



# ASTERX4 GPS-RECEIVER

016-8000-032EN Rev. B

**Update Manuel** 



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### 2. Beforehand

This manual is made for updating the firmware of the AsteRx4 GPS-receivers. These receivers are used in SBG/Raven Viper 4/4+ terminals. The update manuals of the AsteRx2e(H) and PolaRx2e(H) can be found on the Ravenwebsite. The update of the firmware will take around 60 minutes.

### 3. Check version RxControl (viper 4 only)

Start the SBGuidance configurator by pressing Shift of the keyboard and SBGuidance on the screen on the same time. Then proceed to Interfaces >> GPS >> Septentrio RxControl to start the program RxControl.

Check the installed version of RxControl, press Help >> About RxControl. Check if the latest version is installed on the Viper 4 terminal. (Figure 1)

The latest version of RxControl can be downloaded on the next website. <u>https://portal.ravenprecision.com/ProductDocu</u> <u>mentation/Category?categoryId=194</u>. Download and install the latest version of RxTools if the newest version is not installed. The installation manual can be found on the Raven-website.



Figure 1 Version RxControl



### 4. Check firmware AsteRx4 GPSreceiver (viper 4 only)

Check which kind of GPS-receiver is installed on the terminal and which firmware is currently installed. At least the firmware version 4.2.2 must be installed, otherwise update to 4.2.2 first.

Go to Help >> Receiver identification (Figure 2). To check the GPS-receiver type go to hwplatform > platform. The firmware version can be found at firmware > version

The newest AsterRx4 GPS-receiver firmware can be found at:

https://portal.ravenprecision.com/ProductDocu mentation/Category?categoryId=194. Download the ZIP-file with the required firmware and transfer it to a USB. Unzip the ZIP-file in the USB folder and insert the USB into the terminal.



**Figure 2 Reciever Identification** 



## 5. Updaten firmware GPS-Receiver RXtools

To update the firmware go to Tools >> RxUpgrade inside the RxControl menu. A popup will show up 'Upgrade Receiver' (Figure 3). RxControl needs to be closed on the background while leaving the 'Upgrade Receiver' window open. Press next to continue.

Select Serial Port and Beyond Electronics Communications Port (COM1). Press next (Figure 4).

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### Figure 3 Upgrade Receiver

<b>B Upgrade Receiver</b> Select Connection Please select the PC connection	that should be used for the upgrade process
<ul> <li>C Select Connection File</li> <li>C Select Serial Port</li> <li>C Specify IP-address or Hostname</li> </ul>	com3_gps.serial       Beyond Electronics Communications Port (COM1)
<	ack Next > Cancel Help

Figure 4 Select connection



Go to Browse to select the latest firmware located at the USB-stick. For example: AsteRx4-firmware-4.10.0.failsafe.suf (Figure 5)

Press Next and Upgrade to install the new firmware.

The installation process shall take around 60 minutes. Press finish as soon as the installation process is done. (Figure 6)

Select Upgrade File Select Upgrade File Please 'Browse' for a valid Upgrade File (SUF)	×
SUF file: D:/gps ontvanger/AsteRx4/firmware/AsteRx4-firmware-4.1.3-full.suf	Browse
< <u>Back</u> <u>N</u> ext > Cance	el <u>H</u> elp

Figure 5 Selecteer upgrade file

pening connection port to onnected to the receiver ebooting receiver in Upgr ploading and processing "	receiver s COM1 port ade mode D:/qps ontvanger/AsteR×4/fir	nware/AsteR×4-fir	mware-4.1.3-full.suf	
ploading and processing	siygps one vangerynseerer iyn			
				39

Figure 6 Upgrading in progress



### 6. Check firmware upgrade

The new firmware is now installed. Open RxControl, this can be done on the terminal by going to the SBGuidance Configurator, GPS >> Septentrio RxControl.

Check Help >> Receiver Identification if the correct version is installed (Figure 7).



