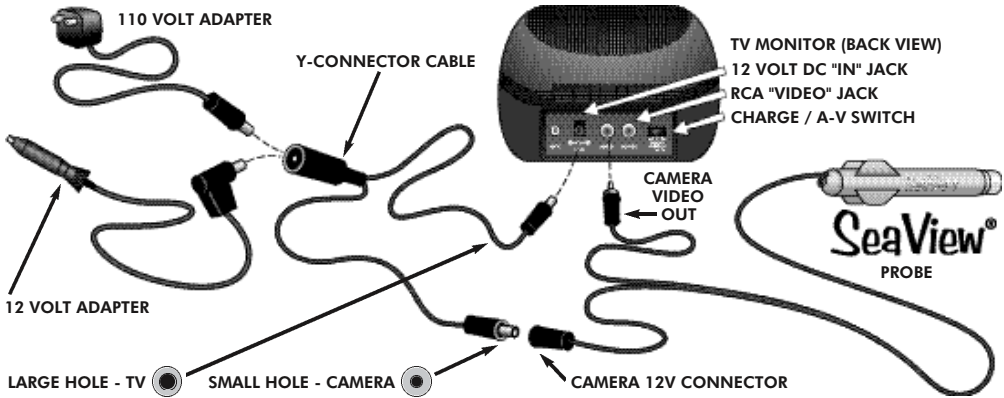


USER GUIDE AND OPERATING INSTRUCTIONS

This Manual Contains Important Information About Your SeaView Camera System.
PLEASE READ CAREFULLY BEFORE USING THE CAMERA.

"QUICK START" CONNECTION DIAGRAM



QUICK START INSTRUCTIONS - COLOR SYSTEMS

1. Connect 12VDC adaptor to Y-connector.
2. Connect 1 end of Y-connector to Camera cable and other end to LCD monitor cable.
3. Connect RCA camera cable to female RCA connector on LCD monitor cable.
4. Connect 12VDC adaptor to 12VDC socket on boat power supply (not furnished with camera).
5. 12VDC power can be obtained by using the cigarette lighter on the boat, or 12VDC jump box, or 12VDC battery with socket with battery clips (sold at marine stores), or a 110VAC to 12VDC adaptor with center pin + voltage.

QUICK START INSTRUCTIONS - BLACK & WHITE SYSTEMS

1. Select a power source: either 110v AC, or 12 Volts DC. Connect the appropriate adaptor to the jack on the -connector cable (see the diagram above).
2. Insert one Y-connector plug into the TV Monitor 'DC IN' jack, and the other into the Camera 12V Connector
3. Insert the Camera's RCA Video Out plug into the RCA 'Video' jack on the TV Monitor
4. Set the 'Charge A/V' Switch on the TV Monitor to 'A/V' (center position).
5. Press the blue power-on button on front of TV Monitor. Camera is now sending a picture to the TV.

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POWER-UP AND CAMERA TESTS

WE RECOMMEND you test your system at home, before going out on the water. Familiarize yourself with the hookups and various controls, and practice the control techniques shown in this booklet.

COLOR CAMERAS: After completing the hookup, turn everything on. You may need to adjust the TV Monitor's picture controls (brightness, contrast, and hue) for viewing conditions.


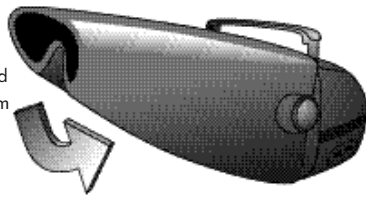
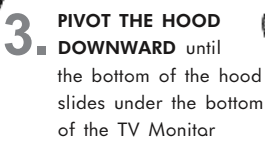
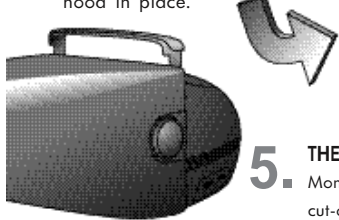
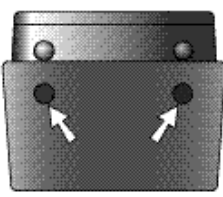
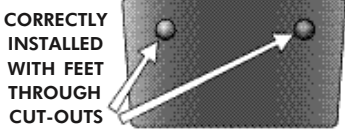
INFRARED BLACK & WHITE CAMERAS: After completing the hookup, turn everything on. You may need to adjust the TV Monitor's picture controls (brightness and contrast) for viewing conditions. Do the InfraRed System Test, explained below

InfraRed System Test: With everything connected and power on, place the camera probe inside its carrying case and close the lid. You should see no change in brightness on the TV Monitor screen. The InfraRed is working properly

NOTE: SeaView systems use 'white' infrared, which appears as a normal picture on the TV Monitor but is invisible to the naked eye. Even when the camera is operating properly, you will not see a glow or other visible indication.

