

FlexPak-SSII™

QUICK START GUIDE



This guide provides the basic information you need to set up and begin using your new FlexPak-SSII. For more detailed information on the installation and operation of your receiver, please refer to the user manuals. The manuals and their latest updates may be found on our website at:

<http://www.novatel.com/Downloads/docupdates.html>

DEVELOPMENT KIT BOX CONTENTS

If you purchased a Development Kit, the following is also provided with your FlexPak-SSII:

- 1 Deutsch to DB-9 serial cable
- 1 Deutsch to 12V power connector cable
- 1 AC/DC adapter
- 1 +12 dB active GPS antenna with magnetic mount and a 6 m RF cable
- 1 CD containing:
 - An installation program for NovAtel's GPS L1 graphical user interface software, *StarView*
 - Product documentation, including user manuals

ADDITIONAL EQUIPMENT REQUIRED

In addition to the equipment listed in the previous *Development Kit Box Contents* section, the following is needed for a basic setup:

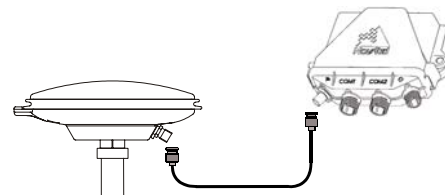
- A Windows-based PC with an RS-232 DB-9 port
- One of the following:

- A 120 V AC wall outlet, or
- A standard 12 V DC power outlet, or
- A +6 to +18 V DC power supply

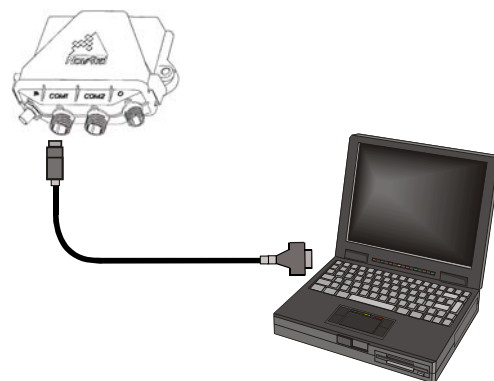
SETTING UP YOUR FLEXPAK-SSII

Complete the steps below to connect and power your FlexPak.

1. Mount the antenna on a secure, stable structure with an unobstructed view of the sky.
2. Using the antenna cable, connect the antenna to the GPS antenna port, which is found on the front face of the FlexPak.

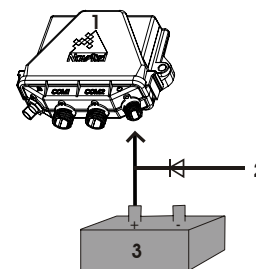


3. Connect the COM1 port on the receiver to a serial port on the PC.



4. Connect the power cable connector to the PWR port. The threads of the Deutsch connector ratcheting mechanism fit tightly with that of the PWR port.

5. It is recommended that a back-up battery (3) is placed between the receiver (1) and its voltage supply (2) to act as a power buffer:



Normally when a vehicle engine is started, power can dip to around 9.6 VDC or even cut-out to ancillary equipment. Plug in the adapter and/or connect and turn on the power supply. The LED above the *PWR* port will be red when the FlexPak-SSII is properly powered.

INSTALLING STARVIEW

Once the receiver is connected to the PC, antenna, and power supply, install the *StarView* software. The *StarView* CD is supplied with the development kits, otherwise *StarView* and any updates are available on our website.

To install *Starview* from CD:

1. Start up the PC.
2. Insert the *StarView* CD in the CD-ROM drive of the computer.
3. Install the *StarView* software by following the steps on the

screen. If the setup utility is not automatically accessible when the CD is inserted, select *Run* from the *Start* menu and press the *Browse* button to locate *Setup.exe* on the CD drive.

