VENUS X1

RGBlink®

CONTENTS

Thank you for choosing our product!

This User Manual is designed to show you how to use this video processor quickly and make use of all the features. Please read all directions and instructions carefully before using this product.

Declarations

FCC/Warranty

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area may cause harmful interference, in which case the user will be responsible for correcting any interference.

Guarantee and Compensation

RGBlink provides a guarantee relating to perfect manufacturing as part of the legally stipulated terms of guarantee. On receipt, the purchaser must immediately inspect all delivered goods for damage incurred during transport, as well as for material and manufacturing faults. RGBlink must be informed immediately in writing of any complains.

The period of guarantee begins on the date of transfer of risks, in the case of special systems and software on the date of commissioning, at latest 30 days after the transfer of risks. In the event of justified notice of compliant, RGBlink can repair the fault or provide a replacement at its own discretion within an appropriate period. If this measure proves to be impossible or unsuccessful, the purchaser can demand a reduction in the purchase price or cancellation of the contract. All other claims, in particular those relating to compensation for direct or indirect damage, and also damage attributed to the operation of software as well as to other service provided by RGBlink, being a component of the system or independent service, will be deemed invalid provided the damage is not proven to be attributed to the absence of properties guaranteed in writing or due to the intent or gross negligence or part of RGBlink.

If the purchaser or a third party carries out modifications or repairs on goods delivered by RGBlink, or if the goods are handled incorrectly, in particular if the systems are commissioned operated incorrectly or if, after the transfer of risks, the goods are subject to influences not agreed upon in the contract, all guarantee claims of the purchaser will be rendered invalid. Not included in the guarantee coverage are system failures which are attributed to programs or special electronic circuitry provided by the purchaser, e.g. interfaces. Normal wear as well as normal maintenance are not subject to the guarantee provided by RGBlink either.

The environmental conditions as well as the servicing and maintenance regulations specified in this

manual must be complied with by the customer.

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.

Installation Safety Summary

Safety Precautions

For all VENUS X1 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 VENUS X1 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 VENUS X1 should be clean, properly lit, free from static, and have adequate power, ventilation, and space for all components.

Chapter 1 Your Product

1.1 In the Box

AC Power Cord	USB Cable	DVI Cable	Warranty Card & USB Files

Screw Driver	Antistatic Bag
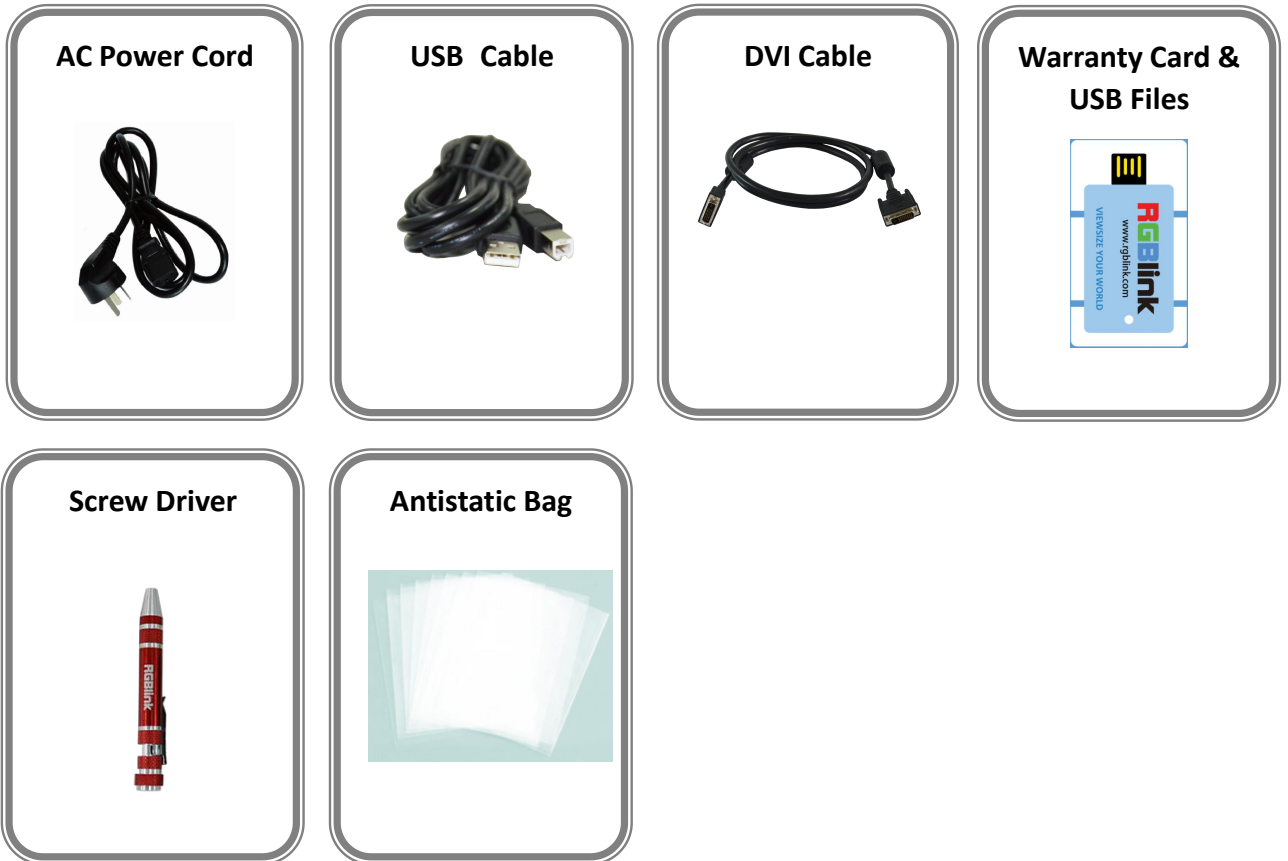
Note:

AC Power Cable supplied as standard according to destination market.

USB is contained on the Warranty/Registration Card. Please keep.

1.2 Product Overview

VENUS X1 is a multiple outputs video processor that accepts a wide variety of video signals, including DVI, VGA, HDMI, CVBS, DP, SDI (SD/HD/3G compatible) and USB. VENUS X1 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.

VENUS X1 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.

VENUS X1 supports EDID editing for VGA, DVI, HDMI input ports and read EDID for output ports, support EDID modify by windows control program. PC modified EDID, users can edit the EDID of input port according to the resolution of outputs to achieve the optimal input resolution.

VENUS X1 also supports local front panel operation, remote widows based software control by RS232, USB, Ethernet, and WIFI control. In addition, VENUS X1 is based on replaceable input optional modules structure, with different modules, you can reach more possibility and application range.

1.2.1 Back Panel
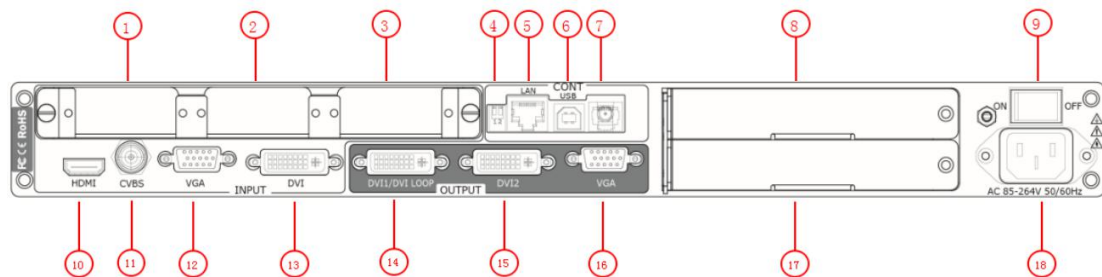
Input Connectors

10	**HDMI-A – HDMI** Standard HDMI signals can input.
11	**BNC - CVBS** Standard CVBS signals can input.
12	**DB15 – VGA** Standard VGA signals can input. Additionally this VGA port supports Component (YPbPr) with the use of a VGA to Component adapter.
13	**DVI-I – DVI** Standard DVI signals can input. The DVI port supports up to HDMI 1.3 if the port format is set to HDMI.

Output Connectors

14. 15	**DVI-I – DVI** Connect to the monitor or LED display which has DVI interface. (This connector does not support hotplug).
14	**DVI-I – DVI LOOP** Connect to the DVI input of the next VENUS X1 or the device with DVI input.
16	**DB15 – VGA** Connect to the monitor or LED display which has VGA interface. (This connector does not support hotplug).

Control Connectors

4	**DIP Switch** If the two DIP 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.
5	**RJ45 – Ethernet** Connect to Ethernet work for remote control by windows software.
6	**USB-B – USB** Connect to Ethernet work for remote control by Windows software and for product firmware upgrades.

7	**<u>WIFI</u>** Connect to Ethernet work for remote control by WIFI.

Power Connection

9	**<u>Power Switch</u>** Illuminated power switch.
18	**<u>IEC – Power Input</u>** Main power input AC 85-264V Max 65W.

Option Slots

1.2.3	**<u>Input Option Slots</u>** Range of inputs are available for user fitting. Refer to Product Input Options.
8.17	**<u>Sender Card Slots</u>** A Sender Card can be installed in this slot. Support sender Card types including Linsn, Nova and Colorlight (sold separately) Refer to Product Sender Cards.

1.2.2 Front Panel
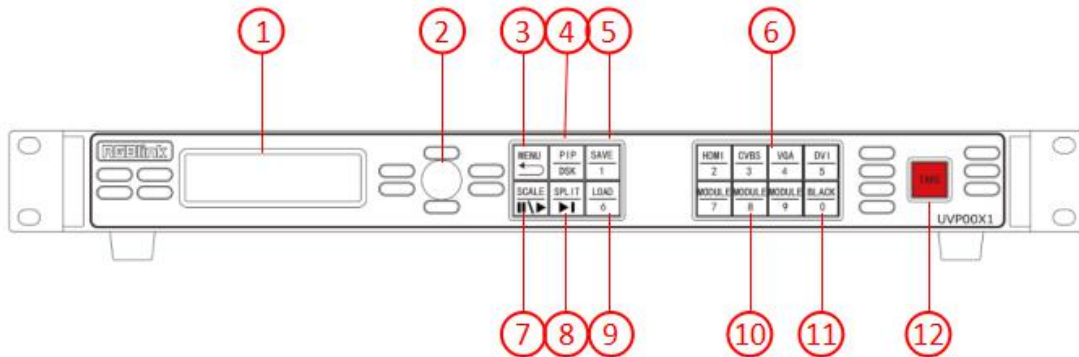
Display

1	**OLED Display** Displays current status of the product, and for feature selections provides interactive choices in conjunction with buttons on the front panel.

Multi-Function Buttons

2	**Rotary Button** This button used for menu selections and confirmation. The button is both rotary (turn to left and right), and push-button (confirm selection)

Illuminated Buttons

3	**MENU Button** This button used for menu selections – refer to Understanding the MENU Structure. Push the button again will return to the last level menu or exit the menu. Push the button two times to enter the effect switch function menu. Push the button for 3 seconds will lock the front panel, and push the button for 5 seconds to unlock. Push the **MENU** and **TAKE** button for 3 seconds will switch the language.
4	**PIP/DSK Button** PIP and DSK function reuse button. Push the button to enter to the PIP menu items – refer to PIP Setting. VENUS X1 V1.5 can not support DSK function button.
5	**SAVE Button** Save all current settings with the VENUS X1 to 1 of the 36 available slots. For details, please refer to Saving Views. Additionally this button is used for direct numeric entry for numbers 1.
6	**Dedicated Signal Buttons** For each of inputs on the back panel a dedicated backlit buttons are provided. When lit, the signal is selected for use, when red light is flashing, signal is in preview or the signal

	is not available.
	Additionally, each button is numbered and can be used as direct number entry when values such as resolution and size.
7	**SCALE Button**
	This button used for size and position adjusting.
	When input USB signal, it reused the stop and play button, push the button to stop or play the USB video file.
8	**SPLIT Button**
	Split function button.
	When connect USB signal, it reused the move next button, push the button to play the next USB video file.
9	**LOAD Button**
	Restores/Loads all current settings with the VENUS X1 from 1 of the 36 available slots.
	For details, please refer to Recall Saved Settings.
	Additionally this button is used for direct numeric entry for numbers 6.
10	**Optional Signal Buttons**
	If optional input module is fitted, then these two buttons operate as per Dedicated Signal Buttons above.
	Additionally these buttons are used for direct numeric entry for numbers 7 / 8 / 9.
11	**BLACK Button**
	Black button, push the button, its LED light turns on, the output will be switched to black, push the button again, its LED light is off, and output the video image.
	For details, please refer to Using Black out.
	Additionally this button is used for direct numeric entry for numbers 0.
12	**TAKE Button**
	Seamless effect switching button

1.2.3 Dimension

Following is the dimension of VENUS X1 for your reference:
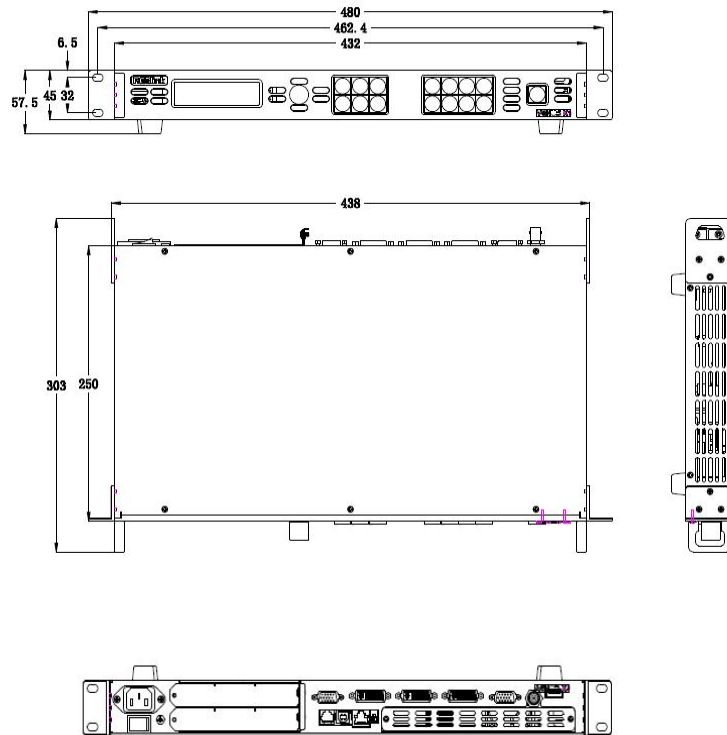
Chapter 2 Installing Your Product

2.1 Plugging in Signals

Connect signals to the product (ensure all devices are powered off first). Tighten connector screws/locks where provided.

For connector protection and for additional cable support this product is fitted with protection frames on either side of the device. For cable support use cable ties to attached to the protection frames to avoid stress on signal connectors.
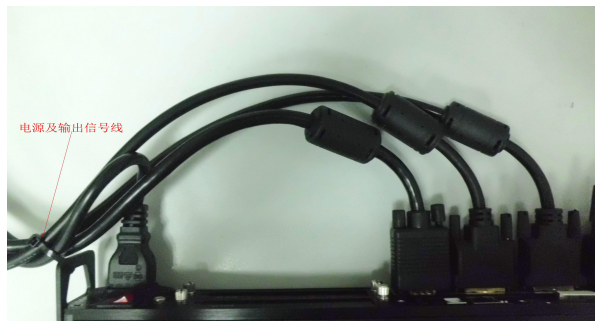
2.2 Plugging in Main Power

Connect IEC cable to device and plug into wall socket. Turn on power at wall socket.

2.3 Turning on Your Product

Turn the power switch on the rear of the product to the ON position.

OLED display will show as below, completing initialization before loading last settings and input/output configuration.

On delivery, DVI will be the default input signal at 1920x1080@60, and the output format is defaulted to 1920x1080@60.

RGBlink

↓

亮彩系列
AVDSP SERIES VENUS X1

↓

INIT NETWORK   FINISHED!

↓

INPUT	DVI :	NO INPUT
IP ADDRESS	:	192.168.0.100

RC1 @ ⊓ **F** 1 FADE LIVE

| OUTPUT FORMAT | : | 1920×1080@60 |

Chapter 3 Using Your Product

3.1 Using the MENU Button

Push the [MENU] button to enter the menu display.

Turn the rotary knob to navigate to the menu item required. The → symbol shows the current item. Push the knob to select and enter into the menu item.

As shown in the figure below:
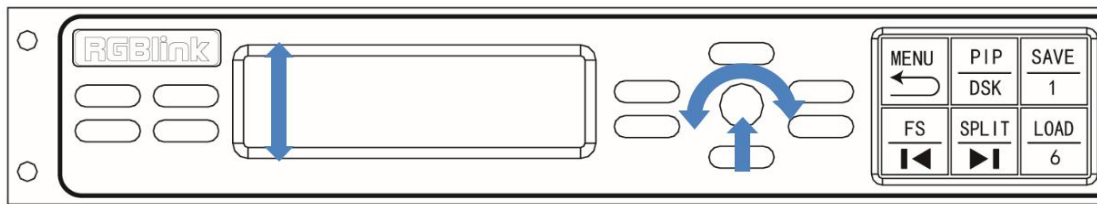
3.2 Understanding the MENU Structure

The MENU structure is shown in the figure below:

INPUT	OUTPUT	PICTURE	PIP	SPLIT	TRANSITION
INPUT DETAIL	STANDARD	IMAGE QUALITY	PIP	FIXED SPLIT	DEINTERLACE
ZOOM	CUSTOMIZED	TEXT OVERLAY	LAYOUT	NORMAL SPLIT	IMAGE ENHANCE
VGA ADJUST	SCREEN PARAMETERS		SELECT		MODE
ADC ADJUST	OUTPUT ADJUST		SWAP WINDOW		FADE TIME
HDMI/EXT ADJUST	ASPECT RATIO		ALPHA		ALPHA
HDMI AUDIO					
EDID MANAGEMENT					
VGA SIGNAL TYPE					
USB CONTROL					
EXT CVBS CONTROL					

SCALE	SAVE SETUP	SYSTEM	LED MANAGEMENT	LANGUAGE/语言	FACTORY RESET
H SIZE	SAVE TO	SN	QUICK CONNECTION	ENGLISH	FACTORY RESET
V SIZE	RECALL SAVE	VERSION	ADVANCED	中文	RESET IP RESET
H/V SIZE	DELAY CALL	TECH SUPPORT			
H POS	REAL-TIME SAVE	DATE & TIME			
V POS		ETHERNET			
RESET		LOCK FRONT PANEL			
		LICENCE SETUP			
		HOT BACKUP			
		DEVICE STATUS			
		USER DEFINES BUTTON			
		OLED LUMINANCE			
		FAN CONTROL			

3.3 Using the Menu

Use the menu system for convenient and intuitive operation. VENUS X1 OLED display shows the menu items. The OLED display will show the default state when the menu is not in use, or the operation has timed out. Using the MENU button and rotary knob in the front panel, the OLED display will show the corresponding menus according to user selections.

3.3.1 Understanding the Display

Turn the power switch to the ON position, the OLED display will show the start-up interface and show the default menu after completing initialization as below:

Introduce for the above information:

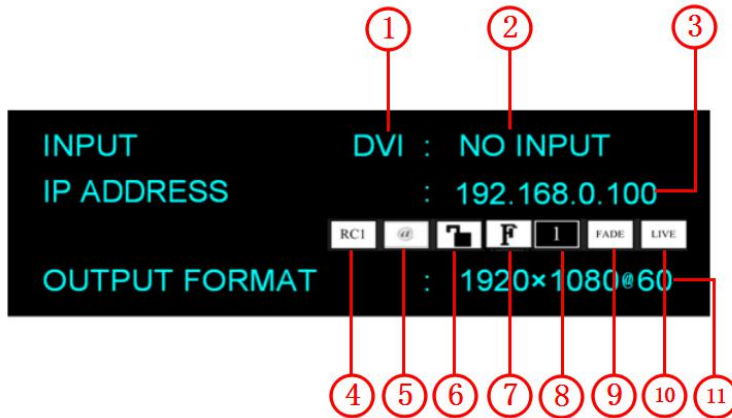|	
1	**Input Signal** Shows the current **In**put signal that is selected. The related dedicated signal button will be lit red.
2	**Input Resolution** Show the current input resolution from the selected **In**put source. To configure input resolutions, use the EDID Management features. A wide range of input resolutions are supported depending the input – refer to Specification. If a # symbol is show after the resolution, then a custom resolution is being used.
3	**IP address** Shows the IP address of the product. When not displayed here, the serial number can be found via the SYSTEM menu.
4	**Recall** Show the current recall position.
5	**Ethernet** Displays whether Ethernet connection is active or inactive. Ethernet settings are available in the Ethernet menu.
6	**Lock** Indicates if the front panel is locked.

