

QUICK START GUIDE

This guide provides the basic information you need to setup and begin using your new ProPak-4E. For more detailed information on the installation and operation of your receiver, please refer to the user manuals provided on the accompanying CD. To order a printed copy of the manuals, free of charge, follow the instructions given on the enclosed *User Manuals* card.



BOX CONTENTS

In addition to this *Quick Start Guide*, the following is provided with your ProPak-4E:

- 1 automobile power adapter cable
- 2 serial cables
- 1 cable for the supplementary strobe signal port
- 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:

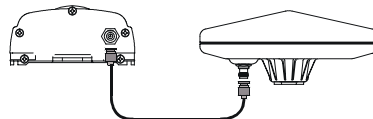
- A Windows-based PC with an RS-232 DB-9 port
- One of the following:
 - A standard 12 VDC automobile power outlet, or
 - NovAtel's GPS-APRO model AC adapter, or
 - A 10 - 36 VDC power supply capable of at least 4.0 W and a power cable with a 4-pin LEMO socket (LEMO part number FGJ.0B.304.CNLD52Z) at the receiver end¹
- A quality GPS antenna, like the GPS-600 from NovAtel
- An antenna RF cable with a TNC male connector at the receiver end, such as NovAtel's C016 model

1. If an alternative power source is preferred, the automobile power adapter can be cut off from the power cable. The exposed wires (red and orange for positive, brown and black for negative) can then be tied to a 10-36 VDC supply capable of at least 4.0 W. The use of a 3 A slow-blow fuse is recommended.

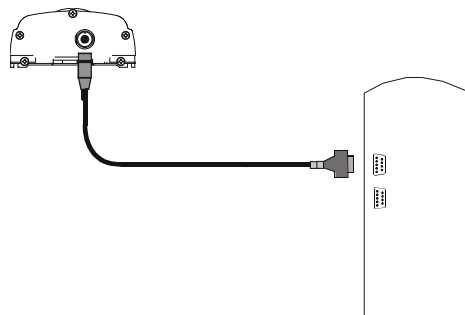
SETTING UP YOUR PROPAK-4E

Complete the steps below to connect and power your ProPak.

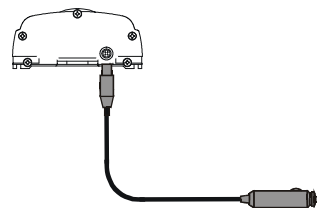
1. Mount the GPS antenna on a secure, stable structure with an unobstructed view of the sky.
2. Using the antenna RF cable, connect the antenna to the *RF* port, which is found on the front face of the ProPak.



3. Connect the *COM1* port on the receiver to a serial port on the PC, using the provided null modem serial cable. The cable will have a white label with the number 01016329 on it. Line up the red mark on the cable's connector with the red mark on the top of the *COM1* connector when inserting the cable.



4. Connect the power cable to the power port, which is found towards the bottom of the front face of the ProPak, below the *COM1* and *RF* ports. The power cable provided with the ProPak has a 4-pin, keyed connector at the receiver end.



5. Plug in the adapter and/or connect and turn on the power supply. When the ProPak is properly powered, the LED on the back face of the ProPak will be lit.

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 utility. If the setup utility is not automatically accessible when the CD is inserted, select *Run* from the *Start* menu and select 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*.

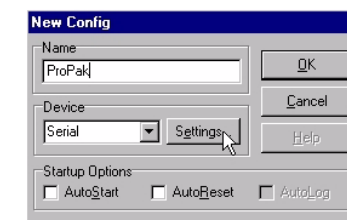
2. Open the *Device* menu and select *Open...*



3. Select the *New...* button in the *Open* dialog box.

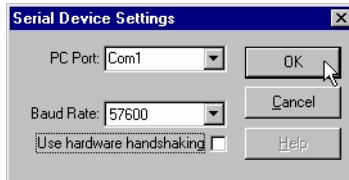


4. Enter a name for the new configuration in the *Name* field of the *New Config* dialog box and then select the *Settings* button.

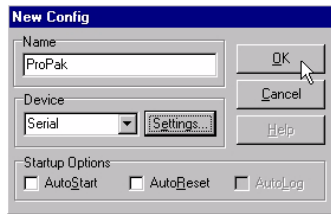


5. Select the PC serial port the ProPak is connected to from the *PC Port* drop-down list.
6. Select *57600* from the *Baud Rate* list.
7. Uncheck the *Use hardware handshaking* checkbox.

8. Select *OK* to save the settings.

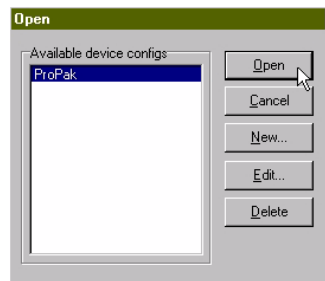


9. Select the *OK* button to close the *New Config* dialog box and create the new device configuration.



10. Select the new configuration from the *Available device configs* list in the *Open* dialog box.

11. Select the *Open* button to open communications with the ProPak.



USING GPSOLUTION

GPSolution provides access to key information about your receiver and its position. The information is displayed in windows accessed from the *View* menu. For example, select *Position Window* from the *View* menu to display the position of the receiver. To show details of the GPS and geostationary (SBAS) satellites being tracked, select *Tracking Status Window* from the menu.

