VANTAGE-HD
OPERATORS Manual

Issue 1.0.0

Welcome to the Vantage-HD Manual

For technical support please see the Home Theater section of our website http://www.calibreuk.com/home_theater.php.

If the web site does not provide the information you require, please contact your dealer, installer or distributor in the first instance, or if they are unable to resolve your query please

e-mail vantage-support@calibreuk.com.

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Calibre operates a policy of continued product improvement, therefore specifications are subject to change without notice as products are updated or revised.

E&OE.

CONTENTS

PRODUCT DESCRIPTION

1.1. Product Overview

Vantage-HD is a state of the art digital image processor which provides market leading HD& SD per-pixel multiple low-angle aperture-adjusted motion-adaptive de-interlacing and automatic film pull-down correction for 3:2, 2:2 and non-standard and broken cadences, significantly outperforming the capabilities of benchmark competitor products.

Vantage-HD features studio-grade image processing algorithms from Teranex for the very best scaling, film and video noise reduction, MPEG artifact reduction and automatic audio time-line correction to maintain lip-sync Vantage-HD is a very flexible video and audio router with multiple HDMI and analog input channels, digital, analog and optical audio support and optional HD-SDI compatibility.

Vantage-HD has special algorithms for plasma image enhancements, significantly reducing plasma noise and improving grayscale reproduction. Image quality on large-screen LCDs are also much improved by Vantage-HD. For projectors, Vantage-HD features the sharpest most flexible keystone correction on the market and there is also an image warping option available for complex geometric correction

1.2. Packing List

The following items are included with your Vantage-HD, if any items are missing please contact your distributor.

1. Vantage-HD
2. Power supply
3. Power cord
4. CD containing this manual
5. Remote control + batteries
6. Warranty card

1.3. You Will Need

The following items will be required but are not supplied with your Vantage-HD

1. A suitable display device - see section 17 for details of the output modes supported by Vantage-HD
2. Cable to connect to your display device
3. A signal source - see section 11 for details of the supported inputs
4. Cable to connect to your signal source
5. Audio processor and cable (required if not using HDMI to connect to the display device).

1.4. Physical Dimensions

The Vantage-HD is 16.4" (416mm) by 10" (253mm) by 3.4" (85mm) W x D x H

NOTE excluding optional rack mounting kit.

An optional 19" by 2U rack mounting kit is available. Each bracket is attached by 2 off 10-32 1/2" long pan head screws.

1.5. Controlling Your Vantage-HD

Setting up and controlling your Vantage-HD is achieved by a simple to use On Screen Display (OSD), moving around the OSD can be achieved by using the navi-keys on the front of the Vantage-HD or by using the remote control

Batteries are not installed when the unit ships to maximise their life.

PLEASE ENSURE THAT THE BATTERIES ARE INSERTED IN THE WAY SHOWN WITHIN THE BATTERY COMPARTMENT OF THE REMOTE CONTROL.

WHEN BATTERIES BECOME DISCHARGED PLEASE REMOVE THEM IMMEDIATELY AND DISPOSE OF THE IN ACCORDANCE WITH THE INSTRUCTIONS SUPPLIED BY THE BATTERY MANUFACTURER

IF THE REMOTE CONTROL IS TO BE LEFT UNUSED FOR AN EXTENDED PERIOD OF TIME PLEASE REMOVE THE BATTERIES TO PREVENT POSSIBLE DAMAGE CAUSED BY LEAKING

1.6. Serial Control

Vantage-HD has a serial port which allows for the unit to be controlled via an integrated home control system. The connector on Vantage-HD is a 9 way D-Type (female).

Pin 2 = Tx Pin 3 = Rx Pin 5 = Ground

The type of cable required will depend on your home control system but typically a 9 way Male to 9 way Female connected straight through will allow serial control.

The serial control codes can be downloaded from www.calibreuk.com

1.7. Infrared Control

The infrared control codes can be downloaded from www.calibreuk.com

1.8. Firmware Updates

Calibre operates a policy of continued product improvement as a result we may periodically issue firmware updates, these are downloaded to the Vantage-HD via the USB port.

Full details of the updates and how to download them are available on our website www.calibreuk.com

1.9. Rear Panel Connections

The following inputs are located on the rear panel of the Vantage-HD

1. Composite video via RCA jack (2 off)
2. S-Video via 4 way mini DIN socket (2off)
3. Component video (with or without separate sync) via 3 (or 4) RCA jack (2 off)
4. HDMI version 1.1 (2 off)
5. SDI (optional) via BNC
6. Computer (SVGA) via 15 way HDD
7. Analog audio stereo pairs via RCA jack (4 off)
8. S/PDIF coaxial audio (2 off)
9. S/PDIF optical audio (2 off)
10. Power socket

The following outputs are located on the rear panel of Vanatge-HD

1. Analog video output via 15 way HDD (1 off)
2. HDMI version 1.1 (1 off)
3. Analog audio stereo pair1 via RCA jack (1 off)
4. S/PDIF coaxial audio (1 off)
5. S/PDIF optical audio (1 off)

Figure 1 below details the connections to Vantage-HD.

