

3G/HD/SD-SDI-TO-HSDA HSDA-TO-3G/HD/SD-SDI Broadcast Convertor

Operation Manual

KENSENCE INTERNATIONAL PTE LTD

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Safety Reminder

To protect the equipment and operating personnel from electrostatic discharge, you should check and ensure it is properly grounded before powering on. Please observe the following before you install, operate or perform maintenance.

Ensure equipment is properly grounded

- Please use single-phase three wire system AC 220V power supply, and ensure all transmission system is properly grounded.
- For the safety of operating personnel and the equipment, please turn off all power supplies and remove the plug before moving or performing physical task. Turn off main power switch on rainy days or when not in use for a long period of time.
- Please do not obstruct cable being plugged on the equipment, it should be properly tied and managed.
- To avoid damaging the equipment, please turn off power supply before plugging or removing power cable from equipment.
- When equipment in operation, it will dissipate heat. Please keep the working environment at normal temperature by providing good ventilation, so as not to damage equipment or cause malfunction.
- Do not store the equipment under extreme cold or hot environment. Chemical or liquid in the vicinity of the equipment should not be exposed.
- Non professionals without authorized, do not attempt to open the box, or repair.

1. Product Introduction

The 3GSDI-TO-HSDA or HSDA-TO-3GSDI is a broadcast signal convertor, capable of converting broadcast signal into analog or digital signal or vice versa. This product supports full HD 1080p @ 60Hz resolutions, audio embeds and de-embeds via stereo sound.

The 3GSDI-TO-HSDA or HSDA-TO-3GSDI was built and designed with advanced image processing technology. Signal integrity is maintained throughout the entire processing from source to destination, no loss of video information is expected.

The 3GSDI-TO-HSDA converts broadcast signal to CVBS+L/R, YPBPR+L/R, VGA+L/R, HDMI signals. The HSDA-TO-3GSDI converts CVBS+L/R, YPBPR+L/R, VGA+L/R, HDMI signals to broadcast signal.

Operating this equipment is simple and user friendly, no complicated functions to meddle with. Application can be deployed in radio broadcast or command and control centre environment.

2. Main Functions

- a. HSDA-TO-3GSDI: convert CVBS+L/R, YPBPR+L/R, VGA+L/R, HDMI to 3GSDI signals.
- b. 3GSDI-TO-HSDA: convert 3GSDI to CVBS+L/R, YPBPR+L/R, VGA+L/R, HDMI signals.
- c. Automatic signal detection.
- d. Automatic compensation for signal loss.
- e. Audio embeds and de-embeds capability.
- f. Built in test pattern for images fine tuning and adjustment.
- g. Self adjustment to fit, built in intelligent automatic matching between devices.
- h. Adjustable output resolution.
- i. Image inverted capability.
- j. Support via remote control.
- k. Support up to 1900x1200 resolutions.

3. Specification

Model:	3GSDI-TO-HSDA	HSDA-TO-3GSDI
Input:	BNC (x1)	HDMI/DVI (x1)
Output:	BNC Local (x1), HDMI/DVI (x1)	BNC (x2)
Signal Support:	<p>SDI: 3G/HD/SD-SDI, NTSC, 720p, 1080i, 1080p</p> <p>HDMI: (HDTV): 800x600, 1024x768, 1280x720, 1280x800, 1280x1024, 1360x768, 1366x768, 1440x900, 1440x1050, 1600x1200, 1680x1050, 1680x1050, 1920x1080, 1920x1200</p> <p>CVBS: NTSC, PAL, 480i, 480p, 576i, 576p</p> <p>YPbPr: 480i, 480p, 576i, 576p, 720p, 1080i, 1080p</p> <p>VGA: 800x600, 1024x768, 1280x720, 1280x800, 1280x1024, 1360x768, 1366x768, 1440x900, 1440x1050, 1600x1200, 1680x1050, 1680x1050, 1920x1080, 1920x1200</p>	
Protocol:	HDMI1.3a and DVI1.0, HDCP Compliant	
Input voltage:	110-240VAC, 5VDC 4A	
Power:	5W	
Physical Dimension (WxDxH) in mm:	154 x 142 x 44	
Weight:	0.8Kg	
Operating Temperature:	0°C - 50°C	
Storage Temperature:	-10°C- 85°C	

4. Package List

Please check package before using this product. Do contact us if the product is found faulty or not intact.

