

# CV-503SGL

## HDMI to 3G/HD/SD-SDI Scaler Converter with Genlock

### User Manual



Full HD  
1080

WUXGA  
x1920  
x1200

 x.v.Color

CAT-5e/6/7  
SINGLE  
PATENTED

7.1 CH  
AUDIO



rev: 140509  
Made in Taiwan



## **Safety and Notice**

The **CV-503SGL HDMI to 3G/HD/SD-SDI Scaler Converter with Genlock** has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the **CV-503SGL** should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on this unit.
- Do not attempt to service this unit yourself, except where explained in this manual.
- Provide proper ventilation and air circulation and do not use near water.
- Keep objects that might damage the device and assure that the placement of this unit is on a stable surface.
- Use only the power adapter and power cords and connection cables designed for this unit.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.



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# INTRODUCTION

The **CV-503SGL HDMI to 3G/HD/SD-SDI Scaler Converter with Genlock** provides a professional way to convert HDMI to 3G/HD/SD-SDI in real time. The conversion between HDMI and SDI is pure digital and guarantees no loss transformation for both audio and video. Plus, with up to 8 channels audio support, 7.1 channel or 5.1 channel audio becomes available. The CV-503SGL provides low jitter SDI output and also supports genlock.

## FEATURES

- IR remote control
- Remote control via Mini-USB
- OSD control interface
- Genlock supported
- Input maximum pixel rate : 165MHz
- Output bandwidth 2.970Gpbs
- Supports multiple VESA resolutions
- Deinterlacer supported
- Supports noise reduction and video enhancement features
- Over / under scanning adjustable
- Video H/V mirror supported
- Active video area adjustment supported
- USB firmware upgradable for expanding compatibility
- Wall-mount housing design for easy installation

## PACKAGE CONTENTS

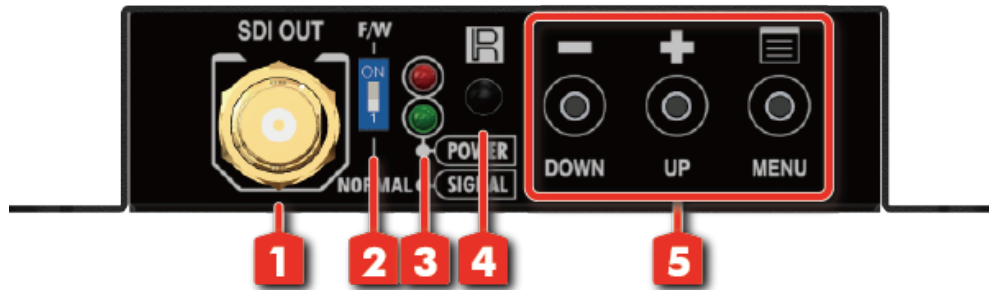
- 1x CV-503SGL
- 1x 5V/2A power supply unit
- 1x IR Remote control
- 1x User Manual
- 1x Installation software CD

# SPECIFICATIONS

Model Name	CV-503SGL	
Technical		
Role of usage	HDMI to SDI Converter	
SDI standards	SD-SDI, HD-SDI & 3G-SDI	
Input Video Frequency bandwidth	165MHz	
Output Video bandwidth	2.970Gpbs, 2.970/1.001Gpbs	
Output Video support	[3G] 1080p @50/59.94/60Hz (4:2:2) [HD] 720p @50/59.94/60Hz, 1080i @50/59.94/60Hz, 1080p @24/30Hz [SD] NTSC @59.94Hz, PAL @50Hz	
Audio support	PCM 2 (32KHz–192KHz Fs sample rate)	
ESD protection	[1] Human body model — ±19kV [air-gap discharge] & ±12kV [contact discharge] [2] Core chipset — ±2kV	
PCB stack-up	4-layer board [impedance control — differential 100Ω; single 50Ω]	
Firmware update	Feasible via USB Port	
CEC Channel	N/A	
Input	1x HDMI + 1x BNC [SDI]	
Output	1x BNC [SDI]	
BNC connector	3G 75Ω inter-locked socket	
HDMI connector	Type A [19-pin female]	
USB connector	Mini B	
Mechanical		
CV-503SGL		
Housing	Metal enclosure	
Dimensions [L x D x H]	Model	92 x 83 x 28mm [3.6" x 3.3" x 1.1"]
	Package	175 x 128 x 134mm [6.9" x 5" x 5.3"]
	Carton	662 x 366 x 290mm [2'2" x 1'2" x 1']
Weight	Model	270g [9.5oz]
	Package	520g [18.3oz]
Fixedness	Wall-mounting case with screws	
Power supply	5V 2A DC	
Power consumption	5 Watts [max]	
Operation temperature	0~40°C [32~104°F]	
Storage temperature	-20~60°C [-4~140°F]	
Relative humidity	20~90% RH [no condensation]	