7	**Full**
	Indicates whether the screen size is full size or screen size.
8	**1**
	Indicates the current is single image, image settings are available in the PIP menu.
9	**Fade**
	Indicates whether transitions are CUT or FADE. Configure from the Transition menu.
10	**Live**
	Indicates whether output video Live or whether FREEZE is active.
11	**Output Resolution**
	Show the current output resolution. To configure output resolutions, use the OUTPUT menu. A wide range of resolutions are supported – refer to Specification.
	If a # symbol is show after the resolution, then a custom resolution is being used.

3.3.2 Understanding the Main Menu

Push the MENU button in the default state and turn the rotary knob, the OLED display will show the main menus as below:

```
->INPUT                          >>
   OUTPUT                        >>
   PICTURE                       >>
   PIP                           >>
```

```
->SPLIT                          >>
   TRANSITION                    >>
   SCALE                         >>
   SAVE SETUP                    >>
```

```
->SYSTEM                         >>
   LED MANAGEMENT                >>
   LANGUAGE/语言                 ENG
   FACTORY RESET                 >>
```
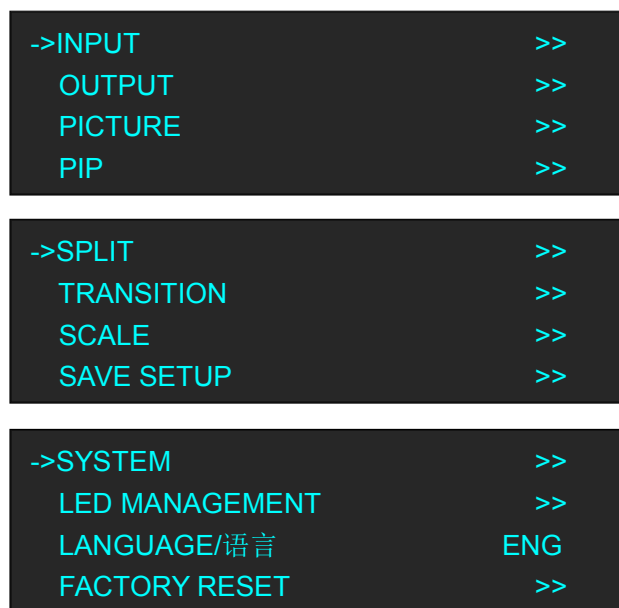
There are 12 menu items in the main menu, and display in 3 pages. Turn the rotary knob, and select any menu above, push the rotary knob to confirm, the OLED display will show the submenu. If push the MENU button, the OLED display will return to the last level menu.

3.3.3 Input Menu

```
->INPUT DETAIL                   >>
   ZOOM                          >>
   VGA ADJUST                    >>
   ADC ADJUST                    >>
```
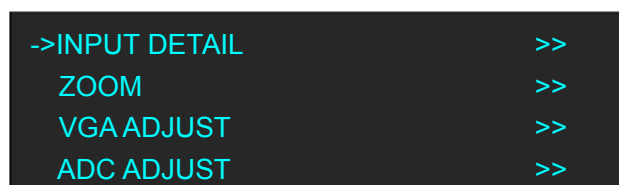
```
 ->HDMI/EXT ADJUST                >>
    HDMI AUDIO                    >>
    EDID MANAGEMENT              >>
    VGA SIGNAL TYPE             >>


 ->USB CONTROL                   >>
    EXT CVBS CONTROL            >>
```

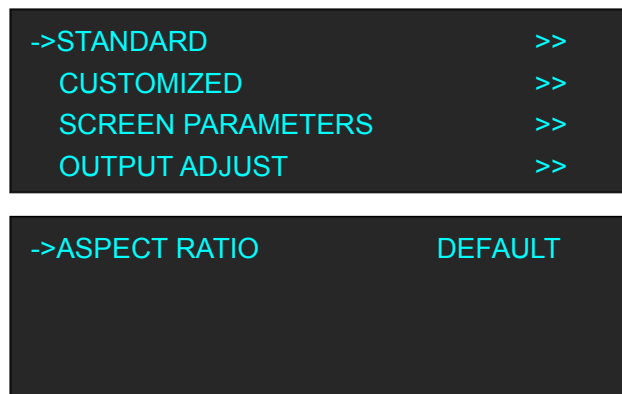| INPUT DETAIL	Display the input source and input format.	
ZOOM	**V UP**	
	Image to up zoom.	
	V DOWN	
	Image to down zoom.	
	V UP/DOWN	
	Image to up and down zoom.	
	H LEFT	
	Image to left zoom.	
	H RIGHT	
	Image to right zoom.	
	H LEFT/RIGHT	
	Image to left and right zoom.	
	CENTER	
	Image from center to the edges zoom.	
	RESET	
	If image quality distorts by improper operation, it can be recover by reset.	
VGA ADJUST	H POS, V POS, CLOCK and PHASE setting, or select auto adjust.	
ADC ADJUST	Select ADC auto adjust or ADC reset all.	
HDMI/EXT ADJUST	H POS and V POS setting. If image quality distorts by improper operation, it can be recover by reset.	
HDMI AUDIO	Enable or disable the HDMI audio function.	
EDID MANAGEMENT	**DESTINATION PORT**	
	Select the destination port, DVI, HDMI or VGA.	
	EDID SOURCE	
	Select the EDID source.	
VGA SIGNAL TYPE	Select VGA or YPbPr.	
USB CONTROL	**USB PORT**	
	Select PORT A or PORT B.	
	PLAY MODE	

	Select video or photo, default video.	
	PLAY FILE	
	Select the file to play.	
	PLAY ORDER	
	Select REPEAT ALL, RANDOM, ORDER, SINGLE CYCLE, SINGLE TRACK or PLAY LIST.	
	PLAY STATE	
	Select play or pause.	
EXT CVBS CONTROL	**CVBS PORT**	
	Select PORT A or PORT B.	
	INPUT FORMAT	
	Display the input format of CVBS.	

3.3.4 Output Menu

```
->STANDARD                        >>
   CUSTOMIZED                     >>
   SCREEN PARAMETERS              >>
   OUTPUT ADJUST                  >>
```

```
->ASPECT RATIO            DEFAULT
```

STANDARD	Include 22 kinds of standard standard resolution.
CUSTOMIZED	The special display project or LED display application would like to require special resolution settings to meet the requirement--refer to Set the Output Resolution.
SCREEN PARAMETERS	**H SIZE**
	Width setting.
	V SIZE
	Height setting.
	H POS
	Horizontal phase setting.
	V POS
	Vertical phase setting.
	MODE
	Select SCREEN SIZE or FULL SIZE.
	SCREEN FOLLOW SCALE
	Enable or disable screen follow scale function.
	RESET

|	If image quality distorts by improper operation, it can be recover by reset.
OUTPUT ADJUST	**DVI1** Select DVI1 OUTPUT or DVI LOOP, and select DVI mode, bit depth and data range, or set DE. If image quality distorts by improper operation, it can be recover by reset.
	DVI2 Select DVI mode, bit depth and data range, and set DE. If image quality distorts by improper operation, it can be recover by reset.
ASPECT RATIO	Select 4:3, 16:9 or default.

3.3.5 Picture Menu

```
->IMAGE QUALITY                         >>
  TEXT OVERLAY                          >>
```
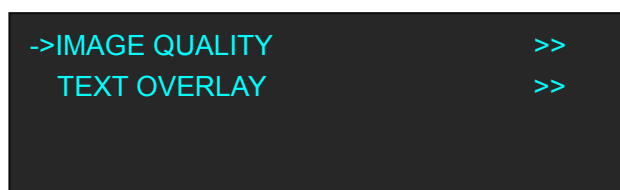
IMAGE QUALITY	**BRIGHTNESS** Brightness adjust, the adjustment range is 0~100.
	CONTRAST Contrast adjust, the adjustment range is 0~100.
	SATURATION Saturation adjust, the adjustment range is 0~100.
	SHARPNESS Sharpness adjust, the adjustment range is 0~100.
	COLOR RED Color red adjust, the adjustment range is 0~100.
	COLOR GREEN Color green adjust, the adjustment range is 0~100.
	COLOR BLUE Color blue adjust, the adjustment range is 0~100.
	GAMMA Gamma setting, can select LINEAR, sRGB, -1.2, 1.2, -1.4, 1.4, -1.6 or 1.6.
	RESET If image quality distorts by improper operation, it can be recover by reset.
TEXT OVERLAY	**TEXT OVERLAY** Enable or disable the text overlay function.
	PRESET Include 13 kinds of presets.
	BLEND MODE Include "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 Blend level setting, the adjustment range is 0~15.
	ABOVE/BELOW Select "ABOVE" or "BELOW".
	KEY IN/OUT KEY IN: Delete the background, and remain the text title. KEY OUT: Delete the text title, and remain the background.
	RED Red limit, cut-off point condition of ABOVE and BELOW condition in red channel, the adjustment range is 0 ~ 248.
	GREEN Green limit, cut-off point condition of ABOVE and BELOW condition in green channel, the adjustment range is 0 ~ 248.
	BLUE Blue limit, cut-off point condition of ABOVE and BELOW condition in blue channel, the adjustment range is 0 ~ 248.

3.3.6 Save Setup Menu

```
->SAVE TO                    >>
   LOAD FROM                 >>
   DELAY CALL                0s
   REAL-TIME SAVE            OFF
```

SAVE TO	Save all current settings with the VENUS X1 to 1 of the 36 available slots.
LOAD FROM	Restores/Loads all current settings with the VENUS X1 from 1 of the 36 available slots.
DELAY CALL	Delay output time setting.
REAL-TIME SAVE	Enable or disable the real-time save function.

3.3.7 System Menu

```
->SN                         2307
   VERSION                   >>
   TECH SUPPORT              >>
   DATE&TIME                 >>
```

```
->ETHERNET                   >>
   LOCK FRONT PANEL          >>
   LICENSE SETUP             >>
   HOT BACKUP                >>
```

```
->DEVICE STATUS              >>
   USER DEFINES BUTTON       >>
   OLED LUMINANCE            12
   FAN CONTROL               >>
```

SN	Display the serial number of the device.
VERSION	Display the software and hardware version of the device.
TECH SUPPORT	Display sales, after-sale service, email, website and telephone.
DATE&TIME	Display the date, time, current time, last time, total time and boot times. User can also change the date and time.
ETHERNET	Enable or disable the network function. If select "ON", user can set the IP address, subnet mask and gateway.
LOCK FRONT PANEL	Lock front panel function. If the key is locked, the equipment will remind: "Buttons are locked! Press MENU button for 5s unlock button!"
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.
HOT BACKUP	User can enable or disable the hot backup function. Select "ON" to set the backup signal for BACKUP_1 to BACKUP_5. It will switch to the backup signal if interrupt signal.
DEVICE STATUS	Display the video status, MB status and EXT status.
USER DEFINES BUTTON	User defines BLACK and SCALE button. BLACK: Default black function, can define this button as FREEZE, TEST PATTERN and BRIGHT. SCALE: Default scale function, can defines this button as TAKE.
OLED LUMINANCE	OLED luminance adjust, the adjustment range is 1~15.
FAN CONTROL	Enable or disable the auto speed function, set the current speed and view the current temperature.

3.3.8 LED MANAGEMENT Menu

```
->QUICK CONNECTION              >>
   ADVANCED                     >>
```

QUICK CONNECTIO	**SENDING CARD TYPE** Support 3 kinds of sender card, LINSN TS 802, NOVA STAR MSD 300 and

| N	COLORLIGHT T7.
	SENDING CARD NO. Select No.1 or No.2 sender card.
	OUTPUT FORMAT Select the output format according to actual need.
	QUICK CONNECTION Include sending card set and receiving card set. For details, please refer to Set LED Display Connection.
	BRIGHTNESS Brightness setting, the adjustment range is 1%~100%.
ADVANCED	**RECEIVING CARD SEPARATE** Select cable, receiving card No., and set X and Y.
	COLOR TEMP Set color red, color green, color blue, and save to sender card.
	GAMMA GAMMA setting.
	SYSTEM INFO Display the version of sending card and receiving card.

3.3.9 Language Menu

```
->LANGUAGE/语言              ENG
   FACTORY RESET              >>
```

Language	Select Chinese or English.

3.3.10 Factory Reset Menu

```
->FACTORY RESET              >>
   RESET IP RESET            >>
```
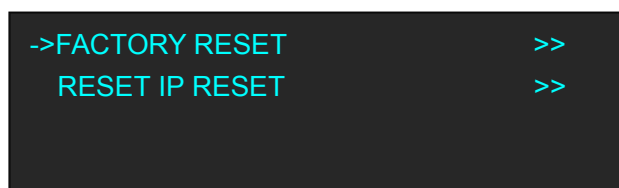
FACTORY RESET	Select "YES" or "NO". Select "YES" to restore default settings.
RESET IP RESET	Select "YES" or "NO". Select "YES" to restore IP to default settings.

3.4 Single Image Switching

Default DVI for the current input source, if need switch other signal, for example, VGA, push the VGA button.

DVI button light will be blinking after pushing the VGA button, representing the singal is about to switched. Users can check whether the output resolutions of VGA signal source is correct in the LCD menu, and then switch to the main output through the TAKE button.
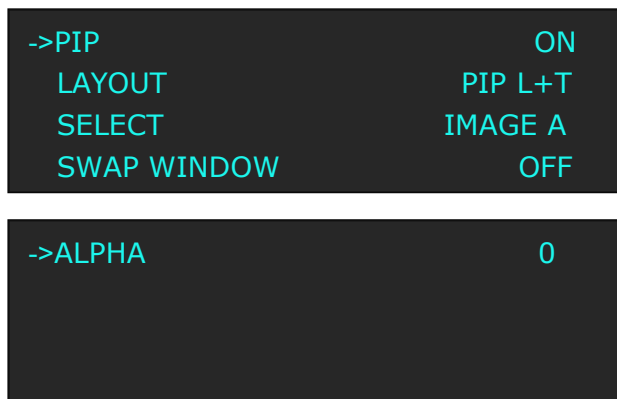
Same with above, switch the signals among CVBS, HDMI and input module option signal.

3.5 PIP Setting

Enable the PIP function

VENUS X1 supports seamless switching for single image and double images.

Push the [PIP/DSK] button, the LED light is on, and enter to the PIP menu items. OLED module show as follows:

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

```
->ALPHA                       0
```

Layout :

Select any one from PIP L+T, PIP R+T, PIP L+B, PIP R+B, PIP CENTER, PBP L+R and PBP T+B, take 3 layouts for example, shown as follows:

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

Select:

Select image A or image B. For example, select image B, the settings will be available for image B.

Swap Window:

Enable or disable the swap window function.

Alpha:

Image transparency setting, the adjustment range is 0 to 16.

3.6 Set LED Display Connection

VENUS X1 can realize three connection as follows connecting the Port D or Port U of one sending card to LED screen, connecting the both Port D and Port U of one sending card to LED screen, connecting the Port D and Port U of two sending cards to LED screen (PORT A or PORT B is for Colorlight, and PORT D or PORT U is for Linsn). The following are the detailed operation steps of the three connection.

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

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

(1) First, make sure that the device is in normal operation.

(2) Select the input source, for example, DVI.

(3) Connect the cable to Port U1.

(4) Turn the knob, and select <LED MANAGEMENT>:

```
    SYSTEM                          >>
 ->LED MANAGEMENT                   >>
    LANGUAGE/语言                    ENG
    FACTORY RESET                   >>
```

(5) Push the knob to confirm, turn the knob, select <SENDING CARD TYPE> in <QUICK CONNECTION> option, push the knob to confirm, turn the knob, select the sending card type, for example, select Linsn (VENUS X1 supports Linsn and Colorlight sender card, for Nova sender card, it only support brightness and Gamma adjustment). Shown as follows:

```
 ->QUICK CONNECTION                 >>
    ADVANCED                        >>


```

```
 *SENDING CARD TYPE          LINSN
  SENDING CARD NO.           No.2
  OUTPUT FORMAT                     >>
  QUICK CONNECTION                  >>
```

(6) Turn the knob, select <SENDING CARD NO.>, push the knob to confirm. Turn the knob and select "No.1", push the knob to confirm. Shown as follows:

```
    SENDING CARD TYPE         LINSN
 ->SENDING CARD NO.           No.1
    OUTPUT FORMAT                   >>
    QUICK CONNECTION                >>
```

(7) After setting, turn the knob, select <QUICK CONNECTION>, push the knob to confirm for next
setting, shown as follows:

```
      SENDING CARD TYPE          LINSN
      SENDING CARD NO.           No.1
      OUTPUT FORMAT              >>
    ->QUICK CONNECTION           >>
```

```
    ->SENDING CARD SET           >>
      RECEIVING CARD SET         >>
```

(8) Turn the knob, select <RECEIVING CARD SET>, push the knob to confirm. Turn the knob again,
and select <CHOOSE CABLE>, push the knob to confirm. Turn the knob, select PORT U1 and
push the knob to confirm.

```
      SENDING CARD SET           >>
    ->RECEIVING CARD SET         >>
```

```
    ->CHOOSE CABLE            PORT U
      HORIZONTAL CARD             1
      VERTICAL CARD               1
      WIDTH                      64
```

(9) Set the horizontal card, vertical card, width and height. For example, set horizontal card as 3,
vertical card as 2, width and height as 120, shown as follows:

```
      CHOOSE CABLE             PORT U
    ->HORIZONTAL CARD             3
      VERTICAL CARD               2
      WIDTH                     120
```

```
    ->HEIGHT                    120
      Offset (A/B) X              0
      Offset (A/B) Y              0
      CONNECT CARD TYPE          >>
```
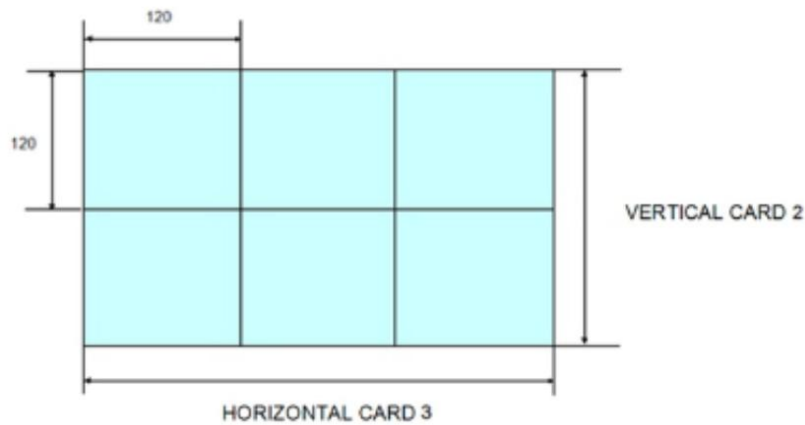
After setting, turn the knob and choose <CONNECT CARD TYPE> according to actual connection mode. VENUS X1 support 8 kinds of connection modes, they are ⊐, ⊑,

⊑, ⊐, Ⴑ, ∏, ∏ and Ⴑ respectively.

HEIGHT	120
Offset (A/B) X	0
Offset (A/B) Y	0
->CONNECT CARD TYPE	>>

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

The setting for port D1 is same as the above setting.

Rendering is as follows:

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

(1) First, make sure the device is in normal operation.

(2) Select the input source, for example, DVI.

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

(4) Connect Port U1 of No.1 Sending Card to LED screen, the settings are same as Step 4 to Step 9 of "**Connect the Port D or Port U of One Sending Card to LED Screen**".