No.	Description	Quantity	Unit
1	3GSDI-TO-HSDA or HSDA-TO-3GSDI	1	pcs.
2	110-240VAC, 5VDC 4A	1	pcs.
3	DVI-TO-RCA adaptor	1	pcs.
4	DVI-TO-VGA adaptor (3GSDI-TO-HSDA only)	1	pcs.
5	DVI-TO-HDMI adaptor (3GSDI-TO-HSDA only)	1	pcs.
6	Instruction Manual	1	pcs.
7	Warranty card	1	pcs.
8	Certification	1	pcs.

5. Equipment Interface

5.1. Application Example Appearance

3GSDI-TO-HSDA

HSDA-TO-3GSDI

Setup

Note: Please perform the following sequence. Equipment may not function or working properly if the installation sequence is incorrect.

3GSDI-TO-HSDA

- a. Connect the signal source to SDI input interface of 3GSDI-TO-HSDA convertor.
- b. Connect the signal output to DVI-I output interface of 3GSDI-TO-HSDA to the display equipment.
- c. The 3GSDI-TO-HSDA convertor supports local monitor output, connect this output a SDI monitor.
- d. If the output interface signal is YPbPr or CVBS, use the supplied DVI-TO-RCA adaptor.
- e. If the output interface signal is VGA, use the supplied DVI-TO-VGA adaptor.
- f. If the output interface signal is HDMI, use the supplied DVI-TO-HDMI adaptor.

HSDA-TO-3GSDI

- a. Connect the signal source to DVI-I input interface of HSDA-TO-3GSDI convertor.
- b. Connect the signal output of HSDA-TO-3GSDI via the SDI output interface to the display equipment.

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- c. The HSDA-TO-3GSDI convertor supports local monitor output, connect this output a SDI monitor.
 - d. If input interface signal is YPbPr or CVBS, use the supplied DVI-TO-RCA adaptor.
 - e. If the input interface signal is VGA, use the supplied DVI-TO-VGA adaptor.
 - f. If the input interface signal is HDMI, use the supplied DVI-TO-HDMI adaptor.

Dipswitch Setting (HSDA-TO-3GSDI Only)

HSDA-TO-3GSDI convertor has a 8pin dipswitch at the bottom.

0: Means Turn ON

1: Means Turn OFF

Dipswitch 1 & 2: Select source

00: CVBS

01: YPbPr

10: VGA

11: Maintain

Dipswitch 3,4,5: Select resolution

000: Maintain

001: Maintain

010: Maintain

011: 720p@60Hz

100: Maintain

101: Maintain

110: 1080p@50Hz

111: 1080p@60Hz

Dipswitch 6: Select image inversion

0: Rotate 180°

1: Normal

Dipswitch 7: Automatic or manual detection

0: Automatic. Dipswitch 1 and 2 will be disabled

1: Manual: Dipswitch 1 and 2 will be enabled

Dipswitch 8: Remote control configuration

0: Don't use remote control for configuration

1: Use remote control for configuration

Remote Control

The remote control can be used to control the HSDA-TO-3GSDI convertor. (Not included)
By using the INPUT interface area, you can make further adjustment to the image.

