Meridian Platinum Supplement Manual

The Meridian Platinum includes all the features found in all of the Meridian series of GPS receivers along with a 3-axis electronic compass, a barometer and temperature sensor. This supplement will explain what you need to know to use these features to enhance the use of your Meridian Platinum.

What sets the Meridian Platinum's compass apart from other GPS receivers is that it is fully integrated into the GPS portion of the receiver, and not just an "add-on" feature. Along with the compass, the barometer/pressure sensor screens make the Meridian Platinum a "mini-weather station" that can only further enhance your outdoor experience.

Heading vs. Bearing vs. Course Over Ground

The Meridian Platinum adds Course Over Ground (COG) to the list of data parameters that you can select for the customizable fields that are displayed on the navigation screens. The Meridian Platinum also uses COG on the compass screen to provide you with additional information that will assist you in navigating to your desired destination.

Heading, in the Meridian Platinum, is not computed from the GPS information as it is in the other Meridian products, but rather it uses the electronic compass to determine which way you are facing.

English

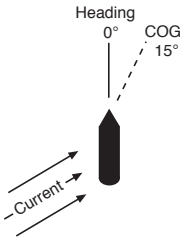
The following is a brief description of how the Meridian Platinum interprets heading, bearing, and COG. If you already understand these terms you can skip over the following section.

Heading

Heading in the Meridian Platinum is the direction that the antenna (located at the top of the Meridian Platinum) is pointing. To get the best representation of your heading, you need to hold the Meridian Platinum with the antenna pointing in the direction you are travelling. Holding it at an angle, left or right, will accurately display the heading of the receiver, it won't be a true representation of your heading. (As you will see next, COG provides a true indication of your direction of travel, regardless of which way the Meridian Platinum is pointing.) Heading is displayed all the time.

Course Over Ground (COG)

COG is the direction you are travelling. With the Meridian Platinum held directly in front of you, you would think that heading and COG would be the same, but that is not always the case. Boaters are quite familiar with heading and COG being different.



An example of that would be a boat is travelling along with a heading of 0°. At the same time, there are currents in the water pushing the boat to one side. This would cause the boat to drift off course in the direction of the current. How much it moves

depends on the speed of the boat and the force of the current, but for now it is sufficient to indicate that the boat is heading in one direction but the course it is travelling is another.

People hiking or walking would normally see the heading and COG being the same with the Meridian Platinum pointing directly ahead. However, with the receiver held at a slight angle, left or right, you can see that the heading displayed will differ from the displayed COG.

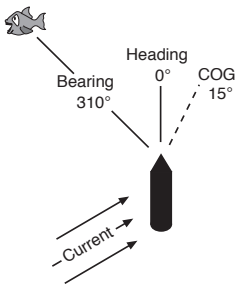
The key point to remember is while you are moving, COG is the true indication of your direction of travel. COG is displayed only while you are moving at a computed speed of 0.5 miles or faster.

Bearing

Bearing is simply the direction you need to travel to arrive at your destination.

Using the same diagram as before, a destination to a fishing spot has been added. The bearing displayed then indicates the direction that you would need to travel to arrive at the fishing spot.

Bearing will be displayed only when you have a GOTO or other route active.



Putting it All Together

With bearing and COG computed, the Meridian can now provide you with the precise information you need to arrive at your destination in the shortest time. In the above example the Meridian Platinum would compute that you need to turn 65° to get to your fishing spot. (Remember, since COG is your true heading, the angle you need to turn is the difference between COG and bearing, not heading and bearing.)

As soon as you make this turn, the force of the current on your boat would change. This would also change how much difference there is between your heading and COG. The Meridian Platinum continually updates this information giving you the exact turn information you will need to arrive at your destination.

Always remember:

- Heading is the direction that the Meridian Platinum is pointing and is displayed all the time.
- Course Over Ground (COG) is the direction that you are travelling over the ground. COG is displayed only while you are moving.
- Bearing is the direction to the destination of a GOTO or leg of a route. Bearing is displayed only when a GOTO or route is active.