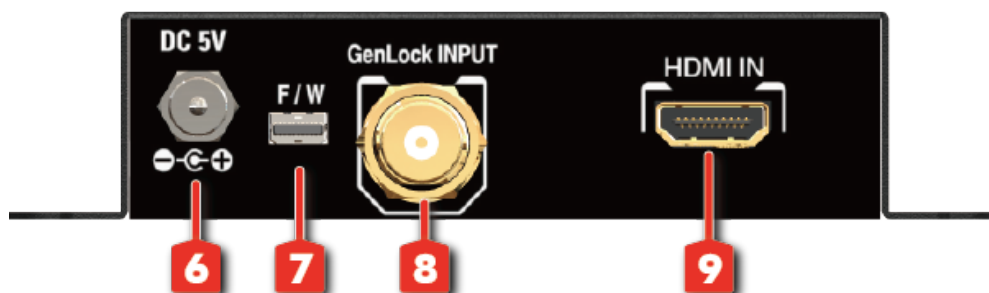
# PANEL DESCRIPTION

## Front Panel



- 1. SDI OUT:** 3G/HD/SD-SDI output
- 2. DIP SWITCH:** For firmware update  
ON [↑]: firmware update mode  
OFF [↓]: normal mode
- 3. LED INDICATOR:**  
[green]: signal indicator LED  
[red]: power indicator LED.
- 4. IR SENSOR:** IR sensor for receiving the IR commands from IR remote
- 5. PUSH BUTTON**  
[LEFT]: Down Button  
[MID]: Up Button  
[RIGHT]: Menu/Enter Button

