

XA-HDCP

4K2K EDID Emulator & HDCP Converter



4K2K
HDCP2.2

Operation Manual

SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE (DD/MM/YY)	SUMMARY OF CHANGE
RDV1	17/08/15	Preliminary release
RDV2	28/12/15	Add EDID Management
RDV3	27/01/16	Add User Mode's Default
RDV4	28/01/16	SYNC & HDCP LED Description
RDV5	02/02/16	HDCP LED Chart

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1. INTRODUCTION

The 4K2K EDID Emulator & HDCP Converter is a handy device for your HDMI signal differentiate. With 6G bandwidth, HDCP analyzing, EDID and YUV420 selections this device allows you with fast and clear viewing on the HDMI signal status. Further, this device allows user to upload EDID for selection which create alternative EDID selection for specific usage. Moreover, with hot keys and LEDs design which allow fast switching on various selection and quick viewing on the status.

2. APPLICATIONS

- HDMI signal extension
- Source and display signal status display
- EDID selection
- HDCP verification
- 4K2K@60 YUV444 down sampling to 4K2K@60 YUV420

3. PACKAGE CONTENTS

- 1×4K2K EDID Emulator
- 1×5V/2.6A Power Adaptor
- 1×Operation Manual

4. SYSTEM REQUIREMENTS

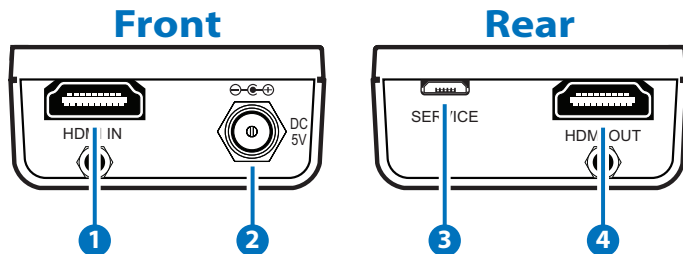
Input HDMI source a signals with output HDMI display and connection cables.

5. FEATURES

- HDMI with 4K2K 6G supported, HDCP 2.2/1.4 and DVI compliant
- Supports video source and output display signal analysis up to 6G 4K2K
- Supports HDMI 2.0
- Supports HDCP v2.2 to v1.4 conversion
- Supports EDID selection from internal, external and user's EDID to be insert
- Supports application control via USB
- Supports LEDs display with fast viewing on current selection status
- Supports USB firmware update
- Supports 6G bandwidth down sampling to 3G

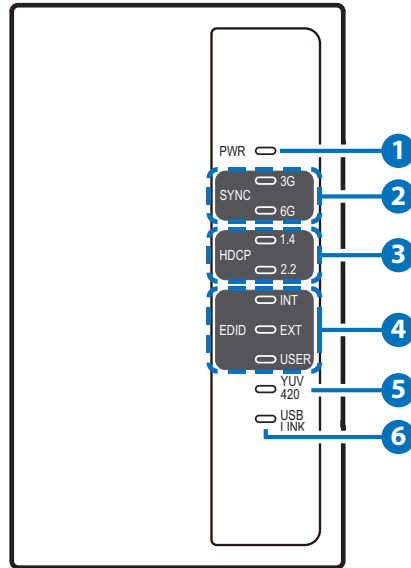
6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front and Rear Panels



- ❶ **HDMI IN:** Connect with HDMI source equipment such as Blue-ray/ PS4 player with HDMI cable.
- ❷ **DC 5V:** Plug the 5V DC power supply into the unit and connect the adaptor to an AC outlet.
- ❸ **SERVICE:** This slot is for firmware update use and customer EDID file upload.
- ❹ **HDMI OUT:** Connect with display/amplifier for both video and audio output with HDMI cable.

