User Manual

MP-SD-HD2
SDI to HDMI Converter

Version: MP-SD-HD2_2016V1.0

Table of Contents

1. Introduction

1.1. Introduction to MP-SD-HD2

The MP-SD-HD2 is specialized in converting SDI input signal to HDMI or DVI output signal, and it can transmit digital audio signal via the optical fiber.

Integrated with 3G/HD/SD receiver and HDMI encoder, MP-SD-HD2 can turn the 3G/HD/SD signal to HDMI/DVI signal easily. At the same time, MP-SD-HD2 can separate the audio signal from the 3G/HD/SD signal, and send it to the HDMI output port, that makes the sound perfectly synchronize with the images.

MP-SD-HD2 is a green low energy consumption product that deserves owning it. It has a good application in different places, including classroom, small meeting room, lecture hall, bar, pub etc.

1.2. Features

- HDTV compatible with High Definition Transmission resolution up to 1920*1080 (max).
- Bandwidth: 2.97Gbps
- With one analog audio output, and one SPDIF (digital audio) output which is transmitted via the optical fiber.
- Support with different SDI modes: including 3G, HD, and SD.
- Output signal can be set to HDMI/DVI signal.
- Supports various output resolution.
- Looping output function is supported.
- Supports fault diagnosis and local monitoring, with LEDs indicate the real-time running state.
- Full aluminum metal jacket, fits for wall mounting or desktop mounting.

1.3. Package Contents

- 1 x MP-SD-HD2
- 1 x Power Adapter (DC 5V, 3A)
- 2 x Mounting Ears (Separated from the MP-SD-HD2)
- 4 x Screws (KM 3*6mm, stainless steel)
- 1 x User Manual

Note：Please confirm if the product and the accessories are all included, if not, please contact with the dealers.

2. Product Appearance of MP-SD-HD2

Figure 1 Product Appearance of MP-SD-HD2

Detailed Connection Instructions:

No.	Module	Function
①	LED	Check if the system is working in a normal state, and feed back the abnormal information in time.
②	AUDIO OUT	Audio output port, with left and right audio channel for mono output. Using single mode optical fiber for long distance digital audio transmission.
③	HDMI OUT	Video output port, output the signal after turning the SDI signals to HDMI/DVI signal via this port.
④	Dial Switch	Selector switch of HDMI and DVI output selection. Turn the key **1** to the upside, output HDMI signal. Turn the key **1** to the underside, output DVI signal. Key **2** is kept for future extending or updating.
⑤	SDI IN	SDI signal input port, use to access stable SDI source signal.
⑥	SDI LOOP	Looping output SDI signal.
⑦	DC 5V	Port for accessing power supply, DC 5V.

Notes: Please connect the cables reference to **Figure 1**. The LEDs indicated information is showed as below.

✧PWR: Power indicator, turns red when normal power on, and turns off when power off.
✧LOCKED: Check if there is input signal, flashes when there inputs a signal, and keep on when the signal is locked.

✧HDMI: The LED turns green when output HDMI signal, and turns off when output DVI signal.
✧3G: Turns on when detects a 3G high definition signal.
✧HD: Turns on when detects a HD signal.
✧SD: Turns on when detects a SD signal.

3. System Connection

3.1. System Diagram

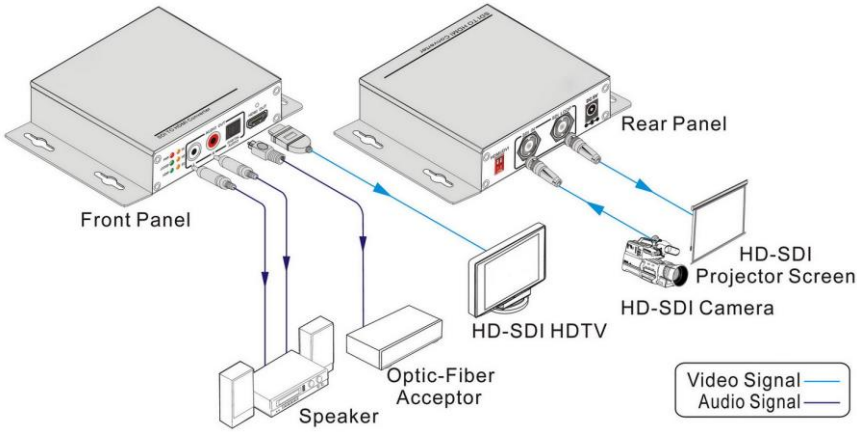

Figure 2 System Diagram

3.2. Connection Procedure

Please reference to the system diagram before your system installation. A detailed installation procedure is showed as follows.

