



4k x 2k
HDCP2.2

RE-HDEQ-4K

HDMI to HDMI Equaliser (4K resolution support)

OPERATION MANUAL

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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	SUMMARY OF CHANGE
v1.00	21/04/2015	First release

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1. INTRODUCTION

The RE-HDEQ-4K is a mini HDMI equaliser enabling the user to extend their HDMI cable lengths either side of the device, 15 meters at 4K/2K@ 60Hz (YUV 4:2:0). Please note that the RE-HDEQ requires power to be received via the HDMI source, so it is important to ensure that the HDMI source being used is capable of providing the standard 2W power supply via HDMI as is common on many HDMI sources.

For sources which do not have power via HDMI, CYP recommend the use of the RE-PI Power Inserter product, designed to be used alongside the RE-HDEQ. Supports resolutions VGA~WUXGA, 480i~1080p, 4K UHD@24/25/30Hz (RGB 4:4:4 & YUV 4:2:2), 4K UHD@ 60Hz (YUV 4:2:0), 4K/2K@24/25/30Hz (RGB 4:4:4 & YUV 4:2:2) and 4K/2K@ 60Hz (YUV 4:2:0) dependent upon the output display's EDID settings. This product is a simple, yet very effective way of extending HDMI cable capabilities..

2. APPLICATIONS

- /// Custom installation usage
- /// Cascade an HDMI signal
- /// Extend the operating distance of an HDMI system

3. PACKAGE CONTENTS

- /// 1xHDMI 4K UHD Enhancer
- /// 1xOperation Manual

4. SYSTEM REQUIREMENTS

HDMI source device and HDMI equipped output display (TV/monitor) with HDMI connection cables.

5. FEATURES

- /// Supports TMDS equalisation and CDR (Clock Rate Recovery) for extended HDMI cable range
- /// Supports resolutions VGA~WUXGA, 480i~1080p, 4K UHD@24/25/30Hz (RGB 4:4:4 & YUV 4:2:2), 4K UHD@ 60Hz (YUV 4:2:0), 4K/2K@24/25/30Hz (RGB 4:4:4 & YUV 4:2:2) and 4K/2K@ 60Hz (YUV 4:2:0) dependent upon the output display's EDID settings
- /// Requires HDMI source to output power via HDMI cable to power Enhancer (2W as standard)
- /// No PSU required
- /// HDCP 2.2 and DVI 1.1 Compliant
- /// Supports HDMI Input/Output cable distance up to 15m at 4K2K@50/60 & YUV_420
- /// Cascading HDMI signal up to 5 layers

Note:

1. *Testing was done with 24AWG HDMI cable, results may vary when used with different source devices or different specification cable and may affect overall cable distance and cascadable layers.*
2. *For HDMI source devices that do not support Power over Cable (PoC) an HDMI Power Inserter unit can be used in-line between the source device and the HDMI Enhancer unit.*

6. OPERATION CONTROLS AND FUNCTIONS

6.1 HDMI Dongle



1 HDMI IN

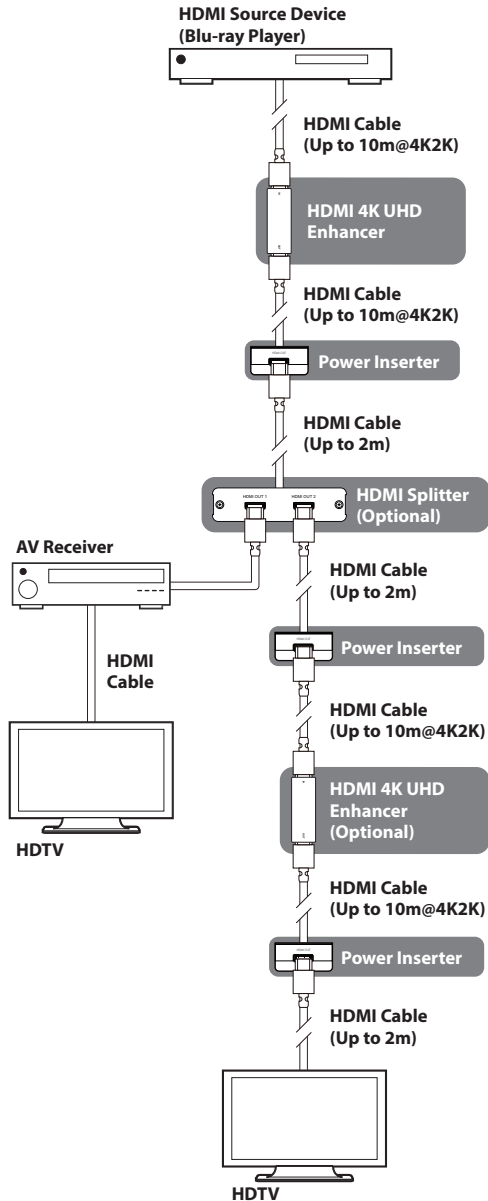
Connect the HDMI input to the HDMI output of an source device such as a Blu-ray player or an HDMI Matrix/Splitter/Switcher. The unit can be directly powered by compatible HDMI source devices that provide power through the HDMI cable or can be powered by an HDMI Power Inserter placed in-line between the source and the unit.

2 HDMI OUT

Connect the HDMI output to the HDMI input of an HDMI equipped display (TV/monitor) or an HDMI Transmitter.

Note: Multiple HDMI Enhancer units may be used (up to 5 layers) to cascade the signal over longer distances. Additional HDMI Power Inserter units will be required. It is recommended that an HDMI Power Inserter unit is used between the first and the second HDMI Enhancer units being used and on the last/5th layer before the connecton to TV or monitor/final HDMI equipped display.

7. CONNECTION DIAGRAM



8. SPECIFICATIONS

8.1 Technical Specifications

Video Bandwidth	340 MHz/10.2 Gbps
Input Port	1× HDMI
Output Port	1× HDMI
Resolution	PC: VGA~WUXGA (RB) HDTV: 480i~4K2K@24/25/30 & 4K2K@50/60 (YUV420)
Cable Distance	10 m@4K2K 15 m@1080p/8-bit or 12-bit
ESD Protection	Human body model: ±8 kV (air-gap discharge) ±4 kV (contact discharge)
Dimensions	65 mm (W)×24 mm (D)×9.5 mm (H)
Weight	14 g
Chassis Material	Plastic
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	0.75 W (Max)

8.2 Supported Resolutions

RESOLUTION	INPUT	OUTPUT
640×480@60/72/75/85	√	√
800×600@56/60/72/75/85	√	√
1024×768@60/70/75/85	√	√
1280×720@60	√	√
1280×1024@60	√	√
1600×1200@60	√	√
1920×1200@60RB	√	√
3840×2160p@24/25/30	√	√
4096×2160p@24	√	√
4096×2160p@50/60 (YUV420)	√	√
480i/576i	√	√
480p/576p	√	√
720p@50/60	√	√
1080i@50/60	√	√
1080p@50/60	√	√
1080p@24/25/30	√	√

9. ACRONYMS

ACRONYM	COMPLETE TERM
CDR	Clock Rate Recovery
EQ	Equalization
HDMI	High-Definition Multimedia Interface
TMDS	Transition-minimised Differential Signaling
UHD	Ultra High Definition



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