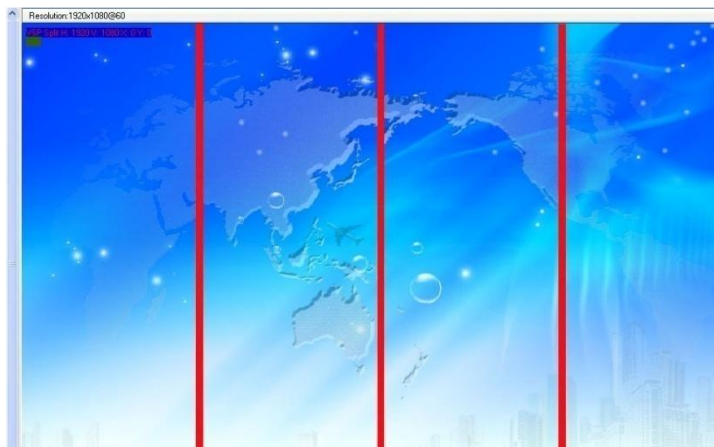
2. Hardware Orientation

VSP 3550 Front Panel

Split Mode 6: VERTICAL 1/4

LAYER Part
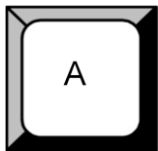
Layer A button, the button flashes, and the layer can be edited.
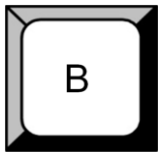
Layer B and PIP switch button. Push the button for 3 seconds, user can switch to PIP mode or switch PIP mode to single image. The button flashes, and the layer can be edited.
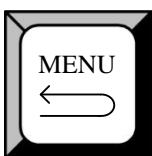
Advanced menu button: Push the **MENU** to enter the main menu. Turn the knob to select the relevant submenu. For details please refer to MENU in menu orientation.

ESC reuse function button: Push the **MENU** to exit the menu.

Effect switch function: Push the **MENU** button two times to enter the effect switch function menu.

For details please refer to: SPECIAL EFFECT SWITCHING.

Confirm button.

3. Hardware Installation

In This Chapter

This chapter provides comprehensive installation instruction for VSP 3550 hardware:

Following is the mechanic info of VSP 3550 for your reference.
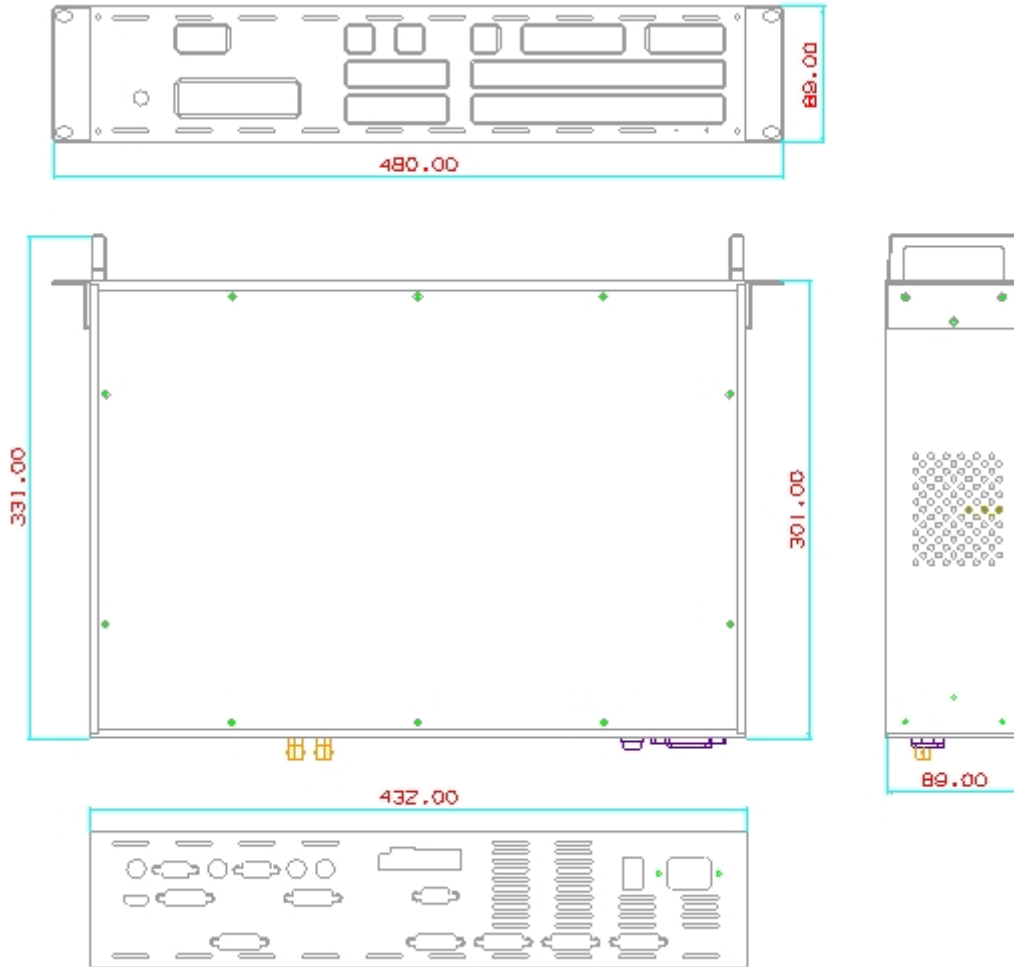
Safety Precautions

For all VSP 3550 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 3550 processor shipping box, inspect it for damage. If you find any damage, notify the shipping carrier immediately for all claims adjustments. As you open the box, compare its contents against the packing slip. If you find any shortages, contact your sales representative.

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

Site Preparation

The environment in which you install your VSP 3550 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 3550 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

> PIP

> PICTURE

> ADJUST

> TEXT OVERLAY

> SYSTEM

> LANGUAGE

> FACTORY RESET

• **QUICK MENU**

> SPECIAL EFFECTS SWITCHING

> SAVE FUNCTION

> LOAD FUNCTION

> SCALE FUNCTION

4. Menu Orientation

MENU

Push the **MENU** to main menu, main menu as shown: Turn knob buttons to select menu items. > before the menu means it's in selected state. Press the knob to enter corresponding setting or view the menu.

