



RT-9 Ruggedized Tablet

User Manual



www.marcumtech.com

Table of Contents

Introduction.....	pg. 1-2	Target Adjust.....	pg. 15
RT-9 Power System.....	pg. 2	Bottom Enhance.....	pg. 15
How to assemble.....	pg. 2	Color Palette.....	pg. 15
Functions/Features.....	pg. 2-3	Ping Rate.....	pg. 15
Shuttle.....	pg. 4	Scroll Speed.....	pg. 15
Turning the RT-9 on.....	pg. 4	Transducer Offset.....	pg. 15-16
Home Screen.....	pg. 4-5	Scale Color.....	pg. 16
RT-9 Operation.....	pg. 5-6	Scale Major Line.....	pg. 16
Settings Menu.....	pg. 6	Scale Minor Line.....	pg. 16
General Settings.....	pg. 6-7	Show Temperature.....	pg. 16
Theme Settings.....	pg. 7	Gain 1_2.....	pg. 16
Status Bar Settings.....	pg. 7	Simulator.....	pg. 16-17
Waypoints Settings.....	pg. 8	Second Sonar Module.....	pg. 16-17
Trails Settings.....	pg. 8	Adding Modules.....	pg. 17
Mapping Settings.....	pg. 9-10	Video Functions.....	pg. 17
MarCum Sonar Settings.....	pg. 10	Adjusting Camera Settings.....	pg. 17-18
MarCum Video Settings.....	pg. 10	Camera Panel Adjustments.....	pg. 18
Adding Modules.....	pg. 10	Camera Panning.....	pg. 19
RT-9 Start up.....	pg. 11-12	Recording.....	pg. 19
Adjusting Sonar.....	pg. 12	Camera Display Options.....	pg. 19
Graph.....	pg. 12	PanCam with RT-9.....	pg. 19
Graph Zoom.....	pg. 12	GPS Functions.....	pg. 20
Vertical.....	pg. 13	Map Features.....	pg. 21
Vertical Zoom.....	pg. 13	Misc. Map Information.....	pg. 21
Flasher.....	pg. 13	Fishing Applications.....	pg. 22-23
Sonar Functions.....	pg. 13	Ice Fishing Sonar Applications.....	pg. 23-24
Range.....	pg. 13	Fishing Applications Camera.....	pg. 24
Auto.....	pg. 13	Open Water Applications.....	pg. 24
Manual.....	pg. 13	Two Year Warranty.....	pg. 25
Dynamic.....	pg. 13	How to Obtain Service.....	pg. 25
Manual Dynamic.....	pg. 13-14	Contact Information.....	pg. 26
Zoom.....	pg. 14		
Sensitivity.....	pg. 14		
Interference Rejection.....	pg. 14-15		
Cone Angle.....	pg. 15		

RT-9 Introduction

We've all heard the commercials telling us that since we spend 1/3 of our life in bed that you should have the best mattress available.

What if I told you that for 1/3 of your life the lakes are frozen?

Ice anglers have it good today. There's a few of us around here who can remember when ice fishing often meant simply walking from shore a ways and drilling a hole. Are we out far enough? Is this where we caught them last year? Only one way to find out--drill a hole, drop down a heavy weight, measure the depth by how many arm lengths of line were out, then decide if this was the depth of water you were looking for. Not the right depth? Well, let's walk out another 50 yards and try again. Repeat as necessary, and then set up and fish, not even knowing if there are even any fish down there. No shelter, no heater, no electronics of any kind. Seriously...how did we do it?

Fast forward to today. You have spent many hours researching fishing locations on the internet. Perhaps chatting online with other anglers, or maybe checking DNR websites, carefully choosing where you will spend your time. All your equipment, from your pickup to your ice rods is the best available, as you have spent as much time researching gear as fishing locations. The sun is just showing above the trees when you get to the lake, you hook your sled to your ATV, flip on the GPS, and quickly head to an exact location, chosen weeks before. Maybe you made a waypoint in that location last summer. Once you arrive at the icon, a quick check of the depth confirms this is the right location, so you punch a few holes with your power auger, and within minutes your shelter is set up, the heat is on, electronics are fired up, and the lines are in! Ice fishing in style!

The RT-9 will help you every step of the way, from before the lakes are frozen until after you return from a successful venture onto the frozen waters. We are confident in saying that the RT-9 has the most impressive array of technology ever to hit the ice. For starters, it's an Android tablet, capable of browsing the internet via Wi-Fi, so you can log in to your favorite message board using your locator! The RT-9 has built in GPS with Navionics mapping capability, so it will help you navigate right to where you want to fish, as well as study other lake maps. The Sonar in the RT-9 is the best there is, and with many different configurations, your biggest decision will be deciding which one suits you best. Fortunately it is easy to switch things up. That's a good thing, because there is an underwater panning camera option as well. You can even download games, music, books or video for when the fish aren't biting. And it doesn't stop there—let's not forget that there is built-in recording too, so you can capture the action digitally and share it with your online buddies later to complete the circle.

The RT-9 can be purchased as a tablet only, or as a Tablet and Sonar combo. The sonar system that will not only help you navigate to the spot, but will show the depth and fish on sonar, and allow for you to watch all the action in real time with the optional camera! Below are some of the advanced features on the RT-9.

- Built in GPS, Navionics® compatible
- It will get you to the spot
- Create and save waypoints
- Modular additions allow the use of multiple sonar and underwater cameras
- Marcum Digital Series Sonar
- Displays the depth, the fish, and your lure on sonar
- Allow you to observe the action in true® time on the optional camera
- Allow for screen recording of GPS, sonar, video, and screenshots to share your catch

- Compatible with Marcum PanCam systems
- Browse the internet through Wi-Fi
- Add music, movies, and games for when the fish aren't biting

Once you have immersed yourself in the interface, it is very intuitive how to change your display and settings. This user's guide is meant to be a quick start guide and due to auto formatting functions, it is not possible to explain every setting, configuration, or actions that may occur when certain combinations are activated. It is strongly recommended that you become familiar with the basic functions before venturing out with the system.

Understanding the power system of your RT-9

The RT-9 can be purchased as a tablet only, or as a combo unit including a battery and sonar module. There are different options available for charging your unit. With the tablet only, you will charge your unit by using our wall charger adapter that is included. If you have the combo unit, you will have two ways to charge your internal battery. The RT-9 combo is powered by an internal lithium battery that can be charged by an external 12 volt battery. The internal battery, when fully charged, will power the tablet for about 90 minutes. To recharge the battery, you must have the tablet in the docking cradle with the power cord hooked up to an external battery. You can also charge the internal and external batteries by connecting the unit to the wall charger. Be sure to recharge your external battery after each outing. Always make sure that the tablet is securely in the docking cradle and that the pins on the cradle are in contact with the power/charging port on the tablet. A lightning bolt in the battery icon at the top of the home screen indicates that the internal battery is charging. All functions and settings are controlled via The RT-9's unique touchscreen.

