HDMI Enhancer with EDID
- ID# 15463

Operation Manual

Introduction

This 4K UHD HDMI to HDMI Enhancer with EDID Management is designed to enhance and stabilize high-bandwidth HDMI signals for cleaner transmission while also providing the utility of customized EDIDs. The built in EDID management support allows the user to easily switch between three distinct EDIDs (Internal, External, and User). With the use of the optional PC software it is possible to create, edit, upload or download the customized User EDID. The unit's included hot key and simple LED design allows the user to quickly switch between different configurations while viewing EDID status information.

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 3840×2160@60 Hz (4:4:4, 8-bit) & 4096×2160@60 Hz (4:4:4, 8-bit)
- Supports 48-bit Deep Color up to 1080p@60Hz and 36-bit Deep Color up to 4k@60Hz (YUV 4:2:0)
- Supports pass-through of LPCM 7.1, bitstream and HD bitstream audio formats
- EDID selectable between internal, external and user's custom EDID
- PC based EDID management tool support via the Micro-USB port.
- LED display providing an easy view of the current EDID and unit status
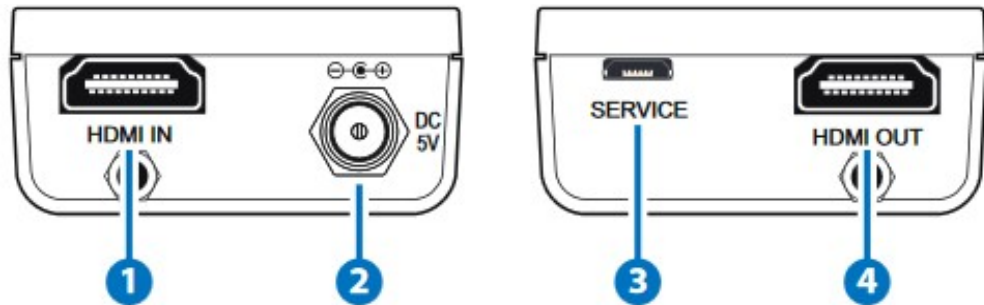
Applications

- HDMI signal extension
- 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.
- The use of "Premium High Speed HDMI" cables is highly recommended

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Operating Functions and Controls

Front and Rear Panels

1. HDMI IN: Connect to HDMI source equipment such as a media player, game console or set-top box. DVI sources are supported with the use of an HDMI to DVI adapter.
*Note:* 4K UHD sources with HDR 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.
2．DC 5V: Plug the 5V DC power adapter into the unit and connect it o an AC wall outlet for power.
3．SERVICE: This slot is used for PC software control, EDID upload and firmware updates section below
4．HDMI OUT: Connect to an HDMI TV, monitor or amplifier for digital video and audio output.
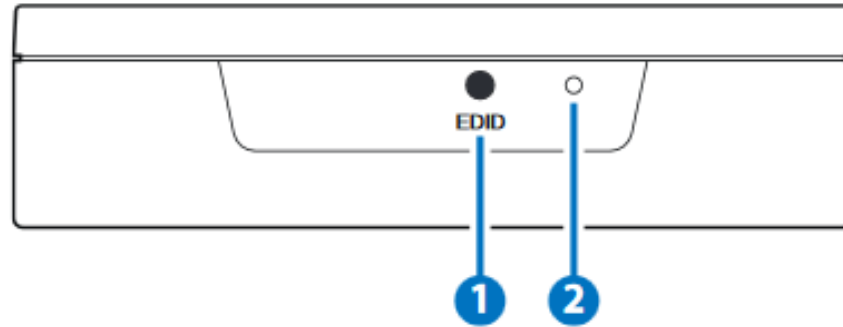
Top Panel
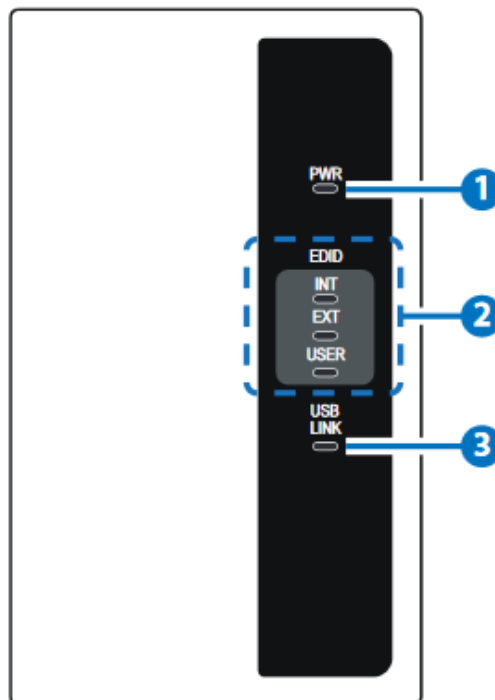
1. PWR LED: The LED will illuminate to indicate the unit is on and receiving power.
2．EDID LEDs:
These will LEDs illuminate to indicate which EDID mode is currently selected.
3．USB LINK LED:
This LED will illuminate when the unit has an active connection with the PC Control Software via the Micro-USB port.

