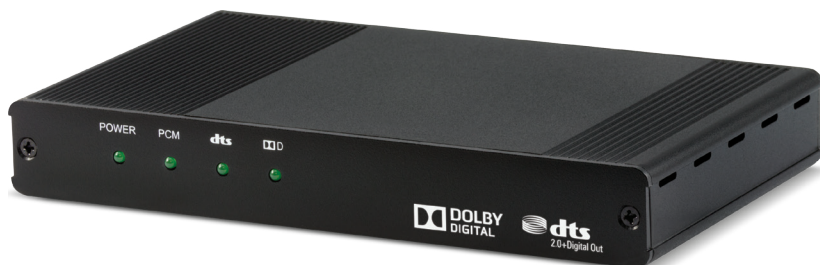




## CPRO-SE2DD

HDMI Audio Converter with Dolby® Digital and  
DTS® 2.0+Digital Out Decoder



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 (DD/MM/YY)	SUMMARY OF CHANGE
VR0	03/06/15	Preliminary Release
VS1	12/06/15	Updated texts/diagrams



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## 1. INTRODUCTION

The HDMI Audio Converter with Dolby® Digital and DTS® 2.0+Digital Out Decoder allows the audio signal from an HDMI input to be de-embedded, downmixed and simultaneously output to both digital (optical or coaxial) and analog audio outputs. This unit allows you to utilize an additional audio output such as an AV receiver or set of active speakers, or to further extend the audio signal pathway.

## 2. APPLICATIONS

- Home entertainment installation
- Audio extraction and extension
- Non-HDMI AV receivers or wider audio systems

## 3. PACKAGE CONTENTS

- HDMI Audio Converter with Dolby Digital and DTS 2.0+Digital Out Decoder
- 5V/2.6A Power Adaptor
- Operation Manual

## 4. SYSTEM REQUIREMENTS

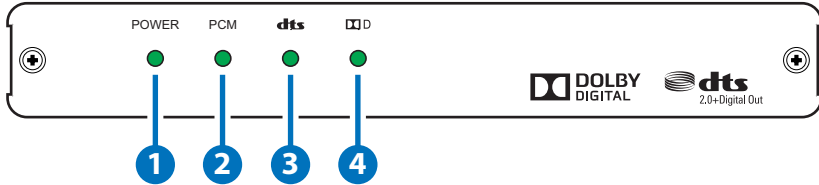
HDMI equipped source device and display (TV/monitor) and/or amplifier/active speakers with connection cables.

## 5. FEATURES

- Features Dolby Digital Decoder technology
- Features DTS 2.0+Digital Out Decoder technology
- Integrated digital interpolator filter and Digital-to-Analog Converter (DAC)
- Supports LPCM input sampling rates up to 96kHz and 2CH output at 48kHz
- Supports Dolby Digital/DTS sampling rates up to 48kHz
- Supports simultaneous audio output on HDMI, analog L/R, Coaxial and Optical connections
- HDMI (with 3D & 4K2K support) and HDCP compliant
- Supports HDTV resolutions up to 4K2K (3840×2160@24/25/30, 50/60 with YUV420 and 4096×2160@24, 50/60 with YUV420)
- Supports HDMI data rate from 300Mbps to 3Gbps and 'Deep Color' up to 1080p/36-bit

## 6. OPERATION CONTROLS AND FUNCTIONS

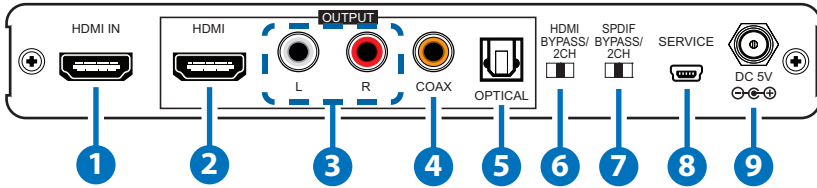
### 6.1 Front Panel



- 1 POWER:** This LED will illuminate when the device is connected to an active power supply.
- 2 PCM LED:** This LED will illuminate when the input audio source is PCM format.
- 3 DTS LED:** This LED will illuminate when the input audio source is DTS 2.0+Digital Out encoded.
- 4 Dolby LED:** This LED will illuminate when the input audio source is Dolby Digital encoded.