How to assemble

Your RT-9 comes virtually ready to fish, you only need to connect the modules you would like to use and hook up to the battery. Please allow 24 hours for the first charge on your external 12 volt battery.

Functions/Features



- Power Button
 - Press the Power Button to turn the unit on.
 - Once ON, a long press of the Power Button will give you three options; Power OFF, Airplane Mode ON/OFF, and Silent Mode ON/OFF
 - Once powered ON the RT-9 can be put into SLEEP MODE with a short press of the Power Button. The unit can resume activity with another short press. The unit will automatically enter SLEEP MODE after 15 minutes of inactivity, and power off.
- Touch screen LCD

- 3 panel display
 - Up to 3 panels can be displayed at once
- AV access panel
 - Sd slots
 - Insert Navionics mapping chips, or micro SD cards, (to download data), and save your videos and/or pictures to. The micro SD card must be 32 gig or smaller.
 - USB port
 - This port will accept a USB mini-micro standard. You can export videos or photos from the RT-9 to your computer here.
 - External HDMI port
 - You can send the signal from your RT-9 to an external monitor (like a big screen TV)
 - Headphone jack
 - Plug in your headphones here
 - Volume Buttons
 - Push the gray (-) button to lower volume and (+) to raise the volume

- Module Ports

- The module ports are where you connect your transducer [s] or camera [s]. Three modules may be used at once, but only two may be of the same function. To connect you will need a flat screwdriver.



- Power port

- The tablet's internal battery is charged by the power port. To charge, the gold pins from the docking cradle must be in contact with the power port on the back of the tablet. You will know you are connected when a lightning bolt displays in the battery icon at the top of the home page.

- Docking Cradle

- There are two tabs on the front of the docking cradle that the RT-9 will lock into to charge.

- Cradle release button

- Press the Red button on the back of the RT-9 tablet to release from the docking cradle.

Shuttle

- Transducer arm
 - The transducer arm is adjustable and holds the transducer in place over ice hole.
- Battery
 - The RT-9 is designed to be used with a 12 volt 9 amp external battery. This is in addition to the internal lithium battery.
- Soft pack
 - Your RT-9 should be secured inside the soft pack whenever you are not using it.



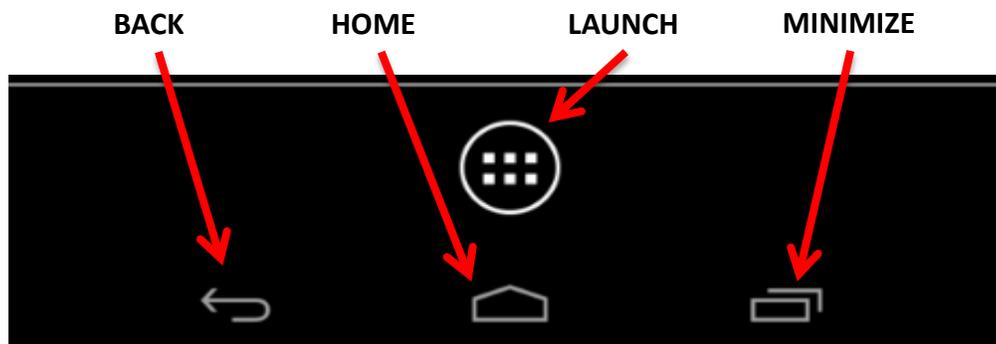
Turn the RT-9 ON

Power up the RT-9 by pressing the power button on the front of the machine and a lock screen will open. Swiping the lock icon in any direction will lead you to the Home Screen.

Home Screen

The Home screen is where you will launch apps, and the Marcum RT-9 app. You can place shortcuts to any selected Apps to the home screen, as you would your desktop of your computer.

There are four buttons towards the bottom of the home screen to become familiar with:



- **Back button**
 - Arrow icon at the bottom of the screen allowing you to go to previous screen
- **Home Button**
 - This building shaped icon is pressed to return to the Home Screen

- **Launch Button** [apps] button (button has 6 dots inside of a circle)
 - Pressing the Launch button reveals the desktop and app icons.



- When first selecting the MarCum RT-9 app, it is recommended to drag the shortcut to your home page by holding the icon down and releasing on home page where you prefer it to be located.
 - A Safety Warning and End User License agreement will display when you open the RT-9 app. Press “I Agree” to continue.

- **Minimize**
 - This button allows you to quickly select between multiple Apps that are open

The top of the home screen has the below icons:

- **GPS Indicator**
 - The GPS icon in the upper left hand corner of the screen will be blinking when searching for a satellite; and a solid white circle when a satellite signal has been found. (GPS icon will only show after MarCum RT-9 app has been opened)
- **Wi-Fi signal indicator**
 - The Wi-Fi indicator is blue when connected to a Wi-Fi network (Wi-Fi icon will only show when Wi-Fi is turned on)
- **Battery Charge Indicator**
 - This shows if the internal battery is being charged by the external battery
- **Clock**
 - Will display the time according to preferences; settings for date and time can be changed by swiping down on the icons to access the Settings menu

Most of the RT-9 tablet settings can be adjusted by pressing and holding, then swiping down on icons in the upper right hand corner to gain access to the Settings menu.

MARCUM RT-9 OPERATION

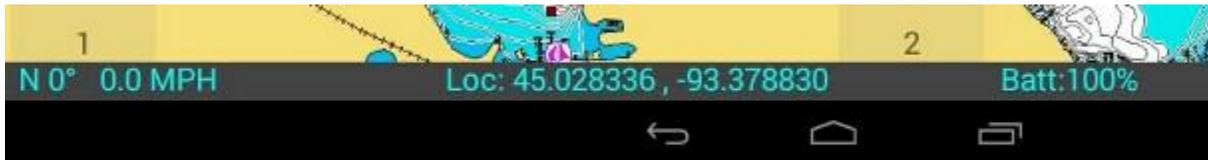
When you open up the RT-9 app for the first time you should see a black background with a few visible icons. When the RT-9 is searching for satellites, there will be a red satellite icon in the upper right corner. Once the RT-9 has acquired a GPS signal, the red satellite icon will disappear, and the indicator in the upper left corner of the home screen will stop blinking, and become a solid white circle.

There will be a red circle “Record” icon in the upper right corner. By touching this button, you will be able to start a recording. When a recording is in progress, a blue square will appear. Pressing the blue square icon will stop recording.

You will also see a “Settings” button in the upper right corner. By pressing this you are able to access a wide variety of settings to customize the RT-9 app to your exact specifications.

