USER GUIDE

Trimble® GPS Studio Application

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This is the May 2011 release (Revision B) of the *Trimble GPS Studio Application User Guide*.

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CHAPTER

1

Introduction to Trimble GPS Studio

In this chapter:

- Technical Assistance
- Your Comments

The *Trimble GPS Studio Application User Guide* describes the Trimble GPS Studio application, which you, the system designer, can use to configure GPS receivers. With a rich user interface and feature set, the Trimble GPS Studio has replaced earlier programs used for monitoring and interacting with Trimble Embedded Devices products.

The application, which works with a serial connection, needs a virtual serial USB driver in order to work with the standard USB interface provided on GPS receiver starter kits.

Instructions for the virtual serial USB interface are included.

GPS Studio Features

The Trimble GPS Studio has features such as:

- *New Connection with Auto-Detect Receiver*, which tests a GPS receiver port for protocol and baud rate so you do not have to remember them when you connect GPS Studio to the GPS receiver.
- *Monitor*, which provides time, velocity, position data, receiver mode and status, map functions, an auto-query function to report satellite data, and more.
- *Receiver Configuration*, which enables you to configure a receiver and save its configuration.
- *Configurator*, which enables you to load, modify, and save receiver configurations and then apply them to additional receivers.
- *Data Logger*, which logs the output of one or more GPS devices at the same time.
- *Data Converter*, which converts logs from the Data Logger into formats used by other applications.
- *Generic Packets*, which sends and views received raw data.
- *Flash Loader*, which loads new firmware into the GPS receiver.

Technical Assistance

If you have a problem and cannot find the information you need in the product documentation, contact the Trimble Technical Assistance Center at 800-767-4822 or email ctsupport@trimble.com.

Your Comments

Your feedback about the supporting documentation helps us to improve it with each revision. Email your comment to ReaderFeedback@trimble.co.nz.

Next – **Continue with Chapter 2, Installing Trimble GPS Studio to start.**

CHAPTER

2

Installing Trimble GPS Studio

In this chapter:

- Prerequisites for Downloading and Installing the Software
- Downloading the Software
- Extracting the Trimble GPS Studio Application
- Installation of the FTDI USB Virtual COM Port Driver
- Connecting the Starter Kit Physically
- Following Up With USB Virtual COM Port Assignment

This chapter describes how to install software and hardware needed for the Trimble GPS Studio application, and how to connect the Starter Kit to your computer.

Prerequisites for Downloading and Installing the Software

Confirm that you have the following:

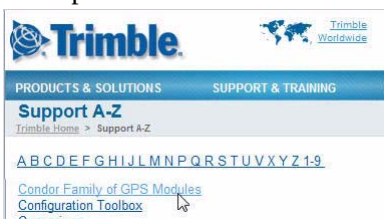
- A computer running a Windows® operating system

  Note – **Supported operating systems: Windows 7, Windows Vista, Windows XP SP 3, or Windows 2000 SP 4**

- A free USB port on the computer
- Internet access

Downloading the Software

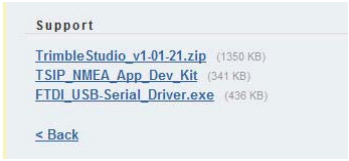
1. Go to the Trimble Support website at http://www.trimble.com/support.shtml
2. Click the GPS receiver product that is in your Starter Kit, for example Condor or Copernicus II.



3. Click the **Support** *tab* for the selected product

4. In the Support tab, select the Support *link*.

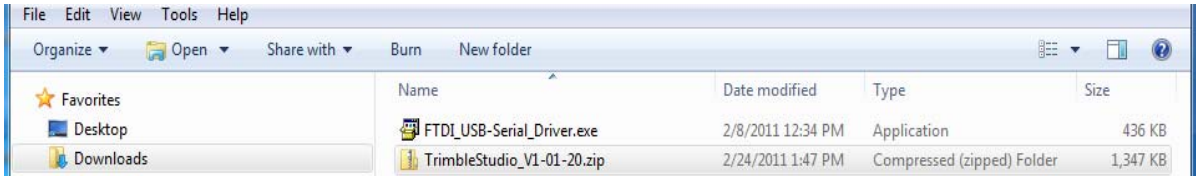
The Support *page* opens; it lists software available for download.



The listed files are:

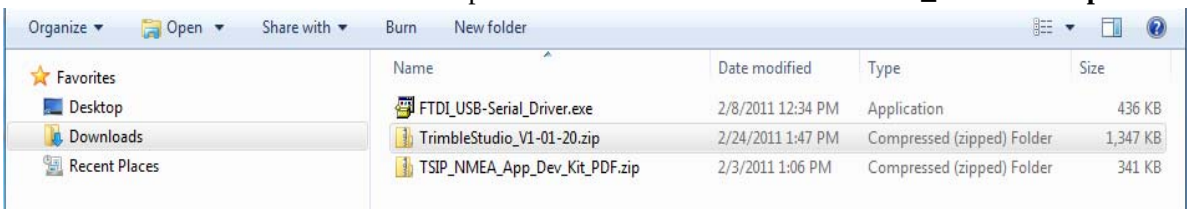
- **TrimbleStudio_v*n-nn-nn*.zip** – **You need this**
  (actual filename changes for date; *e.g.*, TrimbleStudio_V1-01-21.zip)
- **TSIP_NMEA_App_Dev_Kit** – Not needed for GPS Studio
- **FTDI_USB-Serial_Driver.exe** – **You might need this** driver if you do not have Windows 7.

5. Save the one or two needed files to a folder on the hard drive.



Extracting the Trimble GPS Studio Application

1. Use Windows Explorer to browse to the **TrimbleStudio_V*n-nn-nn*.zip** file.



2. Extract the GPS Studio software to a location on the hard drive. (For example, right-click the compressed file and select “Extract All”.)

Note – **The directory you choose will also become the initial default directory for logs and reports from the GPS Studio.**

Installation of the FTDI USB Virtual COM Port Driver

The starter kit uses a USB 2.0 dual serial port emulator interface chip from Future Technology Devices International Ltd. (FTDI). The GPS Studio requires the FTDI driver.

- Installation is automatic if you have Windows 7, have granted Windows Update permissions, and are currently accessing the Internet. If this is the case, continue with the procedure in the section Connecting the Starter Kit Physically on page 12.

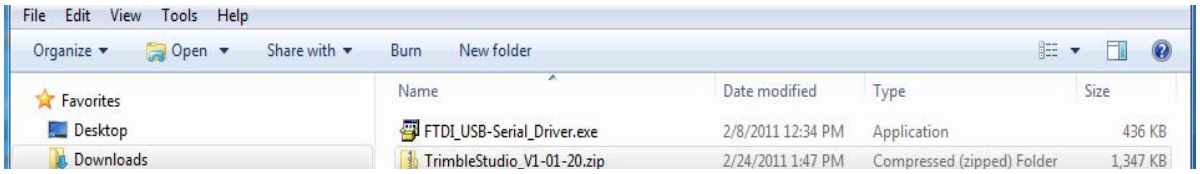
Note – **Windows 7 will automatically connect to the Windows Update website and install the most recent “WHQL” (Microsoft Windows® Hardware Quality Labs) Certified Available driver for the USB-to-serial emulator interface chip from FTDI. This will happen when you plug in the USB cable (Connecting the Starter Kit Physically on page 12), as long as you have an available Internet connection, and depending on your update settings.**

- If you ***do not have Windows 7,*** perform the following procedure to manually install the driver you downloaded from trimble.com.

Note – **The latest driver is available as a setup executable from the FTDI website at** http://www.ftdichip.com/Drivers/VCP.htm

Perform the following procedure to manually install the driver you downloaded:

1. Use Windows Explorer to browse to the *FTDI_USB-Serial_Driver.exe* file you downloaded from the Trimble website (or the file from the FTDI website) and double-click it.



2. Depending on the download version and your operating system version, you might be prompted with the message **FTDI CDM Drivers have been successfully installed.** If so, click OK.
3. You might be prompted to restart your computer to apply these changes. If so, save any open files and close programs and click Restart Now.
4. If you were not prompted, restart your computer now.