4. Menu Orientation
MENU

Menu

OUTPUT FORMAT
- **COMMON FORMAT**
  - 1024x768x60
  - 1280x720x60
  - 1280x768x60
  - 1280x1024x60
  - 1280x1280x60
  - 1440x900x60
  - 1600x1200x60
  - 1680x1050x60
  - 1920x1080x60
  - 1920x1200x60
  - 2048x1152x60
  - 2560x816x60
- **OTHER FORMAT**
  - 1024x768x75
  - 1024x768x85
  - 1024x1280x60
  - 1024x1920x60
  - 1080x1920x60
  - 1152x864x75
  - 1248x936x60
  - 1280x720x23.98
  - 1280x720x24
  - 1280x720x25
  - 1280x720x29.97
  - 1280x720x30
  - 1280x720x50
  - 1280x720x59.94
  - 1280x800x60
  - 1280x960x60
  - 1280x960x85
  - 1280x1024x75
  - 1280x1024x85
  - 1360x768x60
  - 1366x768x60
  - 1400x1050x60-r
  - 1400x1050x60
  - 1440x900x60-r
  - 1600x1200x60-r
  - 1680x1050x60-r
  - 1872x1040x60
  - 1920x1080x23.98
  - 1920x1080x23.9s
  - 1920x1080x24
  - 1920x1080x24s
  - 1920x1080x25
  - 1920x1080x25s
  - 1920x1080x29.97
  - 1920x1080x29.9s
  - 1920x1080x30
  - 1920x1080x30s
  - 1920x1080x59.94
  - 1920x1080x50
  - 1920x1080x60-r
  - 1976x1144x60
  - 720x480x60i
  - 720x576x50i
  - 720x480x60i-2
  - 720x576x50i-2
  - 1920x1080x50i
  - 1920x1080x60i
  - 1920x1080x59.94i
  - 1536x1536x60-r
  - 2048x1200x60-r
  - 2560x980x60-r
  - 3840x670x60-r
  - 2560x1152x50
- **CUSTOMIZED**
- **EXTERNAL SYNC**

PIP
- **PIP**
  - ON
  - OFF
- **LAYOUT**
  - PIP L+T
  - PIP R+T
  - PIP L+B
  - PIP R+B
  - PIP CENTER
  - PBP L+R
  - PBP T+B
- **SELECT**
  - IMAGE A
  - IMAGE B
- **SWAP WINDOW**
  - ON
  - OFF
- **ALPHA**
  - 0-16

PICTURE
- **OUTPUT PICTURE**
  - SPLIT1 BRIGHTNESS
  - SPLIT2 BRIGHTNESS
  - SPLIT3 BRIGHTNESS
  - SPLIT4 BRIGHTNESS
  - ENTIRETY BRIGHTNESS
- **INPUT PICTURE**
  - INPUT BRIGHTNESS
  - INPUT CONTRAST
  - INPUT SATURATION
  - INPUT SHARPNESS
  - INPUT COLOR RED
  - INPUT COLOR GREEN
  - INPUT COLOR BLUE
  - RESET

ADJUST
- **VGA1 ADJUST**
  - H POS
  - V POS
  - CLOCK
  - PHASE
  - AUTO ADJUST
- **ADC ADJUST**
  - ADC AUTO ADJUST
  - ADC RESET ALL
- **GAMMA**
- **ASPECT RATIO**
  - DEFAULT
  - 16:9

TEXT OVERLAY
- **TEXT OVERLAY**
  - ON
  - OFF
- **PRESET**
  - USER MODE
  - WhOnBk1
  - WhOnBk2
  - BkOnWh1
  - BkOnWh2
  - GrnOnBk1
  - GrnOnBk2
  - GrnOnWh1
  - GrnOnWh2
  - RedOnBk1
  - RedOnBk2
  - RedOnWh1
  - RedOnWh2
- **BLEND MODE**
  - MODE 1
  - MODE 2
- **BLEND LEVEL**
- **ABOVE/BELOW**
- **KEY IN/OUT**
- **RED**
- **GREEN**
- **BLUE**

4. Menu Orientation
MENU

MENU---OUTPUT FORMAT

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

COMMON FORMAT: Push knob button to select left or right menu item,
turn the knob to enter corresponding setting or view the menu. Users can
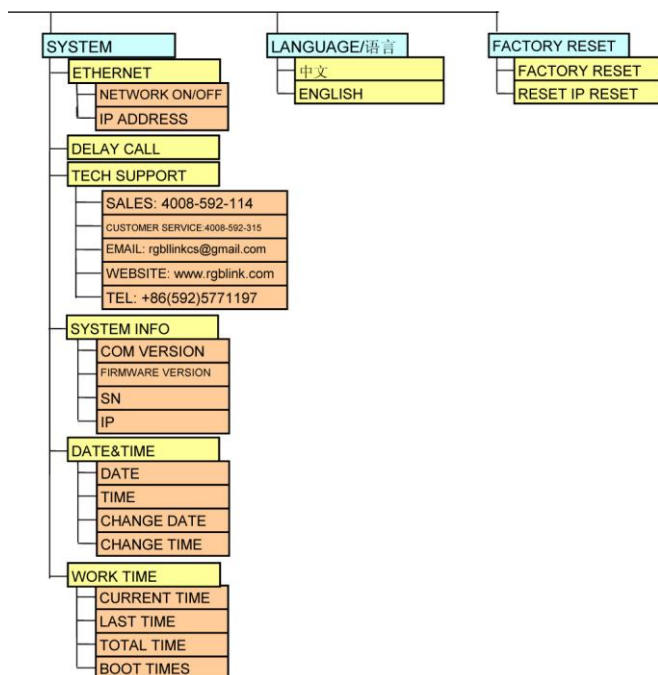choose different output formats by turning the knob, this option includes 12
common standard output resolutions, shown as follows:

1024x768x60, 1280x720x60, 1280x768x60, 1280x1024x60,

1280x128x60, 1440x900x60, 1600x1200x60, 1680x1050x60,

1920x1080x60, 1920x1200x60, 2048x1152x60, 2560x816x60.

OTHER FORMAT: Push knob button to select left or right menu item, turn
the knob to enter corresponding setting or view the menu. Users can
choose different output formats by turning the knob, this option includes 53
other output resolutions, shown as follows:

1024x768x75, 1024x768x85, 1024x1280x60, 1024x1920x60,

1080x1920x60, 1152x864x75, 1248x936x60, 1280x720x23.98,

4. Menu Orientation

1280x720x24, 1280x720x25, 1280x720x29.97, 1280x720x30,

1280x720x50, 1280x720x59.94, 1280x800x60, 1280x960x60,

1280x960x85, 1280x1024x75, 1280x1024x85, 1360x768x60,

1366x768x60, 1400x1050x60_r, 1400x1050x60_r, 1440x900x60_r,

1600x1200x60_r, 1680x1050x60_r, 1872x1040x60, 1920x1080x23.98,

1920x1080x23.9s, 1920x1080x24, 1920x1080x24s, 1920x1080x25,

1920x1080x25s, 1920x1080x29.97, 1920x1080x29.9s, 1920x1080x30,

1920x1080x30s, 1920x1080x59.94, 1920x1080x50, 1920x1080x60-r,

1976x1144x60, 720x480x60i, 720x576x50i, 720x480x60i_2,

720x576x50i_2, 1920x1080x50i, 1920x1080x60i, 1920x1080x59.94i,

1536x1536x60_r, 2048x1200x60_r, 2560x980x60_r, 3840x670x60_r,

2560x1152x50.

CUSTOMIZED: The special display project or LED screen application

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

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

Customized Output Resolution.

EXTERNAL SYNC: Turn the knob to input reference from external switcher

or device, output will be sync to the reference input timing.

