

User Manual

4K HDMI Audio De-Embedder

4K HDMI audio decoder with EDID management



Version number: V1.12.16

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Safety Reminder

To protect the device and operating personnel from electrostatic discharge, you need to check and ensure that the device is grounding well before the device is powered on. Please observe the following when you install, use, maintain this equipment.



Make sure the device ground connection.

- Please use single-phase three wire system AC 220V power supply, and ensure all transmission system is grounding well.
- To protect operating personnel and the device, please turn off all power supplies and pull the plug before moving the device or doing some specific works which need to be done when the electricity is turned off . Please turn off the main power switch on rainy days or when not in use for a long time.
- Please do not put anything upon the cables, or tread the cables.
- To avoid damaging the device, please turn off power supply before plugging cable into the device or pulling cable from device. The damage caused by plugging/ pulling cables without turning off power supply is outside the scope of the warranty.
- The power of the device gives out heat when it works, so it' s necessary to keep the work environment ventilated to protect the device from the damage caused by over temperature.
- Do not place the device in very cold or very hot places. Do not sprinkle any corrosive chemicals or liquid on or around the device.
- To avoid accident or any further damage ,non-professionals please do not dismantle or maintain the device without permission.

1. Product Introduction

The 4K HDMI Audio De-Embedder is an HDMI audio de-embedder with HDMI repeater. It de-embeds audio from the HDMI input which supports up to 4K@60 resolution with HDCP 2.2, to one Toslink, one coax, and one analog outputs. The Toslink and coax also get audio from the audio return channel (ARC) via the HDMI output. It repeats HDMI signal up to 15 meters for 1080p, and 10 meters for 4K.

2. Package Contents

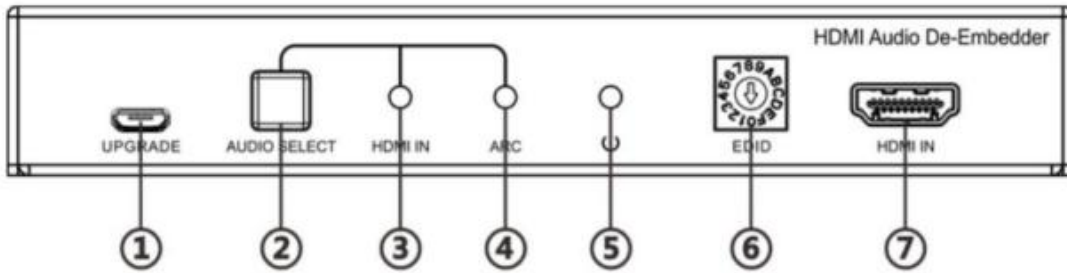
- 1 x 4K HDMI Audio De-Embedder unit
- 1 x Power supply, DC 5V 1A
- 2 x Mount ears
- 2 x Screws (for the mount ears)
- 4 x Rubber feet
- 1 x User manual

3. Features

- HDMI audio de-embedding with 3 audio outputs
- De-embeds audio with or without HDMI output connected
- Two digital audio outputs - one Toslink and one coax (1 x RCA)
- One analog audio output - L and R RCA
- Supports HDMI 1.4, resolution up to 4K@60Hz
- Supports HDCP 2.2
- Three ways of EDID management - auto detection, selecting built-in EDID data, EDID learning
- Supports ARC (audio return channel) - the Toslink and Coax
- HDMI equalization up to 50 feet (15 meters) at 1080p, 33 feet (10 meters) at 4K
- Supports Dolby True HD and DTS HD Master Audio
- Supports On/Off setting to the output HDMI embedding audio
- Micro USB for firmware upgrade

