

REFLECTORS

COMPACT
UNDERWATER
VIEWING
SYSTEM

User Manual

MarCum
TECHNOLOGIES

RECON 5

The RECON 5 viewing system comes complete with everything needed to enjoy the world of underwater viewing. It features a 5" Screen with a multi-purpose sun shield/screen protector. The camera features both visible LED lights as well as a stealthy infrared option for viewing in low light situations. A removable weight and camera-positioning clip come standard with the system. The system is powered by an internal rechargeable Lithium Ion battery that provides up to 6 hours of continuous run-time. Included with your system are a charger and cable, protective soft-pack, and camera storage sack. The RECON 5 features a ¼" - 20 insert as well as additional inserts that allow for limitless mounting options (Mounts not included). These are located behind the cable storage reel (see "Removing the camera cable storage reel" section; p. 5). The charging port and video out jack are located on the rear of the monitor, and can be accessed by lifting the protective rubber cap.

SPECIFICATIONS

Display:

- 5" Widescreen LCD Monitor
- 16:9 Aspect Ratio, Sunlight Readable
- 800 x 480 Pixel Hi-Res Color

Power:

- Rechargeable Internal Lithium Battery
- (Up-to 6 Hours of Continuous Run-Time)
- 110v USB Charger & Cable

Display Adjustments:

- Brightness
- Sharpness
- Contrast
- Color
- Color Kill

Additional Features:

- Built-In Sunshield & Screen Protector
- RCA Video Out
- Soft Pack & Camera Sack
- Removable Camera & Cable Storage
- 1-Year Warranty

Camera:

- 1/3" CMOS Sensor Offers Optimal Low-Light Performance
 - 110° Field of View
 - Darkwater Adjustable LED or IR Lighting
 - Color Kill, Color or B/W Image Options
 - 50 ft. Camera Cable
 - Removable weight
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GETTING STARTED

Charging:

The RECON 5 has an on-screen display of the battery status found in the upper left side of the video image. To check your battery level, simply press the Power button on the control panel. Once the video image starts the battery status indicator will detail a series of green bars. Three full green bars will indicate a full charge.

To charge the RECON 5, power the system off and locate the rubber cap on the back of the monitor just to the right of the cable storage reel. Lift the rubber cap to expose the USB Charging port. Insert the supplied USB cable and connect it with the supplied charger, or any USB port. Once the charger is connected to either the wall outlet or USB port, the charge indicator light will illuminate – red indicates that the system is charging, green indicates the system is fully charged. Once charging is complete, unplug the charger, remove the USB charging cable from the system, and properly seal the rubber cap. Best practice is to charge after every use regardless of how far down the battery was discharged. This will ensure the longest run-time each time the system hits the water.

OPERATION

The Control panel located on the front right side of system features four buttons.

Power Button

- The bottom button powers the system on and off. Press the power button to turn the system on. A start up screen with the MarCum logo will briefly show, followed by the video image. To turn the system off press and hold the power button for 5 seconds until the system shuts down.

IR/Down Arrow Button

- The IR/Down arrow Button serves a dual purpose. When selected it will turn on and increase the intensity of the Infrared lights. An on-screen display will be shown momentarily to indicate the light intensity level selected. There are three intensity levels and an off selection.
- When in the menu section of the system, this button serves as a down selection.

LED/Up Arrow Button

- The LED/Up arrow Button serves a dual purpose. When selected it will turn on and increase the intensity of the LED lights. An on-screen display will be shown momentarily to indicate the light intensity level selected. There are three intensity levels and an off selection.
- When in the menu section of the system, this button serves as an up selection.

Menu/Enter Button

- The Menu/Enter button serves a dual purpose. Pressing once accesses the Menu system.
 - Once inside the menu system it functions as the enter button.
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RECON 5 MENU OPTIONS

For ease of use, the menu system on the RECON 5 times out after a 5 second period of inactivity and defaults back to the camera image without any additional keystrokes required.

Enter the Menu system with a single press of the top Menu/Enter button. Use the up or down arrow buttons to navigate to the desired selection, followed by the Enter button to enter and change that setting. Repeat this process within the other menu sub-sections to make adjustments.

Monitor Setting

- Brightness - Controls the monitor backlight.
- Sharpness - Controls sharpness.
- Contrast - Controls Contrast.
- Color - Controls Color adjustments.
- Color Kill - Gathers a Black & White image.

NOTE: Once the desired setting has been adjusted, press enter and toggle down to the save button and press enter. You must save for changes to take effect.

System Setting

- Default - Selecting "Yes" will restore the factory settings.
- Version - Shows the current software version the system is operating with.

Exit

- Exit - This selection will exit user out of Menu main page
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RECON FEATURES

Camera Lights

The RECON 5 is equipped with both LED and infrared lighting options. Each lighting option has multiple intensity levels.

To turn on the LED lights, use the LED/UP button on the control panel. Pressing this button once will turn the lights on. The on screen display will show momentarily on the bottom of the monitor. To increase the intensity of the lights press the button until you reach the desired intensity level. There are three settings available and the fourth press will turn the lights off.

The infrared lights offer a stealthy approach because infrared lights are not visible to the naked eye. To turn on the infrared lights, use the IR/Down button on the control panel. Pressing this button once will turn the lights on. An on screen display will show momentarily on the bottom of the monitor. To increase the intensity of the lights press the button until you reach the desired intensity level. There are three settings available and the fourth press will turn the lights off. Use the camera image along with the monitor on-screen display to gauge the desired intensity level.

A/V Port

On the back of the monitor there is a rectangular rubber cap that protects the charging port and the RCA video out jack. Please make sure this cap is closed when not using the RCA jack to avoid potential water damage.