MENU---PIP

Push the [MENU] button to go into the main menu, and turn the knob to

select <PIP>, show menus as follows:

PIP: Choose PIP and choose ON to set PIP mode.

LAYOUT: There are 7 PIP layouts: PIP L+T, PIP R+T, PIP L+B, PIP R+B,

PBP L+R, PBP T+B, user can choose any one of PIP layouts, the

corresponding results are as follows.

4. Menu Orientation
MENU

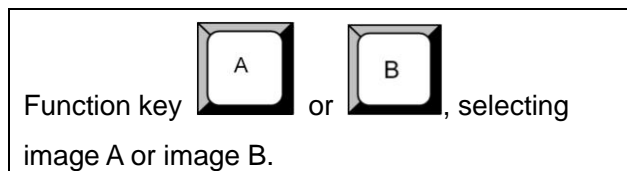<div style="text-align: center">

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

</div>

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

Note

Function key [A] or [B], selecting image A or image B.

SWAP WINDOW: It can set PIP to swap exchange, when choose ON, it can realize the main and sub-image exchange.

ALPHA: Can set the image display transparency, regulating range between 0 - 16.

Details please refer to the instructions in the manual: How to Set up the PIP.

MENU---PICTURE

Push the [MENU] button to go into the main menu, and turn the knob to select <PICTURE>, show menus as follows:

OUTPUT PICTURE: User can set the brightness of SPLIT 1, 2, 3, 4, and the entirety brightness.

INPUT PICTURE: It can adjust the image quality settings including as follows:

INPUT BRIGHTNESS: It can change the image BRIGHTNESS via

4. Menu Orientation
MENU

BRIGHTNESS Settings.

INPUT CONTRAST: It can change the image CONTRAST via CONTRAST

Settings.

INPUT SATURATION: It can change the image SATURATION via

SATURATION Settings.

INPUT SHARPNESS: It can change the image SHARPNESS via

SHARPNESS Settings.

INPUT COLOR RED: It can change the image color Red via Red Settings;

INPUT COLOR GREEN: It can change the image color Green via Green

Settings.

INPUT COLOR BLUE: It can change the image color Blue via Blue

Settings.

RESET: If quality image distorts as improper operation, it can be initialized

to recover by factory reset.

Note

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

MENU---ADJUST

Push the [MENU] button to go into the main menu, and turn the knob to

select <ADJUST>, show menus as follows:

VGA1 ADJUST: Adjust VGA1 input signal, sub menu as follows:

H POS: Image horizontal position.

V POS: Image vertical position.

CLOCK: Input signal clock.

4. Menu Orientation
MENU

PHASE: Input image phase.

Note

Only comments to professional operator.

AUTO ADJUST: Auto adjust VGA1 input signal H POS, V POS, CLOCK,

PHASE, auto adjust to display in full screen image.

Note

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

ADC ADJUST: Mainly aim at the BRIGHTNESS to auto adjusting.

GAMMA: Gamma setting, press it to adjust the image gamma value.

Gamma values include: LINEAR, sRGB, -1.2, -1.4, -1.6, 1.2, 1.4, 1.6.

ASPECT RATIO: Change the value to convert the aspect ratio for different

wide and height ratio settings.

DEFAULT: Original video ratio.

16:9: 16:9 aspect ratios.

MENU---TEXT OVERLAY

Push the [MENU] button to go into the main menu, and turn the knob to

select <TEXT OVERLAY>, show menus as follows:

It can adjust the text overlay function settings including as follows:

TEXT OVERLAY: Can select "ON" or "OFF", OFF is the default setting.

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

User: User mode.

WhOnBk1: White On Black 1.

WhOnBk2: White On Black 2.

BkOnWh1: Black On White 1.

BkOnWh2: Black On White 2.

4. Menu Orientation

GrnOnBk1: Green On Black 1.

GrnOnBk2: Green On Black 2.

GrnOnWh1: Green On White 1.

GrnOnWh2: Green On White 2.

RedOnBk1: Red On Black 1.

RedOnBk2: Red On Black 2.

RedOnWh1: Red On White 1.

RedOnWh2: Red On White 2.

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

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

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

BLEND LEVEL: Can set the image display transparency, regulating range between 0 - 16.

ABOVE/BELOW:

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

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

KEY IN/OUT:

KEY IN：The background to delete, the text title to keep.

KEY OUT：The text title to delete, the background to keep.

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

4. Menu Orientation
MENU

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

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

Details please refer to the instructions in the manual: How to Realize the Text Overlay Setting.

MENU---SYSTEM

Push the [MENU] button to go into the main menu, and turn the knob to select <SYSTEM>, it can adjust the system function settings including as follows:

ETHERNET: Network setting, including:

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

IP ADDRESS: 192.168.000.100.

DELAY CALL: Set delay the output time. When more than one equipment power on, and the processor is the end equipment in order to improve question that can't identify the input signal and phenomenon that LED screen appear messy code and flash screen, now need to delay the input time1-255s.

TECH SUPPORT: Can view the factory sales, after sales, factory address, contact information, etc.

SYSTEM INFO: System information.

COM VERSION: Information of COM version.

FIRMWARE VERSION: Information of FIRMWARE version.

SN: It is the Factory serial number of VSP 3550 which is used to search the information of VSP 3550.

IP: IP address.

DATE&TIME: Display date or time.

4. Menu Orientation
MENU

DATE: Display date.

TIME: Display time.

CHANGE DATE.

CHANGE TIME.

Note

If use timing function, DTAT and TIME need to set up accurate.

WORK TIME:

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

LAST TIME: Display last working time.

TOTAL TIME: Total working time.

BOOT TIMES: Boot times.

MENU --- LANGUAGE

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

MENU --- FACTORY RESET

Enter FACTORY RESET to reset the IP, choose YES and push the knob to confirm, then VSP 3550 is reset to its factory settings. After 5 seconds, it completes factory settings and is ready for more operations.

4. Menu Orientation

QUICK MENU

Quick menu function are including: Special effects switching, SAVE

function, LOAD function, SCALE function, these functions are separate
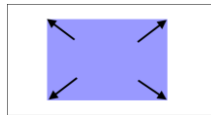
button defined, so not included in the MENU.