Connecting the Starter Kit Physically

1. Connect one end of the USB cable (supplied) to the USB connector on the Starter Kit.

2. Connect the other end of the USB cable to your computer. The USB cable now supplies power to the unit.

   Note – **Depending on the starter kit product and the antenna supplied with it, you may or may not need to connect power supply to the Power connector on the starter kit. (One or more power supply accessories may be supplied with the starter kit; accessories vary by GPS receiver product.)**

3. Connect the GPS antenna to the interface unit.

4. For the best GPS reception, place the antenna outside or near a window.

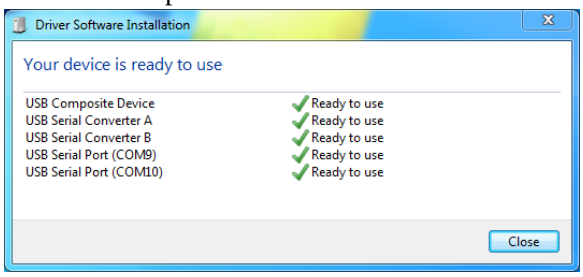
5. Optionally connect to the BNC connector on the rear of the interface unit for the PPS output.

6. Switch ON the GPS Starter Kit (interface) unit. The Power ON LED lights green.

Following Up With USB Virtual COM Port Assignment

After you have physically plugged in the USB connectors and turned on the Starter Kit:

1. Look on your Windows desktop for a dialog such as the following, which indicates that the FTDI driver automatically assigned two virtual serial COM ports to the USB port.



2. Click Close. (Later, when you need to select a COM port within GPS Studio, these two USB Serial Ports will be displayed in GPS Studio.)

Note – **If Windows 7 did not automatically install driver for the USB-to-serial emulator interface chip from FTDI, you might need to manually install the driver. See** **Installation of the FTDI USB Virtual COM Port Driver on page 10****.**

Disabling the Microsoft Serial Ballpoint Driver

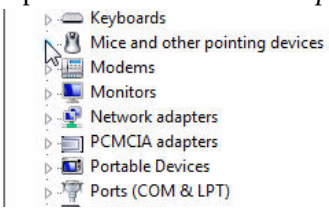
The system tray might indicate that the system has installed or enabled the Microsoft Serial Ballpoint (mouse pointer) device.

Note – **The Microsoft Serial Ballpoint can cause your mouse pointer to jump around the screen when moved. You need to disable it as described in this procedure.**

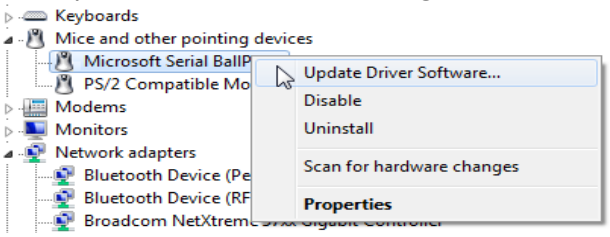
1. Switch the Starter Kit OFF to stop the pointer from jumping.
2. On the computer, open the *Device Manager*. (In the Windows 7 Start menu, enter “Device Manager” in the *Search* field. Select the *Device Manager* from the top of the results list in the Start Menu.)

   The *Device Manager* window opens.

3. Expand the *Mice and other pointing devices* node.



4. If *Microsoft Serial BallPoint* is listed, right-click it and then select *Disable*.

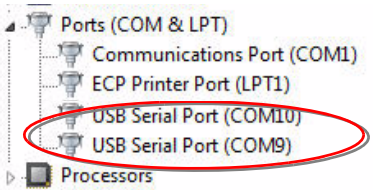


5. Switch the Starter Kit ON.

Viewing the Assigned COM Ports in Device Manager

To view the assigned COM ports in Windows *Device Manager*:

1. Expand the *Ports (COM & LPT)* node.
2. Look for the two USB Serial Port COM numbers. In this example, they are COM10 and COM9.



Note – **In general, the COM A port of the GPS device is the lower COM number; the COM B port of the GPS device is the higher number.**

Next – **Continue with Chapter 3, Running Trimble GPS Studio for instructions on starting the GPS Studio, an overview of the *Trimble GPS Studio* window, and instructions on connecting to the receiver from within the application.**

CHAPTER

3

Running Trimble GPS Studio

In this chapter:

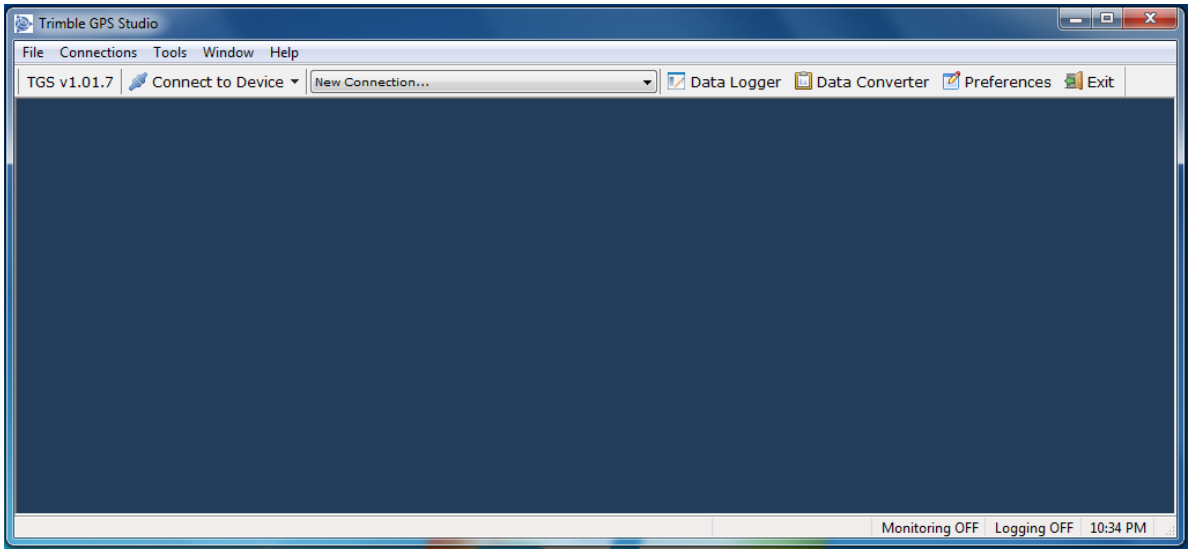
- Starting the Trimble GPS Studio Application
- The Trimble GPS Studio Window – an Overview
- Connecting GPS Studio to the GPS Receiver
- Overview of the Monitor Window

This chapter describes how to start the Trimble GPS Studio application and how to connect to the Starter Kit from the application. It also includes overview descriptions of the *Trimble GPS Studio* window and the *Monitor* window.

Starting the Trimble GPS Studio Application

To start the Trimble GPS Studio application, double-click the icon in the folder where the application is stored.

The main *Trimble GPS Studio* window opens.



Note – **Additional windows are displayed within the main *Trimble GPS Studio* window if you leave them open when you exit the application.**

The Trimble GPS Studio Window – an Overview

Here is a brief introduction to the features of the main *Trimble GPS Studio* window.

Menu Bar

The menu bar is across the top of the window. It contains these menus:

- *File* – Lists Preferences and Exit menu choices.
- *Connections* – Lists New Connection, Auto-Detect, Refresh Com List, and Device Manager menu choices.
- *Tools* – Lists menu choices that include: Data Logger, Data Converter, Flash Loader, and Configurator
- *Window* – Lists window functions and a list of the open windows (so you can choose one to bring on top of the others)
- *Help*

Command Bar

The command bar is below the menu bar. It contains these clickable display buttons and valid-value selectors:

- Version number – Opens the About box.
- Connect to Device ▼ – Selection list of devices to connect to.
- New Connection... ▼ – Selection list of connection features and COM ports. (This is the featured method for connecting in this guide.)
- Data Logger – Logs raw data from one or more connected devices.
- Data Converter – Converts logged raw data to various formats.
- Preferences – Configures various program settings.
- Exit – Exits GPS Studio.

Status Bar

The Status bar is at the very bottom of the window. It contains these display-only status items:

- *Monitoring* – Either ON or OFF.
- *Logging* – Either ON or OFF.
- *Time* – Hour, minutes, and AM or PM.

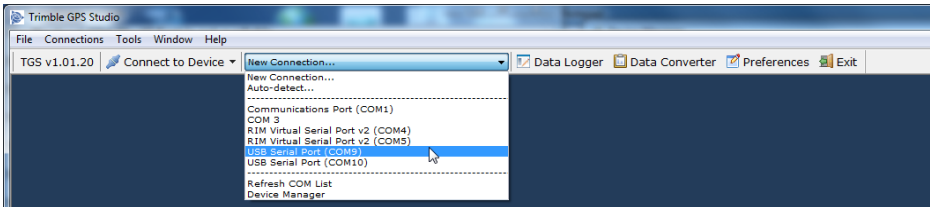
Connecting GPS Studio to the GPS Receiver

The New Connection function enables you to connect to the GPS Receiver, opening the Monitor window.