Utilizing the RCA Jack

There are many anglers with large ice fishing houses that are equipped with a TV inside. Video is easily sent from the RECON 5 to your TV by simply running an RCA cable from the RECON 5, and selecting the correct input source on the external monitor.

USING YOUR CAMERA

Once you have a working knowledge of the system you can successfully deploy the Camera in the water. The Camera is equipped with a removable weight system that clips on the bottom of the camera. The weight can be removed by lifting the tab facing the rear of the camera. Be sure the weight clicks into place when replacing it on the camera. Atop the RECON 5 camera is a positioning system (three tabs and a clip). Set the clip to the correct tab to select your viewing angle (see camera positions below).

The depth of field (distance the camera can see underwater) depends on the clarity of the water and the available light at the depth the camera is used. In clear water, the depth can be many feet but in cloudy or murky water the depth of field can be reduced to only a few inches due to particles suspended in the water. Dirty or murky water and/or low light penetration can detract from the quality of the color picture. Optimum color quality will result from clear water and adequate light penetration.

NOTE: the Color kill feature will turn on automatically when the camera's light sensor doesn't detect enough light for optimal color viewing. This can happen in low light conditions, in deep water, or when the ice is very thick and/or covered with snow.

CAMERA POSITIONS

Horizontal

Horizontal viewing is available by setting the camera clip in the back slot (3rd tab; furthest from camera lens). This view will show a horizontal view of the water column as a traditional underwater viewing system does.

Down View

The RECON 5 has the ability to be positioned in a down view by removing the camera clip from the positioning system atop the camera (three tabs). The camera will then hang vertically from the cable and send images of the water column below the camera.

Up View

An upward view of the water column is possible with a couple of adjustments. First, remove the weight system at the bottom of the camera. The weight can be removed by lifting the tab facing the rear of the camera and sliding

backwards. Attach the clip to the 1st tab (closest to the camera lens), and carefully pull the cable through the clip to achieve the desired upward angle. The slightly upward view allows the RECON 5 to gather more light to better view the water column in low light situations such as deeper depths, murky water, or low light periods such as dawn/dusk.

OPERATING POSITIONS

Handheld

The RECON 5 is a palm-sized system with full sized performance. For handheld operation simply remove the RECON from the included soft-pack. Set the camera clip at the desired viewing position, and deploy. Carefully watch the monitor image to avoid damaging the camera in rocks, submerged vegetation, brush piles or other harmful environments that could snag, wedge or damage the camera or cable; doing so will void the warranty.

Body Worn

The Soft-pack supplied with the RECON 5 is designed to allow for hands free use of the monitor allowing the angler to focus on camera depth and positioning. Adjustable straps allow for comfort and viewing distance. The Camera can be deployed and accessed from the rear of the soft-pack, while the monitor rests securely within a comfortable viewing distance, with full access to the control panel.

You can also use the Velcro strap on the Cable storage spool as an arm or wrist mount for increased portability.

Mounted

The RECON 5 features a ¼ 20 insert as well as additional inserts that allow for limitless mounting options (Mounts not included). These are located behind the cable storage reel. The ¼"-20 insert is the most common mounting option for photo/video equipment. The insert port is located in the center of the cable storage reel and is accessible by removing the Velcro strap. With the Velcro strap removed the ¼"-20 insert will be exposed, as will the 4 surrounding inserts that provide limitless mounting solutions from aftermarket suppliers. You may want to remove the camera storage reel when used in a mounted solution.

Removing the camera cable storage reel

Start by removing all of the camera cable from the cable storage reel. Once the Cable has been removed, the cable reel can slide out by gentle lifting on the reel (on the opposite side of the charging/AV port), while simultaneously sliding in that direction. Once the Cable storage reel is removed, re-wind the excess cable back onto the reel. To replace the reel onto the RECON 5, align the tabs furthest from the USB port with the indented area on the underside of the reel and slide toward the USB Port.

MARCUM TECHNOLOGIES: IMPORTANT WARRANTY AND REPAIR INFORMATION

If your system came with damaged or missing parts, please do not contact the store. Contact our office by first going to our website, <http://marcumtech.com/support/>, and registering your unit. You may then login to your account, click on "Repair Request", then select "Parts Request" and on the next page complete the form including your name, email address, and parts requested.

Once we have this information we can usually have a replacement part shipped out within 48 hours.

Your Marcum comes with a 1-year warranty. To activate this warranty, you must register your unit on our website - <http://marcumtech.com/support/>. If your Marcum has become inoperable or is malfunctioning within the warranty period, send it to us immediately for repair. If you are within the warranty period, it is not necessary to contact us prior to shipping. All you need to do is login to your account on our website and submit a "Repair Request". Your unit registration must include an attached copy of the receipt for your repair to be considered for warranty repair. Damage caused by abuse or trauma is not covered by warranty. Cables that have been damaged by fishing line, ice chisels, augers, etc. will not be covered by warranty. If a unit arrives here with no receipt, or shows signs of abuse or trauma, the owner will be contacted by phone or email for billing.

If you are outside your warranty period, or if you do not have your receipt, you can send your unit in by logging into your account on our website and submit a "Repair Request" for a non-warranty repair. You will then need to ship the unit in to us. Upon arrival a technician will inspect your unit and our service department will email you a repair cost.

Be sure to pack your unit properly for shipping by utilizing a sturdy shipping box and plenty of suitable packing material. It is up to the customer to track the delivery of their package. Turnaround time for repairs can vary with the season, on average it is 3-5 days from the day it arrives until it is shipped back out. We will not be responsible for units that were lost or packaged improperly when shipped to us.

