C1US

USER MANUAL

RGBlink®

CONTENT

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 C1US 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 C1US 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	DVI to HDMI Cord	USB Cable

Note:

AC Power Cable supplied as standard according to destination market.

1.2 Product Overview

C1US is a multiple outputs video process that accepts a wide variety of video signals, including DVI, VGA, HDMI, CVBS and SDI. It also supports an optional input to meet users' actual need.

Its front panel is easy and convenient to operate and rear panel is equipped with two sending card slots for flexible sending card installation.

C1US support multiple cascade, analog audio input and output, EDID edit on input port and read on output port. Users can do EDID editing on input port according to the output resolution to optimize the input resolution. USB input module can be selected as option different from USB control, U-disk is used as input source. C1US with USB input module can be used as signal generator to further meet user's application needs.
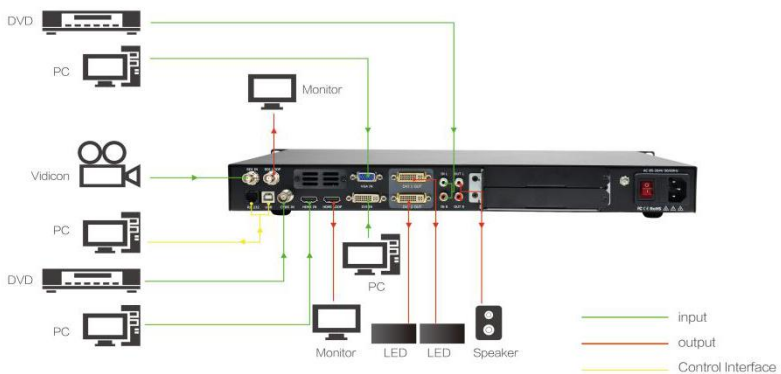
C1US SYSTEM CONNECTION DIAGRAM

1.2.1 Rear Panel
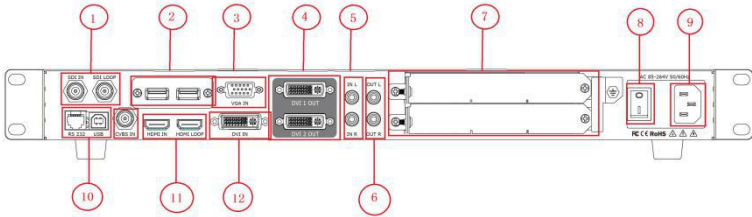
INPUT CONNECTORS	
1	SDI in and SDI loop
2	Optional input module area
3	VGA/YP Input DB15 port
5	Audio input
11	CVBS input BNC port
12	HDMI and HDIMI loop
13	DVI input

OUTPUT CONNECTORS	
4	DVI output DVI-I port
6	Audio output

CONTROL PORT	
10	USB-A
	RS232

OTHERS	
7	Sending card slots

POWER	
8	Power switch
9	Power IEC-3

1.2.2 Front Panel

FRONT PANEL			
LCD	Show operation and	ME	Menu and back button
Kno	Confirm and Select	MO	Optional Input module selection area
OK	OK button	CVB	Select CVBS input signal
SAV	Save current settings	VGA	Select VGA and YPbPr
FREE	Freeze current screen	HD	Select HDMI input signal
SACL	Scale	DVI	Select DVI input signal
PIP	Picture in picture	SDI	Select SDI input signal
FS	Full screen	TAK	Switch mode
BRI	Image adjustment	0~9	Numeral button , for scaling and self-defined
LOA	Load the saved		

1.2.3 Dimension

Following is the dimension of C1US for your reference::
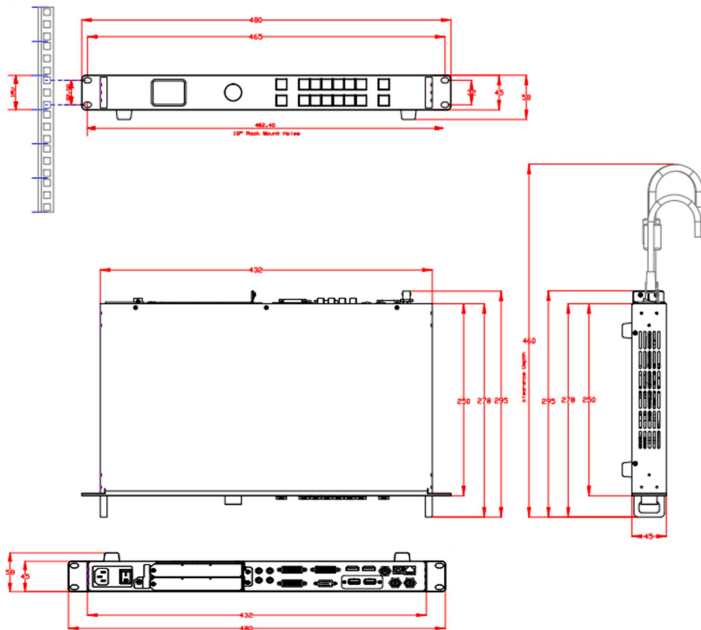
Chapter 2 Installing Your Product

2.1 Plugging in Signals

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

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 to ON position.
TST screen shows as below，meanwhile the device enter initializing state after that，the device will load the previously saved setting. On delivery, the default input is HDMI at resolution 1920x1080@60.

