This guide provides the basic information you need to setup and begin using your new ProPak-LB plus. For more detailed information on the installation and operation of your receiver, please refer to the user manuals provided on the accompanying CD. The most up to date revisions of these manuals can be found on our website at http://www.novatel.com/Downloads/docupdates.html.

To order a printed copy of the manuals, free of charge, follow the instructions given on the enclosed User Manuals card. Note that although a USB Drivers directory appears on the CD, its contents do not apply to the ProPak-LB plus.

**BOX CONTENTS**

In addition to this Quick Start Guide, the following is provided with your ProPak-LB plus:

- 1 12V power cable
- 3 serial cables, each with a unique colour-encoded connector at the receiver end
- 1 CD containing:
  - An installation program for NovAtel's GPS PC utilities, including GPSolution®
  - Product documentation, including user manuals
  - The OEM4 Software Development Kit
  - OEM4 Family Quick Reference Guide
  - User Manuals card for requesting printed manuals

**ADDITIONAL EQUIPMENT REQUIRED**

The additional equipment listed below is needed for a basic setup:

- A Windows-based PC with an RS-232 DB-9 port
- One of the following:
  - A standard 12 VDC power outlet, or
  - A-7-15 VDC power supply and a power cable with a 2-pin Switchcraft socket (Switchcraft part number EN332CF) at the receiver end
- NovAtel’s GPS-600-LB dual-frequency GPS and Omnistar L-band antenna
- An antenna cable with a TNC male connector at the receiver end, such as NovAtel’s C016 model

**SETTING UP YOUR PROPAK-LB PLUS**

Complete the steps below to connect and power your ProPak.

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 port, which is found on the back face of the ProPak.
3. Connect the port (COM1) on the receiver to a serial port on the PC. The provided COM1 serial cable has a 6-pin, keyed connector at the receiver end.
4. Connect the power cable to the ⚡ port on the receiver.
5. Plug in the adapter and/or connect and turn on the power supply. When the ProPak is properly powered, the LED to the right of the ⚡ icon will be red.

**INSTALLING THE PC UTILITIES**

Once the ProPak is connected to the PC, antenna, and power supply, install NovAtel’s GPS PC utilities.

1. Start up the PC.
2. Insert the accompanying CD in the CD-ROM drive of the computer.
3. Install the PC utilities by advancing through the steps provided in the NovAtel GPS PC Utilities setup program. If the setup program is not automatically accessible when the CD is inserted, select Run from the Start menu and then the Browse button to locate Setup.exe on the CD drive.

**ESTABLISHING COMMUNICATION WITH THE RECEIVER**

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

1. Launch GPSolution from the Start menu folder specified during the installation process. The default location is Start | Programs | OEM4 PC Software.
2. Open the Device menu and select Open...

**QUICK START GUIDE**

1. If an alternative power source is preferred, the 12V power adapter can be cut off from the power cable. The exposed wires (red for positive, black for negative) can then be tied to a supply capable of at least 5 W. The use of a 3 A slow-blow fuse is recommended.

3. Select the New... button in the Open dialog box.
4. Enter a name for the new device configuration in the Name field of the New Config dialog box.
5. Select the Settings button.
6. Select the PC serial port the ProPak is connected to from the PC Port drop-down list.
7. Select 57600 from the Baud Rate list.
8. Uncheck the Use hardware handshaking checkbox.
9. Select OK to save the settings.
10. Select the OK button to close the New Config dialog box and create the new device configuration.
Determining When the Position is Valid

When the receiver has a valid position, the LED to the right of the icon will be lit. In addition, the Solution Status field in GPSolution's Position window will show Computed.

Entering Commands

The ProPak-LBPlus uses a comprehensive command interface. Commands can be sent to the receiver using the Console window in GPSolution, which is opened from the View menu. Commands are entered in the text box at the bottom of the window.

The following information is important when entering commands:

- Commands can be entered in three formats: ASCII, Abbreviated ASCII, and Binary. Abbreviated ASCII is the best format to use when you wish to work with the receiver directly.
- Press the Enter key to send the command string to the receiver.
- The commands are not case sensitive.
- Abbreviated ASCII, or, the OmniSTAR beam frequency chart at:

Enabling L-Band Positioning

Your ProPak-LBPlus supports L-Band positioning, which allows you to achieve sub-meter accuracy. In order to use OmniSTAR, a subscription to OmniSTAR's Virtual Base Station (VBS) or High Precision (HP) service is required. The Canadian Differential Global Positioning System (CDGPS) frequencies and their coverage areas are shown. The OmniSTAR HP service, or OmniSTAR_HP (HP service).

To confirm you are tracking an L-Band signal, log the status information by entering the following command:

Log Lbandstat

The Position Type field shown in GPSolution's Position window should change from Single to WAAS. The log that is generated displays the OmniSTAR serial number in the fifth field following the log header. It is a six digit number in the range T00000 to T99999. This log also provides the status of your subscription. In order to activate your subscription, the receiver must be powered and tracking an OmniSTAR satellite.

You can switch between OmniSTAR VBS and CDGPS:

To Use CDGPS

AssignLband CDGPS <freq> 4800
PsrdiffsourcE CDGPS

To Use OmniSTAR VBS

AssignLband Omnistar <freq> 1200
PsrdiffsourcE Omnistar

Where <freq> is determined for CDGPS or OmniSTAR from the CDGPS beam frequency chart:

<table>
<thead>
<tr>
<th>Position Type</th>
<th>East</th>
<th>East-Central</th>
<th>West-Central</th>
<th>West</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDGPS</td>
<td>154764</td>
<td>1557897</td>
<td>1557571</td>
<td>1547547</td>
</tr>
<tr>
<td>OmniSTAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

or, the OmniSTAR beam frequency chart at:

http://www.omnistar.com/setup_osrc.html

Enabling SBAS Positioning

Certain models of the ProPak-LBPlus are also capable of SBAS positioning. This positioning mode is enabled using the SBASCONTROL command. At the time of publication, the WAAS (North America) and EGNOS (Europe) systems are in test mode. As a result, the following commands are typically used to enable WAAS and EGNOS modes, respectively:

SBASControl enable waas 0 zerototwo
SBASControl enable egnos 120 zerototwo

Once enabled, the Position Type field shown in GPSolution's Position window should change from Single to WAAS.

Using the Serial Ports

There are three serial ports provided on the ProPak-LBPlus, each with a unique, keyed connector. Matching serial cables have been provided for each port. The table below provides the labels used for each port and the number of pins, which will match the number of pins on the receiver-end connector of the serial cable.

<table>
<thead>
<tr>
<th>Port</th>
<th>Labels</th>
<th>Number of Pins</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM1</td>
<td>F</td>
<td>6</td>
</tr>
<tr>
<td>COM2</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>COM3</td>
<td></td>
<td>8</td>
</tr>
</tbody>
</table>

Questions or Comments

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

Support: 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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