

# CPRO-8MCEC

## HDMI 1 by 8 Splitter with CEC Function

### Operation Manual



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## • **Safety Precautions**

Please read all instructions before attempting to unpack or 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 module openings or empty slots, as you may damage parts.
- Do not attach the power supply cabling to building surfaces.
- Do not allow anything to rest on the power cabling or allow it to be abused by persons walking on it.
- To protect the equipment from overheating, do not block the slots and openings in the module housing that provide ventilation.

## • **Revision History**

<b>Version No</b>	<b>Date</b>	<b>Summary of Change</b>
<b><i>RDV1</i></b>	<b><i>20101117</i></b>	<b><i>Preliminary Release</i></b>
<b><i>RDV2</i></b>	<b><i>20110413</i></b>	
<b><i>RDV3</i></b>	<b><i>20110706</i></b>	

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## **1. Introduction**

This is a high performance one input & eight outputs HDMI™ Splitter supports 3D and individual CEC control functions. One out of the eight outputs port supports Audio Return Channel (ARC) and HDMI Ethernet Channel (HEC) follow by HDMI v1.4 Specification. The ARC provides an S/PDIF link from an HDMI™ sink and output through ARC port to AVR to get true audio from the sink. The HEC feature adds a connection to the HDMI link that is capable of carrying the same data as a full duplex, 100Mbps Ethernet connection. Using an HDMI with HEAC cable allowing for convenient integration of Digital Televisions (DTVs) into the end user's home network system.

## **2. Applications**

- Simultaneous display one HDMI source on 8 TVs
- Professional audio display
- Showroom display
- Education demo
- Commercial usage

## **3. Package Contents**

- 1 x 8 HDMI Splitter with CEC function
- 3.5Ø to D-Sub 9pin adaptor
- 5V DC/3A power supply adaptor
- Operation Manual

## **4. System Requirements**

- Source equipments with HDMI output connector(s)
- Displays TV/monitor with HDMI input connector(s)
- Output port 4 can be connect to the HDMI Ethernet Channel (HEC) of Digital Televisions (DTVs) from end user's home network system and Audio Return Channel (ARC) can output to the AVR to get true audio from the sink.

## 5. Features

- Support multiplexed HDMI 1-input and 8-output
- Output port 4 supports Ethernet Channel (HEC) and Audio Return Channel (ARC) follow by HDMI v1.4 specification.
- HDMI 1.4 support:
  - ✓ Audio Return Channel (ARC)
  - ✓ 3D
  - ✓ CEC
  - ✓ HDMI Ethernet Channel (HEC), enabling high-speed, bi-directional networking at up to 100Mb/sec
- Deep Color support 36/30/24-bit, 1080p@60Hz
- EDID can selected Standard or TV EDID
- Support System reset or CEC On switch
- Audio support:
  - ✓ HDMI 1.4 compatible audio interface
  - ✓ Dedicated, flexible audio input/output port
  - ✓ Dolby TrueHD
  - ✓ DTS-HD Master Audio
  - ✓ Full audio input and output support

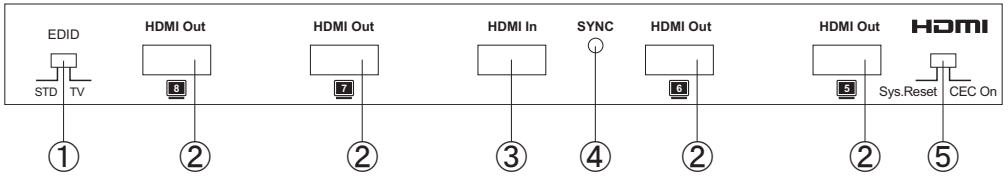
## 6. Specifications

Frequency bandwidth	2.25Gbps (single link)
Input Port	1 x HDMI (Female type)
Output port	8 x HDMI (Female type) 1 x Ethernet (Port 4) 1 x ARC (Port 4)
Output Resolution	480i ~1080p 50/60, 1080p24, VGA~UXGA
HDMI Cable In	1080p/8bits or 12bits (15M)
HDMI Cable Out	1080p/8bits or 12bits (15M)
ESD Protection	Human Body model: $\pm 8\text{kV}$ (air-gap discharge) $\pm 4\text{kV}$ (contact discharge)
Power Supply	5V/3A DC (US/EU standards, CE/FCC/UL certified)
Dimensions (mm)	240(W) x 113(D) x 44(H)
Weight(g)	670
Chassis Material	Metal
Silkscreen 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 (no condensation)
Power Consumption	4.5/W (Max)

## 7. Operation Controls and Functions

The following sections describe the hardware components of the unit.