Figure 7 Controle firmware upgrade



### 7. Setup GPS-receiver

Check if the GPS-receiver is activated for one or 2 antennas. Go to RxControl, Help >> Receiver Permissions and check the permission of the number of antennas (Figure 8).

Close RxControl.



Figure 8 Reciever Permissions: Number of antennas



In the SBGuidance Configurator go to GPS >> Septentrio receivers to set up the GPS-receiver again (Figure 9).

Select Septentrio AstRx4 (Viper4) and press Connect.

Select Single-Antenna for a receiver with permission for 1 antenna and Multi-Antenna for a receiver with permission for multiple antennas (Figure 10).

Check the settings below:

- Diff. Corrections: depends on the to be used corrections type.
- DiCo IN poort: COM2
- Max. diff. Age: 20 sec
- Network RTK: Auto

Check if GLO and SBAS are enabled. Press Setup As Rover and wait until the command Queue counts down to 0.

Choose between SBF (Single and multi) antenna on the right side of the screen (Figure 10).

The GPS-receiver should now be able to connect to the satellites (Figure 11). Close the SBGuidance Configurator and start the SBGuidance user software. Check if the GPS-receiver gets a RTK-Fixed signal (Press INFO >> GPS)

Verbinding Merk: Septer Poort: COM1	ntrio AsteRx4 (Viper 4	Actuele anterne dat I Nain: Auxi : Auxi :	e <u>Latitude</u>	Longitude	<u>Hoogte Kwaliteit</u>
Verbind	ling maken	Differential Correction			
	Tr Single-Antenna  High  T  RTCMv3.0  COM2  20  Sec	Base: Base: <u>ECEF</u> Y' Z'	HE MEE. LO	<u>n nalio</u>	
Network RTK: GPS GLO PPP GLO instelle	Auto 💌 🤅 🗖 GAL 6 m els rover	reset hard	<u>-</u>	versiuur	SBF (single-antenna) SBF (multi-antenna)
mmand aroun: 0	D.D. Key O hates	-	CI 0: 0 . 0 / 0 . 0	Developer Of	20





Figure 10 Setup GPS-receiver

Verbinding	Actuele	antenne data					
Merk:         Septentrio AsteRx4 (Viper 4 )           Poot:         COM1 // 115200 )	Main: Aux1: Aux2:	<u>TOW</u> 472376700	<u>Latitude</u> 52,81019	1085	Longitude 5,00723917	<u>Hooqte</u> -2,817	<u>Kwaliteit</u> RTK_Fixed
Verbinding verbreken	Different	ial Corrections				Additionele G	iPS data
Rover instellingen Channel configuration: Single Anterna  RTK Fix Reliability High  Diff: corrections: RTCMv3.0  DiCo IN poot: COM2  Max. dff. age: 20  sec	Base: X: Y: Z:	ID         Age           1         9,9           ECEF         3848830,887           337198,278         5057830,277	Acc. 37	Lost 0	<u>Ratio</u> 100%	PDOP: HDOP: VDOP: CPU-load: UTC-time: 10-6-2016 LBAS: L	1,69 0,83 1,47 15% 11:12:39 ocked
Network RTK: Auto T i	reset H	do's lard		•	verstuur	SBF (sin SBF (m	gle-antenna) (ti-antenna)





### 8. Check version AsteRx Upgrade Tool (Viper4/4+)

Open the SBGuidance Configurator on the terminal by pressing Shift on the keyboard and SBGuidance on the screen in the startup screen on the same time. In the SBGuidance Configurator, go to GPS >> AsteRx Upgrade Tool to start the AsteRx Upgrade Tool program. (Figure 12)

Check which receiver type and firmware version is installed.

Connect to COM1, 115200 and enter the following command: LIF, IDENTIFICATION. Firmware must have at least 4.2.2 to update to latest firmware, otherwise update to 4.4.2 first. (Figure 13)

The newest AsterRx4 GPS-receiver firmware can be found at <u>https://portal.ravenprecision.com/ProductDocu</u> <u>mentation/Category?categoryId=194</u>. Download the ZIP-file with the required firmware and transfer it to a USB. Unzip the ZIP-file in the USB folder and insert the USB into the terminal.