6.2 Top Panel



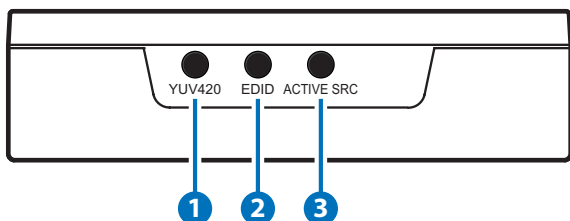
- 1 PWR LED:** This LED will illuminate when the device is connected with power supply from the AC outlet.
- 2 SYNC LEDs:** These LEDs will illuminate according to both HDMI input and output signal's current bandwidth. When input signal is 6G and YUV420 button is pressed to switch output signal to 3G YUV420, both LEDs will illuminate. When the LED is blinking it represent signal has issue occurred.
- 3 HDCP LEDs:** These LEDs will illuminate according to both HDMI input and output's HDCP encrypted signal. When both input and output signal are HDCP 2.2 encrypted and when input signal is HDCP 2.2 encrypted and whether output display is with HDCP 1.4/2.2 both LEDs will illuminate. When the LED is blinking it represent HDCP has failed and when LED is not illuminating it represent no HDCP. Other LED illumination please referes to below chart.

DS	LED	SS		
		1.4	2.2	Non-HDCP
Display Signal	1.4	1.4	1.4 & 2.2	-
	2.2	1.4	1.4 & 2.2	-
	Non-HDCP	1.4B	1.4B	-

B: Blinking

- 4 **EDID LEDs:** These LEDs will illuminate according to the selected EDID setting.
- 5 **YUV420 LED:** This LED will illuminate according to YUV420's selection.
- 6 **USB LINK LED:** This LED will illuminate when the connected USB device is valid for PC control.

6.3 Side Panel



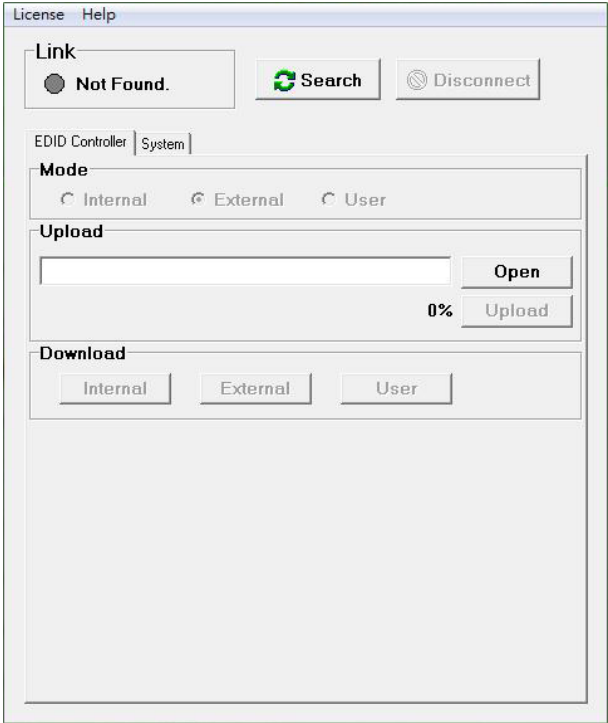
- 1 **YUV420:** Press this button to allows HDMI input 6G signal to be subsampling to YUV420 from YUV444.
- 2 **EDID:** Press this button to select EDID of INTERNAL/EXTERNAL or USER where internal EDID is 1080p at 2CH, external EDID is depending on the connected HDMI output display and USER is for user to upload with default setting on 4K2K@60_YUV420 2CH.
- 3 **ACTIVE SRC:** Press this button to force the connected HDMI output display to output image always.

Note: Output display must support CEC in order to perform this function.

6.4 EDID Management-Coming soon, please contact support@cypeurope.com for further details



Once the file has been downloaded successfully, double click to open the application and EDID Manager's window will pop-up.



Connect the unit under power ON status with USB cable from PC/ Laptop. Click on Search to allow the unit to be lined up.

