



maxsquare

## MSQ-80A

8K Audio Embedder/Extractor



MADE IN TAIWAN

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**1. Introduction**

The MSQ-80A 8K Audio Embedder/Extractor is a remarkable device to resolve audio compatibility challenges encountered with HDMI 2.1 devices. It efficiently extracts high-fidelity stereo analog and digital S/PDIF-Toslink audio from incoming HDMI signals, ensuring the preservation of all active audio channels. It proves to be particularly valuable for audio systems limited to supporting stereo sound, such as stereo speakers and TVs.

Furthermore, the MSQ-80A possesses the capability to seamlessly incorporate external stereo analog audio or digital S/PDIF-Toslink audio into the outgoing HDMI signal. This exceptional feature empowers users to effortlessly integrate external audio sources into their HDMI signal, proving advantageous for devices lacking an HDMI output while requiring audio support.

The MSQ-80A's ability to seamlessly cooperate with any HDMI matrix available on the market serves as another unique aspect of this device. This enables simultaneous multi-channel HDMI audio insertion, facilitating the harmonious operation of HDMI-equipped devices with varying audio capacities. With its versatility, the MSQ-80A flawlessly integrates with a wide range of HDMI devices, making it an invaluable addition to any home theater or audio system.

Elevate the audio experience of your HDMI devices with the MSQ-80A, a truly exceptional device. Its ability to extract and embed audio, coupled with its compatibility with diverse HDMI devices, establishes the MSQ-80A as a powerful tool for optimizing audio performance. Immerse yourself in an unparalleled audio experience by incorporating the MSQ-80A into your setup.

## 2. Features

- HDMI 2.1 compliant
- HDCP 2.3 and 1.4 compliant
- Supports HDMI Input & Output up to 8K60 4:2:0 10bits, 8K30 4:4:4, 4K2K 120Hz
- Supports HDR<sup>1</sup> 4K2K60 10bits/12bits<sup>2</sup>
- Supports VRR (Variable Refresh Rate) & ALLM (Auto Low Latency Mode) \*
- Upscales resolution from 4K to 8K and 1080P to 4K.
- Downscapes resolution from 8K to 4K and 4K to 1080P.
- Wide frequency range: 25MHz~1188MHz
- Supports audio extraction via stereo & Toslink
- Supports audio insertion via stereo & Toslink
- Supports ARC audio extraction via Toslink
- CEC & ARC Pass Through
- HDMI Audio Format: PCM2/5.1/7.1, Dolby 5.1/7.1, DTS 5.1/7.1
- Optical Audio Format: PCM2, Dolby 5.1



1. HDR = High Dynamic Range.
2. The video bandwidth of 4K2K60 4:2:0 10bits (HDR) is 384 MHz, and the 4K2K60 4:4:4 8bits is 594MHz.

\* **Do NOT recommend using scale in VRR mode.**

\*\* **If the output does not have image, please press “reset button” about 1-2 seconds to reset the device.**

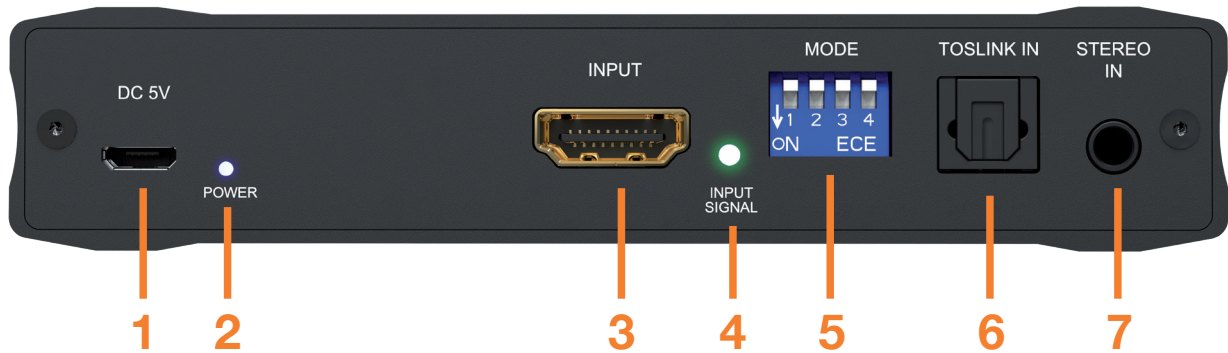
### 3. Package Contents

- 1x MSQ-80A
- 1x 5V power adapter
- 1x User Manual

### 4. Specifications

Technical	
Role of usage	HDMI 2.1 8K Audio Embedder/Extractor
HDMI compliance	HDMI 2.1
HDCP compliance	HDCP 2.3/1.4
Video bandwidth	Up to FRL 5 (48G)
Video Support	Up to 8K60 4:2:0 10bits, 8K30 4:4:4, 4K2K 120Hz
Audio Support	HDMI Audio Format: PCM2/5.1/7.1, Dolby 5.1/7.1, DTS 5.1/7.1 Optical Audio Format: PCM2, Dolby 5.1
ESD Protection	Human body model—±15kV [air-gap discharge] & ±8kV [contact discharge]
PCB stack-up	4-layer board [impedance control — differential 100Ω ; single 50Ω]
CEC Channel	Pass Through
Input	1x HDMI + 1x 3.5mm phone jack + 1x Toslink
Output	1x HDMI + 1x 3.5mm phone jack + 1x Toslink
HDMI connector	Type A [19-pin female]
3.5mm connector	Stereo
Optical audio connector	Toslink
Mechanical	
Housing	Metal enclosure
Power supply	5V DC
Power consumption	2.5 Watt [max]
Operation temperature	0~40°C [32~104°F]
Storage temperature	-20~60°C [-4~140°F]
Relative humidity	20~90% RH [no condensation]