Along the bottom of the screen there is info displayed in what is called the **Status Bar**. The following data is displayed here:

- **Bearing:** The direction the unit is moving, expressed in degrees as on a compass
- **Speed:** The ground speed the unit is moving
- **Location:** Expressed in Latitude / Longitude
- **Battery:** The percentage of battery you have left in the internal battery



(Note: the colors of the status bar text can be changed to your preference; see Status Bar settings, pg. 7)

Settings Menu:

To access all of the RT-9 general settings start by pressing the Settings button in the upper right corner. This will open a menu with the following selections:



General Settings:

- **Units:** Standard or Metric units depending on your preferences
- **Full screen:** Turning this on will eliminate data at the top of the screen, and will increase the display size

- **Panels:** Choose how many panels you choose to display at once, either 1, 2 or 3
- **Stay Awake:** Selecting **ON** will keep the display from timing out. Selecting **OFF** will cause the display to time out after selected period of inactivity
- **GPS Filter:** Will smooth out GPS breadcrumb trails
- **Check for Updates on Start:** When ON, the RT-9 will automatically search for updates when connected to Wi-Fi
- **Videos will be saved to:** Videos will be saved to either internal memory or SD card
- **Port 1, 2, 3 Enable:** Choose which ports will be “live”—be sure to have your modules plugged into ports that are enabled
- **Panel Overlays:** The actual numbers of each panel is turned ON/OFF
- **RT9 Version:** The software version the RT-9 is operating with
- **Factory defaults:** This will return the RT-9 to the original configuration (2 panels open, nothing displayed)

Theme Settings:

- **Theme:** The theme can be changed from between Default and a variety of pre-loaded theme settings. The theme changes the color schemes of the menus and icons.
- **Font Size:** Changes the font size for menu selections and on screen icons; choices are *Small, Normal, Large, X-Large*
- **Menu Transparency:** A lower number will allow the image on the screen to show through the Menu, a higher number will make the map more easily visible (scale of 0-255)
- **Menu Font Color:** Allows you to change the color of the menu’s font

Status bar Settings: Controls the information displayed along the bottom edge of the screen in the Status bar, (Bearing, Speed, Location, and Battery)

- **Show:** Hide or show the status bar
- **Transparency:** A lower number will allow the image on the screen to show through the Status Bar; a higher number allows the status bar to be more visible
- **Size:** The font size of status bar items can be set between 10 and 32 depending on preference
- **Color:** Set the text color to your preference, or select Default color
- **Background:** There are a variety of background colors, choose which one you prefer or select Default

Waypoints Settings

- **There are two ways to create a Waypoint**
 1. In the GPS panel, press the 'Waypoint' icon in the lower right corner of the map. This will create a Waypoint at your current location
 2. Press and hold with your finger on the map where you would like to create a Waypoint.
- **Cancel navigation:** If you have selected "Go to Waypoint", this will cancel the operation and remove the bold navigation line.
- **Waypoint 1, 2, etc.**
 - Pressing a waypoint will open a new submenu
 - **Name:** Choose a name for your waypoint
 - **Color:** Change the color of the waypoint icon on the map
 - **Go to Waypoint:** This shows with a bold line where the waypoint is relative to the cursor and the distance between them
 - **Show Waypoint:** Shows where on the map the waypoint selected is located
 - **Latitude/Longitude:** The precise location of the waypoint in degrees of Latitude/Longitude
 - **Time:** This shows the date and time the waypoint was created
 - **Delete Waypoint:** Deletes an unwanted waypoint

Trails Settings

- **Current Trail:** Trail that is currently showing
- **New Trail:** Start a new trail by pressing this icon
- **Trail Color:** Choose the color you would like the trail to be on the display
- **Trail 1, 2, etc.**
 - Pressing the Trail [trail 1, 2, etc.] will open a submenu specific to that Trail's information and settings
 - **Name**
 - The name of the trail can be changed here
 - **Date and Time**
 - Displays the Date and Time the trail was created
 - **Count**
 - This shows how long your trail is by showing the number of breadcrumbs are on the trail
 - **Show**
 - Allows the trail to be turned on/off and visible or hidden on the map

Mapping Settings

- **Map Overlay:** Having map overlay on will allow you to view the Free/Follow/North Up, Home, and 2D/3D icons
- **Overlay Transparency:** This allows for the Map Overlay's transparency to be set. The lower numbers, (i.e. 50), will allow you to see through the Overlay to the map more easily. The higher numbers, (i.e. 255), will allow the Overlay to be seen more vividly.
- **Map 3D:** Toggle the map between 3D and 2D mode by turning this on/off, (3D functionality is available only for Navionics Platinum products); this can also be accomplished by pressing the 2D/3D box on the map itself (if map overlay is on)
- **Map Pitch:** Changes the pitch, (viewing angle), of the map when in 3D mode (This functionality is available only for Navionics Platinum products)
- **Show Breadcrumbs:** Breadcrumbs leave a history of the trail behind the GPS icon, you can turn on/off to have them visible or hidden
- **Show Waypoints:** Waypoint viewing can be set to 'On' or 'Off' for visibility on the map
- **Fish Mode:** View more detailed Lake maps showing more contour lines and depths
- **Easy View:** Increases the size of fonts and icons via a zoomed in display
- **Show Tide:** Turning 'On' or 'Off' will enable or disable views of current tides
- **Community Layer:** This allows you to enable or disable community edits from Navionics users (<http://www.navionics.com/en/community-edits>).
- **All Details:** Turn 'On' will show all Chart details; 'Off' will show the minimum details required for safe navigation
- **GPS Drawing:** This will turn 'On' or 'Off' the visualization of the icon in the GPS position
- **Show Sea Bed:** Turn 'On' or 'Off' a detailed view of the Sea Bed
- **Enable Shading:** If 'On', the map will apply 3D shading. (This functionality is available only for Navionics Platinum products)
- **Arrow Picture:** Select between an Arrow or a Boat icon as your GPS marker
- **Breadcrumb Path Color:** This allows you to choose the color of your breadcrumbs
- **Goto Path Color:** Choose a color for your Goto Path
- **Tracking:** This allows you to choose between Free, North Up, or Follow. This can also be done on the map itself by pressing the corresponding icon.

- **Language:** This allows you to draw the map in the language selected. The language must be available on the plugged in SD card.
- **Chart Symbols:** Choose between USA or International symbols
- **Palette Type:** 3 palette settings of Day, Night, or Bright are available for selection
- **Depth Units :** Choose from Feet, Meters, or Fathoms for depth readings
- **Speed Units:** Choose between Knots, MPH, or KPH for speed readings
- **Photo Overlay:** If top-down pictures are available Photo Overlay will draw the map with the specified setting. (Top-down pictures are only available with Navionics Platinum products)
- **Photo Transparency:** This allows for the Photo Overlay's transparency to be set. The lower numbers, (i.e. 50), will allow you to see through the Overlay to the photo more easily. The higher numbers, (i.e. 255), will allow the Overlay to be seen more vividly.
- **Safety Depth:** Safety depth will draw in the map up to the given depth value. The value is specified in the depth unit set.
- **Depth Contours:** This feature allows you to draw in the map up to the given depth value. The value is specified in the depth unit set.
- **Texture Exaggeration:** when 'On' this will "exaggerate" the contours of the map when in 3D mode (only available as a feature with Navionics maps that have 3D capability)
- **Map Version:** This allows you to see the current version of the map you are viewing

MarCum Sonar Settings

Only shows if a Sonar Module is plugged into an active port and has been selected to be displayed on at least one panel. Your sonar settings [range, zoom, sensitivity etc.] are set here. *(More info in the section on sonar functions; Pgs.13-17)*

MarCum Video Settings

Only shows if a Camera Module is plugged into an active port and has been selected to be displayed on at least one panel. The camera settings [color, contrast, etc.] are set here. *(More info in the section on adjusting camera settings; Pgs. 17-20)*

Best Practices for Adding Modules

- The unit must be turned **OFF** when adding a module. You **cannot** swap modules when the unit is powered on.
- Always have transducers, cameras, and camera panners attached to the modules before powering the unit on.