Tip – **The following New Connection feature provides auto-detection of baud rates, parity, data bits, and stop bits settings.**

To perform New Connection:

1. Click the New Connection... ▼ chooser.
2. Choose the *USB Serial Port (COM x)* you want from the drop-down list.

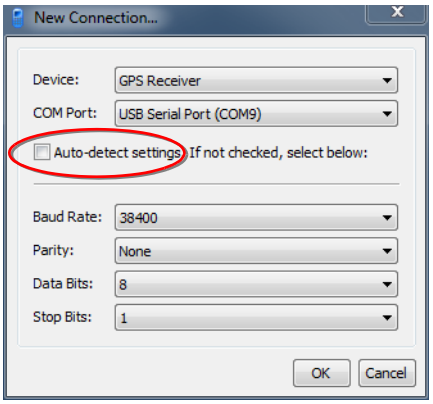


Note – **If you happen to know which port serves which protocol, select the port for the protocol you want.**

Note – **If you do not see the COM ports for the GPS receiver in the list, refresh the list as follows. Select *Connections / Refresh COM List*, click the information bubble (to close it), close the *New Connection* box if it is open, and then click** New Connection... ▼ **again. Now select the COM port.**

This opens the *New Connection...* box with the port already selected.

Checkbox for Auto-detect



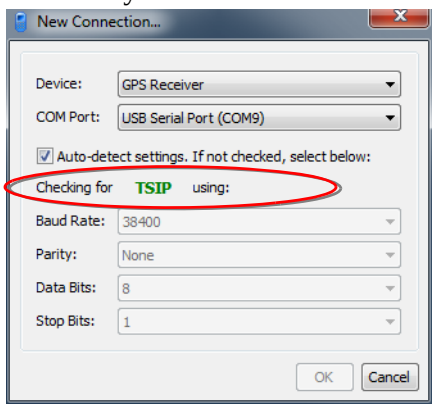
3. Select the checkbox for *Auto-detect settings*.

Tip – **When you select the checkbox, GPS Studio tries each baud rate and other settings as applicable in turn. After you check the checkbox, a *"Checking for ..... using:"* line is added to provide auto-detect status.**

Note – **If you leave the checkbox unselected, only the settings selected in the bottom half of the New Connection... box for Baud Rate, Parity, Data Bits, and Stop Bits will be used.**

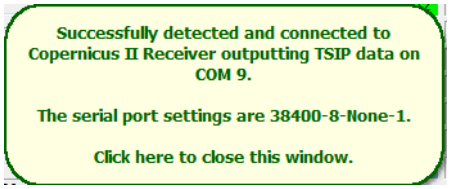
4. Click OK.

   The "*Checking for ..... using:*" line in the box reports each protocol and baud rate as they are checked.



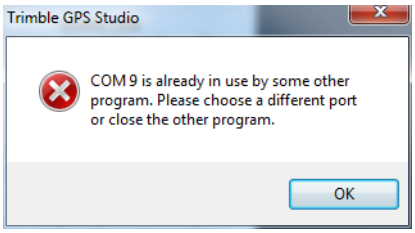
   The *New Connection...* box closes and the *Monitor* window opens.

   If the receiver is detected, the *Monitor* window is filled with data, and a message bubble reports success.



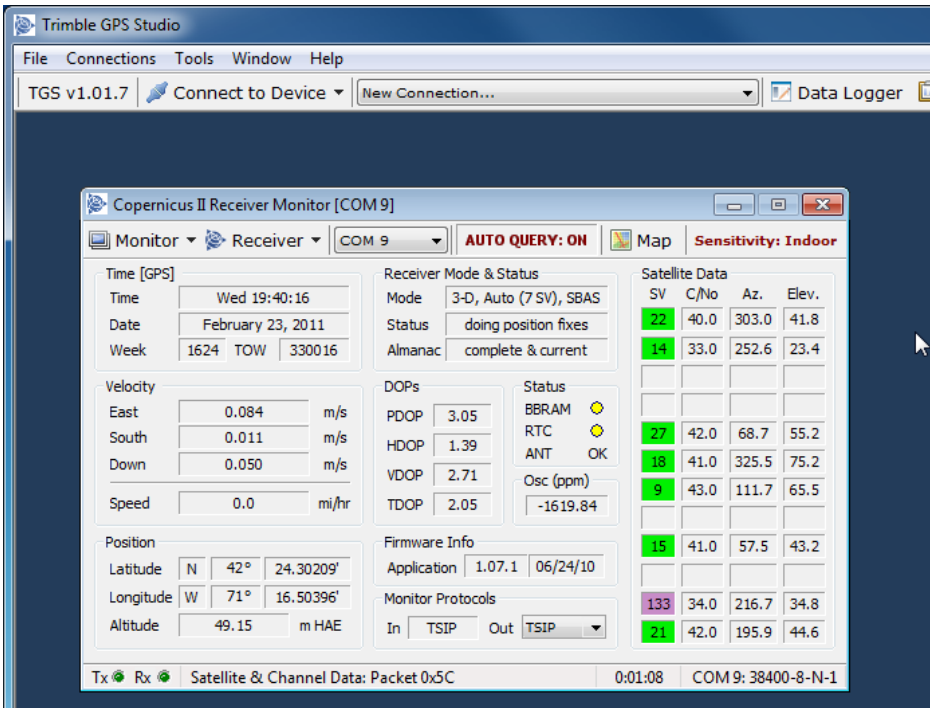
5. Click the bubble to close it.

Note – **If the receiver is not detected and you receive an error, there are some steps you can take.**



- **If you didn't select the *Auto-detect settings* checkbox, try again with it selected.**
- **Select another COM port and try again.**
- **Refresh the COM port list. (Close the *GPS Receiver Detection* box, select *Connections / Refresh COM List*, and click New Connection... ▼ again. Now select the COM port.)**
- **Shut off the Starter Kit with the ON/OFF switch. Then turn it back on.**

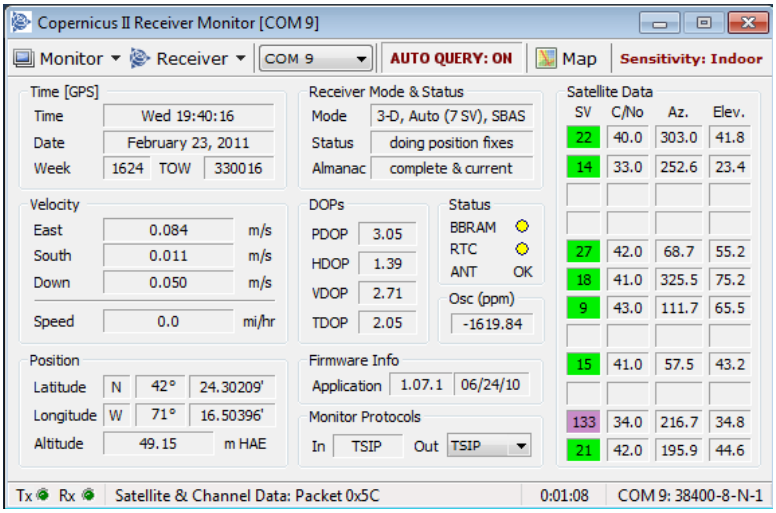
6. The *Monitor* window opens.



The Trimble GPS Studio is now connected to the GPS receiver! You can now use the GPS Studio to monitor the performance of the GPS receiver.

Overview of the Monitor Window

Here is a brief introduction to the features of the *Monitor* window.



Command Bar

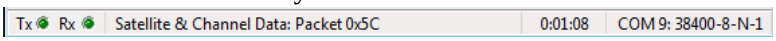
The command bar is at the top of the Monitor window.

The command bar contains these buttons and fields:

- Monitor ▼ – Menu including raw data, GPS receiver, and GPS system information.
- Receiver ▼ – Menu of GPS receiver configuration and reset options.
- ***Port selected*** ▼ – ("COM 9" for example) – Click to select another port from a list. This will open the *Port Settings* box for that port.
- Auto Query – ON or OFF. Click to ON to send the GPS receiver requests for additional information that is not automatically sent by the receiver.
- Map – Opens the *Position Map* window.
- Sensitivity – Read-only field with either "Outdoor" or "Indoor" as value.