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

a. Turn the knob, and select <LED MANAGEMENT>:

```
    SYSTEM                          >>
->LED MANAGEMENT                    >>
    LANGUAGE/语言                   ENG
    FACTORY RESET                   >>
```

b. Push the knob to confirm, turn the knob, select <SENDING CARD TYPE> in <QUICK CONNECTION> option, push the knob to confirm, turn the knob, select the sending card type, for example, select Linsn (VENUS X1 supports Linsn and Colorlight sender card, for Nova sender card, it only support brightness and Gamma adjustment). Shown as follows:

```
->QUICK CONNECTION                  >>
    ADVANCED                        >>


```

```
*SENDING CARD TYPE              LINSN
    SENDING CARD NO.             No.2
    OUTPUT FORMAT                   >>
    QUICK CONNECTION                >>
```

c. Turn the knob, select <SENDING CARD NO.>, push the knob to confirm. Turn the knob and select "No.1", push the knob to confirm. Shown as follows:

```
    SENDING CARD TYPE           LINSN
->SENDING CARD NO.              No.1
    OUTPUT FORMAT                   >>
    QUICK CONNECTION                >>
```

d. After setting, turn the knob, select <QUICK CONNECTION>, push the knob to confirm for next setting, shown as follows:

```
    SENDING CARD TYPE           LINSN
    SENDING CARD NO.            No.1
    OUTPUT FORMAT                   >>
->QUICK CONNECTION                  >>
```

```
->SENDING CARD SET              >>
   RECEIVING CARD SET           >>
```

e. Turn the knob, select <RECEIVING CARD SET>, push the knob to confirm. Turn the knob again, and select <CHOOSE CABLE>, push the knob to confirm. Turn the knob, select PORT D1 and push the knob to confirm.

```
   SENDING CARD SET             >>
->RECEIVING CARD SET            >>
```

```
->CHOOSE CABLE              PORT D
   HORIZONTAL CARD              3
   VERTICAL CARD                2
   WIDTH                      120
```

f. Turn the knob, and select <Offset (A/B) Y>, push the knob to confirm. Turn the knob, set Offset (A/B) Y as 240 (Note: Offset (A/B) Y=VERTICAL CARD×HEIGHT, in the previous part, we set vertical card as 2 and height as 120). Shown as follows:

```
   HEIGHT                     120
   Offset (A/B) X               0
->Offset (A/B) Y              240
   CONNECT CARD TYPE           >>
```

g. Turn the knob, and select <CONNECT CARD TYPE>, shown as follows:
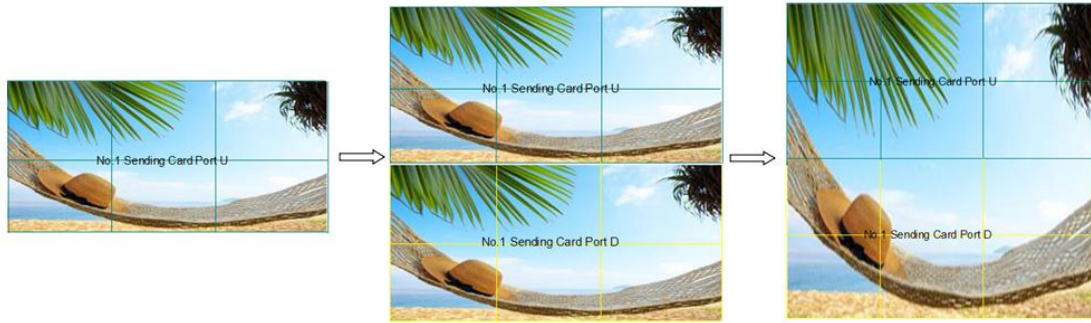
```
   HEIGHT                     120
   Offset (A/B) X               0
   Offset (A/B) Y             240
->CONNECT CARD TYPE           >>
```

Select the connection mode, the setting is same as Port U1. Then connection of both the Port D and Port U of One Sending Card to LED Screen is finished.
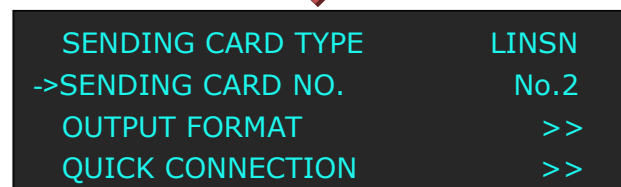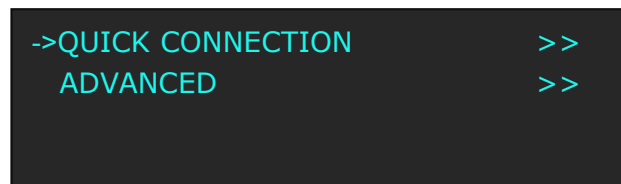Rendering is as follows:

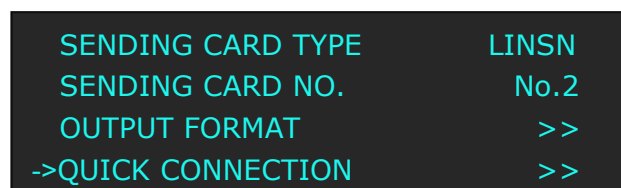**3. Connect the Port D and Port U of Two Sending Cards to LED Screen**

(1) First, make sure the device is in normal operation.

(2) Select the input source, for example, DVI.

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

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

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

(6) Turn the knob, and select <LED MANAGEMENT>:

```
    SYSTEM                      >>
->LED MANAGEMENT               >>
    LANGUAGE/语言               ENG
    FACTORY RESET               >>
```

(7) Turn the knob, select <SENDING CARD NO.> in <QUICK CONNECTION> option, push the knob to confirm. Turn the knob, select No.2, push the knob to confirm. Shown as follows:

```
->QUICK CONNECTION             >>
    ADVANCED                    >>
```

```
    SENDING CARD TYPE          LINSN
->SENDING CARD NO.             No.2
    OUTPUT FORMAT               >>
    QUICK CONNECTION            >>
```

(8) After setting, turn the knob, select <QUICK CONNECTION>, push the knob to confirm for next setting, shown as follows:

```
    SENDING CARD TYPE          LINSN
    SENDING CARD NO.           No.2
    OUTPUT FORMAT               >>
->QUICK CONNECTION             >>
```

```
            ->SENDING CARD SET               >>
               RECEIVING CARD SET            >>
```

(9) Turn the knob, select <RECEIVING CARD SET>, push the knob to confirm. Turn the knob again, and select <CHOOSE CABLE>, push the knob to confirm. Turn the knob, select PORT U2 and push the knob to confirm.

```
               SENDING CARD SET              >>
            ->RECEIVING CARD SET             >>
```

```
            ->CHOOSE CABLE             PORT U
               HORIZONTAL CARD              3
               VERTICAL CARD                2
               WIDTH                      120
```

(10) Push the [MENU] to return the previous menu, select <SENDING CARD SET>, push the knob to confirm, and enter to the next level menu, shown as follows:

```
            ->SENDING CARD SET               >>
               RECEIVING CARD SET            >>
```

```
            ->X                               0
               Y                              0
               SAVE TO SENDER CARD
               RESET
```

(11) Turn the knob, and select <X>, set X as 360 (Note: X=HORIZONTAL CARD×WIDTH, in the previous part, we set horizontal card as 3 and width as 120). Shown as follows:

```
->X                                    360
  Y                                      0
  SAVE TO SENDER CARD
  RESET
```

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

Rendering is as follows:
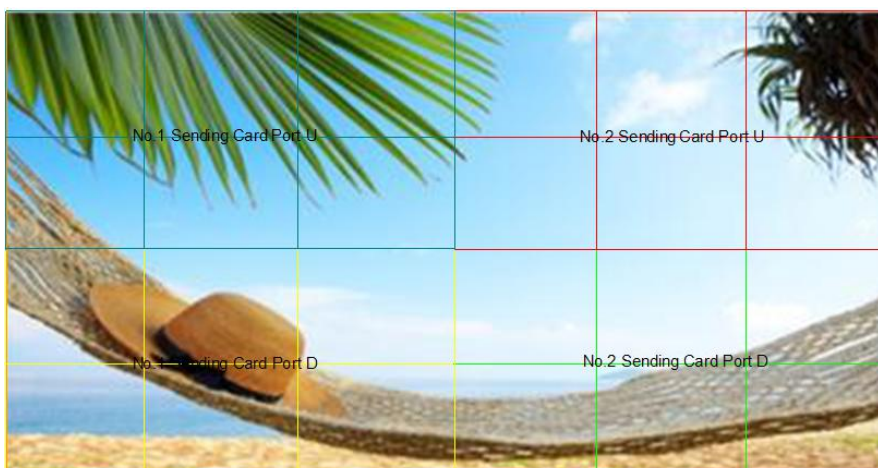
3.7 Split Setting

SPLIT is used when multiple VENUS X1 are used in cascade mode. When do cascade, connect the signals to the signal distributor first, then connect from the outputs of the signal distributor to each input of VENUS X1. User can also do cascade via DVI LOOP port, and it needs to select "DVI LOOP" for <DVI1 OUTPUT> in menus.

The operations are as follows:

Push the [SPLIT] button, the button LED light will turn on, and enter the split function menus.

Turn the knob to select the split mode, there are two split modes, fixed split and normal split, the OLED module show as follows:

```
->FIXED SPLIT                    >>
   NORMAL SPLIT                  >>

```
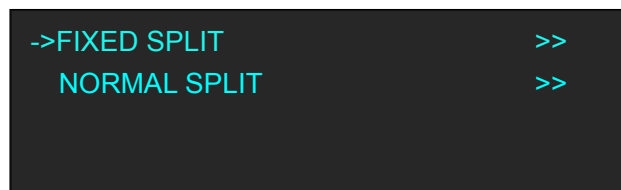
FIXED SPLIT: Menus are as follows:

```
->SPLIT                         OFF
   HORIZONTAL SPLIT              1
   VERTICAL SPLIT               1
   SPLIT INDEX                  1
```

```
->H SIZE                        1920
   V SIZE                       1080
   ADVANCE                      >>

```
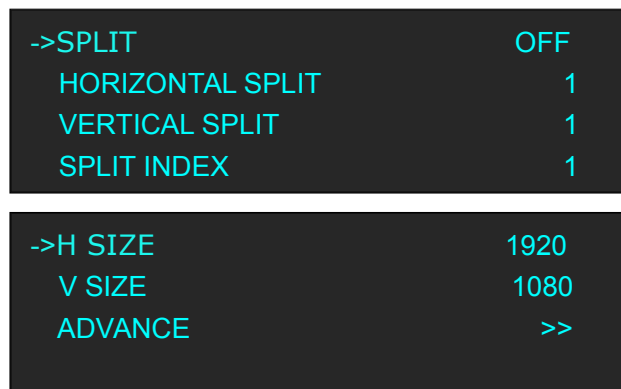
SPLIT: Split function, can select "ON" or "OFF", default "OFF".

HORIZONTAL SPLIT: Horizontal fixed split, select it and push the number button to set the total horizontal screen number.

VERTICAL SPLIT: Vertical fixed split, select it and push the number button to set the total vertical screen number.

SPLIT INDEX: Use can select the split index, and the LED screen will show the corresponding image.

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

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

ADVANCE: H SIZE, V SIZE, H POS and V POS setting. If image quality distorts by improper operation, it can be recover by reset.

NORMAL SPLIT: For normal split, user should enable the split function, that is, turn the knob, and set the <SPLIT> as "ON", push the knob to confirm. System default "OFF". User can set the normal split in the sub menus:

```
->SPLIT                          ON
   H TOTAL                     1920
   V TOTAL          38        1080
   H POS                          0
```

```
->V POS                          0
   H SIZE                     1920
   V SIZE                     1080
   ADVANCE                      >>
```

```
->RESET


```

SPLIT: Split function, can select "ON" or "OFF".

H TOTAL: LED screen Horizontal total size.

V TOTAL: LED screen Vertical total size.

H POS: This device display image Horizontal size.

V POS: This device display image Vertical size.

H SIZE: This device display image Width setting.

V SIZE: This device display image Height setting.

ADVANCE: H SIZE, V SIZE, H POS and V POS setting. If image quality distorts by improper operation, it can be recover by reset.

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

3.8 Scale the Image

Push the [SCALE] button, and enter to the scale menus as follows.

```
->H SIZE                    1920
  V SIZE                    1080
  H/V SIZE                     0
  H POS                        0
```

```
->V POS                        0
  RESET
```

User can adjust the following items by the rotary knob or number buttons.

H SIZE: Width setting.

V SIZE: Height setting.

H/V SIZE: Width and height equal proportion scale setting.

H POS: Horizontal phase setting.

V POS: Vertical phase setting.

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

3.9 Set the Output Resolution

3.9.1 Select the Output Resolution

1. Push the [MENU] button, and enter to the menu items, turn the rotary knob, and select <OUTPUT>:

```
    INPUT                        >>
 ->OUTPUT                        >>
    PICTURE                      >>
    PIP                          >>
```

2. Push the knob to confirm, and enter to the menu items as follows:

```
 ->STANDARD                      >>
    CUSTOMIZED                   >>
    SCREEN PARAMETERS            >>
    OUTPUT ADJUST                >>
```

3. Default <STANDARD> option, push the knob to confirm. Turn the rotary knob, and select the output format according to actual need.

```
    OUTPUT FORMAT
 ->1920×1080@60
```

3.9.2 Custom the Output Resolution

1. Push the [MENU] button, and enter to the menu items, turn the rotary knob, and select <OUTPUT>:

```
    INPUT                        >>
 ->OUTPUT                        >>
    PICTURE                      >>
    SPLIT                        >>
```

2. Push the knob to confirm, and enter to the menu items as follows:

```
 ->STANDARD                      >>
    CUSTOMIZED                   >>
    SCREEN PARAMETERS            >>
    OUTPUT ADJUST                >>
```

3. Turn the rotary knob, and select <CUSTOMIZED>, push the knob to confirm, and enter to the menu items as follows:

```
    STANDARD                    >>
->CUSTOMIZED                    >>
    SCREEN PARAMETERS           >>
    OUTPUT ADJUST               >>
```

```
    CUSTOMIZED:
->1920×1080@60

```

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

```
    CUSTOMIZED:
*1536×

```

5. After the digital, push the knob will add *, means before the * is the horizontal size. Same operation for vertical size, for example input 1536 as following:

```
    CUSTOMIZED:
*1536×1536@

```

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

```
    CUSTOMIZED:
->1536×1536@60

```

7. After input all the values, push knob to enable VENUS X1 to output this resolution. VENUS X1 will take 5~10 seconds to enable this output resolution.

3.10 Screen Size Setting

VENUS X1 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 VENUS X1 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 main menu, turn the knob and select <OUTPUT>, push the knob to confirm, turn the knob to select <SCREEN PARAMETERS>, push the knob and goes into the SCREEN PARAMETERS menus as following:

H SIZE--Horizontal pixels, turn the knob or use the digital button to input 1408.

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

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

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

MODE-- Mode option, select SCREEN SIZE.

SCREEN FOLLOW SCALE--User can enable or disable this function. When choose "ON", the size of the screen will change according to scale setting

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

SCREEN SIZE

FS

FULL SIZE

3.11 Zoom the Image

The image can be zoom in horizontal or vertical separately, to meet the special effects required.
Push the [MENU] button to go into the menu items, turn the rotary knob and select <INPUT>,
push the knob to confirm. Turn the rotary knob again, select <ZOOM>, and enter to the zoom
menus as follows:

```
->V UP                        0
  V DOWN                      0
  V UP/DOWN                   0
  H LEFT                      0
```

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

V UP: Zoom in vertical and the image will be zoom in to the top direction from its bottom.
V DOWN: Zoom in vertical and the image will be zoom in to the down direction from its top.
V UP/DOWN: Zoom in vertical but in both top and down direction from its middle.
H LEFT: Zoom in horizontal and the image will be zoom in to the left direction from its right.
H RIGHT: Zoom in horizontal and the image will be zoom in to the right direction from its left.
H LEFT/RIGHT: Zoom in horizontal but in both left and right direction from its middle.
CENTER: Zoom in 4 corner direction from center.
RESET: If image quality distorts by improper operation, it can be recover by reset.

3.12 Text Overlay Setting

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

1. Push the VGA button to make sure there is VGA input.

2. Push the DVI button to make sure there is DVI input.

3. Push the [MENU] button, turn the rotary knob, select <PICTURE>, push the knob to confirm, turn the knob, and select <TEXT OVERLAY>, push the knob to confirm.

```
IMAGE QUALITY              >>
->TEXT OVERLAY             >>
```

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

```
*TEXT OVERLAY              ON
 PRESET              USER MODE
 BLEND MODE              MODE1
 BLEND LEVEL                 0
```

4. Make sure VGA input is IMAGE B, and DVI input is IMAGE A, if not, select <SWAP WINDOW> option by push [PIP/DSK] button, and select "ON" for <SWAP WINDOW>.

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

5. Select the VGA image in "IMAGE B" in <SELECT> option by pushing <PIP/DSK> button, and push [SCALE] button to adjust the size and position of VGA image, then set the VGA image to the required position.

```
->H SIZE                 1920
  V SIZE                 1080
  H/V SIZE                  0
  H POS                     0
```

```
->V POS                     0
  RESET
```

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

6. Set the text overlay mode: select <PRESET> option in <TEXT OVERLAY>, push the knob to enter into the <PRESET> menu items.

Turn the knob to select the preset mode, for example, set the VGA text as WhOnBk, select WhOnBk1 or WhOnBk2 (Note: Text Overlay only support monochrome subtitles), user can also adjust the <BLEND MODE> or <BLEND LEVEL> to get a better effect.

```
 TEXT OVERLAY                 ON
->PRESET                 WhOnBk2
 BLEND MODE                MODE1
 BLEND LEVEL                   0
```

7. Push the [SAVE/1] button to save the above parameters.

3.13 User Define BLACK Key

Default the [BLACK] button as black function. Push the button, its LED light is on, the output will be switched to black, push the button again, its LED light is off, and output the video image.

For more details, please refer to: Using Black Out.

Besides BLACK, user can define this button as FREEZE, TP and BRIGHTNESS, the operations are as follows:

1. Push the [MENU] button, and enter to the menu items, turn the rotary knob, select <SYSTEM>:

```
->SYSTEM                        >>
  LED MANAGEMENT                >>
  LANGUAGE/语言                  ENG
  FACTORY RESET                 >>
```

2. Push the knob to confirm, turn the rotary knob, and select <USER DEFINES BUTTON>:

```
  DEVICE STATUS                 >>
->USER DEFINED BUTTON           >>
  OLED LUMINANCE                13
  FAN CONTROL                   >>
```

3. Push the knob to confirm, turn the knob, and select <BLACK KEY>:

```
->BLACK KEY                    BLACK
  SCALE KEY                    SCALE
```

4. Push the knob to confirm, turn the knob, and select <FREEZE>, <TP> or <BRIGHTNESS>, push the rotary knob to confirm.

```
->BLACK KEY                    FREEZE
  SCALE KEY                    SCALE
```

   (1) If select <FREEZE>, push the button, its LED light is on, and freeze the image.

```
              FREEZE IMAGE
```

46

Push the button again, its LED light is off, and output the video image.

<div style="text-align:center; color:#3fb6c9; background:#111; padding:1em;">
VIDEO IMAGE
</div>

(2) If select <TP>, push the button, its LED light is on, the output will be switched to test pattern.

```
->TEST PATTERN                    35
   AUTO SWITCH                    OFF
```
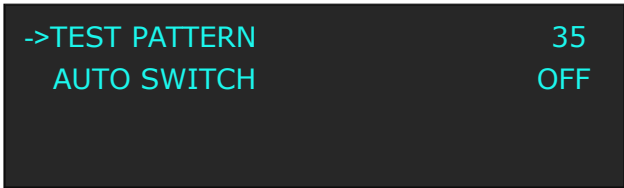
There are 66 kinds of test patterns. If select <AUTO SWITCH>, VENUS X1 will output all the test patterns one by one, and the interval between is 1 to10S.
Push the button again, its LED light is off, and output the video image.