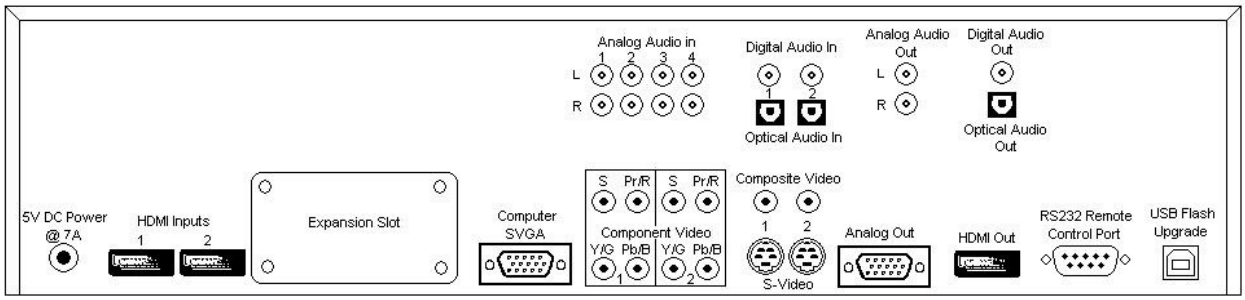
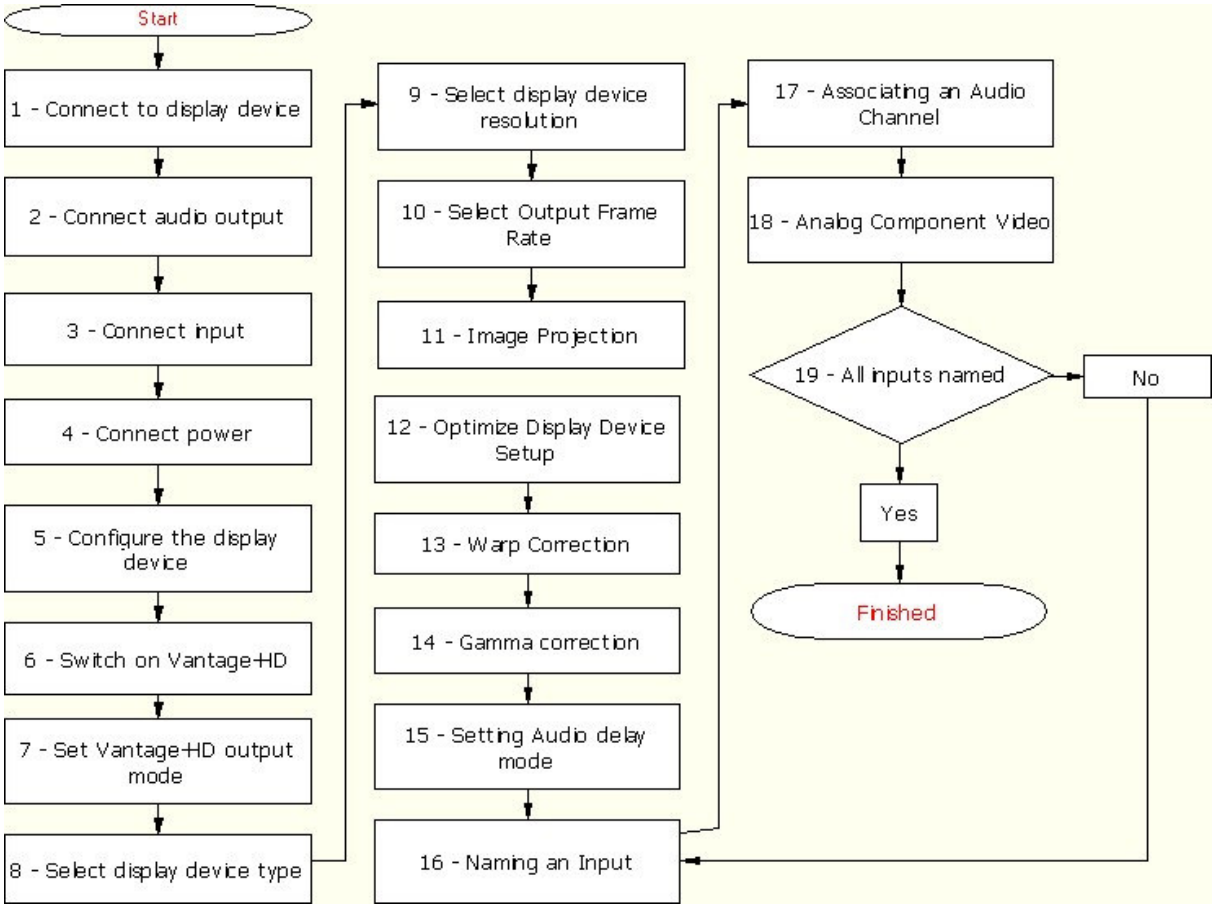


Figure 1 Rear Panel Connections

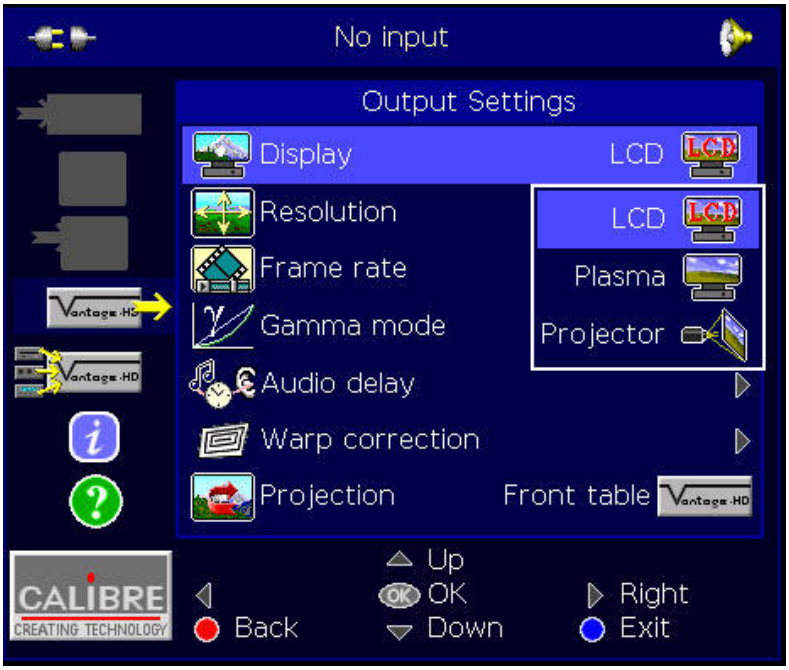
CONNECTING VANTAGE-HD TO THE DISPLAY DEVICE

2.1. Correct Installation Order

The flow chart below details the correct order in which to install your Vantage-HD, following this order will ensure trouble free installation.