Status Bar

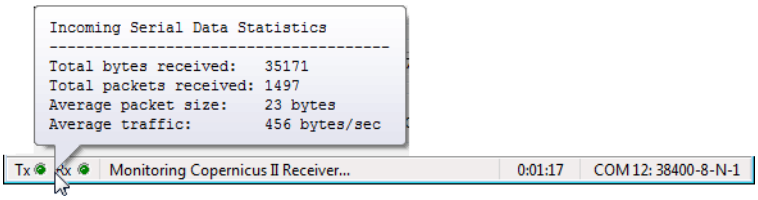
The Status bar is at the very bottom of the window.



The Status bar includes these items:

- *Tx* – Green blinking means the GPS Studio is transmitting to the GPS receiver.
- *Rx* – Green blinking means the GPS Studio is receiving from the GPS receiver.
- *Elapsed Time* – Hour, minutes, and seconds GPS Studio has been connected to the receiver.
- *Port* – COM port settings.

Tip – **Mouse over Tx or Rx in for a bubble with Incoming Serial Data Statistics.**



Now that the Trimble GPS Studio is connected to the GPS receiver, you can use the GPS Studio to configure and monitor the performance of the GPS receiver.

Next – **Continue with Chapter 4, Basic Receiver Configuration for instructions on configuring the receiver with the *Monitor* window's Receiver ▼/ Configure function.**

CHAPTER

4

Basic Receiver Configuration

In this chapter:

- GPS Port Configuration
- Configuring Output Formats
- Configuring PPS Output
- Configuring NMEA Output
- Completing the Configuration

This chapter describes how to perform basic configuration of the GPS receiver.

You do this with the *Configure* function from the Receiver ▼ menu of the Trimble GPS Studio *Monitor* window.

The feature opens the *Configure Receiver* box, which is divided into numerous tabs.

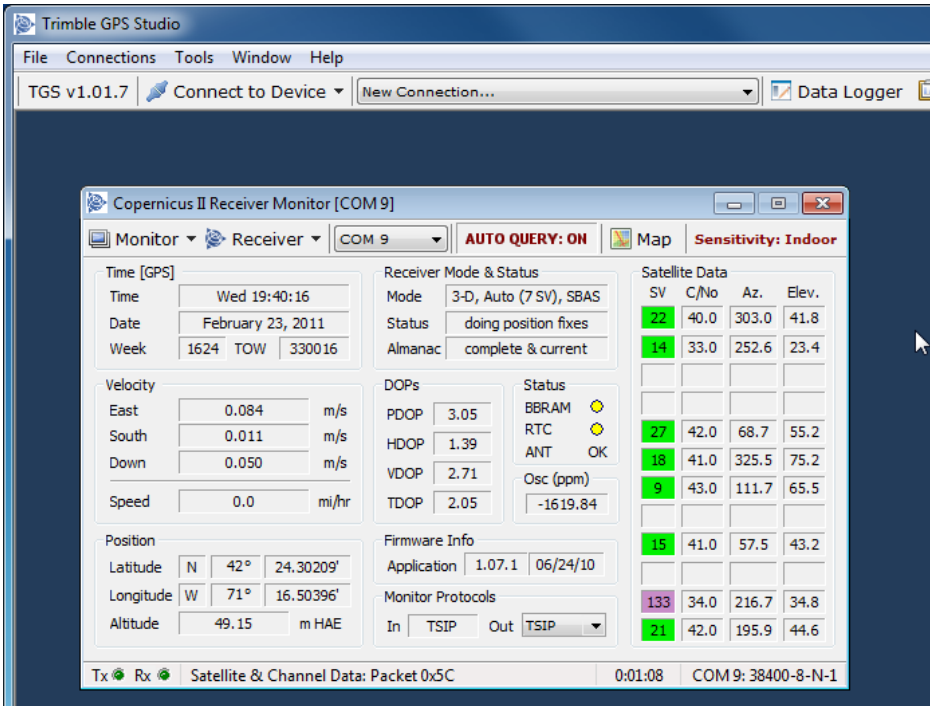
Note – **GPS modules from the Condor family have a limit of 8 "Saves" in the *Configure Receiver* box, after which the device must be reflashed (see** **Using the Flash Loader on page 42****).**

Note – **Change the settings that you require and then just click** Set**. When you are completely done, click** Save Configuration**.**

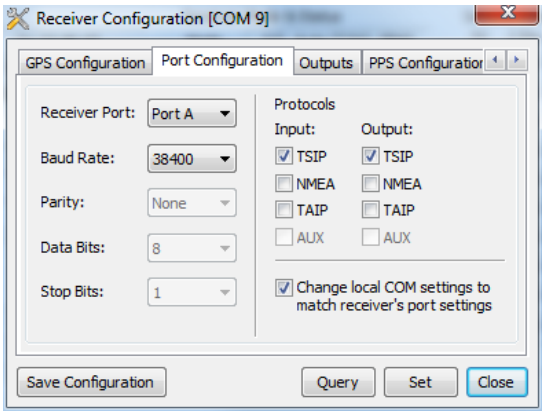
Note – **Options available within the *Configure Receiver* box depend on the device being configured.**

GPS Port Configuration

1. From the *Monitor* window, click Receiver ▼ and select *Configure*.



2. In the *Receiver Configuration* box, select the *Port Configuration* tab.



3. Select:
   - The required *Receiver Port*, *Baud Rate*, *Parity*, *Data Bits*, and *Stop Bits*.
   - One input and one output protocol.
4. Click Set to save the settings on this tab.

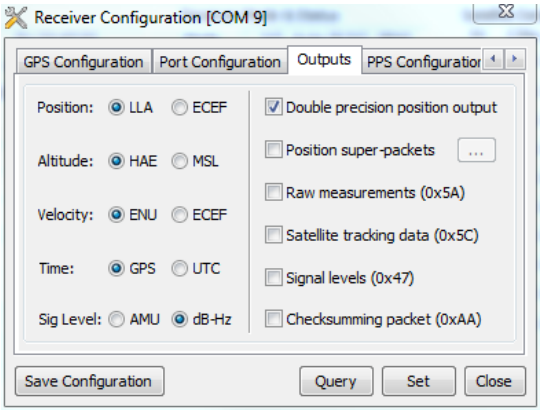
   Note – **Do not click Save Configuration until you have completed changes on all tabs as needed.**

5. Continue with the next section or go to Completing the Configuration on page 28.

Configuring Output Formats

1. In the *Receiver Configuration* box, select the *Outputs* tab.

Tip – **Scroll tabs horizontally by clicking the buttons to the right of the tabs (the two triangle arrows).**



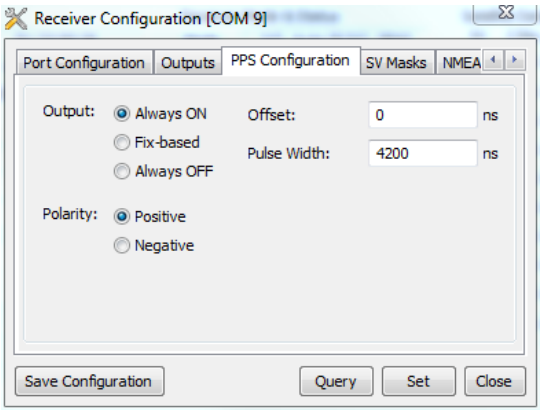
2. Select the required setup options.
3. Click Set to save the settings on this tab.

Note – **Do not click** Save Configuration **until you have completed changes on all tabs as needed.**

4. Continue with the next section or go to Completing the Configuration on page 28.

Configuring PPS Output

1. In the *Receiver Configuration* box, select the *PPS Configuration* tab.



2. Choose a single setting for the *Output* field; the options are:
   - Always ON. The PPS is present even without a GPS fix and will free-run until a fix is obtained.
   - Fix-based. The PPS will be output only when the receiver has a fix.
   - Always OFF.
3. Enter values or select settings for additional fields as applicable.