INPUT: HDMI
      NO INPUT
OUTPUT:1920x1080@60
VER:1.38

Chapter 3 Using Your Product

3.1 Using the MENU Button

Push【MENU】button to enter main menu.

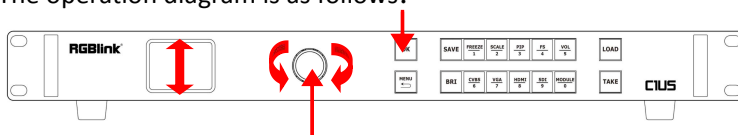Turn the knob to select corresponding menu item.

The symbol >indicate that the item is selected.

Push the knob or【OK】button to confirm the operation.

The symbol＊ means the selected item is under editing state, ready to be set or checked

The operation diagram is as follows：

3.2 Understanding the MENU Structure

The MENU structure is shown in the figure below:
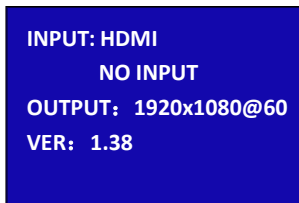
INPUT	OUTPUT	TRANSITION	AUDIO	SPLIT	SYSTEM	FACTORY RESET
INPUT INFO	OUTPUT INFO	MODE	MUTE	SPLIT ON/OFF	SYSTEM INFO	FACTORY RESET
SIZING ADJUST	OUTPUT FORMAT	DURATION	VOLUME	H TOTAL	TECH SUPPORT	
USB CONTROL	OUTPUT ADJUST	ALPHA	AUDIO IN	V TOTAL	WORK TIME	
VGA ADJUST	SCREEN	DEINTERLACE	HDMI INTERNAL/EXTERNAL	H POS	LOCK FRONT PANEL	
ADC ADJUST	RATIO	IMAGE ENHANCE		V POS	LICENSE SETUP	
SDI ADJUST	TEXT OVERLAY	TAKE		H SIZE	HOT BACKUP	
EDID MANAGE	DISPLAY MODE			V SIZE	DELAY RECALL	
	GAMMA			RESET		

3.3 Using the Menu

Use the menu system for convenient and intuitive operation. C1US TST display shows the menu items. The TST 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 TST display will show the corresponding menus according to user selections.

3.3.1 Default Menu

Turn the power switch on the rear to ON position.
After the device initializing the TST screen shows below:

> INPUT: HDMI
>   NO INPUT
> OUTPUT：1920x1080@60
> VER：1.38

Here are details of Default Menu：

1	**<u>INPUT</u>** Show the format and resolution of currently selected input source.
2	**<u>OUTPUT</u>** Show current output resolution. Users can select
3	**<u>VER</u>** Show current software of the device
4	**<u>ICON</u>** Show the current setting of the device, such as freeze, picture in picture,splitting

3.3.2 Main Menu

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

```
>INPUT          >>
OUTPUT          >>
TRANSITION      >>
SPLIT           >>
SYSTEM          >>
```

```
>FACTORY RESET   >>
```
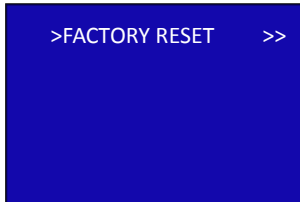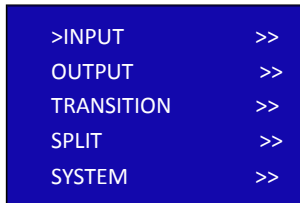
There are 6 menu items in the main menu, and display in 2 pages. Turn the rotary knob, and select any menu above, push the rotary knob or 【OK】 button to confirm, the TST display will show the sub-menu. If push the 【MENU】 button, it will return to the last level menu.

3.3.3 INPUT

```
>INPUT INFO        >>
SIZING ADJUST      >>
USB CONTROL        >>
VGA ADJUST         >>
ADC ADJUST         >>
```

```
>SDI ADJUST        >>
EDID MANAGE        >>
```

INPUT INFO	Show the input source and format
SIZING ADJUST	Adjust the input source on H SIZE,V SIZE,H POS,V POS and do MASK TOP, MASK BOTTOM, MASK LEFT, MASK RIGHT. Parameter can be recovered by RESET SIZE and RESET MASK if the operation is improper.
USB CONTROL	Optional module，applied to ajust USB Port,PLAY MODE, PLAY FILE, PLAY

	ORDER,PLAY STATE, PLAY TIME.
VGA ADJUST	ADJUST VGA input on H POS, V POS, CLOCK, PHASE or choose AUTO AJUST.
ADC ADJUST	Choose ADC AUTO AJUST or ADC RESET.
EDID MANAGE	**DESTINATION PORT** Select the destination port, HDMI or MODULE
	EDID SOURCE Select the EDID source, RGB DVI, RGB HDMI, OUT_DVI1, OUT_DVI2, FOLLOW, USER DEFINE