1.	**Connect to display device**	Connect Vantage-HD SVGA (RGBHV) output or HDMI output to your display device. If connecting a DVI display device you need to use an HDMI to DVI converter which we recommend you locate at the display end of the cable.
2.	**Connect audio output**	Connect Vantage-HD audio Coaxial, Optical or Analog output to audio processor, if HDMI audio output is not being used. **Note**: For best audio performance it is recommended that Coaxial or Optical audio be used, not HDMI audio.
3.	**Connect input**	Connect input video and audio signals to Vantage-HD.
4.	**Connect Power**	Connect power supply provided with Vantage-HD to Vantage-HD power inlet jack. THIS POWER SUPPLY CARRIES A LABEL SHOWING THAT ITS DC OUTPUT IS 5V at 7A. DO NOT CONNECT ANY OTHER POWER SUPPLY TO VANTAGE-HD WHICH WILL NOT BE COVERED UNDER YOUR PRODUCT WARRANTY Connect the Vantage-HD PSU to your mains outlet and turn on the mains outlet if it is switched
5.	**Configure the display device**	Turn on your display device and select the input channel to which you have connected Vantage-HD
6.	**Switch on Vantage-HD**	Turn on Vantage-HD by pressing the Power (bottom right) button on the front panel, or by pressing the On button on the remote control.
7.	**Set Vantage- HD output mode**	A new Vantage-HD unit will power up in 640x480 @ 60Hz output mode since this should be compatible with all common display devices. If your Vantage-HD has previously been connected it may power up in a different mode. If this mode is not compatible with your display you can easily revert to the 640x480 @ 60Hz output mode by simultaneously pressing the front panel Input key and OK key (OK is the center key of the 5-button navi-key).
8.	**Select display device type**	Press the Menu key to bring up the OSD menu. Scroll to the Output Settings menu using the top/bottom navi-keys. Go into that menu by pressing the right navi-key. First choose your type of display by using the up/down navi-keys to scroll to the Display menu item (if not already highlighted) and pressing OK (the center button of the navi-key). The options which appear are: a) LCD - for direct-view LCD displays b) Plasma - for plasma displays c) Projector - for solid-state (digital) projectors such as DLP, LCD, LCOS, DILA or any other type of digital projector Choosing the appropriate type of display is important since menu items such as temporal noise reduction and how the OSD is generated are pre-set to different default values depending on the display type and different menu items appear or are hidden such as keystone correction.
		Depending on the frame rate mode you choose, Vantage-HD may have to re-boot to change resolution. If this occurs you need to re-enter the Output menu by pressing Menu, scrolling to Output Menu with the up/down keys and entering the Output Menu with the right key



Picture 1 Select Display Device Type

9	**Select display device resolution**	Choose the correct display resolution by scrolling down to the Resolution menu item and pressing OK to display the list of available modes. Note the scroll bar at the left of the list - it is too long to display the full list on screen so you must scroll up and down it to see all modes. For best performance it is critical that you select a mode which is equal to the native resolution of the display device you are using, provided that the display supports its native mode. This is to ensure that the internal scaling within your display device is not operating.

Picture 2 Select Display Device Resolution

10	**Select Output Frame Rate**	Select the Frame Rate option on the menu. This determines whether the output of Vantage-HD remains at a constant 59.94Hz, constant 50Hz, or automatically switches between the two depending on the type of incoming signal being displayed Auto mode gives best motion performance in a viewing scenario where you are looking at content which may be 59.94Hz or 50Hz (North America and anywhere using the NTSC system usually runs at 59.94Hz, Europe and anywhere using PAL or SECAM usually runs at 50Hz; there are exceptions though in both cases.) However when Auto mode is selected there may be display glitches when switching between inputs or when the input signal is lost - this is due to output frame rate changes affecting the operation of your display device. If you are only using 59.94Hz sources, or only using 50Hz sources, it is recommended you select 59.94Hz or 50Hz respectively so as to improve the input switching characteristics. Note: Selecting 50Hz output mode with 59.94Hz input material, or vice versa, can cause motion judder in the picture so is not recommended.
		Depending on the frame rate mode you choose, Vantage-HD may have to re-boot to change resolution. If this occurs you need to re-enter the Output menu by pressing Menu, scrolling to Output Menu with the up/down keys and entering the Output Menu with the right key
11	**Image Projection**	Image Projection - allows correction for the orientation and location of the projector relative to the screen. Press OK to show list then scroll up/down list with up/navi-keys, press OK to choose the correct mode. Options are: a) Front Table - projector is in front of screen and correct way up b) Front Ceiling - projector is in front of screen but upside down c) Rear Table - projector is behind screen but right way up d) Rear Ceiling - projector is behind screen and upside down
12	**Optimize Display Device Setup**	When connecting your display via the SVGA (RGBHV) connector it is imperative that the pixel clock and phase settings are correctly adjusted on the menu system of your display device. For information on how to access these features see the user manual supplied with your display device. *Note: You must set Vantage-HD to the native resolution* of *your display device BEFORE adjusting the pixel clock and phase settings on your display.* To set the pixel clock, with no input displayed on Vantage-HD but with the OSD present and the blue background shown, adjust the pixel clock setting (on your display device, not on Vantage-HD) to remove all vertical noise bands from the blue background. Correct adjustment will cause the vertical bands to move further apart and reduce in number until they eventually disappear. Many good displays will automatically select the correct pixel clock setting, but some will not. IMPORTANT: See Chapter 10 - Output Mode Details for detailed information on output mode timings including information on the correct pixel clock setting - the total number of pixel clocks per line. See also Note (b) below when using 1366x768/1360x768 modes. To set the pixel phase, first set the pixel clock correctly (see above) and then adjust the pixel phase to remove all horizontal jitter and noise from the background and the OSD, in particular you should adjust for best sharpness of the OSD text and graphics. PIXEL CLOCK AND PHASE ADJUSTMENTS WITHIN THE DISPLAY DEVICE ARE NOT APPLICABLE WHEN USING A DVI OR HDMI DISPLAY DEVICE.