RT-9 Start up

On the initial start-up, there will be two panels enabled. There will be a “1” in the lower left corner, pressing this will allow you to control the content of panel 1. There will also be a “2” in the bottom center of the screen, pressing this will allow control the content of panel 2. If the same content for two adjacent screens is selected, the selection will seamlessly fill both screens. In the SETTINGS menu panels can be added or subtracted. To open a third panel, go into SETTINGS and under PANELS select “3”.

Press one of the panel numbers for that corresponding Panel menu to open.

- **Change Panel Source**
 - Exactly what will be shown will depend on which modules are installed on the ports, and which ports they are in. There can be a module in each port, but only two may be the same. (i.e. 2 Sonar modules or 2 camera modules) A sonar module in port 1 will show in the Panel Source Menu as “Marcum Sonar: 1”; a sonar module in port 2 will show in the Panel Source Menu as “Marcum Sonar: 2”. A camera module in Port 3 will show as “SD Camera: 3”
- **Navionics map**
 - Allows either the stock map or a downloaded Navionics map chip to show



- **Picture**
 - Allows a stock or saved image to show, this is a nice option for a background when using sonar or for occupying an empty panel. To display sonar over a picture select Sonar first, and then choose a background picture.
- **Solid Color**
 - Set the background to a solid color of your preference. This option is only available for Sonar mode. Select Sonar first and then choose the background color you would like. Solid Color will not work with a Map or Camera displayed in the panel.
- **SD Camera**
 - Selecting this will allow video to be viewed in that panel.
 - This option is only available if a camera module is attached to one of the ports.
- **Marcum Sonar**
 - Selecting this will allow that panel to display the Sonar you have chosen.
 - This option is only available if a sonar module is attached to one of the ports.

- **None**
 - The panel will remain blank with no features displayed.
 - You can select a background color or picture after a sonar display has been selected. If you want to change a panel, it may be necessary to first select “none” to clear the panel before adding new content. When using more than one display on a panel, Sonar should always be selected **first**. It is not possible to display video and map on the same panel at the same time.

How to adjust the Marcum SONAR

- **Select which sonar display you want**
 - With 5 different sonar displays it can be hard to decide on which one[s] to use. If you have used traditional mechanical flashers in the past, you may like the familiarity of the RT-9’s flasher display, but the other configurations are so easy to use you should really give them a try. Be sure to experiment with different color palettes and backgrounds, too.
 - Up to three panels can be displayed at once. Selecting the same sonar display on 2 adjacent panels will result in one large display. The sonar can be overlaid on one of the backgrounds of your choosing—solid color, a picture, the map, or live video.

The style of Sonar display is chosen by first pressing the panel number, and then selecting one of the following:

- **Graph**
 - This is a scrolling graph display, and it shows not only what is happening below you in real time, but will also enable the user to have a “history” of what has happened. While most commonly used for open water, many anglers are discovering the benefits of using a graph on the ice. All of the Marcum sonars with this feature stand apart from other graphs in that they display with ultra-fast “True-Time” sonar response – less than .02 seconds passes between the echo reaching the transducer and when the signal appears on the LCD screen.
 - When used from a stationary position, such as ice fishing, the bottom will display as a thick, solid band, but other signals, like fish or your jig, will display as lines of varying thickness. Always remember that the thicker the band, the stronger the signal. A large fish is likely to display as a fairly thick band, while a small ice jig will show as a very fine line.
 - When used from a moving boat in open water, the user will see signals displayed in classic “graph” fashion; the bottom will be a solid band, and fish or other objects display as “arches”.
- **Graph Zoom**
 - This functions the same as the Graph display, but allows for a magnified view of a selected portion of the water column. You can adjust the zoom window by entering SETTINGS and changing your preferences. (See *Zoom*; pg. 14)

- **Vertical**
 - Sometimes referred to as a “Showdown” display, this one is very easy to interpret—top is the top, bottom is the bottom. Anything in between the top and bottom is weeds, fish, or your lure.
- **Vertical Zoom**
 - Same as Vertical, but allows for a magnified view of a selected portion of the water column. The ZOOM window can be adjusted by entering SETTINGS to change your preferences. (*See Zoom; pg. 14*)
- **Flasher**
 - This Sonar window will read much like a traditional flasher-style display. Signals are displayed as various colored lines on the dial, and the different colors represent different signal strengths.

Sonar Functions

Once the style of sonar has been selected, the following adjustments can be made by first pressing SETTINGS in the upper right corner of the screen, and once the menu bar appears on the left, selecting Marcum Sonar [if using more than one sonar module, each module can be adjusted separately].

- **RANGE** – The Marcum RT-9 has nine different fixed ranges, as well as the ability to create custom ranges using the Dynamic Depth features. Pressing the RANGE button in the SONAR SETTINGS menu will open up a sub-menu with four different range options.
 - **AUTO** – Selecting AUTO will put the RT-9 into a “search mode” where it will detect the bottom and automatically lock into one of the nine fixed ranges [10, 20, 40, 60, 80, 120, 180, 240, and 300]. This is a feature that allows you to simply turn on the unit and begin fishing. To enter Auto Range, select RANGE, and then highlight “Auto” and the RT-9 will automatically lock into the appropriate depth range. For instance, in 32 feet of water, the RT-9 will lock into the 40 foot range. In 45 feet of water the RT-9 will automatically lock into the 60 foot range.
 - **MANUAL** – Selecting MANUAL will allow the user to decide which fixed range is displayed. Select RANGE, then MANUAL, and use the arrows to move to the desired depth range.
 - **DYNAMIC** – This Marcum exclusive feature functions similarly to the “Auto Range”, but fine tunes your range setting even farther. The Dynamic Depth will maximize the space on your display by utilizing a variable range that will always be just slightly deeper than the actual depth. For example, if you were fishing in 23 feet of water, the Dynamic Depth feature will automatically create a custom range of 0 - 26 feet. Similarly, if you were in 29 feet of water, the Dynamic Depth range will be 32 feet. The Dynamic Depth range will not go shallower than 10 feet.
 - **MANUAL DYNAMIC** – This function allows the user to select the depth range. For instance, say you start out in AUTO range and you quickly learn that the water is 21 feet deep. The AUTO range will have selected the 0-40 foot range. To fine tune your display,

press the RANGE button, and highlight MANUAL DYNAMIC. Now start pressing the UP/DOWN buttons to get to the desired DYNAMIC DEPTH range. If the water is 21 feet deep, you would select 22 feet. Now the DYNAMIC DEPTH has created a 0–22 foot range, utilizing virtually 100% of your display.

