

# GPS-devices

## Overview

GPS stands for **G**lobal **P**ositioning **S**ystem. GPS devices (also referred to as GPS receivers) provide the user with his/her geographic coordinates. I'm using a Garmin Etrex Legend HCx; my experiences in this HOWTO refer to this device, but it should also work at least for any Garmin GPS receiver.

## Software

I'm mostly using `gpsbabel`; this command line tool can retrieve and send data from/to a GPS device. There's also `qlandkartegt` which can deal with the data provided by the GPS receiver. Both are available via [SlackBuilds.org](https://slackbuilds.org)

## Connecting the Device

When a GPS device is connected to the computer, it becomes recognized as a USB device by `udev` and the module `garmin_gps` is loaded. In most cases the module will not work for us. Fortunately `gpsbabel` comes with its own drivers so the module `garmin_gps` is not needed. On my computer I've blacklisted it in `/etc/modprobe.d/blacklist.conf`

## udev-rules

If you want to access the device as a non-root user, the following `udev` rule allows users who are members of the `plugdev` group to access the GPS device.

```
# /etc/udev/rules.d/51-garmin.rules
ATTR{idVendor}=="091e", ATTR{idProduct}=="0003", MODE="666", GROUP="plugdev"
```

## Sending Data to the Device

As an example here is the code which transfers a `gpx` waypoint file to a Garmin GPS device.

```
gpsbabel -i gpx -f $file -o garmin -F usb:
```

## Further Reading

The website for [gpsbabel](https://gpsbabel.org)

The website for [qlandkartegt](#)

The [openstreetmap project](#)

## Sources

\* Originally written by [Markus Hutmacher](#)

[howtos](#), [gps](#), [gpsd](#)

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