MMO Custom Map Zoom Editing Process
By Alberto Najera

Introduction

This document describes the testing I have done to control the zoom at which the features appear on the GPS screen by modifying the export.cfg settings. The methods used are based on the following documents authored by Jon Eggett (joncrash1995):

Adjusting Detailed Map Display

How to Display Detailed Map Above Level 7

Available in the files section of the Magellan Meridian Yahoo group:

http://groups.yahoo.com/group/Magellan_Meridian/files/FAQ%27s/

And also the feedback received from Hugo and other members of the Mapsend Format group.

By following this guideline you will be able to edit your MMO created custom maps to enhance their display quality.

Test Process

The idea was to create 3 lines in one layer each, which will be edited to show at different zoom levels on the GPS screen. Also their shape attribute was edited to clearly distinguish them as the zoom levels were changed.

Step 1

Modify the GPS basemap to accept higher levels of zoom. I wanted the detail map to start showing at a 10 Km zoom when the GPS is set to Highest map detail level. First, with WWBM closed, I edited the following line in WWBM export.cfg file located in the MAP folder:

Original Line

```
[START_MAPDETAIL]
DYN_LABEL=5 11 11 11 11 11
DETMAP_START=5 7 6 5 5 5
```

New line:

```
[START_MAPDETAIL]
DYN_LABEL=5 11 11 11 11 11
DETMAP_START=5 10 9 8 7 6
```

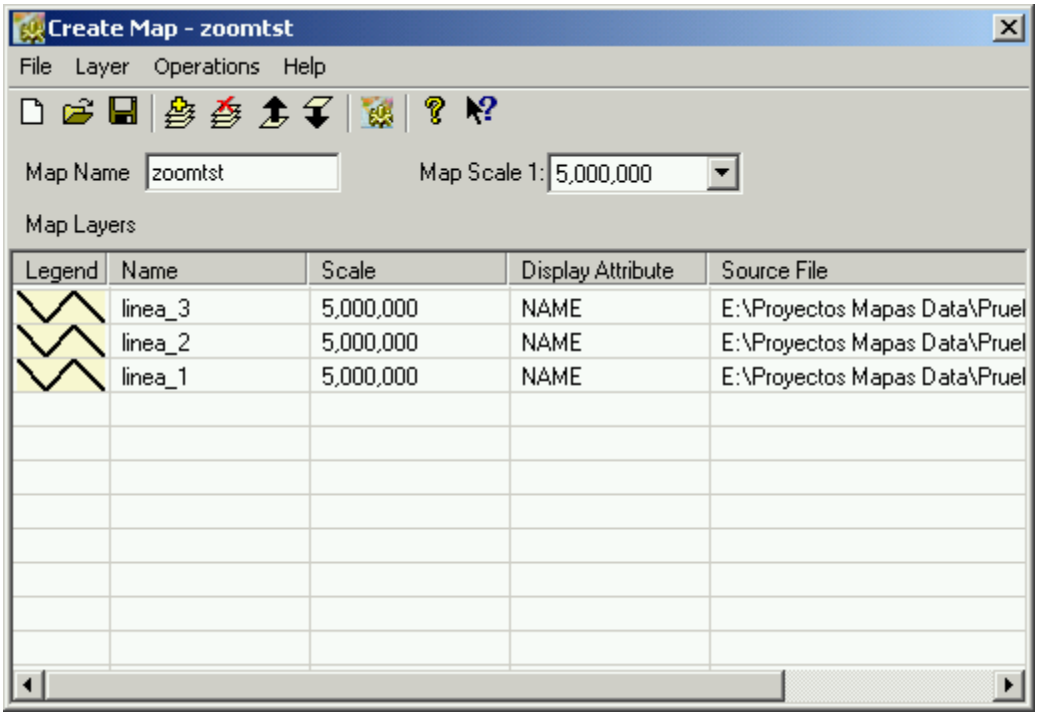
Then I ran WWBM and created the region in the area where my detailed map would lie and uploaded it to the MeriPlat using the SD card reader.

Step 2

The test features to be used were created. Using Global Mapper, a GIS software, I created 3 lines for the testing and saved each one of them in a separate SHP file. This can also be done with GPSTM or Oziexplorer by creating tracks and exporting them to either SHP or MIF files.