<div style="text-align:center; color:#3fb6c9; background:#111; padding:1em;">
VIDEO IMAGE
</div>
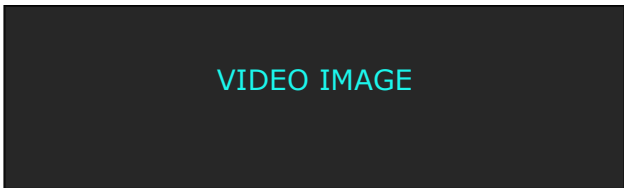
(3) If select <BRIGHTNESS>, push the button, its LED light is on, user can adjust the brightness, contrast, saturation, sharpness, color red, color green, color blue and gamma. If image quality distorts by improper operation, it can be recover by reset.

```
->BRIGHTNESS                      50
   CONTRAST                       50
   SATURATION                     50
   SHARPNESS                      50
```

```
->COLOR RED                       50
   COLOR GREEN                    50
   COLOR BLUE                     50
   GAMMA                          LINEAR
```

```
->RESET
```
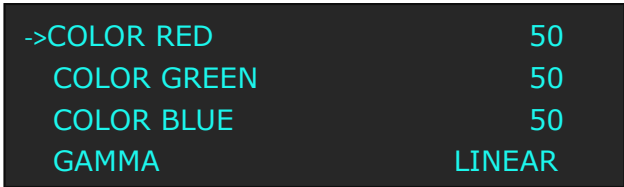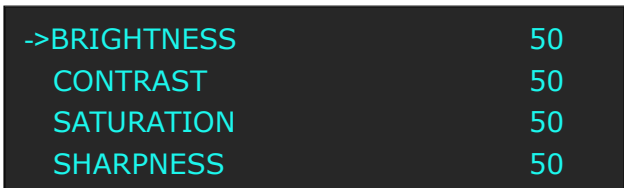
3.14 Transition Setting

Push the [MENU] button for two times, and enter to the transition function menus, transition menu shown as follows:

```
->DEINTERLACE               ON
   IMAGE ENHANCE            OFF
   MODE                DISSOLVE
   FADE TIME               0.5s
```

```
->ALPHA                      16
```

DEINTERLACE: Force Deinterlace function, select "ON" or "OFF".

ON: Force deinterlace.

OFF: No deinterlace.

IMAGE ENHANCE: Image enhancement function, for image edge sharpening, color reduction and image scaling.

MODE: Special effects switching modes, including DISSOLVE, CUT, WIPE SQUARE IN, WIPE SQUARE OUT, WIPE TOP LEFT IN, WIPE TOP LEFT OUT, WIPE TOP RIGHT IN, WIPE TOP RIGHT OUT, WIPE BOTTOM LEFT IN, WIPE BOTTOM LEFT OUT, WIPE BOTTOM RIGHT IN, WIPE BOTTOM LEFT OUT, WIPE LEFT IN, WIPE LEFT OUT, WIPE RIGHT IN, WIPE RIGHT OUT, WIPE TOP IN, WIPE TOP OUT, WIPE BOTTOM IN and WIPE BOTTOM OUT.

FADE TIME: Switch time setting. Turn the rotary knob to select the fade time and push the knob to confirm. The switching time ranges from 0 to 3S.

ALPHA: Set the image transparency, the adjustment range is 0 to 16.

3.15 Set the Audio

Push the [MENU] button, the OLED module show the menu items, turn the knob, and select <AUDIO>, push the knob to confirm.

```
   INPUT                        >>
   OUTPUT                       >>
->AUDIO                         >>
   PICTURE                      >>
```

```
->MUTE                        OFF
   VOLUME                      50
   AUDIO IN                IMAGE A
   HDMI/EXT AUDO          EXTERNAL
```

```
->INPUT AUDIO CONFIG          >>
```
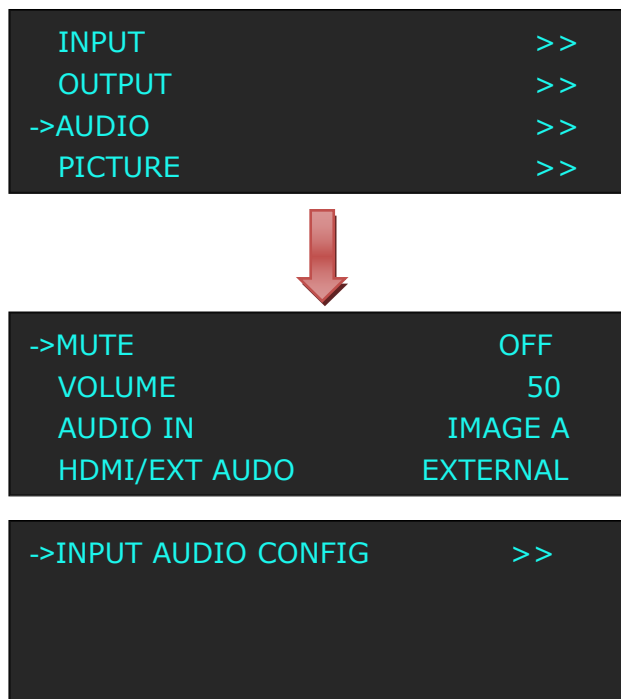
MUTE: Enable or disable the mute function.

VOLUME: Volume adjustment, the adjust range is 0~100.

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

HDMI/EXT AUDIO: Select internal or external audio for HMDI/EXT.

INPUT AUDIO COFIG: The input audio includes: CV1, VGA, DVI, HDMI and M_8_SDI. Input audio 1 can select any input except the inputs of input audio 2 and input audio 3. Input audio 2 can select any input except the inputs of input audio 1 and input audio 3. Input audio 3 can select any input except the inputs of input audio 1 and input audio 2.

3.16 Using Black Out

Black out descriptions:

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

VENUS X1 provides black effect processing for output with cut black effect. Operation is as below:
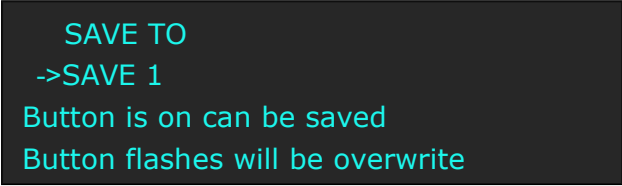
Push the [BLACK/0] button, then output will cut to BLACK, shown as below:

3.17 Saving Views
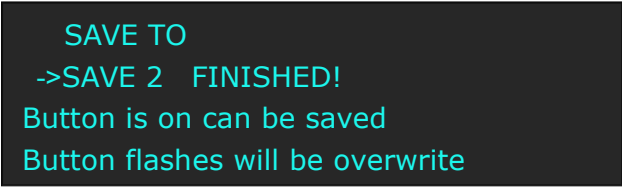
VENUS X1 provides 36 positions for saving or recording parameters. To save current parameters and settings:

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

```
   SAVE TO
 ->SAVE 1
Button is on can be saved
Button flashes will be overwrite
```

2. Turn the rotary knob, and select the position that will save, push the knob to confirm.
3. The number button 1, 2, 3, 4, 5, 6, 7, 8, 9, 0 means SAVE1~10, push any button on to save. For example, push number button 2 and save to SAVE 2, the OLED panel will show as follows after saving.
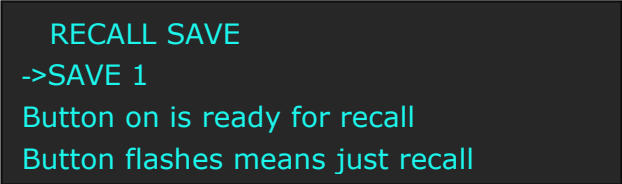
```
   SAVE TO
 ->SAVE 2   FINISHED!
Button is on can be saved
Button flashes will be overwrite
```

4. Push the [SAVE/1] button again, the button light is off, and disable the SAVE function.

3.18 Recall Saved Settings

VENUS X1 provides 36 positions for saving or recording parameters. To recall saved settings:

1. Push the [LOAD/6] button, the button light is on, and enable the LOAD function:

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

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

3. Push the [LOAD/6] button again, the button light is off, and disable the LOAD function.

Chapter 4 Controlling Your Processor Remotely

4.1 Using the XPOSE App for Android & iOS

1. Connection

Connect the VENUS X1 to any LAN port of the wireless router via a network cable. The LAN port are marked with the red box.

Shown in the figure below (connect from the left to right).

2. Choose the system work mode

(1) The LAN environment of one router

Network topology is shown below:

LAN (Wireless router)

Wireless connect

Connect the LAN port VENUS X1 to the wireless router

VENUS X1

Tablet, mobile phone and other wireless terminals (Android or Apple IOS)
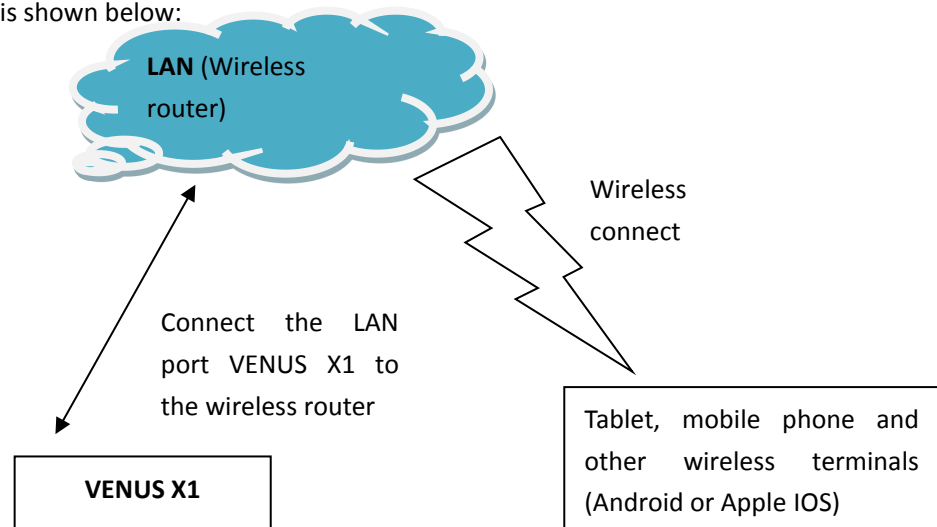
(2) The LAN environment of multiple routers

Multiple routers
(Wireless router)

Main and subnet can be via a cable or wireless connected

Wireless connection

Tablet, mobile phone and other wireless terminals (Android or Apple IOS)

Subnet (Wireless or cable router)

Connect the LAN port VENUS X1 to the wireless router

VENUS X1
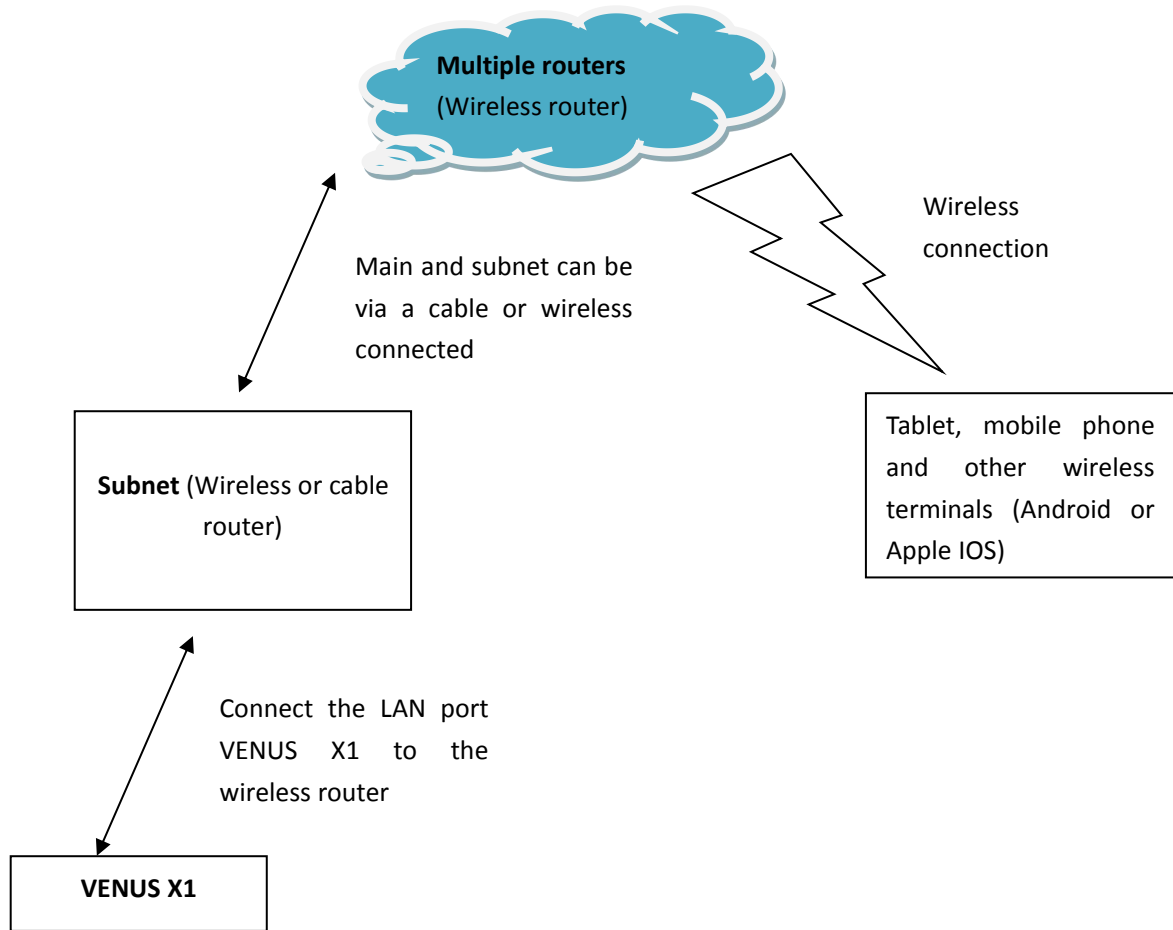
(3) System Setting

Push the [MENU] button, and enter to the menu items, turn the knob and select <SYSTEM>.

->SYSTEM	>>
LED MANAGEMENT	>>
LANGUAGE/语言	ENG
FACTORY RESET	>>

Push the knob to confirm, turn the knob, and select <ETHERNET>:

->ETHERNET	>>
LOCK FRONT PANEL	>>
LICENCE SETUP	>>
HOT BACKUP	>>

Push the knob to confirm, turn the knob, and select <NETWORK> and set "ON".

->NETWORK	ON
DHCP	>>
IP ADDRESS	>>
SUBNET MASK	>>

(4) Ethernet setting

When select "ON", it will show IP address, subnet mask and gateway.

```
->NETWORK                    ON
  DHCP                       >>
  IP ADDRESS                 >>
  SUBNET MASK                >>

->GATEWAY                    >>
```
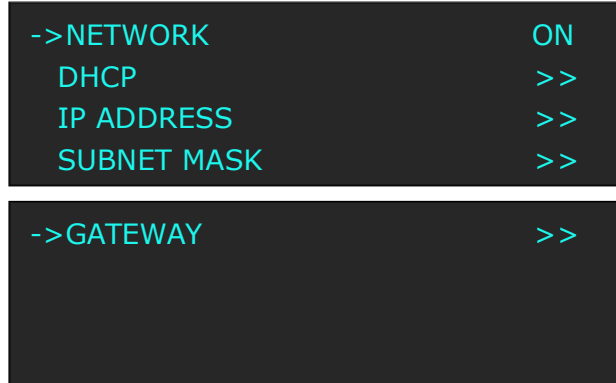
① **One LAN environment**

Set the <IP ADDRESS>, be sure set the same IP address for VENUS X1 and router.

System default the IP address is 192.168.0.100.

```
    IP ADDRESS
->192.168.000.100
```
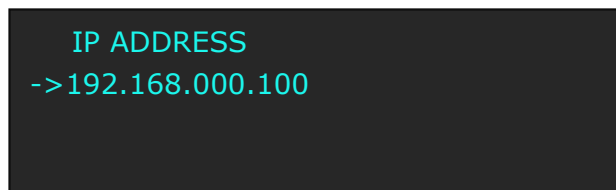
② **Multiple routers**

Be sure the router that connect to VENUS X1 is connected to the other routers.

Set the <IP ADDRESS> and <SUBNET MASK>, check the IP address of the wireless router, and make sure it is same with the other four IP address that it connect.

The VENUS X1 will automatically save all the network parameters, it will not be cleared even factory reset.

3. APP connection

(1) Download and install the APP

XPOSE APP supports IOS and Android system.

IOS: Open the APP STORE and search "XPOSE" or "RGBlink", and download it.

Android: Open the official Android market and search "XPOSE" or "RGBlink", and download it.

After download, it will show the shortcut icon [XPOSE].

(2) Open the APP for operation (Take IOS for example, and same with Android)

Make sure the mobile terminal equipped with APP is connected to the LAN wireless router. Open the APP "XPOSE" and click "Search Device", choose "VENUS X1".
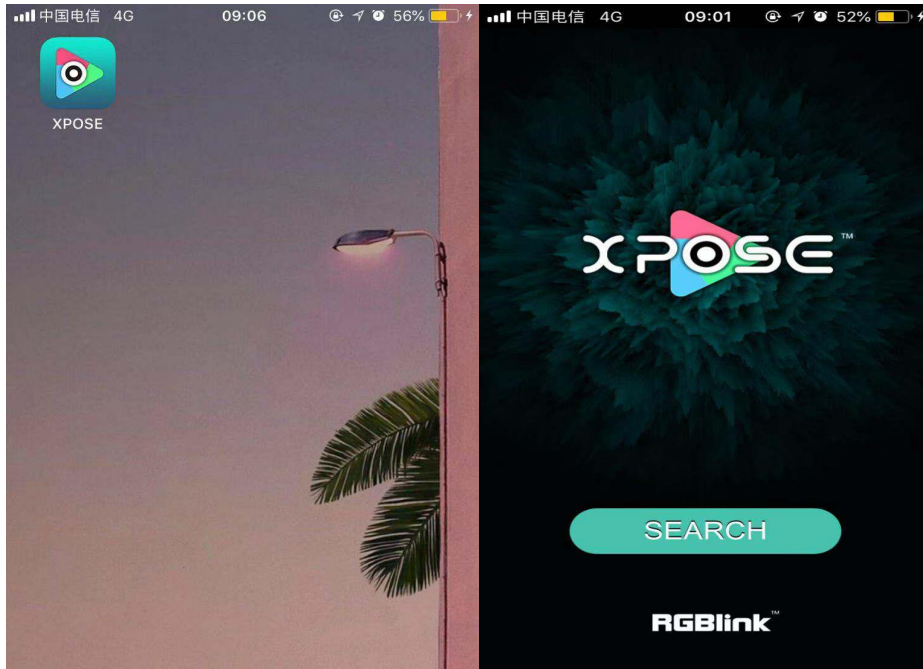
Open APP   Search Device
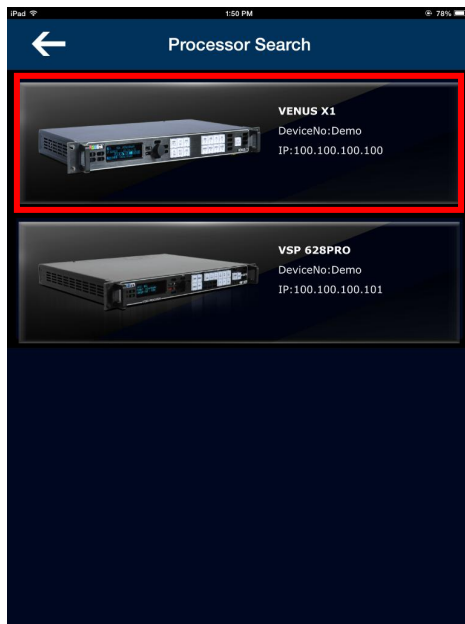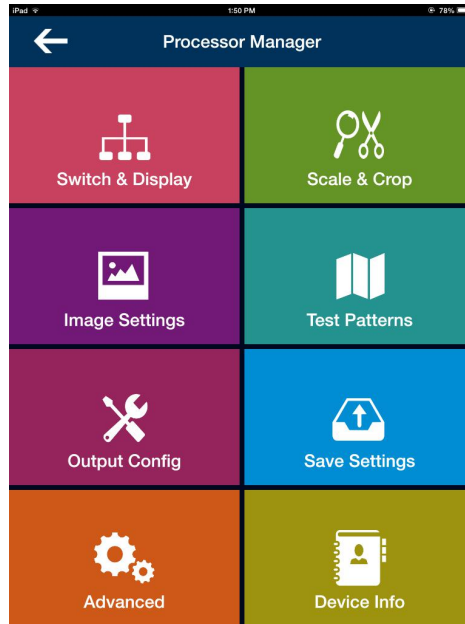
Connect the Device   Operate the Device