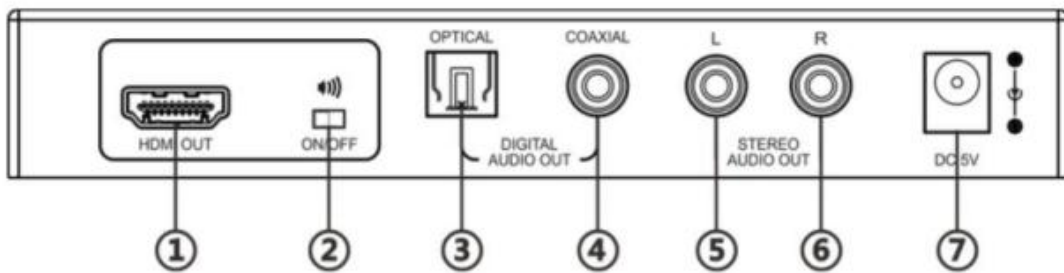
4. Panel Descriptions

4.1 Front Panel



- ① Upgrade Port - Micro USB, connecting to computer for firmware upgrade only.
- ② 2Audio Source Select Button - It can select audio mode between HDMI IN and ARC (Audio Return Channel);
- ③ Learn EDID;
- ④ Reset EDID data.
- ⑤ HDMI Input LED - Indicates the HDMI IN mode and HDMI input connection status.
- ⑥ ARC LED - Indicates the ARC mode and ARC connection status.
- ⑦ Power LED - Lights when the unit is powered on.
- ⑧ Rotary Switch - For EDID management (see detailed introduction on Page XX)
- ⑨ HDMI Input Port - Connects to the HDMI source.

4.2 Rear Panel



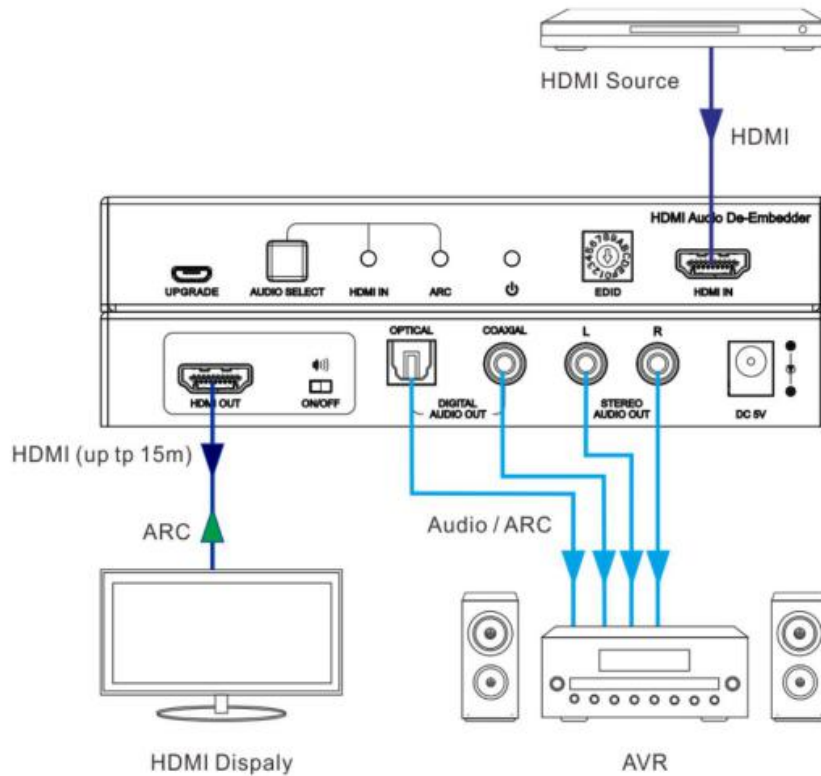
- ① HDMI Output Port - Connects to the HDMI acceptor such as TV set.
- ② Slide Switch - Set the audio on/off of the HDMI OUT.
- ③ OPTICAL Digital Audio Output - Connects to audio acceptor such as AVR or audio amplifier.
- ④
- ⑤ 4K HDMI Audio De-Embedder
- ⑥ COAXIAL Digital Audio Output - RCA connector, connects to audio acceptor such as

AVR or audio amplifier.

⑦ L & R Analog Audio Output - Two RCA connectors, connect to audio acceptor such as AVR or audio amplifier.