	Notes: a) Some 1024x1024 plasmas do not correctly support 1024x1024 native resolution, in this case you must unfortunately select 1024x768 or 1280x768, experiment to see which gives best performance. b) There are two 1366x768 modes and a 1360x768 mode provided. This is because some types of plasma and LCD with this resolution need different signal timings compared with those which are considered standard for this format. As a general rule, 1366x768 modes will give better performance than 1360x768 but some displays do not support 1366x768 modes. The key difference between the two 1366x768 modes is the length of line blanking. Pick the 1366x768 mode which allows you to correctly set the pixel clock on your display device and which does not cause bad clamping. (If the picture appears very dark or very bright then it is incorrectly clamped due to the selected mode not being compatible with your display - try the other 1366x768 mode or the 1360x768 mode instead). c) 852x480 mode may need to be used for plasma screens with resolutions of 852 or 853 pixels. Many 853 pixel plasma displays do not actually support incoming modes with an odd number of input pixels. d) Never pick a mode with more display lines than the native format of your display device, selecting a higher resolution mode will not increase the system performance, it will instead degrade the picture significantly since it will cause the internal scaler within your display to downsize the picture resulting in loss of detail and artifacts.
	Depending on the frame rate mode you choose, Vantage-HD may have to re-boot to change resolution. If this occurs you need to re-enter the Output menu by pressing Menu, scrolling to Output Menu with the up/down keys and entering the Output Menu with the right key`
13 Warp Correction	Warp Correction - only applicable if the chosen display type is Projector. This allows for correction of vertical and horizontal keystone errors caused by misalignment of the projector to the screen. Correction up to +/- 30 degrees vertically and +/-40 degrees horizontally are possible, within the constraints of the chosen native resolution which is dependent on the display device - a higher resolution display device will give better results at more extreme angles of adjustment. Select the Warp Correction menu item using the OK key, then choose which corner to manipulate, then use the up/down and left/right navi-keys to manipulate the image by changing the angle of adjustment in the vertical and horizontal planes respectively. Note: Although Vantage-HD's Warp Correction allows for extreme off-angle picture geometry correction and maintains display resolution to the very best possible level even in such situations, Vantage-HD cannot correct for mis-focussing of the projector lens. Depending on the physical and optical characteristics of the optics within your projector, focus errors may occur at extreme projection angles which may cause one side of the image to appear less sharp than the other. After setting warp on Vantage-HD you should adjust the focus of your projector lens to obtain best overall picture sharpness, paying particular attention to sharpness in the center of your screen for viewing movies and TV.

14	**Gamma Correction**	Scroll to Output Gamma Mode and choose the gamma mode you require. This should be left set to Linear unless you also choose the correct input gamma for every input signal you connect. It is used to map an incoming gamma curve to a different outgoing gamma curve
15	**Setting Audio Delay Mode**	Audio Delay - the audio delay through Vantage-HD is automatically set to compensate for the delay through Vantage-HD which is typically 5-7 fields. The Audio Delay option on the Output Menu does not override this automatic setting but allows fine calibration of the audio delay in steps of approximately 1 mS, to advance or retard the audio so as to compensate for further delays in your display device or your audio system. If you notice lipsync errors when viewing program material, you can use this option to reduce or remove that error. Fine tuning of the audio delay can only be set correctly when viewing real program material so should not be adjusted at this stage

Output configuration is now complete, apart from fine-tuning the audio delay, which may require adjustment later, depending on your display device and audio system. Exit the Output Menu by pressing the left navi-key.

CONNECTING VANTAGE-HD INPUTS

3.1. Introduction

It is now necessary to define which input channels are connected and to pair the correct audio channel with each video channel. To begin to do this, scroll down to the Input Connections menu and enter that menu by pressing the right navi-key.

By default, no video channels and no audio channels are active. You must define which channels are connected on the Input Connections menu and choose whether or not each video channel has an associated audio channel. Only those video channels which are physically present on your Vantage-HD are shown, those which are grayed-out require an additional expansion module.

16. Naming an Input	To enable or disable a video channel, scroll to that channel type with the up/ down navi-keys, then press OK. You must then give that channel a name which means something to you or your installation/system for future reference. Do this by using the up/down navi-keys to scroll through the available characters and numbers (fast-scroll through the list automatically activates after approx 2 seconds). Then use the left/right navi-keys to move to the next character in the name, or go back to alter a character you have already chosen. (Note: To delete a character and not replace it with another, scroll with the up/down navi-keys to select the blank/space character.) It is not possible to enable a video channel or associate a sound channel with it until you have named that channel. Press the OK button when you have finished naming that input, the channel will now automatically be enabled as an available input.
Input Number (optional configuration)	To enable direct-selection of an input channel, using the numeric keys on the remote control, scroll to the Input Number with the up/down navi-keys, then press OK. Select the desired number from the list the press OK. Numeric selection is not essential for the operation of Vantage-HD but does provide a quick method of getting to the desired input.
17. Associating an Audio Channel	After naming the input channel, scroll down to the Sound Source menu item to choose the associated sound channel and press OK to view the list of available sound channels. If there is no associated sound channel (e.g. for a PC input with no audio) choose None. Only those sound channels which have not already been allocated to another video input channel are available for selection, those which have already been allocated are grayed-out. Note the scroll bar at the left of the list - there are too many audio channels to display all at once, you must scroll up and down the list to see all the available channel options.
18. For Analog Component Video Only	For analog Component Video inputs only, you can also choose whether the input source provides YPbPr, YPbPrS, RGB or RGBS video. It is important to select the correct color and sync format, otherwise the picture coloration will be wrong or no picture may be displayed. Most North American DVD players and set-top boxes output YPbPr. Most European (SCART) devices output RGBS