Step1. Connect the input SDI signal (such as SDI camera) to the **SDI IN** port on the rear panel of the MP-SD-HD2 by using a SDI cable.

If you need two outputs, please connect the **SDI LOOP** port on the rear panel of this MP-SD-HD2 to the **SDI IN** port on another MP-SD-HD2 by using another SDI cable.

Step2. If long distance audio transmission is requested, please connect the **DIGITAL AUDIO** output port to the optic-fiber accepter (SPDIF decoding included) by using an optical fiber.

Step3. Use an audio cable to connect the **L**&**R** of the **AUDIO OUT** port with audio device to output analog audio.

Step4. Use a HDMI cable to connect **HDMI OUT** port of the MP-SD-HD2 with a display device to output the HDMI signal.

Note: Please make sure that all the fibers are connected before accessing the power.

4. Specification

Video Input		**Video Output**	
Input	1 SDI	Output	1 SDI, 1 HDMI
Input Connector	1 BNC	Output Connector	1 BNC 1 HDMI Female
Input Signal	SD/HD/3G SDI	Output Signal	SD/HD/3G SDI HDMI/DVI
Video General			
Resolution Range	1080P, 1920*1080; 1080I,1920*1080; 720P, 1280*720; 480I (NTSC),576I (PAI).	Maximum Data Speed	2.97Gbps
Maximum Pixel Clock	148.5MHz	Video Impedance	75Ω
Gain	0dB	I/O Level	0.5V~2.0Vp-p
HDCP	Compliant with HDCP.		
Audio Input		**Audio Output**	
Input	1 SDI	Output	2 stereo audio 1 digital audio
Input Connector	1 BNC	Output Connector	1 RCA SPF fiber connector
Input Impedance	>10KΩ	Output Impedance	50Ω/stereo,
Audio General			
Stereo Channel Separation	>80dB@1KHz	Frequency Response	20Hz ~ 20KHz
CMRR	>90dB@20Hz~20KHz		
General			
Temperature	-20 ~ +70℃	Humidity	10% ~ 90%
Power Supply	DC5V	Power Consumption	65W
Case Dimension	W100 x H100 x D26 mm	Product Weight	0.4Kg

5. Special Functions Introduction

5.1. Looping Output Function Introduction

Looping output function is supported in the MP-SD-HD2, showed in **Figure 3**. In this mode, the signal pass through the **SDI IN** port to the **SDI LOOP** port of the first converter, and the **SDI LOOP** output port can be connected to the **SDI IN** port of the next converter, and so on. Finally it makes a looping output. In this way, one input signal can be allocated to several outputs. This is a good solution for a single input with lots of display devices.

Note: With 3G-SDI signal, only two converters can be used in a looping connection.

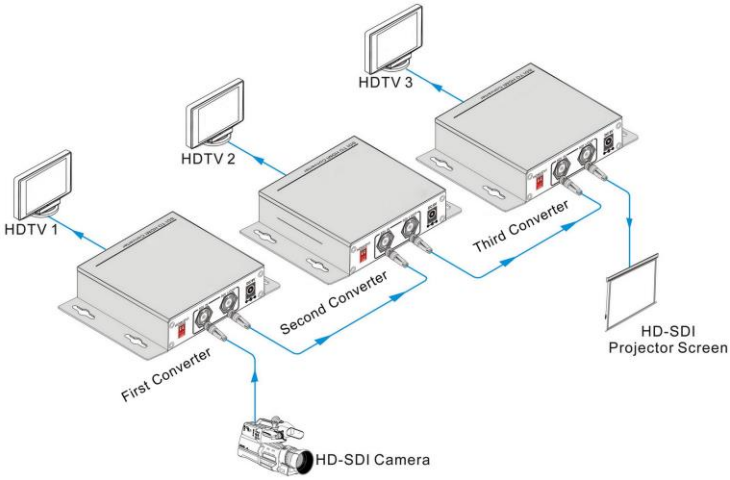

Figure 3 Looping Output Connection

5.2. SDI Signal Modes Introduction

The converter supports three SDI signal modes, includes 3G, HD and SD. The corresponding resolution and frequency of these three modes are showed as follows.

- 3G mode: 1080P @60Hz/59.94Hz, 1080P @50Hz/49.95Hz
- The resolution of HD mode is showed in the table below.