3.3.4 OUTPUT

```
>OUTPUT INFO        >>
OUTPUT FORMAT       >>
OUTPUT ADJUST       >>
SCREEN              >>
RATION         NORMAL
```

```
>TEXT OVERLAY       >>
 DISPLAY MODE       >>
GAMMA              1.2
```

OUTPUT INFO	Show current ouput format and resolution
OUTPUT FORMAT	Include 22 standard resolutions and customized resolution
OUTPUT ADJUST	Select DVI1 output or DVI 2 output 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.
SCREEN	**H SIZE** Set the horizontal pixels of screen
	V SIZE

	Set the vertical pixels of screen
	H POS Set horizontal position
	V POS Set vertical position
	MODE Select FULL SIZE or SCREEN SIZE
	RESET If image quality distorts by improper operation, it can be recover by reset.
SCALE	Select 4:3, 16:9 or default.
TEXT OVERLAY	**TEXT OVERLAY** Enable or disable the text overlay function.
	PRESET Select WhOnBk1 or WhOnBk2
	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.

	STANDARD Select ABVE or BELOW ABOVE：In Image 2, if any pixel color value of the picture is higher than standard, then the picture is text content, otherwise, the picture is the background. BELOW:In Image 2, if any pixel color value of the picture is higher than standard, then the picture is text content, otherwise, the picture is the background.
DISPLAY MODE	**MODE** Select BLACK OUT, SCREEN, FREEZE
	TEST PATTERN Support signal test and auto switch
	SOLID COLOR Set the color threshold of red, green and blue. Adjust from 0 to 255.
GAMMA	**Gamma** select LINEAR, sRGB, -1.2, 1.2, -1.4, 1.4, -1.6 or 1.6.

3.3.5 TRANSITION

```
>MODE          FADE
DURATION       0.5s
ALPHA             7
 DEINTERLACE     ON
IMAGEEHANCE      ON
```

```
 >TAKE           ON
```

MODE	Include 20 switching mode, default FADE
DURATION	Transition time select from 0 to 3s
ALPHA	Transparency, select from 0 to 16
DEINTERLACE	Select ON or OFF to enable or shut down the deinterlacing function
IMAGE ENHANCE	Image enhancement function, select ON or OFF
TAKE	Select ON or OFF

3.3.6 SPLIT

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

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

SPLIT	Select ON or OFF
H TOTAL	Set the total horizontal pixels of the LED screen
V TOTAL	Set the total vertical pixels of the LED screen
H POS	Select the total number of horizontal screens
V POS	Select the total number of vertical screens
H SIZE	Set the horizontal pixels this device will provide
V SIZE	Set the vertical pixels this device will provide.
RESET	If image quality distorts by improper operation, it can be recover by reset.

3.3.7 SYSTEM

```
>SYSTEM INFO        >>
TECH SUPPORT        >>
WORK TIME           >>
LOCK FRONT PANEL >>
LICENSE SETUP       >>
```

```
>HOT BACKUP         >>
DELAY RECALL        0s
```

SYSTEM INFO	Show the current version of software and serial number
TECH SUPPORT	Show sales, after-sale service, email, website and telephone.
WORK TIME	Display the date, time, current time, last time, total time and boot times. User can also change the date and time.
LOCK FRONT PANEL	Lock front panel function. If the key is locked, the equipment will remind: "Buttons are locked! Push MENU button for 3s unlock button!"

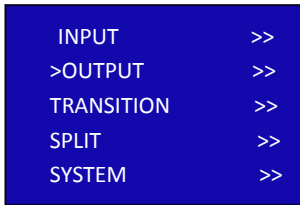|	
LICENSE SETUP	The device stops working over the prescribed time. No signal outputs. A password need to key in and then it will continue to work.
HOT BACKUP	User can enable or disable the hot backup function. Select "ON" to set the backup signal for BACKUP_1 to BACKUP_5. It will switch to the backup signal if interrupt signal.
DEPLAY RECALL	Delay output time setting.

3.3.8 FACTORY RESET

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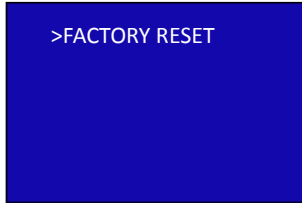
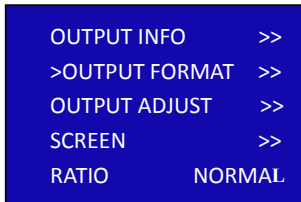| FACTORY RESET	Select "YES" or "NO". Select "YES" to restore default settings.

