

CV-503ZK-A

HDMI 2.0 to 12G/6G/3G/HD/SDI Converter with Audio Embedder

User Manual



rev: 160726
Made in Taiwan



Safety and Notice

The CV-503ZK-A HDMI 2.0 to 12G/6G/3G/HD/SD-SDI Converter with Audio Embedder has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the CV-503ZK-A should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on this unit.
- Do not attempt to service this unit yourself, except where explained in this manual.
- Provide proper ventilation and air circulation and do not use near water.
- Keep objects that might damage the device and assure that the placement of this unit is on a stable surface.
- Use only the power adapter and power cords and connection cables designed for this unit.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.



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INTRODUCTION

The **CV-503ZK-A HDMI 2.0 to 12G/6G/3G/HD/SD-SDI Converter with Audio Embedder** provides a professional way to convert HDMI 2.0 to 12G/6G/3G/HD/SD-SDI in real time. The conversion between SDI and HDMI is pure digital and guarantees no loss transformation for both audio and video. Plus, with up to 8 channels audio support, 7.1 channel or 5.1 channel audio becomes available. The CV-503ZK-A also provides one low jitter SDI output and is also equipped with high quality analog stereo embedder. With the use of CV-503ZK-A, the most popular uncompressed video interface in the consumer world is readily available for professional SDI equipment!

FEATURES

- Supported high-definition (HD) formats:
NTSC 525@59.94, PAL 625@50, 720p@50,720p@59.94, 720p@60, 1080i@50, 1080i@59.94, 1080i@60, 1080p@23.97, 1080p@24, 1080p@25, 1080p@29.97, 1080p@30, 1080p@50, 1080p@59.94, 1080p@60, 4K2K*@23.97, 4K2K*@24, 4K2K*@25, 4K2K*@30, 4K2K*@50, 4K2K*@59.94, 4K2K*@60,
Bit Rate: 11.88 Gbps, 11.88/1.001 Gbps, 5.94 Gbps, 5.94/1.001 Gbps, 2.97 Gbps, 2.97/1.001 Gbps, 1.485 Gbps, 1.485/1.001 Gbps, 270 Mbps
- Auto 12G/6G/3G/HD/SD-SDI detection
- Supports HDMI 2.0 & below
- Supports analog stereo embedder
- USB firmware upgradable for expanding compatibility
- Wall-mount housing design for easy installation
- Small form factor & fan less design

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* The 4K2K supports 3840x2160 and 4096x2160

PACKAGE CONTENTS

- 1x CV-503ZK-A
- 1x 12V/2A power supply unit
- 1x User Manual

SPECIFICATIONS

Model Name	CV-503ZK-A	
Technical		
SDI standards	12G/6G/3G/HD/SD-SDI	
Auto 12G/6G/3G/HD/SD-SDI detection	Yes	
Input video bandwidth	18Gbps	
Output video bandwidth	12Gbps	
Video input support	up to 4K2K@60 (4:4:4 8bits)	
Video output support	[12G] 4K2K @50/59.94/60Hz (4:2:2) [6G] 4K2K @23.97/24, 25, 30Hz (4:2:2) [3G] 1080p @50/59.94/60Hz (4:2:2) [HD] – 720p @50/59.94/60Hz, 1080i @50/59.94/60Hz, 1080p @23.98/24/25/29.97/30Hz (4:2:2) [SD] – NTSC @59.94Hz, PAL @50Hz (4:2:2)	
Output signal	SDI	
Output impedance	75Ω	
Synchronization mode	Internal synchronization or external synchronization	
Eye pattern characteristics	Extra low alignment jitter(1KHz) 0.47UI at 3G/ 0.73UI at 6G/ 1.79UI at 12G	
Cable equalization	[12G-SDI] up to 60m (200ft) [6G-SDI] up to 75m (250) [3G-SDI] up to 90m (300ft) [HD-SDI] up to 150m (500ft) [SD-SDI] up to 300m (1000ft)	
Audio support	PCM 7.1 (48KHz Fs sample rate)	
PCB stack-up	8-layer board [impedance control — differential 100Ω; single 50Ω]	
Input	1x HDMI + 1x 3.5mm	
Output	1x BNC [SDI]	
BNC connector	75Ω inter-locked socket	
HDMI connector	Type A [19-pin female]	
Mechanical		
Housing	Metal enclosure	
Dimensions [L x W x H]	Model	182 x 112 x 27mm[7.1" x 4.4" x 1"]
	Package	264 x 170 x 77mm[10.3" x 6.7" x 3"]
	Carton	430 x 358 x 291mm[1'4" x 1'2" x 11.5"]
Weight	Model	485g [17.1oz]
	Package	923g [32.5oz]
Fixedness	Inter-locked power supply	
Power supply	12V 2A DC	
Power consumption	10 Watts [max]	
Operation temperature	0~40°C [32~104°F]	
Storage temperature	-20~60°C [-4~140°F]	
Relative humidity	20~90% RH [no condensation]	

