

# COMPANY

## PROFILE

Wyrestorm is an award-winning electronics manufacturer passionately committed to the development and production of high quality HD distribution and control products at the very forefront of digital technology.

We have our own development laboratories based in Europe and Shenzhen, China – a key location in cutting edge technologies considered widely to be the cradle of new trends in global electronics.

With a research and development team ranking among the leading specialists in the HD distribution industry, our innovative solutions are often born from direct industry feedback to ensure our products, features and services are perfectly suited to the ever-growing number of residential and commercial applications.

Here at Wyrestorm we follow a simple but all-encompassing philosophy that colors everything we do: A constant quest for perfection. We devote all our energies and resources to the creation of innovative products and services that allow the integrator to supply a superior entertainment experience for their clients – and do so faster and more efficiently to maximise budget, while minimising time on site.

The best way of achieving this is by talking to and, most importantly, listening to the industry - encouraging observations and suggestions from distributors and integrators that allow us to provide you with the most powerful, reliable and convenient technical solutions you need to constantly surpass your client expectations.



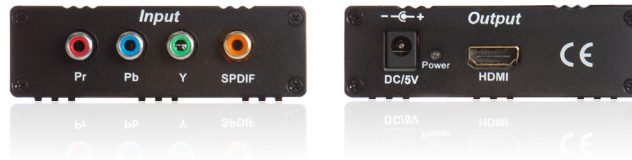
# INTRODUCTION

## TO FORMAT CONVERTERS

Technology evolves quickly, especially when it comes to digital High Definition, devices and displays that were state of the art just a matter of years ago may now be incompatible with many of today's digital products.

To provide solutions to integrate older analogue AV sources into today's newer screens, or feed into Matrix systems, we have a range of converters and upscalers to ensure that, whatever the format, you'll be outputting digital HDMI.

Wyrestorm format converters are designed for simple installation whilst ensuring the compact design and robust construction provide trouble free operation.



The WyreStorm CON-YUV-HD is a component solution that converts YPbPr video and SPDIF audio inputs into stereo audio and an HDMI output with a HD resolution of 720p. It offers simple plug and play connection, with no setting-up required, and contains hotplug detection to protect interior circuitry from damage.

### Key Product Features

#### Analog Video Input Front End Interface

- Triple ADC with 12 - 150 MHz Sampling Rate
- Integrated line locked PLL generates pixel clock from HSYNC
- Integrated 5-bit pixel clock phase adjustment for precise sample timing control
- Integrated clamp with timing generator
- Integrated precision voltage reference
- DTV and HDTV
- Mid-Scale Clamping
- Fully Sync Processing
- Black and mid-level precision clamp and calibration
- Input video mode status detection

#### Digital Audio Input Front End Interface

- S/PDIF input interface
- IEC60958 PCM audio

- IEC61937 compressed audio Digital Data Link Engine
- HDMI 1.1/1.0
- HDCP 1.1/1.0 with external Key link through micro processor
- DVI 1.0
- Supports DTV/ HDTV resolutions: 480i/ 576i/ 480p/ 576p/ 720p/ 1080i/ 1080p
- Supports video optional formats: EIA/CEA-861-B

#### Analog TMDS Interface

- TMDS data link up to 2.0G-bit/s each channel
- Including 3 data channel and 1 clock channel
- DDC link base on Micro-processor (suggest 8051uP)
- Hot Plug detection
- TMDS Clock Channel Plug detection

### Specifications

|  |   |
|--|---|
| Operating Temperature Range  | -5 to +35°C (-41 to +95°C)  |
| Operating Humidity Range   | 5 to 90 % RH (no condensation)  |
| Video Amplifier Bandwidth  | 6.75Gbps  |
| Input Video Signal   | 0.5 - 1.0 volts p-p   |
| Input DDC Signal   | 5 volts p-p (TTL)   |
| Maximum Single Link Range  | 1080p 24bit colour depth  |
| Transmission distance  | 1080p transmission over 15m / 49ft  |
| *Under perfect transmission conditions including straight cable runs with no electrical interference, bends, kinks, patch panels, or wall outlets. |   |
| Video Format Supported   | Component YPbPr video to 720p - supports 480i/ 576i/ 480p/ 576p/ 720p/ 1080i/ 1080p |

|                                      |   |
|--------------------------------------|---|
| Output Video                         | HDMI/DVI  |
| Audio Format Supported               | Stereo audio  |
| Max. Transmission distance over HDMI | 1080p HD video and HD audio over 15m/49ft. (perfect transmission conditions denote a straight cable run within specified distance range of both product and cable with no obstructions or stress) |
| BTU Rating (British Thermal Unit)    | N/A   |
| Power Consumption                    | 3 Watts (Max.)  |
| Power Supply                         | 5VDC - from mains   |
| Dimensions                           | 89mm/3.5" (W)<br>29mm/1.1" (H)<br>68mm/2.7" (D)   |
| Weight                               | 0.68Kg / 1.5lbs   |
| Rack space required                  | N/A   |



The WyreStorm CON-CBS-HD and the composite with stereo audio to HDMI solution converts and upscales a CVBS input with stereo audio to an HDMI output with a resolution of 720p to enable the connection of analog CVBS equipment to the latest digital HDMI displays.

