

USER MANUAL

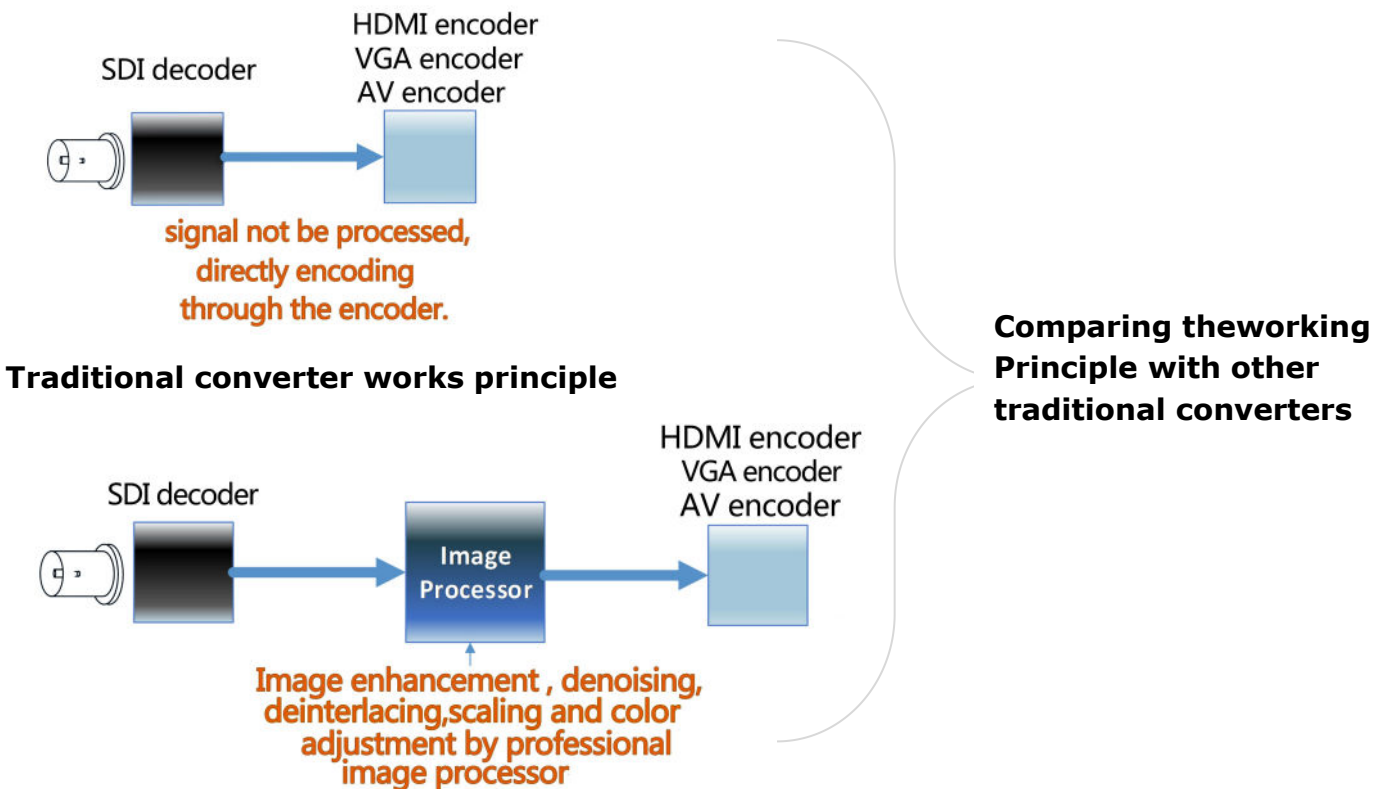


3G SDI to HDMI&VGA&CVBS Multifunction Video Converter

Before using this converter, please read this user manual clearly. Please strictly to follow our manual to use, or install and use under guiding by professional person, to protect your body safety and to avoid the encoder damage from physical and electrical. The product may be damaged if incorrect electrical connection or the physical installation, even threaten the body safety.