"RADAR HOOD" INSTALLATION (B & W TVs)

The 'Radar Hood' keeps bright sunlight and glare from the TV Monitor screen, eliminating picture washout.

- 
- 1. LIFT THE HANDLE** on the TV Monitor. Position the Radar Hood in front of the screen, with the round cut-out to the right, as shown here.
- 
- 2.** The **FOAM ANCHOR PAD** inside the hood fits into the groove under the handle.
- 
- 3. PIVOT THE HOOD DOWNWARD** until the bottom of the hood slides under the bottom of the TV Monitor
- 
- 4. GENTLY SNAP THE BOTTOM OF THE HOOD IN PLACE** with the round cut-outs snugly over the rubber feet on the TV Monitor. This keeps the hood in place.
- 
- 5. THE TV HANDLE** can be pushed down to secure the hood. You can carry the TV Monitor while the hood is attached. Note that the tuning knob fits into the large cut-out in the hood, for tuning TV channels easily with the hood attached.
- 
- CORRECTLY INSTALLED WITH FEET THROUGH CUT-OUTS**

IMPORTANT

TV sets are **NOT WATERPROOF**, and can be damaged by water droplets and spray. **PROTECT ANY TV SET** from condensation, spray, splashes, or standing water. **READ THE SAFETY INSTRUCTIONS** included with the TV from the Manufacturer, for other important information.

BOTTOM VIEWING

Use your SeaView to take a quick look at the bottom before starting to fish or dive. In most cases, it's not necessary to use a separate safety cable if you are not planning on moving the boat or trolling the probe. However, we have received reports of probes being attacked by barracuda and other aggressive fish. A safety cable will help protect your investment in case a fish bites through the control cable.

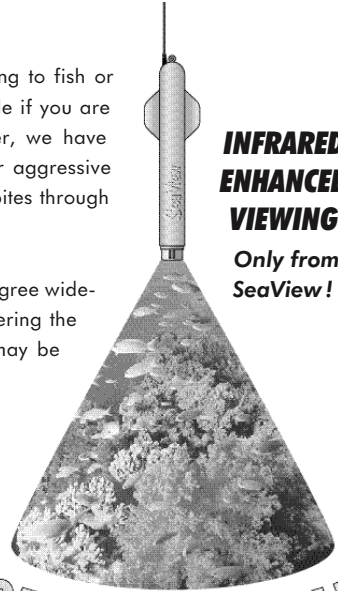
The STRAIGHT-DROP METHOD, as pictured here, gives you an 85-degree wide-angle overhead view. Control the area of view by raising and lowering the probe relative to the bottom. In muddy or turbid water, visibility may be limited.

CABLE CARE

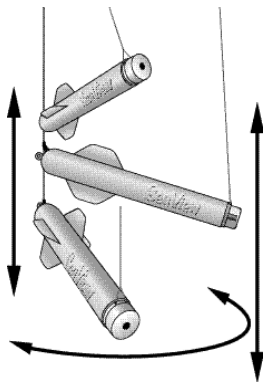
The Control-Drop Cable has a static burst rating of 600 pounds per square inch. It's multi-core braided wire with stainless steel shield and Teflon sheathing. It's durable and strong but don't forget: the underwater world is full of sharp edges that can cut like a knife.

ALWAYS USE CARE when bottom viewing or trolling at depth. Water can enter the electronics by siphoning through a cut in the cable...ruining the camera and voiding your warranty.

INSPECT THE CABLE after each use of the camera, and take immediate action if you notice any cuts or breaks in the cable case sheath.



