USER MANNUAL

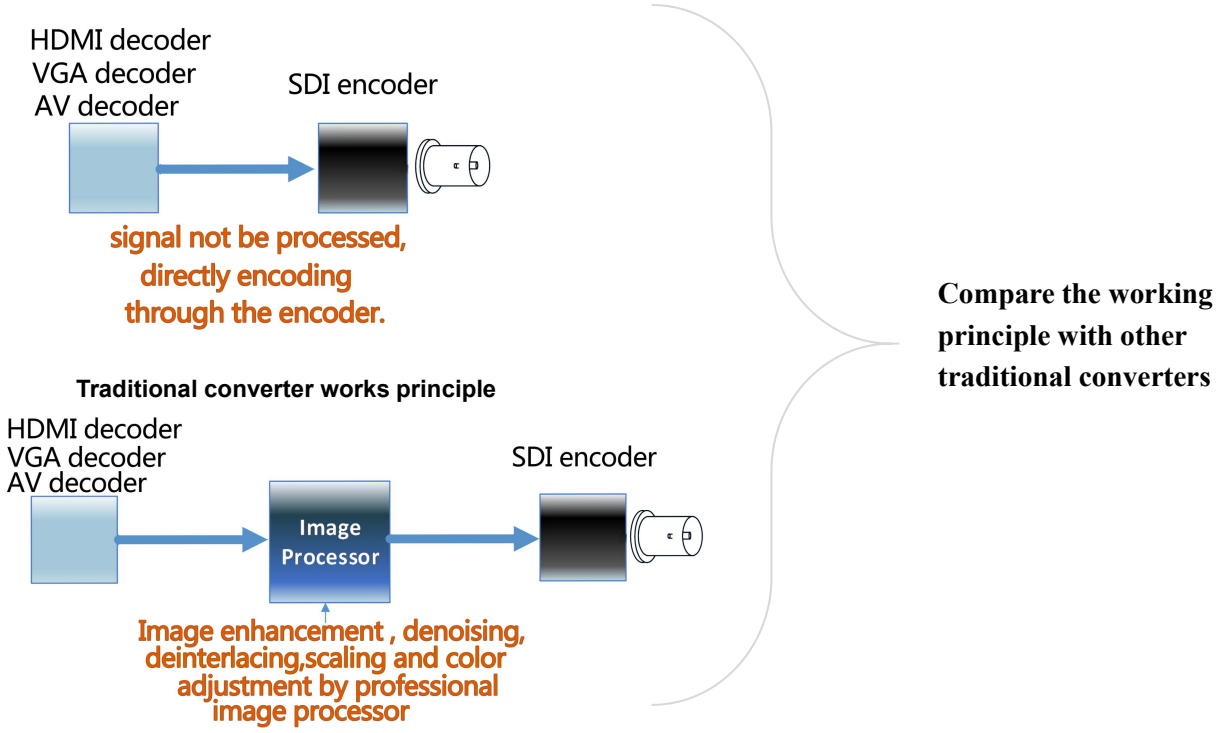
HDMI&VGA&CVBS to 3G SDI Multifunction Video Converter

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.

Copyright © Changsha KILOVIEW Electronics CO.,LTD. All rights reserved

Description

HDMI&VGA&CVBS-SD/HD/3G SDI video converter is a high-quality, high-performance video signal conversion products. It supports HDMI 1.4/HDCP 1.1, supporting HDMI, VGA and CVBS signal input and compatible with SD/HD/3G SDI signal. After professional design manufacturing craft, our converter is completely in conformity with SMPTE standard with broadcast grade quality, in the meantime, supporting 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 converter with built-in a professional image conversion processing chip, firstly it will process the image enhancement, noise reduction, de-interlacing (optional) function of SDI image before converting to. It supports image enhancement processing, denoising, deinterlacing (optional), smart resolution conversion and frame rate conversion, adjustable saturability/luminance/contrast ratio setting, through automatic scaling and frame rate conversion, converting any form video to standard SD/HD/3G-SDI signal, compatible with common HDMI, VGA and CVBS signal.