Contrast & Brightness:

Press Menu > Picture > Inter

Screen Position:

Press Menu > Screen > Inter

Aspect Ratio:

Press Menu > Size > 4:3 or 16:9

RGB gain, equalization, scaling:

Press Input > Fact

Adjustment Menu

- a. **Out Resolution:** Output signal resolution selection menu. There are 26 definitions that could be selected. Those with the symbol @ are in VESA format, and with symbols "p" or "i" are in HDTV definition. Note: if YPBPR signal output is required, the definition must be adjusted to HDTV format (except 1680×1050pRB, 1920×1080pRB and 1920×1200pRB)
- b. **Out Port Mode:** Color space selection menu for output signals. RGB444, YC444 and YC422 could be selected (If RGB444 is selected, VGA signals will be output, and if the other formats are selected, the YPBPR signals will be output)
- c. **Aspect Ratio:** Select 4:3 or 16:9
- d. **Over Scanning:** Zooming of output signal images. Supports adjustment of -10% to

+10%

- e. **Out Pattern:** Built in test pattern for image adjustment or fine tuning
- f. **V-Mirror:** Menu for inversion of output images. Note: CVBS output images cannot be inverted
- g. **In-Sync Info:** Menu displaying information on current input signals.
- h. **Advanced Menu:** Press “OK”, “RIGHT”, “LEFT”, “DOWN”, “UP”, “MENU”
- i. **Factory Default:** Press “OK”, “RIGHT”, “LEFT”, “DOWN”, “UP”, “OK”

Troubleshooting

Frequent Asked Questions

a. No signal or image on display

Solution:

- Verify if the equipment is powered up and ensure the adapter is connected properly. If you are resetting the equipment, wait for about 5 seconds before turning on the power again as the high-speed DDR requires some time for completely reboot.
- Check for loose connection, display source is selected at the right channel.
- Check if display support convertor's resolution.
- Make sure the SDI cable used does not exceed 50m (Belden 1694 RG-6 is preferred).
- If manual detection is selected, ensure dipswitch 7 is set to “1”, then set dipswitch 1 & 2 to appropriate resolution settings. (Applicable to HSDA-TO-3GSDI).

b. Poor color quality and variation

Solution:

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- If VGA signal output is used, adjust VGA supported output resolution. If YPbPr output is use, select “Out Port Mode” menu to adjust the image color space to YC444 or YC422.

c. The warning “Unsupported Signals” is shown on the screen

Solution:

- With the power on, press the following buttons in sequence: “OK”, “RIGHT”, “LEFT”, “DOWN”, “UP”, “OK” and then power off. It will reset the equipment to factory default.

d. Black or dark green display

Solution:

- Select the correct signal input via the “Input Source” menu.

- Blurred Image

Solution:

- Select the correct resolution output via the “Out Resolution” menu and also choose the best definition output for the display.

e. Black edges or overflow of image on screen

Solution:

- Zoom the image by utilizing the “Over Scanning” menu.
- On the display, choose full screen mode.
- Select display resolutions that match the convertor.
- Use the remote control to enter advanced menu for further adjustment.

a. Poor color variation of YPbPr output signals

Solution:

- Use the supplied DVI-TO-RCA cable.

6. Warranty And Maintenance

Maintenance

Clean the equipment using a soft and dry cloth. Use of alcohol, paint thinner or gasoline is prohibited. Liquid or chemicals should not be exposed in the vicinity of the equipment. Without user processing component, all service and repair related matters, please contact Kensence or other authorized distributors.

Warranty Information

Kensence warrants a 12 months or from any authorized distributors after purchased, under normal use, service support, technology and materials of the product without defects. If the product is found malfunction, within the guarantee period, Kensence will cover repair cost of defective products or parts, replace the equivalent products or components, or pay the user to replace the defective items, or refund the purchase price paid by the user of defective products. All products replaced will become the property of Kensence. Kensence reserved the rights for replacing of the product, replacement may be new or repaired. Any replacement, repair, components of the product is guaranteed for 3 months.

Kensence will not warrant for loss of any software, integrated firmware, information or data stored in memory, under warranty or repair period.

Warranty Limitation

In addition to the limited warranty, Kensence will not be responsible and warranty will be void if product is found being abuse, misuse, negligence, accident, or physical pressure abnormal voltage, unauthorized modification, alternation, change or damage due to others, than the Kensence. Warranty is effective if the fault occurred during normal use and proper care.

7. Appendix

8.1 *Version And Manufacture Information*

Description of version (Document number: DOC-*3GSDI-TO-HSDA/HSDA-TO-3GSDI-0001#)		
Date	Version number	Description
March 2013	V1.0	First version