Magellan Meridian FAQ

Version 0.02

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NOTE: This document assumes the use of a Meridian with a US base map using US mapping software. Maps for other regions are available, and their functionality is similar.

1) Which model for me?

Only you can answer this question. Read the next three sections for more information.

2) Various Models -- What's the Difference

All Meridian models share the same case (except for color) and basic hardware. Yet there are differences.

Meridian Gold -- This is the "central" model that all other models are based off of. It features SD card expansion, and 16MB of base map memory. This unit is often called the "MeriGold."

Meridian Marine -- This is the same as the Gold model, but features the same base map, but has had some marine navigational aids added, and has a “marinish” white and blue case. Except for the case colors, this unit is internally identical to the Meridian Gold. The only difference is the base map. This is occasionally referred to by the tongue-twisting moniker of "MeriMari."

Meridian -- This unit features a green case, and is sometimes called the "MeriGreen." It is identical to the Gold model, except that it only has 2MB of memory physically installed for base maps. Refer to the section on mapping for more details about the base map.

Meridian Platinum -- This is the same as the Meridian Gold, except that it has had an extra card installed which a 3-axis compass, 3-axis inclinometer, thermometer, and barometric pressure sensor. Due to its platinum (silver) color, it is called the "MeriPlat."

Note that it is possible to change the base maps on the various units, if there is enough memory. The base map from the Marine can be placed in either the Platinum or the Gold. Furthermore, European base maps exist which can fit in the Gold, Platinum, or Marine. Only the basic Meridian cannot be updated, as there are no other known base maps which will fit in its limited memory.

3) What does the compass and barometer on the Platinum do?

There are other units with integrated compass/barometer options. These units, the Garmin eTrex Vista, eTrex Summit, and Map 76S, will simply be referred to as the "other" units, and the operation of the Platinum will be compared to these units.

The barometric pressure sensor is currently used as a weather forecasting tool. While the unit is powered on, it will use the GPS altitude to correct the current pressure to obtain a "sea level pressure." The unit can display a plot of the pressure over the past 24 hours, which can be used to predict good or bad weather. Other GPS units can use the barometer to estimate the altitude in the event of insufficient GPS reception. This is NOT currently an option with the Platinum, although it is reasonable to expect this to be added with a future firmware release in order to remain competitive. The thermometer, other than being used for internal temperature compensation of some components, is simply used as a weather-watching feature. It is not possible to get a plot of previous temperatures. The unit can only read the ambient temperature inside of the GPS case itself. This temperature may be quite inaccurate if the GPS is left on the dash of a car on a sunny day. It is possible to calibrate both the thermometer and the barometer.

The other units use a "2-D" compass, where the GPS needs to be held level to the ground (display facing up). If the unit it tipped upright, such that the display faces the horizon, then the compass in the other units will simply fail to work. Furthermore, the other GPS units have a threshold speed. Anything below this speed, and the heading is obtained from the compass. If you are traveling above this speed, then the heading is obtained from the GPS motion.

The compass in the Platinum is far more advanced than in other GPS units, and is completely integrated into the GPS operation. The inclinometers in the Platinum tell it which direction is "down." Then, the unit will know exactly how to read its 3-D compass to work reliably whether the unit is horizontal OR vertical. Furthermore, the GPS can tell the difference between the motion direction and the compass direction. You can hold the unit facing one direction, move a different direction, and the unit can tell the difference. The direction that the unit is facing is known as the "Heading," and the direction that the unit is moving is known as "COG" for "Course Over Ground." While in the compass display, North will be shown correctly in the proper orientation, and a separate arrow will be added for the direction of travel. This could be of advantage to boaters, as they could know both which direction north is, and which direction they are drifting.

The disadvantage of this system is that the compass is active whenever its data is needed, which can somewhat shorten battery life. The compass is only powered if a particular screen needs the compass direction. In order to deactivate the compass, you will need to tell the compass to use the GPS heading in the setup screen (this deactivates the compass on the compass display), and be certain the "Magnetic HDG up" is NOT selected in the map screen, and be certain that "Heading" is not selected on any data screens (use COG instead).

Note that the compass should be re-calibrated whenever the batteries are changed.

4) Base Maps -- What's the deal?

