GPS:Garmin fenix

This page is about the Garmin fenix wrist watch which I bought in September 2012. Last christmas I got a Garmin Forerunner 610 wrist watch from my girlfriend and while I like the 610 very much it really is best suited for running and mountainbiking etc. The GPS capabilities are too limited and the battery time a bit too short for outdoor and everyday use. The Garmin fenix seems to be an even better solution for me.

This is not intended to become a review of the Garmin fenix. There are plenty of other websites, blogs and youtube videos with in-depth reviews. This page merely contains information about my personal use of the fenix and technical details I haven't found elsewhere. If you have any comments or questions please email me at kj@kjen.dk [1]

Please notice that while I try to keep the information as accurate as possible, the information is offered as-is, without any warranty, so use the information at your own risk.

Outdoor use

- After wearing the fenix for about two months my conclusion is that while it is quite durable (much more than the forerunner series) it does not compare to a normal watch with a steel case. My other watch, a Tag Heuer, I wear almost regardless of what I do, but the fenix I prefer to take off before working with tools etc. In the beginning I kept the fenix on at all times, but at the usual accidental touching of surfaces etc. when performing practical work indoor and outdoor I noticed that this left small scratches on the watch case. I haven't seen any scratches in the mineral glass so far, but the case begins to show the first signs of wear. To me this is not a major problem.

- According to the this FAQ Can I use my Garmin GPS device in water? [2] Garmin recommends that the fenix may be used when surface swimming.

Another strap

Forget about the black and orange rubber straps by Garmin. This is the strap which makes James Bond envious of your watch ;-)

I found a reference [3] to the panatime.com [4] webshop and decided to buy a couple of them. I went for the black strap with an orange stripe and steel colored rings which I think is perfect for the fenix. The orange tone is not quite the same as the markings and button on the fenix, but it is close enough. The rings have the same color as the four buttons.

- 26mm Orange Nato Ballistic Nylon- 3 Ring Strap with Stripe [5]

The webshop also has another type of straps with 5 rings. I have tried this type but in my opinion this is best suited when wearing the watch outside a jacket or if you have a really big wrist. There is also a third version consisting of two straps, but I think the 3mm hex tubes holding the strap to the fenix are too big for this version.

Temperature measurement accuracy

Until now I have managed to live just fine without the ability to measure the temperature using my watch. Suddenly with the fenix this becomes quite important :-) Anyway I bought a Garmin Tempe sensor because the built in temperature sensor will probably always be off since I wear the watch on my wrist.

Garmin fenix shows the internal sensor temperature by default. If you connect to a Garmin Tempe (Setup -> ANT Sensor -> Tempe) it shows that temperature instead. I haven't been able to show both without changing the setup.

Below are a few measurements compared to a Fluke 54-II Thermometer [6] connected to two 80PK-1 Bead Probe [7] (+/- 1.1° accuracy). All measurements are in Celcius and are performed >15 minutes after exposure to the ambient temperature. The Fluke readouts vary a lot and are thus given as an approximate interval.

Garmin fenix (built-in)	Garmin Tempe	Fluke 54 (probe 1)	Fluke 54 (probe 2)
23°	23°	23.3-23.8°	22.9-23.4°
20°	21°	21.6-21.9°	21.3-21.8°
9°	8°	8.0-8.5°	8.1-8.6°
4°	3°	3.5°	3.3-3.4°

My conclusion based on this very limited test is that the accuracy of both the Garmin fenix and Garmin Tempe temperature sensors seems to be just fine for it's purpose. I expected to see inaccuracies up to a couple of degrees. I will add a few other tests when I find the time (and temperatures).

While performing the measurements I also noticed that the fenix and Tempe sensors are much slower at measuring the correct ambient temperature than the Fluke. After a temperature change you therefore need to wait several minutes before trusting the measured temperature.

Data transfer

USB cable to Ubuntu 12.04

So far the only way I have managed to transfer data from the Garmin fenix to Ubuntu is by using the USB cable. When connected (after waiting a while for the Garmin fenix to become ready) a new drive is mounted at:

```
/media/GARMIN
```

which gives full access to the Garmin fenix data. I use some home-brewed shell scripts to archive tracks on my computer and manage my waypoint files.

Ant

I have not yet had any success connecting from a computer or iPhone to the Garmin fenix through the Ant+ protocol. I tried both the Ant USB dongle from my Garmin ForeRunner 610 and the Wahoo Ant adapter for iPhone. None of them seems to work. I am stopped at trying to pair with the Garmin fenix since it does not have a menu for this. Maybe it is the intention of Garmin only to use Bluetooth for exchanging data with other in the future?