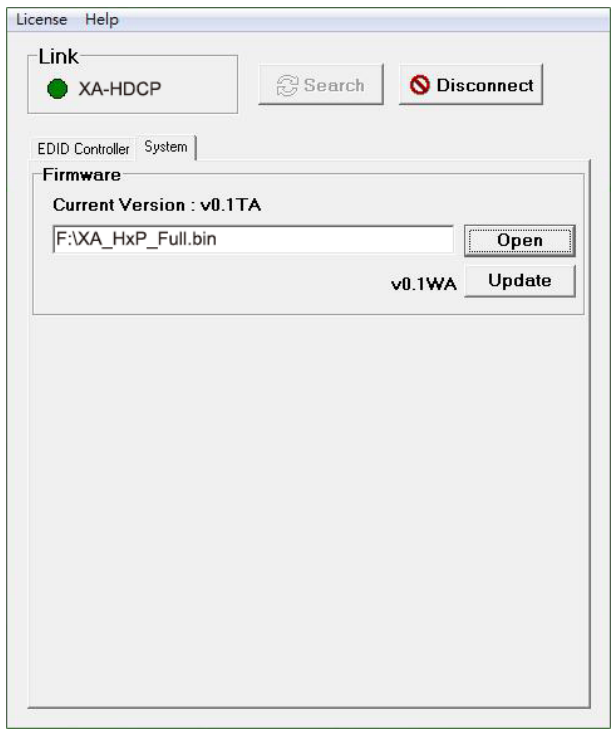
Under EDID Controller user may select EDID from Internal, External or User as a reference for input HDMI source, the selection will act correspondingly with the unit's LED light.

EDID may be uploaded, simply by open the EDID's *.bin file and click on Upload the unit will check EDID's Header and Checksum and proceed the upload. When the upload is successfully done EDID mode will switch to User.

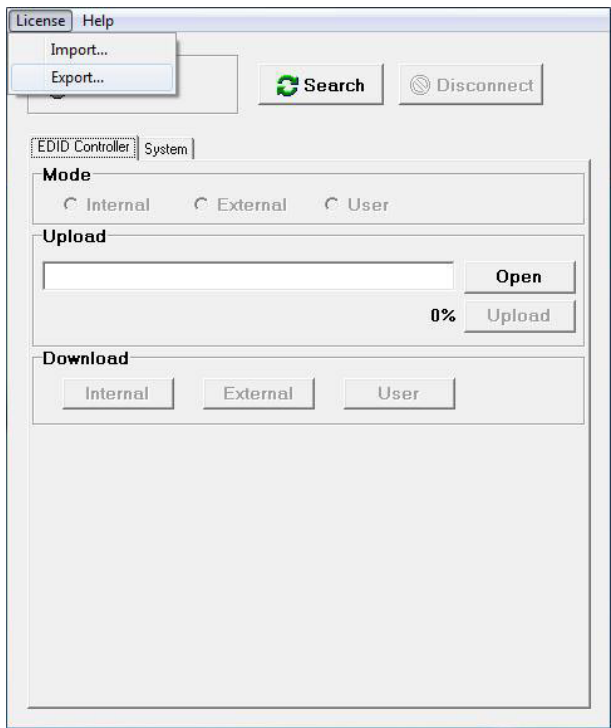
EDID may also be downloaded, simply by a click on Internal, External or User and the unit will download current EDID with a pop up screen to save.

The screenshot shows a software window titled "License Help". Inside, there is a "Link" section with a green status indicator and the text "XA-HDCP", and two buttons: "Search" and "Disconnect". Below this is a tabbed interface with "EDID Controller" and "System" tabs. Under the "EDID Controller" tab, there is a "Mode" section with three radio buttons: "Internal", "External" (which is selected), and "User". Below the mode section is an "Upload" section containing a file input field, an "Open" button, a progress indicator showing "0%", and an "Upload" button. At the bottom is a "Download" section with three buttons: "Internal", "External", and "User".

Click on System to learn the unit's Current Firmware version. To update simply open the *.bin file and click on Update. Once the update is finished click on Disconnect and re-power on the unit will complete the update procedure.



To use the advance features like EDID Analyzer and Creator on the EDID Manager, requires registration and approval license. Click from License and select Export, the application will generate a License export file for user to save. Send this file to license@cypeurope.com to get an import license file.



It may require one or two working days before you get your license approved. Once you get the license file please import back into EDID Manager and the advanced features will be available for use.

Click on EDID Analyzer to view current EDID details of Internal, External, User and even the EDID file created by user.

LicenseHelp

Link

XA-HDCP

Search

Disconnect

EDID ControllerEDID AnalyzerEDID CreatorSystem

Select

InternalExternalUserBin File

Informations

EDID Header :	Good
EDID Checksum :	Good
Manufacturer Name :	STD
Monitor Name :	ENHANCER
Max Resolution :	1080p@60Hz
Max Color Depth :	8bit
Support 3D :	No
Support YUV420 :	No
Support SCDC :	No
Support 600MHz :	No
Audio Formats :	2PCM,
Audio Max Channel :	2CH
CEC Address :	0100

Click on EDID Creator to design (Brand New) or redesign (Bin Modify) your EDID.

