CP-1262HAT

HDMI to VGA Video Converter

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.
- Please completely disconnect the power when the unit is not in use to avoid wasting electricity.

VERSION HISTORY

REV.	DATE	SUMMARY OF CHANGE
RDV1	2020/07/28	Preliminary release

CONTENTS

1. INTRODUCTION

Despite the widespread adoption and popularity of HDMI video sources and displays, many specialist fields continue to need, and use, legacy display technology such as VGA. This HDMI to VGA Video Converter can take any standard HDMI source, without HDCP, and output it as either an RGBHV or YPbPr signal. A standard HDMI EDID is provided to help ensure that the connected source remains within the specification limits of the unit and a simple two-position switch provides control over the output format.

2. APPLICATIONS

- HDMI to Analog RGBHV or YPbPr conversion

3. PACKAGE CONTENTS

- 1× HDMI to VGA Video Converter
- 1× 5V/1.2A DC Power Adapter
- 1× Operation Manual

4. SYSTEM REQUIREMENTS

- HDMI source equipment such as a media player, video game console or set-top box.
- VGA (HD-15) or YPbPr (3-wire component) receiving equipment such as a PC monitor or HDTV.

5. FEATURES

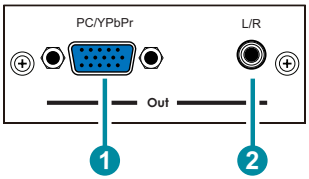
- Supports HDMI input and analog PC/RGBHV or HD/YPbPr output

  Note: HDCP encrypted sources are not supported and will be blacked out.
- Supports stereo audio output extracted from the HDMI source (2 channel LPCM only)
- Supports output selection between YPbPr and RGBHV
- Supports standard resolutions up to WUXGA (PC) and 1080p (HDTV)

  Note: Provides signal format conversion only. No scaling or resolution change options are supported.
- Built-in standard HDMI EDID

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel



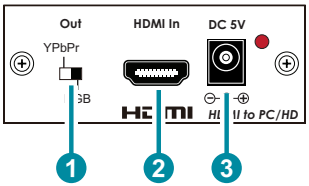
1. **PC/YPbPr Out Port:** Connect to a VGA or component video monitor or display for analog video output.

   Note: Connection to a component video display may require a 15-pin to 3-RCA adapter.

2. **L/R Out Port:** Connect to powered speakers or an amplifier for stereo L/R audio output.

   Note: Only 2 channel LPCM sources are supported.

6.2 Rear Panel



1. **OUTPUT YPbPr/RGB Switch:** Set the switch to RGB to output a standard PC signal (RGBHV format). Set the switch to YPbPr to output a component video signal (YPbPr format). Switching between formats takes roughly 20 seconds to complete.

   Note 1: It is strongly suggested to only select YPbPr output when the input is a standard video resolution such as 720x480 or 1280x720.