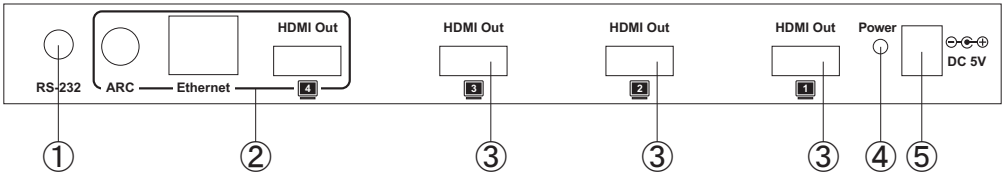
### 7.1 Front Panel



- ① EDID Control switch: This EDID control switch is determined if you are going to use the EDID from the display attached to output 1 or use an onboard EDID. When select to TV, the EDID will attach to output 1 and send the signal according to output 1's EDID. Therefore, it is suggested to put lowest or the most compatible display specification on output 1. When selected to STD, the EDID will become onboard EDID which supports video up to 1080p 50/60Hz and PCM2Ch for audio. The factory default setting is in TV mode.
- ② HDMI Output 5~8: These slots are to connect to the HDMI displays. When more than one output is connected, the HDMI output play identical video signal simultaneously.
- ③ HDMI Input: This slot is to connect to HDMI or DVI source equipment such as DVD player or set-top-box for input video and audio sending.
- ④ Sync LED: This red LED will illuminate when the HDMI source signal is connected to the output display.
- ⑤ System Reset/CEC ON: When switch to System Reset, the system will send the internal CEC command to the display within 8~10 minutes to force all the displays switch to HDMI port 1's EDID. Meanwhile, the source CEC Command will not functional to the system. When switch CEC in ON, the CEC Command will be active according to each output display's EDID.