GPS     Septentrio receivers       CAN     Septentrio RX Control       Modems     AsteRx Upgrade col       Data Acquisition     NovAtel receivers       Micro-controller     NovAtel Compot	energe 1000	Interlaces Help	1	
CAN Sectembrie By Control Moderns AsteRx Upgrade Col Data Acquisition Micro-controller Micro-controller NovAtel receivers NovAtel Compact		GPS	Septentrio receivers	
Modems AsteRx Lipgrade Cool Data Acquisition NovAtel receivers Micro-controller NovMet Commed:		CAN	Septentrio Bx Gomma	
Data Acquisition NovAtel receivers Micro-controller NovAtel Commot		Modems P	AsteRx Upgrade Tool	
Micro-controller /NovAtel Connect		Data Acquisition	Nov Atel receivers	
ISE Sector ( Share)		Micro-controller	NovAtel Connect	
ICE Control Channel		ICE Control Channel	1	



AsteRx Firmware Upgr	ade Tool		-0
Serial Port: COM1	• 115200 •	disconnect	
Command: LIF, IDEN	TIFICATION		nd
Ipgrade File:			
<hwplatform product="//&lt;br&gt;name=" ssrc7"<br="">rxfulid="SN210 -mainboard type="G -flashcard transferm <usb 4.8"<="" speed="full spe&lt;br&gt;&lt;/hwplatform&gt;&lt;br&gt;&lt;/irwware version=" td=""><td>ksteRx4" serialnr="3071390" 3071390"&gt; RB00261000AE1101" rev="1 dde="1-bit/&gt; ed" host="enabled"/&gt; 3" date="210130" rev="gd22</td><th>175 4de's</th><td></td></usb></hwplatform>	ksteRx4" serialnr="3071390" 3071390"> RB00261000AE1101" rev="1 dde="1-bit/> ed" host="enabled"/> 3" date="210130" rev="gd22	175 4de's	
<bootloader version-<br=""></bootloader> <os 2.1.0-g7038511"="" date="210128" td="" typ<="" version="7.0.3-g&lt;/td&gt;&lt;td&gt;"><th>128"/&gt; e="ssn-linux" model="CPMF</th><td></td></os>	128"/> e="ssn-linux" model="CPMF		
CARLES IN THE		alaas winda	1

Figure 13 receiver type en firmware version



## 9. Updaten firmware GPSreceiver AsteRx Upgrade Tool

To update the firmware, press on the button with the 3 dots (Figure 14) to load the file. The USB flashdrive is standing under my computer. First open the failsafe file (Figure 15) and press start upgrade (Figure 16). Repeat this step for the full.suf file.

AsteRx Firmware Upgrade Tool	
Serial Port: COM1 💌 115200 💌 disconne	ct
Command: LIF, IDENTIFICATION	send
Jpgrade File:	

Figure 14 search file



Figure 15 open file

AsteRx Firmware Upgra	de Tool	
Serial Port: COM1	▼ 115200 ▼ di	sconnect
Command: LIF, IDENT	IFICATION	send
Upgrade File: /media/sda1	I/AsteRx4-4.10.0-failsafe.suf	
 <files> <permfile antes<br="" permid="030&lt;br&gt;&lt;antino format="><files> <components> </components>  </files></permfile></files>	02627a-3017915-1*/> < 1.4* ngs2bin=*2.0* antcount=*817	*/>
oppine in a substance of	100 (0.03 100)	Ξ
1	1 2 2 1	0.00

Figure 16 start upgrade



### 10. Setup GPS receiver

When the second update is completed repeat chapter 7, to find out how many antennas a Viper 4(+) is unlocked for you can fill in commands: LIF, PERMISSIONS (Figure 17)



Figure 17 control receiver activatation