SPECIAL EFFECTS SWITCHING

Press the **MENU** button two times, enter the effect switch function menu.
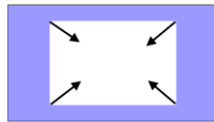
MODE：Special effects switching mode

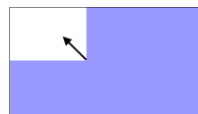DISSOLVE：fade in fade out Special effects switching
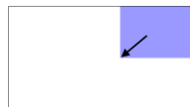
CUT：fast switching

WIPE SOUARE IN：

WIPE SOUARE OUT：
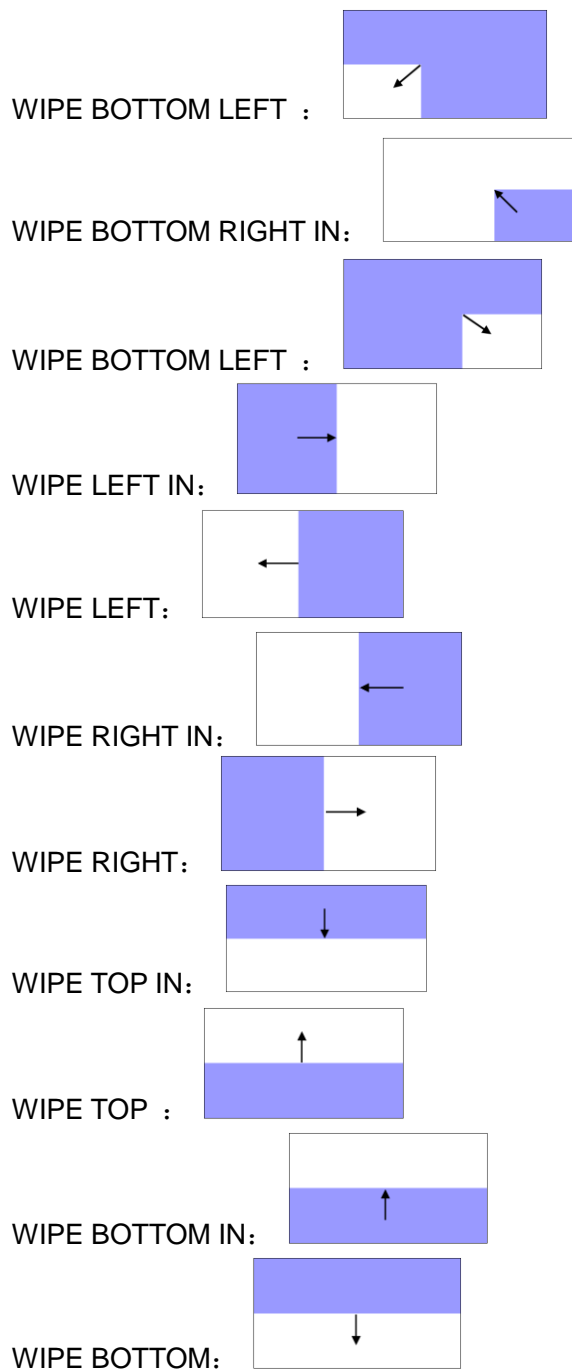
WIPE TOP LIEFT IN：

WIPE TOP LIEFT：

WIPE TOP RIGHT IN：

WIPE TOP RIGHT ：

WIPE BOTTOM LEFT IN：

4. Menu Orientation
QUICK MENU

WIPE BOTTOM LEFT ：

WIPE BOTTOM RIGHT IN：

WIPE BOTTOM LEFT ：

WIPE LEFT IN：

WIPE LEFT：

WIPE RIGHT IN：

WIPE RIGHT：

WIPE TOP IN：

WIPE TOP ：

WIPE BOTTOM IN：

WIPE BOTTOM：

Note: On behalf of the image emerging;

 On behalf of the image disappearing.

Arrows represents the direction of the image move, that is, the image that

arrow point, is compressed or stretched to the direction that arrow indicates,

until disappear or full screen.

FADE TIME: Switch time setting. Rotate the knob to choose the time and

4. Menu Orientation

press the knob to confirm. The switching time ranges from 0 to1.0.

ALPHA: It can set the image transparency, regulating range between 0 -
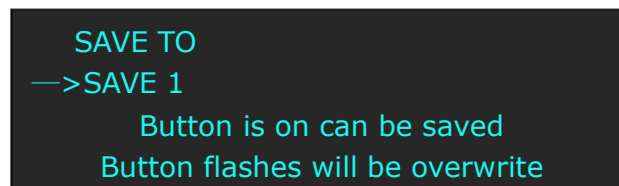
16.

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

ON: Force deinterlace, no effect switching.

OFF: No deinterlace, with effect switching.

SAVE FUNCTION

Press the **SAVE** button, button 0-9 led light turn on, enter the save function

menu. OLED screen as follows:
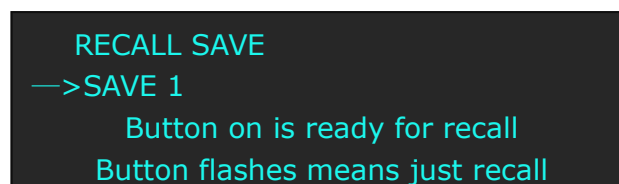
```
      SAVE TO
—>SAVE 1
          Button is on can be saved
          Button flashes will be overwrite
```

According to the OLED display information to save operation.

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

Parameter.

LOAD FUNCTION

Press the **LOAD** button, button led light turn on, enter the load function

menu. OLED screen as follows:

```
      RECALL SAVE
—>SAVE 1
          Button on is ready for recall
          Button flashes means just recall
```

According to the OLED display information to LOAD operation.
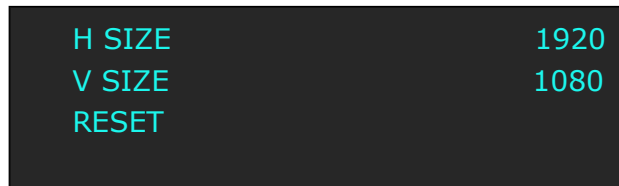
Details please refer to the instructions in the manual: How to Load the

Saved Parameter.

4. Menu Orientation
QUICK MENU

SCALE FUNCTION

Press the SCALE button, button led light turn on, enter the SCALE function

menu. OLED screen as follows:

```
H SIZE                          1920
V SIZE                          1080
RESET
```

H SIZE: Width setting.

V SIZE: Height setting.

RESET: Restore the factory Settings.

User can turn the knob or input the number directly to scale the image.

5. 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

- User Guideline

- How to Realize Single Image Switching

- How to Set up the PIP

- How to Do Customized Output Resolution

- How to Scale the Layer Image

- How to Crop the Layer Image

- How to Set the Position of Layer Image

- How to Achieve Split Function

- How to Achieve 4K×1K Split

- How to Achieve Quick Split

- How to Realize the Text Overlay Setting

- How to Realize Test Pattern Output and Settings

- How to Use Black

- How to Save the Parameter

- How to Load the Saved Parameter

Interface and Input Signal Option

VSP 3550 Back Panel :

NO	INTERFACE	NO	INTERFACE
1.3	CVBS Input	12	DVI Input
2.4	VGA Input	13	DVI Loop Out
5	SDI Input	14.15	DVI Input (4K×1K)
6	SDI Loop Out	16	DVI Preview Output
7	Push Button Switch	17	VGA Preview Output
8	10/100M Interface	18.19.20.21	DVI Output
9	USB Interface	22	Power Switch
10	RJ11 (RS232) Interface	23	Power Interface
11	HDMI Input		

16. DVI output interface default for preview, mainly through the display preview will output signal, the output signal for DVI video signal.

17. VGA output interface default for preview, mainly through the display preview will output signal, the output signal for VGA video signal.

18. 19. 20. 21: DVI output, use for split, and connect to the LED screen.

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.

5. System Setup and Operations

Interface and Input Signal Option

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

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.