Description

SD/HD/3G SDI-HDMI&VGA&CVBS video converter is a high-quality, high-performance video signal conversion products, compatible with SD/HD/3G SDI signal, which built in high-performance cable equalizer, support the transmission distance up to 200 m HD-SDI, 3G-SDI signals up to 120 meters [Note: Meets Belden 1694A cable standards, SDI standard signal indicators]. Unlike the traditional converter products in current market ,our SD/HD/3G SDI to HDMI & VGA & CVBS converter which built in a professional image conversion processing chip, firstly will processing the image enhancement, noise reduction, de-interlacing (optional) function of SDI image before convert to HDMI interface, support the user-adjustable to set the saturation / brightness / contrast, and automatically adapt to the best HDMI display output format according to the connected DDC results of HDMI devices, or support the users output the fixed resolution, achieve the full format support (any SDI format all can be converted and output to HDMI), intelligent format conversion function and ensure excellent image quality to achieve to broadcast grade signal.



SD/HD/3G SDI - HDMI&VGA&CVBS converter working principle

SD/HD/3G SDI to HDMI&VGA&CVBS Video converter features:

- Compatible with SD/HD/3G SDI signal format;
- Professional SDI lightning protection design;
- Support image enhancement processing, denoising, deinterlacing (optional), smart resolution conversion and frame rate conversion, supporting any standard SDI video resolution converting to HDMI&VGA&AV.
- Color adjust like luminance/contrast ratio/saturation/hue are supported;
- 10 Bit color advanced treatment, no frame loss, no delay, broadcast grade quality;

- Support maintaining 4:3/16:9 proportion, avoiding video stretching proportion distortion;
- Support HDMI 1.4 standard, autoanalysis HDMI EDID (DDC processing), insuring only output the video forma supported by HDMI monitor. Optional 1080i de-interlacing; Optional HDMI output RGB/YUV color space;
- Support SDI audio umbeded, outputting dual track analog stereo sound;
- Support lock HDMI output format to insure no black screen when SDI signal cutting;
- With 1 CH SDI signal loopback;
- Outputting blue screen/black screen signal when SDI signal is losing;
- OSD display for output/input signal format;
- Support OSD and menu operation windows;
- Remote control, Chinese/English interface.

1. Device installation and connection guide



Please read the user manual clearly before install the converter, to avoid any incorrect connection to damage the converter, even threaten the body safety!

Open the box, please check the product and accessory are completely before install:

- 1) SD/HD/3G SDI-HDMI&VGA&CVBS video converter 1 set;
- 2) AC 110-220V input, DC 12V/1A output power supply 1 set;
- 3) Remote control 1 set;
- 4) User manual/product certification/warranty card 1 set.

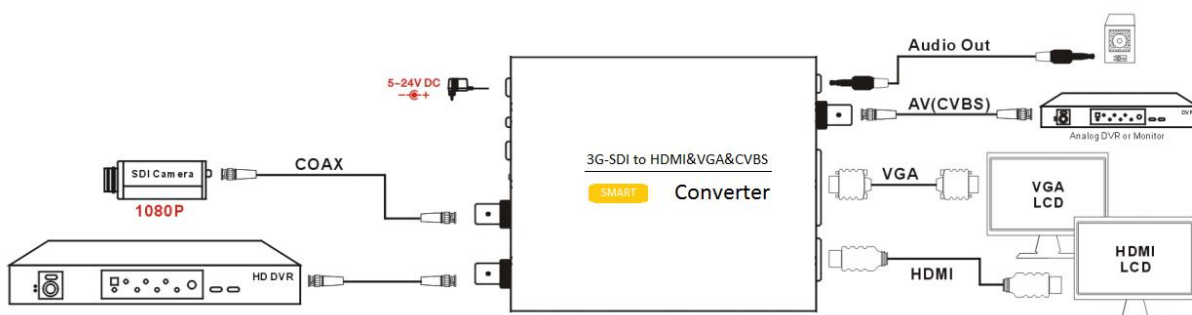
Before installing SD/HD/3G SDI-HDMI&VGA&CVBS video converter, you need to prepare as below:

- 1) The coax (75Ω) to connect SDI signal. As standard SYV-75-5-1C coax. The quality of poor coax will affect the SDI signal transmission distance directly;
- 2) The cable to connect HDMI signal;
- 3) The bracket and wire gong etc. for fixing SD/HD/3G SDI-HDMI&VGA&CVBS video converter.