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

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

- Supporting transmission distance up to 200 m HD-SDI, 3G-SDI signals up to 120 meters (Test and verified by TEKTRONIX/PHABRIX, professional signal tester);
- Compatible with HDMI 1.4/HDCP 1.1, compatible with various VESA standard signal and up to 1920x1080@60Hz;
- Professional SDI lightning protection design;

Copyright © Changsha KILOVIEW Electronics CO.,LTD. All rights reserved

- Support image enhancement processing, denoising, deinterlacing (optional), smart resolution conversion and frame rate conversion, compatible with various video signal formats.
- Supporting HDMI DDC and VGA DDC function;
- Choosing SDI output support and 3G-SDI not support;
- Supporting lock SDI output format to insure no black screen or splash screen during signal conversion;
- Color adjust like luminance/contrast ratio/saturation/hue are supported;
- Output blue screen/black screen signal when signal is lost;
- OSD display input/output signal format;
- 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) HDMI&VGA&CVBS-SDI 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 HDMI&VGA&CVBS-SDI video converter, you need to prepare as below:

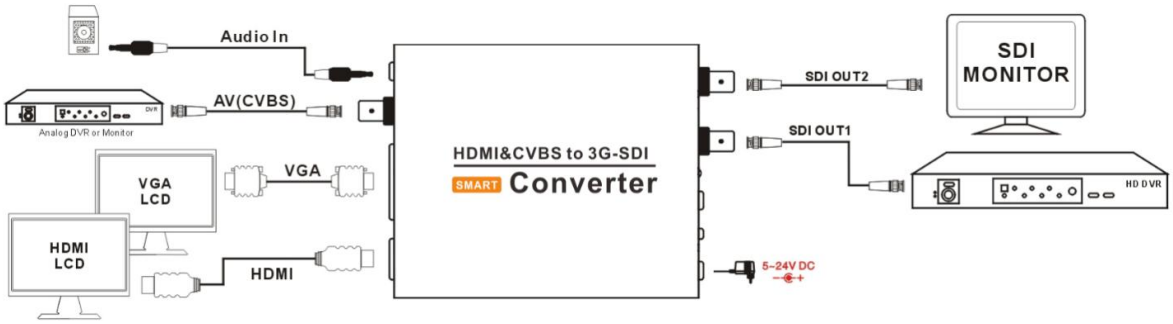
1) The coax (75Ω) to connect SDI signal. As standard SYV-75-5-1C coax. The quality of poor coax will affect the SDI signal transmission distance directly;
2) The cable to connect HDMI signal;
3) The bracket and wire gong etc. For fixing SD/HD/3G SDI-HDMI&VGA&CVBS video converter.

Install and connect HDMI&VGA&CVBS-SDI video converter notes:

1) Strongly recommend you connect SDI and HDMI / VGA / CVBS (AV) cable at first，then connect the power supply;
2) SDI signal output can connect either one of the two output port, or connecting simultaneously (drive two SDI monitors). If only connecting one, we strongly suggest users connect one 75Ω terminal resistance to the other output port, which can improve signal quality and driving capacity;
3) It is better not always hot plugging for HDMI/VGA/CVBS. Hot plugging HDMI/VGA/CVBS cable will lead to equipment trouble due to reasons of static shock.

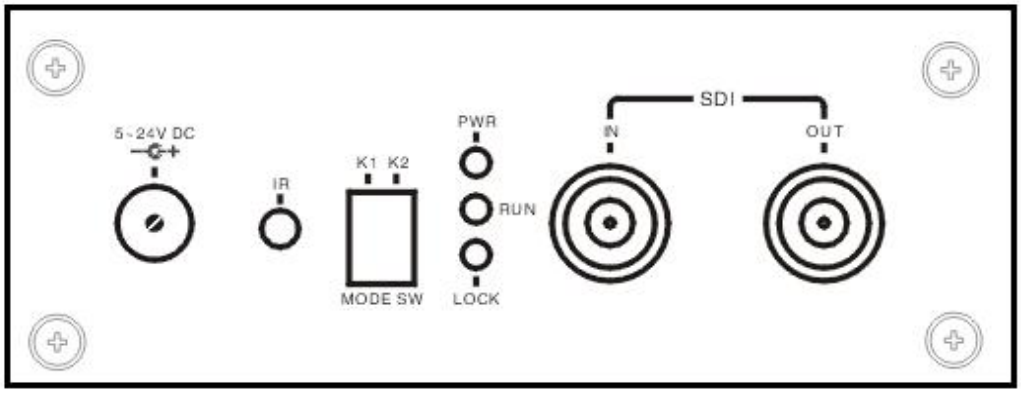
Copyright © Changsha KILOVIEW Electronics CO.,LTD. All rights reserved

Device installation and connection diagram:



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

2. Device works instructions



HDMI&VGA&CVBS-SD/HD/3G SDI Converter instruction panel

There is a work light at one end of the panel output signal of HDMI & VGA & CVBS-SDI 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

Copyright © Changsha KILOVIEW Electronics CO.,LTD. All rights reserved

3. Video conversion rule

Our converter supports all HDMI standard HD video resolution, VGA standard VESA resolution, 1280x720@60Hz/75Hz, 1920x1080@60Hz and some special VGA resolution. Under default rules, converter tries to keep the same output as the input format.