HDMI（**HDMI-A Port**）Computer graphics interface may receive the HDMI output interface can also through the HDMI cable to connect the computer graphics HDMI output or DVD HDMI output.

3G SDI（**BNC Port**）Can receive video signal from HD player, and HD camera, connect interface 20 via 75 ohms BNC port. Connect LED screens via network cable.
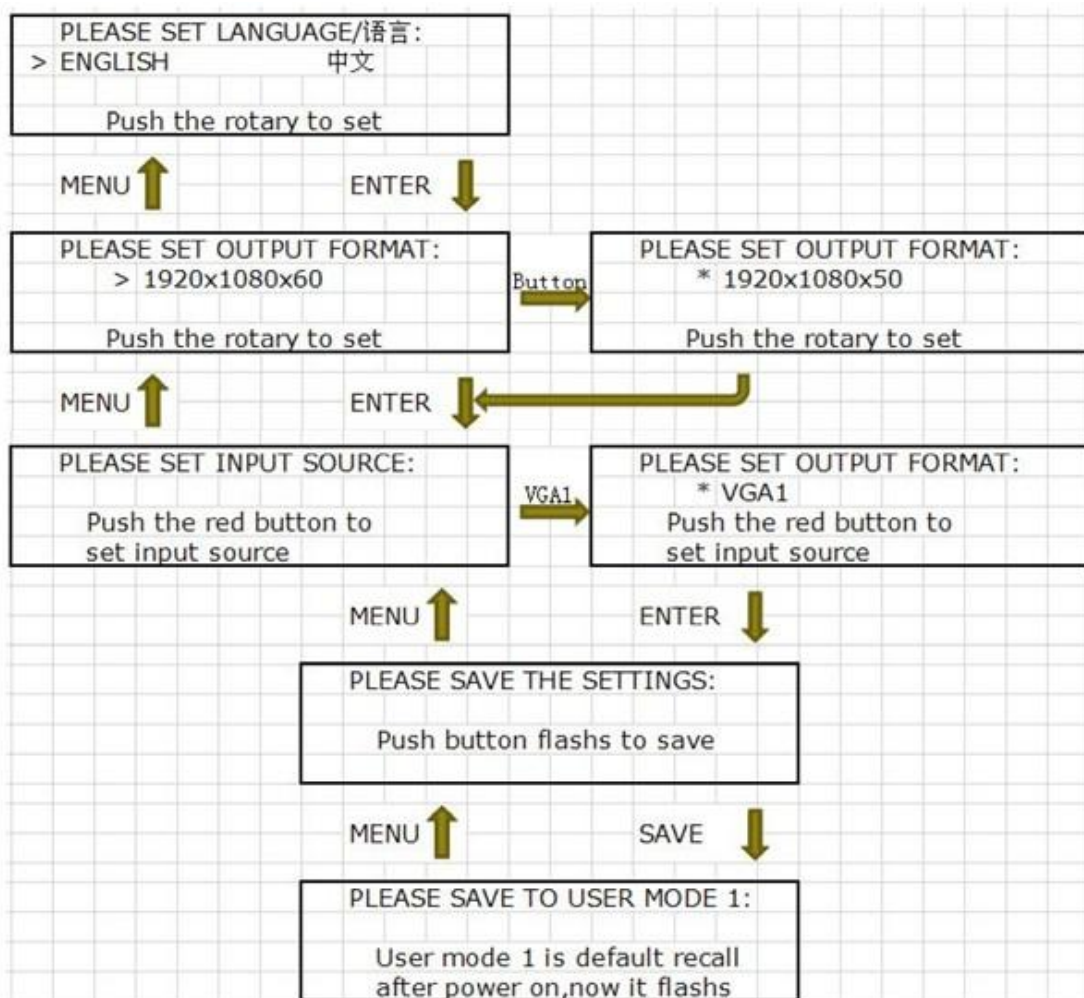
5. System Setup and Operations

User Guideline

Inputs cable, outputs cable, control cable, power cable were connected to

interface finish turn on the power switch, user guideline :

The fist step set up OLED display language.

The second step set up output format.

The third step set up input source.

The fourth step up save.
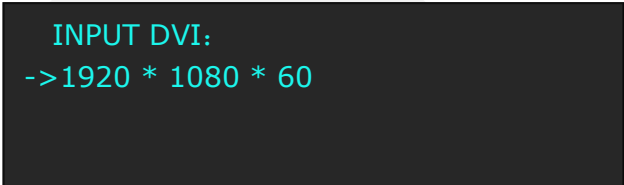
How to Realize Single Image Switching

Boot the system default CV1 to the current input source (key flashes), if need seamless switching other source such as DVI, direct light touch DVI key, OLED screen display as follows:

```
  INPUT DVI：
->1920 * 1080 * 60
```

Choose DVI buttons, button lamp CV1 destroy, and DVI key light and flashes, can realize single image of input signal source switching (input signal source by original CV1 switching to DVI).The same method can be switched CV2, VGA1, VGA2, DVI,HDMI, SDI.

Note

Seamless switch: means signal switch will not appear any flash point, black, shaking or delay.

5. System Setup and Operation

How to Set up the PIP

Push the [MENU] button to go into the main menu, and turn the knob to select <PIP>, show menus as follows:

```
->PIP                        OFF
   LAYOUT                  PIP L+T
   SELECT                   IMAE A
   SWAP WINDOW               OFF
```

Select <PIP>, push the knob to confirm, turn the knob, and choose "ON", push the knob to confirm, show menus as follows:

```
->PIP                         ON
   LAYOUT                  PIP L+T
   SELECT                   IMAE A
   SWAP WINDOW               OFF
```

LAYOUT: There are 7 PIP layouts: PIP L+T, PIP R+T, PIP L+B, PIP R+B, PBP L+R, PBP T+B, user can choose any one of PIP layouts, the corresponding results are as follows:

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

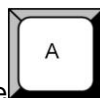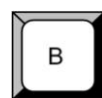SELECT: Can choose to set the size or position of IMAGE A or IMAGE B individually.

Note

Function kye [A] or [B], selecting image A or image B.

5. System Setup and Operation

How to Set up the PIP

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

realize the main and sub-picture exchange.

ALPHA: Can set the image display transparency, regulating range between

0~16.

How to Do Customized Output Resolution

Push [MENU] button to open the main menu, turn knob and go to <OUTPUT FORMAT>, push knob and confirm to go into the <OUTPUT FORMAT> menu, as following:

```
—>COMMON FORMAT              >>
   OTHER FORMAT              >>
   CUSTOMIZED               >>
   EXTERNAL SYNC.
```

CUSTOMIZED--Used defined resolution setting.

Push knob and go into <CUSTOMIZED> menu:

```
      CUSTOMIZED
—> 1920×1080@60
```

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

```
 CUSTOMIZED
*1536×
```

After the digital push knob will add ×, means before × is the horizontal size.