Definition of that video input channel is now complete

You should now repeat steps 16 to 18 to the define all the remaining video and audio channels you wish to use. When you have finished defining input channels, exit the Input Connections menu using the left navi-key to move back to the main menu on the left of the OSD

3.2. Resetting An Input Channel

Reset Channel	This very useful function resets all the input parameters to the default settings for that input channel with the current selected display device type. This enables you to recover to known settings

Input Setup Menu

FREEING INPUT CHANNELS

4.1. Freeing a Video Channel

Should you wish to disable a video input, you may do so by re-selecting that video channel from the Input Connections menu, selecting the Disable Channel function and then selecting Yes from the warning message which appears. Disabling a video input channel not only removes it from the input selections list, it also erases its name and de-allocates its associated audio channel.

Note: If all possible input channels are disabled, the OSD will exit at the point at which the last channel is disabled. This is because there are now no valid inputs so Vantage-HD has switched to its unconfigured (default) mode of operation. In this default mode the input channel to be displayed is undefined so may vary randomly. To start re-defining the input channels, press the Menu button again and use the navi-keys to re-enter the Input Connections menu.

4.2. Freeing an Audio Channel

Should you need to free up a previously allocated channel, go to that video input channel and select a different audio channel or no audio channel for association with that video input channel.

Press OK when you have chosen the correct audio channel.

Note: HDMI inputs by default associate themselves with the HDMI audio on that HDMI video channel. You can change this to any available digital or analog audio input if you wish, but cannot cross-select audio from a different HDMI video channel, e.g. HDMI2 can use audio from HDMI2 or from any analog or digital audio input, but HDMI2 video cannot be associated with audio from HDMI1 input. Calibre recommends use of Coaxial or Optical digital audio where the source device allows.

SELECTING AN INPUT

5.1. Via the OSD

Now you can choose from the input channels you have defined by scrolling up to the Input Selection menu. Here you will find listed those input channels you have defined. Press the right navi-key to enter the Input Selection menu, then scroll to the input you wish to view or whose configuration you wish to alter. Press OK to select it.

5.2. Via the Front Panel

Alternatively you can step through the defined input channels when the OSD is not displayed by using the Input key on the front panel of Vantage-HD.

5.3. Via the Numeric Buttons on the Remote

You can also direct-select an input channel by its number in the Input Selection listing, using the numeric keys on the remote control.

It is also possible to change the allocated numbers for those input channels in the Input Selection list. To do this scroll to that channel type with the up/down navi-keys, then press OK. Scroll to the Input Number, then press OK. Select an alternative number from the list.

Note the order of the list does not change on the OSD.

Input Selection Menu

ADJUSTING AN INPUT

6.1. Introduction

When an input channel has been selected, an input type dependent Picture Controls menu can be accessed. Note that for this menu to be fully accessible, a valid video input signal MUST be connected to the chosen video input channel. All settings on the Picture Controls menu are stored separately for each input channel and so do not affect the other inputs. Note: Default settings for many items are dependent on the type of input channel and the type of display device chosen.

To adjust the picture settings, scroll to the Picture Controls menu then press the right navi. key to enter that menu.

MANY SETTINGS ARE SIGNAL-TYPE DEPENDENT. NOT ALL ADJUSTMENTS ARE PRESENT FOR EVERY INPUT SIGNAL TYPE, THE LIST BELOW SHOWS ALL POSSIBLE OPTIONS BUT THESE ARE NEVER ALL AVAILABLE SIMULTANEOUSLY SINCE SOME ARE EXCLUSIVE TO ONE INPUT TYPE, SOME ARE EXCLUSIVE TO ANOTHER INPUT TYPE. BE SURE TO HAVE THE CORRECT INPUT SOURCE CONNECTED AND RUNNING, OTHERWISE THE CONTROLS MAY NOT HAVE THE DESIRED EFFECT WHEN THE ACTUAL SIGNAL IS CONNECTED.

Brightness	Control of background level
Contrast	Control of video gain
Sharpness	Control of the sharpening enhancement filters' levels. (video input signals only)
Color	Saturation and Hue controls on a sub menu (video input signals only)
Pixel Clock & Phase	A submenu allowing adjustment of the pixel clock (total number of pixel clocks per line) and the pixel phase for the SVGA (RGBHV) input only. This menu item only appears with the SVGA input selected.
Auto Setup	Automatically adjusts the pixel clock and phase settings for the SVGA input. This menu item only appears with the SVGA input selected.
Picture Format	Aspect Ratio control list for selection of correct format
Contrast Enhance	Preconfigured contrast enhancements which can be selected to suit your personal requirements

Picture Controls Menu

Video Filters (Video input signals only)	A submenu containing selection options for many image enhancement filters including **CCS** Cross Chrominance Suppression filter (reduction of chroma-crawl) **CUE** Chroma Upsampling Error correction filter **ICP** Interlace Chroma Problem filter - Reduces chroma interlace errors on diagonals and curves **TNR** Temporal Noise Reduction (removes "electronic" noise found on broadcasts, film material and particularly noticeable on plasma screens; set to High to significantly improve signal to noise ratio on plasmas) **MPEG** Select whether MPEG spider and block noise is on or off and adjust the level of MPEG noise reduction. **Movie Mode** Can be used to force the motion adaptive de-interlacer into movie (film) mode or video (TV) mode. It is recommended that this setting be left at default (Auto) for normal use. **Motion Adaptive De-Interlace** This defaults to On, it enables the Teranex motion adaptive de-interlace algorithms with multiple low angle interpolation. It is strongly recommended that this option be left On, but it can be de-selected if desired. Note: This option is only accessible when an interlaced input signal is actually running through Vantage-HD **Hardware De-Interlace** This determines whether hardware de-interlace (scaler based spatial interpolation) is to be used if motion adaptive de-interlace is disabled. It is strongly recommended that Motion Adaptive De-Interlace always be used for best performance, not Hardware De-Interlace. Note: This option is only accessible when an interlaced input signal is actually running through Vantage-HD.

