UHD 4K 6G Audio Extractor
- ID# 15477

Operation Manual

CONVERTERS.TV

Introduction

This 4K UHD LPCM 7.1 Channel Audio Extractor can extract up to 8 channels of LPCM audio from an HDMI source, allowing the user to convert high quality lossless HDMI audio into multi-channel analog signals for use with powered speakers or non-HDMI AV receivers. Bitstream extraction is also supported via an optical S/PDIF output. Both the input and output HDMI ports support 4K UHD resolutions up to 4K@60Hz (YUV4:4:4, 8-bit) and are capable of providing high quality audio and video performance. This unit supports pass-through of HD bitstream audio formats, as well as standard bitstream formats and LPCM 7.1 with audio sampling rates up to 192 kHz. Built in EDID management support allows the user select from multiple EDIDs and, with the use of optional PC software, to edit, upload and download EDID files

Features

- HDMI input and output with 18Gbps (600MHz) 4K UHD support
- DVI 1.0 compliant with the use of an HDMI-DVI adaptor
- HDCP 1.4 and 2.2 compliant
- Supports HD resolutions up to 3940x2160@60 Hz (YUV 4:4:4, 8-bit) & 4096x2160@60 Hz (YUV 4:4:4, 8-bit)
- Supports 48-bit Deep Color up to 1080p60
- 2 slots for user-created EDIDs, and EDID bypass support
- Supports pass-through of LPCM 7.1, bitstream and HD bitstream audio formats over HDMI
- Audio extraction to 8 channel analog output and optical S/PDIF output
- Supports HDMI audio sampling rates up to 192 kHz
- Supports S/PDIF audio sampling rates up to 192 kHz
- Provides EDID management with EDID bypass and 2 user modifiable EDIDs
- PC based EDID management tool support
- Supports RS-232 style control via a Virtual COM port over USB

Note:
4K UHD sources or equivalently high-bandwidth signals require an appropriate compatible display and HDMI cables in order to achieve the best image quality. The use of "Premium High Speed HDMI" cables is highly recommended.

Applications

- Audio extraction for use with non-HDMI AV receivers or powered speaker systems
- AV system integration and home theater installation
- Allow use of DVI displays with analog speaker systems with HDMI sources
- HDMI/DVI EDID management

System Requirements

- HDMI source equipment such as media players, video game consoles or set-top boxes.
- HDMI receiving equipment such as HDTVs, monitors or audio amplifiers.
- Analog audio receiving equipment such as audio amplifiers or powered speakers.
- he use of "Premium High Speed HDMI" cables is highly recommended

Operating Functions and Controls

Front Panel

1. POWER/POWER LED: Press this button to power the unit on or off. The LED will be lit GREEN when the unit is receiving power.
*Note:*
Press and hold the Power button for 3 seconds to perform a factory reset. Release the button once the LEDs begin flashing.

2. LINK: This LED will illuminate to indicate that a live source has been detected on the input port. When no source is detected the LED will remain off.

3. LPCM: This LED will illuminate when LPCM audio has been detected on the HDMI input.

4. TV/BITSTREAM/LPCM 7.1CH: This switch selects the EDID that is provided to the input. The "TV" setting passes the EDID from the connected display without modification. "Bitstream" is the User 1 EDID and by default has a native resolution of 1080p60 with support for LPCM 2.0 and bitstream formats. "LPCM 7.1CH" is the User 2 EDID and by default has a native resolution of 1080p60 and limits the audio support to LCPM 7.1. The two User EDIDs can be modified using the PC software.

Rear Panel
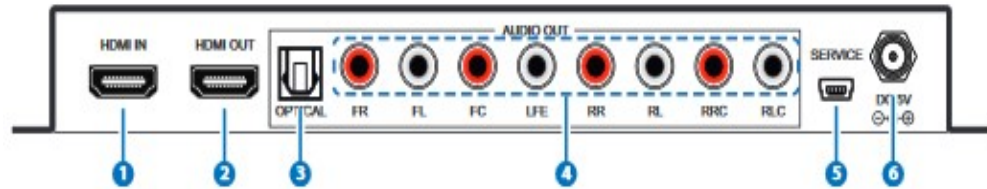
1. HDMI IN: Connect to HDMI source equipment such as a media player, game console or set-top box.

2. HDMI OUT: Connect to HDMI TVs, monitors or amplifiers for digital video and audio output. (LPCM up to 7.1, bitstream, HD bitstream)

3. OPTICAL OUT: Connect to powered speakers or an amplifier for digital audio output using an appropriate optical cable. (LPCM 2.0 and bitstream only)

4. 8 Channel OUT: Connect to powered speakers or an amplifier for multi-channel analog audio output. (LPCM up to 7.1 only)

5. SERVICE: This slot is for EDID management, control and firmware update use. Connect directly to your PC/laptop using a standard Mini-USB cable to connect using the PC software or to send commands (via virtual COM port).