CONTROL TECHNIQUES



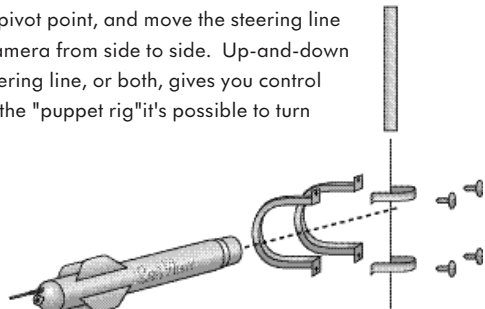
POLE MOUNTING

Use the Pole Mounting Kit included with your camera, to mount it on any type of pole, boat hook, or gaff. The small pair of clamps fit around the pole. The large pair of clamps fit around the camera body. The camera is held at right angles to the pole. Secure the clamps with the screws and nuts provided.

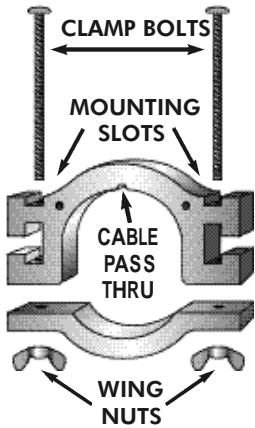
THE "PUPPET RIG"

uses a steering line tied to the front of the probe. This can be monofilament, cord, or wire.

Use the control cable as a pivot point, and move the steering line left or right, to rotate the camera from side to side. Up-and-down movement of the cable, steering line, or both, gives you control of the vertical angle. With the "puppet rig" it's possible to turn the probe 360 degrees.

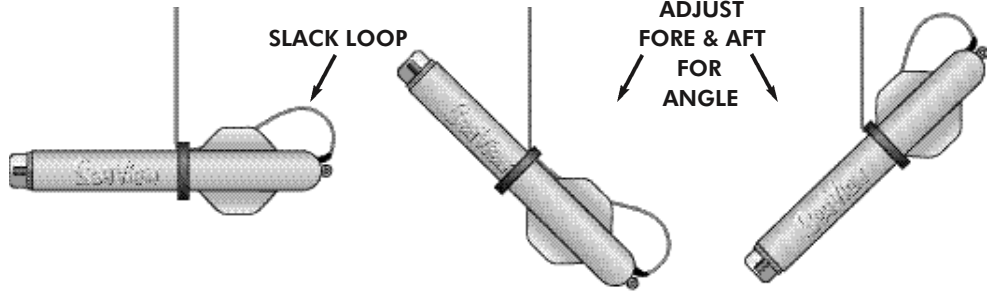


THE UNIVERSAL CLAMP & ACCESSORY MOUNTING



The Universal Clamp System makes it easy to rig your SeaView Underwater Camera for bottom viewing. And accessories such as SuperSealLite are easily mounted to the clamp for a simple, rugged installation.

MOUNTING THE CLAMP: Refer to the diagram at left. Place your camera probe horizontally on a flat surface. Position the probe so that the clear plastic label on the electronics pod is pointing up. Lift up the probe and position the smaller "bottom" half of the clamp underneath the camera body. Position the larger "top" half of the clamp over the top of the camera body. Use the clamp bolts and wing nuts to secure the clamp. Tighten as necessary to keep the clamp from spinning or slipping, but do not over tighten. **DO NOT ATTACH THE CLAMP AROUND THE CLEAR PLASTIC PORTION OF THE CAMERA.**



ATTITUDE CONTROL FOR BOTTOM VIEWING

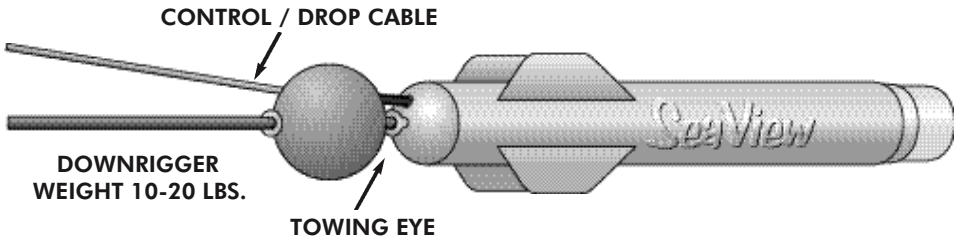
The Universal Clamp has a Cable Pass-Thru Notch (shown in the drawing, above left) for controlling the 'hang angle' during drift or stationary use. Allow for a small loop of slack in the probe end of the cable, and attach the Universal Clamp over the cable to secure it. **TAKE CARE! MAKE SURE THE CABLE IS PROPERLY PLACED INSIDE THE PASS-THRU NOTCH TO AVOID CABLE DAMAGE!** Adjust the clamp forward and aft across the center of balance to change the 'hang angle' as shown in the three examples above.

