

Thursday, March 6th, 2008

RTK Setup – Software update for usage of PRN32 in RTK

1. Introduction

On 28/2/2008 Septentrio has issued an *Advisory Note* regarding the problem of satellite **PRN32** usage in RTK. Septentrio has created a **software solution** which has been tested on different configurations since the PRN32 became active. This solution, **now available to PolaRx users**, allows PRN32 to be incorporated into RTK and all receiver functionalities.

After applying this patch, you will not longer need to disable satellite PRN32 as recommended by Septentrio in the *Advisory note of 28/2/2008*. If for any reason you choose not to apply this patch we recommend you to follow the *Advisory Note* previously communicated or to contact support for any further assistance.

Receiver Firmware Patch

In order to upgrade your PolaRx receiver please select the most suitable firmware patch version made available for your receiver:

PolaRx2 variants version **2.7.0_patch1**

Upgrade Files:

Operating System: *polarx-kernel-2.2.suf*
GNSS Firmware: *polarx-software-2.7.0-patch1.suf*

PolaRx2e variants version **3.2.0_patch1**

Upgrade Files:

Operating System: *polarx-os-2.3.suf*
GNSS Firmware: *polarx-software-3.2.0-patch1.suf*

This patch will require an upgrade of both the **Operating System** and the **GNSS firmware** on your receiver. It is of high importance that you **first install** the **Operating System** followed by the upgrade of the **GNSS firmware**.

These upgrade files are available in our FTP server, <ftp.septentrio.com> in the following directory paths:

[ftp.septentrio.com\PolaRx_Versions\PolaRx2.7.0-patch1\cd-2.7.0-patch1\firmware\](ftp.septentrio.com\PolaRx_Versions\PolaRx2.7.0-patch1\cd-2.7.0-patch1\firmware\)

and

[ftp.septentrio.com\PolaRx_Versions\PolaRx3.2.0-patch1\cd-3.2.0-patch1\firmware\](ftp.septentrio.com\PolaRx_Versions\PolaRx3.2.0-patch1\cd-3.2.0-patch1\firmware\)

FTP Login: *rxcontrol*

FTP Password: *support*

It is recommended to first download the firmware patch to your PC and then to perform the upgrade of your receiver as explained further in this document.

RxControl Software Patch

During the tests performed by Septentrio on PRN32, a **minor issue** has also been detected in the latest official version of RxControl (RxControl 3.1 – available within the PolaRx Graphical Tools 3.2.0). In the Expert Window, under the DiffCorr tab, the satellite PRN32 was not shown as active while the Differential Corrections for that specific satellite were accepted by the receiver. This issue was only detected when using either RTCM2.3 or RTCM 3.0. The issue is minor and it is **only a visualization problem in RxControl** which does not affect the main functionality of RxControl nor of the receiver. Septentrio has however, created an RxControl Upgrade file solve this issue.

In order to apply the RxControl patch you will need to make sure that the Official release of RxControl is installed on your PC (RxControl 3.1 – available within the PolaRx Graphical Tools 3.2.0). The patch can then be applied by performing an RxControl upgrade as described further in this document.

RxControl version 3.1.0_patch1
File: RxControl.sru

This RxControl upgrade file is also available in our FTP server, <ftp.septentrio.com> by using the same **login and password mentioned above**. The patch can be found in any of the following directory paths on the FTP server:

[ftp.septentrio.com\PolaRx_Versions\PolaRx2.7.0-patch1\cd-2.7.0-patch1\RxControl\](ftp.septentrio.com\PolaRx_Versions\PolaRx2.7.0-patch1\cd-2.7.0-patch1\RxControl\)
and
[ftp.septentrio.com\PolaRx_Versions\PolaRx3.2.0-patch1\cd-3.2.0-patch1\RxControl\](ftp.septentrio.com\PolaRx_Versions\PolaRx3.2.0-patch1\cd-3.2.0-patch1\RxControl\)

Note: The same file is provided in both cd directories for the PolaRx2 and PolaRx2e receivers.

2. Common questions

What are the symptoms of the problem described previously in the Advisory Note?