We offer the manual range functions because in some circumstances the AUTO range functions can behave erratically, especially in situations where there is heavy weed growth, uneven bottom contours, large schools of fish, or very shallow water. If erratic behavior is encountered in these circumstances, the user should manually select a fixed range. We recommend Ice Fishing in a Manual range selection.

○ **Zoom**

- First, activate one of the Zoom displays [vertical zoom or graph] by pressing the panel number, then Marcum sonar, then the Zoom display of your choosing. Now press the settings button in the upper right corner, then press Marcum sonar. A menu window will open, and pressing zoom will open the zoom sub-menu. Pressing auto will put the unit into bottom lock zoom mode, where it will automatically lock onto the bottom and display a selected portion of the water column above it.
- Manual Zoom will allow the user to zoom in on any portion of the water column. Select “Zoom Mode” and then choose “Manual”. Once “Manual” has been selected, choose the size of zoom window that you prefer [5’, 10’, 20’, 40’].
- Next, choose the zoom depth. This number will determine the uppermost portion of the water column that will be displayed. For example, if a 10-foot zoom window is chosen and the zoom depth is set for 21 feet, the portion of the water column starting at 21 feet and going down to 31 feet will be zoomed.

○ **Sensitivity**

- Controls the amount of sensitivity required by the unit to pick up objects like bottom, weeds, fish, or lures and jigs. The lower the number, the less sensitivity; conversely higher numbers mean more sensitivity. Can be used in conjunction with Target Adjust to fine tune your display to your preferences.

○ **Interference Rejection**

- The Interference Rejection system is designed to suppress signals from other sonar units being used within close proximity. When other sonar units are causing interference to the display, activate the IR feature by pressing the right arrow to the desired level. Interference is indicated by unusual signals or clutter flashing or scrolling across your display.
- The correct level of IR will be achieved when the display is clear of display clutter. In some extreme cases, clutter will be greatly reduced but not totally eliminated.
- Anytime two or more sonars are being operated in proximity to each other, there is the potential for interference. Deep water and hard bottom will increase the likelihood that one or more of the competing sonars will experience interference. Besides experimenting with different levels of IR, the anglers experiencing interference can also

try having their transducers set at different levels, switching to narrow cone angles, and reducing gain or sensitivity settings.

○ **Cone Angle**

- To switch between a 20 degree and 8 degree cone angle, simply select CONE ANGLE, and then change to your preferred cone angle. A feature unique to all Marcum Digital Sonars is the “Sonar Footprint” that displays the actual area being covered by your transducer while you are fishing. This data is displayed near the top of the screen, and represents the diameter of the base of the transducer cone. This will keep you constantly updated how much area is being covered by your RT-9, and will help you decide which transducer angle best suits the conditions. When first turned on, it will be transmitting utilizing the 20-degree setting.

➤ Conditions where the narrow beam (8 degree cone) will benefit you are:

- 1 — fishing in deep water (over 40')
- 2 — fishing along very steep drop-offs for bottom-hugging walleyes
- 3 — fishing in big schools of fish, like suspended crappies
- 4 — fishing in and around heavy weeds or standing timber
- 5 — when fishing in a crowd, the narrow beam will reduce interference

○ **Target Adjust**

- This feature allows the angler to change the size of the signals being displayed without increasing the sensitivity. The TARGET ENHANCE feature will give you the smallest signal size at “0”, and the signals displayed will get thicker as you increase the TARGET ENHANCE. This feature should be used in conjunction with the sensitivity to fine-tune your display. Those who have a hard time seeing, as well as those who fish from a standing position will really appreciate the “TARGET ENHANCE” feature

○ **Bottom Enhance**

- This feature allows you to enhance your bottom reading to distinguish between a potential target and the bottom.

○ **Color Palette**

- The six color palette is the RT-9 default, but there are other options to experiment with. If you experience excessive clutter, switching to a three-color palette may clear it up.

○ **Ping Rate**

- Allows for controlling the pulse rate of the transducer. Default is “4”, in shallow water you may find lowering the ping rate improves performance.

○ **Scroll Speed**

- The larger the number, the faster your signals will move across the screen in Chart Mode. Slowing the speed down allows you to see the “history” for longer.

○ **Transducer Offset**

- Use this to offset the distance your transducer is below the water line to get a true depth reading. If the transducer is a half-foot below the water line, setting the

Transducer Offset to “.5” [1/2 foot] will compensate for the distance below the waterline.

- **Scale color**
 - Choose the color of the text of the sonar data; this will change the color of the numbers
- **Scale Major Line**
 - The depth indexes along the edge of the sonar display are there to help you better interpret your signals. The color of the major depth index lines are adjusted here, we suggest a bold color for this setting. This also changes the color of the Zoom Window Indicator on the Vertical Sonar Display.
- **Scale Minor Line**
 - The minor lines are the incremental lines in between the major lines. You can adjust the color of these here; we suggest a color that will contrast with the major lines.
- **Show Temperature**
 - Temperature can be displayed here when the optional Open Water Universal Transducer is being used. The Ice transducer **DOES NOT** have a temperature sensor, and won't give temperature readings.
- **Gain 1_2**
 - The RT-9 has two different Gain modes, Gain 1 and Gain 2. When this is set to **OFF** it will be set to Gain 1; when set to **ON** it will be set to Gain 2. Each gain setting will have a different power output and will change the readings on your sonar screen. Experiment with each gain setting to find the one that works best for you in your current conditions.
- **Simulator**
 - The RT-9 has a simulator mode that will portray a variety of different depths and signal returns. Activating this feature enables the user to experiment with the various settings without actually being on the water. This simulator represents an open water experience, so the depths and signals will change as it goes through the simulation.
 - The user may also experiment with settings by getting the RT-9 to get a bottom reading off a bare tile or cement floor. Position the RT-9 with the transducer hanging motionless about 2 feet above the tile or cement floor and then turn the sensitivity up to the maximum [25] setting. If the transducer is 2 feet above the floor, there will be a bottom reading at approximately 8.5 feet [the unit is calibrated to be accurate in water, not air!]. If the transducer is raised and lowered, the bottom signal should move in a corresponding manner. Many will find it is easier to learn the various functions while experimenting in this way as a “manual simulator”.