Each Meridian unit ships with a base map of the US. This base map includes the following: Political boundaries of all countries in the world. All major cities in the world. Most major lakes of the world. Boundaries of all US states. Almost all US cities and towns. The entire US interstate system. Most major state highways. All medium-sized lakes in the US. US National parks. The Marine model also adds US marine navigational aids (lighthouses, bouys, etc.). The base Meridian (green model) has significantly less detail.

The base map really only matters when you leave the coverage of any downloaded detail maps. If you have a SD card loaded with detail maps, and if you only travel to the area within the coverage of those maps, then you probably will not even be able to tell a difference between the 2MB and the 16MB maps. On the other hand, if you plan on

traveling cross-country, then you might be better off with a Gold model or above. The only exception to this rule is that there is no database of marine navigational aids available outside of the base map in the Marine model.

Note that while you can change base maps using a computer, it is not possible to use base maps stored on a SD card. If you buy a Meridian Green, you are stuck with that base map because there is no room for any other map. If you get a Gold or above, you can change base maps, but choose one and only one.

The cost of your Meridian includes one base map. Although the Meridian Marine is exactly the same GPS as the Gold, it costs more because Magellan had to license the marine POI database. It is possible to upgrade a Gold or Platinum with the marine base map. Magellan will charge you a (well-deserved) fee for doing this because they have to pay the licensing fee again for your unit. While it is possible to obtain the marine map from the web, it is probably illegal. So far, Magellan has ignored base map swapping, although there is no guarantee that this will be the case in the future. Just to be sure of doing things the honest way, contact Magellan concerning legal methods to obtain maps.

Note that there are both European and Australian base maps available. The Australian version is supposed to be a fairly complete detailed maps. Australians may skip buying a SD card and extra software.

5) Memory Expansion -- How do I do it, and what's it for?

It is possible to expand the memory of the Meridian series by adding SD (Secure Digital) cards. These cards are placed in a special slot that is inside the battery compartment. Currently, cards are available from many sources with capacities ranging from 8MB to 128MB. The smallest card that should be purchased is 32MB, as the 16MB and 8MB cards are almost as expensive as a 32MB card. Magellan sells SD cards, but their cards are approximately twice as expensive, and offer no performance advantage. Avoid them unless you can get them at a significant discount.

It is also possible to use a Multi-Media card (MMC) inside the Meridian. However, these cards are not held as securely in the unit as SD cards are, and may cause problems. It is also possible that they are slower than SD cards. The bottom line is that if you already have a MMC lying around, feel free to try it as it will not hurt and will not cost anything. Do not, however, buy a MMC for use inside your Meridian. If you buy a good name brand SD card (SanDisk, Lexar, Toshiba, Panasonic, and others), then you should not have any problems.

Once you have a SD card in your Meridian, what do you do with it? First, you can NOT put a base map on a SD card and expect it to work. This means that you can NOT upgrade the base map of your Meridian Green by adding a SD card. You also cannot swap base maps using a SD card. Currently, the ONLY use for a SD card is to hold detail maps which originate from Magellan MapSend products. A future firmware release will allow the storage/retrieval of track, routes, and waypoints from the SD card.

It is also ***strongly*** suggested that you obtain a SD card reader/writer to accompany your GPS. Transferring map data over a serial port can take hours, even for the smallest SD cards. Using a SD writer, it can take up to 10 minutes, even for the largest of cards. These devices connect to a computer using the USB port, and are available from several sources for under $25.00. Once again, choose a good name brand. This will help insure a source of updated drivers and bug fixes. Many people have reported success with the SanDisk SecureMate SD writer, available at www.buy.com for $16 or from Best Buy for $22. Currently, there is a bug in the Meridian 3.08 firmware release that prevents serial download to a 128MB card. If you have this size card, then a SD writer is required, and special instructions must be followed. Refer to the section titled “Known Issue -- 128MB SD Cards” for more details.

6) Detailed Maps -- How do I do it?

Detailed maps can provide a lot more detail than the built-in base map. The base map is shown when zoomed out, but the data in the detailed map begins to display when the unit is zoomed it. The detailed map will have every road for an area. The Topo map will also include rough contour lines with elevations (topographical map). The Streets & Destination map will feature POI (Points Of Interest) data which includes restaurants, hotels, golf courses, marinas, tourist attractions, art galleries, museums, gardens, and the like.