PANEL DESCRIPTION

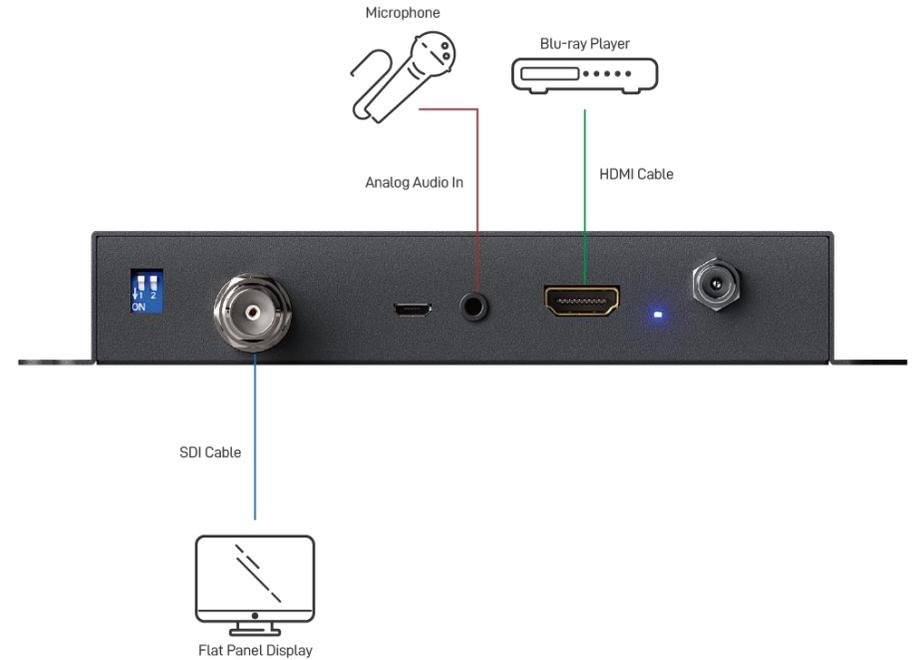


1. **2-Pin Dip Switch** (Please refer to “Notes”)
2. **SDI OUT:** 12G/6G/3G/HD/SD-SDI output
3. **Micro USB:** Micro-USB port for F/W update
4. **Stereo Audio Input**
5. **HDMI IN:** Connects to a HDMI source with a HDMI male-male cable
6. **LED INDICATOR:** Power indicator LED.
7. **+12V DC:** Interlocking power jack for 12V DC power supply unit

***Notes: DIP Switch Position**

DIP Switch Position		Description
2-Pin		
PIN#1	ON [↓]	3G Level B
	OFF [↑]	3G Level A
PIN#2	ON [↓]	Stereo Audio Embedder Function(2ch)
	OFF [↑]	HDMI Audio Bypass(up to 7.1ch)

CONNECTION DIAGRAM



12G-SDI Output	
4K2K* @50/59.94/60Hz	SMPTE ST-2082
6G-SDI Output	
4K2K* @23.97/24, 25, 30Hz	SMPTE ST-2081
3G-SDI Output	
1080p @ 50/ 59.94 / 60Hz	SMPTE 424M, SMPTE 425M
HD-SDI Output	
720p @ 50Hz	SMPTE 296M -3
720p @ 60 / 59.94Hz	SMPTE 296M -1, -2
1080i @ 50Hz	SMPTE 274M -6
1080i @ 60 / 59.94Hz	SMPTE 274M -4, -5
1080p @ 24 / 23.98Hz	SMPTE 274M -10, -11
1080p @ 25Hz	SMPTE 274M -9
1080p @ 30 / 29.97Hz	SMPTE 274M -7, -8
SD-SDI Output	
NTSC	
PAL B,D,G,H,I	



* The 4K2K supports 3840x2160 and 4096x2160

The SELLER warrants the **CV-503ZK-A HDMI2.0 to 12G/6G/3G/HD/SD-SDI Converter with Audio Embedder** to be free from defects in the material and workmanship for 1 year from the date of purchase from the SELLER or an authorized dealer. Should this product fail to be in good working order within 1 year warranty period, The SELLER, at its option, repair or replace the unit, provided that the unit has not been subjected to accident, disaster, abuse or any unauthorized modifications including static discharge and power surges.

Unit that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for 90 days from the day of reshipment to the BUYER. If the unit is delivered by mail, customers agree to insure the unit or assume the risk of loss or damage in transit. Under no circumstances will a unit be accepted without a return authorization number.

The warranty is in lieu of all other warranties expressed or implied, including without limitations, any other implied warranty or fitness or merchantability for any particular purpose, all of which are expressly disclaimed.

Proof of sale may be required in order to claim warranty. Customers outside Taiwan are responsible for shipping charges to and from the SELLER. Cables are limited to a 30 day warranty and cable must be free from any markings, scratches, and neatly coiled.

The content of this manual has been carefully checked and is believed to be accurate. However, The SELLER assumes no responsibility for any inaccuracies that may be contained in this manual. The SELLER will NOT be liable for direct, indirect, incidental, special, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. **Also, the technical information contained herein regarding the CV-503ZK-A features and specifications is subject to change without further notice.**