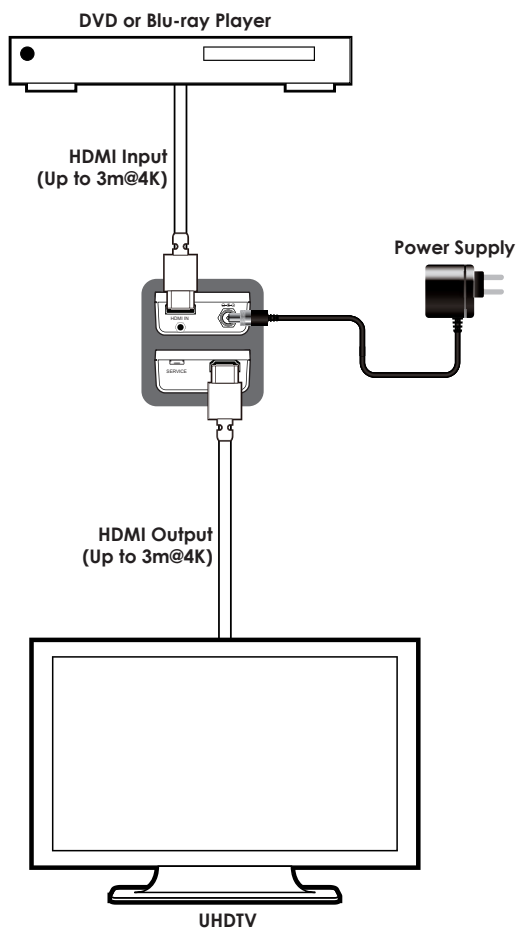
EDID may be designed with its Description, Timings, Audio, Color Space and Others such as 3D and CEC address with just few simple ticks. Once the design is done user may choose to save it or upload it as an User EDID.

The screenshot shows the 'EDID Creator' window with the following elements:

- License Help** (top left)
- Link** section: A green circle icon, **XA-HDCP**, a **Search** button, and a **Disconnect** button.
- Navigation tabs: **EDID Controller**, **EDID Analyzer**, **EDID Creator** (selected), and **System**.
- Select** section: Two radio buttons, **Brand New** (selected) and **Bin Modify**.
- Sub-tabs: **Descriptor**, **PC Timing**, **SD/HD/UHD**, **Audio1**, **Audio2**, **Color Space**, and **Others**.
- Form fields** (under the 'Descriptor' tab):

Manufacturer Name :	NEW
Monitor Name :	BrandNewEdid
Product Code :	0
Serial Number :	0
Manufacture Year :	2015
Manufacture Week :	44
- Buttons** at the bottom: **Save**, **Upload**, and a progress indicator **0%**.

7. CONNECTION DIAGRAM



8. SPECIFICATIONS

Video Bandwidth	600 MHz/6 Gbps
Input Ports	1×HDMI
Output Ports	1×HDMI
HDMI Resolutions	VGA~WUXGA (RB), 408i~1080p@24/50/60, 4K@24/25/30, 4K@50/60 (YUV444)
HDMI Cable Distance	10m@1080p/8-bit, 10m@1080p/12-bit, 5m@4K/30, 3m@4K/60
Power Supply	5V/2.6A DC (US/EU standards, CE/FCC/UL certified)
ESD Protection	Human body model: ±8 kV (air-gap discharge) ±4 kV (contact discharge)
Dimensions	50 mm (W)×85 mm (D)×22.5 mm (H)/ Jack Excluded 51 mm (W)×97 mm (D)×22.5 mm (H)/ Jack Included
Weight	58 g
Chassis Material	Metal
Color	Black
Operating Temperature	0°C~40°C/32°F~104°F
Storage Temperature	-20°C~60°C/-4°F~140°F
Relative Humidity	20~90% RH (non-condensing)
Power Consumption	3.3 W

9. ACRONYMS

ACRONYM	COMPLETE TERM
CEC	Consumer Electronics Control
DVI	Digital Visual Interface
EDID	Extended Display Identification Data
HDCP	High-bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface
USB	Universal Serial Bus
VGA	Video Graphics Array
WUXGA (RB)	Widescreen Ultra Extended Graphics Array (Reduce Blanking)