   Note – **The parameters and settings in this step vary by product.**

   a. Enter a value in the *Offset* field. (Units are ns.)
   b. Enter a value in the *Pulse Width* field. (Units are ns.)
   c. Choose a single setting for the *Polarity* field (Positive or Negative)

4. Click Set to save the settings on this tab.

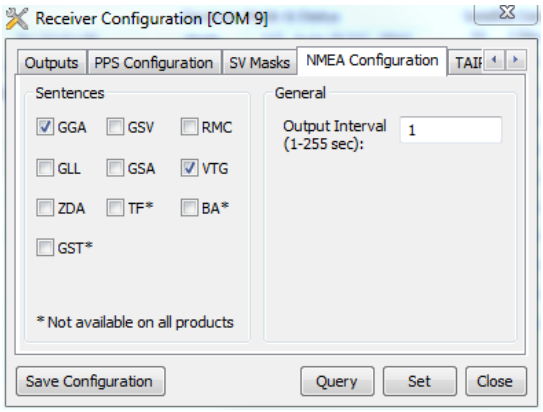
   Note – **Do not click** Save Configuration **until you have completed changes on all tabs as needed.**

5. Continue with the next section or go to Completing the Configuration on page 28.

Configuring NMEA Output

1. In the *Receiver Configuration* box, select the *NMEA Configuration* tab.

Tip – **Scroll tabs horizontally by clicking the buttons to the right of the tabs (the two triangle arrows).**



2. Select the required setup options, including:
   - Sentences - Select one or more checkboxes for NMEA messages:

Message		Description
GGA		GPS fix data
GSV		GPS satellites in view
RMC		Recommended minimum specific GPS/Transit data
GLL		Geographic position - Latitude/Longitude
GSA		GPS DOP and active satellites
VTG		Track made good and ground speed
ZDA		Time and date
TF*	Not on all products	Receiver status and position fix
BA*	Not on all products	Antenna status
GST*	Not on all products	GPS Pseudo-range noise statistics
CHN*	Not on all products	GPS channel status

   - General:
     Output Interval - Enter integer 1 - 255 for interval in seconds
3. Click Set to save the settings on this tab.
4. Continue with the next section.

Completing the Configuration

1. As needed, click another tab to change and set additional parameters.
2. Repeat with additional tabs as needed.
3. On the last tab you need to change, click Save Configuration.

   Note – **GPS modules from the Condor family have a limit of 8 "Saves" in the *Configure Receiver* box, after which the device must be reflashed (see Using the Flash Loader on page 42).**

4. Click Close to close the *Configure Receiver* box.

Next – **Continue with Chapter 5, Using The Core Tools of Trimble GPS Studio.**

CHAPTER

5

Using The Core Tools of Trimble GPS Studio

In this chapter:

- Creating an Output Log
- Converting Output Logs
- Sending Raw Data to the Receiver
- Managing Configurations with Configurator
- Using the Flash Loader

This chapter describes how to use the core tools of the Trimble GPS Studio application.

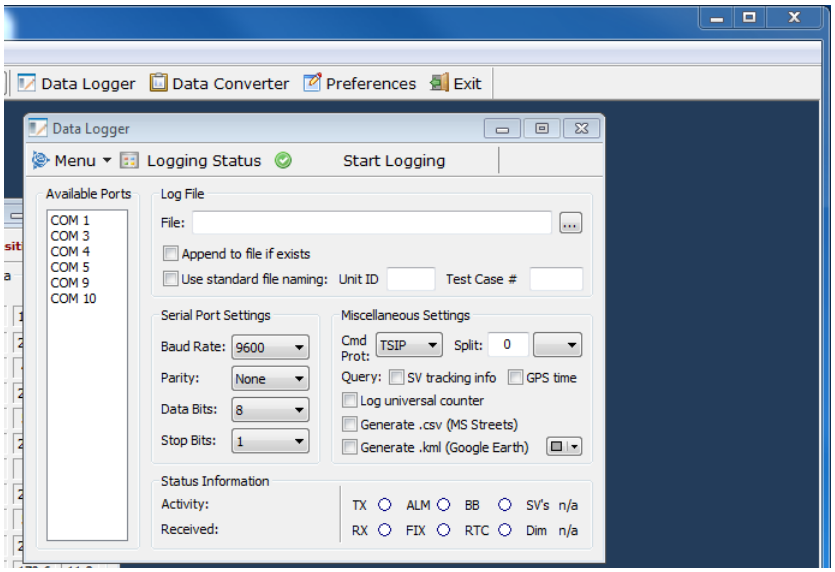
These tools are useful for a variety of activities including debugging, testing new commands, systematically configuring GPS receivers, and updating receiver firmware.

Creating an Output Log

To log the output of the GPS receiver:

1. Click Data Logger in the command bar of the main *Trimble GPS Studio* window. (Alternatively, select *Tools / Data Logger* from the menu bar.)

   The *Data Converter Configuration* box opens.



2. In the *Data Logger* window, from the *Available Ports* list, select the COM port that connects to your device.
3. In the *Log File* field, enter a filename and path (or click the "…" button to browse and select the path).
4. If appropriate, select the *Use standard file naming* check box and then complete the *Unit ID* and *Test Case #* fields.
5. Select the correct protocol and logging options.
6. Select Start Logging.

Note – **If you are working with more than one receiver, you can create additional logs on the other available COM ports.**

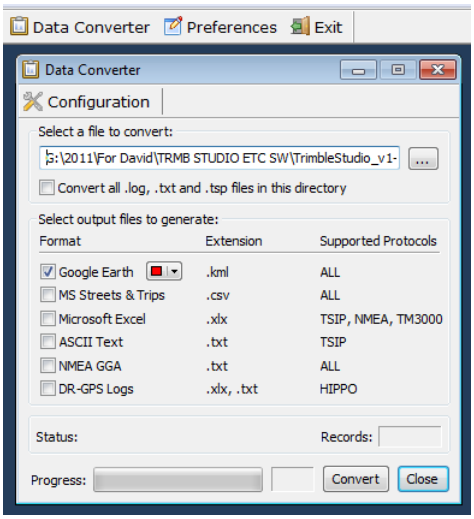
Converting Output Logs

It will sometimes be useful to convert the files from the Data Logger into formats used by other applications, for example Google Earth or Microsoft Excel.

To do this, use the Data Converter tool as follows:

1. Click Data Converter in the command bar of the main *Trimble GPS Studio* window. (Alternatively, select *Tools / Data Converter* from the menu bar.)

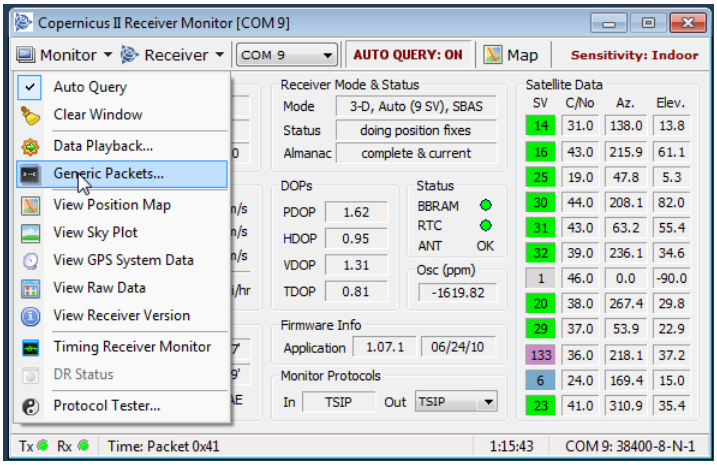
   The *Data Converter* box opens.



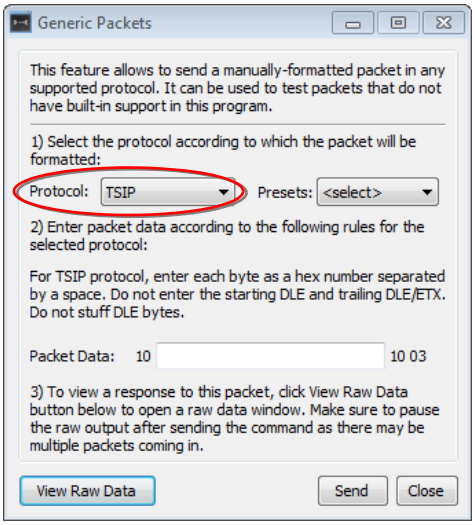
2. Select the file that you want to convert.
3. Select the checkbox next to each type of output file that you want to generate.
4. Click Convert. The converted files appear in the source file directory.