### 5. Panel Description

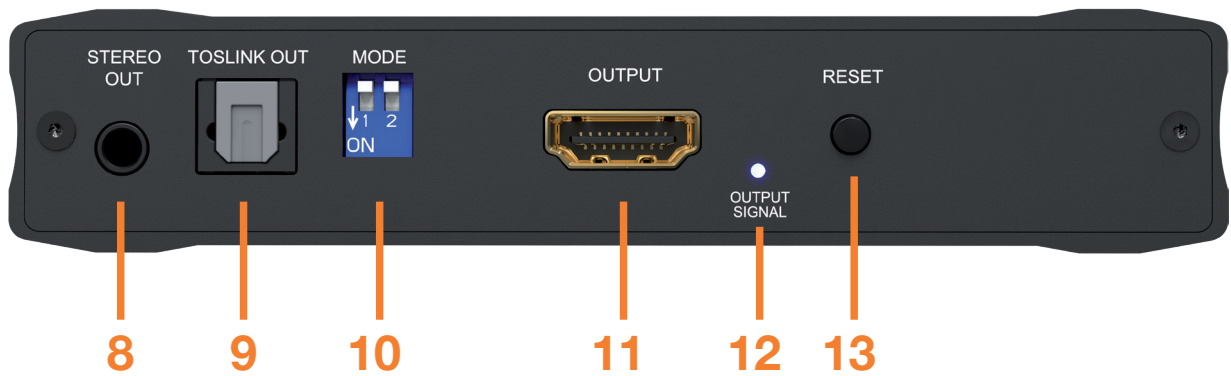


1. **Micro-USB port:** for Firmware Update / +5V Power
2. **Power LED indicator**
3. **HDMI input**
4. **Input Signal LED indicator**
5. **4-Pin Dip Switch** (Please refer to "Notes")
6. **S/PDIF input** (TOSLINK)
7. **Stereo input** (3.5mm)

**\*Notes: DIP Switch Position**

DIP Switch Position (4-Pin)				Description
PIN#1	PIN#2	PIN#3	PIN#4	
↑	↑	-	-	8K Ultra HD(8K60/4K120) – 8bit video & 2ch audio
↑	↓	-	-	4K Ultra HD(4K60) – 8bit video & 2ch audio
↓	↑	-	-	Learning EDID from output
↓	↓	-	-	User defined EDID
-	-	↑	↑	Normal Mode
-	-	↓	↑	Scale Up
-	-	↓	↓	Scale Down

**\* ARC audio extraction is always via Toslink output.**



- 8. Stereo output (3.5mm)
- 9. S/PDIF output (TOSLINK)
- 10. 2-Pin Dip Switch (Please refer to "Notes")
- 11. HDMI output
- 12. Output Signal LED indicator
- 13. Reset button

**\*Notes: DIP Switch Position**

DIP Switch Position (2-Pin)		Description
PIN#1	PIN#2	
↑	↑	HDMI audio bypass; S/PDIF out – HDMI input audio
↑	↓	HDMI audio bypass; S/PDIF out – ARC audio
↓	↑	HDMI audio from S/PDIF input; S/PDIF out – HDMI input audio
↓	↓	HDMI audio from Stereo input; S/PDIF out – HDMI input audio

**\* ARC audio extraction is always via Toslink output.**

6. Connection Diagram

# Audio Embedder

Support audio embedding via stereo or Toslink



# Audio Extraction

Extracts audio from an HDMI signal



## 7. Warranty

Maxsquare warrants the MSQ-80A 8K Audio Embedder/Extractor for one year from the date of purchase from Maxsquare or an authorized dealer from defects in material and workmanship. If this product fails to function properly within the first year of its warranty, Maxsquare may repair or replace it at its discretion, provided that the device has not been subjected to accident, disaster, abuse, or other unauthorized modifications, including static discharge and power surge. Maxsquare provides this warranty to its BUYER solely in the case of a direct transaction. This warranty is void if the warranty seal on the metal housing is broken.

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. These repairs are warranted by a 90-day warranty from the date of reshipment to the buyer. Customers agree to insure the unit or incur the risk of loss or damage in transit if the unit is delivered by mail. A unit will not be accepted if it does not have 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 purchase may be required to claim the warranty. Customers outside of Taiwan must pay for shipping to and from Maxsquare. Cables and power adapters have a 30-day warranty and must be free of any markings or scratches, as well as neatly coiled.

This manual's material has been carefully reviewed and is believed to be accurate. Maxsquare, on the other hand, takes no responsibility for any inaccuracies or omissions in this manual. Even if advised of the possibility of such losses, Maxsquare will not be liable for direct, indirect, incidental, special, or consequential damages resulting from any defect or omission in this manual. Furthermore, the technical information contained in documents on the MSQ-80A's features and specifications is subject to change without further notice.