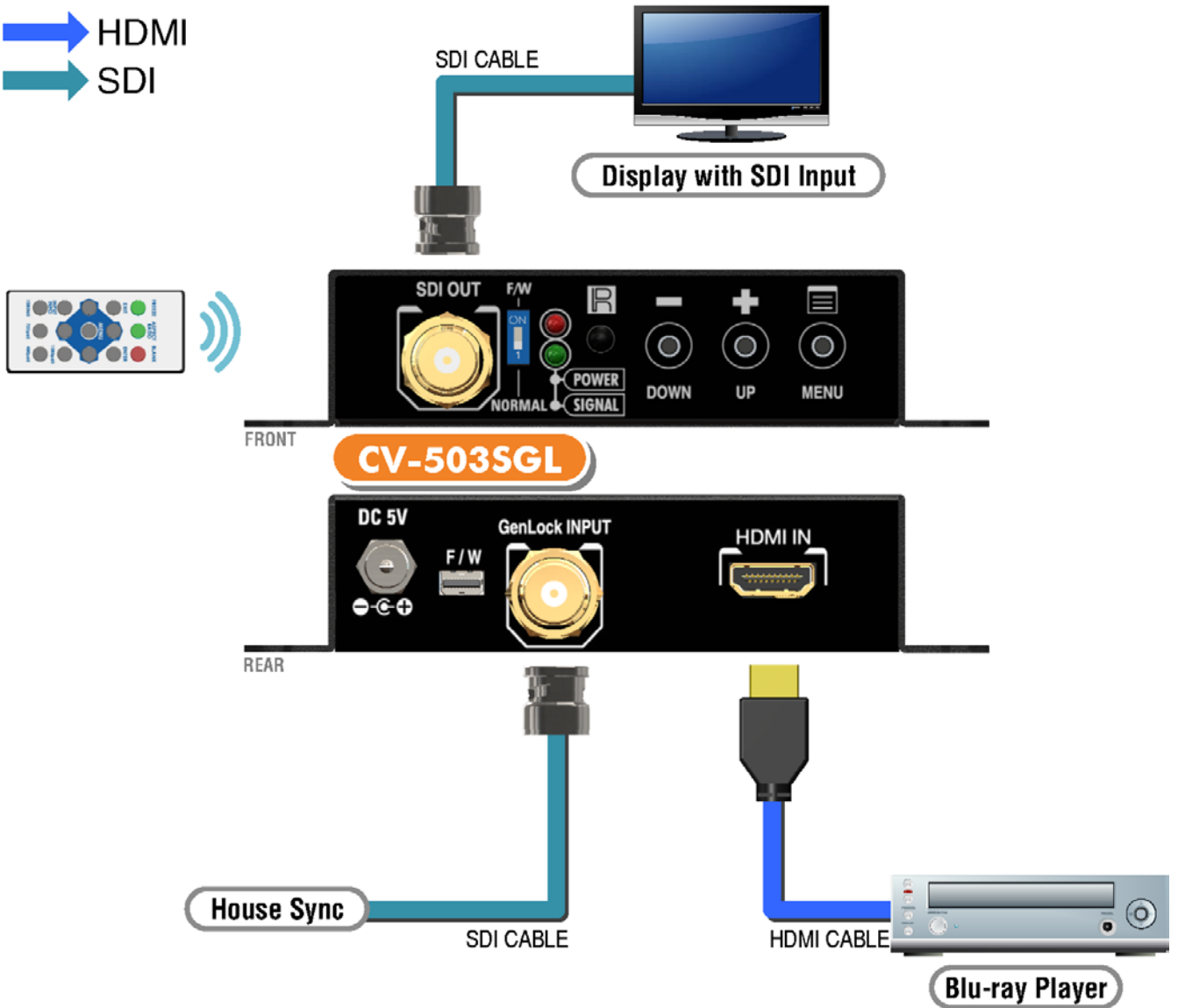
## Rear Panel



- 6. +5V DC:** Interlocking power jack for 5V DC power supply unit
- 7. Mini USB:** F/W update & control port
- 8. GENLOCK IN:** connect to a genlock source
- 9. HDMI IN:** Connect to a HDMI display source

# CONNECTION DIAGRAM

→ HDMI  
→ SDI



# OSD MENU

<b>1.Output Setup</b>	Out Res.	
	Output Mode	<b>YCbCr422</b>
	Default Pattern	Disable, White, Cross, Hatch, Color, Gray, Windows, H-Ramp, W-HRamp, W-VRamp, Diagonal
<b>2.Image</b>	Contrast	0~255 of Contrast Level
	Brightness	0~255 of Brightness Level
	Saturation	0~255 of Saturation Level
	Hue	0~255 of Hue Level
	B/W Extension	Off, On
	Color Tone	Off, Skin, Green
	Edge Enhance	Typ, Mid, Max, Off
	Sharpness	0~127 of Sharpness Level
<b>3.Adjustment</b>	Under/Over Scan	-50%~50% of Scan Level
	Aspect Ratio	16:9, 4:3
	H-Mirror	Off, On
	V-Mirror	Off, On
	H-Shift	-100~100 of H-Shift Level
	V-Shift	-50~50 of V-Shift Level
<b>4. System</b>	Input Res. Info	
	Clock Mode	Free-Run, Lock To HDMI, Lock To Genlock
	Firmware Version	
	Factory Reset	

