

The Raspberry Pi, when isn't connected to the Internet can not synchronize its clock (date and time). So for a Raspberry Pi isolated synchronize the date and time can be achieved by **GPS satellite synchronization**. In this example we use a GPS receiver with a USB connection.

GPS receiver

Any GPS should head, insofar as it sending data to the **NMEA** standard. The time and date are provided in the frame GPRMC, we use a model VK-162, available from [Banggood](#)



Receive GPS data

Then check if it sends back NMEA sentences, i.e. using cat: (CTRL-C to quit)

```
cat /dev/ttyACM0
$GPRMC,191745.80,V,,,,,,,,160314,,,N*7B
$GPVTG,,,,,,,,,N*30
...
```

For your information, the GPRMC frame is decoded by this way.

```
$GPRMC,hhmmss.ss,A,llll.ll,a,yyyy.yy,a,x.x,x.x,ddmmyy,x.x,a*hh
1    = UTC of position fix
2    = Data status (V=navigation receiver warning)
3    = Latitude of fix
4    = N or S
5    = Longitude of fix
6    = E or W
7    = Speed over ground in knots
8    = Track made good in degrees True
9    = UT date
10   = Magnetic variation degrees (Easterly var. subtracts from true course)
11   = E or W
12   = Checksum
```

Install software to update time

Download the ZIP archive or fetch source code using git:

```
git clone https://github.com/adamheinrich/gpsdate
```

To build the project, simply navigate to project's directory and call make:

```
cd gpsdate
make all
```

Now you can use the gpsdate tool to change your local time. Simply call

```
sudo ./gpsdate /dev/ttyACM0
Local datetime was: 2014-03-16 20:19:06 (CET)
GPS  datetime is: 2014-03-16 19:19:07 (UTC)
Succesfully updated local time.
```

Autoupdate date and time

Auto update daily

For autoupdated daily you need add line in CRON files [CRON](#)

```
sudo crontab -e
```

Clock updated every day at 11h30pm, add folowed lines:

```
30 23 * * * /home/pi/gpsdate/gpsdate /dev/ttyACM0
```

You can save and quit using CTRL-X, Y and ENTER.

From:

<http://svxcard.f5uui.net/> - **SVXLink Card**

Permanent link:

http://svxcard.f5uui.net/doku.php?id=en:horloge_externe_gps_usb

Last update: **2016/03/07 16:07**