Install and connect SD/HD/3G SDI-HDMI&VGA&CVBS Video notes:

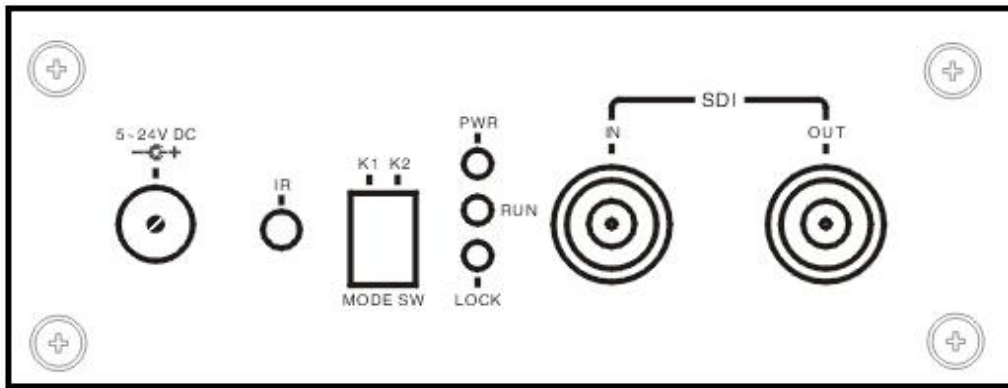
- 1) Strongly recommend you connect SDI and HDMI / VGA / CVBS (AV) cable at first, then connect the power supply.
- 2) Please connect the SDI signal to IN interface of converter; if you need the signal loopback, you can connect other SDI input device to out interface;
- 3) Please correctly connect the cable of HDMI/VGA/CVBS (AV) to displayer.

Device installation and connection diagram:



After installing and connecting the device, the device will work.

2. Device working instructions



SDI-HDMI&VGA&CVBS Converter instruction panel

There is a work light at one end of the panel output signal of SD/HD/3G SDI SDI-HDMI&VGA&CVBS video converter, after power on the PWR indicator light of device should steady, which means that the device is working.

The description of indicator light as below:

Indicator light	Status	Description
PWR	off	device is not connect the power supply or device can not start normally
	flashing	device is not work
	steady	device is connect the power supply and work
LOCK	off	no SDI signal input/the device cannot lock SDI signal
	flashing	the SDI input format is not effective
	steady	input SDI signal is normal, lock the SDI signal correctly
RUN	off	device is not work
	flashing/ steady	device is on working

3. Video conversion rule

Our converter can be output two video signals simultaneously, the output interface is HDMI+CVBS (AV) in default (factory settings). You can select the output interface is HDMI+VGA or VGA+CVBS (AV) by remote controller, or click the HDM\IVGA\AV on the remote controller directly to select.

Our converter support the below formats:

480i/576i/720p23.98/720p24/720p25/720p29.97/720p30/720p50/720p59.94/720p60/1080i50/1080i59.94/1080i60/1080p23.98/1080p24/1080p25/1080p29.97/1080p30/1080p50/1080p59.94/1080p60 various SDI standard format resolution.

Under the rules of the default (factory settings), the SDI-HDMI&VGA&CVBS video converter SDI input and HDMI output is the same format, VGA output default resolution is width/height and the closest to the format of the input signal resolution, CVBS (AV) output format is PAL in default. You can also select the output resolution by remote controller menu, or via the K1, K2 select (configure by the remote controller menu).

In the below various special causes, the SDI-HDMI&VGA&CVBS converter will do some special adjustments:

1) As some output interface is not support 720p23.98/720p24/720p25/720p29.97/720p30 format, so

the converter will convert the 720p23.98/720p29.97 to 720p59.94, convert the 720p24/720p25 to 720p50, convert the 720p30 to 720p60 output;

- 2) CVBS(AV) output format is 480i (NTSC) or 576i (PAL) any other format will be scaled and converted to PAL/NTSC format;
- 3) If some output interface can be not support some format(such as: if the EDID describe HDMI/VGA not support some format), then the converter will be converted to the closest to resolution and the output can be support format;
- 4) The users can be configured by remoter controller and will convert the interlace to progressive output(HDMI), under this condition, 1080i50/59.94/60 will be converted to 1080p50/59.94/60 output format;
- 5) The users can configure the output interface lock output one fixed format by remote controller, then the converter will be convert any input format to fixed output format, the output format does not change follow the input format;
- 6) If there is no signal input, or input signal is not correct, the last output image will stay 10 seconds, the output will be blue screen/black screen after 10 seconds. The last image and the size & time can be set by remote controller.