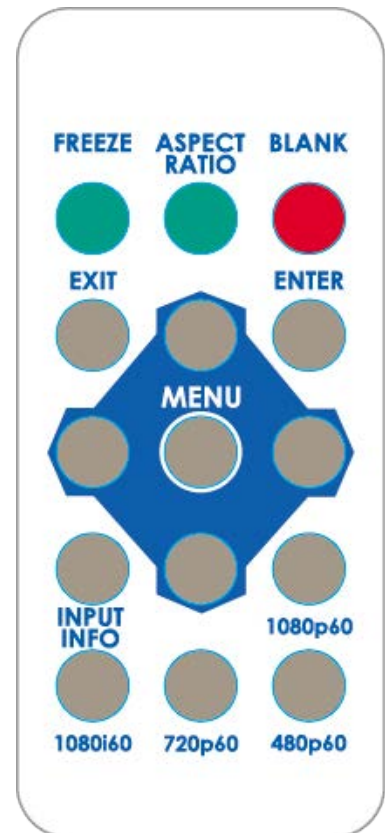
# OPERATION APPROACH

## Method A: Push-in Button



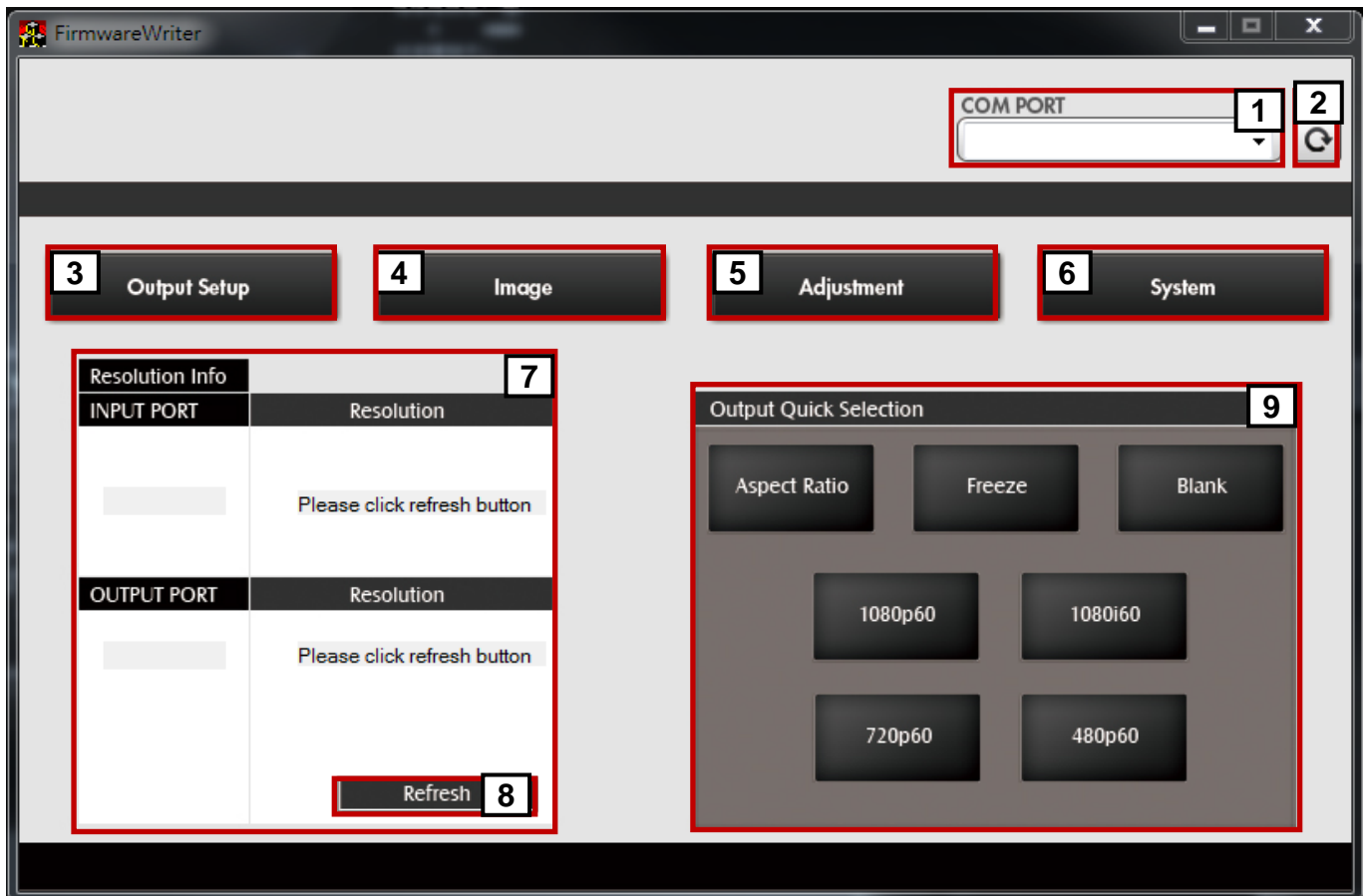
## Method B: IR Remote Control

Button	Function
<b>FREEZE</b>	Freeze video
<b>ASPECT RATIO</b>	Aspect ratio change
<b>BLANK</b>	Blank video
<b>EXIT</b>	Exit OSD
<b>ENTER</b>	Enter key
<b>UP</b>	Up key
<b>LEFT</b>	Left key
<b>RIGHT</b>	Right key
<b>DOWN</b>	Down key
<b>MENU</b>	Menu on
<b>INPUT INFO</b>	Source resolution information
<b>1080p60</b>	Select 1080p60 output resolution
<b>1080i60</b>	Select 1080i60 output resolution
<b>720p60</b>	Select 720p60 output resolution
<b>480p60</b>	Select 480p60 output resolution