6. DC 5V: Plug the 5V DC power adapter into the unit and connect it to an AC wall outlet for power.

RS-232 Commands

Commmand Name	Description	Parameters
P0	SET UNIT POWER OFF	NONE
P1	SET UNIT POWER ON	NONE
P?	GET POWER STATUS	NONE
SOURCEDET	SHOW INPUT INFORMATION	NONE
SINKINFO	SHOW SINK INFORMATION	NONE
HDCPIN	SET/SHOW INPUT HDCP STATUS	HDCPIN N [N=1~3, ?] 1: FOLLOW IN 2: FOLLOW OUT 3: APPLE MODE ?: GET STATUS **Default: FOLLOW OUT**
ECHO	SET/SHOW CONSOLE AUTO ECHO MODE	ECHO N [N=0, 1, ?] 0: OFF 1: ON ?: GET STATUS

|		Default: ON
FADEFAULT	SET UNIT TO FACTORY DEFAULT	NONE
VER	SHOW UNIT FIRMWARE VERSION	NONE
REBOOT	SYSTEM REBOOT	NONE
?	SHOW DESCRIPT OF COMMAND	NONE
HELP	SHOW DESCRIPT OF COMMAND	NONE

Note:
Commands will not be executed unless followed by a carriage return.
Commands are not case-sensitive.

EDID Manager

This unit uses an EDID Management application which allows the user to copy the EDID from an attached display, edit an existing EDID file stored on the PC or create a basic EDID from scratch. The EDID can then be uploaded to the unit for use. Please obtain the EDID Management software from your authorized dealer and save it in a directory where you can easily find it.
Before connecting the unit to your PC, please install the appropriate Virtual COM Port Driver depending on your Windows version. Next, install the EDID Management software. After the installation has successfully completed an icon for it will appears on the windows desktop. Launch the software by double-clicking on the icon and the EDID Management device detection window will open up on your screen.
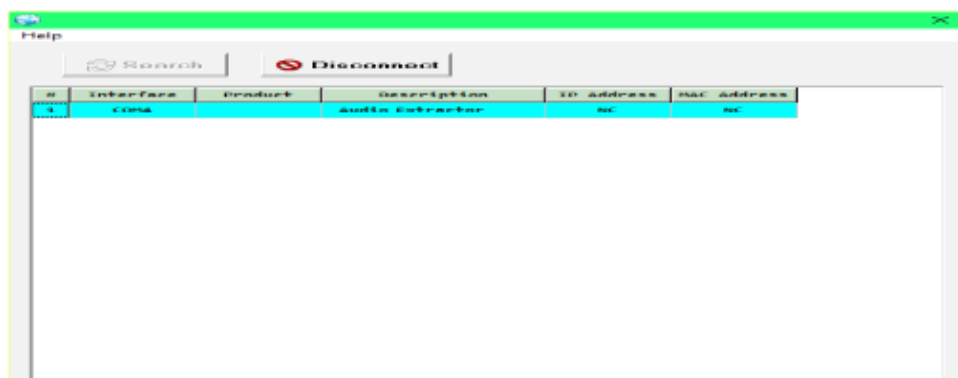
After launching the software, power the unit on and then connect it to the PC/laptop using a USB cable. Click on the "Search" button and any

detected units will be displayed in the list. Clicking on a detected unit will open the EDID Commander window.

EDID Controller Tab

Mode Select: The currently selected EDID is displayed here. The "User 1" EDID corresponds to the "Bitstream" setting on the front of the unit. The "User 2" EDID corresponds to the "LPCM 7.1" setting on the front of the unit. Both of these EDIDs are user-replaceable. To return them to their original values, please perform a factory reset on the unit.

Save/Upload/Analysis: EDIDs may also be saved, uploaded or analyzed.