4. Remote controller operation



Please check the battery is properly installed when using in first time. Please place the remote's IR transmitter on to the receiver of converter when using the remoter controller.

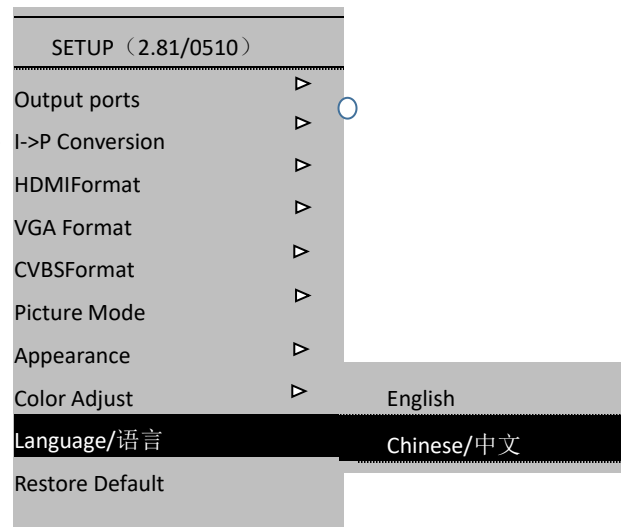
Basic operations of remote control button:

- **MENU** display/hide converter control menu
- **▲ ▼** select the menu option for up/down
- **▶** select menu item
- **◀** return to the previous menu
- **PWR/RESET** restore the device factory set
- **PICTURE** display current input/output video format
- **HDMI** select converter output video port to HDMI+VGA
- **VGA** select converter output video port to VGA+CVBS(AV)
- **AV** select converter output video port to HDMI+CVBS(AV)

Note: other remote control has not effect on the converter, but applicable to company's other converter model.

The pop-up remote control menu as shown on the right:

(Note: The menu contents maybe difference as the converter software version upgrades, please note that the content contained in this manual does not represent a true icon situation.)



5. Converter settings

1) Select video output interface

By remote controller menu "Output ports" can be selected the output video interface. Our converter can be converted video and output in the two interfaces simultaneously, the output interface include combination: HDMI + CVBS (AV), HDMI + VGA, VGA + CVBS (AV). If you select "Select by K1 & K2" that the outputs interface selection can be decided by a combination of DIP switch K1 and K2 as below:

K1: OFF/K2: OFF → HDMI+VGA

K1: OFF/K2: ON → HDMI+VGA

K1: ON/K2: OFF → VGA+CVBS (AV)

K1: ON/K2: ON → HDMI+CVBS(AV)

2) Output video format settings

Converter automatically (intelligent) converts the input format to the output format in default, as far as possible to select the same format as the input format to output; If the output interface is not support the input format, it will automatically select the closest and optimum output format. If you need, you can lock an output interface for a specific format. Set the HDMI output format by remote controller menu "HDMI format" in same case, you can set the format VGA output format by "VGA format", set the CVBS (AV) output format by "CVBS format". In the corresponding menu list, select the output format you want to lock.

When you select the video source in the setup menu "By the K1 & K2 SW", select K1, K2 combination rules decide the video source:

For HDMI:

K1: OFF/K2: OFF → default automatically convert

K1: OFF/K2: ON → 720P60

K1: ON/K2: OFF → 1080P30

K1: ON/K2: ON → 1080P60

For VGA:

K1: OFF/K2: OFF → default automatically convert

K1: OFF/K2: ON → 1280x720@60Hz

K1: ON/K2: OFF → 1920x1080@60Hz

K1: ON/K2: ON → 800x600@60Hz

(CVBS need to set by remote controller, can be not selected by K1&K2 combination)

3) HDMI output color space settings

To adapt to different HDMI / DVI display device, the converter can be set the HDMI output color space is "automatic identification", "RGB444", "YUV444" or "YUV422" mode. You can select the **corresponding color space** mode in the remote controller menu "**HDMI Format**". Please select "Fit input mode" in fault, in some special cases, if you find the display color is not correct (such as full-screen redness/greenish phenomenon) when connecting a monitor or some special displayer and other scenes, can be according to the actual situation to try to select a different color space.