Sending Raw Data to the Receiver

1. In the *Monitor* window, select *Monitor* / *Generic Packets*. This opens the *Generic Packets* window.

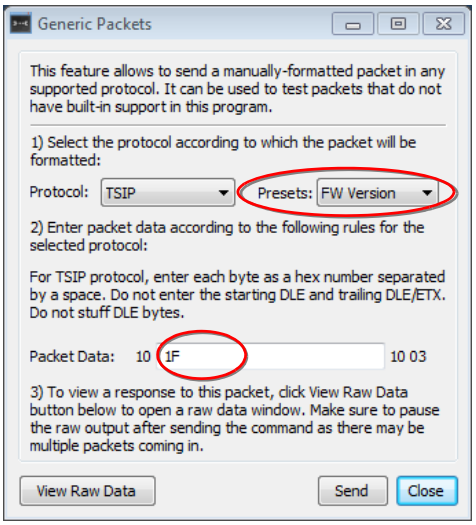


2. In the *Generic Packets* window, select the required protocol to send the raw data.



3. Optionally select a pre-canned message from the *Presets* field. This populates the *Packet Data* field with data in accordance with the selected protocol.

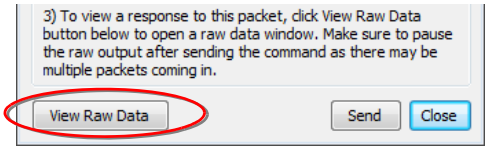
Tip – **You can use *Presets* just to see an example of how to enter a packet for the selected protocol. Then you can edit the *Packet Data* field as needed for your message.**

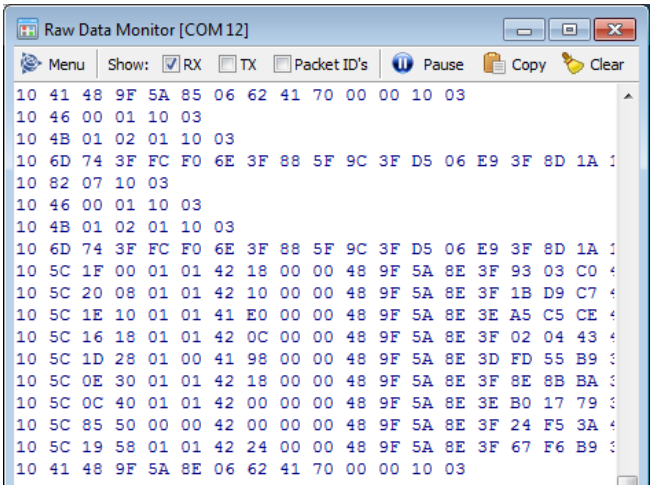


4. Enter your own data in the *Packet Data* field.

Note – **Enter the user data only, not the start and end bytes, which are displayed to the left and right of the field.**

5. Click `View Raw Data`. This opens the *Raw Data Monitor* window where you can view data coming in from (and being sent to) the GPS receiver.

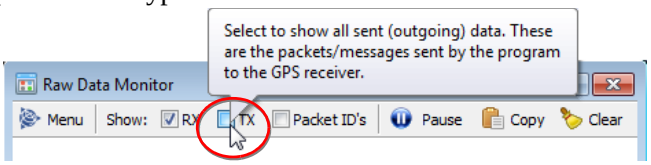




Note – **Depending on the GPS receiver and its setup – and whether GPS Studio has Auto Query ON – the *Raw Data Monitor* window might immediately show some data already being received by GPS Studio.**

Note – **By default, the *Raw Data Monitor* window has just the *Show: ... RX* checkbox selected, meaning that the window displays only data received by GPS Studio from the GPS receiver.**

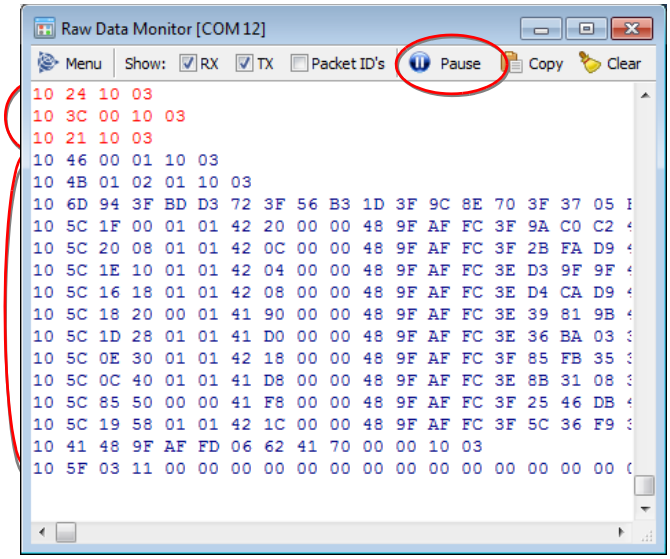
6. To view data sent to the receiver by GPS Studio, select the *Show: ... TX* checkbox. Sent data appears in red type.



7. Press *Pause* and *Resume* as needed to better examine the stream of data.

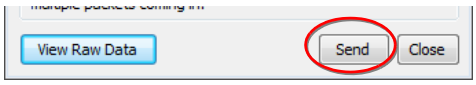
(TX)
Packets Being Sent To Receiver

(RX)
Packets Received by GPS Studio



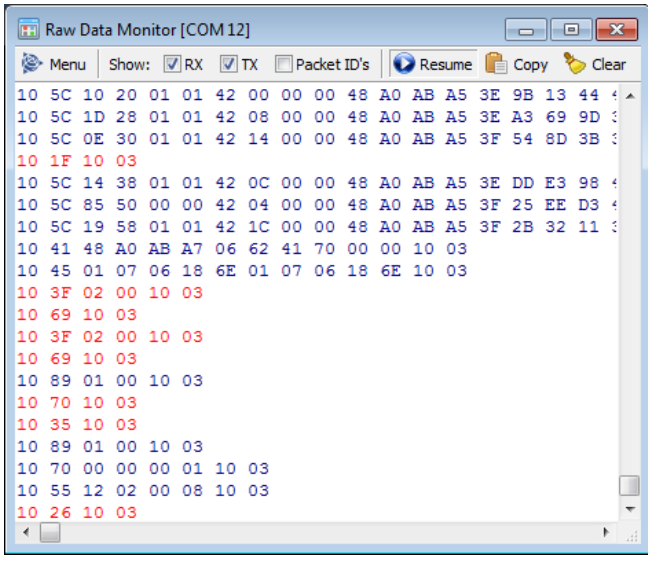
8. In the *Generic Packets* window, click Send.

   In the *Raw Data Monitor* window, you will see the packets you specified being sent to the GPS receiver, and the packets returned in response.



(TX)
Manually Sent Packets
(after clicking Send)

(RX)
Packets Received by GPS Studio
(in response)

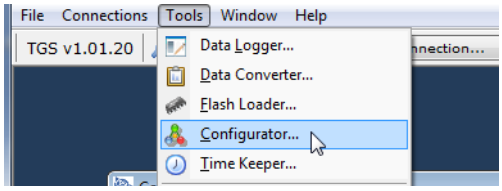


Managing Configurations with Configurator

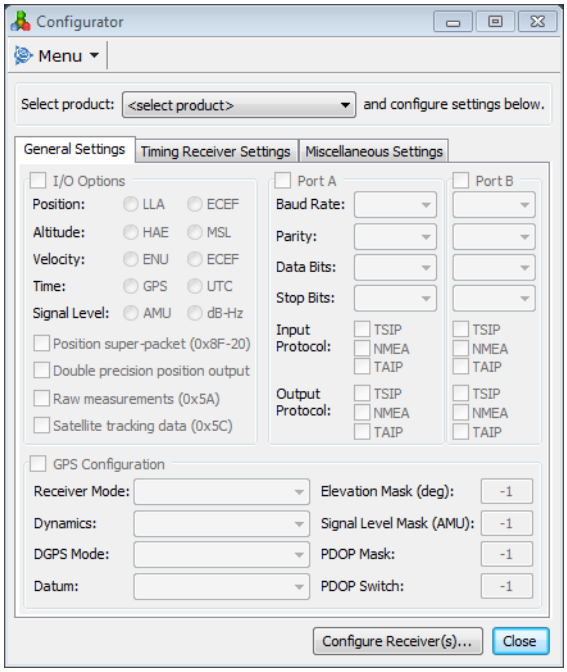
You can load receiver configurations into GPS Studio's *Configurator* and then optionally edit the settings. After you have finalized a configuration, you can save it to a file. You can open the file later and use it to configure one or more receivers.