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Side Panel

1．EDID: Press this button to select the EDID to send to the HDMI source. The available choices are: Internal, External, and User. The internal EDID is set to 1080p60 with LPCM 2.0 audio. The External EDID setting passes the EDID directly from the connected display to the source. The User EDID is a customized EDID that has been uploaded to the unit from the PC software. By default, the User EDID is set to 4K@60 (YUV 4:2:0) with LPCM 2.0 audio.

2．PINHOLE: This recessed button is reserved for factory use only.

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.
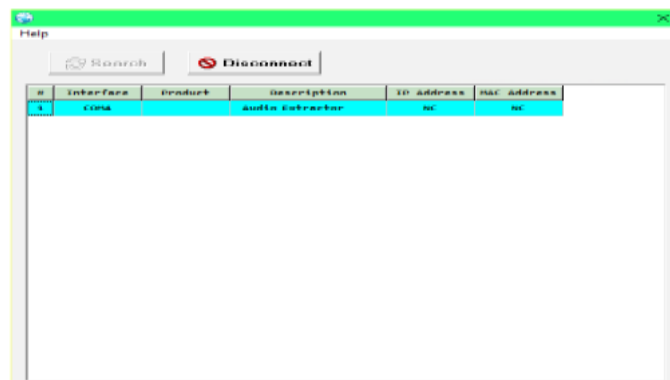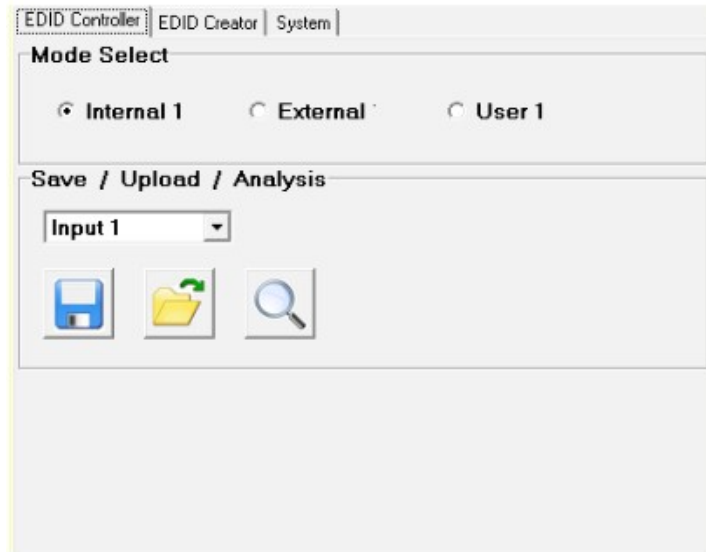

After launching the software, power the unit on and then connect it to the PC/laptop using a USB cable. Click on the "Search" button and any

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. From the Analyzer window it is possible to open the currently analyzed EDID in the EDID Creator by clicking the "Edit" button.

