



maxsquare

MSQ-3500D

4K HDMI Dante Audio Extractor with Lip-Sync Delay



MADE IN TAIWAN

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1. Introduction

The MSQ-3500D 4K HDMI Dante Audio Extractor with Lip-Sync Delay brings the highest level of HDMI 2.0a compatibility to the market. This special gadget enables the separation of digital S/PDIF(Toslink) and high-quality Dante audio from the incoming HDMI stream.

The MSQ-3500D is able to transmit uncompressed, low-latency digital audio signals over a regular IP network by using Dante™. To synchronize the audio stream with the visual stream, the MSQ-3500D additionally offers Lip-Sync delay of up to 170ms. The delay control button allows you to add delay in 22ms increments from 0 to 170ms.

The MSQ-3500D can be powered by any network switch that supports standard PoE (Power over Ethernet). The MSQ-3500D is designed for use in a variety of settings, including conference rooms and entertainment venues.

2. Features

- HDMI 2.0a compliant
- HDCP 2.2 compliant
- Supports 4K2K@60 4:4:4 8bits
- Supports HDR* , (4K2K@60 4:2:0 10bits)**
- Supports DHCP & static IP configuration
- Supports audio extraction via Dante network & Toslink
- Supports CEC bypass
- HDMI/ Optical/ Dante Audio Format: PCM2
- Sample rates: Optical Audio: up to 96kHz
Dante Audio: 44.1, 48, 96kHz
- Supports PoE (Power over Ethernet)
- Dante audio over IP and AES67 RTP transport formats
- Adjustable Lip-Sync delay audio output
- Supports to delay audio from 0-170 ms
- Easily adjust delay increments using touch panel

* HDR = High Dynamic Range.

** The video bandwidth of 4K2K@60 4:2:0 10bits (HDR) is 384MHz, and the 4K2K@60 4:4:4 8bits is 594MHz.

3. Package Contents

- 1x MSQ-3500D
- 1x 5V 2A Power Supply
- 1x User Manual

4. Specifications

Technical	
Role of usage	HDMI 2.0a Dante Audio Extractor
HDMI compliance	HDMI 2.0a
HDCP compliance	Yes
Video bandwidth	Single-link 594MHz [18Gbps]
Video support	HDR 4K2K@60 (4:2:0 10bits) / 4K2K@60 (4:4:4 8bits)
Audio support	PCM2
Sample rates	Optical Audio: up to 96kHz Dante Audio: 44.1, 48, 96kHz
Dante device latency	1, 2, or 5ms (configurable using Dante Controller)
Network transport	Dante Audio over IP, AES67 RTP
ESD protection	Human body model — ±15kV [air-gap discharge] & ±8kV [contact discharge]
PCB stack-up	4-layer board [impedance control — differential 100Ω ; single 50Ω]
Input	1x HDMI
Output	1x HDMI + 1x Toslink + 1x RJ-45(through Dante)
HDMI connector	Type A [19-pin female]
Optical audio connector	Toslink
RJ-45 connector	WE/SS 8P8C with 2 LED indicators
Mechanical	
Housing	Metal enclosure
Power supply	48V PoE or 5V DC
Power consumption	4 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]

5. Panel Description

Front Panel



1. **HDMI output:** Connect to a HDMI display
2. **Power LED indicator**
3. **Link LED indicator:**
[Shine] Dante link is on master status
[Blink] Dante link is on slave status
4. **Audio delay touch panel(-):** to adjust delay increments
5. **7-segment LED:** to show audio delay and audio sound level
6. **Audio delay touch panel(+):** to adjust delay increments
7. **Dante audio out volume knob:** to adjust the stereo audio out sound level



Rear Panel



8. **+5V power:** Connect to 5V DC power supply
9. **Micro-USB:** for F/W update
10. **RJ-45:** Dante link port
11. **S/PDIF output (TOSLINK):** Audio extracts from HDMI input
12. **HDMI input:** Connect to a HDMI source

6. Operation Approach



Touch Panel

	Function	Level	LED dot indicator	7-segment LED
	Audio delay (-)	0-8	N/A	
	Audio delay (+)			

Adjust the audio delay to ensure that the video and audio play out in perfect sync.

