# HDMI/DVI to VGA/Component & Audio Break-out Converter

### User Manual

### (HCV-VA)

**Full HD 1080** | **WUXGA ×1920 1200** | **dvi** digital visual interface | **HDMI™** HIGH-DEFINITION MULTIMEDIA INTERFACE | **FC** **C€** **RoHS Compliance**

**Made in Taiwan**

# Safety and Notice

The **HCV-VA HDMI/DVI to VGA/Component & Audio Break-out Converter** has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the **HCV-VA** should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on this unit.

- Do not attempt to service this unit yourself, except where explained in this manual.

- Provide proper ventilation and air circulation and do not use near water.

- Keep objects that might damage the device and assure that the placement of this unit is on a stable surface.

- Use only the power adapter and power cords and connection cables designed for this unit.

- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.

> *Warning!*
>
> *This device is served purely for conversion between video formats.*
> *This device CANNOT convert the input/output video resolutions.*
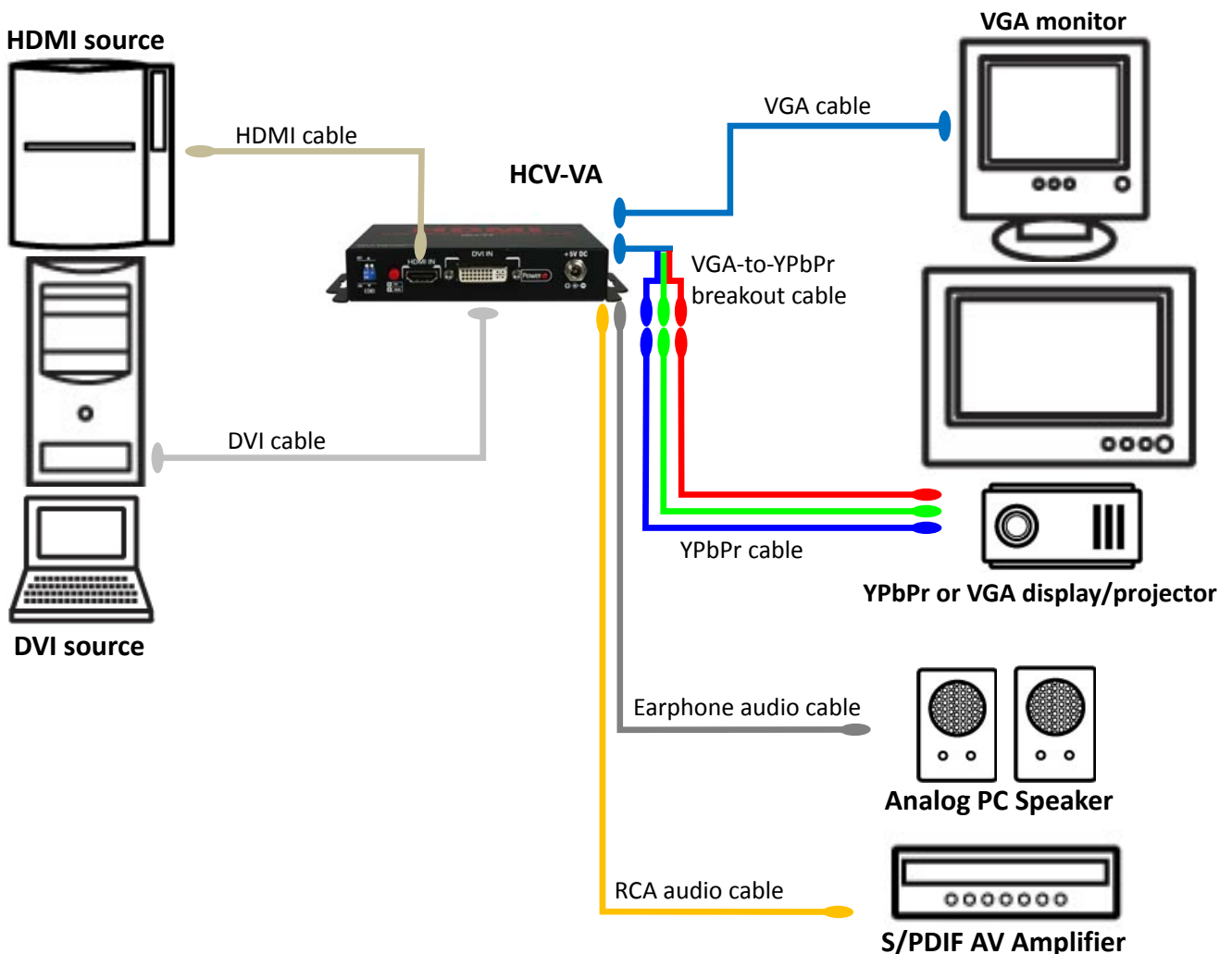
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This **HCV-VA HDMI/DVI to VGA/Component & Audio Break-out Converter** offers an easy and instant approach for converting digital HDMI to analog PC video (VGA) and component video (YPbPr) with digital audio (S/PDIF) and analog stereo audio. With this module, YPbPr/VGA based receivers such as LCD monitors or plasma TV can be readily connected to HDMI sources such as DVD players or PS3. In addition, the embedded HDMI / DVI selector facilitates the switch between the HDMI and DVI input sources. This cost effective solution let you keep using your non-HDMI/DVI display to access HDMI or DVI source, and enjoy high definition digital video and audio.