⑧ Power Input - Connects to the DC 5V power supply

5. Connection Diagram



6. Operation

6.1 Audio Output Modes Setting

There are two modes for the audio outputs.

6.1.1 HDMI IN Mode

Factory default setting is the on this mode. All the three audio outputs de-embeds the audio out from the HDMI input source.

When it is on ARC Mode, the HDMI IN LED is off; press and release the AUDIO SELECT button, it switches to HDMI IN Mode.

When switch to HDMI IN Mode, the HDMI IN LED will light up, when the LED keeps be always on, it means the HDMI input is well connected; when the LED is flashing, it means the HDMI

input is not connected successfully, please check the connection.

6.1.2 ARC Mode

When it is set to ARC Mode, the optical and coaxial audio outputs get audio from the Audio Return Channel of the HDMI output, the analog audio output have no audio output.

When it is on HDMI IN Mode, the ARC LED is off; press and release the AUDIO SELECT button, it switches to ARC Mode.

When switch to ARC Mode, the ARC LED will light up, when the LED keeps be always on, it means the ARC has communicated successfully; when the LED is flashing, it means the ARC does not communicate successfully, please check it with the HDMI output device.

6.2 EDID Management

It can set the rotary switch to manage the EDID data. Below the sheet shows the factory default EDID data.

<i>Position</i>	<i>EDID Data</i>	<i>Mark</i>
0	Auto detect	
1	1920x1080p@60Hz, stereo audio	Non-changeable
2	1920x1080p@60Hz, Dolby Digital / DTS 5.1	Non-changeable
3	1920x1080p@60Hz, High Definition Audio	Non-changeable
4	1920x1080p@60Hz 3D, stereo audio	Non-changeable
5	1920x1080p@60Hz 3D, Dolby Digital / DTS 5.1	Non-changeable
6	1920x1080p@60Hz 3D, High Definition Audio	Non-changeable
7	3840x2160p@30Hz, stereo audio	Non-changeable
8	3840x2160p@30Hz, Dolby Digital / DTS 5.1	Non-changeable
9	3840x2160p@30Hz, High Definition Audio	Non-changeable
A	3840x2160p@60Hz (4:2:0), stereo audio	Non-changeable
B	3840x2160p@60Hz (4:2:0), Dolby Digital / DTS 5.1 <u>Re-writable</u>	
C	3840x2160p@60Hz (4:2:0), High Definition Audio	<u>Re-writable</u>
D	1920x1080i@60Hz, stereo audio	<u>Re-writable</u>
E	1920x1080i@60Hz, Dolby Digital / DTS 5.1	<u>Re-writable</u>
F	1920x1080i@60Hz, High Definition Audio	<u>Re-writable</u>

6.2.1 Auto Detect EDID

Set the rotary switch to 0, it detects the EDID of output device and displays right resolution automatically.

6.2.2 Select Built-in EDID

Set the rotary switch to any of the 10 positions from 1 to A, selects the corresponding EDID data built-in the certain position (see above EDID Data Sheet).

6.2.3 Learn New EDID

Set the rotary switch to any of the last 5 positions from B to F, press and hold the AUDIO SELECT button for 3 seconds and then release it, the Power LED will flash and the immediately back to be always on, means it detected and copied the EDID data from the HDMI output device in the certain position.

6.2.4 Reset EDID Data

Set the rotary switch to 0, press and hold the AUDIO SELECT button for 3 seconds, the Power LED will flash and then immediately back to be always on, means all the EDID data have been reset to factory default (as on above EDID Data Sheet).

6.3 Audio of HDMI Output Setting

The embedded audio in the HDMI output can be set to be on or off.

Set the Slide Switch to the left (ON), the HDMI output is with audio embedded.

Set the Slide Switch to the right(OFF), the HDMI output is without audio embedded.

6.4 Firmware Upgrade (by Microsoft Windows System only)

1) Install the Correct USB Driver

Unpack USB Driver.rar, and select the right driver to install into different Windows system.