To install *Starview* from our website:

1. Start up the PC and launch your internet service program.
2. Go to our website at <http://www.novatel.com/Downloads/fwsupdates.html> and scroll down to the *Superstar II Family Firmware/Software* section.
3. Download the *StarView* setup program and save it in a temporary directory (for example, C:\temp).
4. Use the setup program to install the *StarView* software by following the steps on the screen.

☒ After installation, *StarView* also appears in the Windows Start menu at *Start | Program Files | NovAtel L1 Software*.

The most up to date version of *StarView* may be found on our website. Check our website for updates at:

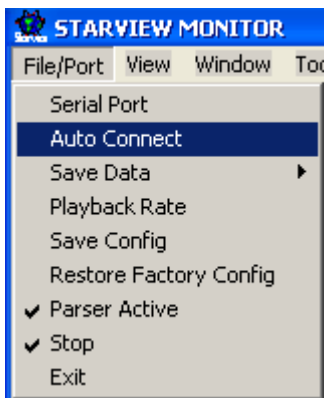
<http://www.novatel.com/Downloads/fwsupdates.html>

ESTABLISHING RECEIVER COMMUNICATION

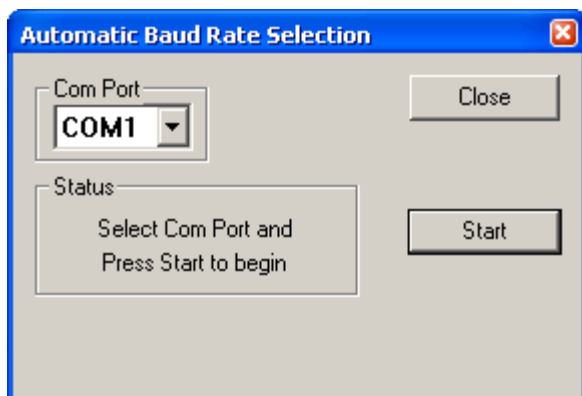
To open a serial port to communicate with the receiver, complete the following.

1. Launch *StarView* from the folder you specified during the installation process or from the Windows Start menu at: *Start | Program Files | NovAtel L1 Software*.
2. Open the *File/Port* menu and select *Auto Connect*.

☒ The default data transfer rate is 9600 bps unless your receiver model has Carrier Phase Output (CP) capability with 19200 bps as the default. A list of models is in *Appendix A* of the *SUPERSTAR II Firmware Reference Manual*.



3. Select the PC serial port that the FlexPak-SSII is connected to from the *Com Port* drop-down list.



4. Click on *Start* and *StarView* searches for the FlexPak-SSII receiver on the specified port at various baud rates.

USING STARVIEW

StarView provides access to key information about your receiver and its position. The information is displayed in windows accessed from the *Window* menu. For example, to show details of the GPS satellites being tracked, select *Channel | Channel Assignment* from the *Window* menu. Then in the window, right-click with your mouse and select Continuous or One Shot:

| Channel Assignment Window - Msg 6 & 7 | | | | | | | |
|---------------------------------------|-----|------|-------|------------|-----------|------|--|
| Current Status | | | | | | | |
| Ch# | Sv# | SNR | Rsrvd | Carr. Freq | Tk Status | Loc | |
| 01 | 24 | 43.2 | 0 | 3065 | Measready | Trac | |
| 02 | 30 | 47.6 | 0 | -2775 | Measready | Trac | |
| 03 | 02 | 50.9 | 0 | -1475 | Measready | Trac | |
| 04 | 10 | 44.0 | 0 | -4235 | Measready | Trac | |
| 05 | 06 | 43.7 | 0 | -3535 | Measready | Trac | |
| 06 | 05 | 49.9 | 0 | -75 | Measready | Trac | |
| 07 | 09 | 43.1 | 0 | 3255 | Measready | Trac | |
| 08 | 25 | 40.6 | 0 | -2555 | Measready | Trac | |
| 09 | 04 | 47.5 | 0 | 1865 | Measready | Trac | |
| 10 | 07 | 42.6 | 0 | 2585 | Measready | Trac | |
| 11 | 122 | 39.8 | 0 | -425 | Measready | Trac | |
| 12 | 134 | 37.8 | 0 | -425 | Measready | Trac | |