To use the Configurator:

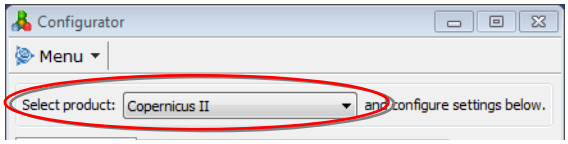
1. Select *Tools / Configurator...* from the menu bar of the main *Trimble GPS Studio* window.



This opens the *Configurator* window.



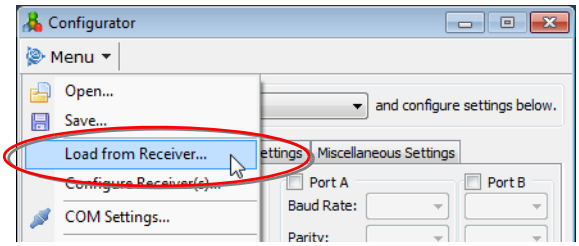
2. Select the product.



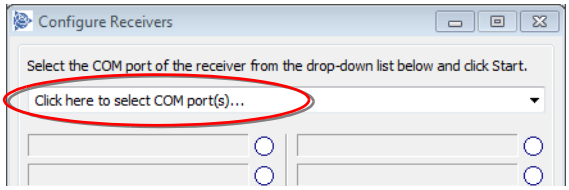
Loading the Configuration From the Receiver

To load the receiver configuration from the receiver:

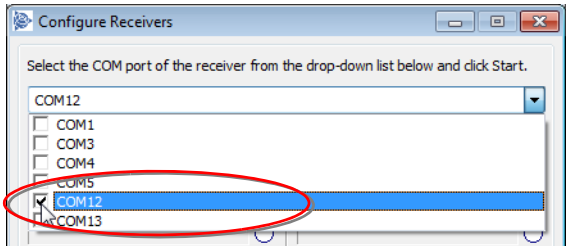
1. Click Menu▼ and select *Load from Receiver...* to load the settings from the receiver into the *Configurator*.



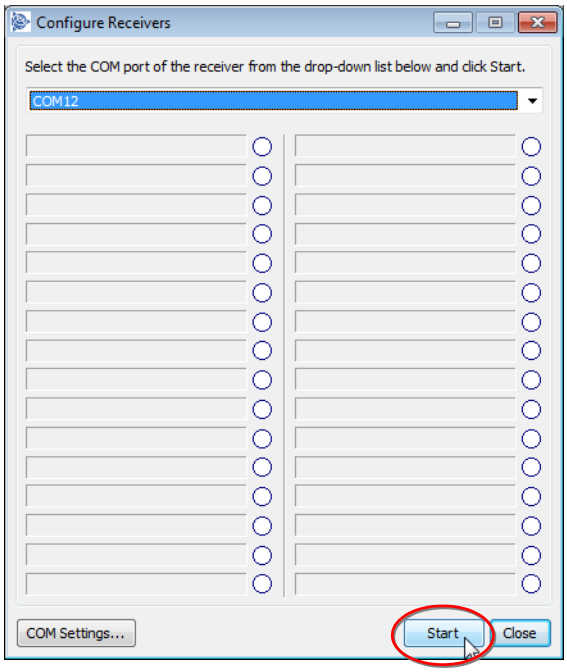
This opens the *Configure Receivers* window.



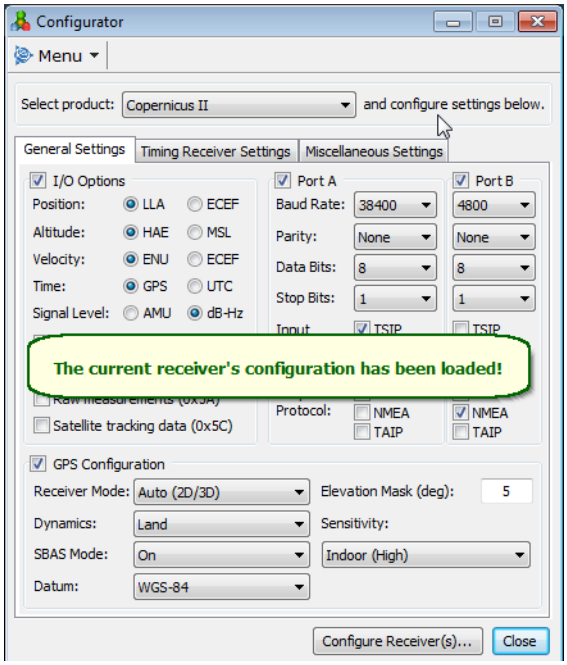
2. Click the top drop-down list, highlight the COM port, and click it (to select it).



3. Click Start.



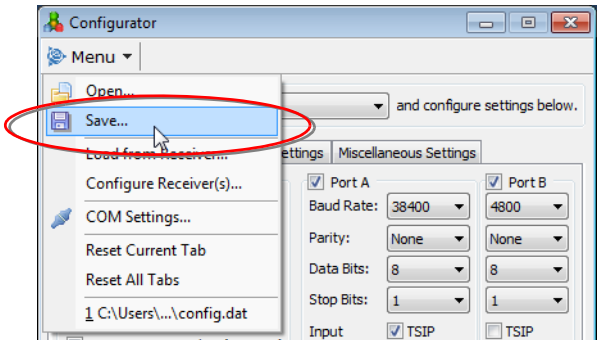
This loads the configuration into the *Configurator* window (and closes the *Configure Receivers* window).



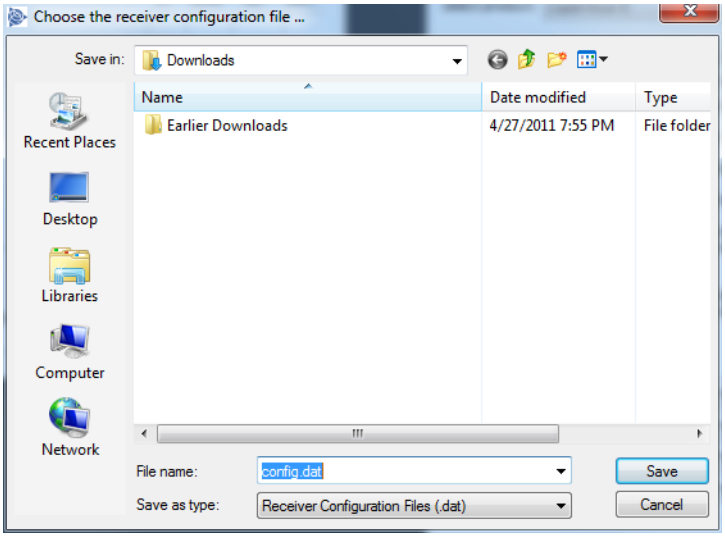
Saving and Opening a Configuration File

To save the receiver configuration to a file:

1. Click Menu▼ and select *Save...* to save the configuration.



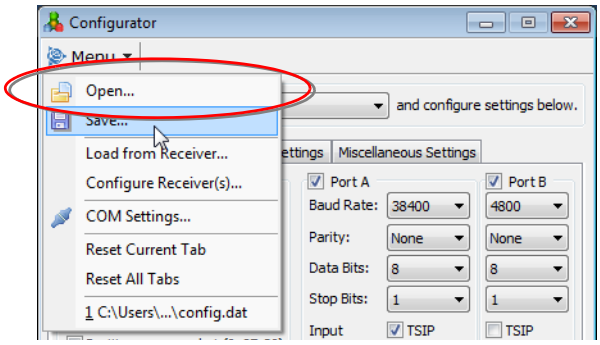
This opens the *Choose the receiver configuration file...* dialog box.



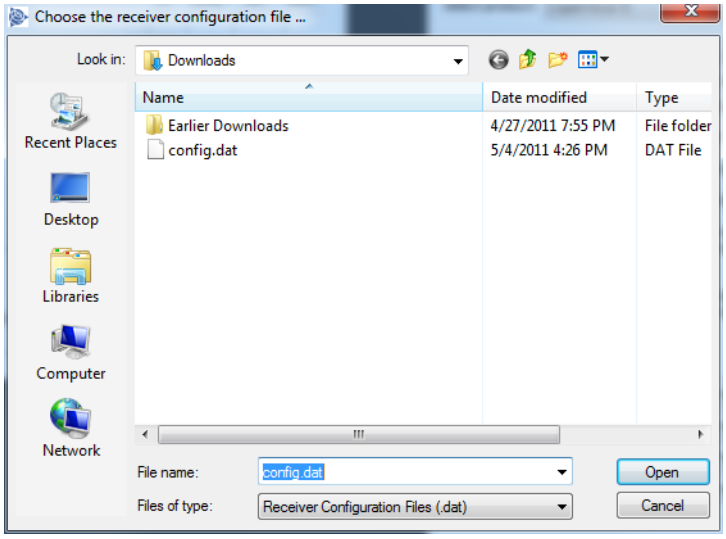
2. Browse to the location you want, rename the file as appropriate, and click Save.