## 7.2 Rear Panel



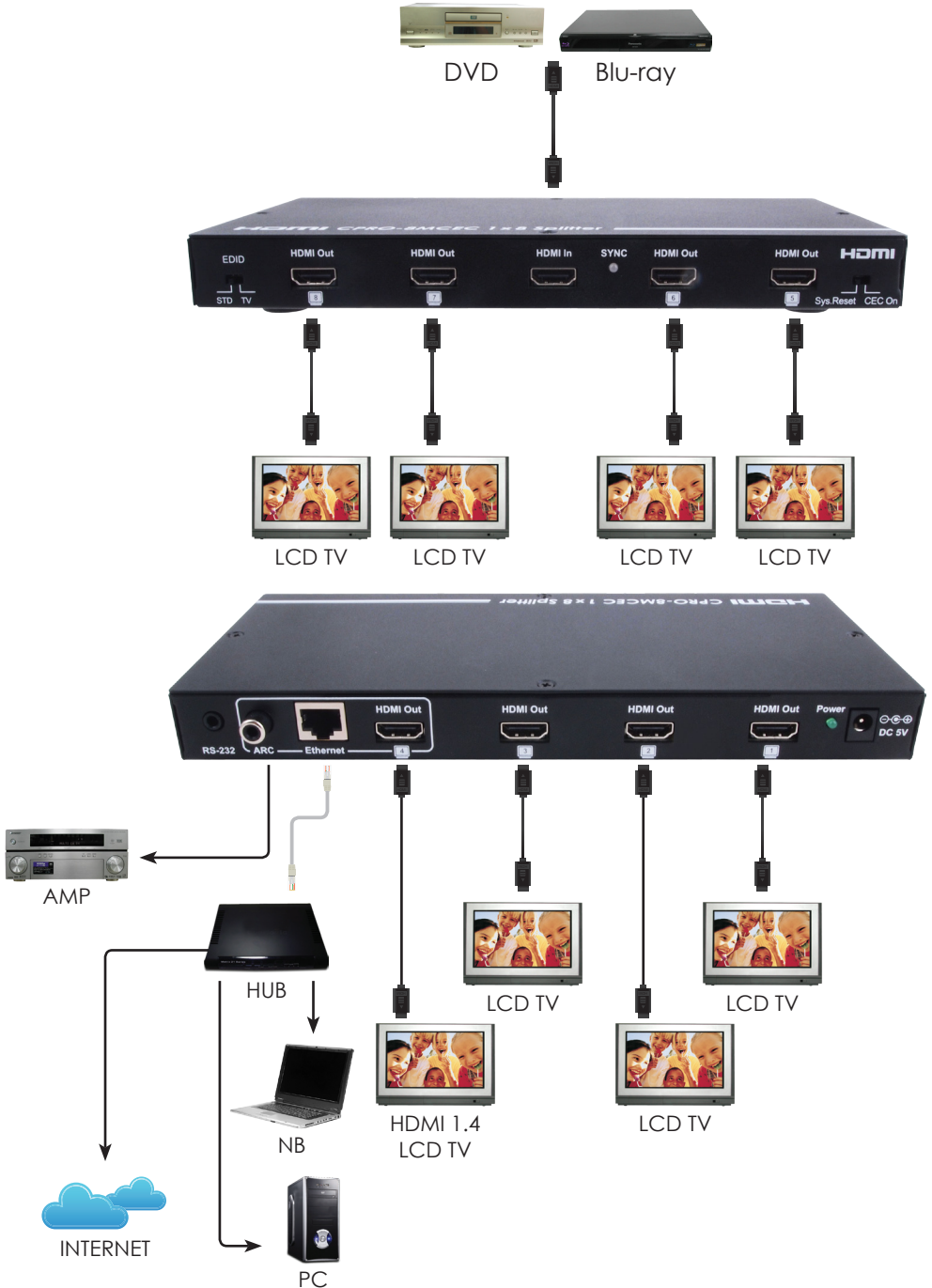
- ① RS-232: This slot is to connect with 3.5Ø phone jack to D-Sub 9pin cable included in the package for RS-232 control signal and is for service only.
- ② HDMI Out 4/ARC/Ethernet: Connect Ethernet and Audio Return Channel to capabilities of TV, the TV will pass the Ethernet and Audio signal via HDMI input to HDMI port 4. The HDMI port 4 will separate the Ethernet and audio and send it out from ARC and Ethernet ports. For the ARC, the user had a TV with a built-in tuner or DVD player and wanted to send content "upstream" from the TV back to the audio system to play any multi-channel audio.

The HDMI Ethernet Channel, it can consolidates video, audio and data streams into a single HDMI cable to the Ethernet Hub/AP to access the Internet and it incorporates a dedicated data channel into the HDMI link, enabling high-speed, bi-directional networking at up to 100Mb/sec to control and search from the TV.

### Note:

1. Be sure to connect devices with one of the new cables designed to support HDMI Ethernet Channel functionality, either the Standard HDMI Cable with Ethernet or High Speed HDMI Cable with Ethernet.
2. If the HDMI port 4 with the Audio and ARC are exist at the same time, the ARC will be the first priority to access.
- ③ HDMI Out 1~3: Connect each of the output ports to the HDMI display. When more than one output connected, the HDMI output play identical video signal simultaneously.
- ④ Power LED Indicator: The LED will illuminate when the power is connected.
- ⑤ Power: Plug the DC 5V power supply into the splitter and connect the adaptor to AC wall outlet.

## 8. Connection and Installation



# Acronyms

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## **Acronym**

## **Complete Term**

ARC	Audio Return Channel
AVR	Audio Video Receiver
CEC	Consumer Electronics Control
EDID	Extended Display Identification Data
HDCP	High-bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface



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