Video Filters Menu

Picture Settings	A submenu of picture control functions including
	Color temperature To select the color temperature of the incoming material. Options are Warm, Neutral, cold. With a 7200K display device (a typical projector or LCD set to neutral) these correspond to nominal settings of 6500K, 7200K & 9300K respectively. For neutral color temperature response, that is, to leave the response of the program material unmodified, select Neutral, this is the default setting **Input gamma mode** Used to re-map an input gamma to a different output gamma setting. Only use this function if the output gamma has also been chosen on the Output Settings menu, otherwise leave set to Linear **Black Level** Use to select or de-select 7.5IRE black level set-up adjustment **Position** Allows horizontal and vertical adjustment (pan and tilt) of the active image within the overall display resolution **Size** Allows control of the width and height of the image, used to fine-tune the aspect ratio or to adjust to a nonstandard aspect ratio. Can also be used to select an adjustable amount of horizontal and vertical overscan or underscan.

Picture Settings Menu

PICTURE IN PICTURE

7.1. Introduction

To enable PIP mode, scroll down the main menu to the Picture-in-Picture Settings menu and press the right navi-key to enter that menu. To enable PIP, scroll to the PIP Enable option and press the OK key. Note: You cannot use the PIP menu successfully without at least two active inputs connected to Vantage-HD.

Selecting the input	Use the PIP Inputs menu to select which picture is displayed in the PIP window
Swapping PIP	Use the PIP Swap function to swap the primary image with the PIP image
Positioning the PIP	Use the PIP Position function to chose the location of the PIP image from Top Left Top Right Bottom Left Bottom Right
OSD not visible	When the PIP is displayed and the OSD menu is not on screen the navi-key arrows can be used to move the PIP around the screen and re-size the PIP window
Limitations	PIP Limitations - due to the high demands on the processing power available within the Realta HQV chip when a 1080i main image is displayed, the PIP can only support an SD 480i/480p or 576i/576p image in such a situation. It is not possible to display an HD main image simultaneously with an HD PIP, if you attempt to do this unpredictable results may occur or the image quality may degrade significantly

Picture In Picture Menu

INFORMATION MENU

8.1. Introduction

The Information Menu provides information about the version and status of your Vantage-HD. Information shown is

Vantage-HD Information	**Vantage revision** the version number of the control software and user menu/user controls functionality in your Vantage-HD.
Input Source	Displays details of the physical the video and audio connection channel presently selected
Input Format	Displays approximate details of the detected input video signal including vertical frequency (refresh rate), horizontal frequency (line rate) and resolution. Note that if the input is interlaced, the de-interlaced resolution is shown
Output Format	Displays approximate details of the output video signal including vertical frequency (refresh rate), horizontal frequency (line rate) and resolution

Important Note: The input and output format measurements are approximate only and do not show the exact precise refresh and line rate; they are subject to tolerances due to the measurement method and calculation rounding. Do not be alarmed if the input rate or output rate is not exactly what you think it ought to be.

Information Menu

CONFIGURATION MENU

9.1. Introduction

The Configuration Menu allows the user to customize the "look and feel" of the Vantage-HD user interface

Language	allows selection of the language for the OSD, current options are English (American) - default English (British) Francais Deutsch
Menu Colors	allows selection of the color scheme for the OSD, options are Blue - default Gray Green
Transparent Menu	allows the displayed image to be viewed through the OSD menu by making the OSD semi-transparent. Default is off
3-D Effect	changes the menu borders between flat (default) and 3-D effect
Noise reduction split screen	enables the noise-reduction demo mode whereby half the screen is shown with temporal noise reduction at its chosen level and half is shown without temporal noise reduction
0SD Timeout	The time between the last keypress and the OSD being automatically removed. Note: The default setting of 0 means no timeout, the OSD remains until it is removed by pressing a the Menu key
Infoscreen Timeout	The time between pressing the info key (or a channel change) and the infoscreen being automatically removed Note: The default setting of 0 means no timeout, the OSD remains until it is removed by pressing a the Menu key
Factory Reset	This performs a global reset of all parameters within Vantage-HD, all settings are returned to their factory default settings. This function should only be used as a last resort, you will lose absolutely all your previous configuration settings

Configuration Menu

OUTPUT MODE DETAILS

10.1. Introduction

The following output modes are supported by Vantage-HD

Resolution	H Freq	V Freq	H act	H Tot	HS	HBP	V act	V Tot	VS	VBP
640×480	31.469	59.94	640	800	96	48	480	525	2	33
640×480	26.25	50	640	800	96	48	480	525	2	33
800×600	37.642	59.94	800	1056	128	88	600	628	4	23
800×600	31.4	50	800	1056	128	88	600	628	4	23
852×480	26.25	50	852	1044	24	48	480	525	4	30
852×480	31.469	59.94	852	1044	24	48	480	525	4	30
853×480	26.25	50	852	1044	24	48	480	525	4	30
853×480	31.469	59.94	852	1044	24	48	480	525	4	30
1024×768	48.312	59.94	1024	1344	136	160	768	806	6	29
1024×768	39.65	50	1024	1312	104	144	768	793	4	18
1024x1024	52.8	50	1024	1408	160	203	1024	1056	3	26
1024x1024	63.297	59.94	1024	1408	160	203	1024	1056	3	26
1280×720	44.955	59.94	1280	1650	40	260	720	750	5	20
1280×720	37.5	50	1280	1980	40	220	720	750	5	20
1280×768	47.83	59.94	1280	1664	128	192	768	798	7	20
1280×768	39.9	50	1280	1664	128	192	768	798	7	20
1280×1024	63.896	59.94	1280	1688	112	248	1024	1066	3	38
1280×1024	53.3	50	1280	1688	112	248	1024	1066	3	38
1360×768	39.75	50	1360	1792	100	300	768	795	3	20
1360×768	47.652	59.94	1360	1792	100	300	768	795	3	20
1366x768-1	38.75	50	1366	1450	30	50	768	775	3	3
1366x768-1	46.454	59.94	1366	1450	30	50	768	775	3	3
1366x768-2	39.75	50	1366	1792	100	300	768	795	3	20
1366x768-2	47.652	59.94	1366	1792	100	300	768	795	3	20
1400×1050	53.3	50	1400	1688	112	128	1050	1066	3	12
1400×1050	63.896	59.94	1400	1688	112	128	1050	1066	3	12
1920×1080	56.25	50	1920	2640	44	192	1080	1125	5	38
1920×1080	67.433	59.94	1920	2200	88	148	1080	1125	5	36
1400x788	40.75	50	1400	1850	100	300	788	815	3	18
1400x788	48.851	59.94	1400	1850	100	300	788	815	3	18
1920x1200	61.75	50	1920	2080	32	80	1200	1235	6	26
1920x1200	74.026	59.94	1920	2080	32	80	1200	1235	6	26