12 VOLT POWER OPTIONS

Discount stores and marine stores sell **clip-on sockets**, which connect to your boat battery with a pair of large clips. The 12 Volt power is delivered to a cigar-lighter style socket, compatible with the 12V DC adaptor supplied with your SeaView Underwater Camera System. Since the system is very efficient, you can power the camera and TV monitor from your start battery for hours without sacrificing much cranking power. Deep-cycle batteries are also fine and will last much longer; but remember that trolling motors, fish finders and other items will also consume your battery capacity. Low battery voltage may cause erratic camera performance and a 'squeezed' or shrunken TV picture.

If you operate several accessories from a marine battery, a **multi-tap socket** will expand the number of connections you can use. Your SeaView system needs only a single 12 Volt socket, leaving two or more for other equipment. *Always protect your 12 Volt Wiring with an appropriate fuse.* Observe proper polarity when using other hookups.

TOWING AND TROLLING



Your SeaView is designed to track in front of any lure or bait. You must secure your own towing line or cable to the Towing Eye at the fin-end of the camera. **We suggest a downrigger cable**, any other type of lightweight cable, or a monofilament line of MINIMUM 80-lb. test.

Do NOT tow by the control-drop cable! This can result in water damage to the electronics, or loss of your camera due to snap-shocks which exceed the burst strength of the steel core. ALWAYS check to make certain that any pressure or strain will be on the tow line and NOT on the control cable.

Special Note: When trolling at speeds greater than 3 knots, the unit must be attached to a downrigger, or additional weight. The best method is to hook the downrigger ball directly to the Towing Eye.

In heavy seas or at faster trolling speeds, the unit may destabilize. Adjust the distance from the camera pickup to the lure or bait for best viewing on the TV Monitor.

There are many variables in trolling. Plan on experimenting until you get the results you like best. When tracking ahead of lures and baits, you can attach a release clip to the ears on the camera pod, allowing your line to free itself once the fish strikes.

OTHER VIDEO SYSTEMS

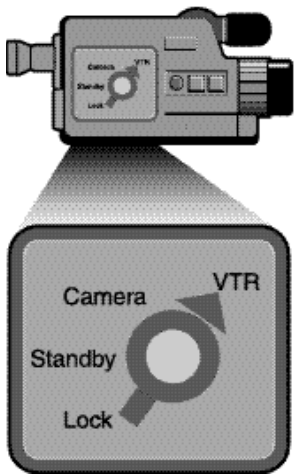
Your SeaView Underwater Camera is compatible with any TV, VCR, or camcorder with a standard 'RCA' type input jack. This is 'line level' video as opposed to 'RF' or 'Antenna' video. The video signal is unmodulated, composite, and conforms to the NTSC (North American) standard.

The Big Picture: Although picture quality is good on the standard 5-inch TV monitor, you'll notice even more picture detail when viewing on a larger TV set. You may already own an AC-DC 'combo' TV with built-in VCR, for watching TV and movies while aboard your boat. This type of set is ideal, since you can easily record your underwater experiences for playback later (see below).



All SeaView cameras deliver a video signal to the RCA plug at the end of the control cable. The video plug will feed any camcorder, TV, or VCR with an input labeled 'A/V in,' 'video in,' or similar.

CONNECTING MULTIPLE INPUTS: It is possible to connect your SeaView camera to more than one input. This is known as the 'loop thru' method. Plug the camera into the input of the first device (usually your VCR). Connect the output of that device to the input of the next device (usually the TV monitor). The video signal is passing through the first device and on to the next one. You can use the 'loop thru' method to hook up several monitors or VCRs...but we recommend a maximum load no greater than three separate pieces of equipment. Otherwise, picture quality will suffer

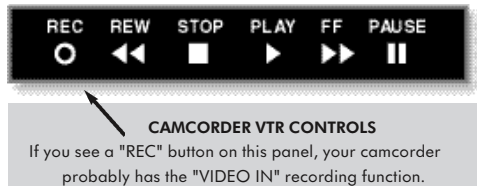


You can also use a Y-adapter to connect other TVs and VCRs. You will get adequate picture quality when using a single Y-adapter, but we do not recommend using more than one. If you need additional connections, use a Y-adapter in combination with the loop-thru method.