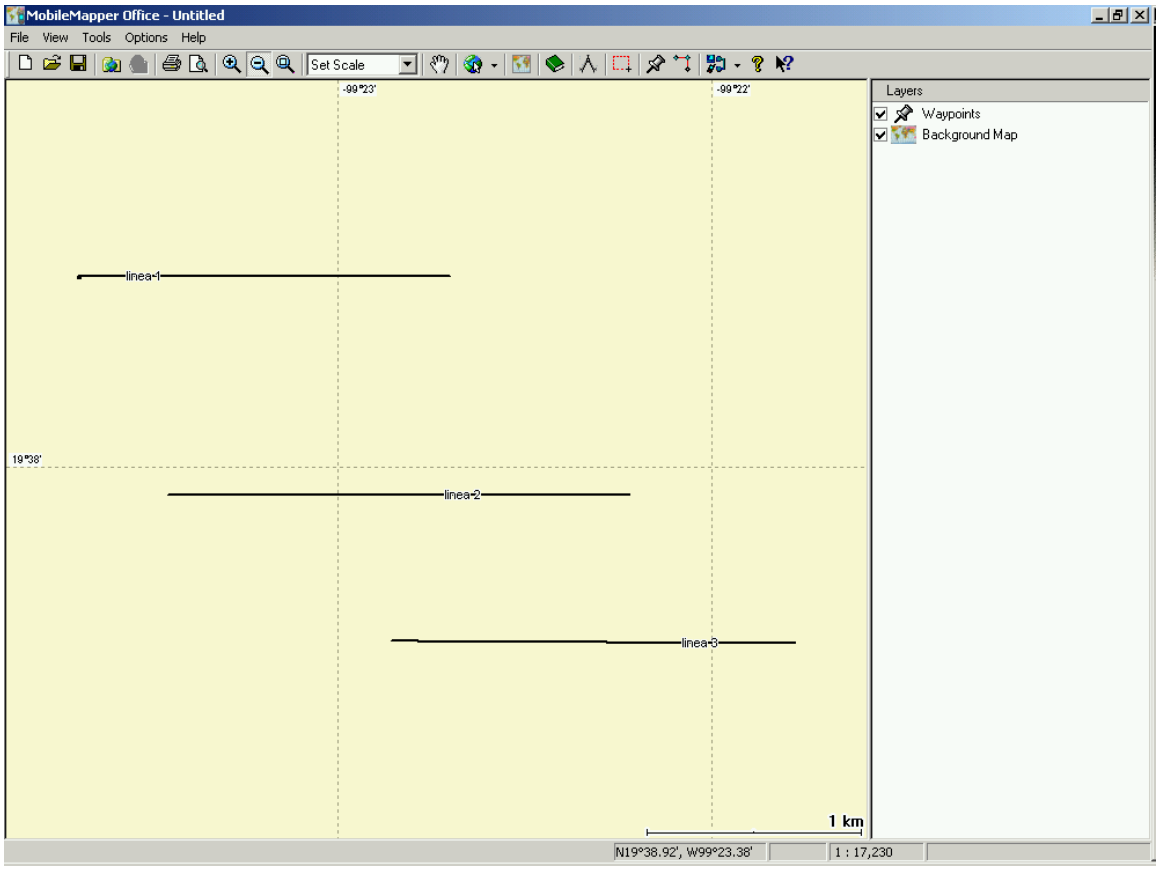
Step 3

Run MMO and click the background map button, to create a new background map file. Then import the lines SHP files to create the background Map and edit each layer to show the following settings:



Note: Our experience shows that these settings do not actually affect the way the features are displayed on the GPS screen, although that is what the MMO user's manual states. Maybe that has to do with firmware options. That is why for use in Magellan mapping receivers, the export.cfg files have to be edited.

Once all the settings are done, save the background map and click on the “Create Map” button. Close the Background map application and the recently created map will show on MMO’s screen as seen in this image:



Close MMO. Very important for the next steps to be effective.

Step 4

After closing MMO, edit the export.cfg to get the desired zoom levels and line shape attributes.

