

Garmin Nuvi 265W Howto

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Scope

This guide explains how to use a GarminNuvi 265W GPS unit with Fedora Linux.

The problem in Europe is that we want to drive along the older highways since they are more interesting and these roads are Toll Free and are not clogged with millions German tourists, but there are lots of intersections and ways to get lost. GPS units have dropped in price significantly in the past year, so I got one and then had to figure out how to make it work with Linux for way point management.

This guide is deceptively easy. It took me a whole day to figure it all out, so hopefully this will save someone else some time.

Hardware

The Nuvi has a USB port on the back. This port is used to power the unit and to connect to the internal storage. When you plug it into a computer, it behaves like a USB Mass Storage Device (memory stick), which would have been nice and easy, if Garmin would only have documented the file formats. The Point of Interest (POI) data is stored on the unit in directory GARMIN/POI, but uploading a GPI file there doesn't work, since there is some or other database function associated with it. I suspect that there are some BIN files somewhere else that also need to be updated/created, but this is undocumented.

The unit also has a memory card in the side. It turned out that this is the easiest method to get way point data (Garmin calls it Points of Interest) onto the unit. If you save a GPI file on the memory card, turn the unit on and plug the card in, it will detect that there is a new POI file and will ask whether to upload it into internal memory. This works beautifully, but there is no easy way to ever delete anything again, so you need to be sure that the file is perfect.

Way Point Data Preparation

There are web sites that work with Google Maps and allows you to plan a route, then save the result in a GPX file. You can then use the *gpsbabel* program to translate the GPX file to a GPI file and save it on the memory card.

This site runs a route planner: <http://www.marengo-ltd.com/map/>

This site has a Firefox Bookmarklet: <http://www.elsewhere.org/journal/gmaptogpx/>

Install the *gpsbabel* program, plan your route, save the result as a GPX file, convert the GPX file to a CSV, then convert the CSV to a GPI. *For some odd reason, it doesn't work if you convert straight from GPX to GPI.* Run *gpsbabel* with the *-h* switch for help.

Marengo will number the way points sequentially, so you only need to type in a short name. You can also edit a CSV file afterwards with a text editor.

Here are two scripts to make things easier:

```
$ cat /usr/local/bin/gpx2gpi
#!/bin/bash
# converting directly from gpx to gpi doesn't work
gpsbabel -i gpx -o garmin_poi "$1".gpx "$1".csv
gpsbabel -i garmin_poi -o garmin_gpi,category="$1 " "$1".csv "$1".gpi

$ cat /usr/local/bin/csv2gpi
#!/bin/bash
gpsbabel -i garmin_poi -o garmin_gpi,category="$1 " "$1".csv "$1".gpi
```

The file name is used as the *Category*. Use an eight character name, since the file system is DOS FAT. (Note the two spaces ("*\$1* ") in the category specifier. This is to compensate for a bug in the current version of *gpsbabel* which truncates the category by two letters, so it will chop the two spaces off).

Run the scripts like this:

```
$ gpx2gpi filename
(with no extension, the script will add and modify the extensions)
```

Upload

Simply copy the new GPI file to the memory card and plug it into the GPS unit. It will prompt you to save the data internally.

Your new way points will be under ***Where to?, Down, Extras, Custom POIs***, under the Category specified with *gpsbabel*.

Erase

There is no easy way to erase the POIs. You need to get the Poi Loader program from the Garmin web site and run it on a Windows system. This program can upload GPI files via the USB port and can also erase all POI data from the unit (all or nothing).

Note that after the erase command, you need to cycle the power on the GPS before you do anything else, otherwise the data will not be erased.

Simply deleting the POI files in /GARMIN/POI does not work. I suspect that the data is copied to a BIN file somewhere else. So, if you are careful with what you upload, you never need to erase the unit, since it can save thousands of way points.

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La voila!
Herman