

H20V Video System Instructions and Tips

Camera Installation/Removal

- Have a leash on the camera when installing the camera in the housing. Make certain the leash does NOT obstruct the o-ring seal in any way. If it does, it will cause the housing to flood. Having the leash on the camera allows for easy removal of the camera from the housing, as the camera can be extracted by simply pulling the leash. To remove the camera from the housing with no leash attached, remove the back hatch of the housing and firmly tap a side or corner of the open end of the housing downward into the palm of your hand. The camera should slowly make its way out of the back of the housing so you can grasp it.
- Attaching the camera leash to the camera can prove difficult as the leash holes are small and angled. You may try using a pin to help push and thread the leash through the leash hole on the camera.
- Make certain the inside and outside of the front lens of the housing is clean. If not, gently clean it with water and a microfiber cloth. NEVER use a cloth if sand or dirt is on the lens – wash the sand or dirt off by rinsing the housing with water first.
- Protect the front lens of the housing from scratches. When diving, water may fill in most small scratches on the lens well enough so they are unnoticeable in the video.
- Slide the camera all the way forward in the housing. The front bezel of the camera should touch the front lens in the housing.
- The back hatch need to be properly oriented on the full control version of the housing. If installed upside down, the push-button on the back hatch will not engage the power button on the camera.
- Test the camera in the housing before going on the dive. Make certain the button on the back hatch engages the power button on the camera and the record knob on the housing properly engages the record function of the camera. Make any adjustments BEFORE getting into the water. Note that the record knob on the housing does NOT physically move the record slider on the camera. The record switch in the camera is magnetic and is engaged by the magnet in the record knob.
- Once in the water, check the camera housing right away for any escaping bubbles, indicating a housing leak.

Lighting

- With any underwater camera (video or still), lighting is KEY. The colors in your videos will only be as good as your lighting source. As ambient light tends to deteriorate with depth, shallow water video tend to be more vibrant and colorful than deeper water video (assuming no artificial lighting source). The time of day will also impact the amount of ambient light in the water. Mornings and evenings typically offer less ambient light than early afternoon. Also remember that water quickly refracts red and yellow light.
- The best lighting source is a flood light that throws even lighting over a large portion of the field of view. The temperature of the light should be as close to sunlight as possible (around 5700K). Spot lights can be used, but can sometimes result in an overly bright area in the field of view. This bright spot will either look washed out, or cause the rest of the field of view to look darker. This applies to ALL underwater video cameras – not just the ContourHD.

Shooting Video

- Black out the side of the front lens of the housing to prevent light from entering through the side of the lens and interfering with your video. Use the new H2OV rubber guard or wrap the side of the front lens with electrical tape.
- Always consider your light source. You will get better results when you are shooting a subject facing the light source and the camera is facing away from the light source.
- Get as close as you dare! Water is a thick medium to shoot through compared to air. Reducing the amount of water between you and the subject will provide better detail of the subject. However, keep in mind that the minimum focal distance for the camera is about 18”.
- The camera should deal well with subjects larger than 8”. With the wide angle lens on the ContourHD, subjects smaller than 8” this will appear small on the screen.
- Hold the camera as steady as you can. Like any underwater camera system, the H2OV system will pick up any vibrations or movement while recording. The steadier you can make the camera, the better the video.

Video Configuration

- Key audio and video parameters of the ContourHD 1080p camera are configurable though the EasyEdit software included with the camera. The software is downloadable from the Twenty20 website, <http://www.vholdr.com/support/software>. If you are using the ContourHD 720p model, you can also configure the video parameters of your camera if you have upgraded your firmware to version 1.31 or greater. The latest firmware for the 720p model is downloadable from <http://www.vholdr.com/support/firmware>.
- You may want to change some of the configuration setting of your camera depending upon the lighting conditions you will be recording in. I recommend changing the “Exposure Level” from “-1” to “0” or “1” to start with.
- The metering of the camera is initially set to “Average”, which selects the right level based upon the entire field of view. This setting may work well if you are shooting with no artificial light or have a light source that produces even lighting. If you are using a spot light while diving, you may want to try the “Center” or even “Spot” metering settings.
- The field of view the ContourHD 1080p captures varies for different video formats. The 1080p format offers the narrowest field of view (115 degrees) and is my favorite. This format provides a relatively wide angle, but minimizes the “fish-eye” effect and allows small subjects to appear larger on the screen compared to the other high-definition setting. The 960p and 720p format provide wider fields of view (135 degrees). Subjects will appear smaller and more distant in these two formats.
- The minimum focal length for the camera is 500mm, or about 18”. This means that you need to be at least 18” away from the subject for the camera to focus correctly.

Audio

- The ContourHD has an audio pickup hole located on the underside of the camera under the yellow-green warning sticker. The camera in the housing will pick up sounds underwater as sound travels

very efficiently underwater. However, the camera will not pick up sound through the housing when above the surface.

Mounting

- The H2OV housing is designed to be mounted a number of different ways. I have found the most effective way to dive with the H2OV is with a hand-strap system. You can purchase a hand-strap system from Emerald Diving or make your own with the flat surface mount and goggle mount included with the camera.
- The H2OV housing is NOT designed to be mounted to a mask strap. Doing so may result in inadvertent flooding or even removal of your mask as the camera imposes some drag when swimming in the water of contending with current. If you wish to mount the camera to your head, it is recommended that you do so through use of a helmet. Pro-Tec makes some particularly nice watersports helmets that are inexpensive (<http://www.pthelmets.com>).
- The H2OV housing can also be mounted to the back of a tank or the front of a scooter. The scooter application would require a ¼" 20 screw be mounted to the scooter. The tank application could be done using the hand-strap around the tank. Special care must be taken to assure the camera is mounted firmly and securely.
- If you using the hand-strap, make certain the hand-strap is tight and the camera does not rock or sway back and forward while on the strap.

Camera Care

- Inspect the back hatch o-ring before EVERY dive. It should not have any nicks or cuts. If it does, replace it before use.
- After sealing the housing, inspect the o-ring seal to make certain it is properly sandwiched between the housing and back hatch. It should look evenly "squished" all the way around the hatch.
- After each dive in salt water, soak the housing in fresh water for an hour. Make certain to press the power button and turn the record knob a few times while the housing is submerged in fresh water to help any air trapped in these controls to escape. Dry the housing completely before storing it.
- Never store your housing or camera in direct sunlight.

Video Editing

- The EasyEdit software that is included with the ContourHD is not a full video editing package. It only allows for rudimentary clipping of video files. It also utilizes the Quicktime engine for video playback.
- The ContourHD shoots .MOV format video files that are downloadable from the camera's microSD card. These files are compatible with many video players, including Quicktime. The Quicktime player is downloadable for free from <http://www.apple.com/quicktime/download/>. A more efficient .MOV player that is also free is the VLC player, downloadable from <http://www.videolan.org/vlc/>.
- Windows Movie Maker will NOT play .MOV files. If you wish to edit your videos with Windows Movie Maker, you must first convert you video files from .MOV to a format acceptable to Windows Movie Maker, such as .AVI. MPEG Streamclip is one free video file conversion

program that is downloadable from <http://www.squared5.com/>. This software is also capable of some video editing.