HDFURY2

Upgrade any TV/projector by adding an HDMI digital video input! Works with any TV that accepts either Component (YPbPr/YCbCr) or RGB/VGA! Don't be stuck watching Blu-ray, DVD, Satellite/Cable at only 480p! Add an HDfury2, allowing you to watch hi-def content at up to FULL HD 1080p resolution!

HDfury² is the world smallest and most powerful HDCP deciphering converter ever built! The result is a crystal clear image that is perfectly centered with amazing color depth. It features VGA and Component video output, Analog & Optical sound output, and upcoming add-on accessories too.

HDFURY2

WHY DO I NEED HDFURY2 ?

How old is your HDTV or projector? If it was bought prior to 2005 it does not have an HDMI input. This means that you'll never be able to use the full potential of your expensive CRT projector, digital projector, plasma display, or PC screen with new sources like the PS3, Xbox360, Blu-ray players, Cable TV / Satellite boxes, or PC graphics cards at up to 1080p FULLHD resolution.

Without an HDMI input your display will be limited to 480p in most cases - that's only 1/6th the resolution of 1080p FULLHD! You need HDfury2 to unlock the full potential of your display! Why buy an expensive new HDTV when your existing one works perfectly well? Enhance your display's compatibly and value with HDfury2 !

The HDfury2 delivers a razor sharp picture with unprecedented colour from any HDMI source, supporting all resolutions up to 1080p FULL HD. The picture quality improvement when using HDfury2 is immediately obvious, providing an amazingly clear and detailed picture!

Will HDfury2 work for me?

1. Does your display support ***at least one*** *of the following resolutions: 480i, 480p, 576i, 576p, 720p, 1080i, or 1080p? 2. Does it have a Component* ***or*** *RGB (PC/VGA) input connector? (some examples shown below)*

Component Input (a component cable is included in all our kits)

RGB VGA style Input (Choose the BLUE cable)

RGB 5-BNC input (Choose the GREEN cable)

If you answer YES to both questions then HDfury2 will work for you!

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What's Included? / Which cables should I order?
Absolutely everything you need is included. You won't need to find any of the expensive extras to get up and running. Our kits include:

*- **Component Cable:** For displays with standard RCA female component (YPbPr) input. Included with every order.*

*- **RGB Cable:** For displays with an RGB (VGA) input. The Basic Kit gives you a choice of one of three RGB cables, the Advanced Kit includes all three (useful if you may need more than one or don't know which to order):*

*1. **BLUE** (VGA to VGA male): For displays with a standard female D-sub VGA style RGB connector. This is the most popular RGB input connector. 2. **GREEN** (VGA to 5-BNC male): For displays with 5-BNC input RGB connectors. Used mostly by professional displays. 3. **RED** (VGA to Barco Port 3): For Barco CRT projectors only. More info on Barco port 3.*
If your display only has component inputs you will not use the RGB Cable so it doesn't matter which you order. If your display has 5 RCA style connectors order the GREEN cable and use five BNC to RCA adapters (sold separately).
WHAT'S INCLUDED?
WHICH VERSION SHOULD I ORDER?

*- **Component Cable:** For displays with a component (YPbPr) input. Included with every order.*

*- **RGB Cable:** For displays with an RGB (VGA) input. You have a choice of three RGB cables:*

*1. **BLUE** (VGA to VGA male cable): For displays with a standard female D-sub VGA style RGB connector. This is the most popular RGB input connector.*
*2. **GREEN** (VGA to 5-BNC male cable): For displays with 5-BNC input RGB connectors. Used mostly by professional displays.*
*3. **RED** (VGA to Barco Port 3 cable): For Barco CRT projectors only.*
If your display only has component inputs you will not use the RGB Cable so it doesn't matter which you order. If your display has both RGB and component input, use RGB if possible. If your display has 5 RCA style connectors order the GREEN cable and use five BNC to RCA adapters (sold separately).

*- **Power Supply (wall plug):** You have a choice of three power supplies. Choose based on your region:*

The power supply only needs to be used if the HDMI cable is longer than 5m (16 feet) or if the source device doesn't seem to be supplying adequate power to the HDfury2. A power supply is included with every order.