Second Sonar Module

You may elect to get a second sonar module. This will allow you to have two transducers deployed at once. The RT-9 can be displayed on different panels with Transducer #1, displayed in one panel, and Transducer #2 displayed in another. Place the RT-9 in between you and your fishing partner and you can both watch the same screen. Take it one step farther and have a camera down a third hole; you can

have this as the background to give a live feed of the entire area, or set it to monitor a third hole. You can even use the Camera Panner to rotate across the entire area.

Best Practices for Adding Modules

- The unit must be turned off when adding a module
- You cannot swap modules when the unit is powered on
- Always have transducers and cameras attached to the modules before powering the unit on



Video Functions

Under the Marcum Video settings the below will be found: (This will only show if you have a camera module plugged into an active port and have selected it to be displayed on at least one panel.)



Adjusting Camera Settings

First, select Marcum Camera on one or more of the Panels, then select Settings in the upper right corner of the screen. Select **Marcum Video** and the following adjustments can now be made:

- **Font Color**—change the color of text from a variety of choices
- **Arrow Color**—change the color of the directional arrow icon to your preferred color
- **Arrow Circle Color**—change the color of the circle around the directional arrow

- **Fit Panel**—video will better fit into the panel
- **Maintain Aspect Ratio**—video will be displayed as large as possible, yet still maintain aspect ratio
- **Center Video in Panel**—video will be vertically centered in the panel. Experiment with all three settings to find which suits your needs; it can change depending on how many panels you are displaying the camera in.
- **On Screen Display/OSD**— Turn On/Off your On Screen Displays (Temperature, Depth, Direction)
- **Show Panning Arrows**—Panning arrows at the bottom of the screen can be set On/Off. Panning arrows will move the camera in the corresponding direction in 1 degree increments.
- **Overlay Transparency**—changes the transparency of the on screen display data
- **OSD Offset** [degrees] change to camera direction offset if the calibration of the directional arrow has become inaccurate by entering the degrees you need it changed. Entering 90 will move the arrow one quarter of the dial in a clockwise direction. Use a negative number to move it in a counter-clockwise direction.
- **Brightness**—adjust the brightness level of the video display
- **Contrast**—Contrast is the difference in brightness between lightest and darkest tones in a picture. Adjust the contrast to the desired setting for the best picture quality.
- **Color Saturation**— increasing the color saturation will increase the vividness but can make the picture look darker overall. Decreasing the color saturation will make the colors look washed out and gray.
- **Color Kill**—eliminates color viewing; creates a black and white picture; can allow for a better quality picture in low light environments
- **Calibrate Manta Compass**—if your calibration is off you may have to recalibrate. This menu feature will have you manually turn the camera in one direction two complete revolutions to calibrate.

Camera Panel Adjustments (these adjust the on screen camera settings)

- **Sync**—press Sync if your camera ever has a split screen or has choppy performance or any lag
- **Light**—turn the light ON/OFF by pressing the light bulb shaped icon
- **Panning Arrows**—these arrows will pan the camera in one degree increments in their corresponding direction (Must be turned on via ‘Show Panning Arrows’; see above)

Camera Panning

The camera panner is powered from the RT-9 unit itself, so no additional batteries are needed. Make sure that the panner cable is plugged into the proper port on the camera module, (top port). To use, first deploy the camera to the desired depth, and then place the camera cable in the retainer clip on the panner. Extend the legs of the panner out and place the panner on top of the ice. Avoid having the panner resting in water. You can now view the entire area by panning left or right. Panning is as simple as swiping the screen in the direction you would like the camera to pan. For more precise panning, pressing one of the directional arrows in the direction you would like the camera to move will allow you to move the panner in one degree increments. (Must be turned on via 'Show Panning Arrows'; pg. 18)

Recording

Pressing the red circle icon in the upper right corner will start a recording. A timer will show when a recording is taking place. To stop the recording, press the square next to the timer. Where the recordings will be saved depends on how you have your settings arranged. You can save the recordings to the internal memory, or save them to an SD card. Press SETTINGS in the upper right corner of the screen, and then press GENERAL. Look for "Videos will be saved to:" and select where you want the recordings to be saved.

To view your recordings, go to the home screen, and then open Apps. Now press GALLERY to view all recordings and Screen Captures. Depending on the size of the recording, it may take an hour or more for the recordings to be visible.

Camera Display Options

In order to have a "Heads Up" display [sonar on top of video], the camera must be behind the sonar on the panel. To do this, start with nothing on the panel, and then select the preferred sonar. Once sonar is displayed, press the panel button again and select camera.

If you are displaying sonar on top of video and decide to change the sonar display (for example, change from Graph to Vertical) you will have to first select "none" to clear the panel, then start over by selecting the new sonar display and then selecting video.

To view the camera on more than one panel, you must use adjacent panels for viewing. With the RT-9, there may be some screen configurations that are difficult or impossible to accomplish.

Using a PanCam System with your RT-9 Tablet

The RT-9 is compatible with the MarCum PanCam system, and if you already own the PanCam you can use the RT-9 as a viewing and controlling device. To operate the PanCam on the RT-9 you would need to first download the MarCum app, (as you may have previously with your phone or another device), onto the RT-9. Once the app is downloaded on your RT-9 you can connect via Wi-Fi to your PanCam with the default password, (12345678), or a previously selected password, if you have set one up. Once connected you will be able to view the PanCam and have access to all its features, including panning, LED lights, pictures, and video recording! You are unable to run both the PanCam and the RT-9 in the same screen at the same time.

GPS Functions

The GPS (Global Positioning System) will pinpoint your location by triangulation. How does it work? In order to pinpoint your location, the receiver (the RT-9 tablet) must be locked on to at least three satellites, and locking on to 4 or more will add to the accuracy and allow elevation and speed to be determined as well.

The RT-9 is compatible with Navionics Mapping Software, and for best results it is recommended that you purchase one that is specific to the lakes in your area. The RT-9 comes with a base map that shows only basic land and water features.

These are the Navionics Chartplotter Cards that we recommend:

- **Navionics +**
- **Platinum Hot Maps**
- **Platinum +**



You can display the GPS on any and all of the panels, to view the map, press the panel display number[s] you want the map on and select “Navionics Map”. If you want the map display to occupy more than one panel, be sure to select adjacent panels.

When the RT-9 is first powered up it will have two panels open. Select Panel 1, and then select “Navionics Map”. The map will appear with a diamond in the center; this is the cursor showing your location (to change icon to a boat see *Mapping Settings-Arrow Picture; pg. 9*). The default location will be shown upon activating the GPS panel; this is 0 degrees Latitude and 0 degrees Longitude, which happens to be in the Atlantic Ocean. For the RT-9 to lock in to your location, you must be outside, away from buildings, trees or other things that may block the satellite signal. It may take 10 minutes or more for the GPS to lock in the first time you use it, but after the first time it should take a minute or less.