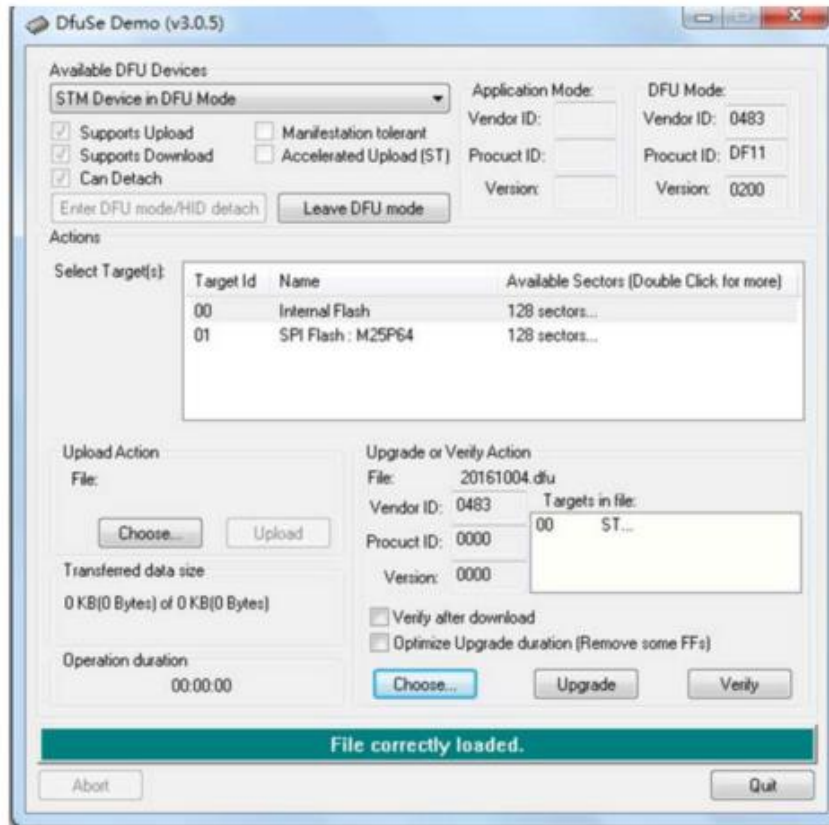
2) Press and hold the HDMI IN Button, and plug the power cord to the 4K HDMI Audio De-Embedder unit, the three LEDs light, then connect the unit to the PC by USB cable.

3) Copy the firmware upgrade file (XXX.dfu) into PC

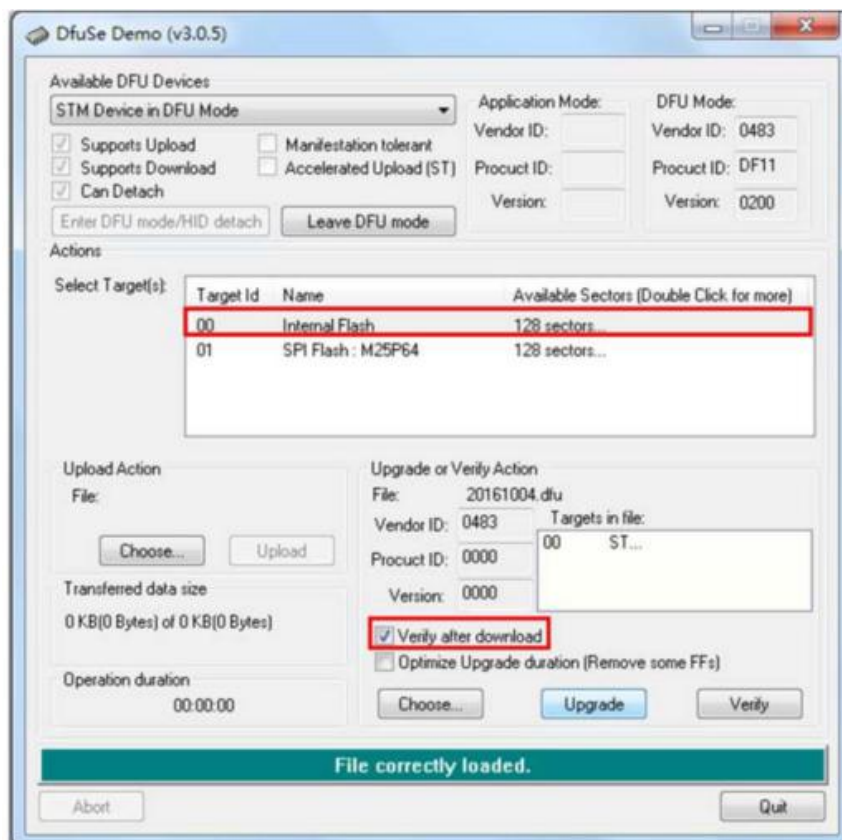
4) Copy Firmware Update Software.rar to PC and Unpack it, double- click