The Compass Screen

All of the navigation screens use the compass information for heading data. Other than that they are the same as in any of the other Meridian products. The only exception is the Compass Screen. While it also uses the compass for

heading data, the information displayed on the graphical compass is now enhanced from the other Meridian products.

New Parts of Compass Screen

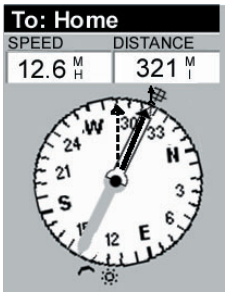
Destination Pointer and Icon: The Destination Pointer graphically displays the bearing to the destination. The Destination Icon further reinforces which way you need to turn to arrive at your destination.

Heading Pointer: This pointer makes it a little simplier to read what your heading is. Your heading is always in the direction of the top of the Meridian Platinum so this arrow will always be pointing straight up.

COG Pointer and Icon: These two pieces point in the direction of your travel.

Navigating with the Compass Screen

When you are using the Compass Screen to steer to a destination, your goal is to align the Destination Pointer and the COG Pointer together. When both of these pointers are lined up, regardless of your heading, you are moving in a straight line to your destination.



Here the Destination Pointer and the COG Pointer nearly line up exactly and we are moving in a straight line to the destination.

Note: The Destination Pointer points to North and the Destination Icon disappears when you do not have an active route or GOTO.

Calibrating the Compass

The electronic compass requires that it is recalibrated every time you change the batteries. Failure to calibrate the compass could result in errors of 20° or more to the displayed heading. Calibration is very simple and won't take more than a couple of minutes.

It is very important that there are no metallic objects near the Meridian during this calibration.

1. Remove the Meridian Platinum from any cradle it may be in and lay it down face up on any flat, non-metal surface. Also you should not be moving (i.e., in a car or boat in motion) while calibrating the compass. This will affect the calibration causing errors in the compass output.

2. Turn the Meridian Platinum on normally and after any of the navigation screens are displayed, press the **MENU** button. Using the Up/Down arrows, highlight "Setup" and press **ENTER**.

3. Using the Up/Down arrows, highlight "Compass Calibrate" and press **ENTER**. Using the on-screen "bubble level", set the Meridian on a level, non-metallic surface.

4. The Meridian Platinum will provide the instructions on rotating the receiver.

   Do not rotate the Meridian Platinum too quickly. An arrow is provided on the screen and as long as you keep the arrow pointing in the same direction you will be rotating the Meridian at the proper speed.

Note: For most people, the simpliest, and most effective method of rotating the Meridian Platinum, is to use one finger and push the receiver around in a clockwise manner.

5. Continue rotating the Meridian Platinum until it beeps. (This will be slightly more than one complete rotation.)

6. After you hear the beep, turn your Meridian Platinum face down. Very soon it will beep again. When this happens, you are done calibrating the compass.

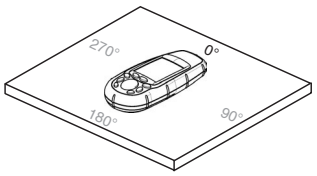
IMPORTANT NOTE ON ADDITIONAL CALIBRATION

Sometimes additional calibration is required to the Meridian Platinum. The first is caused when the calibration you just performed didn't properly work due to the receiver being too close to metallic objects. You will be prompted to move the Meridian to a different location and to perform the calibration routine again.

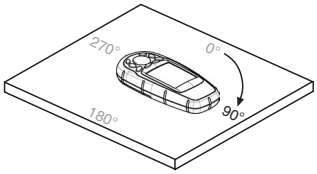
A second type of calibration may be required when something has caused the sensors to be so far off calibration that the basic calibration routine is not sufficient. This can occur if the Meridian Platinum has been vibrated or dropped. If there is further calibration required, the Meridian Platinum will determine this and prompt you with the instructions needed to perform this calibration. After completion of this supplemental calibration, you will need to perform the basic calibration routine again.