The original export.cfg looked like this:

```
;*****************************************************;
;* MobileMapper Office initialization file         *;
;* DO NOT MODIFY THIS FILE!                          *;
;*                                                   *;
;* Copyright (C) 2003 Thales Navigation, Inc.      *;
;* All rights reserved.                              *;
;*****************************************************;

[COPYRIGHT]
1=

[LAYERS]
NUMBER=3
0=linea_1  lay0  0 7 0 7 0 5 0 6 0 6 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5  BLACK  MSOLID_LINE
1=linea_2  lay1  0 7 0 7 0 5 0 6 0 6 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5  BLACK  MSOLID_LINE
2=linea_3  lay2  0 7 0 7 0 5 0 6 0 6 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5  BLACK  MSOLID_LINE

[COLORS4BITS]
LAY_COLOR=3 0 BLACK MSOLID_LINE 1 BLACK MSOLID_LINE 2 BLACK MSOLID_LINE

[GROUPS]
NUMBER=1
0=BackgroundMap   0

[POI]
UNIT_PARAMS=0 8 0 0 0 0 0 7 0 0 0 0 0 6 0 0 0 0 0 5 0 0 0 0 0 5 0 0 0 0 BLACK NO_FILL
POI_INDEX=1
CAT_NUMBER=0

[ICS_FILE]
```

Look at the lines highlighted in yellow. With this settings and the GPS Map screen set to highest, the line on layer 0=linea_1 would start showing at a zoom level of 2.5 Km, the base map would be invisible at a zoom level of 2.5 Km and the labels will start showing at a zoom level of 700m. And it would be a continuous black line.

All 3 lines would show simultaneously as they all have the same settings.

In order to modify the zoon levels at which each one displays, the following changes were made to the file:

```
;*****************************************************;
;                                                     ;
;* MobileMapper Office initialization file          *;
;* DO NOT MODIFY THIS FILE!                         *;
;*                                                  *;
;* Copyright (C) 2003 Thales Navigation, Inc.       *;
;* All rights reserved.                             *;
;*****************************************************;

[COPYRIGHT]
1=

[LAYERS]
NUMBER=3
0=linea_1  lay0  0 10 0 6 0 9 0 9 0 5 0 8 0 8 0 4 0 7 0 7 0 4 0 6 0 6 0 3 0 6  BLACK  US_INTERSTATE_HW_LINE
1=linea_2  lay1  7 9 0 6 0 9 6 8 0 5 0 8 5 7 0 4 0 6 4 6 0 4 0 6 3 5 0 3 0 5  BLACK  US_STATE_HW_LINE
2=linea_3  lay2  0 7 0 6 0 7 0 6 0 5 0 6 0 5 0 4 0 5 0 4 0 4 0 4 0 3 0 3 0 3  BLACK  MDOT_LINE

[COLORS4BITS]
LAY_COLOR=3 0 BLACK MSOLID_LINE 1 BLACK MSOLID_LINE 2 BLACK MSOLID_LINE

[GROUPS]
NUMBER=1
0=BackgroundMap   0

[POI]
UNIT_PARAMS=0 8 0 0 0 0 0 7 0 0 0 0 0 6 0 0 0 0 0 5 0 0 0 0 0 5 0 0 0 0 BLACK NO_FILL
POI_INDEX=1
CAT_NUMBER=0

[ICS_FILE]
PATH_TO_ICS=Images\Ics\
```

To understand what these changes do, refer to the **Adjusting Detail Map Display** document mentioned above and look for the zoom level table. Then analyze this line:

0=linea_1 lay0 0 10 0 6 0 9 0 9 0 5 0 8 0 8 0 4 0 7 0 7 0 4 0 6 0 6 0 3 0 6 BLACK US_INTERSTATE_HW_LINE

The numbers in green control the layer performance when the GPS map screen is set to Highest:

> The layer will start showing at a zoom level of 20 Km (10) and the base map would be invisible at a zoom level of 1.4 Km (6) **This means that between level 10 and level 6 you will be able to see both maps at the same time. Below level 6 you will only see the detail map.** The labels will start showing at a zoom level of 10 Km (9). The line will be displayed as a continuous US interstate line (see the OBJECT PROPERTIES document in the Mobilemapper group file section for further details) through out all the zoom levels.

The numbers in blue control the layer performance when the GPS map screen is set to High:

> The layer will start showing at a zoom level of 10 Km (9), the base map would be invisible at a zoom level of 700 m (5) and the labels will start showing at a zoom level of 5 Km (8).

The numbers in yellow control the layer performance when the GPS map screen is set to Medium:

> The layer will start showing at a zoom level of 5 Km (8), the base map would be invisible at a zoom level of 350 m (4) and the labels will start showing at a zoom level of 2.5 Km (7).

And so forth.

