



UNDERWATER VIEWING SYSTEM



Marcum VS380 Underwater Viewing System

Introduction

Welcome to the world of underwater viewing. MarCum Technologies has maintained its objective of incorporating quality, performance, and reliability while pursuing a value enhanced system. The VS380 is absolutely the finest viewing system for the money. Whether you're trying to locate a spot for great fishing, study fish behavior, entertain the kids, or looking for hidden treasure, the VS380 is the perfect choice. The unit has the following features:

- Durable 7-inch B&W CRT monitor.
- Manta camera design with Darkwater[™] technology lighting.
- Front control panel.
- The option of running two separate cameras. Optional camera purchased separately.
- Video-out jack.
- 60 feet of high strength camera cable.
- Removable down-viewing and trolling fin.
- Padded soft pack with an integrated view shroud.
- 7.2 amp 12VDC rechargeable battery and charger.

Monitor

The 7-inch B&W CRT monitor features an internal bracketing system which protects all of the internal components from shock and vibration that come from normal use. The rubberized coating on the outside of the monitor helps repel rain or snow.

Camera

The Manta camera is compiled with a high quality Sony Super HAD CCD low lux camera. It has an adjustable, high intensity blue L.E.D. lighting system incorporating Darkwater[™] technology. Darkwater[™] technology greatly reduces particulate reflection and increases viewing distance by positioning the lights above and behind the actual camera lens.



Figure 1: Controls

Operator Controls

The right side of the monitor features a control panel allowing the user to easily adjust the monitor's brightness & contrast, the ability to switch between two cameras (with an optional second camera purchased separately), the ability to turn the camera LED lights on or off as well as a dimmer dial to adjust the intensity of the LED lighting system. *The controls are preset from the factory but may require adjustment depending on the viewing conditions encountered.*

Camera Lights

The adjustable, high intensity lighting system is activated by pressing the LED On/Off switch. The lights are adjusted by rotating the dimmer dial on the front of the monitor. To adjust the intensity rotate the dimmer dial to the desired level. This controls the intensity of the LED's located above the camera lens. This allows the user to choose the correct intensity for the degree of light required for the clarity of the water encountered.

Video-Out Jack

On the backside of the monitor is a video-out jack for recording or incorporation of an external viewing screen such as a big screen TV, see Figure 4.

Camera Cable

The system has 60 feet of camera cable.

Camera

The Manta camera can easily be switched to a down viewing mode by snapping the fin to the rear of the camera, see Figure 2. The fin helps the Manta camera track while trolling at high speeds.



Soft Case

The VS380 incorporates a padded soft case with a collapsible view shroud. The face of the padded case can be opened for a full view of the entire monitor or the case can be left closed and the collapsible view shroud opened for viewing in brighter conditions.

Battery and Charger

The sealed 7.2 amp 12VDC rechargeable battery provides plenty of power for a full day of fishing. The included charger is matched with the battery for ease of recharging in-between uses.

To charge the battery, remove the negative and positive power leads attached to the battery. Attach the power leads with alligator clips to the appropriate battery posts. If the battery is completely dead it may take up



Figure 2: Camera with Down-viewing Fin

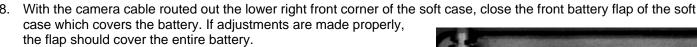
to 14-18 hours to reach full charge. The output of the charger is 500 mA or ½ amp. Do not leave the charger on for longer periods than needed. Although the charger is low output, it can still damage the battery if left on for extended periods of time after the charge cycle is complete.

Setting up the System

Viewing the Monitor

To initially set up your underwater viewing system do the following.

- 1. Insert the foam wedge, with the thinner side up, into the soft pack as shown in Figure 3. Slide battery into the opening in the foam wedge.
- 2. Gently place the camera cable plug into camera port #1 located at the rear of the monitor.
- 3. Place the power cord into the port labeled 12V IN, see Figure 4.
- Slide the monitor into the soft pack and place on top of the foam wedge, see Figure 3.
- 5. Route the camera cable along the bottom right side of the monitor (as you're facing the monitor).
- 6. Route the power cord, attached at the rear of the monitor, along the bottom right side of the monitor.
- 7. Attach the negative (black) and positive (red) leads of the power cord to the battery. Tuck any extra power cord wire into the soft pack at the side of the monitor.



- 9. Place the cable reel in the mesh pouch on the right side of monitor soft case and camera on the opposite side.
- 10. The front flap of the monitor soft case can be closed by using the hook and loop strip on the top flap and two side flaps.



Figure 4: Rear View of Monitor

To view the monitor, in intense light conditions, it is recommended that you utilize the built-in sun shield. This can be done by lifting upward on the Velcro flap on the face of the monitor soft pack. Push the side flaps, located at each side, to the outside and the view shield will align with the monitor screen. Although this shields indirect light - direct sunlight will render the screen non viewable. When experiencing harsh sunlight, turn the monitor away from the sunlight and utilize the sun shield.

SOFT PACK

FOAM INSERT

BATTERY

FRONT COVER

DIAGRAM 1.



One Year Limited Warranty

Nature Vision, Inc. warrants this product to be free from defects in materials and workmanship for one year from the date of purchase. This warranty applies to customers who properly fill out and return the warranty card included with this manual. Failure to complete and return the warranty card voids the warranty. Nature Vision, Inc. will, at its sole discretion and without charging the customer, repair or replace any components that fail in normal use. Failures due to abuse, misuse, or unauthorized alteration, modification or repair are not covered. The warranty is valid only for the original owner who purchases the unit from an authorized dealer. Products purchased from on-line auction sites are not considered under warranty.

How to Obtain Service

We want our products to provide you with a pleasant on-the-water experience. That means maximum customer satisfaction. If you have a problem with your unit please contact Nature Vision's toll free number at 763-512-3987 for a Return Authorization Number (RA#) or e-mail us at service@marcumtech.com. No service returns will be accepted without this pre-return authorization number, which must be clearly marked on the outside of the package. Nature Vision, Inc. retains the exclusive right to repair or replace the unit at its discretion.

The customer is responsible for shipping costs associated with returning the unit to Nature Vision, Inc. Nature Vision, Inc. will pay for shipping the repaired unit back to the customer while it is still under one-year warranty. All out of warranty services will be charged a fee for service and shipping which must be paid in advance. After obtaining a Return Authorization number, the unit should be securely packed and shipped "pre-paid freight" and insured to Nature Vision, Inc. It is the consumers' full responsibility to track their products sent out in the mail or other forms of delivery service. Nature Vision Inc. will not be liable for lost packages sent out in the mail. Unless specified otherwise, do not include batteries or other accessories when returning the product for repair. Nature Vision, Inc will not be responsible for lost or damaged accessories. Please allow a minimum of 10 business days to complete your repair.

Thank you for purchasing the VS 380 underwater viewing system from MarCum Technologies.