- Any EDID from the unit or the connected HDMI display can be saved to your PC as a *.bin file by selecting the EDID source from the drop down menu and then clicking the "Save" icon.
- Previously saved EDID files (*.bin format) can be re-uploaded into the unit by selecting the User EDID to replace from the dropdown and then clicking the "Upload" icon. Before accepting the upload, the software will check and verify that the EDID's header and checksum values are acceptable.
- To analyze any EDID stored within the unit, select the EDID to view from the dropdown and click on the "Analysis" icon.
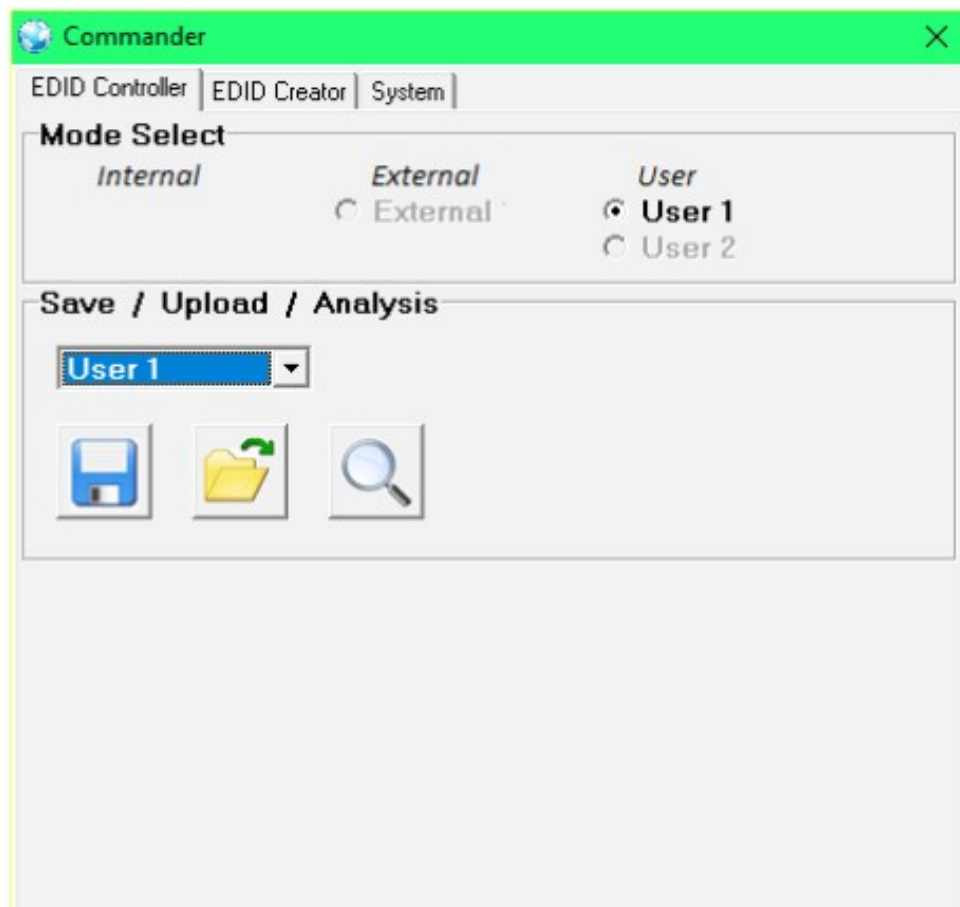
EDID Creator Tab
Click on the EDID Creator tab to begin designing a new EDID from scratch (select the "New" icon), to modify an existing EDID stored on the PC as a .bin file (select the "Load" icon) or to edit an EDID copied from the unit via the EDID Analyzer's edit option. Selecting "New" will automatically populate the various EDID fields with basic information that can be easily edited to match the user's preferences. Clicking on the "Load" icon will open a file load window and after the *.bin file has been selected and loaded the EDID fields will be populated with the information from that file. The same will happen when the EDID is copied from the EDID Analyzer window

The following tabs provide access to a wide range of EDID information which can be edited:
- **Descriptor:** This tab allows for the editing of various description and information fields within the EDID file such as Manufacturer Name, Monitor Name, etc.
- **PC Timing and SD/HD/UHD:** These tabs allow for the selection of the resolutions and refresh rates that the EDID will report as supported.
- **Audio1 and Audio2:** These tabs allow for the selection of which audio formats, audio frequencies, channels and speaker locations are supported.
- **Color Space:** This tab allows for the selection of which color