Same operation for vertical size, for example input1536 as following:

```
 CUSTOMIZED
*1536×1536×
```
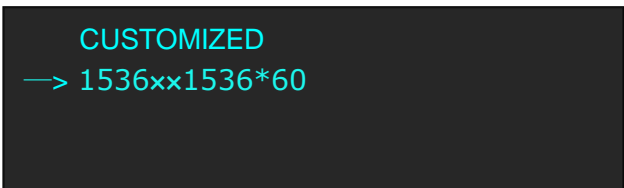
After the digital push knob will add ×, means before × is the vertical size.

Same operation by push digital buttons to set the refresh rate. For example

5. System Setup and Operation

to input refresh rate 60.

```
    CUSTOMIZED
—> 1536xx1536*60


```

After input all the values, push knob to enable VSP 3550 to output this
resolution. VSP 3550 will take 5~10 seconds to enable this output
resolution.

How to Scale the Layer Image

Firstly, ensure the device is power on and in normal operation.

Operations are as follows:

1. Push any button of OUTPUT DVI1~DVI4 and LAYEY A and B, the

   button blinks, and the layer can be edited.

2. Push [SCALE] button, key lights, and start the scale function.

3. Turn the knob, or push the number button to input the number directly,

   push the knob to confirm. OLED shows as follows:

```
—>H SIZE                    1024
   V SIZE                    768
   RESET
```

4. Push [SCALE] button again, key light is off, and exit the scale function.

How to Crop the Layer Image

Firstly, ensure the device is power on and in normal operation.

Operations are as follows:

1. Push any button of OUTPUT DVI1~DVI4, the button blinks, and the

   layer can be edited.

2. Push [CROP] button, key lights, and start the crop function, OLED

   shows as follows:

```
—>CROP WIDTH              1024
   CROP HEIGHT             768
   CROP X                    0
   CROP Y                    0
   RESET
```

3. Turn the knob, or push the number button to input the number directly,

   push the knob to confirm. OLED shows as follows:

4. Push [CROP] button again, key light is off, and exit the crop function.

How to Set the Position of Layer Image

Firstly, ensure the device is power on and in normal operation.

Operations are as follows:

1. Push any button of OUTPUT DVI1~DVI4 and LAYEY A and B, the

   button blinks, and the layer can be edited.

2. Push [POS] button, key lights, and start the position setting function.

3. Turn the knob, or push the number button to input the number directly,

   push the knob to confirm. OLED shows as follows:

```
—>POS X                        0
   POS Y                        0
   RESET
```

4. Push [POS] button again, key light is off, and exit the position setting

   function.

How to Achieve Split Function

Firstly, ensure the device is power on and in normal operation.

Operations are as follows:

1. Push any button in SPLIT part, key lights, and enter the output split function.

2. VSP 3550 provides 9 kinds of split modes for user, among them, 2 IN 2 OUT, 2 IN 3 OUT and 2 IN 4 OUT can be achieved by button 4K×1K.

    Split results are as follows:

Split Mode 1: STRAIGHT   Split Mode 2: HORIZONTAL 1/2

Split Mode 3: VERTICAL 1/2   Split Mode 4: FIELD GLYPH
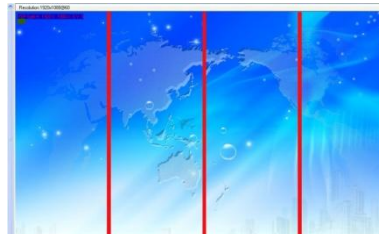
Split Mode 5: HORIZONTAL 1/4   Split Mode 6: VERTICAL 1/4

5. System Setup and Operations

How to Achieve Split Function

3. Turn the knob, user can select the split mode according to actual need.

4. Push any button of DVI1, DVI2, DVI3, DVI4 and Layer A and B, select preset output, key blinks, and it is selected and can be edited.

5. Push [SCALE], [CROP], and [POS] button, key lights, user can set the size and position of output image. (CROP function is not available for Layer A and B in V1.0)

6. Turn the knob, or push the number button to input the number directly, user can set the size and position of output image.

7. Push any rest button of DVI1, DVI2, DVI3, DVI4 and Layer A and B, Select the output image, repeat step 5 and 6 to set.

Note

> When VSP 3550 is in split mode, it only split for Layer A, and is invalid for other layers.

How to Achieve 4K×1K Split

Firstly, ensure the device is power on and in normal operation, and input DVI2 and DVI3.

Operations are as follows:

1. Push button 4K×1K, key lights, and enter the output split function.

2. Button 4K×1K can achieve split modes of 2 IN 2 OUT, 2 IN 3 OUT and 2 IN 4 OUT. Split results are as follows:

Split Mode 1: 2 IN 2 OUT   Split Mode 2: 2 IN 3 OUT
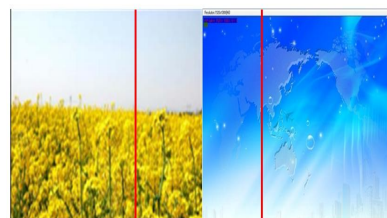
Split Mode 3: 2 IN 4 OUT
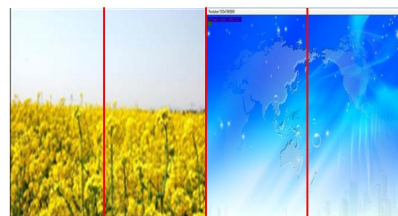
4. Turn the knob, user can select the split mode according to actual need.

5. Push any button of DVI1, DVI2, DVI3, DVI4 and Layer A and B, select preset output, key blinks, and it is selected and can be edited.

6. Push [SCALE], [CROP], and [POS] button, key lights, user can set the size and position of output image. (CROP function is not available for Layer A and B in V1.0)

7. Turn the knob, or push the number button to input the number directly, user can set the size and position of output image.

5. System Setup and Operations

8. Push any rest button of DVI1, DVI2, DVI3, DVI4 and Layer A and B,

Select the output image, repeat step 5 and 6 to set.

Note

> When VSP 3550 is in split mode, it only split for
>
> Layer A, and is invalid for other layers.

How to Achieve Quick Split

Firstly, ensure the device is power on and in normal operation.

Operations are as follows:

There are single device split and multiple split modes, specific

operations are as follows:

1. For multiple split mode, first press MENU button, and choose [OUTPUT

   FORMAT] option, rotate the knob, choose "EXTERNAL SYNC".

     Note

> If choose "EXTERNAL SYNC", the output
>
> resolutions should be the same.

2. Push button 4K×1K or any key in SPLIT part to choose split modes.

3. Rotate the knob, choose "START X" and "START Y" option (The

   horizontal starting position and vertical starting position that current

   device corresponding screen area in the entire LED display).

4. Rotate the knob again to set "START X" and "START Y".

5. When finish, press 【SAVE】 key to save.

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

Total screen width 5128, total screen height 1536, the width of the four

screens are 1440, 1632, 1344, 712, and height is 896, 640, settings are

as follows:

1-1	1-2	2-1	2-2
1-3	1-4	2-3	2-4
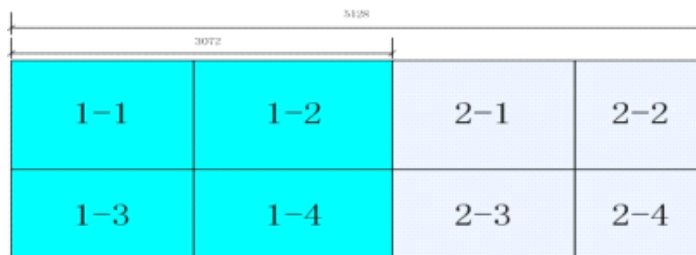
5. System Setup and Operations

How to Achieve Quick Split

Field glyph split on left side:

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

screen is1440, the height of the first screen is 896.