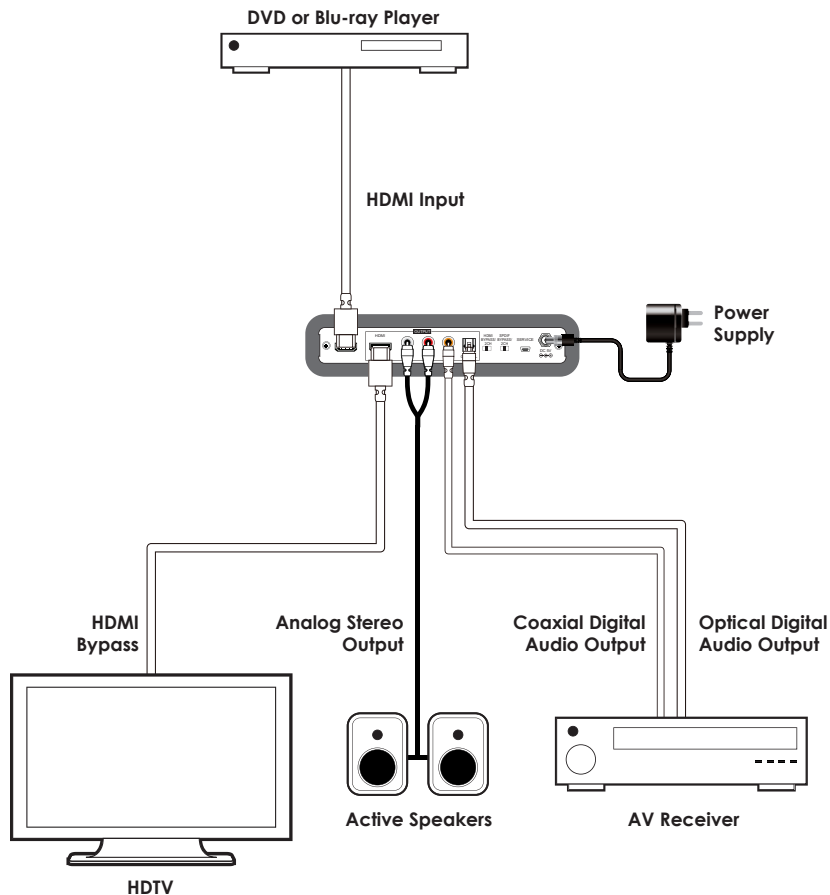


## 6.2 Rear Panel



- 1 HDMI IN:** Connect to an HDMI source device such as a Blu-ray player, Set-top Box or any HDMI equipped source device.
- 2 HDMI OUTPUT:** Connect to an HDMI equipped TV/display or AV receiver for output image or audio display.
- 3 L/R OUTPUT:** Connect to the analog line level input of an amplifier or active speakers.
- 4 COAX OUTPUT:** Connect to the digital optical input of an AV receiver.
- 5 OPTICAL OUTPUT:** Connect to the digital coaxial input of an AV receiver.
- 6 HDMI BYPASS/2CH:** For the HDMI output port, switch to 'BYPASS' to allow audio pass-through from HDMI input port; switch to '2CH' to enable audio decoding and 2-channel down-mixing for Dolby Digital or DTS audio signals from HDMI input port.
- 7 SPDIF BYPASS/2CH:** For the COAX and OPTICAL output ports, switch to 'BYPASS' to allow audio pass-through from HDMI input port; switch to '2CH' to enable audio decoding and 2-channel down-mixing for Dolby Digital or DTS audio signals from HDMI input port.
- 8 SERVICE:** For manufacturer use only.
- 9 DC 5V:** Connect the adaptor included in the package to AC wall outlet for power supply.