Bluetooth

Bluetooth works with the Garmin BaseCamp app. Unfortunately the fenix does not support standard Bluetooth file transfers.

Garmin BaseCamp app

I use the Garmin BaseCamp [8] app on my iPhone 4s. Actually I upgraded my 4 to a 4s because I really wanted this feature. The most important to me (which the app fulfills) is:

- Editing waypoint names is quite cumbersome and time consuming on the fenix itself, so I often save using default names. Then as soon as I get the time I use Garmin Basecamp to edit the names.

- After (and sometimes during) a run or hike I like to review my track on a map to see what is around me (interesting stuff, exploring possiblel short circuits etc.). The app is quite good at this. One could argue that if you bring the iPhone you might as well let it perform the tracking, but for me the fenix - iPhone combination works much better.

Features I would really like to see:

- From the main menu it is possible to add a waypoint to the fenix. It would be much better if this feature is also available while viewing a track or another waypoint. That way it would often be easier to navigate the map and place a waypoint correctly.

- When editing a waypoint it would be very nice to be able to reposition the waypoint by entering the coordinates or graphically moving the waypoint marker.

- Export of one or more waypoints or tracks to the GPX [9] format using email or Dropbox [10].

- Support for OpenStreetMap [11] as map background.

Maps

I haven't tested this myself yet, but the fenix should work fine with mp images created from the site below. You have to rename the existing gmapbmap.img in the Garmin folder of the fenix to something else and then name your map image gmapbmap.img for the fenix to discover it.

- http://garmin.openstreetmap.nl [12]

Shortening the USB cable

I wanted to shorten the USB cable partly because I bring the cable everywhere and don't want to waste time folding it every time, and partly because I like to travel ultralight - yes I know there probably is a clinical diagnosis for people with such obsessions ;-)

Before soldering on the new connector I used a multimeter to verify that the cable colors used by Garmin are the same as the described by the USB [13] standard. The numbers below indicate the USB connector pin numbers:

1. RED (+5 Volt)
2. WHITE (Data minus)
3. GREEN (Data plus)
4. BLACK (Ground)

The connector I used is from RS [14]:

- 674-2268 [15] *USB A type assembly version*
- 674-2264 [16] *USB A type Hood for assembly version*

Other resources of information

- Garmin fenix official site [17]
- Garmin fenix - An Ongoing Review in Several Parts [3] *detailed and very informative*

References

[1] mailto:kj@kjen.dk

[2] http://support.garmin.com/support/searchSupport/case.faces?supportPage=fenix&caseId={b60ebc00-4cdb-11dc-4733-000000000000}

[3] http://forums.watchuseek.com/f296/garmin-fenix-ongoing-review-several-parts-746366.html

[4] http://www.panatime.com

[5] http://www.panatime.com/new26ornaban.html

[6] http://www.fluke.com/fluke/usen/Electrical-Test-Tools/Thermometers/Fluke-50-Series-II.htm?PID=56085

[7] http://www.fluke.com/fluke/usen/accessories/Temperature/80PK-1.htm?PID=55360

[8] https://itunes.apple.com/dk/app/garmin-basecamp/id411052274?mt=12

[9] http://www.topografix.com/gpx.asp

[10] http://www.dropbox.com

[11] http://www.openstreetmap.org/

[12] http://garmin.openstreetmap.nl

[13] http://en.wikipedia.org/wiki/Universal_Serial_Bus

[14] http://www.rs-online.com

[15] http://uk.rs-online.com/web/p/audio-video/6742268/

[16] http://uk.rs-online.com/web/p/accessories/6742264/

[17] http://sites.garmin.com/fenix/#begin

Article Sources and Contributors

GPS:Garmin fenix *Source*: http://kjen.dk/index.php?oldid=1787 *Contributors*: Kjeld

Image Sources, Licenses and Contributors

Image:Garmin-fenix-watch.jpg *Source*: http://kjen.dk/index.php?title=File:Garmin-fenix-watch.jpg *License*: unknown *Contributors*: Kjeld

File:Panatime strap.gif *Source*: http://kjen.dk/index.php?title=File:Panatime_strap.gif *License*: unknown *Contributors*: Kjeld

File:Garmin fenix temperature measurements.jpg *Source*: http://kjen.dk/index.php?title=File:Garmin_fenix_temperature_measurements.jpg *License*: unknown *Contributors*: Kjeld

File:Garmin fenix cable.jpg *Source*: http://kjen.dk/index.php?title=File:Garmin_fenix_cable.jpg *License*: unknown *Contributors*: Kjeld