- The **particular symptoms** of the problem described in the Advisory Note previously issued may include **a loss of RTK** during which the receiver will fall back to stand-alone mode while differential corrections are being received. The receiver may also repeatedly **reset when using CMR corrections** during the hours that the satellite is visible. After the satellite has dropped below the elevation mask or has been removed from usage, the receiver will return to its normal RTK functioning. Apart from the problems detailed above, **no additional RTK problems were noticed**.

Should I expect to encounter any problems when my receiver is running in DGPS, SBAS or standalone mode if this patch is not applied?

- **No**, after performing different tests within Septentrio, we **did not detected** any problems related to use of PRN32 in other PVT modes (stand-alone, SBAS or DGPS). The patch described in this document is designated to solve the issue with RTK receivers.

What if I cannot upgrade the firmware on the PolARx base station or if I use an external network provider?

- In the case you cannot upgrade the base station, this patch should be sufficient when installed on the rover receiver only.

What if I cannot change the firmware on all Rover receivers?

- The patch is needed for rover receivers running in RTK mode and using PRN32. **Upgrading only the base station will not be sufficient** to allow your Rover receivers to use PRN32 properly in RTK. If for any reason you cannot upgrade the Rover receiver, we recommend following the Advisory Note of 28/2/2008, which describes the procedure on how to disable PRN32 on the rover receiver or on the base station.

Do I need to upgrade RxControl before upgrading the receiver?

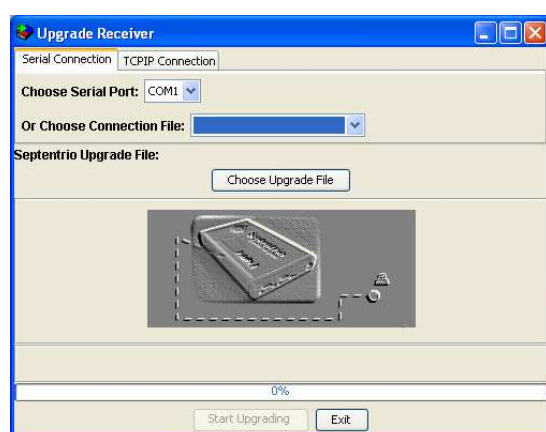
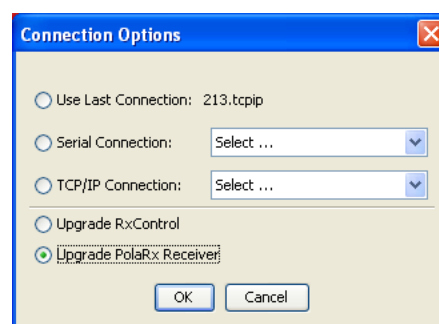
- **No**, you may use any version of RxControl to upgrade either the PolARx2 or PolARx2e receivers. RxControl upgrade is only needed if you want to solve the visualization issue of PRN32 on the DiffCorr tab of the Expert Console of RxControl.

3. Upgrading your receiver

Uploading this new release onto the PolARx2/2e will restore the default settings of your receiver. To upgrade the receiver with your new firmware, launch RxControl and click on the *Upgrade PolARx Receiver* option, followed by OK.

IMPORTANT NOTICE:

YOU NEED TO UPGRADE THE OPERATING SYSTEM BEFORE UPGRADING THE FIRMWARE.



After clicking OK, the *Upgrade Receiver* dialogue appears. Depending on the connection you have with your receiver to the PC, you will need to choose the appropriate tab from this dialogue i.e. Serial Connection or TCP/IP Connection.

In the example, the Serial Connection is chosen. *Note that you always need to use COM1 on the receiver when you are upgrading via serial port.*

Upgrade via TCP/IP connection is also possible.

From this dialogue you can now choose the recommended upgrade files for upload on your receiver by clicking on the *Choose Upgrade File* button and selecting the corresponding file. This opens up the file browser allowing you to navigate through and to select the Septentrio Upgrade File (extension **.suf**).