You will be prompted on-screen with the instructions but they are provided here as a supplement to those instructions.

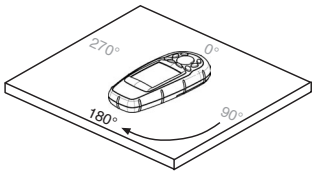
1. Lay the receiver on a flat, non-metallic surface. Insure that there are no large metallic objects near, especially underneath the surface you are setting the receiver on. Press ENTER and wait for the beep.



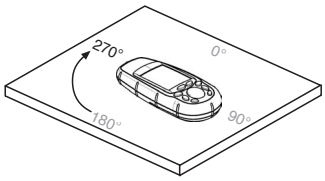
2. Turn the Meridian 90° and wait for the beep.



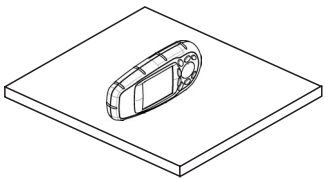
3. Turn the Meridian another 90° to 180° and wait for the beep.



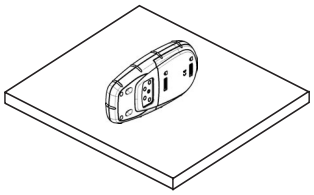
4. Turn the Meridian another 90° to 270° and wait for the beep.



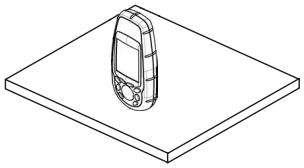
5. Hold the Meridian on its side with the top (antenna) pointing towards you with the display facing right. Hold it steady and wait for the beep.



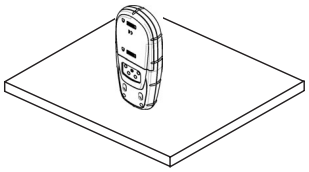
6. Flip the Meridian over with the antenna still pointing towards you but with the display facing left. Hold the receiver steady and wait for the beep.



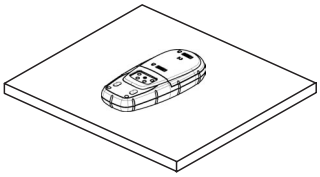
7. Stand the Meridian up with the display facing you and the antenna pointing up. Hold the receiver steady and wait for the beep.



8. Turn the Meridian over. Now the antenna is pointing down and the back of the Meridian is facing you. Hold the receiver steady and wait for the beep.



9. Place the Meridian face down with the antenna pointing towards you. Wait for the beep.



This will conclude the supplemental calibration and you will be prompted to perform the basic calibration again.

Limitations to the Electronic Compass

Electronic Compass' have some limitations as to how well it works in certain environments. Large metal objects can affect how well it operates. As an example, should you use your Meridian Platinum in an automobile you will find that the compass does a great job of pointing to your engine but not pointing to north. If you find yourself in a situation such as this, you should use the Setup option "Compass Orient." to change the compass orientation to GPS Course. Then the Meridian Platinum will get its heading from the GPS signals and not the electronic compass.

Other limitations are in the angle that you hold the Meridian Platinum. Holding the receiver flat provides the most accurate readings but tilting it towards you is acceptable, but you should pay attention to the compass readings as you tilt it. At a certain, point you will begin to see the compass begin to drift. The Meridian Platinum has compensated for tilt but still, the more you tilt it, the more you will notice errors in the compass readings.

The Meridian Platinum has a major advantage over many other electronic compasses on the market today in that it can be tilted and still maintain relatively accurate compass readings.

Battery life is limited up to 9 hours with the compass operating continuously. The compass is operating any time heading is being displayed. So, naturally, while you are on either of the two compass screens or on the Map Screen (your position cursor is pointing to your heading), the compass is running. On the other navigation screens, the compass is off unless you have selected heading for one of the data fields. However, you could go to Setup and with the "Compass Orient." option change the orientation of the compass to "GPS Course" but that would defeat one of the reasons you choose the Meridian Platinum.

