

X-VUE

# BOX1020 RGB to Component(YPbPr) / RGBHV Converter

USER MANUAL

4/1/2008

# BOX1020

---

This unique RGB to Component(YPbPr) Converter provides a component conversion optimized for HD-ready displays for full high-definition viewing. It allows you to view high-definition (HD) content from RGB sources on your existing projector or HD-ready TV.

The RGB signal is converted to the component (YPbPr) or passed through in RGB with virtually no degradation in quality. It works with any source that has an RGB output providing low level black boost and image alignment features.

Box1020 is plug-n-play with no extra steps required. It can be used for all standard High-definition TV formats: 1080p, 1080i, 720p. All standard frame rates are supported. Low-level Black Boost operates in both RGB and Component outputs.

## **Box1020 connects to your display in one of two ways**

- For component (YPbPr) displays: Through a standard 3-RCA-RCA cable
- For RGB displays: Through a 15-pin D-Sub VGA connector or through a VGA-5BNC breakout cable. Horizontal and Vertical sync information is present in the VGA connector.
- Both displays can be connected at the same time

## **What is included?**

- The Box1020 converter
- Wall-mount 9V AC power supply
- Instructions

## Specifications/Features:

- Input: RGB (RGB with Horizontal and Vertical syncs - RGBHV)
- Output: RGBHV HD-15 D-Sub (VGA) Connector and Component (YPbPr) over a 3-RCA cable
- An adjustable Low-Level Black Boost for restoring shadow details
- An Image Alignment Correction circuitry to correctly center the image
- Supports all standard HD formats, 1080p/1080i/720p NTSC/PAL
- Full dynamic range for all input modes to maximize the level of details
- Highly accurate color-space-conversion for the component YPbPr output
- Precise black levels - no black crush in any standard mode

### Performance depends also on your TV capabilities:

- Check your TV for HD component/RGB input support. Some TV's don't support HD analog inputs.
- The output resolution is the same as the input. E.g. 1080p in -> 1080p out; 720p in -> 720p out.

### Important note about synchronization options:

- Box1020 will not change polarities of the input horizontal and vertical syncs
- You may also use composite sync input (CSync – Horizontal and Vertical Sync combined on HSync input). Again, CSync must have positive polarity.

### Common mistakes:

- Black screen: Display cannot support input resolution (e.g. 1080p signal going into Box1020 but display supports up to 1080i)
- Colors are stable but wrong: Input source is component (YPbPr) instead of RGB. Change the source to output RGB (in PS3, setup menu/BD/DVD options)
- No picture when using IAC: Turn the pot to one end and start “very slowly” turning the pot to other way to find the proper operating area where picture is displayed. You must do it slowly, otherwise you will skip the operating area.
- PC image doesn't show up: wrong timings. Typically TV:s don't display PC graphics signals due to non-standard timings. Force a HDTV (720p/1080i/1080p) signal out from your graphics cards.

## Setup

All Box1020 are individually tested and guaranteed to operate properly when shipped. In order to successfully use your Box1020 just follow the simple steps outlined below.

1. Make sure that your source device has the ability to correctly set the timing needed by your display. Box1020 simply passes through the information from your source by converting RGBHV into component or pass-through RGBHV. Box1020 does not alter the source material in any way. **If your source is not capable of supplying the right timing, do not use BOX1020.** Example: if you are using a source that outputs 1080p (e.g. HDDVD/Blu ray) but your display only supports 720p/1080i there will be `_no_` picture). In this case adjust the output mode of your source to 720p/1080i.
2. Make sure your player device (PS3/HD DVD/DVD etc..) is set to output RGB instead of component (YPbPr). It is necessary that the signal going into Box1020 is in RGB format, otherwise colors will not be displayed properly. For example, in PS3 you need to set this in the system menu(BD/DVD options). If you are using a HDMI/DVI to RGB converter box, you can use it directly, the output should be in the correct mode.
3. Connect Box1020 to your display using either of these two methods:
  - For COMPONENT(YPbPr): Connect a standard RCA-RCA cable between Box1020 and your display. Use three separate component connectors(Green, blue and red) to your display in proper order
  - For RGB: Use a regular VGA-VGA cable (typically used in PC monitors) to connect Box1020 and your display. You can also use VGA-5BNC breakout cable if your display/projector only supports BNC connectors. Please note you will need to connect all five signals (R, G, B, H, V)
4. Connect the power supply to Box1020. A proper power supply is 9V AC, greater than 300mA and 2.1mm output plug. It must be AC-type (not DC).
5. If you are using Image Alignment Correction (IAC), tweak the pot to obtain picture in the desired location (refer to instructions later).
6. If you are experiencing troubles, please double check all connections are secured fully and cycle the power to Box1020. In the case of questions, please email [info@x-vue.com](mailto:info@x-vue.com)