## Features

- HDMI 1.2a & DVI 1.1 compliant
- HDMI video supports up to 1080p
- Support HD (1080i / 720p) component video output
- Support up to UXGA (1600x1200@60) & WUXGA (1920x1200@60) PC graphics output
- Coaxial S/PDIF audio output
- Stereo analog audio output
- Front panel LED indicators and push button
- EDID learning ability
- Wall mounting housing design for easy and robust installation



HDMI source

HDMI cable

HCV-VA

VGA cable

VGA monitor

VGA-to-YPbPr breakout cable

DVI cable

YPbPr cable

YPbPr or VGA display/projector

DVI source

Earphone audio cable

Analog PC Speaker

RCA audio cable

S/PDIF AV Amplifier

# Specifications & Package Contents

| Model Name | | HCV-VA |
|---|---|---|
| **Technical** | | |
| Role of usage | | D/A converter |
| HDMI compliance | | HDMI 1.2a |
| DVI compliance | | DVI 1.0 |
| Video bandwidth | | Single-link 165MHz [4.95Gbps] |
| Video support | | Up to 1080p60, WUXGA [1920x1200@60] & UXGA [1600x1200@60] |
| Audio support | | Stereo audio |
| Input TMDS signal | | 1.2 Volts [peak-to-peak] |
| Input DDC signal | | 5 Volts [peak-to-peak, TTL] |
| Input | | 1x HDMI<br>1x DVI |
| Output | | 1x VGA/Component (through VGA-component breakout cable)<br>1x RCA digital audio<br>1x 3.5mm analog audio |
| HDMI connector | | Type A [19-pin female] |
| DVI connector | | DVI-I [29-pin female digital only] |
| VGA connector | | HD-15 [15-pin D-sub female] |
| RCA connector | | Coaxial socket for S/PDIF digital stereo audio [PCM 48kHz] |
| 3.5mm connector | | Earphone socket for analog stereo audio |
| Push-in button | | [1] HDMI/DVI input switch<br>[2] VGA/component output switch |
| DIP switch | | 2-pin for EDID learning |
| **Mechanical** | | |
| Housing | | Metal enclosure |
| Dimensions [L x W x H] | Model | 128 x 100 x 28mm [5.0" x 3.9" x 1.1"] |
| | Package | 270 x 175 x 80mm [10.6" x 6.9" x 3.1"] |
| Weight | Model | 420g [15oz] |
| | Package | 795g [1.8 lbs] |
| Fixedness | | Wall-mounting case with screws |
| Power supply | | 5V 2A DC |
| Power consumption | | 6 Watts [max] |
| Operation temperature | | 0~40°C [32~104°F] |
| Storage temperature | | -20~60°C [-4~140°F] |
| Relative humidity | | 20~90% RH [no condensation] |
| **Package Contents** | | 1x HCV-VA<br>1x VGA-component breakout cable<br>1x 5V power supply unit<br>1x User Manual |

## Input View
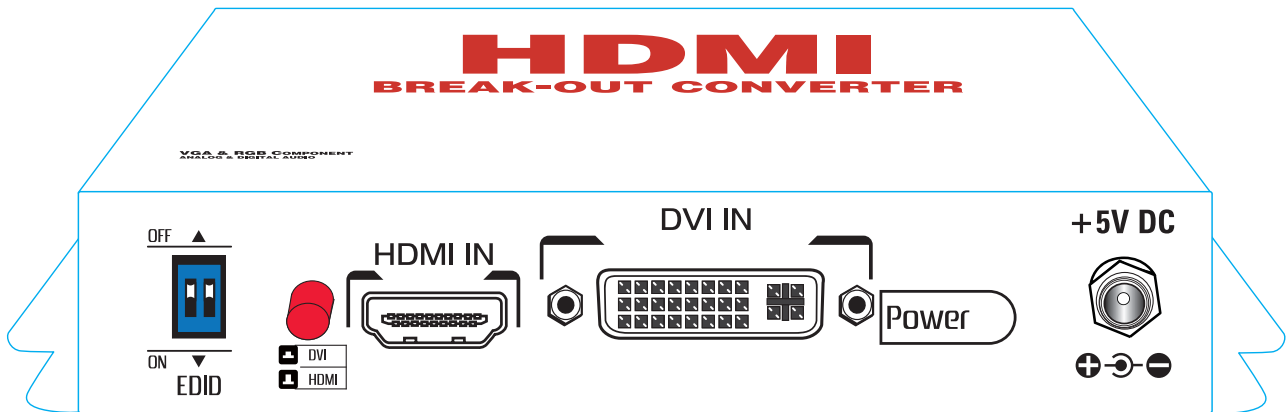


**EDID**: 2-pin DIP switch for EDID setting (see more details below)

| Pin 1 | Function |
|---|---|
| On (⬇) | Learn EDID from VGA socket and save EDID to HDMI socket |
| Off (⬆) | Write back the default EDID to HDMI socket |
| **Pin 2** | **Function** |
| On (⬇) | Learn EDID from VGA socket and save EDID to DVI socket |
| Off (⬆) | Write back the default EDID to DVI socket |