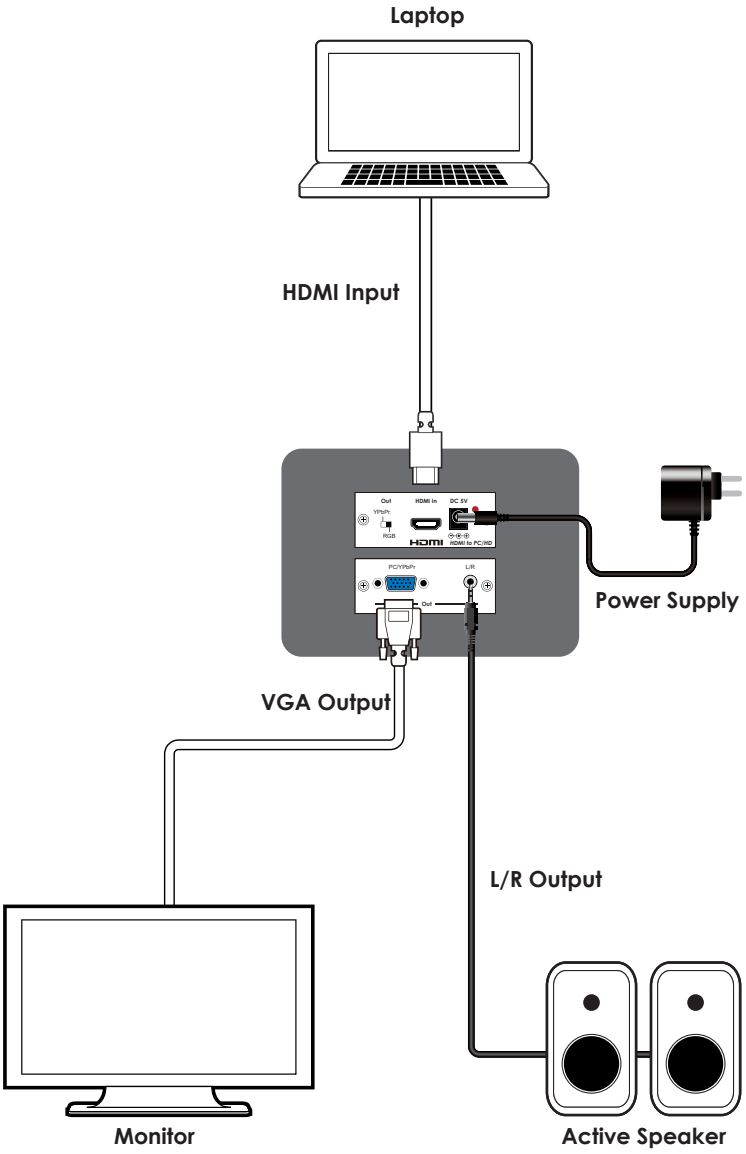
   Note 2: When outputting YPbPr the H and V sync signals are still present on their respective pins.

2. **HDMI In Port:** Connect to HDMI source equipment such as a media player, game console or set-top box.

   Note: HDCP encrypted sources are not supported and will be blacked out.

3. **DC 5V Port and LED:** Plug the non-locking 5V DC power adapter into this port and connect it to an AC wall outlet for power. The LED will illuminate to indicate the unit is on and receiving power.

7. CONNECTION DIAGRAM



8. SPECIFICATIONS

8.1 Technical Specifications

HDMI Bandwidth	4.95Gbps
VGA Bandwidth	165MHz
Input Port	1×HDMI (Type-A)
Output Ports	1×VGA (HD-15) 1×Analog Stereo (3.5mm)
Power Supply	5V/1.2A DC (US/EU standards, CE/FCC/UL certified)
ESD Protection (HBM)	±8kV (Air Discharge) ±4kV (Contact Discharge)
Dimensions (W×H×D)	76.5mm×94mm×30mm [Case Only] 76.5mm×99.5mm×30mm [All Inclusive]
Weight	190g
Chassis Material	Metal (Aluminum)
Chassis Color	Silver
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	2.14W

8.2 Video Specifications

Supported Resolutions (Hz)	Input	Output	
	HDMI	VGA	YPbPr
720×400p@70/85	×	×	×
640×480p@60/72/75/85	✓	✓	×
720×480i@60	✓	×	✓
720×480p@60	✓	✓	✓
720×576i@50	✓	×	✓
720×576p@50	✓	✓	✓
800×600p@56/60/72/75/85	✓	✓	×
848×480p@60	×	×	×
1024×768p@60/70/75/85	✓	✓	×
1152×864p@75	✓	✓	×
1280×720p@50/60	✓	✓	✓
1280×768p@60/75/85	✓	✓	×
1280×800p@60/75/85	✓	✓	×
1280×960p@60/85	✓	✓	×
1280×1024p@60/75/85	✓	✓	×
1360×768p@60	×	×	×
1366×768p@60	✓	✓	×
1400×1050p@60	✓	✓	×
1440×900p@60/75	✓	✓	×
1600×900p@60RB	×	×	×
1600×1200p@60	✓	✓	×
1680×1050p@60	✓	✓	×
1920×1080i@50/60	✓	×	✓
1920×1080p@24/25/30	✓	✓	✓
1920×1080p@50/60	✓	✓	✓
1920×1200p@60RB	✓	✓	×

