



Vantage-HD
The Ultimate Home Theater Image Processor

FAQ Helpsheet

1. *Do you support 1080p60 and 1080p50 inputs and outputs?*

Yes, maximum output resolution and refresh rate is 1080p60 or 1080p50 via HDMI/DVI and via RGBHV analog. Maximum input resolution and refresh is 1080p60 or 1080p50 via HDMI or DVI only.

2. *Why is there no component video output?*

We provide an RGBHV output which is the best way of providing a high quality transmission of the signal to the display device. If we were to output component video in YPbPr (YUV) colorspace this would have several negative implications in terms of image quality. In particular it would require the display device to perform colorspace conversion back to RGB since all modern displays use RGB at the display medium. That conversion would lead to the possibility of re-introduction of hue, saturation, coloration, contrast or black-level errors and would likely reduce the effectiveness of the color improvements implemented by Vantage-HD which has carefully designed colorspace conversion algorithms with precision parameters selected to best suit the connected signal.

Furthermore, most displays process YPbPr internally as 4:2:2 whereas they process RGB as 4:4:4, therefore a YPbPr signal would have half the color bandwidth of its RGB counterpart. These various reasons mean that the only sensible colorspace to use to pass the signal from Vantage-HD to the display device is RGB.

3. *Why are there no output BNCs, you only provide a 15HDD connector, surely that will degrade the image?*

The idea that signals cannot be properly transmitted through a 15HDD connector is simply untrue. What really matters is whether the internal circuitry and PCB tracks have the correct 75-Ohm characteristic impedance and whether the correct 75-Ohm cable is used to connect to the display device. 15HDD connectors in some products suffer from having poor internal drive circuitry, poor PCB design and worst of all use of multi-core cable instead of proper 75-Ohm coaxial cables.

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Vantage-HD has carefully designed analog circuitry together with 75-Ohm characteristic impedance PCB tracks and gold-plated connection points throughout the PCB, not just on the actual connectors, unlike some competitors. When used with proper 75-Ohm cable for the R,G & B signals this leads to excellent signal transmission characteristics.

Why 15HDD though we hear you ask? We chose a 15HDD connector primarily because we didn't have room on the PCB for 5x BNCs so would have had to wire to case-mounted BNCs, that would have caused internal impedance mismatches and degraded the signal.

There is also an important signal connectivity reason - an RGBHV format signal should actually have R,G & B connected via coaxial cables but H&V via screened twisted pairs or datalines. The H&V signals should not be connected via coaxial cable even though that practice is common. A good quality RGBHV cable assembly with 15HDD connectors will have three coaxes for R,G & B plus screened twisted pairs or datalines for H & V; that is the optimal method for connecting RGBHV signals.

4. Can I always get an HDMI output? Is HDMI audio always present?

Yes, the HDMI output is always active and it automatically detects whether you have connected it to a true HDMI display device or to a DVI device. It may not always have HDCP encryption present since that is dependent on whether the input signal is HDCP encrypted, but it can always be used. HDMI audio is always output when an HDMI compliant display device is detected, but is not available if the display is detected as a DVI type.

5. What if my input signal has HDCP?

If your input signal is HDMI or DVI with HDCP then we are only allowed to output HDMI or DVI with HDCP encryption. We are obliged to disable the RGBHV output when any output resolution above 640x480 has been selected, so in all practical applications this will occur. This requirement is mandated in the HDCP and HDMI licensing rules which we are contractually and legally bound to adhere to, it is not a restriction of Vantage-HD itself. We will however run SPDIF and Optical (Toslink) audio as well as HDMI audio, but with copy protection set on the SPDIF and Optical audio datastreams as well as on the HDMI audio.

Important: If you want to input HDCP encrypted signals you must connect an HDCP compatible display device to Vantage-HD, otherwise you will not get a picture!

For more information on HDMI visit <http://www.hdmi.org>

For more information on HDCP visit <http://www.digital-cp.com>

6. You originally told customers that if the audio input was via HDMI with HDCP then the SPDIF Coaxial and Optical audio outputs would not function. Is this true and why?

