AQUACAM INSTRUCTIONS AND TIPS FOR USE

Contents of your AquaCam kit:

AquaCam video unit with 15 foot cable. (Battery IN plug and Video OUT plug)

12 volt NiCad battery pack NiCad battery pack charger.

USB Video Capture device with instructions

Pole adaptor (with holes for clip)

Important notes before you get started:

Time Delay Option: If you ordered the time delay option you will get an additional "Happauge USB Live 2" video capture device. This one can only be used on computers/laptops using the Windows operating systems. You must install the Win TV application (disk included) and follow the instructions included with the device. The Win TV app can be used for both time-delay and recording/playback although sending files over the internet in a .mov or .mpeg format may be more intuitive using the OSB program that is used by the standard capture device. The included standard capture device can be used on either a Mac or Windows system if you want to do recording only and not time-delay.

Battery Pack: The NiCad battery pack that comes standard with your AquaCam unit has been charged prior to shipping. No need to charge it initially. If you purchased the optional Nickel Metal Hydride battery pack you will need to plug it in to make sure it is fully charged. (Use instructions that came with it.) To avoid overcharging and to extend the life of NiCad battery packs, please follow the instructions that are attached to the battery and charger.

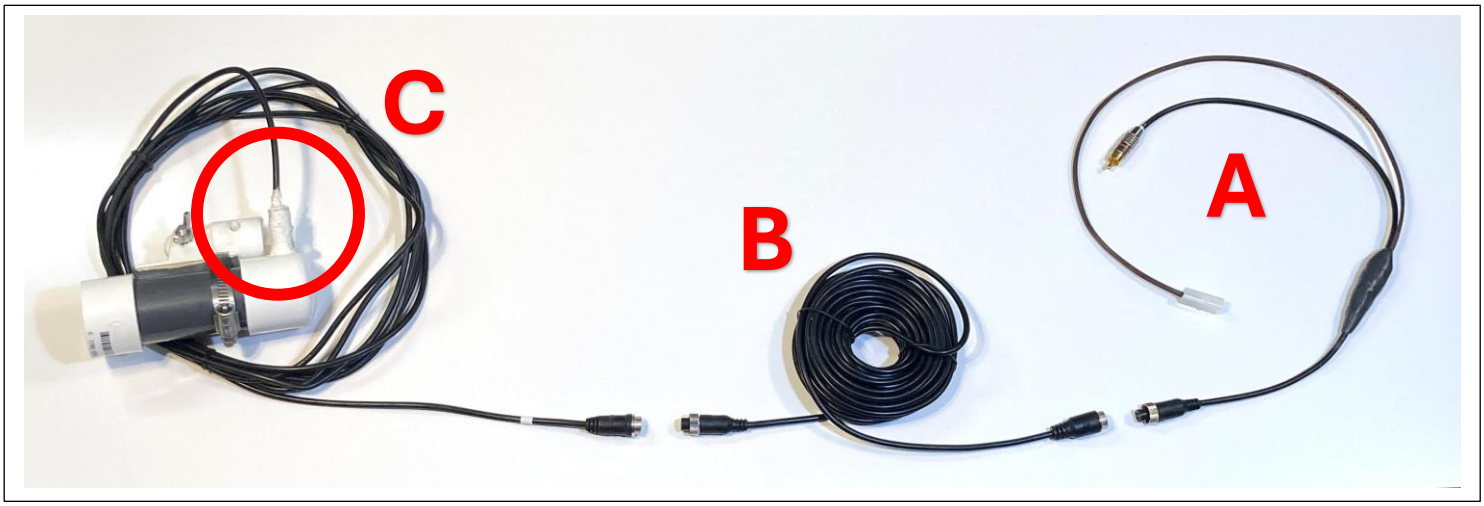
Laptop Harness: If you ordered this option, it may arrive in a separate USPS mailing box with its own instructions. This allows one of your hands to always be free to stop/start recording or gesture to swimmers while the other holds the AquaCam pole.

Initial Testing: You can test your AquaCam immediately by plugging the battery in (there is no ON/OFF switch) and plugging the video cable into the VIDEO IN on any TV. Most "smart", digital flat screen TV's have the yellow analog video input. Just be sure you change the input on the TV to accept the A/V (Audio/Video) signal. Do not expect to see a high-dev (1080p) digital image. On a smaller monitor or laptop the recording and resolution will be more than sharp enough to spot fine

details of a swimmers stroke. A digital recording system in 1080p would cost thousands more and would not offer the small size, options, and ease of use of the AquaCam.