(3) APP functions

①**Switch & Display**
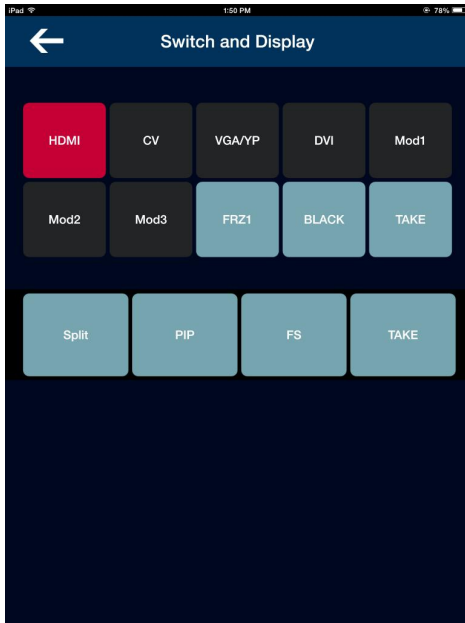
Single Image   PIP Mode

② **Scale & Crop**

Scale and crop setting. Including Image A and Image B. Drag the scroll bar in activity area to adjust the width, height, X and Y.
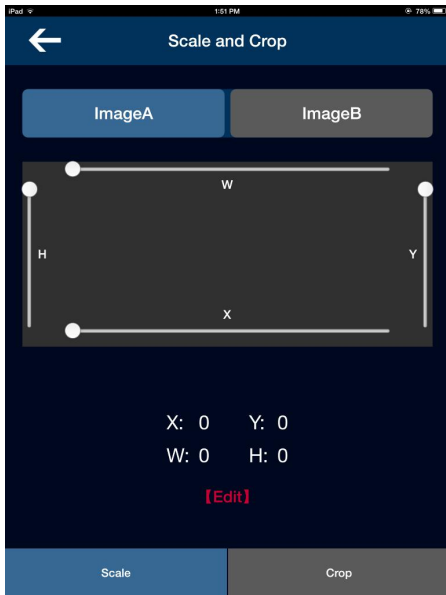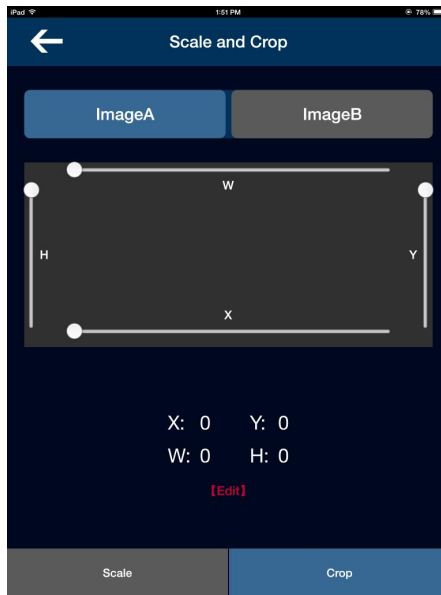
Scale   Crop

User can also click "Edit" and precise adjust the width, height, X and Y in the pop-up window.
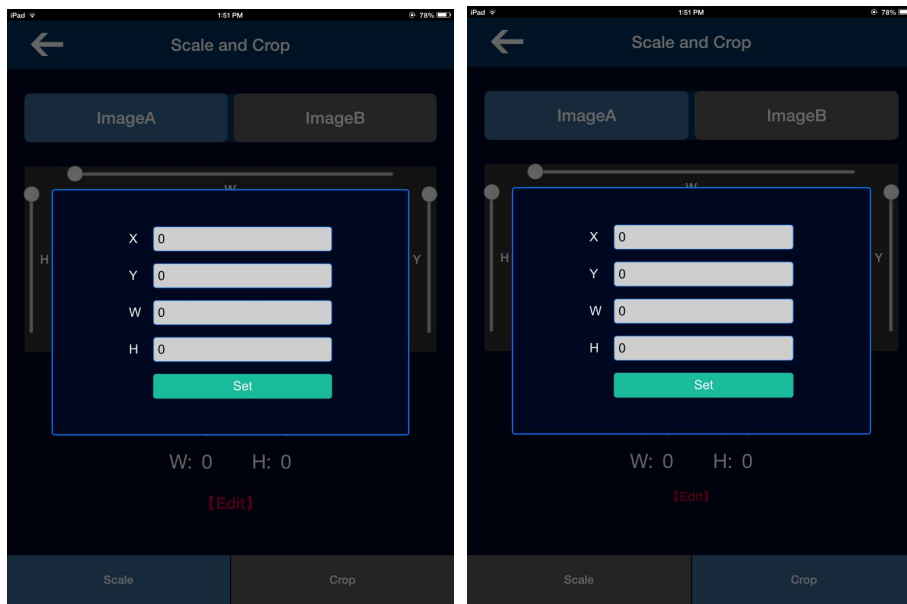
Scale   Crop

③ **Image Settings**

Brightness, contrast and color temp setting. Drag the scroll bar in activity area to adjust the R, G, B. If click "SYN", the R, G, B will be adjusted synchronously. "Reset" will factory reset all the parameters.
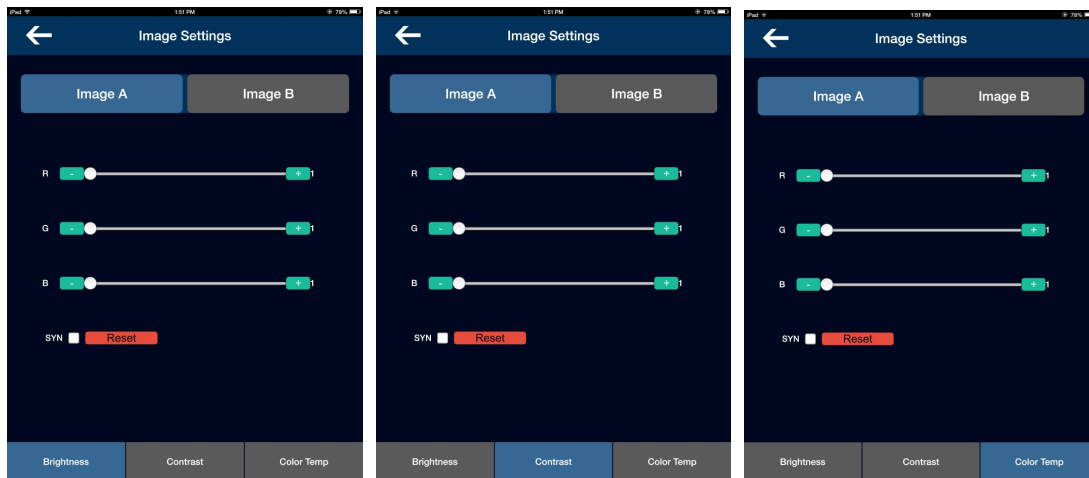
Brightness   Contrast   Color Temp

④ **Test Patterns**

Including color bars, color and grid, and include all the common test patterns.
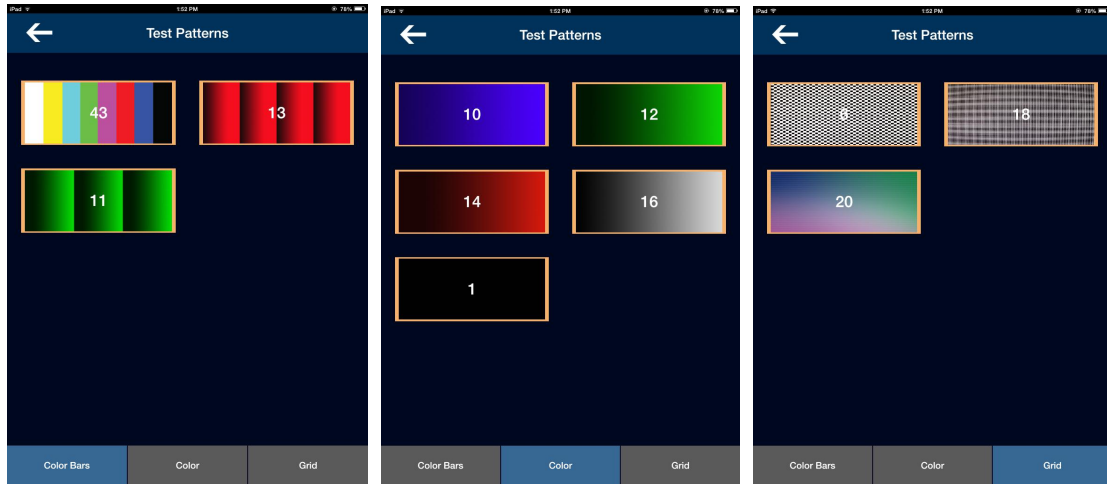
| Color Bars | Color | Grid |

⑤ Output Config

Including output config and output adjust. In output config, user can set the resolution, layout mode and screen para. And in output adjust, user can set DVI mode, bit depth, data range, DE, etc.
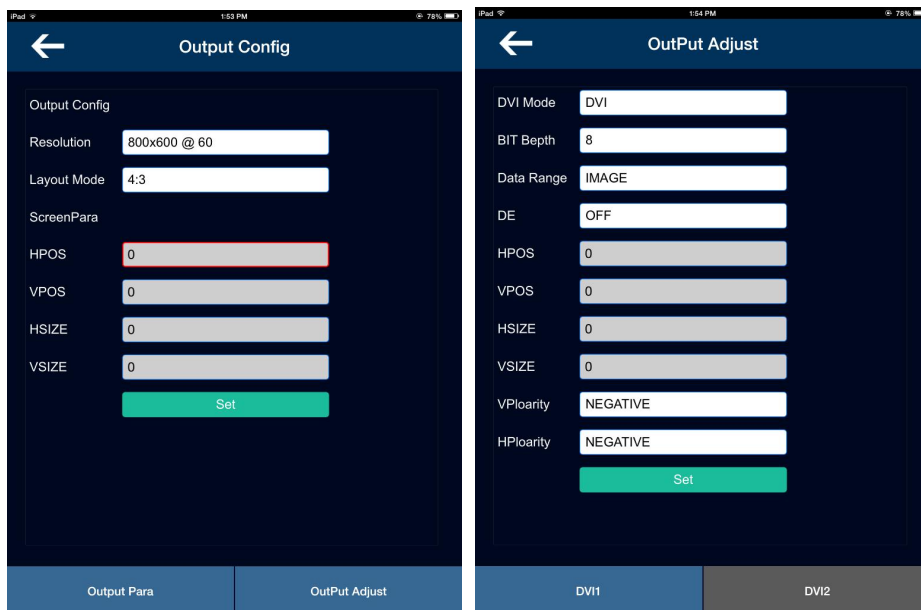
Output Config   Output Adjust

⑥ Save Settings

Load scene is load the saved scenes. Save scene is save the adjusted parameters. VENUS X1 supports 36 groups of "Load Scene" and "Save Scene".
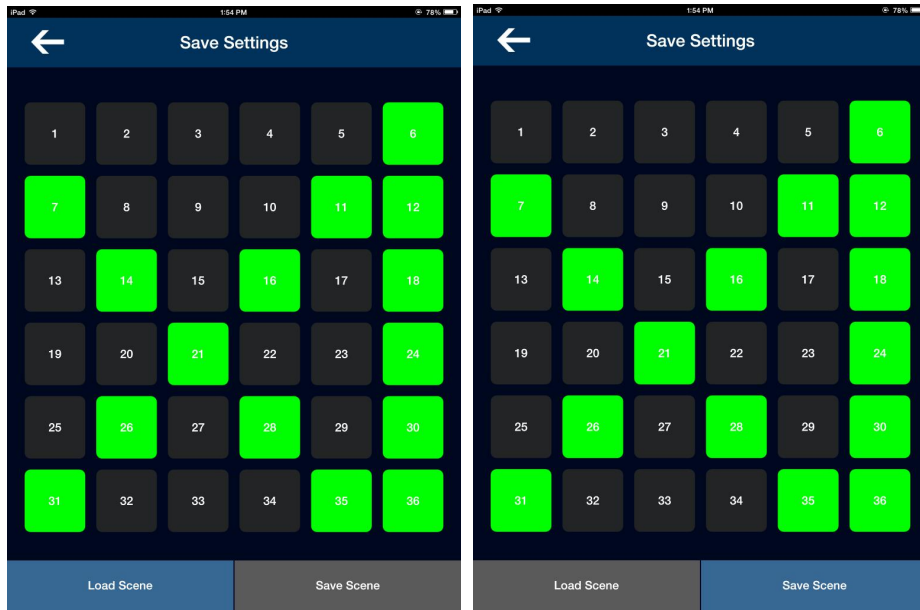
Load scene   Save Scene

⑦ **Advanced**

Advanced function includes EDID manage and hot backup. In EDID manage, select the destination port and source file. VENUX X1 supports DVI, HDMI and VGA EDID manage. Hot backup includes 5 groups of backup inputs.
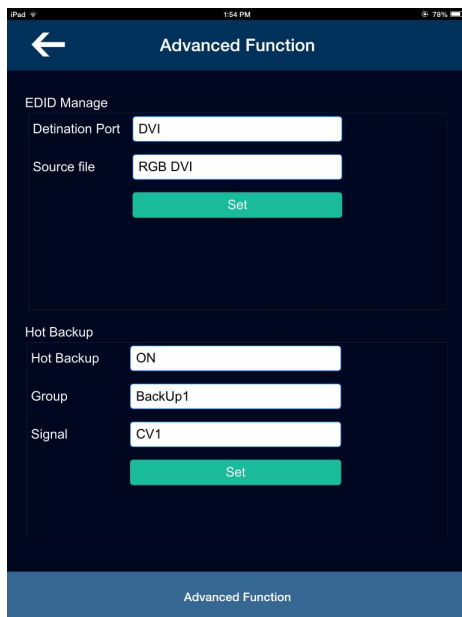
Advanced Function

⑧ **Device Info**

The device info includes device name, serial number, IP address, FPGA1, FPGA2, Core and Comm. If image quality distorts by improper operation, it can be recover by "Factory Reset".
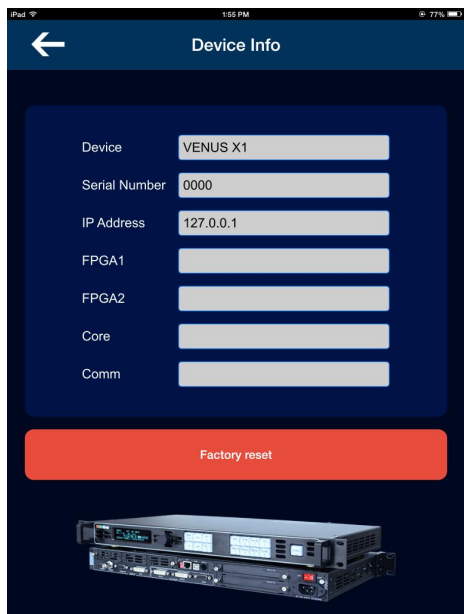
Factory Reset

Chapter 5 Ordering Codes

5.1 Product

110-0001-01-2	X1
110-0001-02-2	X1 with EXT module fitted
110-0001-03-2	X1 with Wi-Fi
110-0001-04-2	X1 with EXT & Wi-Fi

5.2 Options

5.2.1 Input Options

190-0001-02-1	VGA Input	
	1× VGA	
190-0001-03-1	Display Port Input (DP1.2)	
	1 × Display Port	
190-0001-04-1	DVI Input	
	1 × DVI	
190-0001-05-1	DVI Input /Loop Out	
	1 × DVI (with loop)	
190-0001-06-1	HDMI Input /Loop Out	
	1 × HDMI (with loop)	
190-0001-07-1	3G-SDI Input /Loop Out	
	1 × SDI (with loop)	
190-0001-09-1	CVBS In/Backup	
	1 × CVBS + CVBS BACKUP	
190-0001-10-1	USB In/Backup	
	1 × USB + USB BACKUP	
190-0001-11-1	Audio Management	
	3 × AUDIO IN + 1 × AUDIO OUT	
190-0001-12-0	Wi-Fi Plug In Module	
	1 × WIFI	
190-0001-13-0	RS232 Comm. Module (Standard)	
	1 × RS232	

5.3 Sender Cards

RCRCPJ00090	Linsn TS801
RCRCPJ00091	Linsn TS802
RCRCPJ00110	Nova MSD300
RCRCPJ00112	Nova MSD600
RCRCFJ00133	Colorlight S2

5.3 Sender Cards

Chapter 6 Support

6.1 Questions and Troubleshooting

6.1.1 Input Jitter for I System of HDMI

Frequently Asked Question	Input jitter for I system of HDMI
Troubleshooting	**Change the input as P system** Some HDMI input of VENUS X1 will jitter for the I system of HDMI, please change the input as P system.
	Connect the HDMI signal to the EXT_HDMI input If user can't change the input format as P system, please connect the I system signal to the EXT_HDMI input.

6.1.2 DVI Quick Split Operation

Frequently Asked Question	DVI quick split operation
Troubleshooting	The split function of VENUS X1 is only available for DVI port (standard) and HDMI loop out port of EXT_9. **It needs signal distributor if split by DVI port** If split by the standard DVI port, it needs the signal distributor to achieve the synchronization cascade, as there is no DVI loop.
	Split by the HDMI Loop Out Port of EXT_9 User can split by the HDMI loop of EXT_9, as there is loop out port on this module.
	Quick Split Connect all the inputs and outputs, then push the [SPLIT] buttons on all the video processors. Select fixed split or normal split, and open the split function. 1. FIXED SPLIT: Set the horizontal split and vertical split according to actual need. 2. NORMAL SPLIT: Set the H TOTAL, V TOTAL, H POS, V POS, H SIZE and V SIZE according to actual need. User can do the quick split only need setting three groups of the parameters.

6.1.3 There is Flash Point when Output to the LED Screen

Frequently Asked Question	There is flash point when output to the LED screen
Troubleshooting	**Change the DVI Cable** There is flash point on LED display when input sending card. This is because the DVI cable quality of good and bad are intermingled. Please change the DVI cable and test again.
	Change the DVI Output Port The DVI output port is loose or oxidation due to plug and pull frequently or long time no use, which may cause the signal attenuation. There are two DVI output ports on VENUS X1, please change to the other DVI output port and test again.

6.1.4 APP Software cannot Properly Connected in Mobile Phone or Tablet Computer

Frequently Asked Question	APP software cannot properly connected in mobile phone or tablet computer
Troubleshooting	**Confirm if Open the Ethernet Function** Confirm if the second icon on the OLED module is @, if not, the ethernet function of device is not open. Push the [MENU] button, then select <SYSTEM>, turn the knob and select <ETHERNET>, set the <NETWORK> as "ON" in the submenus.
	Confirm if IP Conflict for Mobile Phone, Wireless Router and Device System default the device IP is 192.168.0.100, please check if the IP of wireless router is inconsistent with this IP, the IP will conflict if consistent, and unable to search the device and normal connection. Please change the device IP address, and make sure it is in the same network segment.

6.1.5 VGA Input Offset or cannot be Full Size Shown

Frequently Asked Question	VGA input offset or cannot be full size shown
Troubleshooting	**Set Auto Adjust for VGA Input** Long push the [VGA] button and enter to the <VGA ADJUST>, the auto adjust time is about 10 seconds. Or push the [MENU] button, then choose <INPUT>, turn the knob and select <VGA ADJUST>, push the knob to confirm. Turn the knob and select <AUTO ADJUST>, the auto adjust time is about 10 seconds. If auto adjust cannot solve the problem, please manually adjust in <VGA ADJUST>.