## Method C: IR Remote Control through Mini-USB port




1	COM Port Selection
2	COM Port Detection Button
3	Output Setup Button
4	Image Button
5	Adjustment Button
6	System Button
7	Input / Output Resolution Info
8	Refresh Input / Output Resolution Info Button
9	Output Quick Selection Button

### 1. COM Port Selection

Please select the application COM PORT



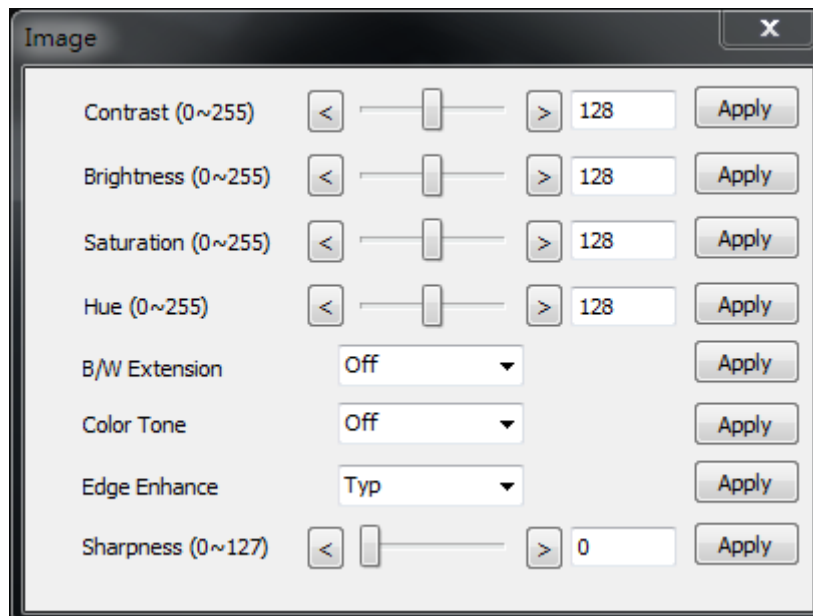
### 2. COM Port Detection Button

Click this button  to detect the COM PORT

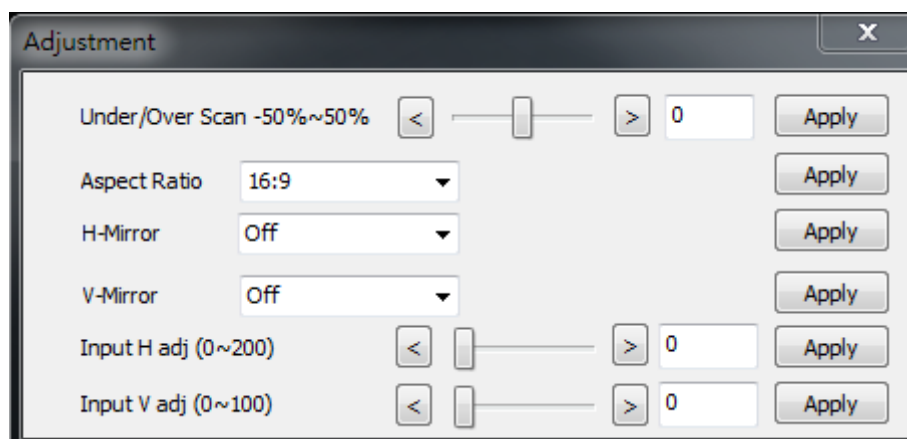
### 3. Output Setup Button



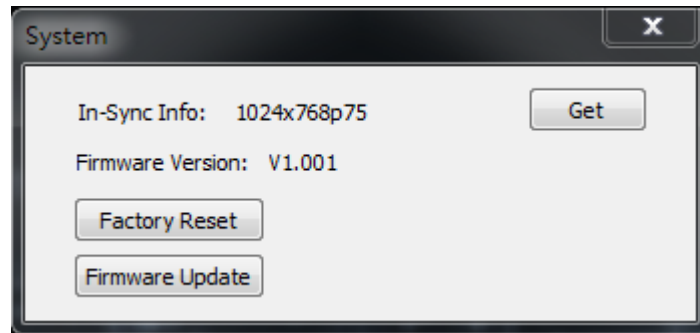
### 4. Image Button



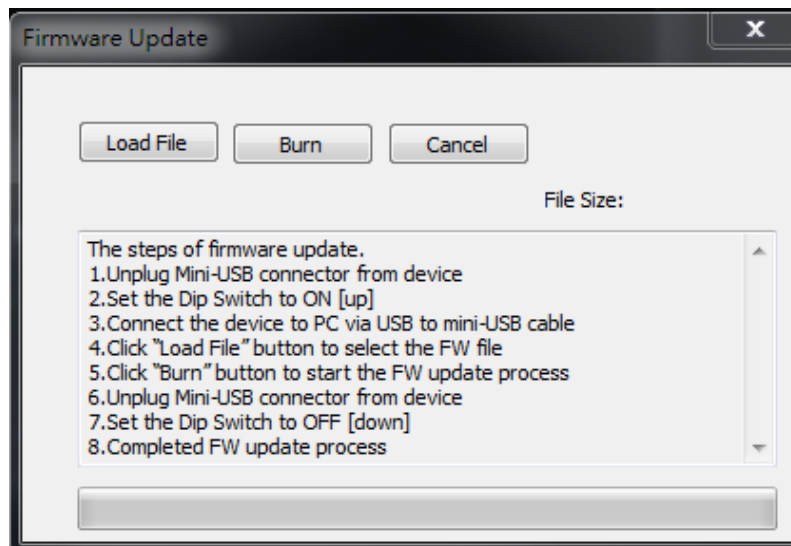
### 5. Adjustment Button



## 6. System Button



- 1) In-Sync Info:  
To view the current input resolution
- 2) Factory Reset Button
  - a) Click the "Factory Reset" button, then will be a pop-up windows
  - b) Click the "Sure" button on the pop-up windows to start factory reset
- 3) Firmware Update Button



The steps of firmware update:

- a) Unplug Mini-USB connector from device
- b) Set the Dip Switch to **ON [↑]**
- c) Connect the device to PC via USB to mini-USB cable
- d) Click the FW Update button on software
- e) Click "Load File" button to select the FW file
- f) Click "Burn" button to start the FW update process
- g) Unplug Mini-USB connector from device
- h) Set the Dip Switch to **OFF [↓]**
- i) Completed FW update process

## 7. I/O Port and Resolution Info

To display the information about the I/O Port and the applied Resolution

## 8. Refresh Button

To refresh the status of the converter

## 9. Output Quick Selection Button

Common functions for quick setting