Supported Resolutions (Hz)	Input	Output	
	HDMI	VGA	YPbPr
2560×1440p@60RB	×	×	×
2560×1600p@60RB	×	×	×
2048×1080p@24/25/30	×	×	×
2048×1080p@50/60	×	×	×
3840×2160p@24/25/30	×	×	×
3840×2160p@50/60 (4:2:0)	×	×	×
3840×2160p@24, HDR10	×	×	×
3840×2160p@50/60 (4:2:0), HDR10	×	×	×
3840×2160p@50/60	×	×	×
4096×2160p@24/25/30	×	×	×
4096×2160p@50/60 (4:2:0)	×	×	×
4096×2160p@24, HDR10	×	×	×
4096×2160p@50/60 (4:2:0), HDR10	×	×	×
4096×2160p@50/60	×	×	×

8.3 Audio Specifications

8.3.1 Digital Audio

HDMI Input	
LPCM	
Max Channels	2 Channels
Sampling Rate (kHz)	32, 44.1, 48, 88.2, 96
Bitstream	
Supported Formats	None

8.3.2 Analog Audio

Analog Output	
Max Audio Level	1.2Vrms
THD+N	< −80dB@0dBFS 1kHz (A-wt)
SNR	> 70dB@0dBFS
Frequency Response	< ±3dB@20Hz~20kHz
Crosstalk	< −60dB@10kHz
Impedance	470Ω
Type	Unbalanced

8.4 Cable Specifications

Cable Length	1080p		4K30	4K60
	8-bit	12-bit	(4:4:4) 8-bit	(4:4:4) 8-bit
High Speed HDMI Cable				
HDMI Input	10m		×	
VGA Cable				
VGA Output	2m		×	

Bandwidth Category Examples:

- **1080p (FHD Video)**
  - Up to 1080p@60Hz, 12-bit color
  - Data rates lower than 5.3Gbps or below 225MHz TMDS clock
- **4K30 (4K UHD Video)**
  - 4K@24/25/30Hz & 4K@50/60Hz (4:2:0), 8-bit color
  - Data rates higher than 5.3Gbps or above 225MHz TMDS clock but below 10.2Gbps
- **4K60 (4K UHD^{+} Video)**
  - 4K@50/60Hz (4:4:4, 8-bit)
  - 4K@50/60Hz (4:2:0, 10-bit HDR)
  - Data rates higher than 10.2Gbps

9. ACRONYMS

ACRONYM	COMPLETE TERM
AV	Audio/Video
DAC	Digital-to-Analog Converter
dB	Decibel
DVI	Digital Visual Interface
EDID	Extended Display Identification Data
Gbps	Gigabits per second
HD	High-Definition
HDCP	High-bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface
HDR	High Dynamic Range
HDTV	High-Definition Television
LED	Light-Emitting Diode
LPCM	Linear Pulse-Code Modulation
MHz	Megahertz
SNR	Signal-to-Noise Ratio
THD+N	Total Harmonic Distortion plus Noise
TMDS	Transition-Minimized Differential Signaling
4K UHD	4K Ultra-High-Definition (10.2Gbps max)
4K UHD+	4K Ultra-High-Definition (18Gbps max)
UHDTV	Ultra-High-Definition Television
USB	Universal Serial Bus
VGA	Video Graphics Array
WUXGA (RB)	Widescreen Ultra Extended Graphics Array (Reduced Blanking)
XGA	Extended Graphics Array
Ω	Ohm

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