Notes:

a) Some 1024x1024 plasmas do not correctly support 1024x1024 native resolution, in this case you must unfortunately select 1024x768 or 1280x768, experiment to see which gives best performance.

b) There are two 1366x768 modes and a 1360x768 mode provided. This is because some types of plasma and LCD with this resolution need different signal timings compared with those which are considered standard for this format. As a general rule, 1366x768 modes will give better performance than 1360x768 but some displays do not support 1366x768 modes. The key difference between the two 1366x768 modes is the length of line blanking. Pick the 1366x768 mode which allows you to correctly set the pixel clock on your display device and which does not cause bad clamping. (If the picture appears very dark or very bright then it is incorrectly clamped due to the selected mode not being compatible with your display - try the other 1366x768 mode or the 1360x768 mode instead).

c) 852x480 mode may need to be used for plasma screens with resolutions of 852 or 853 pixels. Many 853 pixel plasma displays do not actually support incoming modes with an odd number of input pixels.

e) Never pick a mode with more display lines than the native format of your display device, selecting a higher resolution mode will not increase the system performance, it will instead degrade the picture significantly since it will cause the internal scaler within your display to downsize the picture resulting in loss of detail and artifacts

10.2. Audio Output Formats

One analog stereo pair via RCA jack connectors

Output format 1V peak to peak 1K output impedance

1 S/PDIF coaxial with up to 8 audio channels

1 S/PDIF optical with up to 8 audio channels

NOTE Vantage-HD does not downmix audio inputs, so if 5.1 or 7.1 audio is input, the 2 channel analog audio outputs may not produce acceptable sound quality

INPUT SIGNAL DETAILS

11.1. Introduction

This section provides technical details for all possible inputs please refer to the model specification to determine which inputs can be displayed by your Vantage-HD.

11.2. Video Inputs

Composite via RCA jacks

S-Video via 4-way mini DIN socket

Signal formats	Composite (CVBS), S-Video (Y/C), Standards NTSC, PAL, SECAM
Composite (CVBS) input level	1V p-p nominal inc. sync
Luminance (Y) input level	1V p-p nominal inc. sync
Chrominance (C) input level	0.6V p-p nominal
Input Impedance (all inputs)	75 Ohms

11.3. Component Video Input

Via 3 or 5 RCA jacks

YPbPr, YPbPrS, RGB and RGB(S) component video

Signal formats 484i and 576i (SD), 480p, 576p (ED), 720p, 1080i at 50, 59.94 and 60Hz and 1080p at 24, 25 and 30Hz.

Please note this input does not support Computer SVGA signals which should be connected via the Computer SVGA input

11.4. SDI Input (optional)

Format: SD-SDI and HD-SDI YCbCr 4:2:2 serial digital component video
Input impedance: 75 ohms.

SMPTE 292M and SMPTE 259M-C compliant

11.5. HDMI Input

HDMI format 1.1 with HDCP

Signal formats

484i and 576i (SD), 480p, 576p (ED), 720p, 1080i at 50, 59.94 and 60Hz and 1080p at 24, 25 and 30Hz

1080p at 50 and 60Hz

11.6. Computer (SVGA) Inputs

Signal formats:	DOS	720 x 400	70Hz
	VGA	640 x 480	60Hz to 75Hz inclusive
	SVGA	800 x 600	56Hz to 75Hz inclusive
	XGA	1024 x 768	60Hz to 75Hz inclusive
	WXGA	1280 x 768	60Hz to 75Hz inclusive
	SXGA	1280 x 1024	60Hz

RGB video level	0.7V - 1.0V
RGB input impedance	75 Ohms

Sync formats

1. Separate H & V sync at TTL levels.

11.7. Audio Input Formats

Four analog stereo pairs via RCA jack connectors

Output format 1V peak to peak 10K input impedance

2 S/PDIF coaxial with up to 8 audio channels

2 S/PDIF optical with up to 8 audio channels

POWER SUPPLY SPECIFICATION

12.1. Introduction

Should the mains power supply become damaged or fail please contact your Vantage-HD distributor for a replacement.

Any replacement power supply should meet or exceed the following specifications

Input voltage	100V to 240V; AC 50Hz to 60Hz; 1.5A.
AC Inlet Mode	Desktop Type with IEC320 C8(2P)
Output voltage	5V DC at 7A
Output connector	2.1 x 5.5 x 12mm female barrel +ve centre polarity.
Operating temperature	0℃ ~ 40℃
Storage temperature	-40℃ ~ 85℃
Protection Mode	Short Circuit Protection, Over Voltage Protection, Over Load Protection
Dimension	117 x 62 x 26mm
No Load Standby Power	0.25 ~ 0.75Wmax
Approvals	FCC Class B and CISPR22 Class B. • CE, UL, cULs, TUV, CB and BSMI approved.