The AquaCam's 15 foot cable ends with a 28-inch split cable for the Video-OUT and Battery-IN (**A**). This connects with a 4-pin round connector which can be removed if you want to extend your cable to reach your laptop, or monitor, or other recording device if it is placed far away from the submerged AquaCam. We sell a 32 foot extension cable (**B**) with 4-pin male on one end and 4-pin female on the other. These connections are **not** meant to go underwater. If they lay on the deck, please keep them away from pools of water by setting them on a kickboard and covered with a towel. If they get slightly wet, unscrew them when done and allow them to dry to prevent possible corrosion on the pins.

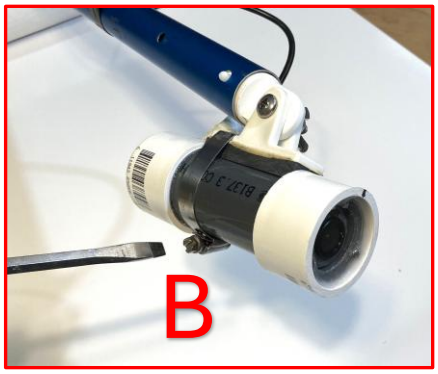
The white, rubber-coated cable brace (**C**) coming from the base of the AquaCam is for strain relief of the cable, not for water-proofing. (Your AquaCam is sealed from inside.) This area should not be bent or pinched during storage. A loose coil (as shown) is recommended. If the wire shown in the circle is constantly stressed over time, it can weaken the rubber cable allowing water to potentially enter the wires and corrode them. Water will not get into the AquaCam but the video signal may begin to show static if the wire(s) are compromised.

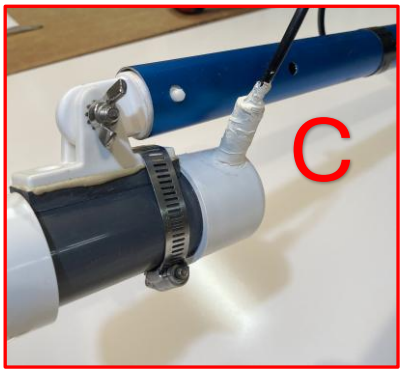


The AquaCam can be connected to any standard pool brush pole using the press clips. If you do not have access to a brush pole, the included adaptor can be screwed or taped to a pole or wooden broom handle. The 15 foot cable length allows for deeper submersion or for laptop (or monitor) placement away from the pool edge.

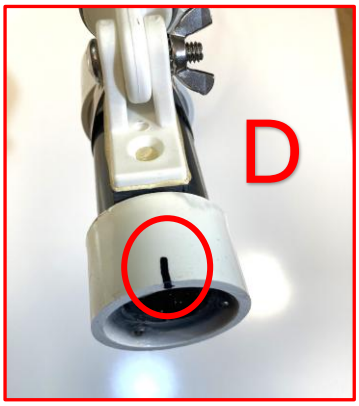
We recommend you practice following the swimmers with the camera (keeping them centered in the frame) before you do any actual recording. Twisting the pole with your wrist rather than walking along to follow the swimmer can help avoid any mishaps. Watching the swimmer on your screen while walking can be a distraction, which can lead to walking into the pool with your laptop!

The AquaCam has a swivel pole-connector that loosens and tightens with a thumb screw (**A**) so you can adjust your forward angle. The side angle can be adjusted by loosening the stainless-steel hose-clamp (**B**) that holds the swivel-piece to the AquaCam body. The current (standard) clamp position holds the camera in perfect level position when the pole is held straight up and down vertically.





The wire exit and strain relief is offset **(C)** so the pole can swivel completely backward (horizontally) if needed. Use the mark on the top of the glare shield (**D**) to keep the camera leveled when using in different positions. Hand tighten and only apply the clamp on the back side of the swivel base (**E**), not the front side (close to the lens cover).

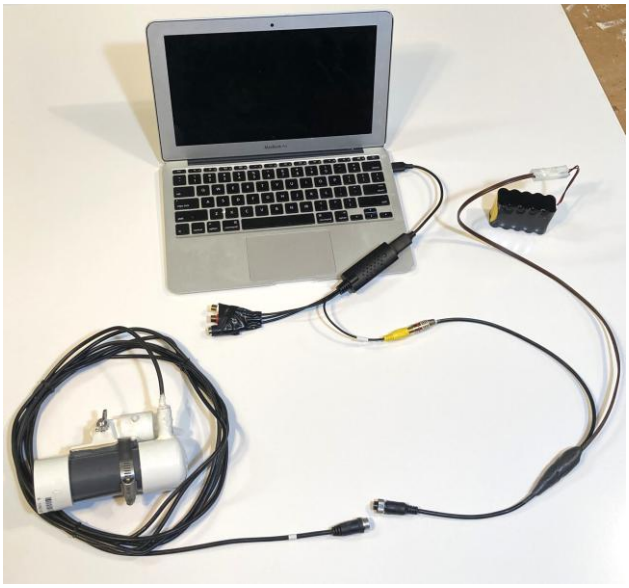


The included USB video capture device comes with RCA plugs for video (yellow) and audio (red and white) plus a 4-pin S-video input. YOU WILL USE ONLY THE YELLOW VIDEO PLUG for input to your Digital Video Adaptor, which then connects to your laptop. (The audio and S-video connectors are meant for transferring video to digital form, such as copying old VHS tapes onto your computer. You can tape them together to move them out of your way for swimmer recording as shown in the photo.

