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MMIO EMB-HSDSDI-2AES 3G/HD/SD Signal & AES Audio Embedder

User manual V1.0



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Revision Status

Rev Date	Description
Dec. 26, 2013	Initial release of the MMIO EMB-HSDSI-2AES User Manual Firmware V1.0

MMIO EMB-HDSDI-2AES

I. Description

MMIO EMB-HDSDI-2AES is a kind of embedder based on Mini-Box chassis. It can embed two AES digital audio signal into a single serial digital signal, and output one serial digital signals with embedded audio. It supports SD-SDI, 1.5 Gbps HD-SDI and 3.0 Gbps HD-SDI for inputs and outputs. It can also be applied to digital signal with embedded audio for input signal.

MMIO EMB-HDSDI-2AES supplies real-time input signal status indicator and power indicator which make it convenient to monitor. The embedded audio channel can be selected though DIP Switch.

MMIO EMB-HDSDI-2AES is easy to install, and can be widely used in broadcasting system, studios and other professional audio fields.

II. Features

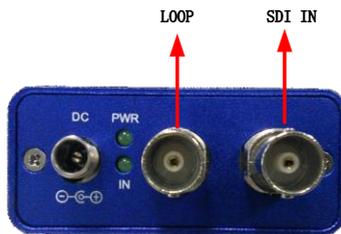
- ◇ 2 AES digital audio signals embedded into a single serial digital signal
- ◇ Inputs and outputs for SD-SDI, 1.5Gb/s HD-SDI and 3.0Gb/s HD-SDI
- ◇ Support self-definition embedded audio channel via DIP Switch
- ◇ All audio interfaces adopt 3-PIN connector, balanced input
- ◇ Supply real-time input signal status indicator and power indicator
- ◇ Support bypass function with power on

III. Interface Description

3.1 Overview



3.2 Right panel



DC IN: 12V 1A

PWR: Power indicator, when the power works normally, the indicator shows green.

IN: Input signal indicator, when the input signal is correct, the indicator shows green.

SDI IN: BNC interface, digital signal input with embedded or non-embedded audio, support

the SD-SDI, HD-SDI, and 3G-SDI.

SD: 525i 60, 625i 50

HD: 720p 50Hz/59.94Hz/60Hz

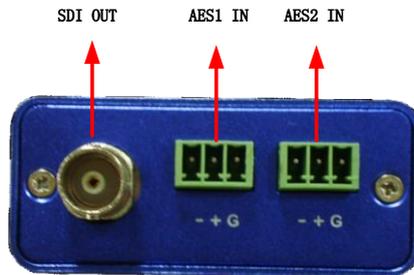
1080i 50Hz/59.94Hz/60Hz

1080p 23.97Hz/24Hz/25Hz/29.97Hz/30Hz

1080p 50 Hz/59.94Hz/60 Hz

LOOP: BNC interface, it support loop function with power on.

3.3 Left panel



SDI OUT: BNC interface, one serial digital signal output with embedded audio.

AES1 IN & AES2 IN: 3pin interface, 2 AES digital audio signals input.

3.4 Front panel

MODE SET: DIP switch, users can set DIP position to achieve more functions, the DIP specific meaning as following:

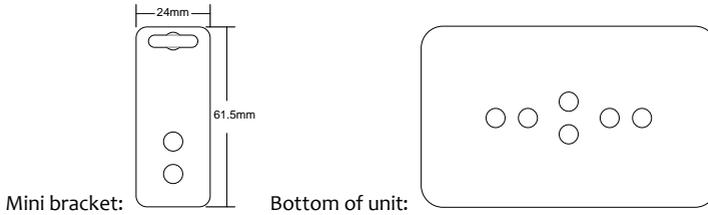
DIP Switch		1	2	3	4	5	6	7	8	9	0
Select embedded audio channel	Silence	OFF									
	G1	ON	OFF								
	G2	OFF	ON	OFF							
	G3	OFF	OFF	ON	OFF						
	G4	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF	OFF
	AUTO	OFF	ON								

Note: Power switch UP=OFF DOWN=ON

When two AES digital audio signals are embedded to eight certain channels of HD/SD-SDI signal, the other eight audio channels will have no audio any more. For instance, when embedding two AES digital audio to G1, and then G2 will have no audio any more.