*- **6' USB 5V cable:** An extra cable that can be used to supply power to the HDfury2 from any USB port if using the regular power supply is not convenient. (Useful if the HDfury2 is used with a PC or PS3).*

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MAIN FEATURES:

- HDMI input

- Component (YPbPr/YCbCr) and VGA (RGBHV) video output

- Sound output in both Analog and digital Optical (S/PDIF) through an innovative 3.5mm combo jack

The HDfury² also includes many first time world exclusive features:

- Perfectly centered image in all standard NTSC/PAL modes (see below)

- Performs Colour Depth Upscaling in all modes (see below)

- Automatic SD/HD color-space selection

- Accept third party accessories on its output

- Lowest power consumption of any converter

- Software upgradeable (EDID and Firmware)

- Custom profiling to match any display requirements or to limit output resolution

- Screen position adjustment through firmware

- Smaller and is able to handle and include more technology innovations than the original HDfury

Colour Depth Upscaling:
A world first! HDfury² accepts both digital RGB and component (YCbCr) video over HDMI and automatically processes both correctly for zero loss of dynamic range. HDfury² takes this HDMI standard 16-235 data and cleverly scales it to a fully maximized output dynamic range (0-255) before sending it out to the final DAC conversion stage. The result is an absolutely stunning and dynamic picture!
Technical details: Component (YCbCr) is sent in a standard 16-235 code range in the HDMI domain. Most other converters simply output this exact same range but in analog form. These other converters basically feed code 16 to the DAC when black is requested and 235 when white is requested. However, DACs do not automatically comply to video standards resulting in code 16 translating into 44mV and 235 into 645mV (if 700mV is the full range) and while black or white crush does not occur, these converters limit the dynamic range resulting in a less than optimal picture. This is highly noticeable when you compare full range (0-255) vs. limited range (16-235).

Perfectly centered image:
Another world first! HDfury2 is the only device that recreates the sync and timing alignment completely and therefore perfectly centers the image according to the SMPTE standards in all modes. This is a major difference in the architecture. No other converter can compete against recreating the syncs completely.
Technical details: RGB as defined by CEA861A/B/C/D specification defines the leading edge of HSyncs at different locations than the SMPTE/ITU standard does for component (YPbPr). This is why ALL but one direct RGB to component converters fail to correctly center the picture. Others disregard time-domain correction placing the image too far "left" on the screen. This is the reason why people using the original HDfury coupled with a typical stand alone converter fail even though the original HDfury is not doing anything "incorrectly". It simply passes information which will be interpreted incorrectly by many TVs. As well, while less important (but still missing from other converters), HDfury2 outputs tri-level syncs in all HD modes as required by standards. Again, no standalone RGB-converter does this. We have never come across or heard from a customer of a TV that requires tri level sync but still it's nice to meet the spec and be able to claim compliance.

HOW DOES THE HDFURY2 COMPARE THE THE ORIGINAL HDFURY ?

Feature/Specification	***HDfury2***	***Original HDfury***
Data processor	***11 bit, 200 Mhz***	*10 bit, 175 Mhz*
Input	***HDMI based (DVI-D compatible)***	***DVI-D based (HDMI compatible)***
Output	***Component or RGBHV (user selectable)***	***RGBHV only***
Sound Output?	***YES, Both Analog & Digital Optical (S/PDIF)***	***NO***
Automatic image centering?	***YES, in all modes***	***NO***
Colour Depth Upscaling?	***YES, in all modes***	***NO***
Lower power consumption	***YES***	***NO***
Software upgradeable?	***YES, Both firmware (specialized tool required) and EDID***	***YES, EDID only***
Screen position adjustable via firmware?	***YES***	***NO***
Output resolution limit and custom profiling?	***YES***	***NO***
Technology	***6 layer high density class 5 PCB***	***4 layer mid density class 5 PCB***

The HDfury2 solves all original HDfury issues, including:

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A few source devices have issues handshaking with DVI-D (hdcp) devices such as the original HDfury, requiring the use of an HDMI switch between the source and the original HDfury. SOLVED! *HDfury² uses an HDMI input instead of DVI-D (hdcp) granting compatibility with all HDMI sources including those that could not handshake properly with DVI-D (hdcp) devices.*
Some sources like the Denon 4308 receiver could not handshake with an incomplete CEA861 EDID extension block causing issues with the original HDfury. SOLVED! *The HDFury² CEA861 EDID extension block is compliant to latest Rev. D.*
The picture is shifted to the left on some displays when using the original HDfury and it could not be centered within the display's adjustment range. Use of external device such as RTC220 or Box1020 was needed. SOLVED! *HDFury² is the world's first converter to perfectly center the image at all resolutions. No other converter does this as the others simply pass the original signal through.*
Some sources do not output enough current on their digital output pin#14. Use of external power supply was needed for the original HDfury (either Wall Plug or USB). SOLVED! *HDFury² consumes 160mA less current while running at 1080p compare to the original HDfury. HDfury² supports more sources out of the box without requiring the use of the power supply.*
Some users reported their original HDfury ran "hot" after many hours of use. SOLVED! *HDFury² unit runs 1.2w cooler at 1080p than the original HDfury.*
The original HDfury is unable to run long analog cables on its output. ex: Displays with VGA cords is problematic. SOLVED! *HDFury² can run longer analog cables on its output (to approximately 25-35 feet).*
Hard to identify when the power supply is required for the original HDfury (some source devices do not provide enough current on pin14. SOLVED! *HDFury² has a new LED system which indicates power status: If the LED is OFF or blinking then the HDFury² is not receiving enough power from the source device and the external HDFury² power supply must be used. If the LED is ON the HDFury² is receiving adequate power.*
SPECIFICATONS:

*- **INPUT:** Digital HDMI 19p FEMALE Port (100% digital)*

*- **OUTPUT:** Analog RGBHV or Component (YPbPr/YCbCr) via HD-15 D-Sub (VGA style) MALE connector*

- User Selectable RGBHV / Component (YPbPr/YCbCr) output with a switch

- A HDMI -> HDMI cable is used to connect to an HDMI source

- RGB 4:4:4 (8 bits) digital input

- YCbCr 4:4:4 or 4:2:2 digital input

- Compatible with non-HDCP (DVI-D) or HDCP sources

- Compatible with any RGB Display

- Compatible with any YUV Display

- Directly connects to a display's VGA (RGB) 15 pin D-Sub input

- Directly connects to a display's Component (YPbPr/YCbCr) input using included breakout cable

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- Takes less then 1 minute to install (Plug & Play)

- 11bit 200MHz data processing

- Triple 11bit 200Mhz video DAC

- RGB-H/V Male Port D-SUB 15 Output video analog signals (0.7Vpp (RGB) / 1Vpp (YPbPr) over 75 ohms impedance)

- Ultra short Analog links (<1 cm) on the HDfury² for optimal quality

- HDMI video bandwidth: 25-165MHz

- HDMI Data Rate - Bandwidth 1.5 Gbit/sec (Single link)

- Supports all HD/SDTV formats from 1080p down to 480i

- HDTV ready (480i/480p/576i/576p/720p/1080i/1080p48/50/60 compatible)

- DVI 1.0 compliant

- HDMI 1.1 and 1.2 ready

- HDMI 1.3 interoperable

- HDCP compatible with embedded keys loaded

- HDCP ready

- Reprogrammable Firmware (with specialized tools)

- Screen position adjustable through Firmware and Custom Profile

- Accepts third party accessories on output such as the GAMMA-X (Gamma Correction)

- Automatic Input Format Detection: Digital YCbCr and RGBHV

- Full dynamic range for all input modes to maximize the level of detail

- Automatically switches color-spaces for both HDTV (Rec.709) and SDTV (Rec.601)

- Precise black levels - no black crush in any standard mode

- Stereo High-Quality Analog Audio Output

- Stereo High-Quality Digital/Optical Audio Output (S/PDIF format)

- HD-DVD and Blu-Ray Disc player compatible

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- Playstation3 and Xbox360 compatible

- Satellite and Cable set-top box compatible for HDTV

- HDMI or DVI-D video graphics card compatible

- HDCP compatible with embedded keys loaded

- Energy management : DVI and VESA DPMS compatible

- Ultra low power consumption in Standby (3,5mA)

- Maximum power : 0.37A under 5V (at 1080p/60)

- On-board DC/DC converter (1.8V) with extra-low EMI signature

- Power +5V from DVI/HDMI

- Blue LED to display active digital link and power status

- Small size : 75x56mm cabinet

-100% ROHS compliant (Restriction of Hazardous Substances Directive)

- Installation: The HDfury2 module may be DIRECTLY screwed to the back of the display into the VGA SUB-D plug.

- Shortest RGB and Component (YPbPr) analog video link as possible.

- HDCP rules compliant: No end-user access to decrypted analog video. Once screwed, this module becomes "a part of the display itself".

- Professional factory made (mass-production) using pick/place and reflow/wave solder pro equipment.

- Gold Plated connectors, tracks and material

- Full aluminium case with thermal dissipation

- Optional +5v input & power supply

- EDID detective feature: EDID eprom can be reprogrammed using a computer through the graphics card (feature reserved for professionals)

- Internal EDID EEPROM with complete CEA861 extension block

- One year warranty