Then Start X is 0, Start Y is 0.

Field glyph split on right side:

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

screen is1344, the height of the first screen is 896.

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

How to Realize the Text Overlay Setting

1. Press MENU button, rotate the knob, choose【TEXT OVERLAY】 and

enter【TEXT OVERLAY】, press the knob to confirm.

```
   ADJUST                           >>
->TEXT OVERLAY                      >>
   SYSTEM                           >>
   LANGUAGE/语言                    ENG
```
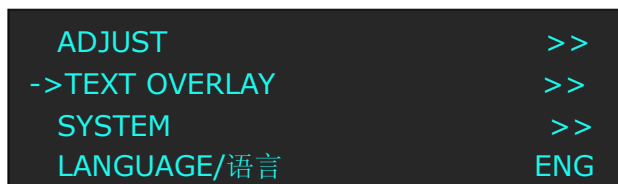
2. Rotate the knob, choose TEXT OVERLAY mode, choose ON, TEXT
   OVERLAY function open.

```
 *TEXT OVERLAY                      ON
  PRESET                     USER MODE
  BLEND MODE                     MODE1
  BLEND LEVEL                        0
```
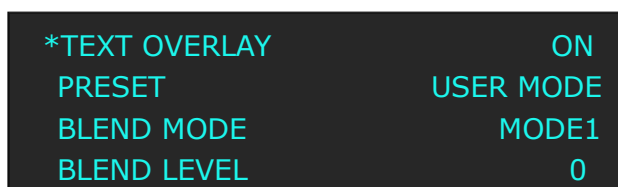
3. Press MENU, return to 【TEXT OVERLAY】, rotate the knob, OLED

screen displays menu options, select 13 modes in PRESET, or select

BLEND, which includes two modes:

Mode 1: Graphic content locate at the top and is non-transparent,

background transparency is controlled by double-image transparency;

Mode 2: Graphic content is controlled by double-image transparency,

the background is completely transparent.

Rotate the knob and choose the mode.

4. Press MENU, return to【TEXT OVERLAY】, rotate the knob, choose

ABOVE/BELOW to select the layer position for IMAGE B.

5. Press MENU, return to【TEXT OVERLAY】, rotate the knob, choose

BLEND LEVEL, and set the image display transparency, regulating

range between 0~16.

6. Press MENU, return to【TEXT OVERLAY】, rotate the knob, choose the

color value:

RED: The value range of color RED that to be set, regulating range

5. System Setup and Operation

How to Realize the Text Overlay Setting

between 0~255.

GREEN: The value range of color GREEN that to be set, regulating

range between 0~255.

BLUE: The value range of color BLUE that to be set, regulating range

between 0~255.

7. At the same time, you can view the effect through the screen, to get a

better setting.

Note: All the above settings are available only for IMAGE B.

How to Realize Test Pattern Output and Settings

Test Pattern is used to calibrate the screen or system, especially when there is not standard input measure instrument.

Push [TP] button, and enter test pattern option, OLED shows as follows:

```
->MODE                    TEST PATTERN
  TEST PATTERN                      》
```

Turn the knob and select <TEST PATTERN> option. Push knob and go into the menu, there are 66 kinds of test pattern option ready. If set the Test Pattern enable as auto switching mode. VSP 3550 will output all the Test Pattern one by one, and the interval between each is 1~10S.

```
  MODE                    TEST PATTERN
->TEST PATTERN                      》
```

```
->TEST PATTERN                      1
  AUTO SWITCH                     OFF
```

User can also turn the knob and select <PURE IMAGE> option. Push knob and go into the menu, RED color range is from 0~255, GREEN is from 0~255, and BLUE is from 0~255.

```
  MODE                      PURE IMAGE
->PURE COLAR                        》
```

```
->RED                             255
  GREEN                           255
  BLUE                            255
```

5. System Setup and Operation

How to Use Black

Black descriptions:

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

VSP 3550 Black provides effect processing on output, Black use fade in fade out effect. Operations are as below:

1. Push BLACK button, then output turns to BLACK with fade in fade out effect.

Shown as below:
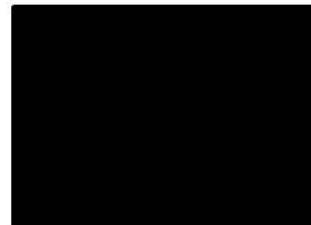
How to Save the Parameter

Save user mode to the customer for different scene directly call, leave out the edit operation inconvenience, VSP 3550 provides ten save preferences.

1. Press [SAVE] button, the light of button 0~9 is on or flash, the button on can be saved and flash will be overwrite, as shown on OLED menu:

```
   SAVE TO
—>SAVE 1
       Button is on can be saved
     Button flashes will be overwrite
```
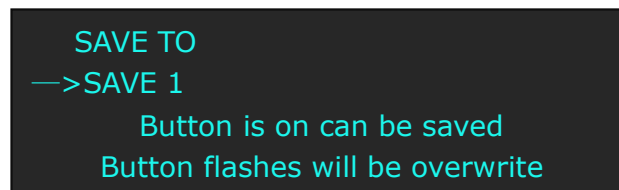
2. The figure: 1, 2, 3, 4, 5, 6, 7, 8, 9, 0 means SAVE1~10, user can push any button that is on to save. For example, save to SAVE2, push button 2, the OLED panel will show as follows after finish saving:

```
   SAVE TO
—>SAVE 2   FINISHED!
       Button is on can be saved
     Button flashes will be overwrite
```
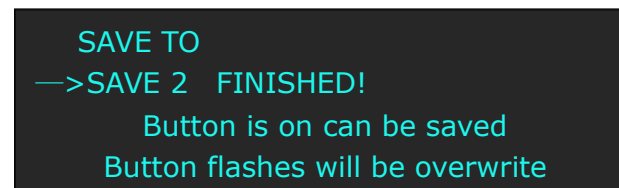
3. Push [SAVE] button again, button light is off, and exit the SAVE function.

How to Load the Saved Parameter

Save user mode to the customer for different scene directly call, leave out

the edit operation inconvenience, VSP 3550 provides ten save

preferences.

1. Push [LOAD] button, the light of button 0~9 is on or flash, the button on

   on is ready for recall and flash means just recall, as shown on OLED

   menu:

```
 RECALL SAVE
—>SAVE 1
        Button on is ready for recall
        Button flashes means just recall
```
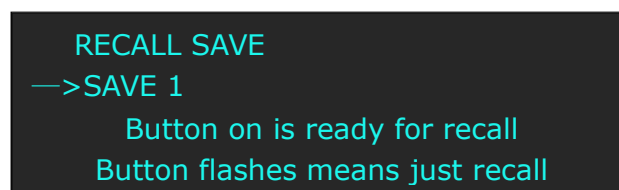
2. Push the button on to recall.