### Key Product Features

- Composite CVBS Scart video input
- SPDIF audio input
- HDMI output
- Upscales to 720p
- Aspect ratio selection button on unit - 16:9 or 4:3
- Simple plug and play connection, with no setting-up required
- Hotplug detection
- HDCP compatible
- Features internal buffer, amplification and equalisation to optimise the converted signal

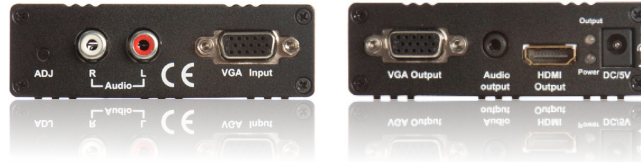
### Additional Features on CON-SCT-HD

- Composite YPbPr Scart video input

### Specifications

|  |  |
|--|--|
| Operating Temperature Range  | -5 to +35°C (-41 to +95°C)                                 |
| Operating Humidity Range   | 5 to 90 % RH (no condensation)                             |
| Video Amplifier Bandwidth  | 6.75Gbps   |
| Input Video Signal   | 0.5 - 1.0 volts p-p  |
| Input DDC Signal   | 5 volts p-p (TTL)  |
| Maximum Single Link Range  | 1080p 24bit colour depth                                   |
| Transmission distance  | 1080p transmission over 15m / 49ft                         |
| *Under perfect transmission conditions including straight cable runs with no electrical interference, bends, kinks, patch panels, or wall outlets. |  |
| Video Format Supported   | DTV/HDTV: 720p/576p (CON-CBS-HD)<br>NTSC, PAL (CON-SCT-HD) |

|                                      |   |
|--------------------------------------|---|
| Output Video                         | HDMI +HDCP v1.0/1.1   |
| Audio Format Supported               | Stereo audio  |
| Max. Transmission distance over HDMI | 1080p HD video and HD audio over 15m/49ft. (perfect transmission conditions denote a straight cable run within specified distance range of both product and cable with no obstructions or stress) |
| BTU Rating (British Thermal Unit)    | N/A   |
| Power Consumption                    | 12Watts (Max.)  |
| Power Supply                         | 5VDC - from mains   |
| Dimensions                           | 140mm/5.5" (W)<br>100mm/3.9" (H)<br>30mm/1.1" (D)   |
| Weight                               | 0.1kgs/0.2lb  |
| Rack space required                  | N/A   |



The WyreStorm CON-VGA-HD is a VGA video adapter that converts a VGA video input with stereo audio into an HDMI output with a HD resolution of 720p. VGA to HDMI conversion is typically necessary for PCs without an internal HDMI port to output a signal from their computer/laptop.

### Key Product Features

#### Analog Video Input Front End Interface

- Triple ADC with 12 - 140 MHz Sampling Rate
- Integrated line locked PLL generates pixel clock from HSYNC
- Integrated 5-bit pixel clock phase adjustment for precise sample timing control
- Integrated clamp with timing generator
- Integrated Brightness & Contrast controls
- Integrated precision voltage reference
- Compatible with VGA through SXGA RGB graphics signals
- Mid-Scale Clamping
- Fully Sync Processing
- Black and mid-level precision clamp and calibration\*
- Input video mode status detection

#### Digital Video Input Front End Interface

- IRGB 444 .....8/10/12 bits/channel .....1/ 3 channel
- Multi-format digital input up to 200M Pixel/sec

- Video data input pins re-order function
- Input video mode status detection
- Inverse Gamma Correcting (De-Gamma)
- Programmable Data Enable (DE) generator
- Programmable Vertical Sync (VS) generator
- Programmable Horizontal Sync (HS) generator

#### Digital Data Link Engine

- HDMI 1.1/1.0
- HDCP 1.1/1.0
- DVI 1.0
- Supports video optional formats: EIA/CEA-861-B

#### Analog TMDS Interface

- TMDS data link up to 2.0G-bit/s each channel
- Including 3 data channel and 1 clock channel
- Hot Plug detection
- TMDS Clock Channel Plug detection

### Specifications

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| Operating Temperature Range  | -5 to +35°C (-41 to +95°C)  |
| Operating Humidity Range   | 5 to 90 % RH (no condensation)  |
| Video Amplifier Bandwidth  | 6.75Gbps  |
| Input Video Signal   | 0.5 - 1.0 volts p-p   |
| Input DDC Signal   | 5 volts p-p (TTL)   |
| Maximum Single Link Range  | 1080p 24bit colour depth  |
| Transmission distance  | 1080p transmission over 15m / 49ft  |
| *Under perfect transmission conditions including straight cable runs with no electrical interference, bends, kinks, patch panels, or wall outlets. |   |
| Video Format Supported   | 640*480/60HZ, 800*600/60HZ, 1024*768/60HZ, 1280*768/60HZ, 1280*960/60HZ, 1280*1024/60HZ, 1600*1200/60HZ |

|                                      |   |
|--------------------------------------|---|
| Output Video                         | HDMI/DVI  |
| Audio Format Supported               | Stereo audio  |
| Max. Transmission distance over HDMI | 1080p HD video and HD audio over 15m/49ft. (perfect transmission conditions denote a straight cable run within specified distance range of both product and cable with no obstructions or stress) |
| BTU Rating (British Thermal Unit)    | N/A   |
| Power Consumption                    | 3 Watts (Max.)  |
| Power Supply                         | 5VDC - from mains   |
| Dimensions                           | 89mm/3.5" (W)<br>29mm/1.1" (H)<br>68mm/2.7" (D)   |
| Weight                               | 0.68Kg / 1.5lbs   |
| Rack space required                  | N/A   |