Similarly, select *Navigation | LLH Solution* from the *Window* menu and right-click to select Continuous or One Shot. The position of the receiver is displayed in LLH (latitude, longitude and height) coordinates.

| Navigation Window (User Coor) - Msg 20 | |
|--|------------------------|
| Lat: | N 051 06'58.936" (Deg) |
| Long: | W 114 02'17.686" (Deg) |
| Alt: | 1047.37 m |
| Velocity N: | 0.00 m/s |
| Velocity E: | 0.00 m/s |
| Velocity U: | 0.00 m/s |
| HFOM: | 0.82 m |
| VFOM: | 0.86 m |
| Ground Speed: | 0.00 m/sec |
| Track Angle: | 0.00 rad |
| Nav Mode: | Diff. 3-D |
| DGPS Source: | SBAS |
| HDOP: | 1.0 |
| VDOP: | 1.3 |

DETERMINING WHEN THE POSITION IS VALID

The receiver is in Navigation mode whenever sufficient satellite information and measurement data is available to produce a GPS fix. When the receiver has a valid position, the Nav Mode field in *StarView's* *LLH Solution*, or *XYZ Solution*, window shows Nav 3-D, Nav 2-D, Diff. 3-D or Diff. 2-D. If it shows Initialized or Initialization Required there is no valid position yet.

ENTERING COMMANDS

The FlexPak-SSII uses a comprehensive command interface. Logs and commands can be sent to the receiver using the *Xmit Msg* and *Tool Setting* menus in *StarView*.

The following information is important when selecting commands:

1. You can send a message request using one shot (Normal mode) or continuous (Special mode) by selecting *Xmit Msg | General Message Request* in *StarView*. Refer to the *SUPERSTAR II Firmware Reference Manual*, which shows how these modes effect individual commands and log requests differently.
2. There is an option in *StarView* to save all messages transmitted by the receiver into a file. Select *File/Port | Save Data* after you have finished selecting messages in Step #1.

- ☒ The *SUPERSTAR II Firmware Reference Manual* provides details on messages and parameters that the FlexPak-SSII uses. It is available on our website at:
<http://www.novatel.com/Downloads/docupdates.html>

ENABLING SBAS POSITIONING

FlexPaks are available with an SBAS option. The ability to simultaneously track two SBAS satellites, and incorporate the SBAS corrections into the position, is available on these models.

To enable SBAS, select *Tool Setting | DGPS Config* in *StarView*. Set the DGPS Type to SBAS only or Automatic. The receiver uses SBAS satellites in your coverage area.

Select *Window | Status | SBAS Status*. Its window shows the number of valid SBAS messages that are being decoded for a specific SV number. When the *Valid Messages* count is not incrementing, the receiver is not tracking any SBAS satellites.

When SBAS corrections are incorporated, the LLH solution shows a Nav Mode of Diff. 3-D and a DGPS Source of SBAS.

StarView allows you to update receiver configuration parameters such as maximum velocity, antenna type and navigation rate. Select *Tool Setting | Set Configuration*. You can also deselect GPS or SBAS system satellites by selecting *Tool Setting | Deselect | SVs* from the main menu.

Refer to the *SUPERSTAR II Firmware Reference Manual* for an appendix on SBAS Positioning that includes an explanation of dynamic modes.

QUESTIONS OR COMMENTS

If you have any questions or comments regarding your FlexPak-SSII, please contact NovAtel Customer Service using one of the methods provided below.

Email: support@novatel.ca

Web: www.novatel.com

Phone: 1-800-NOVATEL (U.S. & Canada)

403-295-4900 (International)

Fax: 403-295-4901



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