The first thing that is needed is mapping software (described later). You will also need a place to put the maps - the SD card. A SD card writer is will worth the nominal investment. The first step is to go to the Magellan web site (www.magellangps.com) and check for updates or special instructions for the mapping software. Then, using the software, you can create up to four different rectangular regions for upload. Finally, these four maps are sent to the

GPS as one file. The details will differ depending upon whether you are using a SD writer or the serial port, and on which map software that you have.

Officially, you are limited to ONE map file, which consists of up to FOUR different regions. However, there are techniques, discussed later, which will allow you to put multiple maps on one SD card and choose among them at will.

7) Detailed Maps -- What if I don't have a base map?

Sometimes people who own Meridians travel to different continents. It may happen that a person has a North American Meridian, but uses the MapSend European Streets program during a vacation. Conversely, a person with a European base map may travel to America and use the American version of Streets. Unfortunately, problems have been reported in these cases. When the map is zoomed out, no detail is shown. In order to see any roads at all, the map must be zoomed in. This prevents a person from getting a "bird's eye" view of the area. Furthermore, the names of the cities and towns are not ever shown, because this data is kept only in the base map.

Unfortunately, the only thing that can be done to remedy this situation is to upload a different base map to the unit. People with the green Meridian have no options whatsoever.

8) Detailed Maps -- What software is available?

This details software for the US markets. Other regions will vary.

DataSend -- The DataSend line of products is intended for the Magellan 315 line. They will not work with a Meridian. Do not even try.

MapSend Streets -- Street maps and limited POI.

MapSend Topo -- Same as Streets, but adds topographical data. Not that this is rough data, and will not show every little ravine. Apparently, the topographic data has approximately 90M horizontal resolution. If you are planning to do some serious hiking or mountain climbing, don't forget the paper map!

MapSend Streets & Destinations -- This uses a slightly updated road database that fixes some errors. It also offers a fairly comprehensive database of POI data, which includes all of the sorts of things that a tourist might be interested in. It also knows what a SD card writer is, and how to use one. Currently (April 2002), there is a bug which causes problem downloading data to a 128MB SD card. See the "KNOWN ISSUES" section.

MapSend Streets Europe -- Same as Streets, but for Europe.

9) Detailed Maps -- Why are they so bad?

One of the most common complaints is that the detailed maps are wrong. In most cases, the base maps are accurate to within the accuracy of the GPS unit. When you compare where you are to where the GPS thinks the road is, keep in mind that an actual road is often 100 feet wide. Typical GPS accuracy is at best 12 feet, and is often 30 feet or more. This means that an error of 50 feet is not only common, but even to be expected.

There are few sources for map data. One popular source, the TIGER database, is completely free to use. However, there are often errors, inaccuracies, and omissions in this database (you get what you pay for). Also, this database is sometimes missing roads that are several years old. However, using this database means that the map can be had for well under $100. At the other end of the spectrum, you have maps provided by a private company called NavTech. Their maps are the best that can be purchased, but software with their maps may easily cost $200 or more. Magellan does not have any NavTech maps available for the Meridian line. So far, the best accuracy is obtained with Streets & Destinations.

It is the experience of the author of this document that the accuracy of the maps tends to differ by region. The author lives in the central Florida area, where the maps are quite impressively accurate. However, while in south Florida, it was noticed that the maps were usually off by 50-100 feet, with 300-foot errors not being uncommon. In one instance, I-95 was off by 1/2 mile. No such errors were ever noticed in the central Florida area. Furthermore, during a recent trip to North Carolina, the maps were once again commendably accurate. The moral of the story is that if you live in a high-accuracy area, you are likely to be quite happy. If you live in a low-accuracy area, then you are likely to not be happy. No map is perfect. Keep in mind that mapping GPS receivers have only been out for a few years. Perfect GPS maps may be available in ten years.

10) MapSend Topo -- How detailed is it?

MapSend Topo uses a different technique from Garmin when it comes to how the data is stored. In the Garmin topo offering, the topographic lines are stored as actual lines, similar to how roads and rivers are stored. This means that the Garmin topographical data is fixed is how it is presented. Magellan, on the other hand, overlays a grid over the whole country. The height is known at every point on the grid. Because of the way that the data is organized, it can be stored quite compactly, probably using techniques borrowed from image compression. This means that a lot of topo data can fit into a relatively small space. This also allows the Meridian to do such trick as show the elevation along a route, and to freely change the contour lines from meter to feet.