formats and bit depths are supported, including BT.2020 and HDR support options.
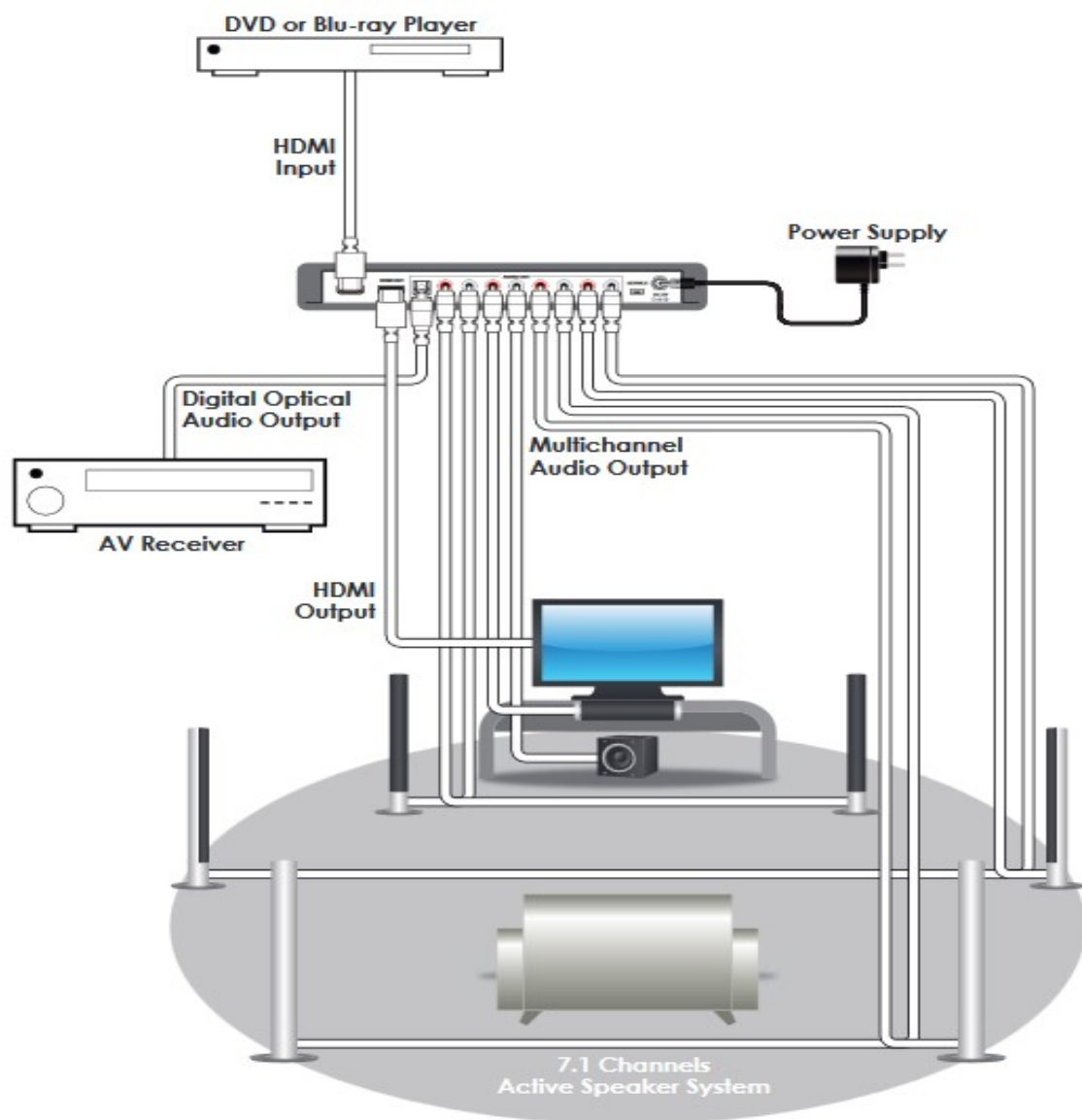* **Others:** This tab contains options for supporting 3D and defining the CEC Address.

Once the user is finished editing or creating an EDID it can be saved to a *.bin file locally or uploaded directly to the unit using the "Save" and "Upload" icons respectively.

System Tab
Select the System tab to edit the unit's description, to reset the unit to factory defaults and to view the unit's current hardware and firmware version information.

Connection Diagram

DVD or Blu-ray Player

HDMI Input

Power Supply

Digital Optical Audio Output

Multichannel Audio Output

AV Receiver

HDMI Output

7.1 Channels Active Speaker System

Specifications

Video Bandwidth	600MHz/18Gbps
Input Ports	1 x HDMI, 1 x Mini-USB (service & control only)
Output Port	1 x HDMI, 1 x Optical S/PDIF (Digital Audio)
HDMI Audio Sampling Rate	Up to 192 kHz
Optical Audio Sampling Rate	Up to 192 kHz
HDMI Cable I/O Distance*	10 meters, 1080p@12-bit 15 meters, 1080p@8-bit
HDMI Audio Format	LPCM 2.0/5.1/7.1, Bitstream, HD Bitstream
Optical Audio Format	LPCM 2.0, Bitstream
Analog Audio Format	8 Channel
Power Supply	5V / 2.6A DC (US/EU standards, CE/FCC/ UL certified)
ESD Protection	Human Body Model: +/-12kV (air-gap discharge); +/-8kV (contact discharge)
Chassis Material	Metal
Silkscreen color	Black
Dimensions	213.5mm x 30mm x 116.8mm (W×H×D)
Weight	618g
Operating Temperature	0℃~40℃ / 32℉ ~ 104℉
Storage temperature	-20℃~60℃ / -4℉ ~ 140℉
Relative Humidity	20~90% RH (no condensation)
Power Consumption	4.7w

* Note:
HDMI cable distance might affected by material or design of cable.

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