Under default rules, when converting video signal source is HDMI, audio is from HDMI; when converting video signal source is VGA or CVBS (AV) input, audio is from Line-in analog input. Audio source can be chosen by remote control.

can be output two video signal 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.

Under below particular cases, converter will make special treatment for video output:

1) As SDI don't support 640x480, 800x600, etc. VESA resolution, converter will automatically do scaling for VESA signal sent from VGA signal and HDMI, outputting with the proximate SDI resolution. (Note: as VESA length-width ratio is different from SDI length-width ratio, so some ratios will get distortion. If keeping the ratio, user can set image scaling output ratio by remote control;

2) User can lock SDI output format by remote control setting, then converter can convert to locked output format from any input format, while not changing SDI output format due to input format changing;

3) If no signal input or incorrect signal input, output will keep the last video image for 10 seconds; 10 seconds later, it will output blue screen/black screen (Note: new version products output black screen, old version output blue screen). Whether keeping the last image or the time for keep can be set by remote control.

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.

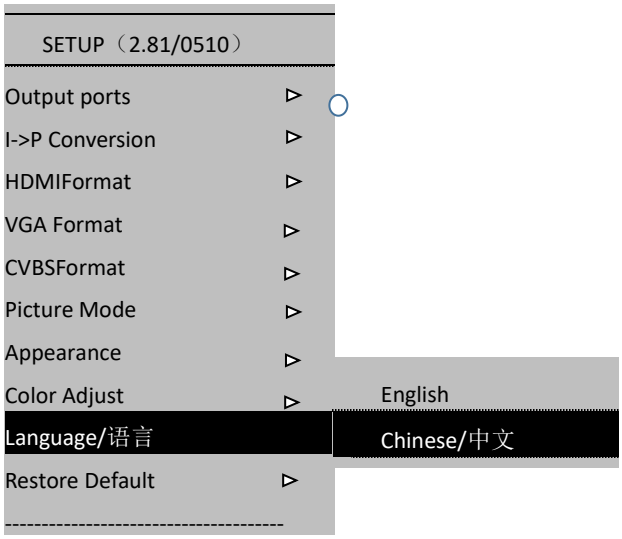
Basic operations of remote control button:

- MENU display/hide converter control menu
- ▲ ▼ select the menu option for up/down
- ▶ select menu item
- ◀ return to the previous menu
- POWER/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)

Copyright © Changsha KILOVIEW Electronics CO.,LTD. All rights reserved

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

Converter can choose either of these HDMI, VGA AND CVBS (AV) for convert video input port. The converter can automatically detect which port has been connected signal, according to the sequence of HDMI/VGA/CVBS/AV.

It can be manually choosing input signal port on the popping menu of "video signal source".

When choosing video signal source "choosing by K1&K2" on the setting menu, video signal source is decided by below K1, K2 composition rules.

K1	K2	Signal source	K1	K2	Signal source
OFF	OFF	**CVBS**	ON	OFF	**HDMI**
OFF	ON	**VGA**	ON	ON	**Automatic detection**

2) Audio signal source settings

Select the remote control menu "**Audio Source**", select the audio source in the pop-up menu. When you select "**Auto selection**" (the default situation), when the video input is HDMI, then the audio source is HDMI; other audio source is Line In.

3) SDI output format settings

Select the remote control menu "**SDI Output**", you can set whether to support 3G SDI output, and select the output resolution. In the menu, select "**Support 3G**", SDI will be based on the video source, automatically decide the SDI output is SD, HD or 3G format; If you select "**Support HD / SD**", when the video signal is 1080p50/1080p60, SDI output will automatically convert to be 1080p25/1080p30. (Selecting the Support HD / SD can enhance the signal distance).

SDI output format selection "**Fit input mode**" (default setting of device), then start automatic

Copyright © Changsha KILOVIEW Electronics CO.,LTD. All rights reserved

conversion mode, the conversion rules as described in section III;

If you select a specific resolution, SDI will be locked the resolution of output no matter what input signal format.