Conventional paper topographical maps have a stated VERTICAL resolution, where each line represents a change in elevation of a certain amount. Magellan Topo, however, has a HORIZONTAL resolution of 90 meters. This means that the grid that Magellan uses has approximately 90 meters between points. If the elevation changes by 2 or 2000 feet in 90 meters, this will be known to the GPS. The disadvantage of this is that details smaller than 90 meters cannot be seen.

Unfortunately, the cost of better data, and the limited market for such data will probably prevent a better Topo map from being produced in the near future.

A complete review of MapSend Topo can be found at http://www.gpsinformation.net/exe/maptech/mag-topo.html

11) Detailed Maps -- How do I use more than 1 map file?

When using downloaded maps, there is a restriction of four regions joined together in one file. This means that you can have at most four rectangular regions of detailed coverage. There is an undocumented technique to get around this limitation. It requires that you have a SD card writer for your computer.

First, create and download a map to your SD card as usual. Then, from within Windows Explorer, go to your SD card writer, and change the name of the map file from "detail00.img" to something more descriptive, such as "californ.img" or "n_dakota.img". Be certain that the base part of the file name is eight character or less, and that the file name still ends with ".img". If you do not see the ".img" ending, then do not worry because Windows Explorer won't let you change the ending. Once you have done this, use the MapSend software to send another map to the card. Then change the name of this new map also. When you are done, you will have two or more maps on the card, each with a different name.

Your next step is to insert the card into your Meridian and re-install the batteries. Finally, with the Meridian turned off, hold down GOTO and NAV and tap the PWR button. In a couple of seconds you should see a box pop up with "00" inside of it. At this point, release GOTO and NAV. Use the direction pad to change the "00" to a "92" and then press ENTER. A box should pop up with the names of all of the ".img" files on the card. Choose the desired map and press ENTER. After a few seconds, you should have the new map loaded up.

Supposedly, the next Meridian firmware release will have an easier method to change maps, and make changing maps official and supported.

12) Detailed Maps -- Can I use non-Magellan software or make my own maps?

No. Not possible in any way, shape or form. It can't be done. It won't work. Don't even ask. Never. Pigs will fly first. Do you get the point now?

13) What other software is available.

There are many other programs available that can communicate with the Magellan Meridian. As stated before, none of them will allow detailed maps to be upload to the Meridian. However, other programs can provide a surprising amount of functionality. Most software will allow the transfer of tracks, waypoints, and routs between the PC and the Meridian. Many mapping software titles are available that will allow the mapping program to obtain a position from the Meridian and display the current location on the GPS screen.

Software such a Fugawi and Ozi Explorer (and others) will allow the use of scanned maps on a PC. You can use USGS maps, or even scan in your own favorite paper map. Microsoft Streets and Delorme Street Atlas contain a detailed map of the entire US, and can do turn-by-turn routing (if you have a laptop). Delorme will even tell you

where to turn over the computer's speaker. There are many other programs available that will allow waypoint management.

14) Serial Communications with other software

There are several things that you should know in order to get serial communications to work properly.

The communications require a serial port, which is also called a COM (for communications) port. If you have a newer system (typically a laptop) without a serial port, then you can obtain a USB to Serial converter. Some places on the Internet have them for under $30.00. Some success has been reported with the Kinsington model.

Dial-up modems use COM ports. This means that if you have a modem, then it will have a COM port. If you have a typical desktop computer, then you may have two COM ports, and one modem with its own port. This means that of the three possible COM ports, you have to find the particular one that the GPS cable is connected to. Mapsend will try all COM ports at various speeds until it finds the right one. Be sure to write down the right port and speed for use with other software.

Baud rates must match. You must set your PC and your GPS receiver to the same baud rate. No matchee, no workee.

When using software OTHER than Magellan Mapsend, you MAY need to set your GPS to transmit one of the various types of NMEA data (from the setup menu). Just like a person might be able to speak English, French, or Spanish, your Magellan knows how to speak Magellan-ese (NMEA off) or one of the various NMEA dialects. If you can tell your software that you are using a Magellan receiver then it probably speaks Magellan-ese. Otherwise, it probably uses NMEA.

NMEA stands for National Marine Electronics Association. It defines a standard that allows marine electronics to talk to each other.