REGULATORY APPROVALS

13.1. CE and FCC Compliance

CE: This product complies with the requirements of 89/336/EEC Electromagnetic Compatibility Directive amended by 92/31/EEC and 93/68/EEC, and 73/23/EEC Low Voltage Directive. Compliance is to EN55022 Class B (domestic/commercial use).

FCC: This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The user is cautioned that changes and modifications made to the equipment without approval of the manufacturer could void the user's authority to operate this equipment. It is required that the user use only shielded and grounded signal cables to ensure compliance with FCC rules.

ENVIRONMENTAL AND SAFETY

14.1. Operating

Temperature	0°C to 40°C (32°F to 104°F)
Humidity (non condensing)	0% to 95%

14.2. Storage

Temperature	-25°C to 85°C (-13°F to 185°F)
Humidity (non condensing)	0% to 95%

14.3. Safety Issues

SAFETY WARNING:

1. THERE ARE NO USER SERVICEABLE PARTS WITHIN THE UNIT, THE REMOTE CONTROL OR THE MAINS POWER SUPPLY. DO NOT REMOVE THE POWER SUPPLY COVER - DANGEROUS VOLTAGES WILL BE EXPOSED. DO NOT OPERATE VANTAGE-HD WITH ITS COVER REMOVED.
2. ENSURE THAT ALL ELECTRICAL CONNECTIONS (INCLUDING THE POWER CORD AND ANY EXTENSION LEADS) ARE PROPERLY MADE AND COMPLY WITH ELECTRICAL SAFETY REGULATIONS APPLICABLE TO YOUR LOCATON.
3. ENSURE THAT THE INTEGRITY OF THE EQUIPMENT ISOLATION BARRIER IS MAINTAINED WHEN CONNECTING TO OTHER EQUIPMENT. THIS MEANS THAT ONLY LOW VOLTAGE ISOLATED CIRCUITS MAY BE CONNECTED TO THE SIGNAL INPUTS AND OUTPUTS. IF ANY DOUBT EXISTS CONSULT QUALIFIED SERVICE PERSONNEL.
4. TO PREVENT SHOCK OR FIRE HAZARD DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE. IF SUCH EXPOSURE OCCURS, REMOVE THE PLUG FROM THE MAINS OUTLET AND HAVE THE EXPOSED UNIT CHECKED BY QUALIFIED SERVICE PERSONNEL.
5. VANTAGE-HD IS DESIGNED FOR NORMAL DOMESTIC USE IN A DRY ENVIRONMENT. DO NOT USE OUTSIDE, OR IN AREAS OF HIGH HUMIDITY SUCH AS IN THE VANCINITY OF KITCHEN APPLIANCES, IN THE BATHROOM OR SHOWER ROOM, SAUNA, STEAM ROOM, SWIMMING POOL OR ANY OTHER DAMP ENVIRONMENT. USE IN A DAMP ENVIRONMENT MAY CAUSE DAMAGE TO VANTAGE-HD AND IS DANGEROUS.
6. DO NOT CONTINUE TO OPERATE THE EQUIPMENT IF YOU HAVE ANY DOUBT ABOUT IT WORKING NORMALLY, OR IF IT IS DAMAGED IN ANY WAY. WITHDRAW THE MAINS PLUG FROM THE MAINS OUTLET AND CONSULT QUALIFIED SERVICE PERSONNEL.
7. DO NOT REMOVE ANY FIXED COVERS UNLESS YOU ARE QUALIFIED TO DO SO AND EVEN THEN WITHDRAW THE MAINS PLUG FROM THE MAINS OUTLET BEFORE YOU START.
8. THE COVER OF VANTAGE-HD SHOULD ONLY BE REMOVED FOR INSTALLATION OF UPGRADE BOARDS AND EVEN THEN ONLY ONCE DISCONNECTED FROM THE POWER SUPPLY AND ALL ASSOCIATED EQUIPMENT. DO NOT ATTEMPT TO INSTALL AN UPGRADE BOARD UNLESS YOU ARE CONFIDENT OF YOUR ABILITY TO DO SO AND YOU ARE WEARING A GROUNDED ANTI-STATIC WRISTBAND. DAMAGE CAUSED DURING UPGRADES OR WITH THE COVER REMOVED IS NOT COVERED UNDER THE LIMITED WARRANTY.
9. TO AVOID DANGER OF EXPLOSION, DO NOT OPERATE THIS EQUIPMENT IN AN EXPLOSIVE ATMOSPHERE

ABBREVIATIONS

This section expands abbreviations peculiar to video applications which may be used in this manual. Signal-name mnemonics are not included.

CVBS	Composite Video Baseband Signal (alternatively Chroma, Video, Blanking and Sync)
DDC	Data Display Channel
DVI	Digital Visual Interface
EDID	Extended display identification data
HDMI	High Definition Multimedia Interface
HDCP	High-bandwidth Digital Content Protection
NTSC	National Television Systems Committee (USA, Canada, Japan TV standard)
PAL	Phase Alternating Line
RGB	Red, Green, Blue analogue video
SDI	Serial Digital Interface
SECAM	Systeme Electronique Couleur Avec Memoire **-** TV broadcast standard used in France, Middle East and most of Eastern Europe.
SMPTE	Society of Motion Picture Television Engineers
Y/C	Luminance (Y) and Chrominance (C), also called S-video

IMPORTANT NOTES

1. **CALIBRE WARRANT LIABILITY IS LIMITED TO THE REPAIR OF REPLACEMENT OR DEFECTIVE PARTS AND IN NO CASE WILL THE LIABILITY EXCEED THE PURCHASE PRICE.**
2. **CALIBRE UK LTD ACCEPT NO LIABILITY FOR DAMAGE TO DISPLAY DEVICE OR AUDIO PROCESSOR DUE TO INCORRECT INSTALLATION.**
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