6.1.6 HDMI, DVI Input Offset or cannot be Full Size Shown

Frequently Asked Question	HDMI, DVI input offset or cannot be full size shown
Troubleshooting	**<u>Manual Adjust the HDMI, DVI and EXT HDMI, EXT DVI</u>** Push the [MENU] button, then choose <INPUT>, turn the knob and select <DVI/EXT ADJUST>, push the knob to confirm. Turn the knob to adjust the H POS and V POS.

6.1.7 Software Upgrade Failed

Frequently Asked Question	Software upgrade failed
Troubleshooting	**<u>Can't Open the Device</u>** Check if connect to the USB port, and then check if recognize to the port, if so, please restart the PC and try to update again. **<u>Failed when Upgrade Less than 100%</u>** Write the 100M BOOT program in the program folder, after write successfully, write the 100M MCU program, and upgrade the complete program package finally.

6.2 Contact Us

Contact Us

Web
www.rgblink.com

Phone
+86-592-577-1197

Email
Sales   sales@rgblink.com
Support   support@rgblink.com

Social Media
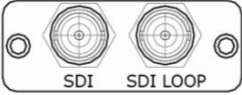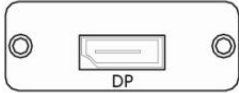
@RGBLINK   /rgblink   +rgblink   /rgblink   rgblink   rgblink
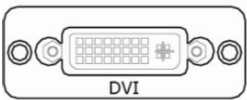
Chapter 7 Appendix
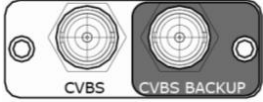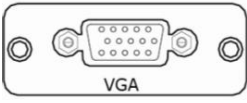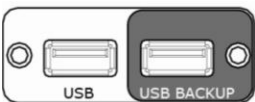
7.1 Specification

CVBS Input (Standard)	
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 (Standard)	
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 I 1024×768@60 I 1280×1024@60 I 1440×900@60 I 1600×1200@60)
HDMI Input (Standard)	
Number of Inputs	1
Connector	Standard HDMI-A socket
Supported Resolution	SMPTE：625/25/50 PAL, 525/29.97/59.94 NTSC, 720p50/59.94/60 1080P50/59.94/60 I 1080i50/59.94/60 VESA：800×600@60 I 1024×768@60 I 1280×768@60 I 1280×1024@60 I 1600×1200@60 I 1920×1080@60
Signal Level	TMDS pwl, single pixel input,165MHz bandwidth
Format Standard	HDMI 1.3
DVI Input (Standard)	
Number of Inputs	1
Connector	Standard DVI socket
Supported Resolution	SMPTE：625/25/50 PAL, 525/29.97/59.94 NTSC, 720p50/59.94/60 1080P50/59.94/60 I 1080i50/59.94/60 VESA：800×600@60 I 1024×768@60 I 1280×768@60 I 1280×1024@60 I 1600×1200@60 I 1920×1080@60
Signal Level	TMDS pwl,single pixel input,165MHz bandwidth
Format Standard	Single DVI
DVI Loop Out (Standard)	
Number of Inputs	1
Connector	Standard DVI-I socket

Supported Resolution	SMPTE：625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50/59.94/60,1080i50/59.94/60,720p50/59.94/60 VESA：800×600@60 I 1024×768@60 I 1280×768@60 I 1280×1024@60 I 1600×1200@60 I 1920×1080@60
Signal Level	TMDS pwl,single pixel input,165MHz bandwidth
Format Standard	DVI 1.0
DVI Output (Standard)	
Number of Outputs	2
Connector	Standard DVI-I Socket
Signal Level	TMDS pw, 165MHz bandwidth
Supported Resolution	SMPTE：720p@50/60	1080p@50/60 VESA：800x600@60	1024x768@60/75/85	1280x720@50/60	1280x800@60 |1280x1024@60	1360x768@60 |1366x768@60	1400x1050@60	1440x900@60	1600x1200@60	1680x1050@60	1920x1080@60	1920x1200@60	2048x1152@60 |2560x816@60
*Not all resolutions supported on VGA	
SDI Input (SDI optional module)	
Interface Appearance	
Board Size	52(L)×19.5(W)（mm）
3G-SDI Input	
Number of Inputs	3
Connector	Standard BNC Socket
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) I SMPTE 424M I SMPTE 292M I SMPTE 259M-C DVB-ASI
Supported Resolution	480i I 576i I 720p@25/30/50/60Hz I 1080i@50/59.94/60Hz I 1080p@23.98/24/25/29.97/30/50/59.94/60Hz
Balance	Belden 1694A cable: 150m at 2.97Gb/s 250m at 1.485Gb/s 480m at 270Mb/s
SDI Loop Out	
Number of Loop Out	3
Connector	Standard BNC Socket
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 - 3G Level A and Level B Formats
Supported Resolution	SMPTE 425M (3G Level A) 4:2:2: 1920×1080/60 (1:1) I 1920×1080/50 (1:1). SMPTE 425M (3G Level B DS1 and DS2) 4:2:2：1920×1080/60 (2:1) I 1920×1080/50 (2:1)

	SMPTE 296M (HD): 1280×720/50 (1:1) I 1280×720/50 (1:1)
	SMPTE 125M (SD): 1440×487/60 (2:1), 525-line 487 generic
	SMPTE ITU-R BT.656 (SD): 1440×576/50 (2:1),
	625-line generic.
Balance	Belden 1694A cable: 150m at 2.97Gb/s 250m at 1.485Gb/s 480m at 270Mb/s

DVI IN+DVI LOOP (DL optional module)

| Interface Appearance	
Board Size	104.5(L)×19.5(W)（mm）
DVI Input	
Number of Inputs	1
Connector	Standard DVI-I socket
Supported Resolution	SMPTE：625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50/59.94/60 I 1080i50/59.94/60, 720p50/59.94/60 VESA：800×600@60 I 1024×768@60 I 1280×768@60 I 1280×1024@60 I 1600×1200@60 I 1920×1080@60
Signal Level	TMDS pwl, single pixel input,165MHz bandwidth
Format Standard	HDMI 1.3
DVI Loop out	
Number of Loop Out	1
Connector	Standard DVI-I socket
Supported Resolution	SMPTE：625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50/59.94/60,1080i50/59.94/60, 720p50/59.94/60 VESA：800×600@60 I 1024×768@60 I 1280×768@60 I 1280×1024@60 I 1600×1200@60 I 1920×1080@60
Signal Level	TMDS pwl, single pixel input,165MHz bandwidth
Format Standard	HDMI 1.3

DP Input (DP optional module)

Interface Appearance	
Board Size	52(L)×19.5(W)（mm）
Number of Inputs	1
Connector	Standard
Supported Resolution	Support resolution: WQXGA + (1920 x 1200), and color depth: 30/36 bit (each primary 10/12 bit)

Supported Bandwidth	10.8Gb/s
Format Standard	DP1.0
HDMI IN+HDMI LOOP (HL optional module)	
Interface Appearance	
Board Size	52(L)×19.5(W)（mm）
HDMI Input	
Number of Inputs	3
Connector	Standard HDMI-A socket
Supported Resolution	SMPTE：625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50/59.94/60 I 1080i50/59.94/60, 720p50/59.94/60 VESA：800×600@60 I 1024×768@60 I 1280×768@60 I 1280×1024@60 I 1600×1200@60 I 1920×1080@60
Signal Level	TMDS pwl, single pixel input,165MHz bandwidth
Format Standard	HDMI 1.3
HDMI Loop Out	
Number of Loop Out	3
Connector	HDMI standard type A interface
Supported Resolution	SMPTE：625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50/59.94/60 I 1080i50/59.94/60, 720p50/59.94/60 VESA：800×600@60 I 1024×768@60 I 1280×768@60 I 1280×1024@60 I 1600×1200@60 I 1920×1080@60
Format Standard	HDMI 1.3
DVI Input (DVI optional module)	
Interface Appearance	
Board Size	52(L)×19.5(W)（mm）
Number of Inputs	3
Connector	Standard DVI-I socket
Supported Resolution	SMPTE：625/25/50 PAL, 525/29.97/59.94 NTSC, 1080P50/59.94/60 I 1080i50/59.94/60, 720p50/59.94/60 VESA：800×600@60 I 1024×768@60 I 1280×768@60 I 1280×1024@60 I 1600×1200@60 I 1920×1080@60
Signal Level	TMDS pwl, single pixel input,165MHz bandwidth
Format Standard	HDMI 1.3
CVBS Input (CVBS optional module)	

Interface Appearance	
Board Size	52(L)×19.5(W)（mm）
Number of Inputs	3
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 (VGA optional module)	
Interface Appearance	
Board Size	52(L)×19.5(W)（mm）
Number of Inputs	3
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　I　1024×768@60　I　1280×1024@60　I　1440×900@60 I 1600×1200@60)
USB Input (USB optional module)	
Interface Appearance	
Board Size	52(L)×19.5(W)（mm）
Number of Inputs	3
Connector	Standard USB port
Supported Standard	Support general Image and video formats
Audio Input (Audio optional module)	
Interface Appearance	
Board Size	52(L)×19.5(W)（mm）
Audio Input	
Number of Inputs	3
Connector	Standard RCA Socket
Audio Standard	48Kbps 24bit
Audio Output	
Number of Outputs	1

Connector	Card faucet , Standard 1/4 Socket
Audio standard	48Kbps 24bit
WIFI Hotspot Module	
Certification	FCC/CE
Wireless Standard	802.11 b/g/n
Frequency range	2.412GHz-2.484GHz
Transmit Power	802.11b: +20dBm (Max.)
	802.11g: +18dBm (Max.)
	802.11n: +15dBm (Max.)
	Configurable
Receiver Sensitivity	802.11b: -89dBm
	802.11g: -81dBm
	802.11n: -71dBm
Antenna Option	External: I-PEX Connector
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	RS232　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

7.2 Software Upgrade

The upgrade steps are as follows:

1. Connect the USB interface of VENUS X1 to the computer with a USB cable.
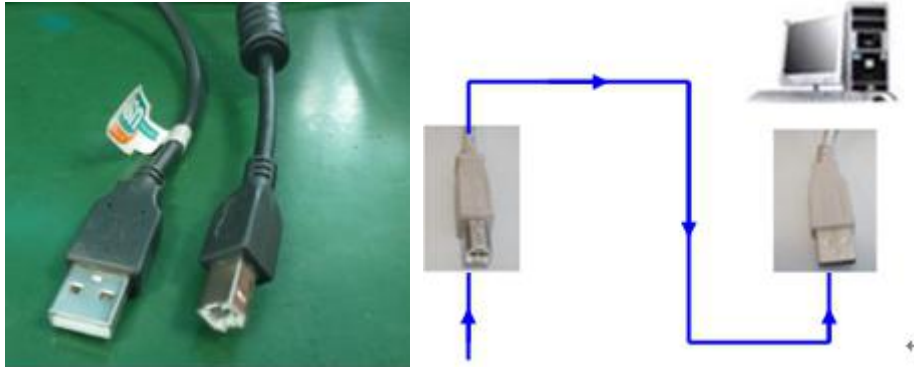
2. Plug in the power cord, and make sure the device is in normal operation.

3. Open XTOOL. Icon like ,Click "语言/Language" to switch the language.
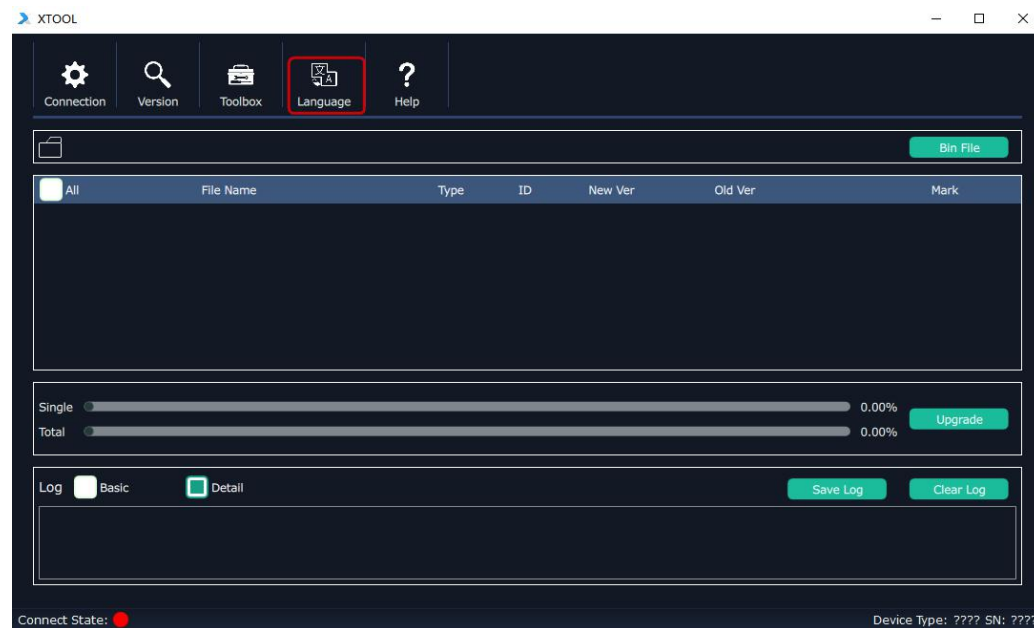
4. **Communication setting**

USB connection: click connection in the connect set dialog box, select Serial Comm select the corresponding serial number, Baud rate is set to "115200", click "OK".
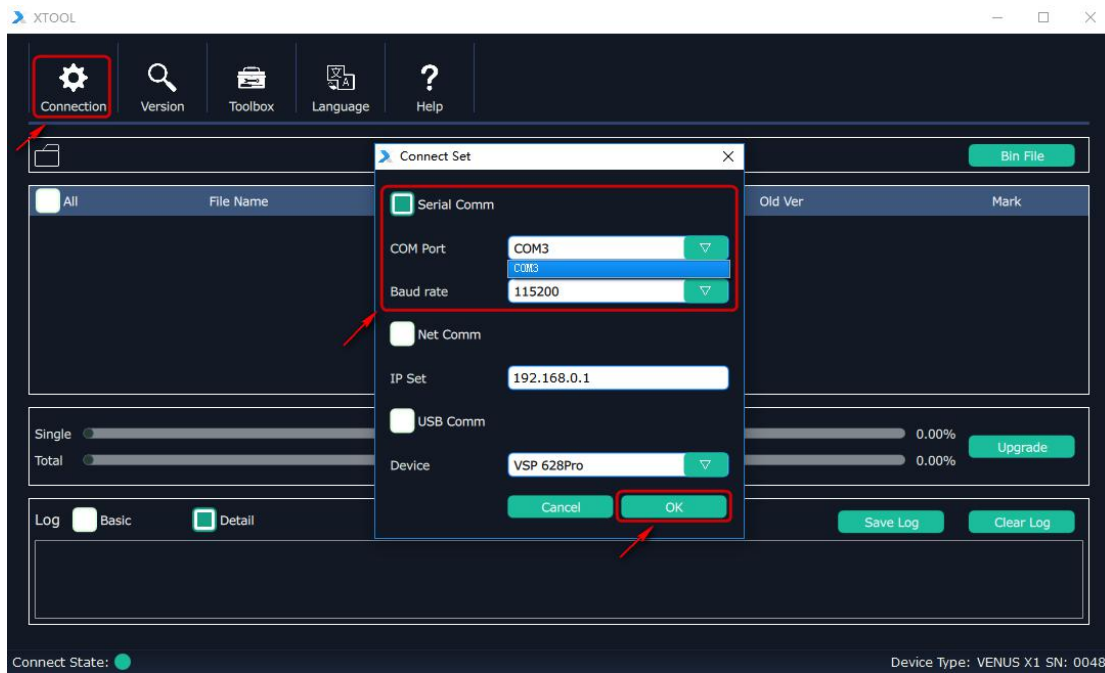
Remark:

  If the serial number is not recognized, check whether there is a USB serial port driver. For details, see "Notice."

After the setting, check the connection status (the connection status is blue means OK, red means the connection failed). The Bottom corner can read the device type and SN number.

5. Select upgrade file and start to upgrade.

Click "Bin File" to select the .bin file in the "Upgrade Files" folder of VENUS X1 firmware package.