In the next line we applied the same idea but introduced some new concepts:

1=linea_2 lay1 7 9 0 6 0 9 6 8 0 5 0 8 5 7 0 4 0 6 4 6 0 4 0 6 3 5 0 3 0 5 BLACK US_STATE_HW_LINE

Again, the numbers in green control the layer performance when the GPS map screen is set to Highest:

> The layer will start showing at a zoom level of 10 Km (9) **and will stop showing at a zoom of 2.5 Km (7)**. The base map would be invisible at a zoom level of 1.4 Km (6). **This means that between level 9 and level 6 you will be able to see both maps at the same time. Below level 6 you will only see the detail map.** and the labels will start showing at a zoom level of 10 Km (9). And it would be a continuous US state highway line.

The numbers in blue control the layer performance when the GPS map screen is set to High:

> The layer will start showing at a zoom level of 5 Km (8) **and will stop showing at a zoom of 1.4 Km (6)**, the base map would be invisible at a zoom level of 700 m (5) and the labels will start showing at a zoom level of 5 Km (8).

The numbers in yellow control the layer performance when the GPS map screen is set to medium:

> The layer will start showing at a zoom level of 2.5 Km (7) **and will stop showing at a zoom of 1.4 Km (6)**, the base map would be invisible at a zoom level of 350 m (4) and the labels will start showing at a zoom level of 1.4 Km (6).

The same ideas were applied to the remainder of the file.

Once you have finished with the editing save the export.cfg file both in the MMO/MAP folder as well as the MMO/MAP/MyMap folder. Remember that MMO creates 2 export.cfg files and both have to be edited.

Step 5

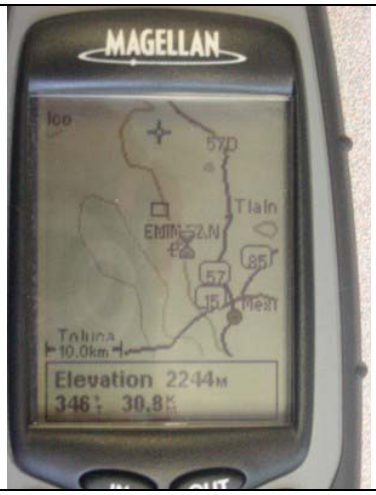
Run MMO, and your original background map should be showing. **If you did not closed MMO as indicated on step 3 above, the changes to the export.cfg files will not be recognized by MMO during the map upload.**

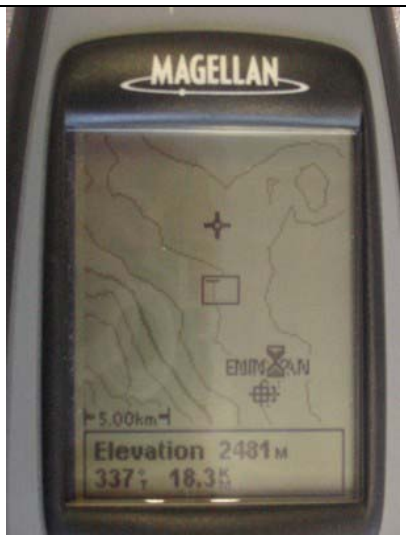
Create a region around the detail map and upload it to the receiver, in my case this was done through the SD card reader.

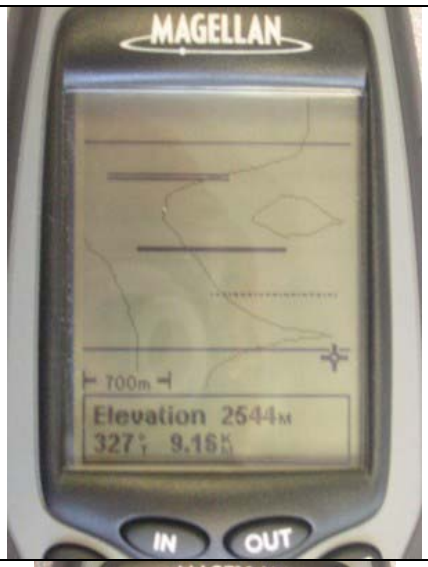
Step 6

Load the card in the receiver and start it. Activate the basemap as well as the detail map using the specific menu on your receiver. For Meridians do Menu/Card Utilities/Change Map and select the base and detail map. Press SAVE.

Then adjust the Map Screen Detail Level option to the one you desire and you will see how the zoom levels behave as described above. Following are the GPS screen shots of this test.

GPS Map Screen set to **Medium**	
Zoom level	Screen shot
10 Km No line shows	

5 Km The first line shows	
2.5 Km Layers 0 and 1 show	
1.4 Km The line type can be seen	

700 m The third layer shows		
350 m The second layer does not show any more