

GPS:Garmin Forerunner 610

I got a Garmin Forerunner 610 as a Christmas present from my girlfriend, she definitely loves me :-) I like the watch very much, it is simple to use yet it contains most of what I could ask for, and when it comes to design and size it is the first GPS enabled watch I actually like to wear as a normal watch.

There are plenty of websites and blogs describing and reviewing the Forerunner 610 with respect to it's performance when running or bike riding. Most of the information at this wiki page focuses on the Forerunner 610 as a GPS enabled watch and how to use it for other outdoor activities. Please notice that while I try to keep the information as accurate as possible, the information is offered as-is, without any warranty. If you have any comments or questions please email me at kj@kjen.dk^[1]



GPS sensor

The image below shows the recorded history (track) from a short test run downloaded to Garmin BaseCamp for Mac. I stayed on the road and adjacent sidewalk during the run. Along *Bondehavevej* there are a lot of trees, along *Godtgemt* there are some three storey buildings, and along *Bindeleddet* there are some parking spaces between the road and the sidewalk, so in my opinion the accuracy seems acceptable.



Recording your history (track)

When you press the START/STOP button, the Forerunner 610 begins recording a history which is essentially updated GPS positions provided that the GPS is active and has a satellite fix, and data from paired and active sensors. When you press the START/STOP button again, the history is saved as an activity, which you can recall by pressing the Menu button and selecting History.

The Forerunner 610 is intended for running and biking activities, but nothing prevents you from using it for hiking or similar activities provided that you can live with the fairly short battery time.

You can configure the recording interval to *Smart* which according to the manual *records key points where you change direction, speed, or heart rate* or one time per second. According to the manual the Forerunner 610 *can save approximately 180 hours of history with typical use*. I suppose this means using the *Smart* interval.

Transfer history from Forerunner 610 directly to iPhone

Yes it's doable and it is quite useful. You can for instance publish your activities on the internet while you are hiking or traveling without a computer.

You need to buy a Wahoo Key for iPhone ^[2] or a Wahoo Bike Case for iPhone ^[3] from Wahoo Fitness ^[4]. I purchased one through eBay ^[5] for \$79 including postage. It came in a small envelope which didn't catch the interest of the Danish customs :-)

Download the WahooFitness app ^[6] from AppStore. Launch the app, go to *History* and select *Import from Garmin Watch*. Then you should see a list of saved activities (called Workouts in the WahooFitness app) on your ForeRunner.

WahooFitness supports sharing the activity to a number of websites like Garmin Connect ^[7], Runkeeper ^[8] etc. Unfortunately Endomondo ^[9] is not supported yet.

WahooFitness also supports emailing the history (workout). The email contains a report (Km's are not supported here, only miles) and a number of file formats including a .TCX file (XML formatted) and a .CSV file (comma separated). Both contain the complete history data, and it doesn't take much programming to do whatever you want with it.



Locations

The Locations (waypoint) functionality is limited but still useful and pretty straightforward. Simply press the Menu button followed by Where to. Then you may press:

- *Where am I* to get your current position.
- *Back to Start* for backtracking to your location when you pressed the START/STOP button.
- *Locations* to see a list of saved locations (waypoints).

When you navigate to one of the saved locations, you get a simple compass rose showing a direction arrow and the distance to the location. The Forerunner 610 does not have a map where you can see your track and locations like for instance the Forerunner 305 has.

When you select Back to Start the direction arrow at the compass rose will at all times point directly to the start location. You will however get warning messages saying *Approaching Turn*, when you have to turn. You might want to watch this youtube video *Garmin Forerunner 610 - How to Navigate* ^[10].

Maximum number of waypoints is 100 according to specs at the Garmin website.

Various position formats like decimal degrees, minutes and seconds as well as UTM and a number of regional formats are supported. It seems only the WGS-84 datum is supported.

As of now there doesn't seem to be any way to upload locations to the Forerunner 610 or download saved locations from it.

