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HD-SDI 1080P conversion for the Aaton Penelope VHR - ver.1

After conversion VHR unit has a two video output: HD SDI and NTSC/PAL composite and it will produce a near flicker-free image for a camera speed of 24fps, and a flicker-free image for camera speeds of 25fps, 29.97, 30fps.

The right BNC connector is HD SDI digital video output: 3G-SDI (SMPTE424M Compliant) 1080P60/50, HD-SDI (SMPTE292M Compliant) 1080P30/25, 720P60/50, 720P30/25.
The left BNC and upper 4-pin Fischer connectors are analog SD PAL/NTSC (CVBS) video outputs or HD analog video outputs in AHD, TVI or CVI formats. The lower 4-pin Fischer connector is 12V DC output only.

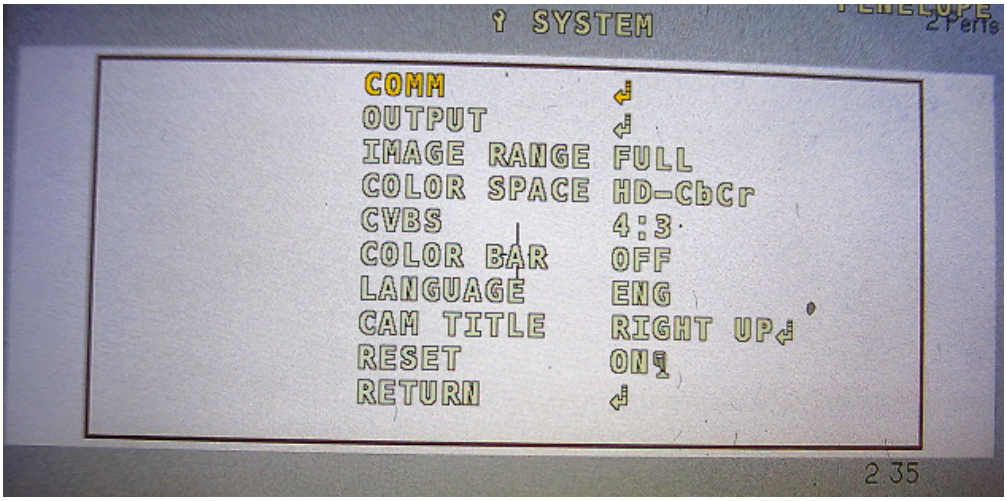
The video image (HD and analog) function will be controlled by OSD menu functions and the VHR keys: **<vid>**, **<up>**, **<down>**, **<left>**, **<right>**, **<exit>**.

After pressing the **<vid>** key, you can enter the video setting MENU using the functions displayed on the monitor screen. The arrow displayed in the OSD menu indicates to press **<vid>** key to get next level off settings.

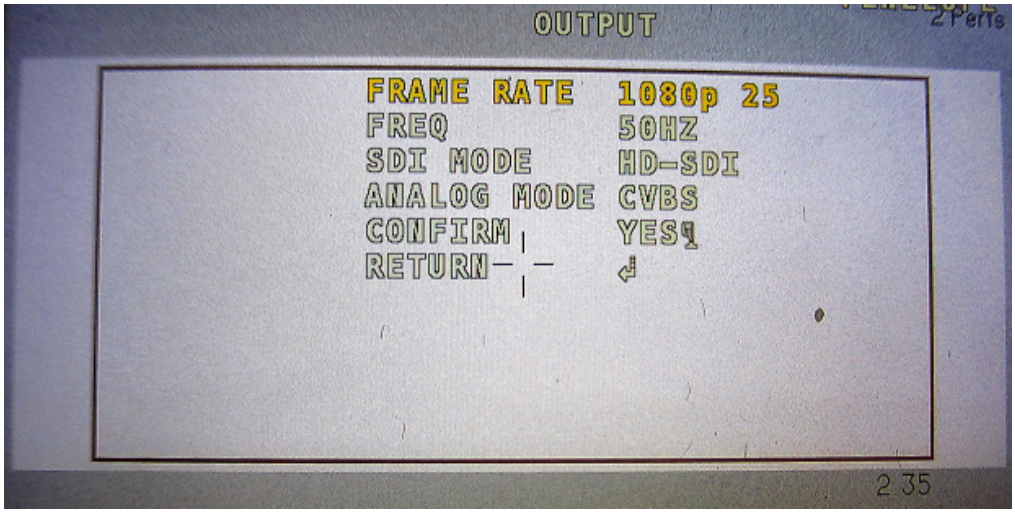
Specifications:

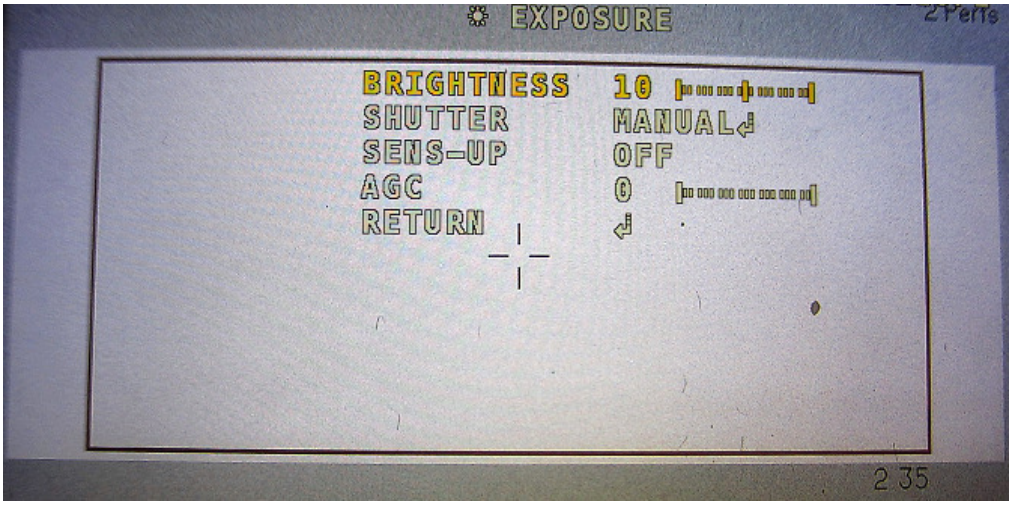
- HD Sony image sensor - active picture elements: 1920 (H) x 1080 (V)
- Minimum illumination: 0.1 Lux at F1.2, AGC on
- Sync. system: internal
- Mode: color or b&w
- Electronic shutter: auto or manual
- White balance: auto or manual
- Auto gain control (10 levels) on/off
- Sharpness selectable from 0 to 10
- Dynamic noise reduction - DNR
- The image enhancement for low contrast
- Line generator: both horizontal and vertical with all available colors
- Shading polygons generator
- Digital zoom
- Gamma: selectable 0.45, 0.6, 0.8, 1
- Patterns to calibrate an HD monitor
- Power consumption: 2W

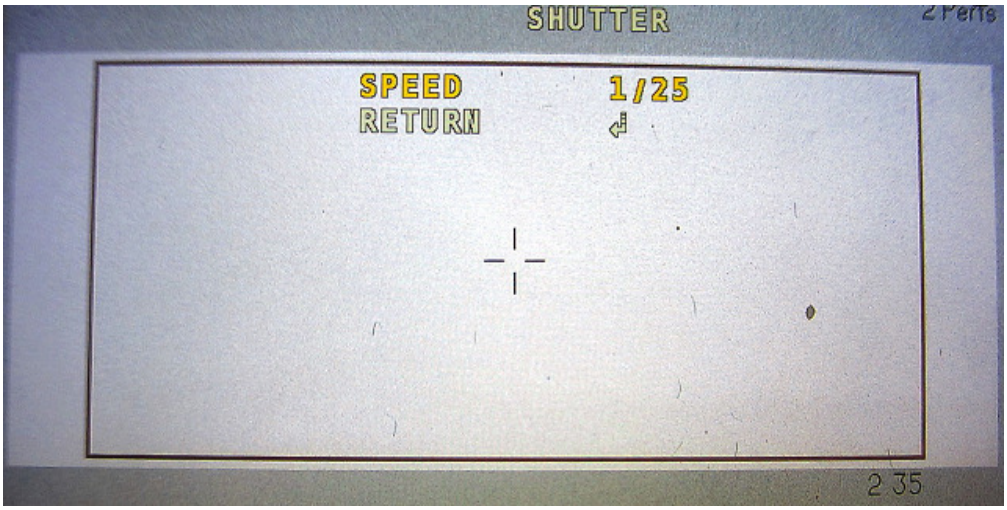
To minimize image flickering on the monitor when the camera is operating 24 fps, keep the SYSTEM/ OUTPUT/FREQ 50Hz and FRAME RATE 1080P 25 as well EXPOSURE/MANUAL/SHUTTER SPEED 1/25 settings. In this setting 1/25 the monitor image does not flicker when the camera is operating at 25 frames per second. To get a flicker-free image on the monitor for 29.97 or 30 fps camera speed, set SYSTEM/OUTPUT/ FREQ-60Hz and CONFIRM YES by pressing 2 sec. the **<vid>** key and also set EXPOSURE/MANUAL/SHUTTER SPEED to 1/30.