Click "all"，XTOOL will compare the version number and the subroutine version number of the package automatically. Only the items with different version number will be chosen.
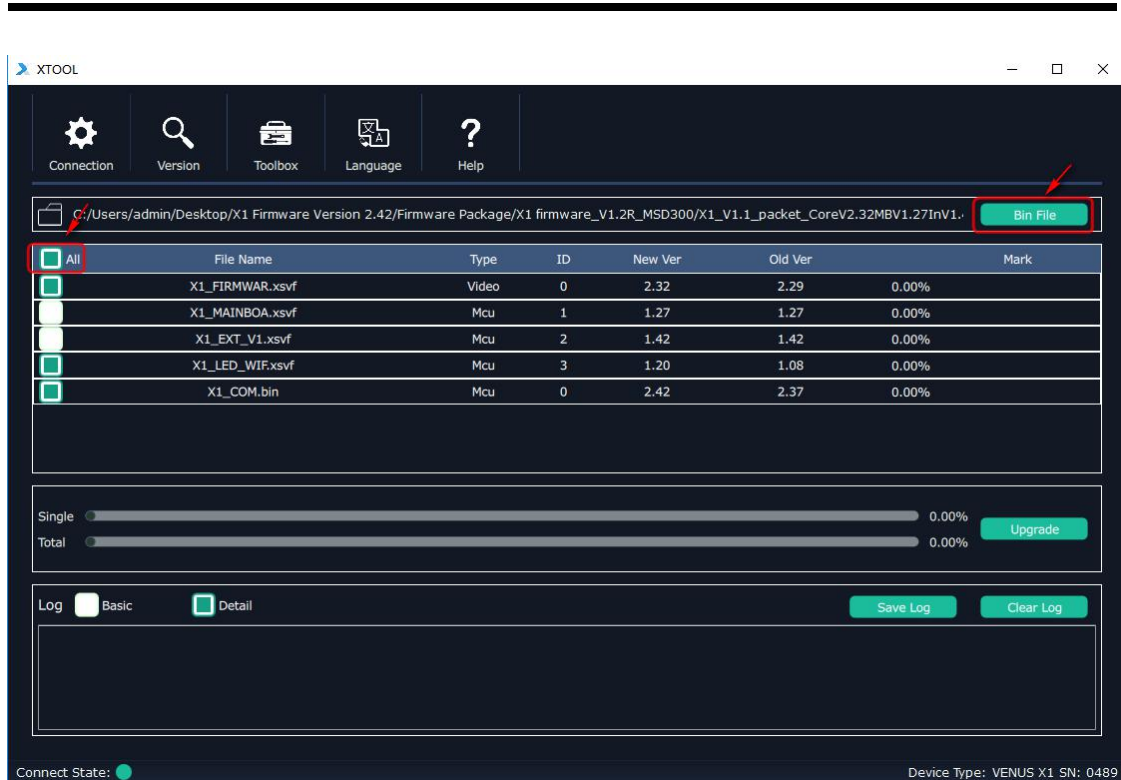
6. Click "upgrade", and it will pop-up "whether to upgrade firmware" dialog box, click "OK" to upgrade:
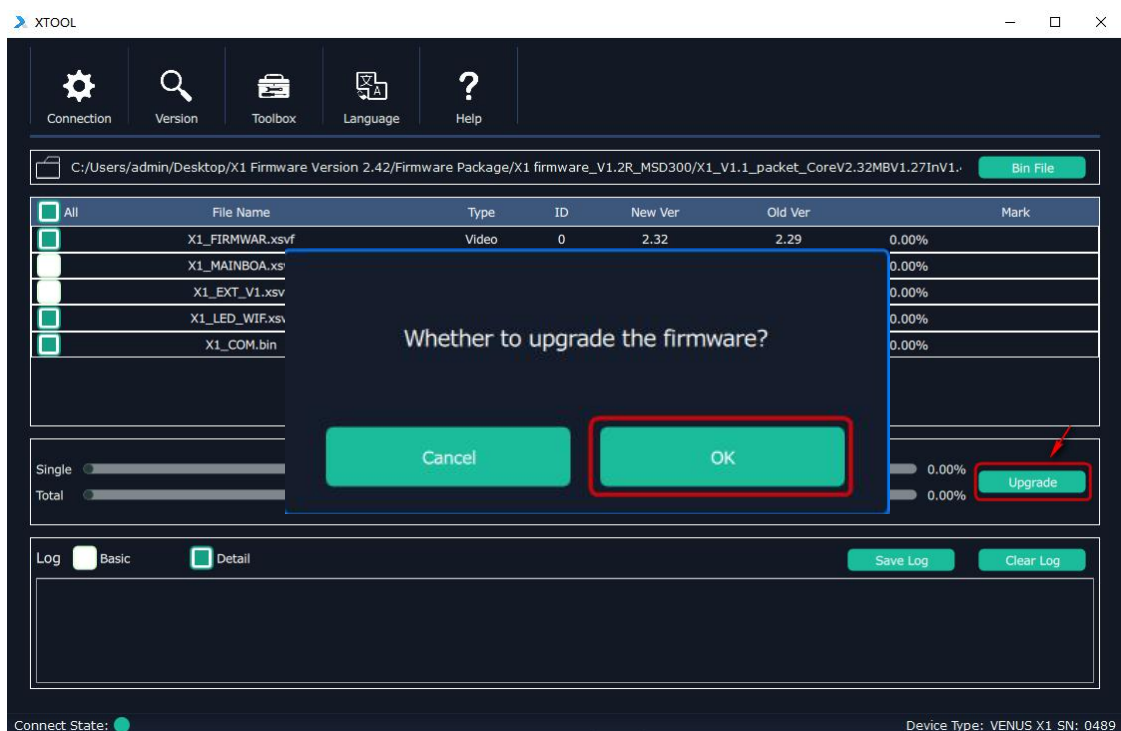
1.1.1. Check the upgrade progress by scroll bar,   you can press the "stop" to stop the upgrade.
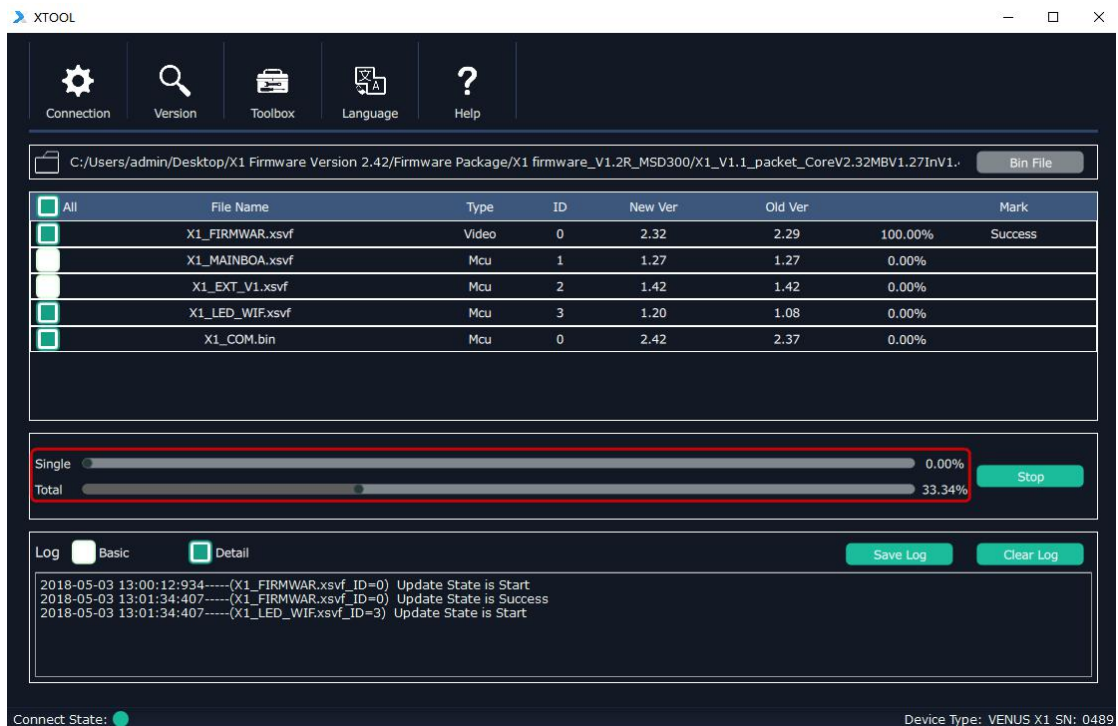
7. After the upgrade is completed, the "New Version Upgrade Complete" dialog box will pop out. At the same time, the device will emit a "buzz" sound. When it stop, the device will be restarted.
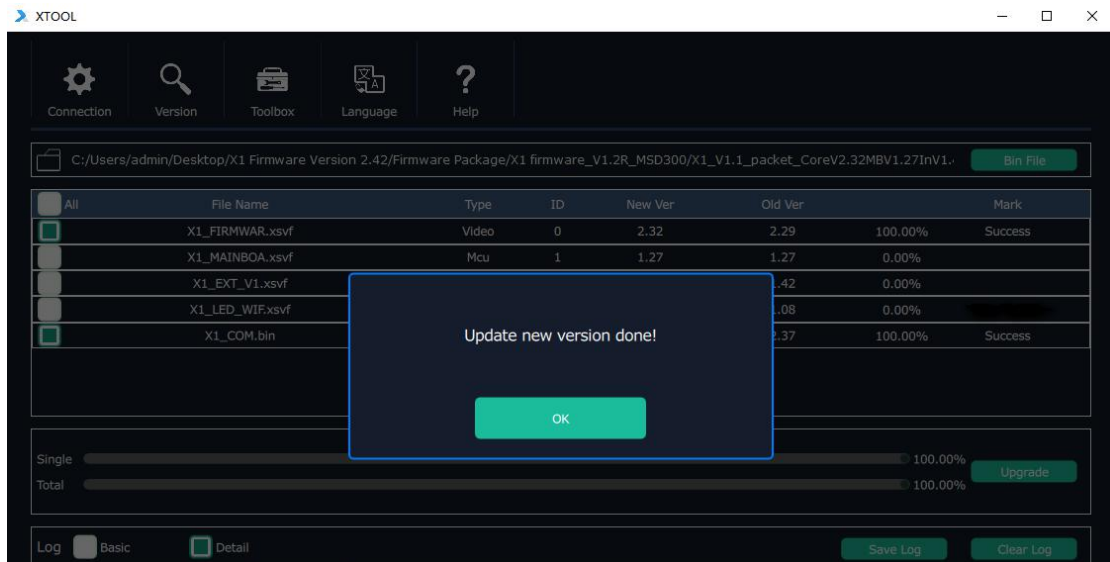
1.1.2. Press"OK",restart the device.

Attention

If the serial port can't be recognized, check whether the USB serial port driver installed or not. USB drive installation operations as follow:

1. According to the computer system type.Before installing, check the system type of the computer and select the corresponding USB driver folder of the upgrade tool

software.

32bits：CP_V1.3.1_Setup_x32 ⟶   VCP_V1.3.1_Setup_x32

64bits：CP_V1.3.1_Setup_x64 ⟶   VCP_V1.3.1_Setup_x64

2. The package contains optional module and wireless module, if there is no optional module, or a wireless WIFI version, the item will show "skipped".

7.3 Installing Options

7.3.1 Installing Input Module

VENUS X1 is based on replaceable input optional modules structure, user can install or replace the optional module according to actual need, the specific installation steps are as follows:

Install the Optional Module

1. Unscrew the 2 captive screws in input modules block, and pull out the input module block, as shown in figure:
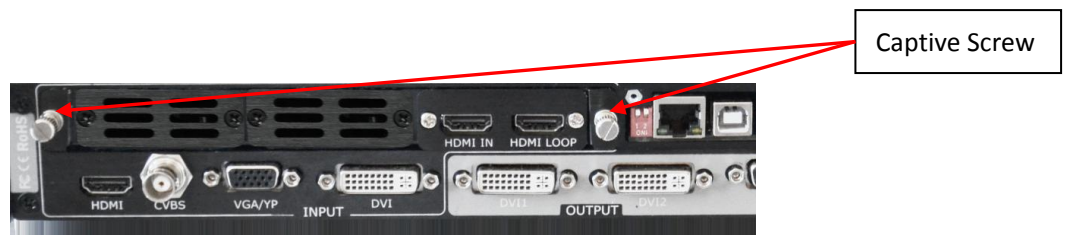
Captive Screw

2. Fix the input EXT board and input modules on the plate with the fixed screws, as shown in figure:

Fixed screw of input module
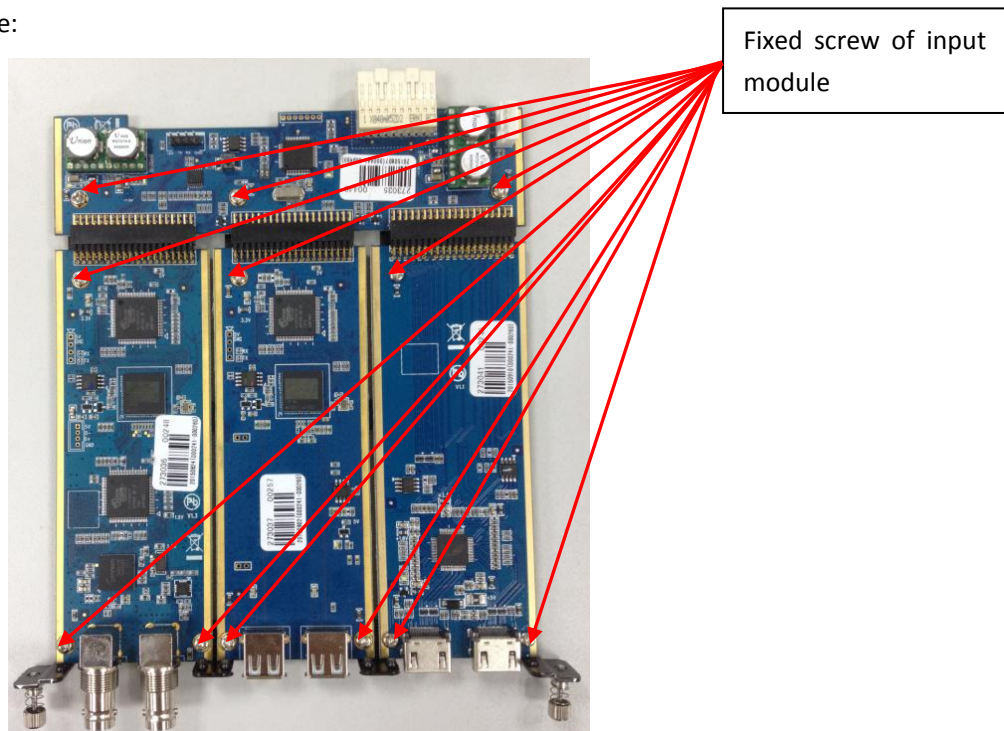
3. Push the input modules into the device along the slide rail, and screw the captive screws, then install the input blocks, as shown in figure:

4. If install the SDI input module, please screw the SDI interface, as shown in figure:
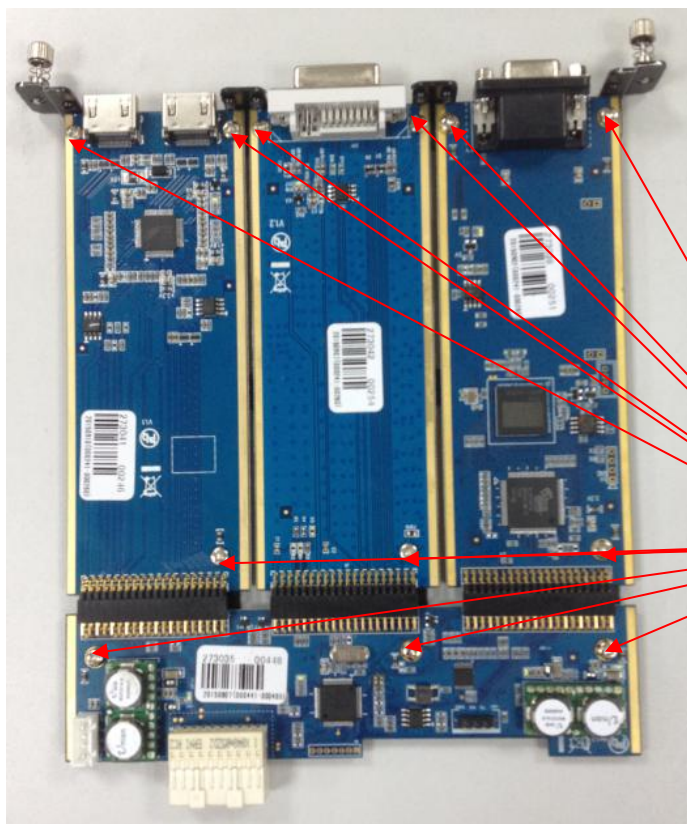

5. Lock the input blocks, as shown in figure:

Replace the Optional Module

1. Unscrew the captive screws, and pull out the input modules that will replace, as shown in figure:
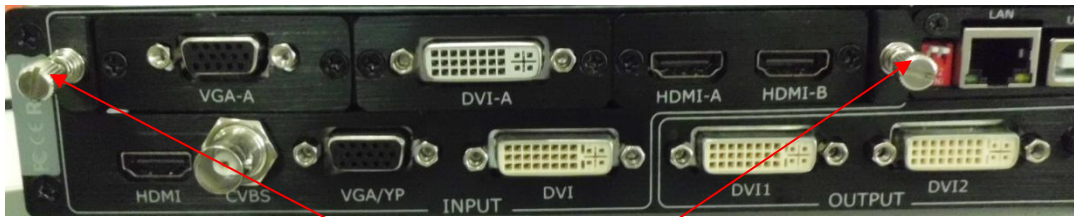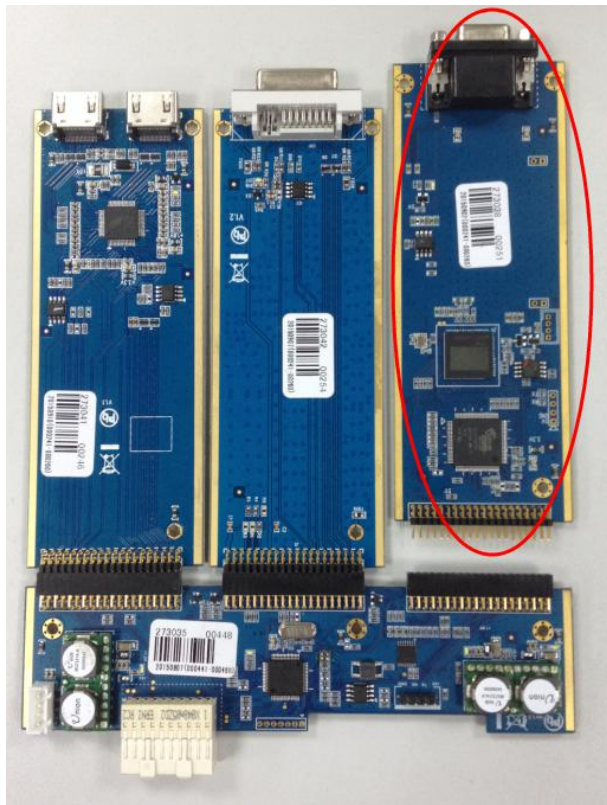
Captive Screw

2. Unscrew the fixed screws of input module, as shown in figure:
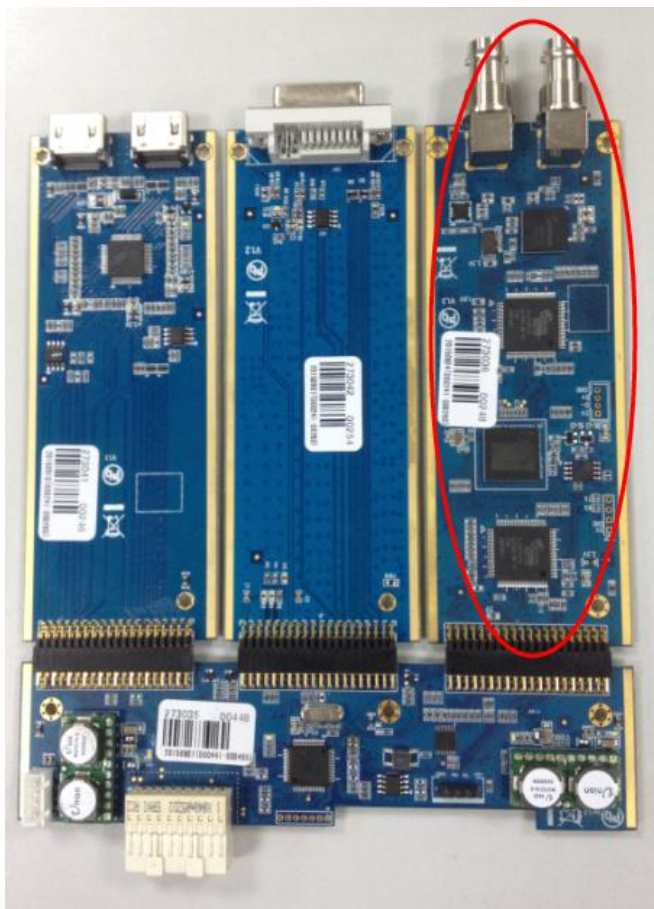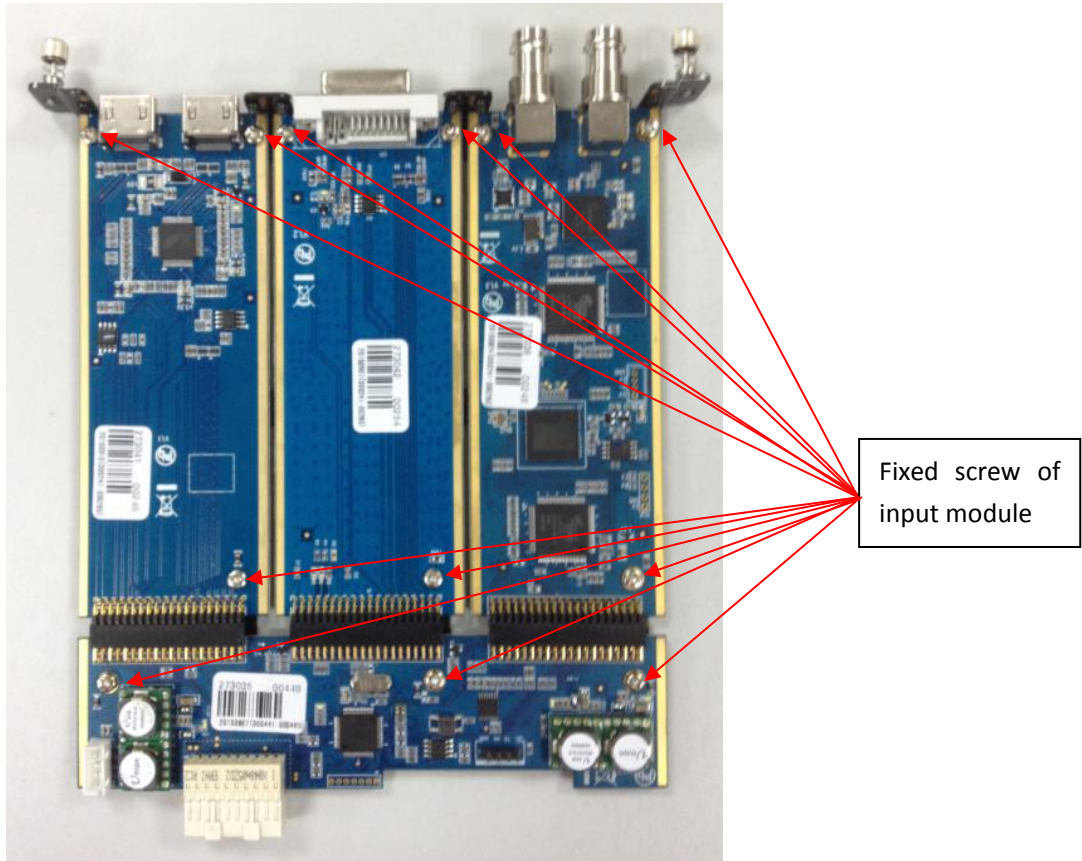