When using the video capture unit, use the extension cable included in the package. Plugging it directly into the laptop or computer (as shown to right) can lead to bumping it, or stress on the laptop's USB input. Best to use the short extension cable as shown to avoid this.

Setting up the system is as easy as the picture on the right. Clip the AquaCam to a pole and you are ready to go. The battery has enough wire to go into your pocket and any loose wires can be taped together. We recommend the wire from the AquaCam be taped to the pole about a foot from the bottom and near the top, above where you will be holding the pole. This keeps the wire out of the way as you dunk the pole in and out of the water.

When the recording screen is up, you can start and stop recording using the keyboard or the finger pad. It helps to have one hand free to stop and start recording with the other hand holding the AquaCam in place.



Installing the standard video software on your computer or laptop:

Follow the instructions in the booklet that came with your digital converter. You will have two options of software to install, OBS or PotPlayer. OBS is a more robust program but may be less intuitive because it has many options. If you are not used to video/digital software, you may need to play with it a bit first.

When the software is installed it is best to plug the digital converter into the laptop first, then plug the battery into the AquaCam camera to power it up as shown above. (Make sure the battery is charged.) Then you can open the application program on your laptop. This will allow you to see the camera image when you select the proper input in the program. The format you can record and play back in might not initially be a .mov or .mpeg file but you can convert the video to one of those files if you want to send it over the internet.

If your Mac has QuickTime installed you may not even need to install the software. The QuickTime software should recognize the camera input and you do not need to download the other programs, unless you will be using a Windows laptop later.

The software and application will be slightly different when using the Time Delay digital converter. This option can only be used on computers/laptops that operate with Windows. Follow the instructions that come with that option.

If you have questions regarding use of the software that are not covered in the instructions, please contact us via phone or e-mail.

Battery use and charging:

A fully charged battery will power the AquaCam for a little over two hours, maybe more. There will be times you are unsure about how low the battery charge is. If you know the battery has been charged recently, and may have been used only for a short time, you can put it on the charger for about an hour to “top it off”. But if you use the AquaCam for more than an hour at the pool it is suggested to leave the battery attached when done, then remove when practice is over. The battery will drain as it powers the AquaCam even though you are not using it to view or record. This will not harm the AquaCam or battery. You can then do a full charge for 2 to 2.5 hours.

Over 30 years' experience using video recording around pools has revealed common errors and misuse that can occur.

Please instruct anyone using this product of the following procedures! We recommend printing this page separately and including it where you store your AquaCam.

This is a sensitive electronics product that, although sealed to be waterproof, is still susceptible to bangs and jolts. Do not use the pole and unit as a "walking stick". Take care not to bang the unit while moving the pole.

The white cylindrical cover attached over the front lens area is **NOT** removable. It is there to protect the lens face from scratches.

The last couple feet of the cable (battery and video input and output) should be kept dry during use.

If you are walking or moving with the AquaCam while recording, be aware of your surroundings. Keeping your eye on the screen instead of where you are going can lead to walking into the pool with your laptop or monitor, which are not as waterproof as the AquaCam:)

The input/output wires are sensitive, and care should be taken not to yank or pull the connections, ***especially the battery connections***. These wires are thinner and a good grip on the plastic connectors should be used when connecting or pulling apart for use or charging. The battery can be kept in your pocket when recording but it is tempting to pull it out of your pocket by the wire when done. DO NOT DO THIS. Inspect the battery, wires, and cable often for loose connections and abrasions in the rubber.

When charging the standard NiCad battery, <u>do not forget it is charging.</u> Leaving the charger on for more than 2 ½ to 3 hours can shorten the life of the battery, especially if left on overnight or longer. (We recommend setting the timer on your cell phone when you charge it.)

Do not use any cleaning product on the lens cover. Water stains can be removed with a soft cloth and greasy smears removed with a mild soap and rinse.

Finally (as shown at right), coil the cable loosely when storing the AquaCam. It may be tempting to wind or coil the wires tightly to fit the unit in a small space but this can lead to small cracks in the waterproof wire over time. This may lead to interior wire corrosion and a "flickering" image.