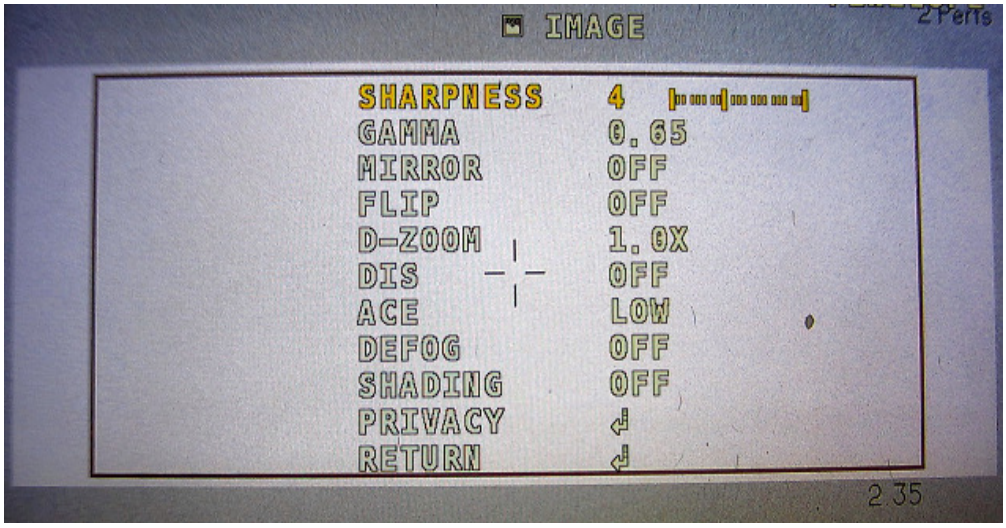


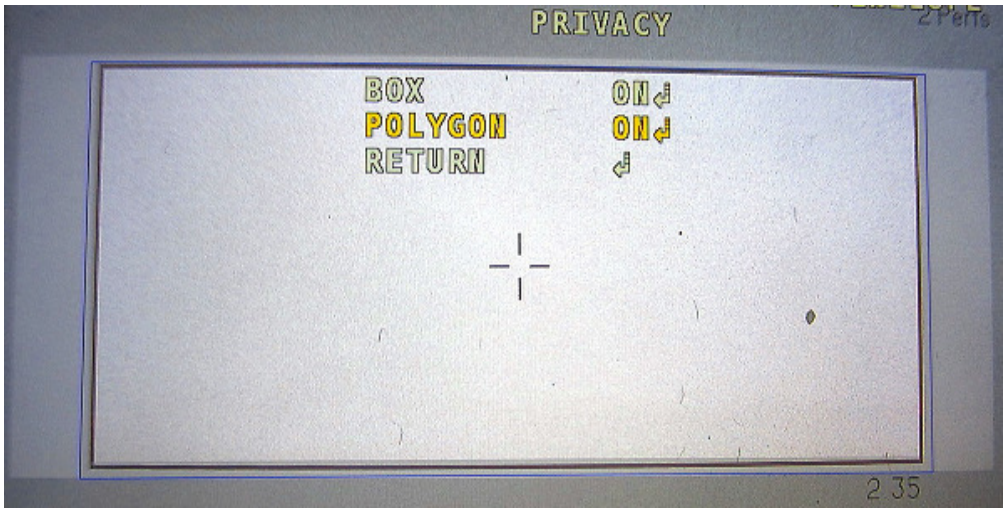
By keeping the 4:3 CVBS frame ratio for SD PAL/NTSC sygnal and setting 16:9 ratio on SD monitor the frame will be similar to that one on HD monitor.