When you select the menu "**By the K1 & K2 SW**", select K1, K2 combination decides the output format:

K1	K2	Output format	K1	K2	Output format
OFF	OFF	**Automatically adapt to input**	ON	OFF	**1080p30**
OFF	ON	**720p60**	ON	ON	**1080p60**

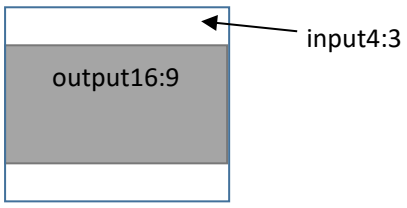
(Note: there is a adjustable resolution table on the back of converter)

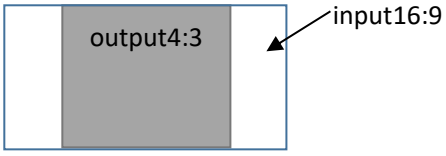
4) Picture ratio adjustment

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 widescreen. Meanwhile, the video converter output 16:9to 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.

"**Padding**" and "**Center**" model for advanced screen ratio adjustment mode, suitable for special occasions.

"**Padding**" mode indicates the input video screen zoom to the most appropriate screen size, but if the ratio of the input video is inconsistent with the ratio of the output video, while maintaining the aspect ratio of normal premise, the out of range part will be cut off. As shown below:





"**Center**" mode is not scaling and processing the input video, and directly output the original video to the middle position. If the input resolution is less than the output video resolution, then the picture is centered and around fill black-edged; if the input resolution is larger than output video resolution, then cut off the video and output to the middle position.

5) Turn on/off OSD video format information

Converter has the video input/output format of OSD (on 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**".

6) Set the HDMI&VGA&CVBS(AV) screen freeze time when signal lost

The screen freeze of converter will stay last picture and last for 10 seconds when the signal lost.

Copyright © Changsha KILOVIEW Electronics CO.,LTD. All rights reserved

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.

7) Select the menu language

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

8) 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 control 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 working, 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 still exits, press the POWER button on the remote control, wait for about one second, press the POWER button (restore factory settings) once again.

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

See conversion rules describe in section III, our converter is not a simple converter, which

Copyright © Changsha KILOVIEW Electronics CO.,LTD. All rights reserved

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 option by remote control to suit in different application place.
If you want to set fixed SDI output format, you can try to set the SDI output format by remote controller. However, this may cause the receiving of the device does not support the SDI format and cannot 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) SDI no signal

Under normal situations, the converter will output an SDI signal anyway! Even if there is no input signal, and will output a blue/black screen signal. If no SDI signal and nothing displayed on the monitor situation, please check your connection of cables, cable's quality.

8) SDI Output no sound

Please check the HDMI signal whether with audio source; or check the remote control menu settings, whether is selecting the correct audio signal source. If you select the audio signal source is derived from Line-In, make sure that the audio Line-In line is connected properly.

9) HDMI input, audio with noise

Please check the HDMI cable's quality at first. Most users have such problems, because of the quality problems of HDMI cable.

10) HDMI input, audio is intermittent or not normal

Audio of SDI signal standard requirement 48KHz sample, two-channel audio. Although the DDC to HDMI of converter data constraints, but part of the HDMI signal output (such as a video player, DVD player, etc) does not strictly follow the HDMI DDC specification, then output non-48KHz sampling audio. Try setup your HDMI signal source (if allow) and if this is not resolved, try to connect the Line In analog audio to the converter interface, and via the remote control menu to select the audio signal is Line In.

11) Images has grainy/highlight/black line

Please check the HDMI & VGA & CVBS connection cables, if necessary, replace the excellent quality cable.

12) SDI signal transmission distance is not achieve the standard

SDI signal transmission distance is affected by many limitations: (a) the quality of original SDI signal (the eye pattern &amplitude& timing jitter & alignment jitter of SDI signal can be

Copyright © Changsha KILOVIEW Electronics CO.,LTD. All rights reserved

analyzed via the signal analyzer, detect the signal whether follow the standard); (b) the quality of transmission coax; (c) the ability of SDI receiver in signal equalization, clock recovery, and so on. SDI output interface of our converter has professional design and testing, using SYV-75-5-1C cables meet the national standard testing, 1.485G HD-SDI signals can be transmitted 200 meters, 2.97/3G-SDI signal can transmit 100 meters. However, the actual transmission distance will be a little different due to the signal, coax, and environment is different.

13) 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 formal channels, or not unpick the product. Please contact the manufacturer or authorized dealer.

Copyright © Changsha KILOVIEW Electronics CO.,LTD. All rights reserved