We originally believed this was necessary for compliance with the HDMI and HDCP licensing rules but have now found another means to make Vantage-HD comply with the copy protection requirements of HDCP and HDMI without having to disable the coaxial and optical digital audio outputs. This is clearly far more convenient for our customers.

Unfortunately there is no such work-around for video signals though, we are not permitted to output RGBHV analog signals if the input is HDMI with HDCP or DVI with HDCP – see FAQ 5 above.

7. Can I input one kind of audio and output another?

Yes but with the restriction that Vantage-HD does not convert the number of audio channels for digital audio signals, so if you connect a digital audio source with 7.1 or 5.1 output then the corresponding SPDIF, Optical and HDMI audio outputs from Vantage-HD will be 7.1 or 5.1 so the audio processor you connect Vantage-HD's output to must be able to accept that signal. All digital channels support 7.1, 5.1 or 2-channel audio including 192KHz 2-channel, but the analog audio inputs and outputs only support 2-channel signals since there are only L & R connectors.

8. Is there a fan?

Vantage-HD contains a miniature fan internally on a chip cooler very much like the chip cooler in a PC. This is required to ensure the Realta processor does not overheat. There is also a small fan in the rear of the case but the noise level is very low. The overall heat dissipation within Vantage-HD is minimised through the use of an external power brick, similar to that used with a laptop computer, this aids reliability and keeps mains-borne electrical interference away from Vantage-HD.

9. Are discrete control codes available?

Yes. Discrete codes are available for input channel selection, on, off, brightness and contrast. All other functionality is through menu access codes, which can be built up into macros on third-party control devices if required. Discrete codes are available for the IR and RS232 control channels.

10. Is the firmware updateable

Yes, via USB. Updates will be downloadable from our website.

11. Will you release firmware for new resolutions?

We intend to periodically release new firmware as new resolutions or functionality enhancements become available, provided of course they are within the capabilities of the Vantage-HD hardware.

12. Do you support SCART signals?

We don't fit a SCART connector since we do not think it appropriate on such a high performance product. We do appreciate that some European equipment only has SCART fitted so we provide two component video input channels which can be defined via the OSD to be YPbPr or RGBS. In RGBS mode you can connect a SCART device via a third-party adapter cable.

13. How is Vantage-HD different from other HQV/Silicon Optix scalers? I've heard they are all really the same design.

Many HQV-based scalers do appear to be the same product, but Vantage-HD is not, it has been developed especially for the home theatre market by Calibre's engineers in England and is manufactured by Calibre in its own factory also in England. It is most definitely not just the standard Silicon Optix HQV reference design.

Vantage-HD has been carefully improved particularly in terms of signal input capabilities, output capabilities and by provision of a far more comprehensive and user-friendly OSD system. Vantage-HD provides as good or better image processing capabilities, more user configurability and controllability and more video input channels. Vantage-HD also supports far more native display resolutions for home-theater display devices and also supports configurable 59.94Hz, 50Hz and dynamic 59.94Hz/50Hz refresh rate modes.

In terms of audio support, Vantage-HD surpasses standard Realta HQV implementations by providing a proper audio routing system to enable each SPDIF Coaxial, Optical or Analog audio channel to be paired with any video channel, it is even possible to re-allocate a separate audio channel to run with HDMI video in case you don't want to run HDMI audio.

Vantage-HD has been refined for the home theater market, allowing us to offer you by far the most competitive HQV solution in terms of price versus performance.

14. Is there an SDI option?

An HD-SDI expansion module is due for release by late 2005. This will also support SD-SDI. It will be compatible with 480i (525i), 576i (625i), 720p, 1080i and single-link 1080p/sfp signals. Vantage-HD can take 1 expansion module so will be able to accept either the HDMI expansion module or the HD-SDI expansion module but not both simultaneously.

15. Can I connect more than 2 HDMI sources?

An expansion module to add a further two HDMI input channels to give a total of four and is planned for Q1 2006. Vantage-HD can take 1 expansion module so will be able to accept either the HDMI expansion module or the HD-SDI expansion module but not both simultaneously.