3.4 Output Resolution Setting

3.4.1 Select Output Resolution

1.Push 【**MENU**】button, enter the main menu as below and select **<OUPUT>**

```
  INPUT            >>
 >OUTPUT          >>
  TRANSITION      >>
  SPLIT            >>
  SYSTEM           >>
```

2. Rotate the knob, select **<OUTPUT FORMAT>**

```
  OUTPUT INFO      >>
 >OUTPUT FORMAT   >>
  OUTPUT ADJUST    >>
  SCREEN           >>
  RATIO        NORMAL
```

3. Rotate the knob, select **<STANDARD>**

```
 >STANDARD        >>
  CUSTOMIZED
```
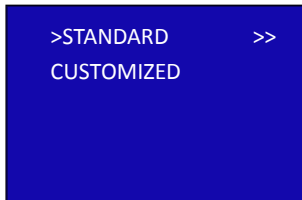
4. Rotate the knob, select the resolution

OUTPUT FORMAT   >>
>1980*1020
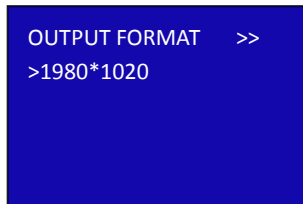
3.4.2 Customize Output Resolution

1.Push 【**MENU**】button, enter the main menu as below and select **<OUPUT>**

INPUT   >>
TRANSITION   >>
SPLIT   >>
SYSTEM   >>

2.Rotate the knob, select **<OUTPUT FORMAT>**

OUTPUT INFO   >>
>OUTPUT FORMAT   >>
  OUTPUT ADJUST   >>
    SCREEN   >>

3.Rotate the knob, select **<CUSOMIZED>**

```
STANDARD            >>
>CUSTOMIZED
```
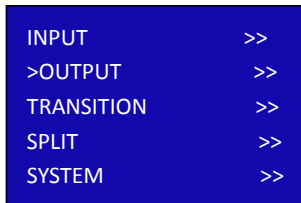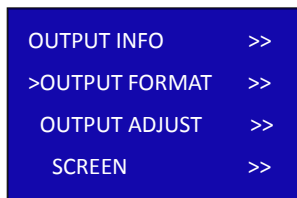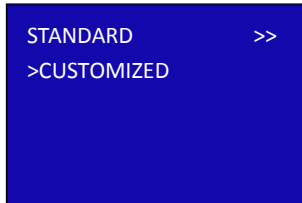
4.Rotate the knob and enter the menu below:

```
CUSTOMIZE:
>
```
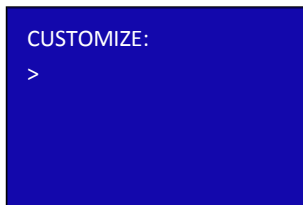
5.Key in the needed pixels of resolution by using the numeral

buttons on front panel and then Push【OK】

For example key in pixels 1536：

```
CUSTOMIZE
＊1536
```
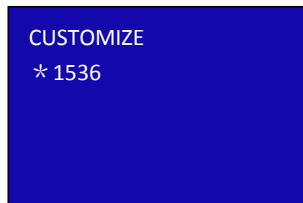
6.Key in the needed pixels of resolution in the same way

and 【OK】,for example key in pixels 1000

CUSTOMIZE
＊1536x1000
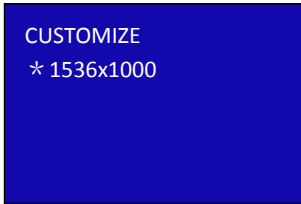
7.Key in the needed refresh rate and 【OK】

E.g. key in refresh rate 60：

CUSTOMIZE
＊1536x1000@60
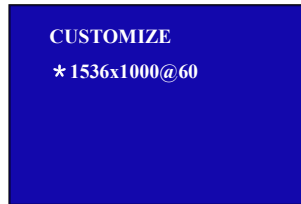
8.After resolution key in the device takes 5~10s to finish setting

3.5 Scale

Push【SCALE】button，rotate the knob to select the items, Push the knob or【OK】button, meanwhile the numeral buttons 0~9 lights are on，users can finish the setting by turning the knob or pushing the numeral buttons.

The SCALE menu as follows:

H SIZE	1920
V SIZE	1080
H POS	0
V POS	0
RESET	

H SIZE: set the horizontal pixels of output image

V SIZE: set the vertical pixels of output image

H POS: set the horizontal position of image

V POS: set the horizontal position of image

RESET: If operation is not proper, turn knob to <RESET> and start over.

3.6 Input Sizing Adjust

Push 【MENU】, select <INPUT>, push 【OK】, select <SIZING AJUST>, and push 【OK】again,
Enter the following menu:

H SIZE	1024
V SIZE	768
H POS	0
V POS	0
RESET SIZE	

H SIZE:set the horizontal pixels of input image to zoom or scale the input signal

V SIZE:set the vertical pixels of input image to zoom or scale the input signal

H POS:set the horizontal position of image；

V POS:set the horizontal position of image；

RESET SIZE:If the size is not proper, turn knob to RESET SIZE and Push 【OK】

MASK BOTTOM:crop the bottom of image

MASK LEFT:crop the left part of image

MASK RIGHT:crop the right part of image

RESET MASK: If the crop not proper, turn knob to RESET MASK and push 【OK】

```
MASK TOP              >>
MASK BOTTOM           >>
MASK LEFT             >>
MASK RIGHT            >>
RESET MASK
```

3.7 Single Picture Switching

When C1US powers on, system default is HDMI input signal. To

switch signal, push 【CVBS】,【VGA】,【DVI】 or 【SDI】. For

example, to switch to VGA, Push 【VGA】button and【HDMI】

button light goes off. If the VGA signal is invalid or not available,

the button flashes, otherwise the button constant light.