No.	Resolution
1	1080I @60Hz/59.94Hz
2	1080I @50Hz/49.95Hz
3	1080P @30Hz/29.97Hz
4	1080P @25Hz/24.975Hz
5	1080P @24Hz/23.976Hz
6	720P @60Hz/59.94Hz
7	720P @50Hz/49.95Hz

- SD mode: 480I @60Hz, 576I @50Hz

6. Panel Drawing

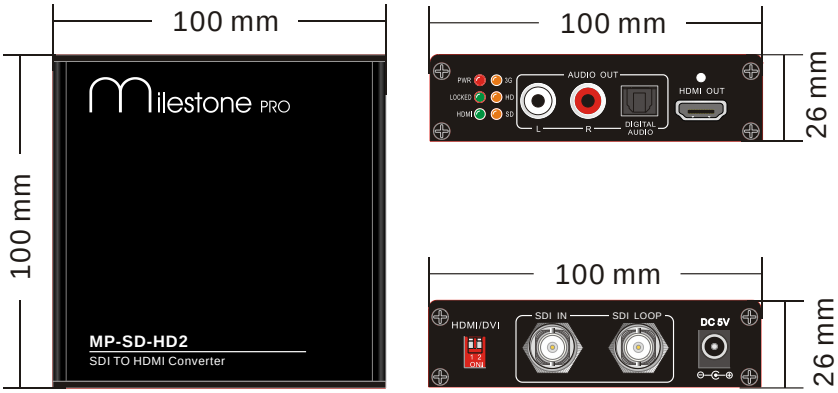

Figure 4 Panel Drawing

7. Troubleshooting & Maintenance

1) When images of terminal unit output with ghost, such as the projector output with ghost. Generally this is not a unit faulty, this may be caused by an incorrect setting on the projector or a bad quality of cable. Please check the projector's setting or try another high quality connection cable.

2) When there is a color losing or no video signal output, please check the input and output end connections of the cables.

3) When there is no output images:

- Check if there is any signal at the input.
- Check if there is any signal at the output.

We can check these by using an oscilloscope or a multimeter. If there is no signal input/output, maybe the input/output cables broken or the connectors loosen, please change for another cable.

- If not the problem mentioned above, probably there is something broken inside the unit, please send it to the dealer for repairing.

4) Before using the converter, please make sure that all cables (such as audio cables, fiber etc.) are connected well before accessing the power of the product.

5) If the **POWER** indicator doesn't work or no respond to any operation, please make sure the power cord connection is good.

6) If the output image is interfered, please make sure the system is grounded well.

7) If the static becomes stronger when connecting the audio or video connectors, it probably due to bad grounding, please check the grounding and make sure it connected well, otherwise it would damage the converter.

8. Safety Operation Guide

In order to guarantee the reliable operation of the equipments and safety of the staff, please abide by the following proceeding in installation, using and maintenance:

1) The system must be earthed properly. Please do not use two blades plugs and ensure the alternating power supply ranged from 100v to 240v and from 50Hz to 60Hz.

2) Do not put the device in a place of too hot or too cold.

3) As the power generating heat when running, the working environment should be maintained fine ventilation, in case of damage caused by overheat.

4) Cut off the general power switch in humid weather or left unused for long time.

5) Before following operation, ensure that the alternating current wire is pull out of the power supply:
- ●Take off or reship any components of the equipment.
- ●Take off or rejoin any pin or other link of the equipment.

6) As to non-professional or without permission, please DO NOT try to open the casing of the equipment, DO NOT repair it on your own, in case of accident or increasing the damage of the equipment.

7) DO NOT splash any chemistry substance or liquid in the equipment or around.

9. After-sales Service

1) If there appear some problems when running the MP-SD-HD2, please check and deal with the problems reference to this user manual. Any transport costs are borne by the users during the warranty.

2) You can email to our after-sales department or make a call, please tell us the following information about your cases.

- Product version and name.
- Detailed failure situations.
- The formation of the cases.

3) We offer products for all three-year warranty, which starts from the first day you buy this product (The purchase invoice shall prevail).

4) Any problem is same with one of the following cases listed, we will not offer warranty service but offer for charge.

- Beyond the warranty.
- Damage due to incorrectly usage, keeping or repairing.
- Damage due to device assembly operations by the maintenance company non-assigned.
- No certificate or invoice as the proof of warranty.
- The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
- Damage caused by force majeure.