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:
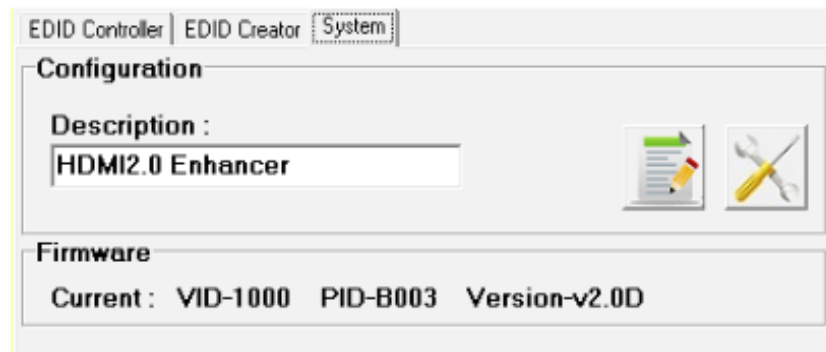- **Descriptor:** This tab allows for the editing of various description

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

4K Source Device

HDMI Input
(4K@50/60Hz, 4:4:4 up to 3m)

Power Supply

USB

PC/Laptop for
EDID Management

HDMI Output
(4K@50/60Hz, 4:4:4, up to 3m)