**7. CONNECTION DIAGRAM**



## 8. SPECIFICATIONS

### 8.1 Technical Specifications

<b>Video Bandwidth</b>	300 MHz/9 Gbps
<b>Input Ports</b>	1×HDMI, 1×USB (Service only)
<b>Output Ports</b>	1×HDMI, 1×Coaxial, 1×Optical, 1×R/L (2 RCA)
<b>HDMI Cable Length</b>	Input: 10m@1080p, 5m@4K2K Output: 10m@1080p, 5m@4K2K
<b>Power Supply</b>	5V/2.6 A DC (US/EU standards, CE/FCC/UL certified)
<b>ESD Protection</b>	Human body model: ±8kV (air-gap discharge) ±4kV (contact discharge)
<b>Dimensions</b>	180 mm (W)×104 mm (D)×25mm (H)/Jacks Excluded 180mm (W)×110.75 mm (D)×25 mm (H)/Jacks Included
<b>Weight</b>	368 g
<b>Chassis Material</b>	Metal
<b>Silkscreen Color</b>	Black
<b>Operating Temperature</b>	0°C~40°C / 32 F ~104°F
<b>Storage Temperature</b>	-20°C~60°C / -4°F~140°F
<b>Relative Humidity</b>	20~90% RH (non-condensing)
<b>Power Consumption</b>	2.5 W

## 8.2 Video Resolutions

HDMI/DVI RESOLUTIONS	INPUT	OUTPUT
640×480@60/72/75/85	√	√
720×480@60	√	√
720×576p@50	√	√
800×600@56/60/72/75/85	√	√
1024×768@60/70/75/85	√	√
1280×720@50/60	√	√
1280×720p@60	√	√
1280×768@60/70/75/85	√	√
1280×800@60	√	√
1280×1024@60	√	√
1360×768@60	√	√
1600×1200@60	√	√
1920×1080i@50/60	√	√
1920×1080p@24/25/30/50/60	√	√
1920×1200@60 (RB)	√	√
3840×2160@24/25/30	√	√
3840×2160@50/60 (YUV420)	√	√
4096×2160@24/25/30	√	√
4096×2160@50/60 (YUV420)	√	√

### 8.3 Audio Specifications

OUT IN	Output	Output Level	T.H.D+N (A-Weight)	Frequency Response	SNR	Crosstalk
HDMI 0dBFS	HDMI	0 dBFS	<0.00001%	±1dBFS	>140dB	<-160dB
	Optical	0 dBFS	<0.00001%	±1dBFS	>140dB	<-160dB
	Coaxial	0 dBFS	<0.00001%	±1dBFS	>140dB	<-160dB
	Line-Out	2Vrms +/-0.1	<0.006%	±1dB	>100dB	<-110dB

### 8.4 Input to Output Audio Formats

Audio Input	Input Format	Audio Output				
		Analog L/R	HDMI		S/PDIF (Optical, Coaxial)	
			Switch Status		Switch Status	
			BYPASS	2CH	BYPASS	2CH
HDMI	LPCM 2CH	Analog 2CH	LPCM 2CH	LPCM 2CH	LPCM 2CH	LPCM 2CH
	Dolby Digital	Decoding Lt/Rt	Bitstream Pass-through	LPCM Lt/Rt	Bitstream Pass-through	LPCM Lt/Rt
	DTS	Decoding Lo/Ro	Bitstream Pass-through	LPCM Lo/Ro	Bitstream Pass-through	LPCM Lo/Ro

## 9. ACRONYMS

ACRONYM	COMPLETE TERM
DTS	Digital Theater System
DVI	Digital Visual Interface
EDID	Extended Display Identification Data
HDCP	High-bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface
HDTV	High-Definition Television
LCM	Liquid Crystal Monitor
USB	Universal Serial Bus
VGA	Video Graphics Array
WUXGA	Wide Ultra Extended Graphics Array





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