INPUT：HDMI

TAKE：VGA

OUTPUT：1920X1080@60

3.8 【PIP】Picture In Picture

Push 【PIP】button and button lights on. LCD shows the <PIP>

menu.

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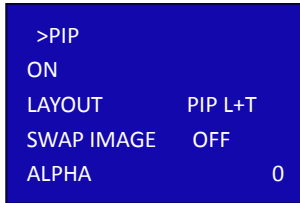
LAYOUT：

There are 7 layouts available in the menu. PIP L+T, PIP R+T, PIP

L+B, PIP R+B, PIP CENTER, PBP L+R and PBP T+B.

Here are 3 examples:
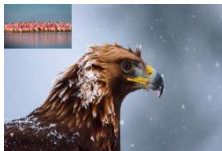
   PIP L+T   PBP L+R   PBP T+B

SWAP IMAGE：

Select **ON** or **OFF** to switch the main picture and secondary

picture (the small one).

ALPHA:

Image transparency setting, the adjustment range is 0 to 16

SECLECT：

Select IMAGE A or IMAGE B

For example, select image B, the settings such as scaling and sizing ajust will be available for image B.

PIP	ON
LAYOUT	PIP L+T
SWAP IMAGE	OFF
ALPHA	0
>SELECT	IMAGE B

3.9 SPLIT Setting

C1US can be used in multiple cascade mode to finish split. When do cascade, connect the signals to the signal distributor first, and then connect from the outputs of the signal distributor to each input of C1US. User can also do cascade via HDMI LOOP port.

Quick split can be finished as follows:

1.Push 【MENU】, turn the knob to select <SPLIT>

INPUT	>>
OUTPUT	>>
TRANSITION	>>
AUDIO	>>
>SPLIT	>>

.2.Push knob, turn it to ON and push 【OK】or the knob again.

>SPLIT	ON
H TOTAL	1920
V TOTAL	1080
H POS	0
V POS	0

> H SIZE	1920
V SIZE	1080
RESET	

H TOTAL:set the total horizontal pixels of the LED screen

V Total:set the total vertical pixels of the LED screen

H POS:select the total number of horizontal screens

V POS:select the total number of vertical screens

H SIZE:set the horizontal pixels this device will provide.

V SIZE: set the vertical pixels this device will provide.

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

3.10 TEXT OVERLAY Setting
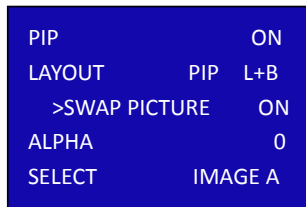
Text overlay function is to add subtitle on output image, more often used on such fields as live broadcasting, live concert, live commentary, and advertisement.

Before text overlay, the subtitle input channel need to be ensured, e.g subtitle input channel VGA

And the overlayed channel need to be decided, e.g overlay text on DVI channel.

Set as follows:

1. Push 【VGA】to check VGA input, LCD shows the VGA input.

2. Push 【DVI】to check DVI input, LCD shows the DVI input.

3.Push 【PIP】, make sure VAG is the small picture and DVI the big picture,

if not, turn the <SWAP PICTURE> "ON" in 【PIP】menu.

PIP		ON
LAYOUT	PIP	L+B
>SWAP PICTURE		ON
ALPHA		0
SELECT		IMAGE A

4. Select <SELECT> in 【PIP】menu, push【OK】 turn
Knob to select"IMAGE B", Push <SCALE> to set the size
and position of "IMAGE B" which the VGA picture in this
case.

PIP		ON
LAYOUT	PIP	L+B
SWAP PICTURE		ON
ALPHA		0
>SELECT		IMAGE

>H SIZE	>>
V SIZE	>>
H POS	>>
V POS	>>
RESET	

If there is black rim on top, bottom, left or right of the VGA

picture, use <MASK TOP>,<MASK BOTTOM>,<MASK

LEFT><MASK RIGHT> to crop the black rim.

5. Push【MENU】,select<OUTPUT>,push 【OK】；
Select <TEXT OVERLAY>, push 【OK】and enter <TEXT OVERLAY> menu as follows:

```
>TEXT OVERLAY      ON
 PRESET      WhOnBk1
 BLEND MODE   MODE1
 BLEND LEVEL      12
 STAND        ABOVE
```

6.Select <PRESET>Push 【OK】and turn the knob to
 "WhOnBk1"or "WhOnBk2" and Push 【OK】again
 Note:TEXT OVERLAY only support monochrome subtitles.

```
 TEXT OVERLAY      ON
>PRESET      WhOnBk1
 BLEND MODE   MODE1
 BLEND  LEVEL      12
 STAND        ABOVE
```

7.Push 【SAVE】to save the TEXT OVERLAY as preset. Next time to use, just 【LOAD】the save, the preset TEXT OVERLAY setting can be used directly.

```
 SAVE TO
>SAVE1


 KEY ON FOR EMPTY
 FLASH IS FOR USED
```

3.11 Screen Size Setting

The setting of <SCREEN> is based on the resolution of the LED screen,applicable under single picture mode. For example to display picture on a LED screen with resolution 1408x832, first of all, a resolution close to or bigger than 1408x832 shall be selected. In this case, 1440x900 or resolution above will be proper choice. The closer to the LED screen resolution, the better the display will be.