**DVI / HDMI**: DVI or HDMI source selector

**HDMI IN:** Connect to a HDMI source device with a HDMI male-male cable

**DVI IN**: Connect to a DVI source device with a DVI male-male cable

**+5V DC**: Connect to a 5V DC power supply unit

## Output View



**S/PDIF OUT:** Connect to S/PDIF digital stereo audio speakers.

**Stereo OUT:** Connect to analog stereo audio speakers.

**VGA / YPbPr OUT:** VGA or component video output to respective display or projector. For component YPbPr output, attach the VGA-component breakout cable to the VGA socket.

**VGA / YPbPr:** Push button to select between VGA and component video output.

1.  Connect HDMI or DVI source to the video input.

2.  Connect S/PDIF or stereo audio source to RCA jack or 3.5mm earphone jack respectively.

3.  For connecting to VGA display/projector, link VGA cable to the VGA output connector. For connecting to component (YPbPr) video display/projector, link VGA-component breakout cable first to the VGA output connector then link a component cable to the component (YPbPr) display/projector.

4.  Power up the HCV-VA.

1.  Power up the HCV-VA. Connect display to **VGA/YPbPr Output**.

2.  To learn EDID for HDMI source, pull down the **DIP switch pin 1 to ON (⬇)** and turn off the device. Turn on the HCV-VA again then the red light will be dark and bright to indicate the EDID learning process is complete. You DON'T NEED to pull up the DIP switch again unless you want to learn another EDID by pulling DIP switch pin 1 up and down.

3.  To learn EDID for DVI source, pull down the **DIP switch pin 2 to ON (⬇)** and turn off the device. Turn on the HCV-VA again then the red light will be dark and bright to indicate the EDID learning process is complete. You DON'T NEED to pull up the DIP switch again unless you want to learn another EDID by pulling DIP switch pin 2 up and down.



*The EDID learning function only applies for VGA display.*

1. Only HDMI enabled TV sets with **underscan/overscan\*** support, the full active video can be accurately displayed. Some HDMI equipped TV sets may not support this feature. If underscan/overscan**\*** is NOT supported, the top, bottom, left and right border of the active video may be screened, and the S/PDIF audio may not sound right.

2. Analog stereo audio can merely support 2-channel audio. This model does NOT support 8-channel analog audio applications.

3. S/PDIF audio output supports 2-channel stereo audio only.

4. S/PDIF supports only 48KHz audio sample rate. Other than this rate, the input digital audio should be adjusted to 48KHz in order to get audio signal correctly sent.

**\****The underscan mode displays the full video frame, which reveals content on the edge that is recorded. In overscan, the field monitor zooms in to the area that would be visible on most televisions. Set the field monitor to underscan if your video will be viewed on a computer monitor or shown with a projector and also to look for light stands, microphones, and other unwanted objects on the edges of your shot. Set it to overscan to see how the video will look on a television.*

# SUPPORTED RESOLUTIONS

## PC Graphics [DVI or VGA]

| | | | |
|---|---|---|---|
| VESA 640x400 @85Hz | VESA 1024x768 @60Hz | VESA 1280x960 @85Hz | 1152x864@60Hz |
| VESA 720x400 @85Hz | VESA 1024x768 @75Hz | VESA 1280x1024 @60Hz | Mac 480-66A |
| VESA 640x480 @72Hz | VESA 1024x768 @85Hz | VESA 1280x1024 @85Hz | Mac 480-66B |
| VESA 640x480 @75Hz | VESA 1152x864 @60Hz | VESA 1360x768 @60Hz | Mac 600-66 |
| VESA 640x480 @85Hz | VESA 1152x864 @75Hz | VESA 1440x900 @60Hz | Mac 768-60 |
| VESA 800x600 @60Hz | VESA 1280x768 @60Hz | VESA 1400x1050 @60Hz | Mac 870-75 |
| VESA 800x600 @72Hz | VESA 1280x768 @75Hz | VESA 1400x1050 @75Hz | IBM 6000 |
| VESA 800x600 @75Hz | VESA 1280x768 @85Hz | VESA 1920x1200 @60Hz | NEC 1024-70 |
| VESA 800x600 @85Hz | VESA 1280x960 @60Hz | VESA 1600x1200 @60Hz | SUN 1024-76 |

## Video [HDMI or component (YPbPr)]

| |
|---|
| EIA 720x480p @59.94Hz |
| EIA 720x576p @50Hz |
| EIA 1280x720p @50 / 59.94 / 60Hz |
| EIA 1920x1080i @50 / 59.94 / 60Hz |
| EIA 1920x1080p @23.98 / 24 / 25 / 29.97 / 30 / 50 / 59.94 / 60Hz |
| 712x484 (NTSC) |
| 702x574 (PAL) |