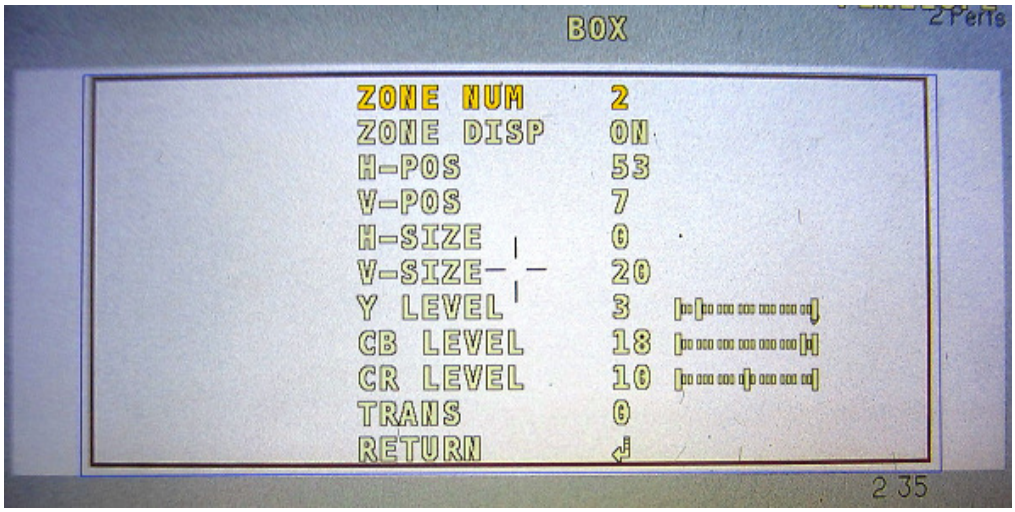


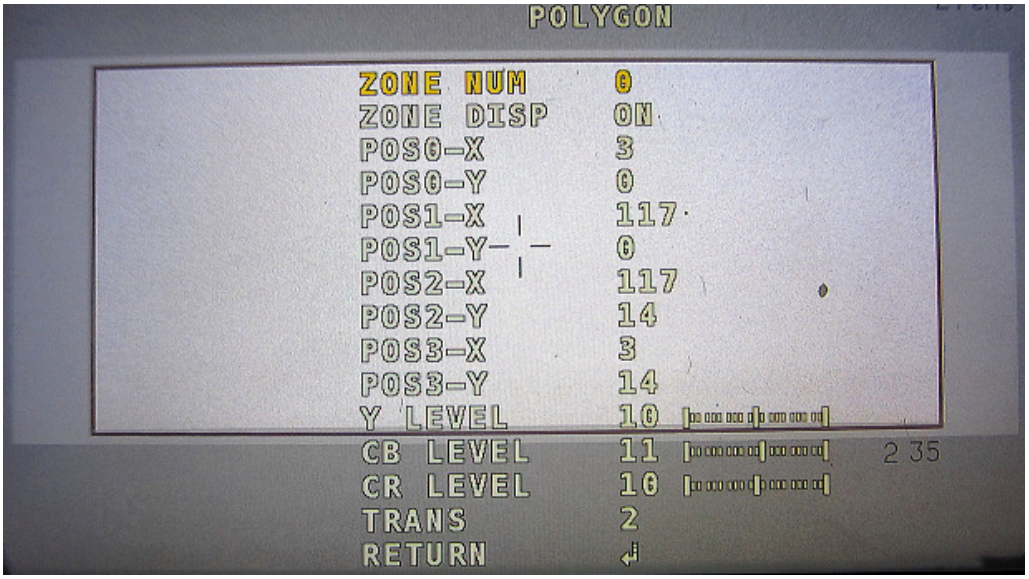




PRIVACY - generators:

- BOX - both horizontal and vertical lines . The generator can display 16 lines or rectangles on the monitor (0-15 ZONE NUM). To get horizontal lines set V-SIZE to 0. To get vertical lines set H-SIZE to 0.
- POLYGON - shading polygons. The generator creates 8 shading polygons (0-7 ZONE NUM). You can set level of transparency. The vertices for each polygons are set according to the key: (POS0-X, POS0-Y) - upper left vertex, (POS1-X, POS1-Y) - upper right vertex, (POS2-X, POS2-Y) - lower right vertex, (POS3-X, POS3-Y) - lower left vertex.





MENU/DNR function - dynamic noise reduction for good lighting can be set LOW or turned off.

In very low light, for EXPOSURE/AUTO you can set EXPOSURE/SENS-UP to double exposure image X2.

If the **<vid>** key was not pressed, then:

- The **<up>** key is setting AWB
- The **<left>** key is DZOOM-
- The **<right>** key is DZOOM+
- The **<down>** key is FREZE ON/OFF
- Pressing the **<left>** key three times and then the **<vid>** key sets the HD video signal format to EX-SDI. This format can be switched accidentally by calling DZOOM- (**<left>** key) three times and then wanting to enter the MENU (**<vid>** key). An EX-SDI compatible monitor is needed to display video in this format.
- Pressing the **<right>** key three times and then the **<vid>** key sets the HD video signal format to SDI.

Troubleshooting

1. No image after putting on the power.

a. Check the video cable and connections.

b. Check if camera's battery is charged.

2. No image from HD-SDI output.

a. Turn the VHR power to off and then to on. Press the **<right>** key 3 times, then press the **<vid>** key.

b. Check the video cable and connections. Not every coaxial cable that is good for PAL/NTSC analog signal is good for SDI digital signal. It is the nature of digital signals to work perfectly for various lengths of coaxial cable, until a certain length of cable is reached, and then to fail to transmit the SDI signal at any greater loss in the cable. Connect only SDI cables to the SDI output.

3. The SDI image on the monitor is only partially displayed.
Turn the VHR power to off and then to on.

4. The monitor image freezes when IVS is powered on.
Press the **<down>**key.

5. No SD NTSC/PAL image form left BNC.
Check if MENU/SYSTEM/CVBS is set.