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.

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

SCREEN SIZE — FS — FULL SIZE
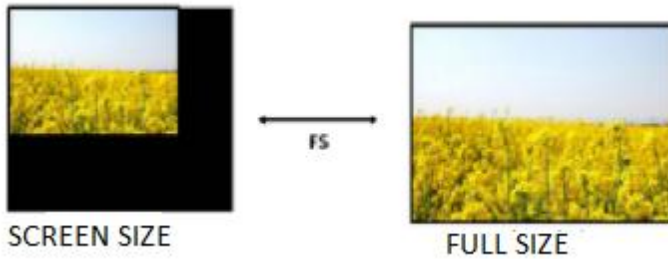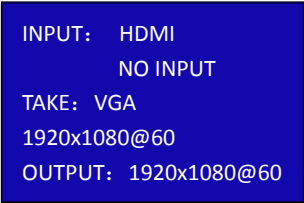
H SIZE	1408
V SIZE	832
H POS	0
V POS	0
MODE	FULL SIZE

Note：Users can also set <SCREEN> by【FS】. Push FS, button light on, Led display image in screen size, Push 【FS】again, button light off, Led display image in full size.

3.12 【TAKE】 Button

1. Keep Pushing【TAKE】button for 3s and the light is on, indicating that the TAKE is enabled.

2. Choose the signal about to switch for example users want to switch to 【VGA】signal, push【VGA】and button light flashes. The LCD shows the selected signal as follows:

INPUT： HDMI
         NO INPUT
TAKE：VGA
1920x1080@60
OUTPUT：1920x1080@60

3.Push 【TAKE】, the selected signal will be switched as set in TRANSITION

3.13 TRANISITION

Push【MENU】,select<TRANSITION>,push 【OK】

```
INPUT              >>
OUTPUT             >>
>TRANSITION        >>
AUDIO              >>
SPLIT              >>
```

Enter the menu as below/;

```
>MODE
FADE
DURATION        0.5S
ALPHA             16
DEINTERLACE      ON
```

MODE:special effects switching modes, including FADE, CUT, WIPE SOUARE IN, WIPE SOUARE OUT, WIPE TOP LIEFT IN, WIPE TOP LIEFT 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

DURATION:set the transition time ranging from 0 to 1S by rotating the knob and pushing 【OK】.

ALPHA:set the image transparency ranging from 0 to 1S by rotating the knob and Pushing 【OK】.

DEINTERLACE:select ON or OFF to enable or shut down the deinterlacing function

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

3.14 AUDIO Setting

Push【MENU】, select<AUDIO>, push 【OK】

Enter the menu below:

```
>MUTE          OFF
VOLUME          59
AUDIO IN     IMAGEA
HDMI        INTERNAL
```

MUTE: Select ON or OFF

Volume:adjustment range from 0 to 100

AUDIO IN:select the source of the input audio from IMAGE A or IMAGE B

HDMI:select internal or external audio for HMDI input

3.15 BLACK OUT Setting

Black out descriptions:

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

C1US provides black effect processing for output with cut black effect. Operation is as below:

Push【MENU】,select <OUTPUT>,push 【OK】;

Turn knob to seclect<DISPLAY MODE>, push 【OK】;

Select<MODE>,Push 【OK】;

Turn knob to select BLACK OUT, push 【OK】.

```
TEXT OVERLAY        >>
>DISPLAY MODE       >>
GAMMA            LINEAR
```

```
*MODE        BLACK OUT
TEST PATTERN       >>
SOILD COLOR        >>
```
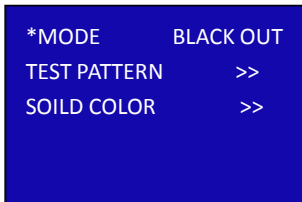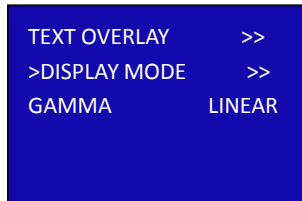
After BLACK OUT, the LED screen show black screen. The process is as below:

3.16 FREEZE

Freeze one frame of current picture to hide the back stage operation.

Push 【FREEZE】button on the front panel,it will freeze the

current playing image. If under TAKE state, the frozen image is

from the input about to switch.

```
INPUT：      CVBS

OUTPUT：
1920X1080@60
DISPLAY MODE：FREEZE
```
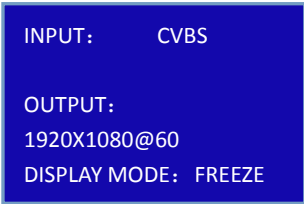
3.17 【BRI】Image Adjustment

Push【BRI】button and enter the image adjustment menu where users can adjust brightness, constrast, saturation,sharpness, color temperature of red, green and blue.