DfuSe_Demo_V3.0.5_Setup.exe

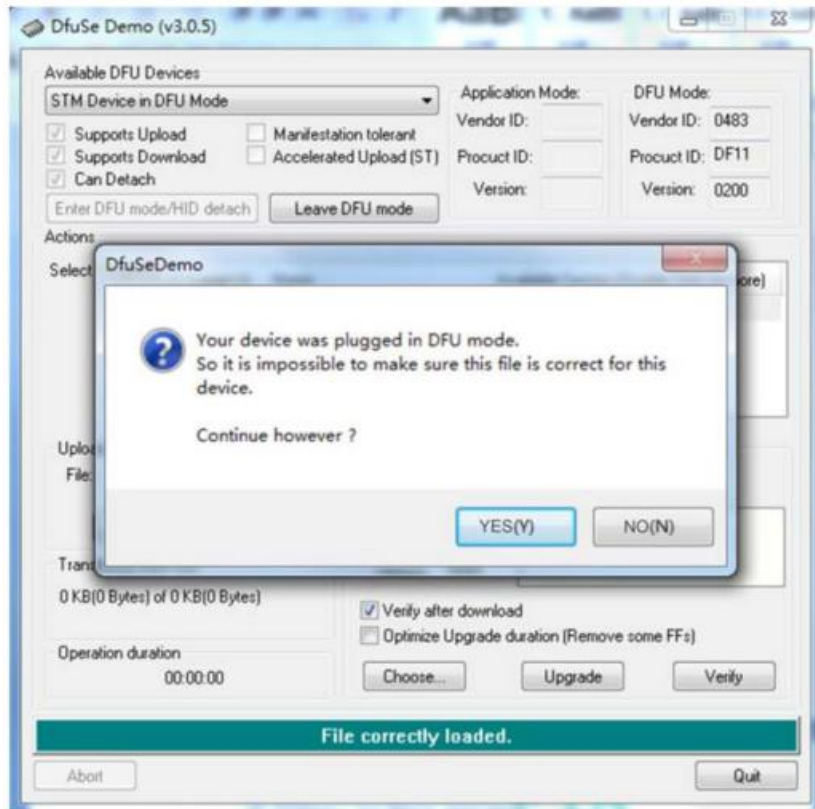
5) Click Choose button on the DfuSe Demo window, and open the firmware upgrade file XXX.dfu, then it shows File correctly loaded as below.