**Warning!** Using incorrect scan-frequencies can damage your TV or front projector. X-VUE takes no responsibility implied or otherwise and X-Vue's total liability to any customer for any and all claims relating to the use of the **BOX1020** shall not exceed the total amount paid by such user to X-VUE for obtaining this product.

**RGB input connector**

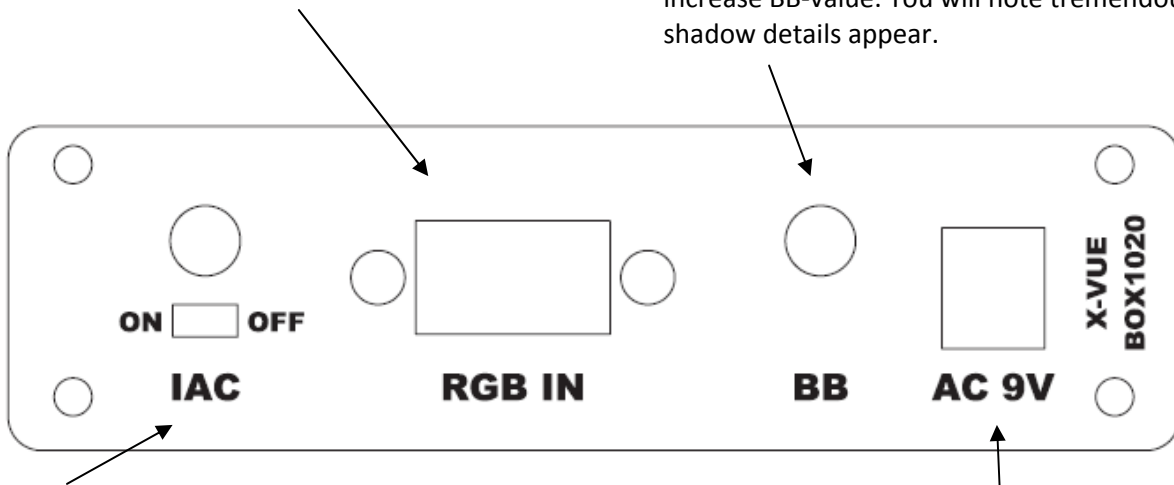
Insert the VGA connector from the source device here. E.g. if using an HDMI/DVI to RGB converter, insert the device to this input.

**Low-Level Black Boost**

To control the low-level black boost (i.e. Gamma) turn the knob counter-clock-wise to increase the effect.

Use your favorite movie to gauge how much correction is applied and leave the setting to that position.

For maximum effect, reduce the overall brightness setting in your TV to low value and increase BB-value. You will note tremendous shadow details appear.

**Image Alignment Correction**

Before turning IAC on verify that picture is shown on the display with IAC in off position. This makes sure that signal is passed through Box1020 properly.

**IAC off:** Flip the switch towards the “off” position. In this mode no changes are made to the timings and the synchronization is simply passed through to the output.

**IAC on:** Flip the switch towards “on” position and IAC is enabled. Factory setting is for a proper picture alignment in 1080i mode. If you would like to fine tune the placement or if you are using other than 1080i (e.g. 720p/1080p) then turn the potentiometer “very slowly”. You will see the picture move accordingly. In any given mode, there is a very narrow range of pot-movement for proper picture – otherwise the screen is black (no picture). This is normal. You may also turn the pot all the way to the other end and very slowly turn it back until picture is displayed. Then you can simply fine tune to perfectly center the image and leave the setting there.

**POWER SUPPLY CONNECTOR**

Use the included power supply.

The specifications are: 9V AC, minimum of 300mA current, 2.1mm plug. Please note, the power supply MUST be AC-type, not DC)

Please email [info@x-vue.com](mailto:info@x-vue.com) if you encounter problems