BRIGHTNESS:range from 0 to 100

CONTRAST:range from 0 to 100

SATURATION:range from 0 to 100

SHAPRNESS:range from 38 to 62

RED:range from 0 to 100

GREEN:range from 0 to 100

BLUE:range from 0 to 100

RESET: If image quality distorts by improper operation, it can be recover by reset
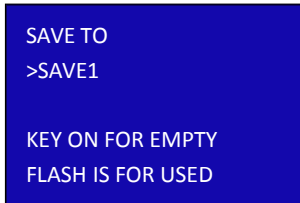
*BRIGHTNESS	50
CONTRAST	55
SATRUATION	50
SHARPNESS	50
RED	50

GREEN	50
BLUE	50
RESET	

3.18 【SAVE】Save Settings

Push the 【SAVE】 button, the button light is on, and enable the SAVE function.
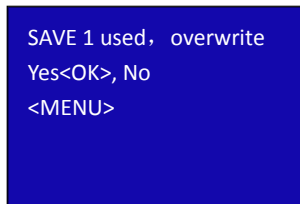
LCD shows instruction info to assist users complete operation. Meanwhile, part of numeral buttons 0~9 lights are on and parts flash. Buttons with lights on are empty, flashing buttons are used. LCD shows as below:

```
SAVE TO
>SAVE1

KEY ON FOR EMPTY
FLASH IS FOR USED
```

Saving to flashing positions will overwrite previously saved settings. For example, button 1 is flashing, after Pushing button 1, LCD shows.Push OK to confirm, MENU to cancel.

```
SAVE 1 used，overwrite
Yes<OK>, No
<MENU>
```
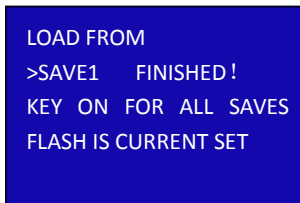
3.19 【LOAD】Recall Saved Settings

Push 【LOAD】LCD shows the instruction information to assist users complete LOAD operation.

Meanwhile, among numeral buttons 0-9, some buttons lights are on, some flash and perhaps some lights are off.

Buttons with light on indicate the <save> ready to load, flash indicate the <save> is currently loaded, light off indicate no save to load.For example button 1 light is on, Push button 1 to load <save1>

LCD shows below:

```
LOAD FROM
>SAVE1     FINISHED！
KEY  ON  FOR  ALL  SAVES
FLASH IS CURRENT SET
```

Push MENU to exit LOAD, the button lights go out.

CHAPTER 4 ORDERING CODES

4.1 PRODUCT

110-3000-01-0   C1US

4.2 OPTIONS

4.2.1   Input Options

190-0001-02-1   VGA Input-1xVGA

190-0001-04-1   DVI Input-1xDVI

190-0001-06-1   HDMI Input/Loop Out 1xHDMI (with loop)

190-0001-07-1   3G-SDI Input/Loop Out 1xSDI (with loop)

190-0001-09-1   CVBS In/Backup 1×CVBS + CVBS BACKUP

190-0001-10-1   USB In/Backup 1×USB + USB BACKUP

190-0001-03-1   Display Port Input （DP1.1）1 × Display Port

CHAPTER 5 Support

5.1 Contact Us

Contact Us

Web
www.rgblink.com

Phone
+86-592-577-1197

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

Social Media
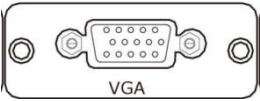
@RGBLINK   /rgblink   +rgblink   /rgblink   rgblink   rgblink

CHAPTER 6 APPENDIX
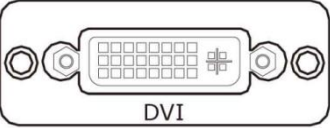
6.1 Specification
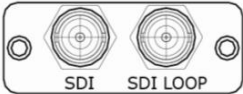
CVBS Input	
Number of Inputs	1
Connector	BNC
Interface Appearance	 CVBS IN
Supported Standard	PAL/NTSC
Signal Level	1Vpp±3db (0.7V Video+0.3v Sync) 75 ohm
Supported Resolution	480i | 576i

VGA Input	
Number of Inputs	1
Connector	DB15
Interface Appearance	VGA-UXGA
Supported Standard	
Signal Level	R G B Hsync Vsync:0 to1Vpp±3dB (0.7V Video+0.3v Sync) 75 ohm black level: 300mV Sync-tip: 0V
Supported Resolution	VGA-UXGA 800×600@60 | 1024×768@60 1280×1024@60 | 1440×900@60 | 1600×1200@60

HDMI Input	
Number of Inputs	1
Connector	HDMI-A
Interface Appearance	 HDMI IN HDMI LOOP
Supported Resolution	SMPTE 625/25/50 PAL, 525/29.97/59.94 NTSC, 720p50/59.94/60 | 1080i50/59.94/60 | 1080P50/59.94/60
	VESA 800×600@60 | 1024×768@60 | 1280×768@60 | 1280×1024@60 | 1600×1200@60 | 1920×1080@60
Signal Level	TMDS pwl, single pixel input,165MHz bandpixels
Supported Standard	HDMI 1.3
HDMI Loop Out	
Number of Loop Out	1
Connector	HDMI-A
Supported Resolution	SMPTE 625/25/50 PAL, 525/29.97/59.94 NTSC, 720p50/59.94/60 |