If your software has an option for the Magellan Map330, that should work with the Meridian.

15) WAAS - What is is, do I need it, and can I turn it off?

WAAS stands for Wide Area Augmentation System. This system is still experimental. The Meridian can pick up special WAAS satellites (shown by a "W" on the satellite screen) which transmits various correction factors. There are several ground stations in the US which pick up the GPS signals and calculate these correction factors. If you can pick up a WAAS signal, are relatively close to a ground station, and are in the open (no overhead obstructions), then WAAS may improve accuracy. Sometimes WAAS has been known to decrease accuracy. Turning WAAS off will at least insure more consistent accuracy, and may even help to improve battery life (WAAS calculations take a lot of processing power).

To turn off WAAS, with the Meridian turned off, hold down GOTO and NAV and tap the PWR button. In a couple of seconds you should see a box pop up with "00" inside of it. At this point, release GOTO and NAV. Use the direction pad to change the "00" to a "03" and then press ENTER. A few boxes should pop up. Press ENTER to turn a "YES" to a "NO" (all boxes will change simultaneously). You may need to use the three-finger salute (simultaneously GOTO, ESC, and ENTER) to get the unit to turn off. Then, when you turn it back on the WAAS satellites should not be visible in the satellite screen. Note that the boot screen will still say "WAAS."

16) What are all of these secret menus?

Magellan built a bunch of secret menus into the GPS. These are supposedly for testing and to try out new functionality.

There are two ways to access the hidden menus. If your Meridian is turned off, hold down GOTO and NAV and tap the PWR button. In a couple of seconds you should see a box pop up with "00" inside of it. At this point, release GOTO and NAV. Use the direction pad to change the "00" to the number of the menu that you want, and then press ENTER. If your Meridian is already powered on, press the MENU button. Then press and release LEFT, RIGHT, LEFT, RIGHT, and LEFT again. The secret menu box will pop up.

In some cases your Meridian may become "stuck" and need the "three finger salute." Hold down GOTO, ESC, and ENTER . This will immediately shut the Meridian down.

NOTE: Do NOT use any of these secret menus unless told to do so elsewhere in this document. Some of these may erase the memory of your unit or do other nasty things which will cause your unit to not work. They are included simply to make this FAQ a complete reference. PLEASE PLEASE PLEASE do NOT use the following table unless you know exactly what you are doing.

Thanks to ClayJar and luis_scsc for the following table.

```
Meridian Secret Menus
---------------------
00 - Displays version information
01 - Unknown - Maybe satellite info?
02 - Unknown - Maybe other version info? (not in 3.08)
03 - WAAS Status
06 - Displays some icons. (not in 3.08)
09 – Begins a compass calibration procedure meant for factory use.
     DO NOT USE THIS OPTION!!! (3.08 only)
10 - Unit off ??
20 - Sat Data
21 - same as 09 - DO NOT USE THIS OPTION
22 - Clear Sensor Calibration
24 - Clear Barometer History
30 - Clear memory screen
31 - Asks - Warning clear XO parameters?
32 - Asks - Clear all memory?
38 - Language Select
71 - Create Waypoints for Testing
80 - Unknown - Brought up screen with 2D120000, and you could edit it.
82 - Compensation Offset
90 - Unknown - Screen with XO Offset and A to D reading that you could edit.
     Warning about changing could cause unit failure.
92 - SD card map menu.
93 - Asked if you want to convert basemap name.
95 - Asks - Reset serial flash will erase all map data?
97 - Asks - Clear second SMC map?
98 - Map upload (base or detail)
99 - Software upload mode
```

17) Secret Key Combinations

Below is a list of secret key combinations.

NOTE: Do NOT use any of these key combinations unless told to do so elsewhere in this document. Some of these may erase the memory of your unit or do other nasty things which will cause your unit to not work. They are included simply to make this FAQ a complete reference. PLEASE PLEASE PLEASE do NOT use the following table unless you know exactly what you are doing.

```
Meridian Secret Key Combinations
--------------------------------
GOTO NAV ESC PWR -- ??LCD OFF - KEYBOARD OFF ???
GOTO NAV PWR     -- Hidden Menu Access
GOTO ESC ENTER   -- Force Off
GOTO ESC PWR     -- Soft Upload Mode Active
GOTO OUT PWR     -- Serial Port Test
GOTO IN  PWR     -- Display Keyboard RF Test
NAV ESC PWR      -- Burn-In Test -- Sometimes help to recover a dead meridian after
                    Software upload.
NAV IN PWR       -- Display Keyboard RF Test
NAV OUT PWR      -- Serial Port Test
ENTER MENU PWR   -- Clear All Memory
```