You can tell if the GPS searching for satellites if the bulls eye icon in the upper left corner of the home screen is blinking. If you do not see the icon, go into “Settings”, and under “General” turn “Full Screen” to “OFF”. This will allow you to view the GPS indicator, as well as the Wi-Fi indicator, Battery icon, and Clock, when the RT-9 app is open. When the receiver is locked on to three or more satellites the icon will stop blinking. The diamond cursor will now show your location on the map.

Some users may find it beneficial to download an App that shows the status and signal strengths of the satellites. We have found GPSFox to work very well for this; it can be downloaded through the App store.

Map Features

In the upper right corner of the GPS display is a cluster of 3 buttons.

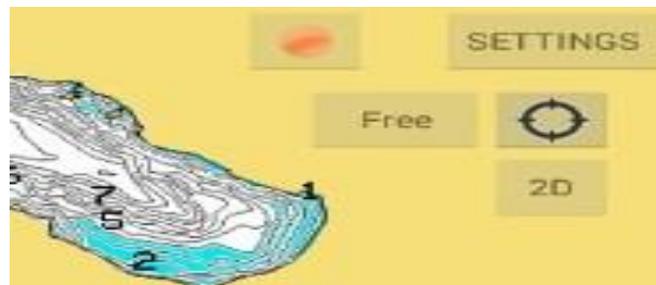
1.) Free/Follow/North Up Icon

- Free - The map can be positioned in any orientation. Zoom IN/OUT or rotate the map by using two fingers (pull apart to zoom in, pull together to zoom out). Slide the map up, down or side to side by using one finger and dragging it across the screen.
- Follow - This will always have the map oriented in the direction that the cursor is going
- North Up - This will have the map always oriented with North up

2.) **Home Icon** - Returns the screen to the cursor (your current location); this icon looks like the sights of a scope.

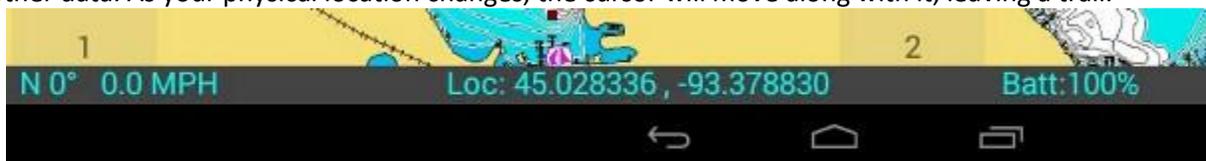
3.) 2D/3D Icon

- **2D** is for normal viewing
- **3D** is if you have premium mapping software that allows unique 3D topographical views



Miscellaneous Map Information

Along the bottom of the screen is where your Latitude/Longitude is displayed, along with elevation and other data. As your physical location changes, the cursor will move along with it, leaving a trail.



Zoom in/Zoom out is accomplished with two fingers (pull apart to zoom in, pull together to zoom out). Panning/swiping must be done with one finger only by dragging it across the screen.

To mark your locations as a waypoint simply touch the “Waypoint” button on the lower right corner of the GPS display. If you would like to mark a waypoint that is not your current location simply press and hold with your finger on the screen where you would like the waypoint to be located. All waypoint settings can be adjusted to your preferences by entering the “Waypoints” settings menu. (See *Waypoints Settings; pg. 8*)

Fishing Applications

The RT-9 has the most advanced ice sonar ever offered. We suspect that most, if not all RT-9 users will come on board with at least a basic working knowledge of how to use a sonar on the ice. So far all of the RT-9 Sonar, camera, and GPS functions have been covered. The next section will explain how to put it all together for a successful ice outing.

The RT-9 is most commonly used with 2 panels open. When you first open the RT-9 App, you will see a screen that is mostly blank, but with a “1” and a “2” on the bottom. This indicates that two panels are open. While it may seem easiest to use the RT-9 with only one panel open, one of the best features is the ability to have up to 3 panels running at once. You could have GPS, Sonar, and video all going at the same time! How about this—map on the left, video on the right, and sonar on top of both! There are countless combinations.



If you are going to use the GPS to navigate to your chosen location, start by having two panels open and select Navionics map for both. You will now have the map on the entire screen. We hope you have installed a Navionics mapping chip for your area—with this you will be able to dial in a good location even without any existing coordinates.

To get started, leave the two panels open. Pressing 1 will allow you to access the panel source for Panel 1. Your options may vary depending on which modules you have installed, but you will have “Navionics Map” as your first option. Selecting this will get the map to appear on panel 1. To get sonar on panel 2, press “2” and then select MarCum Sonar. [A sonar module must be installed] You will now need to decide which of the five sonar displays you want. For this exercise, choose Graph. You will now have the graph scrolling on Panel 2 against a black background. Now press “2” again, and then press “color”; this will allow you to change the color of the background. Pick a color of your choosing; and you will now have the graph scrolling against this color. You will find that you can generally get the sonar to display on top of anything else—just make sure that you start with “NONE”, then add “SONAR”, and then add what will be the background.

Some users like to have the graph scrolling across the entire screen, and this is easily accomplished by now accessing Panel 1 again and selecting the same scrolling graph you have on Panel 2. Once this is done, it is likely that RT-9 “auto-format” function will auto-fill both panels with the map as well. **There are going to be other instances where an auto-format function may cause the screen to configure**

somewhat differently than what you expected. These “auto-corrections” are actually there to optimize the panel selections. If you find that there is a particular configuration that would be useful but cannot be displayed, please let us know.

If once you are fishing you plan on using sonar only, you still may want to have two different panels open, one that displays the full top-to-bottom water column, and another that is zoomed in on the desired depth. If you still have the map displayed, turn it off by selecting “None” on Panel 1 and Panel 2. Now change the Panel 1 source to Marcum Sonar, perhaps choose “Flasher” or “Graph”. Now open Panel 2 and select one of the Zoom options. Be sure to set the size and depth of the Zoom window to the section of the water column you’d like to view (*Zoom; pg. 14*). Once the Sonar is running, you may elect to change the background to your liking

Ice Fishing Applications for the Sonar

With the RT-9, it is easy to check the depth through the ice, just wet the ice and place the transducer right on the ice. You can quickly confirm that the depth is what you were looking for, and you can also see the presence of weeds and even if there are fish down there before you drill a hole. Once holes are drilled and it is time to fish, deploy the transducer into the ice hole the least amount possible. In most cases it is not necessary to have the transducer more than a few inches below the waterline, and nowhere near the bottom of the ice. This will minimize chances of your transducer becoming damaged while bringing in a fish or when you are moving from hole to hole. Keep the transducer in the center of the hole, and never let the transducer cable freeze to the sides of the ice hole.

When you drop your jig down you can usually watch its progress as it falls, although some jigging spoons have a tendency to “soar” off to the side. When your jig has reached the desired depth, you may elect to fine tune your signal by changing the Sensitivity level or Target Adjust level. It is not possible to make any recommendations on these settings due to the wildly differing situations that our systems are used in. Just make sure that your jig provides a steady signal that is easy to see, and don’t overdo it with the sensitivity or the screen may become cluttered.