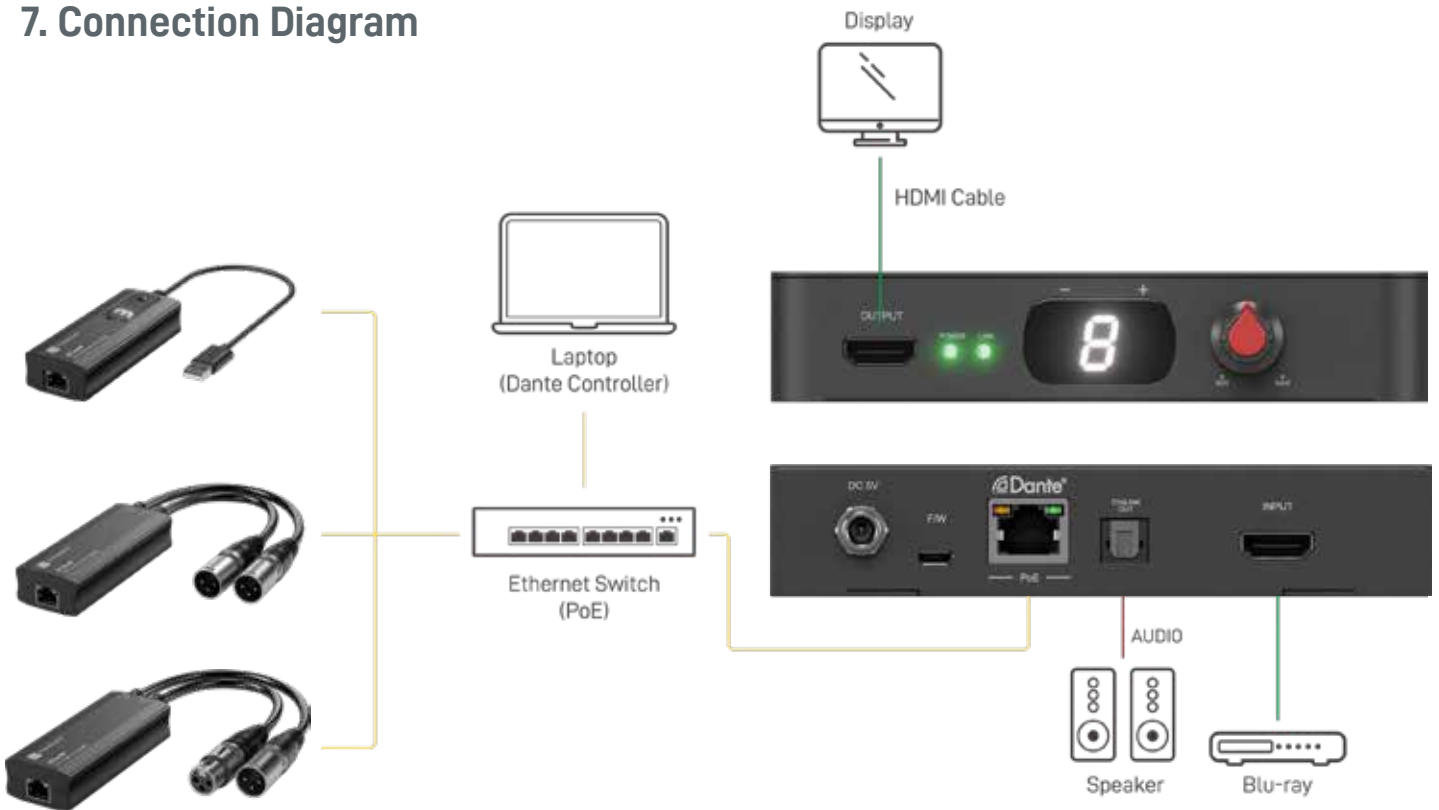
- (1) Touch the panel to select the number of delay level.
- (2) After selecting the number, the LED will blink twice and the setting will be effective.

Knob

	Function	Level	LED dot indicator	7-segment LED
	Audio volume	1-4	bottom right	

Use the knob to select the number of audio volume.

7. Connection Diagram



Dante Audio Output Device

8. Dante Controller

Dante Controller provides users to configure and route audio around Dante networks. Please use it to make connections between Dante devices on your network.

<If there are any issues about using Dante Controller with our device, please feel free to contact our support team.>

Download the software

Browse the download page of the Dante Controller website and create an account to download the software.

<https://www.audinate.com/products/software/dante-controller>

Device Setup Steps

1. Connect the device to Network.
2. Make sure to set up your PC/ Mac and the device in the same domain.
3. Start to use Dante Controller.

How to use Dante Controller

Refer to the following websites to use the functions of Dante Controller.

[User Guide] <https://www.audinate.com/learning/technical-documentation>

[Video Tutorial] <https://reurl.cc/Y8kvx4>

The screenshot shows the Dante Controller website interface. At the top, there are navigation tabs: Products, Adapters, Software, Dante-Enabled Products, and Solutions for Manufacturers. The main content area features a heading "Dante Audio Networking, Going beyond configuration and routing". Below this, there is a paragraph describing Dante Controller's capabilities: "Dante Controller provides essential device status information and powerful real-time network monitoring, including device-level latency and clock stability stats, multicast bandwidth usage, and customized event logging, enabling you to quickly identify and resolve any potential network issues. You can also quickly and easily backup, restore, move, and reuse Dante network configurations using Presets, and edit Dante routing configurations offline." A red callout box states "Dante Controller is available for Windows and macOS." Below this, another heading reads "Always Up-to-date", followed by a paragraph: "Beginning with version 4.2, Dante Controller includes Dante Updater. Dante Updater connects to a library of firmware updates from manufacturers of Dante-enabled products and makes it easy to keep your products up-to-date." A final paragraph states: "Devices are automatically discovered and correlated with the proper firmware for error-free deployment of updates. With Dante Updater, you can quickly and safely take advantage of all the latest features and capabilities of Dante as well as the manufacturers' product updates..." On the right side, there is a sidebar titled "Get Dante Controller" with a red "Download Dante Controller" button. Below the button, it says "Dante Controller is free to download and use". The sidebar also contains links for "Download Software", "Videos", "Support", and "User Guide".

9. Warranty

Maxsquare warrants the MSQ-3500D 4K HDMI Dante Audio Extractor with Lip-Sync Delay 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-3500D's features and specifications is subject to change without further notice.