CAMCORDERS with VIDEO IN: Not all camcorders have this feature! We have learned that some of the Sony HandyCam cameras do accept video from an external source. Other brands which offer this feature: Sharp ViewCam (video 8) and some JVC models (compact VHS-C and S-VHS-C). Some models may require a special A/V cable to activate the video-in function.

These camcorders generally have a **master switch** (see above) that reads 'camera' and 'VTR.'

When using the video-in function, most of these units must be set to the 'VTR' position. (The 'camera' position will only record what comes through the camcorder's lens.) Set the Switch to VTR and press the 'record' button on the VTR panel (not the red button on the camcorder). You should be able to see the video from the SeaView camera, either in the eyepiece of the camcorder or the flip-out screen (if your camcorder has one). Ask your camcorder dealer to explain the basics of VTR operation as they apply to your particular make and model of camcorder



CAMCORDER VTR CONTROLS

If you see a "REC" button on this panel, your camcorder probably has the "VIDEO IN" recording function.

ADDITIONAL INFORMATION is available on our web site: www.EZspyCam.com

SETUP & TROUBLESHOOTING 'TOP 5' QUESTIONS

Before calling your SeaView Dealer or our Technical Support Line, please take a moment to look at these answers to the most common setup problems.

1. CAN'T GET A PICTURE ON THE TV MONITOR -or- MONITOR RECEIVES TV BUT NO PICTURE FROM CAMERA

- Usually caused by incorrect switch settings. Check the 'charge AV' switch on the back of the TV monitor (see the 'Quick Start' diagram on the front cover of your instruction manual for the location of this switch). The 'charge-AV' switch should be set to the center position for AV input. If you still have no picture with the switch correctly set, check you Y-cable connections to be sure both the TV and the camera are connected. Both must receive 12 volts DC for the system to operate. If you still have no picture, double check your video connection. You may have connected to the audio input by mistake. TROUBLESHOOTING TIP: Check the camera operation by connecting it to another TV. If you can see a picture on the other TV, the problem is in the monitor. If not, the problem is in the camera.

2. PICTURE APPEARS SHRUNKEN OR DISTORTED

- Usually caused by over-voltage or under-voltage conditions. Low battery voltage (less than 11.5 volts) will cause erratic pictures that appear to be too small for the screen. Over-voltage is common with boat alternator systems set to charge at 13.8 to 15 volts. Over-voltage is characterized by distorted, washed out pictures. SOLUTION: Use an after-market 12 volt adapter with voltage regulation.

3. PICTURE IS OK INDOORS OR IN THE SHADE, APPEARS WASHED OUT IN SUNLIGHT

- Usually a result of sun glare on the TV monitor. Adjust TV monitor controls for less brightness and more contrast, and always install the 'radar hood' monitor cover when viewing in bright sunlight.

4. STREAKS, LINES, OR IRREGULAR ROLLING PICTURE

- Usually caused by radio frequency interference (RFI). Typical sources of RFI include VHF and LORAN transceivers, navigational computers, radar, and some models of sonars and depth finders. AC inverters can also cause these symptoms even when not in use, because their circuits are still active and connected to the boat's electrical system. If you experience difficulty with your other electronics, you may need to troubleshoot your DC supply, grounding, and bonding systems.

5. CAN'T SEE UNDERWATER

- Ask yourself this question first: What am I looking at? In open water, you may not be in viewing range of bottom or structure...the probe may not be pointing in the direction you think it is pointing...or you may be pointing in the direction of the sun, causing the automatic circuits to 'clamp down' and give less of a picture. Different types of turbidity or pollution affect the view in different ways. Experiment in a variety of water conditions and learn the differences between them.

SPECIAL NOTE FOR SUB-TROPICAL AND TROPICAL WATERS:

COLD CAMERA + WARM WATER = PROBLEM

- When a camera is stored in air conditioning, it must be brought up to temperature before it can be placed in warm water. If the camera is cold, uneven expansion of the waterproof parts can result in leakage and camera failure. This is avoidable, if you use common sense and allow the camera to come up to temperature before putting it in the water. Leave it on the deck or in the sun for a few minutes...that's all it takes.

When returning a SeaView to air-conditioned storage, make sure it is thoroughly dry before placing it in the case. Pools of water inside the case may migrate to the non-waterproof areas of the TV or other components, leading to corrosion or condensation failure. Again, a little sunlight saves a lot of worry.