3. Push [LOAD] button again, button light is off, and exit the LOAD function.

6. Common Questions and Solution

In This Chapter

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

- No Output in Large Screen
- Large Screen Output Flash Point
- Large Screen only Display Part of the Image
- No Display in the Second Half Part of Large Screen
- All Key Lights Light Simultaneously

No Output in Large Screen

Confirm if there are any input singles

Check whether the input signal is normal, if there is no input signal, check the front-end signal lines, and please note to do dual display or extended in computer. User can enter other format signals to view in the same operating.

Confirm if signal output

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

Large Screen Output Flash Point

Confirm if preview output is normal

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

Large Screen only Display Part of the Image

Signal need to scale

Press 【SCALE】button in the processor and knob to adjust the actual screen size of the screen, combined with button【POSITION】, including "H SIZE" and "V SIZE", push the knob to confirm.

No Display in the Second Half Part of Large Screen

Resolution is inadequate

Please make sure the points of the screen width and heigh, choose the resolution to be bigger than screen width by push button **[MENU]**, and choose [OUTPUT FORMAT] option, push the knob to confirm.

All Key Lights Light Simultaneously

Check if dial switches are normal

Power off, check if two red dial switches near CV are upward. Reboot if they downward, and reboot. The function of the red dial switched is for upgrade.

A. Specification

CVBS Input	
Number of Inputs	1
Connector	Standard BNC Socket
Supported Standards	PAL/NTSC
Signal Level	1Vpp±3db (0.7V Video+0.3v Sync) 75 ohm
Multiplex	480i,576i
VGA Input	
Number of Inputs	1
Connector	Standard DB15 Socket
Supported Standard	VGA-UXGA
Signal Level	R、G、B、Hsync、Vsync:0 to1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm black level：300mV Sync-tip：0V
Supported Resolution	VGA-UXGA (800*600@60, 1024*768@60, 1280*1024@60, 1440*900@60,1600*1200@60)
DVI Input	
Number of Inputs	1
Connector	Standard DVI-I socket
Supported Resolution	SMPTE：625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50,1080P59.94/60,1080i50,1080i59.94/60, 720p50,720p59.94/60 VESA：800×600×60Hz,1024×768×60Hz,1280×768×60Hz, 1280×1024×60Hz,1600×1200×60Hz,1920×1080×60Hz
Signal Level	TMDS pwl,single pixel input,165MHz bandwidth
Format Standard	HDMI 1.3
DVI Loop Output	
Number of Inputs	1
Connector	Standard DVI-I socket
Supported Resolution	SMPTE：625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50,1080P59.94/60,1080i50,1080i59.94/60, 720p50,720p59.94/60 VESA：800×600×60Hz,1024×768×60Hz,1280×768×60Hz, 1280×1024×60Hz,1600×1200×60Hz,1920×1080×60Hz
Signal Level	TMDS pwl,single pixel input,165MHz bandwidth
Format Standard	HDMI 1.3
HDMI Input	
Number of Inputs	1
Connector	Standard HDMI-A 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
CVBS Input(CV module)	
Number of Inputs	1
Connector	Standard BNC Socket
Supported Standards	PAL/NTSC
Signal Level	1Vpp±3db (0.7V Video+0.3v Sync) 75 ohm
Multiplex	480i,576i
VGA Input(CV module)	
Number of Inputs	1
Connector	Standard DB15 Socket
Supported Standard	VGA-UXGA
Signal Level	R、G、B、Hsync、Vsync:0 to1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm
	black level：300mV Sync-tip：0V
Supported Resolution	VGA-UXGA (800*600@60, 1024*768@60, 1280*1024@60, 1440*900@60,1600*1200@60)
SDI Input(3G module)	
Number of Inputs	1
Connector	Standard BNC Socket
Transmission speed	19.4Mbps~3Gbps
Supported Standard	ITU-R BT.656,ITU-R BT.601,SMPTE 259M, SMPTE 292, SMPTE 297
Balance	Belden 1694A 100m self-adaptive 3G,200m self-adaptive 1.485G,350m self-adaptive 270Mbps
Signal Level	TMDS pwl , 165MHz bandwidth
SDI Loop-through (3G module)	
Number of Loop-through	1
Connector	Standard BNC Socket
Signal Level	800mV±10%
Supported Resolution	SMPTE：625/25 PAL, 525/29.97 NTSC,625/50p PAL,525/59.94p NTSC, 720p50,720p59.94/60,1080i50,1080i59.94/60,1080p50,1080p59.94/ 60,
Driver	Belden 1694A 150mself-adaptive 3G, 200m selt-adptive 1.485G, 350m selt-adaptive SD 270Mbps
DVI Input（4K×1K）	

Number of Inputs	2
Connector	Standard DVI-I socket
Supported Resolution	SMPTE：625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50,1080P59.94/60,1080i50,1080i59.94/60, 720p50,720p59.94/60 VESA：800×600×60Hz,1024×768×60Hz,1280×768×60Hz, 1280×1024×60Hz,1600×1200×60Hz,1920×1080×60Hz
Signal Level	TMDS pwl,single pixel input,165MHz bandwidth
Format Standard	HDMI 1.3
Preview Output	
VGA Output	
Number of Outputs	1
Connector	Standard DB15 Socket
Supported Resolution	VESA ： 800×600×60Hz,1024×768×60Hz,1024×768×75Hz ,1280×768×60Hz, 1280×1024×60Hz,1440×900×60Hz,1400×1200×60Hz,1600×1200×60Hz,1920×1080×60Hz,1920×1200×60Hz,2048×1152×60Hz
Signal Level	R、G、B、Hsync、Vsync:0 to1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm black level：300mV Sync-tip：0V
DVI Output	
Number of Outputs	1
Connector	Standard DVI-I Socket
Signal Level	TMDS pw, 165MHz bandwidth
Supported Resolution	VESA: 800×600×60Hz,1024×768×60Hz,1024×768×75Hz ,1280×768×60Hz, 1280×1024×60Hz,1440×900×60Hz,1400×1200×60Hz,1600×1200×60Hz,1920×1080×60Hz,1920×1200×60Hz,2048×1152×60Hz
Split Output	
DVI Output	
Number of Outputs	4
Connector	Standard DVI-I Socket
Signal Level	TMDS pw, 165MHz bandwidth
Supported Resolution	VESA: 800×600×60Hz,1024×768×60Hz,1024×768×75Hz ,1280×768×60Hz, 1280×1024×60Hz,1440×900×60Hz,1400×1200×60Hz,1600×1200×60Hz,1920×1080×60Hz,1920×1200×60Hz,2048×1152×60Hz
Function	
Input channel configuration	Support each input channel signal programming configuration
PIP	Support PIP、PBP for any two inputs
Transition effects	Fade in and fade out switching between any two inputs
Extras	

Communication	Front Panel Operation
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.

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