OR

HDMI Matrix System

4K Display
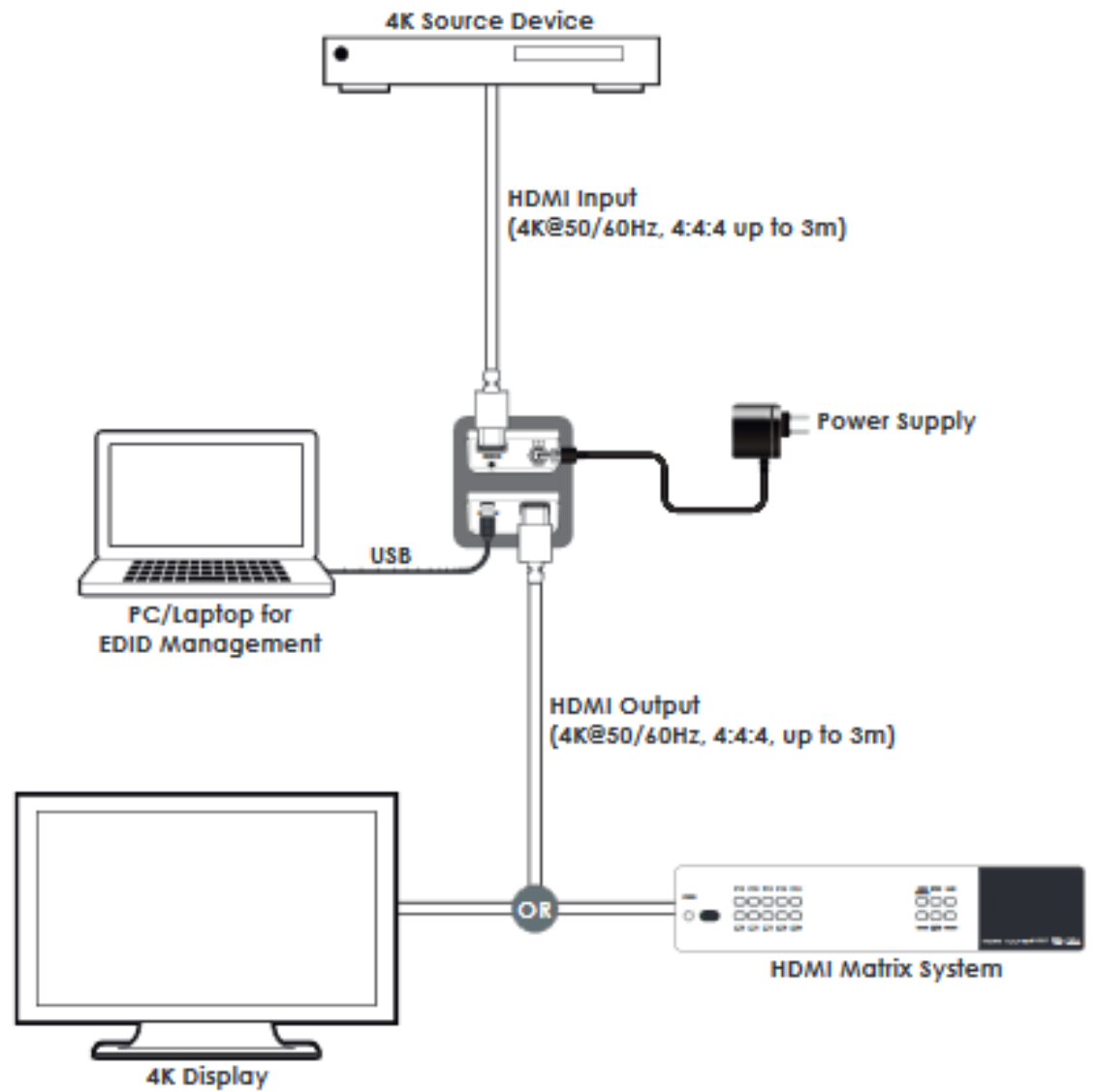
Specifications

Video Bandwidth	600MHz/18Gbps
Input Ports	1 x HDMI
Output Port	1 x HDMI
Control Interface	1×USB Micro-B
Supported Resolutions	480i@60Hz - 4K@60Hz (4:4:4, 8-bit) VGA@60Hz - WUXGA@60Hz (RB)
HDMI Cable Length	15m (1080p@60Hz, 8-bit) 10m (1080p@60Hz, 12-bit) 5m (4K@60Hz, 4:2:0, 8-bit) 3m (4K@60Hz, 4:4:4, 8-bit)
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	Plastic
Silkscreen color	Black
Dimensions	52mm×22.5mm×97mm (W×H×D)
Weight	60g
Operating Temperature	0℃~40℃ / 32℉ ~ 104℉
Storage temperature	-20℃~60℃ / -4℉ ~ 140℉
Relative Humidity	20~90% RH (no condensation)
Power Consumption	1.54w

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

Supported PC Resolutions (Hz)	Input	Output
640×480@60/72/75/85	✓	✓
720×400@85	✓	✓
800×600@56/60/72/75/85	✓	✓
1024×768@60/70/75/85	✓	✓
1152×864@75	✓	✓
1280×720@60	✓	✓
1280×768@60/75/85	✓	✓
1280×800@60	✓	✓
1280×960@60	✓	✓
1280×1024@60	✓	✓
1360×768@60	✓	✓
1366×768@60	✓	✓
1400×1050@60	✓	✓
1440×900@60	✓	✓
1600×900@60	✓	✓
1600×1200@60	✓	✓
1680×1050@60	✓	✓
1920×1080@60	✓	✓
1920×1200@60	✓	✓
1920×1440@60	✓	✓
2560×1600@60	✓	✓

Supported TV Resolutions (Hz)	Input	Output
720×576i@50	✓	✓
720×480i@59.94/60	✓	✓
720×480p@59.94/60	✓	✓
720×576p@50	✓	✓
1280×720p@50/59.94/60	✓	✓
1920×1080i@50/59.94/60	✓	✓
1920×1080p@23.97/24/25/29.97/30/50/59.94/60	✓	✓
3840×2160p@24/25/30/50/60	✓	✓
4096×2160p@24/25/30/50/60	✓	✓