

gps-genom3 - Bug #269

input/output error

2020-07-30 18:23 - Youssef Aboudorra

Status:	Closed
Priority:	High
Assignee:	Anthony Mallet
Category:	
Target version:	
Description	
I am trying to use the following GPS HW using gps-genom3	
SIRIUS RTK GNSS ROVER (F9P) SIRIUS RTK GNSS BASE (F9P)	
I created two instance of the components on the same PC, one for the base and one for the rover. I was able to connect to both of them, and connect them together for the rtk data (localhost ip, udp port of choice). However I always 'Input/output error' whenever I call	
<pre>unfix fix fix_here send_rtcn</pre>	

Associated revisions

Revision 289feed1 - 2020-08-06 11:51 - Anthony Mallet

Enable base station mode and streaming RTCM for ublox driver

This should help with issue #269.

History

#1 - 2020-07-31 11:43 - Anthony Mallet

The ublox driver does not yet support base-station mode, but this could be added for ublox High Precision GNSS products.

The hardware that support base-station mode are currently either Tersus-BX3xx or Novatel OEM6 (or later) products.

#2 - 2020-07-31 12:14 - Youssef Aboudorra

If it would be any help, this is the link for the base module we have :)

<https://store-drotek.com/912-sirius-rtk-gnss-base-f9p.html#:~:text=The%20SIRIUS%20RTK%20GNSS%20BASE,most%20reliable%20base%20module%20possible>

#3 - 2020-08-19 11:22 - Anthony Mallet

- Status changed from New to Feedback

#4 - 2020-08-20 10:26 - Youssef Aboudorra

Hello, sorry for the late response but I wasn't notified when you updated the repository, only when you changed the status of the issue yesterday. By subscribing to the robots-source@laas.fr mailing list will I be notified later about any updates in the repository ?

Regarding the issue, I tested it and the problem seems to be solved:

- I was able to set the HW in base mode using fix_here() and send the RCTM messages.
- the mobile station connects to the base station and receives the messages
- fix type is ::gps::fix_fixed for the base station
- fix type is ::gps::fix_float for the mobile station

Is there any guide on how to get the max accuracy fix for the mobile station (procedure, which rctm messages to enable, interval,offset) ?
I am currently using these RCTM messages: (1005, 1077, 1087,1127)

Thanks a lot for your support Anthony :)

#5 - 2020-08-20 11:20 - Anthony Mallet

- Status changed from *Feedback* to *Closed*

Good!

Yes, robots-source@laas.fr gathers commits messages related to the robot platform at LAAS, and it has been notified of got those commits. I thought redmine would notify when adding a related commit to an issue, but apparently it does not.

You should aim at `gps::fix_rtk` rather than `fix_rtk_float` for the max precision. There is no definite trick to reach this, it is mostly a matter of having a good satellite visibility, clear sky, no surrounding buildings etc. The ublox manual has a few hints, check it: <https://www.u-blox.com/en/docs/UBX-18010802> (section 3.1.5). You should also set the base station position to the best possible precision, for instance by averaging the position for 1 day or more.

RTCM 1005 can be broadcasted at a very low frequency, like 30s period. MSM7 messages may be broadcasted at like 2s period. Note that for glonass (1087), you also need 1230 (as stated in the ublox manual). It might also be worth checking the 4072.0 proprietary messages (with e.g. Ucenter) to see if they provide improvements or not.