Channel Tracking Status - PowerPak												
Channel	1A	2A	3A	4A	5A	6A	7A	8A	9A	10A	11	13A
PRN number	7	25	5	21	1	20	30	14	11	134	134	134
Chan State	Lock	Lock	Lock	Lock	Lock	Lock	Lock	Lock	Lock	Lock	Lock	Lock
Doppler	-384.3	1448.6	-777.3	-3286.6	3274.2	2897.9	1151.1	-2341.1	-971.8	34.86	34.86	34.86
C/N0	38.72	50.97	42.12	41.30	39.59	47.04	43.96	49.65	40.07	0.00	0.00	0.00
Residual	1.23	6.10	-0.46	-2.88	1.73	-2.32	1.99	-0.23	5550.9	24.4	24.4	24.4
LockTime	2521.8	5527.6	1297.9	5546.1	119.4	4678.6	3899.9	5545.4				
Reject Code	Good	Good	Good	Good	Good	Good	Good	Good	Good	NoEphm	Geo-S	FEC
System-Corr	GPS-P	GPS-P	GPS-P	GPS-P	GPS-P	GPS-P	GPS-P	GPS-P	GPS-P	GPS-P	GPS-P	GPS-P
Measurement	L1-C/A	L1-C/A	L1-C/A	L1-C/A	L1-C/A	L1-C/A	L1-C/A	L1-C/A	L1-C/A	L1-C/A	L1-C/A	L1-C/A

Position - PowerPak												
Channel	1B	2B	3B	4B	5B	6B	7B	8B	9B	10B	12	122
PRN number	7	25	5	21	1	20	30	14	11	122	122	122
Chan State	Lock	Lock	Lock	Lock	Lock	Lock	Lock	Lock	Lock	Lock	Lock	Lock
Doppler	-399.6	1128.6	-646.5	-2581.1	2551.1	2257.9	886.9	-1824.4	-43.45	11.03	37.2	37.2
C/N0	23.96	46.65	28.06	33.31	30.25	38.89	34.24	43.45				
Residual	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
LockTime	2517.5	5512.0	1297.9	5514.5	112.0	4674.0	3891.5	5514.5				
Reject Code	L2	L2	L2	L2	L2	L2	L2	L2	L2	L2	L2	L2
System-Corr	GPS-P	GPS-P	GPS-P	GPS-P	GPS-P	GPS-P	GPS-P	GPS-P	GPS-P	GPS-P	GPS-P	GPS-P
Measurement	L2-Y	L2-Y	L2-Y	L2-Y	L2-Y	L2-Y	L2-Y	L2-Y	L2-Y	L2-Y	L2-Y	L2-Y

Wed Jul 24 15:22:04 2002 Local
Solution Status: Computed Solution Age: 0.000
Position Type: Single

ENTERING COMMANDS

The ProPak-4E 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.

The *OEM4 Family Quick Reference Guide* provided with the receiver lists all the available commands and the parameters they use for the *Abbreviated ASCII* format.

LOGGING DATA

An extensive collection of logs has been created to capture the data your ProPak receives and processes. These logs can be directed to any of the ProPak's serial ports and can be automatically generated when new or changed data becomes available or at regular intervals. The available logs are listed in the *OEM4 Family Quick Reference Guide*.

To log data, use the *LOG* command. For example, to log the pseudo-range position to COM2 every 30 seconds, enter the following:

```
LOG COM2 PSRPOS ONTIME 30
```

Logs can be generated in one of three formats: *ASCII*, *Abbreviated ASCII*, or *Binary*. See *Volume 2* of the *OEM4 Family User Manual* for information on the *LOG* command, specifying the output format, and the details of each log.

If you prefer, *GPSolution* also provides a graphical interface for configuring data logging. Select *Logging Control Window* from the *View* menu to open the *Logging Control* window. In this window, you can select which logs to capture and choose which ports to send the data to. In addition, you can specify a file in which to save the data.



DETERMINING WHEN THE POSITION IS VALID

When the receiver has a valid position, the LED on the back face of the ProPak will turn green. In addition, the *Solution Status* field in *GPSolution's Position* window will show *Computed*.

ENABLING SBAS POSITIONING

Certain models of the ProPak-4E are capable of SBAS positioning. This positioning mode is enabled using the *WAASCORRECTION* 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:

```
WAASCORRECTION ENABLE 0 WAATESTMODE
```

```
WAASCORRECTION ENABLE 120 EGNOSTESTMODE
```

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

AVAILABLE PORTS

In addition to the power and antenna ports, there are two serial ports and one strobe port provided on the ProPak-4E. The *COM 1* and *COM 2* ports provide RS-232 signals. The *I/O* port supplies access to supplementary strobe signals such as a mark input and a programmable variable frequency output. The specifications for these ports, including signal descriptions and connector details, are given in *Volume 1* of the *OEM4 Family User Manual*.

QUESTIONS OR COMMENTS

If you have any questions or comments regarding your ProPak-4E, please contact NovAtel Customer Service using one of 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



© Copyright 2002 NovAtel Inc. All rights reserved. Printed in Canada on recycled paper.
Unpublished rights reserved under international copyright laws. Recyclable.
GM-14915040 Rev 1 October 3, 2002