16. How do I buy Vantage-HD? Do you sell direct?

This depends who you are and where you are. In countries where we have appointed distributors, you must purchase through a distributor if you are a dealer or integrator. If you are an end user you may purchase through a dealer or from our master distributor in Rochester NY, USA. We only sell direct if you are a volume distributor or if you are a dealer/installer located in a country where we don't have a distributor.

If you are a dealer or integrator we can offer you advice on distributors in your area. If you are an end-user we will be pleased to direct you to the appropriate route of purchase in your territory.

17. Who are Calibre, I've never heard of you?

Calibre has been active in the professional video, display and image processing market for over 17 years. You can rest assured that we are experts who know what we are doing technically and are a sound and well-established company commercially and financially. If you want to learn more about us, you read up on our background, markets and products on our website <http://www.calibreuk.com>

18. When is Vantage-HD shipping?

We are starting production mid-October 2005 but most of that batch is already sold. Our next batch will be manufactured very early November for shipment to our distributors through that month. After then we intend whenever possible to maintain stocks of Vantage-HD at our master distribution facility in Rochester NY, USA.

19. Can I rackmount Vantage-HD?

There are mounting points at each side to take 1/4" UNC screws for rackmounts. The rackmount adapter kit is an optional extra, or third-party solutions can be utilised.

20. I've read on a web-forum that I can buy extra Teranex algorithms, is this true?

Some HQV products do not include all the available algorithms and make you pay extra for the really clever ones like MPEG block noise and mosquito noise reduction, otherwise known as CNR or codec noise reduction. Others don't include motion adaptive de-interlace or temporal noise reduction for 1080i HD signals.

At Calibre we recognise that making a product seem cheaper than it really is by missing key functionality from the standard feature list is not helpful and not appreciated by customers. Vantage-HD therefore includes all current standard HQV-compatible Teranex algorithms within the MSRP of \$2899.

21. Tell me about the range of user controls are provided.

Far too many to list in full detail here! But the manual will soon be downloadable from our website, it will contain user configuration and set-up information.

As a guide, you can control Contrast, Brightness, Black Level set-up, Color Saturation, Hue, Sharpness, Aspect Ratio, Image Size (free-form H & V sizing), Image Position, ACE (automatic contrast enhancement), CUE (chroma upsampling error correction), CCS (cross-chrominance suppression), CIE (color transient improvement), MPEG noise reduction and filter level and TNR (temporal noise reduction) filter level, color temperature (from pre-defined list), gamma (from pre-defined list) all on a per-input basis.

On a global basis you can control output resolution, refresh rate, keystone correction (projector mode only), output mode optimization (for plasma, projector, LCD or CRT) and audio delay fine-tuning.

There are also other input-specific control functions available and video/audio input pairing selection facilities to provide full "audio-follows-video" capability.

We intend to add a fine gamma control function to enable precise manipulation of the gamma curve and to add fine color temperature calibration on an individual R,G, B basis but these functions are not yet complete in our firmware.

We also intend to add test pattern generation to a later firmware release.

22. Is Vantage-HD UL Listed

Vantage-HD itself is a low-voltage product running on 5VDC so is not itself UL listed, but the separate mains power pack we supply is UL and CULS listed so you can be confident of the safety of Vantage-HD in your home.

23. How much does Vantage-HD cost?

The MSRP is \$2899 in the USA. Pricing in other countries depends on local taxes, duties, import costs and shipping costs so please consult with your local distributor for further information.

Headquarters

Calibre UK Ltd
Cornwall House, Cornwall Terrace
Bradford, West Yorkshire
BD8 7JS, England

Telephone + 44 (0)1274 394125
Fax + 44 (0)1274 730960
Email vantage@calibreuk.com
Web-site www.calibreuk.com

USA Sales Office

Calibre UK Ltd
P O Box 44
Fair Oaks
California 95628
USA

Phone / Fax 916 961 1261
Email vantage@calibreuk.com
Web-site www.calibreuk.com