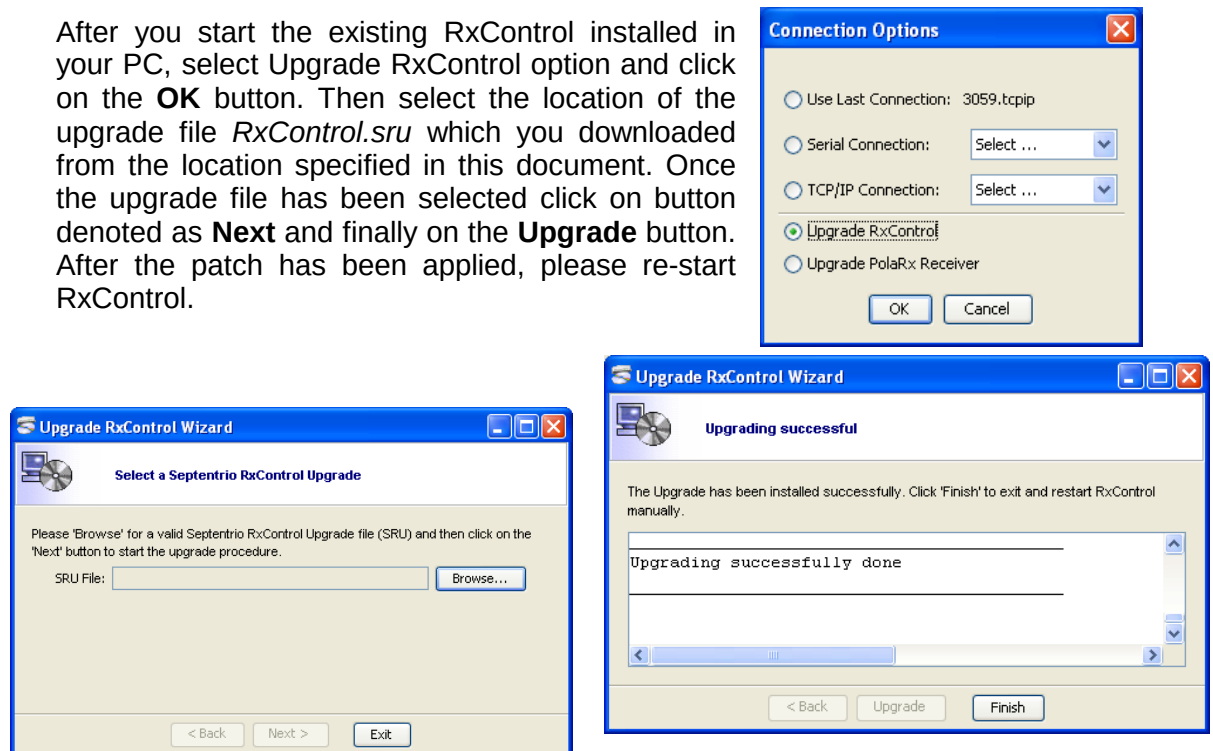
After specifying the connection and selecting the upgrade file, the upgrade file can now be uploaded to the PolaRx2/2e firmware by clicking the *Start Upgrading* button. A progress bar and an animated screen monitor the upgrade process. The termination of the upgrade is signaled by a pop-up window warning the user that the PolaRx2/2e receiver has been rebooted. In case of failure, indicated by an error message, the receiver will reboot with the old firmware version.

4. Upgrading RxControl

Before upgrading RxControl **please make sure that you have an RxControl 3.1 version**. This version is normally furnished with the official version of the PolaRx Graphical Tools 3.2.0. If you do not have the PolaRx Graphical Tools 3.2.0 installed, then you may obtain the full installer from the Septentrio website www.septentrio.com.

The .SRU file provided with this patch is only an upgrade file and there is no full installer available for this patch. Please follow the next steps for upgrading RxControl.

After you start the existing RxControl installed in your PC, select Upgrade RxControl option and click on the **OK** button. Then select the location of the upgrade file *RxControl.sru* which you downloaded from the location specified in this document. Once the upgrade file has been selected click on button denoted as **Next** and finally on the **Upgrade** button. After the patch has been applied, please re-start RxControl.



For more information:

For complete story on the activation of PRN32, please visit:

<http://sidt.gpsworld.com/gpssid/Latest+News/How-Many-32-SVN23PRN32-to-be-Set-to-Healthy/ArticleStandard/Article/detail/490027?contextCategoryId=33831>

Please contact the support team if you have any further questions.

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