The background you choose to use can have a dramatic effect on how easy the sonar signals are to see. A lot of us here prefer a black background, but be sure to experiment to see what works best for you. Of course, having the camera or map as the background are options as well.

The transducer’s cone angle is easily changed; don’t hesitate to experiment with the narrow beam if you encounter any of the situations described under the Cone Angles section in Sonar Settings above. (*pg. 15*)

Be sure to use the zoom functions whenever you need a better look at what’s going on down there. Most anglers only think to use the zoom when after fish that are tight to the bottom, but be sure to try the zoom when fishing for suspended fish as well. Crappies and bluegills will often gather in large schools 5 to 15 feet off the bottom, and it is easy enough to zoom in on just that part of the water column. (*Zoom; pg. 14*) Whenever using the zoom, you may want to have the entire water column displayed on another panel, just to make sure that no fish slip by undetected either above or below your viewing area.

While using the graph, the faster the scroll speed, the faster the signals refresh. At the same time, a slower scroll speed will allow you to see the “history” of the sonar signals longer. Experiment to see which you like the best.

Fishing Applications for the Camera

Whether you use the camera to search for that perfect spot on a weed line, locate a crib or rock pile where fish tend to school, or just to entertain the kids, using the RT-9 with an optional camera module is the perfect tool to enhance your ice fishing experience. Using a camera while fishing for light biting fish like bluegills, perch or whitefish is absolutely deadly! To use the camera as a search tool, drill a series of holes through the ice in the location you’re interested in fishing. Drop the camera down each hole in search for the best spot or until you locate fish. Keep your eye on the directional and depth indicators to pinpoint the fish’s hideout. Once you’ve located the spot, drill a hole 3 or 4 feet away from the hole you’re actually going to fish in. Set the RT-9 on the ice and lower the camera down the second hole. To assist in keeping the camera at the desired depth and direction, it is recommended that you use the Marcum Camera Panner. Once you send a lure or bait down and locate it with the camera, you’re ready to fish. At no time should you allow the camera cable to become frozen into the ice. Keep the cable in the center of the hole, and always keep the hole clear of ice.

The camera also includes a fin that snaps into the back of the camera. This will allow you to use the camera in a “down-viewing” configuration. Once the fin is attached, the camera cable can be inserted through the cutout at the rear of the fin and locked into place. It is recommended that you leave about six inches of excess cable, forming a loop, before locking the cable into place. The camera can now be lowered into the hole to view what is directly below you. This can be very helpful while fishing in shallow water.

Open Water Applications

The camera has many open water applications as well. This is a great way to learn new ice fishing hotspots. Imagine finding a rock pile that no one else on your lake knows about! We often use our underwater cameras from a boat to better learn how to interpret our sonar, as well as identify fish species and bottom content. Always use extra caution when viewing around underwater obstructions, like boulders, cribs, or wrecks. If the camera becomes hung up, back up from the direction you were traveling from and slowly try to back the camera out of the snag. DO NOT pull directly upward with force unless all other avenues have been pursued. Use great care if you have the camera deployed while your outboard motor is running—a spinning prop and a camera cable are a bad combination!

If you’re drifting with the wind or using a trolling motor, attach the supplied fin to the rear of the Manta Camera for added stability. The internal weight is enough to keep the camera down while the fin assists in keeping the Manta camera tracking straight through the water. Moving along at speeds of 1 mph or less will give the best viewing opportunities.

If you spend a lot of time using your Viewing System from your boat, it is inevitable that you will encounter some weather. While your system is designed to be used in a variety of conditions in the outdoors, it is recommended that anytime you experience precipitation that is more than a light rain, you should immediately turn off and stow your entire viewing system. At no time should the monitor be in direct contact with large amounts of water. Should your viewing system become wet, it is unlikely that any harm will come to it, but make sure to get the entire system completely dried out as soon as possible.

Two Year Warranty

MarCum warranties this product to be free from defects in materials and workmanship for two years from the date of purchase. This warranty applies to customers who properly complete the online product registration form found on the MarCum Technologies Website: www.marcumtech.com/support.

MarCum Technologies will repair or replace any components that fail in normal use. Failures due to abuse, misuse, 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. An original sales receipt dated within the warranty period is required for all warranty claims.

To best serve our customers, MarCum Technologies has set a standardized battery warranty policy. Battery warranty coverage requires a proof of purchase. Please see our website, www.marcumtech.com/support for full details on warranty coverage.

How to Obtain Service

If your unit is malfunctioning, check the support section of our website. You may find that the solution to your problem is something you can resolve yourself. If you need to send it in, there is no need to contact our office. Getting repairs made is as simple as going to our website, Marcumtech.com clicking the support tab and then filling out the MarCum Warranty Form.

Once you have completed and submitted a warranty claim form, package the unit as described on the website and ship it to us.

If your system is out of warranty, it is as simple as going to our website and filling out a MarCum non-warranty form. Once you have completed the non-warranty form, package the unit as described on the website and ship it to us. All non-warranty repair pricing is determined after the system is received by us.

If you do not have the ability to use the Internet, you may also fill out the warranty service form included in the box with your unit. If you enclose this form in the box with your unit there is no need to contact our office, just include the filled-out form in the shipping box and a copy of the receipt. Some people are more comfortable calling for shipping instructions. During peak ice season, we sometimes receive a high volume of calls, making it impossible to get to all customers who phone in. For this reason, strongly consider using the on-line forms at [www.marcumtech.com/ support](http://www.marcumtech.com/support).

Please send your email inquiries to: service@versae.com

If you are unable to use email or internet, you may also call us at **763-512-3987**.

Our office hours are Monday – Friday, 8 – 4 Central Time.

International callers may use 888-778-1208.

Battery Warnings:

Do not immerse the battery in water or sea water. Keep the battery in a cool dry place when not in use. Do not use or leave the battery near a heat source (i.e. heater, furnace, fire). Use the battery charger only as directed when recharging. Do not reverse the positive and negative terminals on the battery connections. Do not discard the battery in a fire, furnace, or other combustible space. Do not connect the battery directly to an electrical outlet. Do not short –circuit the battery by directly connecting the positive and negative terminals with metal objects. Do not directly solder the battery or pierce the battery with a nail or other sharp objects. If the battery gives off an odor, generates heat, becomes discolored or in any way appears abnormal during use, or while recharging or discharging, immediately stop using it. If the battery leaks and the battery contents (electrolyte) gets into an eye, do not rub the eye. Instead, flush the eye(s) with clean water and immediately seek medical attention or it may result in injury to the eye(s). Do not use the battery in a location where static electricity or magnetic fields are great or it may result in damage to the battery safety devices. Do not leave the battery in high temperatures (i.e. in direct sunlight or in a vehicle in extremely hot weather) or it may overheat and its performance will be degraded and service life decreased. Tape the battery terminals prior to disposal to insulate them as discarded batteries may cause fire or explosion.



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