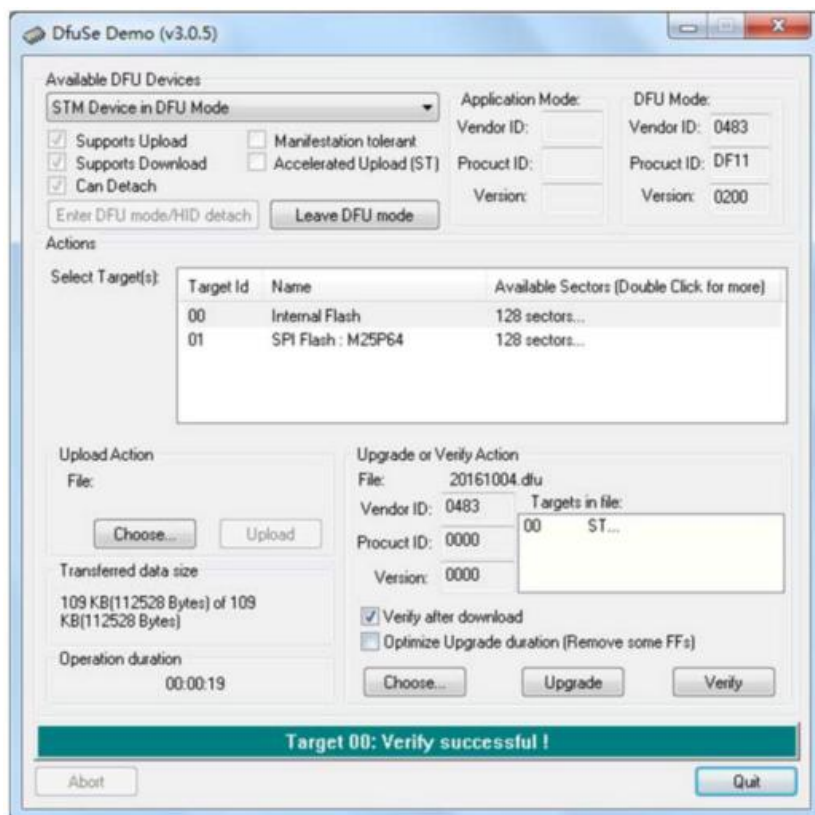
6) Select the First Target, and click Verify after download



7) Click Upgrade, and then click Yes on the pop-up window



8) It starts to upgrade and shows Target 00: Verify successful !



9) Re-plug the power to restart the unit, firmware upgrade finishes.

7. Specifications

Input	1 x HDMI
Output	1 x HDMI
	1 x OPTICAL (Toslink)
	1 x COAX (orange RCA)
	1 x L/R (red & white RCA)
Bandwidth	10.2Gbps
HDMI	HDMI1.4
HDCP	HDCP1.4, HDCP2.2
HDMI resolutions	Up to 3840x2160@60Hz (4:2:0)
HDMI Audio Format	(L)PCM 2 / 5.1 / 7.1CH, Dolby Digital, DTS 5.1CH, Dolby Digital Plus, Dolby TrueHD, and DTS-HD Master Audio
HDMI Distance	50 feet (15 meters) at 1080p, 33 feet (10 meters)
Micro USB	Firmware Upgrade
Operating Temperature	-10° C ~ +50° C / 14° F ~ 122° F
Storage Temperature	-20° C ~ 60° C / -4 ° F ~ 140 ° F
Operating Humidity	20~ 90% RH (non-condensing)
Storage Humidity	20 ~90% RH (non-condensing)
Power Supply	DC 5V 1A
Chassis Material	Aluminum
Dimensions	W152 x D74 x H24 (mm) / W5.98 x D2.91 x H0.95 (inch)
Power Consumption	1.8W
Weight	125g / 0.276lb

8. After-Sales

8.1 Warranty Information

The Company warrants that the process and materials of the product are not defective under normal use and service for 3 (3) years following the date of purchase from the Company or its authorized distributors.

If the product does not work within the guaranteed warranty period, the company will

choose and pay for the repair of the defective product or component, the delivery of the equivalent product or component to the user for replacement of the defective item, or refund the payment which users have made.

The replaced product will become the property of the Company.

The replacement product could be new or repaired.

Whichever is longer, any replacement or repaired of the product or component is for a period of ninety (90) days or the remaining period of the initial warranty. The Company shall not be responsible for any software, firmware, information, or memory data contained in, stored in, or integrated with the product repaired by the customer's return, whether or not during the warranty period.

8.2 Warranty limitations and exceptions

Except above limited warranty, if the product is damaged by over usage, incorrectly use, ignore, accident, unusual physical pressure or voltage, unauthorized modification, alteration or services rendered by someone other than the Company or its authorized agent, the company will not have to bear additional obligations. Except using the product properly in the proper application or normal usage

9. Version Information

Description of version (Document number: 4K HDMI Audio De-Embedder)		
Date	Version number	Description
Dec 2016	V1.01.01	First version