18) Upgrading the "Lawyer" screen

The Meridian contains a screen that basically states that it is not the fault of Magellan if using this GPS causes you to get killed. There is a way to modify the firmware of the Meridian so that, instead of the Lawyer screen, it will display your name, phone number, e-mail, and whatever else you want it to say. The program is available from the following location: http://www.navicache.com/freeware/

19) Known Issues -- Topo, Streets and SD Cards

The Topo and Streets products were released before the Meridian was designed. This means that these products do not know that maps can go on a SD card writer. Magellan has posted a document which describes how to fix this.

Copying Files to an SD Card Reader Manually from MapSend

1. Without connecting your Meridian to a PC create your regions and begin the map download process.
2. When the map compilation part of the download process is done, MapSend will display a message that it cannot find your GPS receiver to perform the download.
3. Stop the process here by selecting "Cancel".
4. Using Windows Explorer, go to Program Files/Magellan/MapSend/Export and locate the file called "maps.img".
5. Copy this file to the SD card using USB card reader. Do not create any folders within the SD card where you place this file. Your Meridian will always looks at the top, or "Root", level within the card.
6. Rename the file to "DETAIL00.img"
7. Remove the card and place it in your Meridian. You can use your Meridian as you would normally from here.

20) Known Issue -- Topo Map Size

The Meridian had a problem with files larger than 16MB created by MapSend Topo. This problem has been fixed in the 3.08 firmware.

21) Known Issue -- 128MB SD Cards

Due to a bug in the 3.08 firmware, serial downloads cannot be done to a 128MB SD card. If you have a card this size, then you must use a SD card writer.

The MapSend Streets & Destinations product has a bug when using a 128MB card in a SD card writer. The current workaround is to follow the same instructions as for using older MapSend products with a SD card writer.

Copying Files to an SD Card Reader Manually from MapSend

1. Without connecting your Meridian to a PC create your regions and begin the map download process (to the serial port).
2. When the map compilation part of the download process is done, MapSend will display a message that it cannot find your GPS receiver to perform the download.
3. Stop the process here by selecting "Cancel".
4. Using Windows Explorer, go to Program Files/Magellan/MapSend/Export and locate the file called "maps.img".
5. Copy this file to the SD card using USB card reader. Do not create any folders within the SD card where you place this file. Your Meridian will always looks at the top, or "Root", level within the card.
6. Rename the file to "DETAIL00.img"
7. Remove the card and place it in your Meridian. You can use your Meridian as you would normally from here.

If you absolutely insist on using the serial port to download map data to your Magellan & 128MB SD card, then there may be a way. Using a SD card writer, copy a junk file to the 128MB card large enough to reduce the free

space to around 90MB or so. Then, a serial download should work. This may be useful for people who have an old laptop without a USB port, but still want to download fresh maps away from home.

22) Known Issue -- Map Size Limits

Thanks to "jvavrus2000" <jvavrus@earthlink.net>

With the 3.08 version of the Meridian firmware, size restrictions on the size of map files has been removed. However, the existing MapSend software does not know this, and will try to restrict the size of maps unless told otherwise.

First, using Windows Explorer, navigate to the MapSend installation directory. This should be under C:\Program Files\Magellan. Open the MAPSEND.INI file using your favorite text editor. Inside this file, there is a parameter called "Conv_Memory_Size" which is the maximum region size in bytes. Multiply this number by four, and you should be able to have much larger regions.

Note that the larger the region is, the longer your computer will take to process this region. Processing a 64MB region is likely to take a very long time.

23) Emergency Firmware Restoration

Thanks to "Randy Tippetts" <RandyTippetts@Qwest.net>

Below are the recovery instructions for a dead MAP330 or Meridian. They are written for the MAP330 but they work just as well for the Meridians.