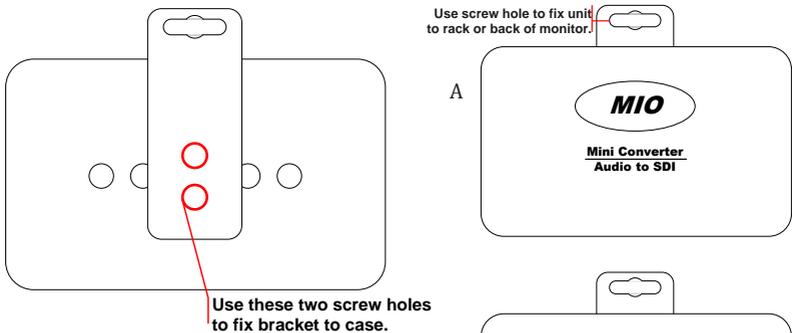
IV Installation Guide

The unit is equipped with mini mounting bracket. And there are several screw holes on the bottom of unit for installing the mini bracket. Please see the pictures below.



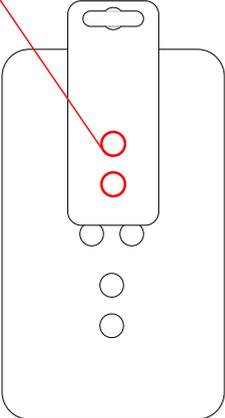
There are several ways to fix this bracket to case. According the direction of connection, you can choose one appropriate way to fix it.

Fix the bracket vertically like this:

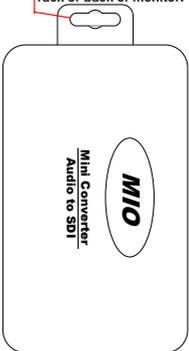


Fix the bracket horizontally like thiSs:

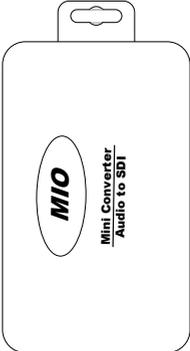
Use these two screw holes to fix bracket to case.



A
Use screw hole to fix unit to rack or back of monitor.



B



IV. Technical specification

Digital video input:

Input interface: 1*HD/SD-SDI, BNC connection

Impedance: 75Ω

Format: SD: 525i 60, 625i 50

HD: 720p 50Hz/59.94Hz/60Hz

1080i 50Hz/59.94Hz/60Hz

1080p 23.97Hz/24Hz/25Hz/29.97Hz/30Hz

1080p 50 Hz/59.94Hz/60 Hz

SMPTE-259M-C; 270Mb/s

SMPTE-292M; 1.485Gps

SMPTE-425M; 2.970Gps

Analog audio Input:

Input interface: 2*3pin

Impedance: 110Ω

Digital video output:

Output interface: 1*HD/SD-SDI, BNC connection

1*HD/SD-SDI LOOP, BNC connection

Impedance: 75Ω

Format: SMPTE 259M-C; 270Mb/s

SMPTE-292M; 1.485Gps

SMPTE-425M; 2.970Gps

Level: 800mV±10%

Rise time/Fall time: $\leq 270\text{PS}$ (20%-80%) (HD)

750~1500PS (20%-80%) (SD)

Jitter: $< 0.2\text{UI}$ (100 kHz)

Status indicator:

Input signal status indicator

Power indicator

(Indicate by shining or extinguishing of the green LED)

Power consumption:

Power: 12VDC 1A

V. Contact

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