# LIMITED WARRANTY

The SELLER warrants the **CV-503SGL HDMI to 3G/HD/SD-SDI Scaler Converter with Genlock** to be free from defects in the material and workmanship for 1 year from the date of purchase from the SELLER or an authorized dealer. Should this product fail to be in good working order within 1 year warranty period, The SELLER, at its option, repair or replace the unit, provided that the unit has not been subjected to accident, disaster, abuse or any unauthorized modifications including static discharge and power surges.

Unit that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for 90 days from the day of reshipment to the BUYER. If the unit is delivered by mail, customers agree to insure the unit or assume the risk of loss or damage in transit. Under no circumstances will a unit be accepted without a return authorization number.

The warranty is in lieu of all other warranties expressed or implied, including without limitations, any other implied warranty or fitness or merchantability for any particular purpose, all of which are expressly disclaimed.

Proof of sale may be required in order to claim warranty. Customers outside Taiwan are responsible for shipping charges to and from the SELLER. Cables are limited to a 30 day warranty and cable must be free from any markings, scratches, and neatly coiled.

The content of this manual has been carefully checked and is believed to be accurate. However, The SELLER assumes no responsibility for any inaccuracies that may be contained in this manual. The SELLER will NOT be liable for direct, indirect, incidental, special, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. **Also, the technical information contained herein regarding the CV-503SGL features and specifications is subject to change without further notice.**