1. If your MAP330/Meridian in in a "locked up" state (stuck on), power it down by holding down MARK/GOTO and the ESC keys and press ENTER. This will power down the unit.
2. Power it up in "Software upload mode" by holding down MARK/GOTO and the ESC keys and press POWER. Unit should power up with a "software upload mode active" message.
3. Run magup.exe, select NO at the dialog box. Click on "Expert" and checkmark "On" for the "Expert Upload" setting (be sure MAP 330/Meridian is selected as the "Unit Type") and click "OK"
4. Select the firmware file by clicking on "File" then "Select Code File". The firmware file should have a name like ZORRO204.SRE or ZORRO204.HEX or MRDN3_08.HEX.
5. Click on "Upload" and click "OK". Checkmark "Program Code Only". Check "Upload File".

You may be able to recover your unit back without sending it in. Make sure you put fresh batteries in before trying the above.

If the above fails, try inserting step 1b between steps 1 and 2 as follows:

1b. Erase the base map by Press NAV and GOTO simultaneously while switching on the Meriain. A small rectangle appears, put in the number 95 (using the cursor keys) and press ENTER. Select Yes and press ENTER. This will delete the basemap! The unit will also switch off automatically.

24) Base Map Replacement

Here is one method, thanks to "geo_alexm"

0. Make sure you've got fresh batteries / external power connected to the Meridian.
1. Get a new map (like the marine basemap).
2. Run MAGUP (part of Meridian Firmware update)
3. It asks "Automatically Upload...?" I said no.
4. Click on "Expert". Select MAP330, COM Port, and "Expert Upload" On.
5. Press NAV-GOTO-POWER on Meridian. Select # 98. Press enter.
6. Pick "Basemap" from map upload screen.

7. "Uploading to Basemap" appears on Meridian Screen
8. Hit "Upload" in MAGUP software.
9. Reminder box says expert upload is on. Press OK
10. It suggests to upload a file. Hit "Change File"
11. Locate whichever basemap .img file on your hard drive you want to upload. Select it and hit OK / Start.

If all goes well, you'll be greeted by a status bar showing the percentage of the basemap uploaded. When it's done, reset the GPS and check the map version on the "About" screen.

Here is the other (quite similar) method from the Meridian Yahoo group files section.

Setup of the Meridian

1. Connect the Meridian to the PC.
2. Switch the Meridian on to make sure that the battery life indicator is over 50%, modify the baud rate if you want to, and then switch off the Meridian.
3. Press NAV and GOTO simultaneously while switching on the Meridian.
4. A small rectangle appears, put in the number 95 (using the cursor keys) and press ENTER. Select Yes and press ENTER. This will delete the basemap! The unit will also switch off automatically.
5. Once again press NAV and GOTO simultaneously while switching on the Meridian. In some cases, the unit will display the following message: UNIT CURRENTLY CONTAINS NO MAPS INITIATING MAP UPLOAD. That's OK, just leave it there. If it displays the small rectangle instead, put in the number 98, and press ENTER. Select basemap upload.

Setup of the PC

1. Start magup.exe.
2. Answer NO to the next question (Proceed with software upload?)
3. File > Select Database File, and select the basemap file that you want to upload.
4. Expert > Expert Upload 'On'. You may also want to choose one of the non-standard baud rates here (equal to Meridian setting). Click OK.
5. Upload > OK > choose 'Base Map Only' > Check 'Upload File'
6. Now uploading will start. With 115200 bps, this will take approximately 30 minutes.

That's it! When the upload is finished you will again have your basemap in the Magellan. Your unit may need initialization.

25) Base Map Backup

Here are the instructions hot off of the Meridian Yahoo group files section.

Setup of the Meridian

1. Connect the Meridian to the PC.
2. Switch the Meridian on, make sure that the battery life indicator is over 50%, and turn off the NMEA output (Menu > Setup > NMEA > Off).
3. Set the baud rate to the desired value (any value will do, but remember that the PC should be set at the same baud rate, see below). If too many errors occur, the baud rate can be reduced, but then it takes much more time to download (with 115200 bps it takes about 15 minutes).