Setting the Compass Orientation

As discussed in the previous section, there may come a time that you wish to turn the compass off and use the GPS Course to determine your heading. (Remember, GPS Course will only calculate heading you are moving at a speed greater then 0.5 miles per hour.)

1. From any screen press **MENU**.
2. Use the arrow pad to highlight "Setup" and press **ENTER**.
3. Use the arrow pad to highlight "Compass Orient." and press **ENTER**.
4. Use the arrow pad to select "GPS Course" or "Magnetic North" and press **ENTER**.
5. Press **ESC** to exit the Setup Menu and return to the last screen you were viewing.

Using the Barometer and Temperature Screens

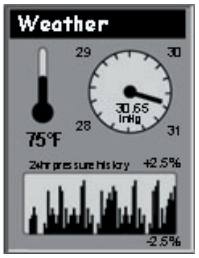
In addition to the electronic compass, your Meridian Platinum provides you with a "mini-weather station" with temperature and barometer information.

Accessing the Weather Screen

1. From any screen press **MENU**.
2. Use the arrow pad to highlight "Weather" and press **ENTER**.

The Weather Screen is displayed with your current temperature and barometer infomation. Temperature and barometric information are displayed in a familiar and easy to read format. The bottom of the display is a graphic of the barometric readings taken over the last 24 hours. (The Meridian Platinum will take barometric readings anytime the compass is active.)

A brief explanation of the barometer graph is in order at this time. A new bar indicating your barometric pressure is added to the graph once every 15 minutes. If during the course of an hour it has taken two readings, it fills in the gap between the readings. If, however, you have turned the receiver off or do not have enough satellites to compute altitude (four satellites are needed for altitude computations), and only one reading or less has been taken in the course of the last hour, there will be gaps in the chart. (*See Accessing Barometer History for more infomation.*)



Calibrating the Temperature and Barometer

This is not a requirement for using the temperature and barometer readings, it simply makes the readings you have a little more accurate.

1. From the Weather Screen press **MENU**.
2. Using the arrow pad, highlight "Calibrate" and press **ENTER**.
3. Using the Up/Down arrows to change the value and using the Left/Right arrows to move the cursor, enter your corrected temperature value. Press **ENTER**.
4. Using the Up/Down arrows to change the value and using the Left/Right arrows to move the cursor, enter your corrected barometric pressure value. Press **ENTER**.

5. The "Save" button is highlighted. If you are happy with your changes, press **ENTER**.
6. If you are not happy with the changes you have two options. One is to use the Left/Right arrows to highlight the "Reset" button and press **ENTER** or use the Up/Down arrows to highlight the field you want to redo and press **ENTER**. You will then be placed back into the Edit Mode.

   Pressing **ESC** will also return you to the Weather Screen without saving any changes you may have entered.

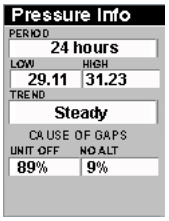
Accessing Barometer History

You may want to view the barometer history that is displayed in the barometer graph in a textual format. This screen will also provide you with the low and high barometer readings for the last 24 hours as well as the reason for the gaps in your chart.

1. From the Weather Screen press **MENU**.
2. Using the arrow pad, highlight "Baro history info" and press **ENTER**.

None of the fields are editable and are presented for informational purposes only. When you are done, press **ESC** to return to the Weather Screen.

Limitations on Temperature Readings



Since the temperature sensor for your Meridian Platinum is inside the receiver, it is trying to read the temperature of the receiver and not your ambient temperature. There has been compensation made to the temperature readings in order to accurately represent the ambient temperature. Some of those compensations come from the values that you may have entered if you calibrated the temperature. Even with all of the compensation, the temperature displayed will still be adversely affected if the receiver is in severe temperature environments. For example, if you place your Meridian Platinum on the dashboard of your car or anywhere where the sun is repeatedly beating on it, the internal temperature of the receiver will rise above a point where the temperature compensation values are just not enough. As with any electronic device, it is not a good practice to place it in those types of extreme temperatures.