Fixed screw of input module

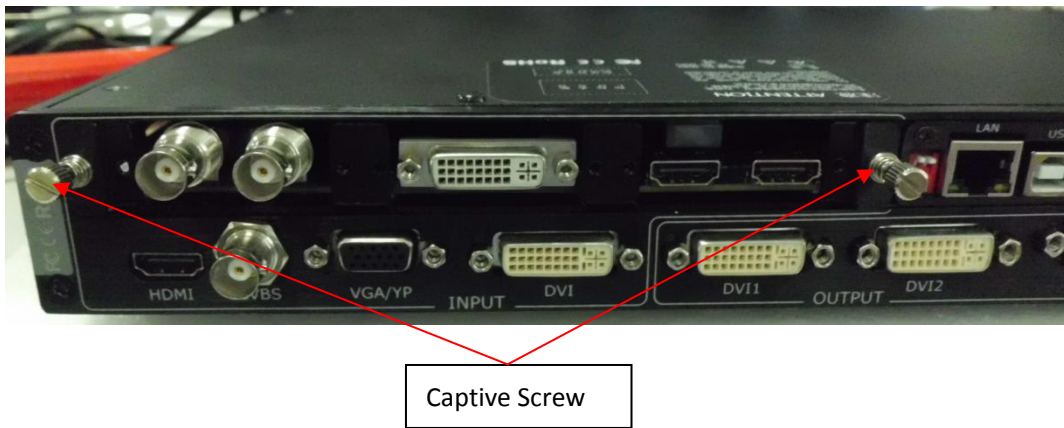3. Take out the input modules that will replace, as shown in figure:

4. Install the input module that user need, as shown in figure:

5. Fix the input modules on the plate with screws, as shown in figure:

Fixed screw of input module

6. Push the input modules into the device along the slide rail, and screw the captive screws, as shown in figure:

Captive Screw

7. Lock the input block, as shown in figure:
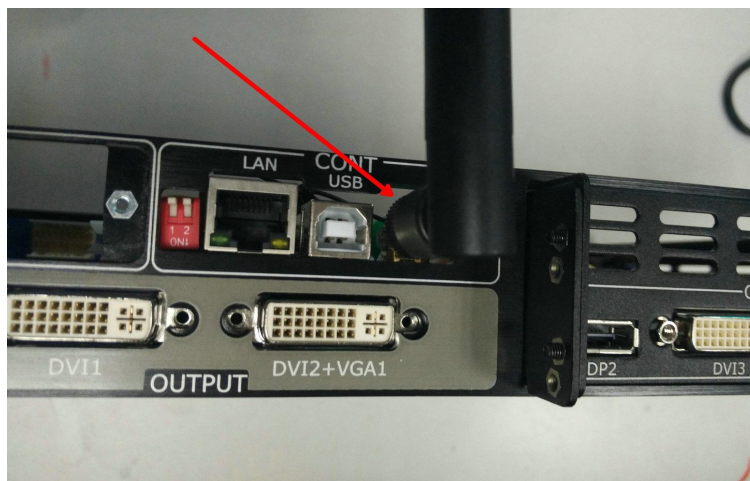
7.3.2 Installing WIFI Module

1. Remove the 5 screws on the top cover, and move the top cover, as shown in the figure below:

2. Install the WIFI module as shown in the figure below: lock the WIFI module with 2 pieces of 2*5 flat head screws, then connect the antenna junctor and the connector with the WIFI antenna cable.


Connect antenna junctor and connector

2*5 flat head screw
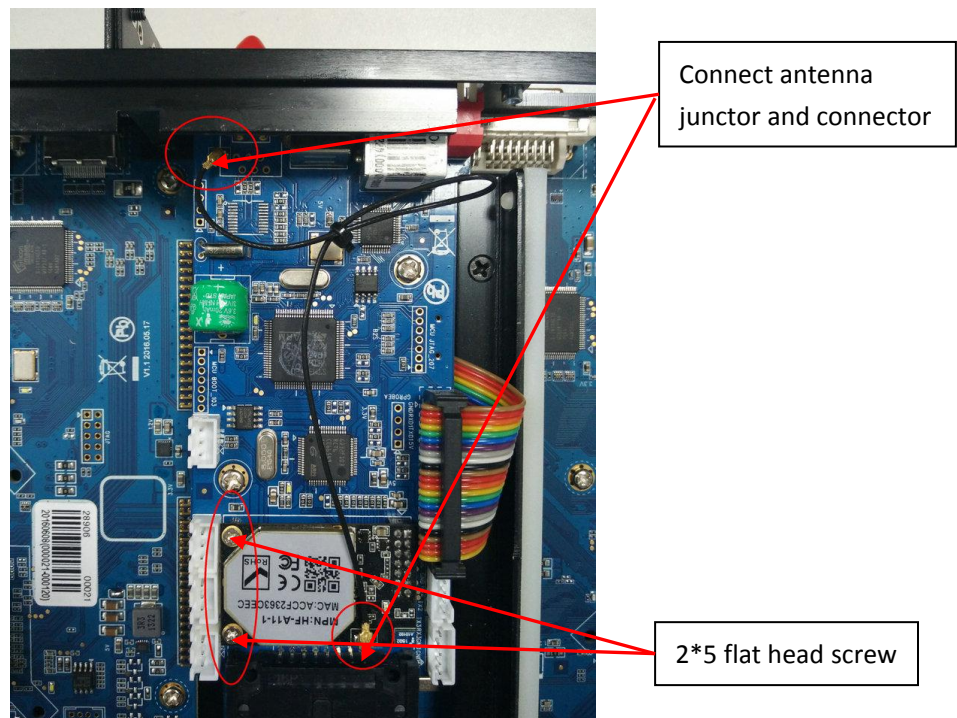
3. Install the external WIFI antenna, as shown in the figure below:

4. Lock the top cover with 5 screws, and installing WIFI module is finished.

7.4 Connect WIFI

1. Plug VENUS X1 into the power cord, and turn the power switch on the rear of the product to the ON position.
2. Right click the wireless icon on the lower right corner, and select "Wireless Network Connection", then select "VENUS-X1-0048", and click "Connect".
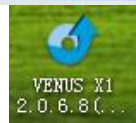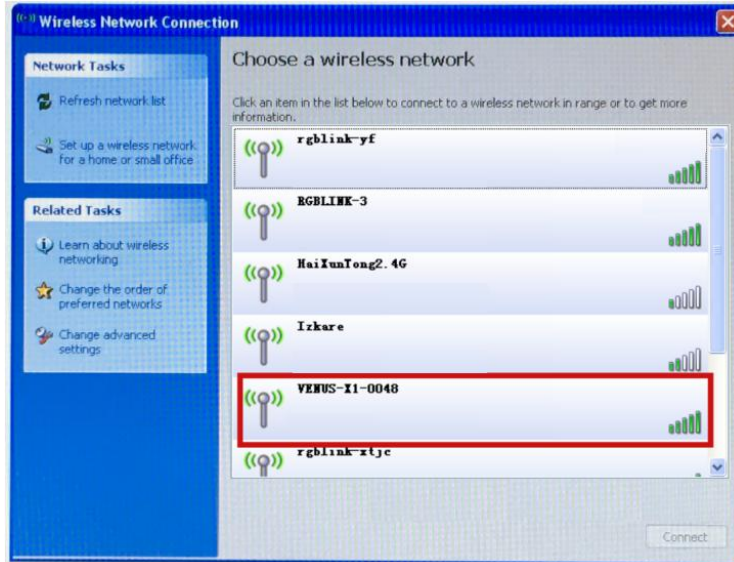
3. Install VENUS X1 windows control program , there will be a new shortcut icon on

the desk after installation , double click the shortcut icon, and enter to the software interface.
4. Click the "Comm Setup" icon, as shown in the figure below:
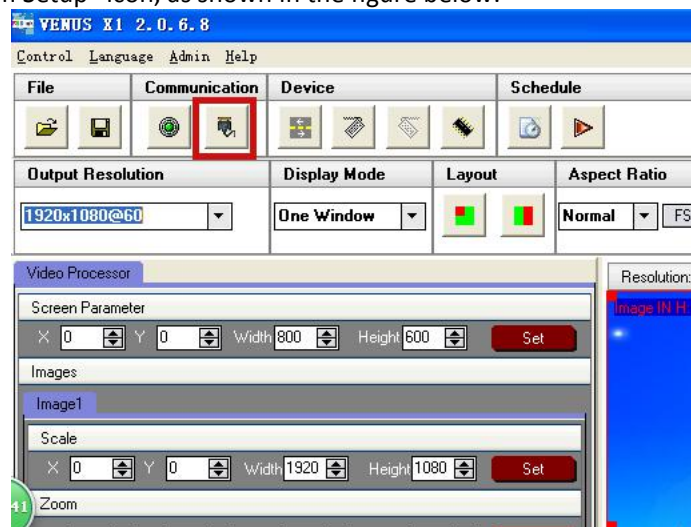
5. It will pop up the comm settings widow, select "Wifi" and click "OK", as shown in the figure below:

86
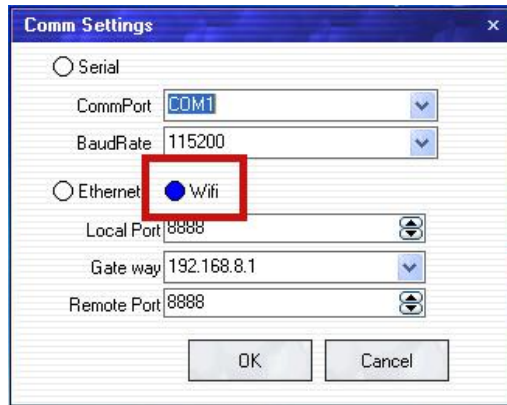
6. The log area will synchronization data, as shown in the figure below:

7. If it shown "WiFi OK", click the "Open Comm" icon, as shown in the figure below, and Wifi is connected.
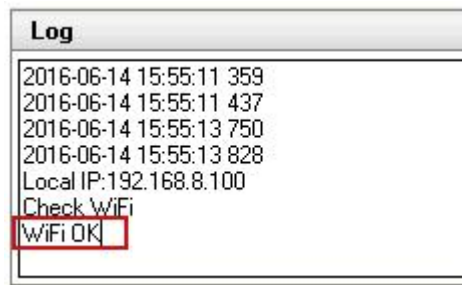
7.5 Shortcuts

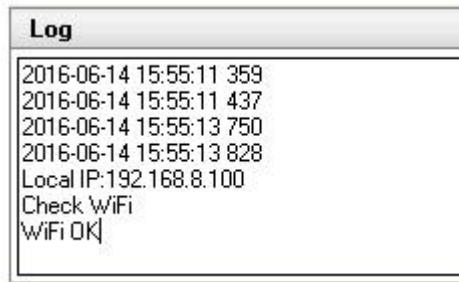Lots of shortcuts are provided in VENUS X1, shown as follows:

Function	Shortcuts
Change the language	**MENU+TAKE Button** Push the MENU and TAKE button for 3 seconds will change the language.
Change to Transition	**MENU Button** Push the button two times will enter to the transition menus.
Lock the panel	**MENU Button** Push the button for 3 seconds will lock the front panel, and push the button for 5 seconds to unlock.
Use the number button	**Number Reuse Button** Each button is numbered and can be used as direct number entry when values such as resolution and size.

7.6 Terms & Definitions

The following terms and definitions are used throughout this guide.

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

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

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

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

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

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

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

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

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

- **"Color bars":** A standard test pattern of several basic colors (white, yellow, cyan, green, magenta, red, blue, and black) as a reference for system alignment and testing. In NTSC video, the most commonly used color bars are the SMPTE standard color bars. In PAL video, the most commonly used color bars are eight full field bars. In the computer, the most commonly used color bars are two rows of reversed color bars.

- **"Color burst":** In color TV systems, a burst of subcarrier frequency located on the back porch of the composite video signal. This serves as a color synchronizing signal to establish a frequency and phase reference for the chroma signal. Color burst is 3.58 MHz for NTSC and 4.43 MHz for PAL.

- **"Color temperature":** The color quality, expressed in degrees Kelvin(K), of a light source. The higher the color temperature, the bluer the light. The lower the temperature, the

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

- **"Contrast ratio":** The radio of the high light output level divided by the low light output level. In theory, the contrast radio of the television system should be at least 100:1, if not 300:1. In reality, there are several limitations. In the CRT, light from adjacent elements contaminate the area of each element. Room ambient light will contaminate the light emitted from the CRT. Well-controlled viewing conditions should yield a practical contrast ratio of 30:1 to 50:1.

- **"DVI":** Digital Visual Interface. The digital video connectivity standard that was developed by DDWG (Digital Display Work Group). This connection standard offers two different connectors: one with 24 pins that handles digital video signals only, and one with 29 pins that handles both digital and analog video.

- **"EDID":** Extended Display Identification Data – EDID is a data structure used to communicate video display information, including native resolution and vertical interval refresh rate requirements, to a source device. The source device will then output the optimal video format for the display based on the provided EDID data, ensuring proper video image quality. This communication takes place over the DDC – Display Data Channel.

- **"Ethernet":** A Local Area Network (LAN) standard officially known as IEEE 802.3. Ethernet and other LAN technologies are used for interconnecting computers, printers, workstations, terminals, servers, etc. within the same building or campus. Ethernet operates over twisted pair and over coaxial cable at speeds starting at 10Mbps. For LAN interconnectivity, Ethernet is physical link and data link protocol reflecting the two lowest layers of the OSI Reference Model.

- **"Frame":** In interlaced video, a frame is one complete picture. A video frame is made up of two fields, or two sets of interlaced lines. In a film, a frame is one still picture of a series that makes up a motion picture.

- **"Gamma":** The light output of a CRT is not linear with respect to the voltage input. The difference between what you should have and what is actually output is known as gamma.

- **"HDMI" - High – Definition Multimedia Interface:** An interface used primarily in consumer electronics for the transmission of uncompressed high definition video, up to 8 channels of audio, and control signals, over a single cable. HDMI is the de facto standard for HDTV displays, Blu-ray Disc players, and other HDTV electronics. Introduced in 2003, the HDMI specification has gone through several revisions.

- **"HDSDI":** The high-definition version of SDI specified in SMPTE-292M. This signal standard transmits audio and video with 10 bit depth and 4:2:2 color quantization over a single coaxial cable with a data rate of 1.485 Gbit/second. Multiple video resolutions exists including progressive 1280x720 and interlaced 1920x1080 resolution. Up to 32 audio signals are carried in the ancillary data.

- **"JPEG" (Joint photographic Expects Group):** Commonly used method of lossy compression for photographic images using a discreet cosine transfer function. The degree of compression can be adjusted, allowing a selectable tradeoff between storage size and image quality. JPEG typically achieves 10:1 compression with little perceptible loss in image quality. Produces blocking artifacts.

- **"MPEG":** Motion Picture Expect Group. A standard committee under the auspices of the

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

● **"NTSC":** The color video standard used in North America and some other parts of the world created by the National Television Standards Committee in the 1950s. A color signal must be compatible with black-and-white TV sets. NTSC utilizes an interlaced video signals, 525 lines of resolution with a refresh rate of 60 fields per second (60 Hz). Each frame is comprised of two fields of 262.5 lines each, running at an effective rate of 30 frames per second.

● **"Operator":** Refers to the person who uses the system.

● **"PAL":** Phase Alternate Line. A television standard in which the phase of the color carrier is alternated from line to line. It takes four full pictures (8 fields) for the color-to-horizontal phase relationship to return to the reference point. This alternation helps cancel out phase errors. For this reason, the hue control is not needed on a PAL TV set. PAL, in many transmission forms, is widely used in Western Europe, Australia, Africa, the Middle East, and Micronesia. PAL uses 625-line, 50-filed (25 fps) composite color transmission system.

● **"PIP":** Picture-in-Picture. A small picture within a larger picture created by scaling down one of the images to make it smaller. Each picture requires a separate video source such as a camera, VCR, or computer. Other forms of PIP displays include Picture-by-Picture (PBP) and Picture-with-Picture (PWP), which are commonly used with 16:9 aspect display devices. PBP and PWP image formats require a separate scaler for each video window.

● **"Polarity":** The positive and negative orientation of a signal. Polarity usually refers to the direction or a level with respect to a reference (e.g. positive sync polarity means that sync occurs when the signal is going in the positive direction).

● **"RJ-45":** Registered Jack-45. A connector similar to a telephone connector that holds up to eight wires, used for connecting Ethernet devices.

● "**RS-232":** An Electronic Industries Association (EIA) serial digital interface standard specifying the characteristics of the communication path between two devices using either DB-9 or DB-25 connectors. This standard is used for relatively short-range communication and does not specify balanced control lines. RS-232 is a serial control standard with a set number of conductors, data rate, word length, and type of connector to be used. The standard specifies component connection standards with regard to the computer interface. It is also called RS-232-C, which is the third version of the RS-232 standard, and is functionally identical to the CCITT V.24 standard.

● **"Saturation":** Chroma, chroma gain. The intensity of the color, or the extent to which a given color in any image is free from white. The less white in a color, the truer the color or the greater its saturation. On a display device, the color control adjusts the saturation. Not to be confused with the brightness, saturation is the amount of pigment in a color, and not the intensity. Low saturation is like adding white to the color. For example, a low-saturated red looks pink.

● **"Scaling":** A conversion of a video or computer graphic signal from a starting resolution to a new resolution. Scaling from one resolution to another is typically done to optimize the

signal for input to an image processor, transmission path or to improve its quality when presented on a particular display.

● **"SDI":** Serial Digital Interface. The standard based on a 270 Mbps transfer rate. This is a 10-bit, scrambled, polarity independent interface with common scrambling for both component ITU-R 601 and composite digital video and four channels of (embedded) digital audio.

● **"Seamless Switching":** A feature found on many video switchers. This feature causes the switcher to wait until the vertical interval to switch. This avoid a glitch (temporary scrambling) which normally is seen when switching between sources.

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

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

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

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

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

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

● **"VGA":** Video Graphics Array. Introduced by IBM in 1987, VGA is an analog signal with TTL level separate horizontal and vertical sync. The video outputs to a 15-pin HD connector and has a horizontal scan frequency of 31.5 kHz and vertical frequency of 70 Hz (Mode 1, 2) and 60 Hz (Mode 3). The signal is non-interlaced in modes 1, 2, and 3 and interlaced when using the 8514/A card (35.5 kHz, 86 Hz) in mode 4. It has a pixel by line resolution of 640×480 with a color palette of 16 bits and 256,000 colors.

● **"YCrCb":** Used to describe the color space for interlaced component video.

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

7.7 Revision History

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

Format	Time	ECO#	Description	Principal
V1.0	2015-05-18	0000#	Release	Vira
V1.1	2015-08-06	0001#	1. Update the front and back panel. 2. Update the menu tree. 3. Update the windows control program. 4. Update the common questions and solutions.	Vira
V1.2	2015-10-29	0002#	1. Update the front and back panel. 2. Update the menu tree. 3. Update the product picture. 4. Update the dimensions drawing 5. Update the specification. 6. Update "Optional Module Installation and Replacement Instruction". 7. Add "VENUS X1 Connect APP Control Operation".	Vira
V1.3	2016-05-05	0003#	1. Update the product picture. 2. Update the back panel. 3. Update the menu tree. 4. Add "Set the LED Display Connection" in "System Setup and Operation". 5. Update the fax number.	Vira
V1.4	2016-07-01	0004#	1. Update the style and structure of the user manual. 2. Add WIFI specification. 3. Add "Installing WIFI Module". 4. Add "Connect WIFI". 5. Add the "Shortcuts".	Vira
V1.5	2016-08-11	0005#	Update and add the product codes.	Vira
V1.6	2018-10-24	0006#	1. Update specification 2. Update application picture 3. Update dimension picture 4. Update front panel 5. Update software	Sophie