Setup of the PC

1. Create a text file containing the following lines (Copying & Pasting this text into Notepad will do):

```
$PMGNCMD,FIL,FIRST,*6B
$PMGNCMD,FIL,NEXT*1A
$PMGNCMD,FIL,NEXT*1A
$PMGNCMD,FIL,NEXT*1A
$PMGNCMD,FIL,DOWNLOAD,BASEMAP.IMG*01
```

Don't forget the carriage returns at the end of each command. The file contains the commands to let the Meridian show the available files in the unit and transmit the file BASEMAP.IMG (which is the basemap). The command structure is taken from the Data Transmission Protocol for Magellan Products Version 2.5. If you add some extra $PMGNCMD,FIL,NEXT*1A lines, you get to see all the files (for example the detailed maps). If you only want to get a file listing, without downloading, then just leave out the last line with the DOWNLOAD command.

2. Start Hyperterminal: Start > Programs > Accessories > Communications > Hyperterminal.
3. Make a new connection (or open the saved connection from a previous session and go to step 8).
4. Connect Using: Direct to Com1 (or Com2, whatever Com port your MAP330 is connected to). Click OK.
5. Port settings:
   Bits per second: equal to MAP330 setting
   Data bits: 8
   Parity: None
   Stop bits: 1
   Flow control: None
6. On the advanced button you can adjust the receive and transmit buffer (putting both buffers on Low should be fine). Click OK.
7. Now click the Disconnect icon to stop the communication between Hyperterminal and the meridian at this point, as we first need to check some other communication settings. Some of these settings may not be relevant at all, others are very relevant. Anyway, the settings below have proven to work and so are listed here. In Hyperterminal, click the Properties icon and choose the Setting Tab.

   Keys act as: Windows-keys
   backspace key sends: CTRL+H
   Emulation: Autodetect
   Telnet terminal: ANSII
   Backscroll buffer lines: 500

   Next, Click ASCII:

   Check 'Send line ends with line feeds'
   (this one is very relevant!)
   Check 'Echo typed characters locally'
   Set both delays to 0 milliseconds
   Check 'Append line feeds to incoming line ends'
   Uncheck 'Force incoming data to 7-bit ASCII'
   Check 'Wrap lines that exceed terminal width'

   Click OK twice to close the two windows
8. Now connect to the Meridian (click on the Call icon) and go to Transfer > Send Text File, selecting the text file that was created in step 1.
9. The unit should now respond with a directory listing of the internal file system and you should also see the file BASEMAP.IMG. The last sentence of the response of the unit should be $PMGNCMD,END*3D.
10. Go to Transfer > Receive File, and select the 1K Xmodem protocol. After that, name the basemap file that you will be receiving (I recommend using the same suffix as Magellan uses:.img)
11. The file transfer should start now, and progress can be monitored (with a baud rate of 115200, it takes about 30 minutes), but I have found in noisy environments that a baud rate of 4800 may be required to get through without errors.

That's it! When the download is finished you will have a basemap file that can be uploaded to the unit, using magup.exe.

It should be noted that ANY serial terminal program that supports Xmodem can be used.

26) Where to go for more information

If you have other questions about your Magellan Meridian, go to:
http://groups.yahoo.com/group/Magellan_Meridian/

The best source on the internet for general GPS information is: http://joe.mehaffey.com/

27) Fun things to do with your GPS

Try geocaching! Find buried (well, at least hidden) treasure with your GPS. Using the coordinates and clues provided, find the hidden container. Once found, sign the book, leave a prize, and take a prize. It is that simple. There are two main geocaching sites. http://www.geocaching.com is the first, and the largest. It will likely have a cache in your area. http://www.navicache.com is newer and smaller, but has a friendly laid-back atmosphere. Being the smaller one, it needs your support (monopolies are bad things). Other geocaching sites can be found at http://www.brillig.com/geocaching/ and http://www.geocachingworldwide.com/

For something different try GeoDashing! No boxes, no prizes. Just seeing who gets there first for points. Each game, which lasts a month, consist of a computer randomly generating coordinates. The sooner that you get to a "Dash point," the more points you get. Team play is also offered. Check it out at http://geodashing.org/

MinuteWar is a strategic game where the earth is the playing field. There are four teams, and teams attempt to go to random locations similar to GeoDashing. However, going to locations allows your team to control those squares. You may find more information at http://minutewar.org/

The degree confluence project's goal is to get a picture at every point on Earth where the location is described by integer degrees. More information is at http://www.confluence.org/

A good link to many GPS games can be found at http://www.geocities.com/gc_scout/Geocaching/

28) Credits & Thanks

Some parts of this document were based on data and assistance provided by the following people. If you feel that you should be included in this "Credits" section, please e-mail me.

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