Software that supports Forerunner 610

- Garmin ANT Agent ^[11]
- Garmin Training Center ^[12]
- Garmin BaseCamp for Mac ^[13] supports download of tracks

Battery lifetime and charging

According to the manual the battery lifetime is approximately 8 hours while using the GPS and approximately 4 weeks when not using the GPS at all. This is not much, but considering the size and weight I suppose it is quite ok.

The 110cm long Forerunner 610 charging cable has a USB type A connector at one end and a Garmin proprietary magnetic clip at the other end which snaps onto the rear of the watch. Only the USB power supply (+5V) and ground (GND) are connected.

The Forerunner 610 will charge when connected to a standard computer USB port or any other stable 5V DC supply (though Garmin's warranty probably only accepts the supplied Garmin power supply).

When charging the Forerunner 610 will turn on if not already turned on and display a charging percentage screen. While the clip is connected the Forerunner 610 is completely inoperable. As soon as you remove the clip it returns to normal use. I haven't tested it myself yet, but some users document that if you press the START/STOP button before placing the clip, the Forerunner 610 will continue to record history while charging.



In case you decide to make your own power connector, you can see the pinout in the picture above. Please notice though that the rear of the watch is made of metal and hence conducting electricity, so making a connector without risking a short circuit might prove a little difficult. It's probably better to buy an extra cable at eBay ^[5].

Other

Release date: April 12, 2011

Specs relevant to outdoor activities

- Weight: 72g
- Water resistant: IPX7 (submerged 1 meter for 30 minutes under lab. conditions, don't go swimming with it)

Weight

For the ultralight backpacker nerds here are the weight measured by my kitchen scale which is quite accurate:

Forerunner 610: 77g

Charging cable: 36g

Resources

- Forerunner 610 Owner's Manual ^[14]
- Forerunner 610 Quick Start Manual ^[15]
- DC Rainmaker: Garmin Forerunner 610 In Depth Review ^[16] (the most thorough review I have read so far)
- GPSTracklog links to several great reviews and resource pages ^[17]

Youtube guides

- How to Reset ^[18]
- How to Calibrate Touch Screen ^[19].

Developers

- [quarqd](#) ^[20] Daemon for communicating with an Ant device and reading Ant+Sport data
- List of features supported by ANT Agent for Mac software ^[21]

References

- [1] <mailto:kj@kjen.dk>
- [2] <http://www.wahoofitness.com/Products/Wahoo-Fitness-Wahoo-Key-for-iPhone.asp>
- [3] <http://www.wahoofitness.com/Products/Wahoo-Fitness-Wahoo-Bike-Case-for-iPhone.asp>
- [4] <http://www.wahoofitness.com/>
- [5] <http://ebay.com>
- [6] <http://itunes.apple.com/us/app/wahoo-fitness/id391599899?mt=8>
- [7] <http://connect.garmin.com/>
- [8] <http://runkeeper.com/>
- [9] <http://www.endomondo.com>
- [10] <http://www.youtube.com/watch?v=H5PaU-44SzA>
- [11] http://www8.garmin.com/fitness/ant_product_page.jsp
- [12] <http://www8.garmin.com/support/collection.jsp?product=999-99999-04>
- [13] <http://www.garmin.com/us/products/onthetrail/basecamp>
- [14] http://static.garmincdn.com/pumac/Forerunner_610_OM_EN.pdf
- [15] http://static.garmincdn.com/pumac/Forerunner_610_QSM_EN.pdf
- [16] <http://www.dcrainmaker.com/2011/04/garmin-forerunner-610-in-depth-review.html>
- [17] <http://gpstracklog.com/2011/04/garmin-forerunner-610-review.html>
- [18] <http://www.youtube.com/watch?v=xzPVkkysEDU&feature=relmfu>
- [19] <http://www.youtube.com/watch?v=P7GHW2oRSJY&feature=relmfu>
- [20] <http://opensource.quarq.us/quarqd/>
- [21] http://www8.garmin.com/support/download_details.jsp?id=4417

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