		1080i50/59.94/60 | 1080P50/59.94/60
	VESA	800×600@60 | 1024×768@60 | 1280×768@60 | 1280×1024@60 | 1600×1200@60 | 1920×1080@60
Supported Standard	HDMI 1.3	

DVI Input	
Number of Inputs	1
Connector	DVI-I
Interface Appearance	
Supported Resolution	SMPTE 480i NTSC,576i PAL, 720p50/59.94/60 | 1080i50/59.94/60 | 1080p50/59.94/60 VESA 800×600@60 | 1024×768@60 | 1280×768@60 |1280×1024@60 | 1600×1200@60 | 1920×1080@60
Signal Level	TMDS pwl, single pixel input, 165MHz band width

3G-SDI Input	
Number of Inputs	1
Connector	BNC
Interface Appearance	
Data Rate	2.97Gb/s | 2.97/1.001Gb/s | 1.485Gb/s | 1.485/1.001Gb/s | 270Mb/s
Supported Standard	SMPTE 425M - 3G Level A and Level B
Supported Resolution	SMPTE 425M (3G Level A) 4:2:2 — 1920×1080/60 (1:1) | 1920×1080/50 (1:1)
	SMPTE 425M (3G Level B DS1 and DS2) 4:2:2 — 1920×1080/60 (2:1) | 1920×1080/50 (2:1)
	SMPTE 296M (HD) — 1280×720/50 (1:1) | 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
SDI Loop Out	
Number of Loop Out	1
Connector	BNC
Data Rate	2.97Gb/s | 2.97/1.001Gb/s | 1.485Gb/s | 1.485/1.001Gb/s | 270Mb/s
Supported Standard	SMPTE 425M - 3G Level Aand Level B

	SMPTE 425M (3G Level A) 4:2:2	1920×1080/60 (1:1) | 1920×1080/50 (1:1)
	SMPTE 425M (3G Level B DS1 and DS2) 4:2:2	1920×1080/60 (2:1) | 1920×1080/50 (2:1)
Supported Resolution	SMPTE 296M (HD)	1280×720/50 (1:1) | 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 Output	
Number of Inputs	2
Connector	DVI-I
Signal Level	TMDS pwl, single pixel input,165MHz band width
Supported Resolution	SMPTE 625/25/50 PAL, 525/29.97/59.94 NTSC, 720p50/59.94/60|1080i50/59.94/60|1080P50/59.94/60 1280×720@23.98 | 1280×720@24 | 1280×720@25 | 1280×720@29.97 | 1280×720@30 | 1920×1080@23.98 | 1920×1080@24 | 1920×1080@25 | 1920×1080@29.97 | 1920×1080@30 VESA 800×600@60 | 1024×768@60 | 1024×768@75 | 1280×720@60 | 1280×720@50 | 1280×768@60 | 1280×800@60 | 1280×1024@60 | 1360×768@60 | 1366×768@60 | 1400×1050@60 | 1440×900@60 | 1600×1200@60 | 1680×1050@60 | 1920×1080@60|1920×1080@50 | 1920×1200@60|2048×1152@60 | 2560×812@60 | 2560×816@60

Features	
Grey Processing	10 bit
Transition mode	Cut, Fade
Frame Rate Delay	2
EDID Management	Yes
'Sending card	Built-in slots for 2 sending cards (support one big card)

Accessories and Operating Condition	
Communication	RJ11/RS232 USB 2.0
Input Voltage	AC100-240V/50-60HZ
Max Power	66W
Working Temperature	0°C~45°C
Working Humidity	10%~85%
Warranty	3 Years

6.2 Upgrade Device

We offer upgrade software pack and tool on our website.

1. Download firmware and upgrade tool package
https://rgblink.com/product-detail?id=758

Downloads

		Lang	Version	Date		Size	Format	
C1US	Firmware	EN	V1.38	20181212		34.4MB	ZIP	

While XTOOLS is packaged with firmware when released, we nonetheless recommend downloading the latest version of the XTOOLS update tool HERE.

*some products pictured with optional modules and accessories. Refer to specifications and guides for details.

2. Upzip the the file

Upgrade File	2018/12/19 15:20	文件夹
Upgrade Tool	2018/12/19 15:17	文件夹
C1US Release Notes_V1.38_20181219	2018/12/19 15:14	WPS PDF 文档
C1US Upgrade Guide_Rev.1_2018110...	2018/11/8 18:26	WPS PDF 文档

3. Follow the C1US Upgrade Guide to install the Upgrade Tool, connect computer and C1US and upgrade C1US.

6.3 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, exPushed 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 uncomPushed 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 comPushion for photographic images using a discreet cosine transfer function. The degree of comPushion can be adjusted, allowing a selectable tradeoff between storage size and image quality. JPEG typically achieves 10:1 comPushion 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 comPushion, storage and transmission of moving image information such as motion video, CD-quality audio, and control data at CD-ROM

bandpixels. The MPEG algorithm provides inter-frame comPushion of video images and can have an effective comPushion 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.

6.4 Revison History

The table below lists the changes to the Video Processor User

Manual.

Version	Time	ECO#	Description	Editor
V1.0	20190107	001	Release	Fanny
V1.1	20190212	002	Change product order code	Fanny