4) De-interlacing

The converter will de-interlacing the video format 1080i50/59.94/60 then the output from HDMI. The converter be adopted the de-interlace algorithms and turn on 3D noise reduction to process the edge of the image which after de-interlacing, then make the image achieve the desired effect. You can select the remote controller menu to open or turn off "**I → P Conversion**" function.

5) Picture ratio adjustment

Converter defaults to "**Stretch**" mode conversion output. It is applicable to normal situation. However, the video ratio after stretching will be distorted if the input video signal is 576i 4:3 or 3:2 mode 480i signals to convert and output to 720p/1080p 16:9 wide screen. Meanwhile, the video converter output 16:9 to 4:3/3:2 format is the same problems. In this case, you can select "**Picture mode**"→"**Fit**" option by remote control menu, or "**Stretch**" mode to adjust. In the maintaining ratio mode, the video vertically or horizontally may add black padding border.

6) Turn on/off OSD video format information

Converter has the video input/output format of OSD (on the same screen OSD) information. If you want to turn off this prompt, select the remote control menu "**Appearance**" option, then select "**No tip info**". Otherwise, select "**Enable tip**".

7) Set the screen freeze time when SDI signal lost

The screen freeze of converter will stay last picture and last for 10 seconds when the SDI signal lost. It will output blue screen or a black screen after 10 seconds. The freeze time can be adjusted, select the remote control menu "**Appearance**", and select the time of maintenance screen, or turn off the maintenance function.

8) Select the menu language

Please select the menu language by remote control menu "**Language/语言**", supports Chinese and English.

9) Restore factory settings

The remote control menu "**Restore default**" is to restore the factory set, meanwhile all of the options before the user settings will be lost.

When the output of conversion comes out problems, the output interface does not display properly, you also can use the remote controller on to the converter's IR receiver, press the remote control's "**POWER**" button, wait about one second after pressing the "**POWER**" key again to restore the factory settings.

6. FAQ

1) The PWR indicator light is off

Please check the power supply whether is worked, or if the power supply meets the device of the standard (DC 12V/1A).

2) The PWR indicator light is flashing

Device fault. Need to contact the vendor for repairing.

3) LOCK indicator light is flashing, display output blue screen/black screen

SDI input signal is not normal(not locked), please check the connection of SDI signal whether is correct, please special pay attention that the SDI input signal cannot be connect to SDI out interface.

4) RUN indicator light is off

Please check the cable of HDMI/VGA whether is connected to displayer correctly, or whether the displayer is turn on. If the connection is normal, then it's the device fault.

5) RUN indicator light is on/flashing, no any display output

Try reset the video input interface (HDMI or VGA or CVBS), or turn on/off HDMI/VGA displayer. If the problem persists, press the POWER button on the remote control, wait for about one second, press the POWER button (restore factory settings) once again.

6) HDMI/VGA output video format and SDI input video format is inconsistent

See conversion rules describe in section III, our converter is not a simple converter, which built-in the professional graphic processing chip, which support video scaling & de-interlace&& frame rate & format conversion & color enhancement to satisfy the request of user. The various output formats can be selected by remote control to suit in different application place and some SDI input format is different in HDMI/VGA output.

If you want to set fixed HDMI/VGA output format, you can try to set the HDMI/VGA output format by remote controller. However, this may cause the receiving of the device does not support the HDMI/VGA format and can not display images. When the converter comes out the irregularities, press the POWER button on the remote control, wait about 1 second, press the POWER button again to restore factory settings.

7) HDMI/analog audio output no voice

Please check the SDI signal whether is with audio; then check the HDMI displayer whether support audio(some of displayer though with HDMI interface but not support audio, actual is DVI device).

8) JUST A DEMO PRODUCT ONLY! on the output screen

This product has encryption protection. The converter will appear above tips when encryption chip is damaged or the software is illegally copied. Please ensure that your product is purchased through normal channels, or not unpick the product. Please contact the manufacturer or authorized dealer.