To open a receiver configuration file:

1. Click Menu▼ and select *Open...* to open a configuration file.



This opens the *Choose the receiver configuration file...* dialog box.

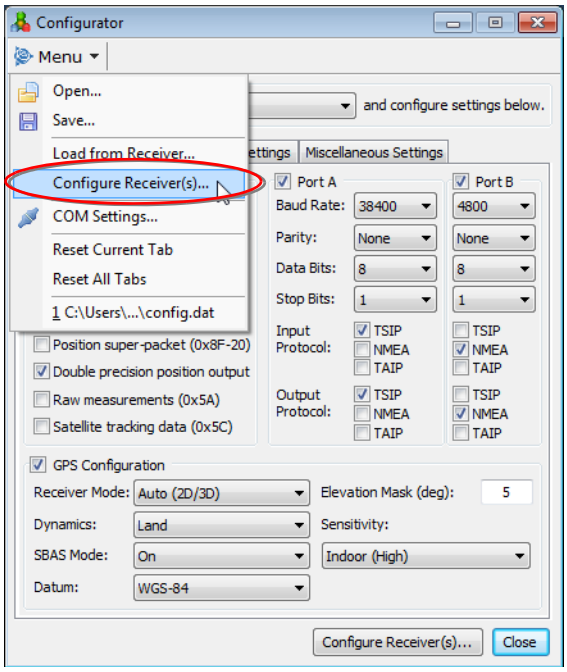


2. Browse to the location you want and click Open.

Configuring Receivers with the Settings in the Configurator

To configure one or more receivers with the settings in the *Configurator*:

1. Click Menu▼ and select *Configure Receiver(s)...* to configure the receivers.

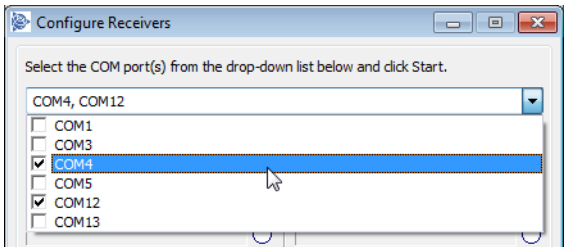


   Alternatively, click the Configure Receiver(s)... button.

   This opens the *Configure Receivers* window.

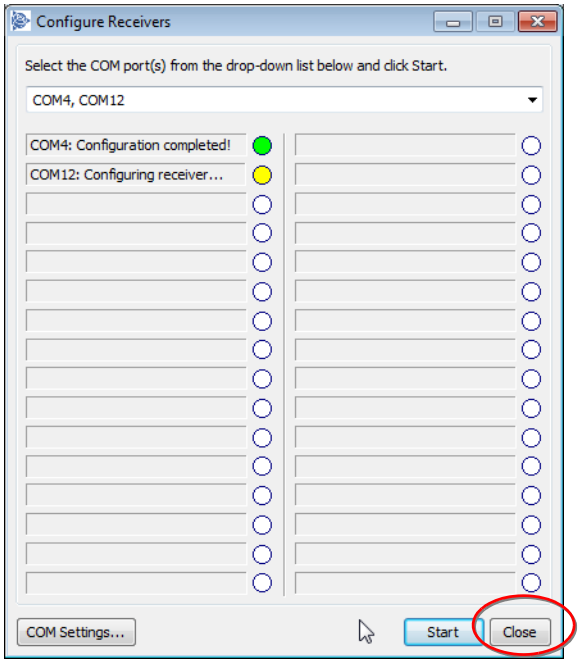
2. Click the top drop-down list to select one or more COM ports.

   Note – **If you are working with more than one receiver, you can select multiple COM ports as applicable.**



3. Click Start.

This configures the receiver and reports success in the *Configure Receivers* window.



4. Click `Close` in the *Configure Receivers* window.

5. Click `Close` in the *Configurator* window.

Using the Flash Loader

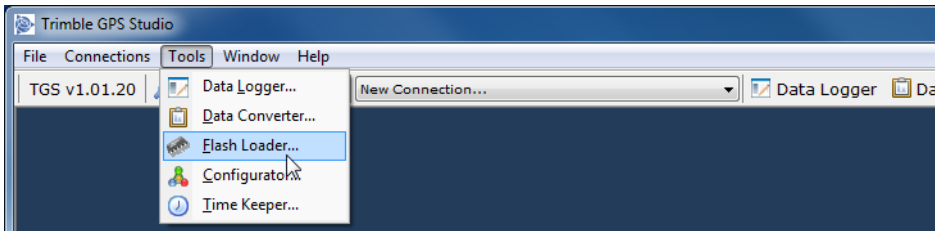
The Flash Loader feature enables you to load firmware on the GPS receiver.

Note – **Before using the Flash Loader feature, download and extract the new firmware.**

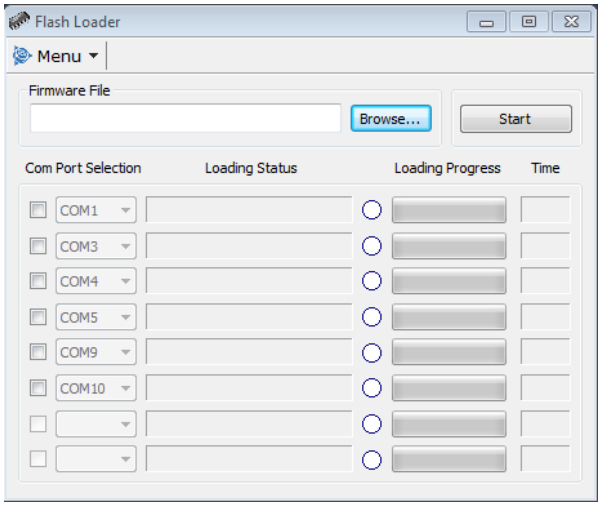
To use the Flash Loader, your computer must be physically connected to the GPS receiver.

Perform these steps:

1. Select *Tools / Flash Loader...* from the menu bar of the main *Trimble GPS Studio* window.



This opens the *Flash Loader* window.



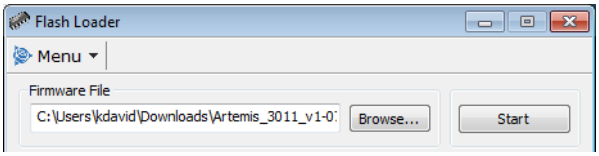
2. Click the Browse... button.

This opens the “Choose the firmware file ...” dialog box.

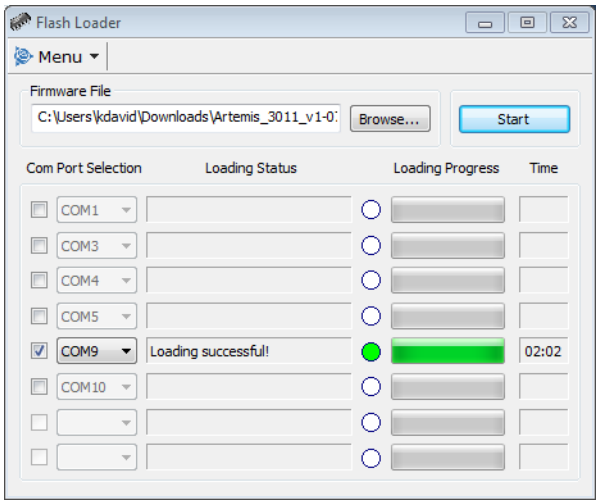
3. Navigate to the location of the firmware file and click the Open button. The location of the firmware is now filled in.

4. Click the checkbox next to the correct communications port under *Com Port Selection*.

5. Click the `Start` button. The current firmware is erased and the new firmware is loaded.



6. When the firmware has been successfully loaded, close the *Flash Loader* window. (You ***don't*** need to click `Start` again.)



7. Power-cycle the GPS receiver.
8. Connect to the GPS receiver as described in Connecting GPS Studio to the GPS Receiver on page 18.

`Note` – **The new firmware version is displayed in the Monitor Window, in the Firmware Info section.**

`Next` – **Continue with Chapter 6, Using the Map Window of GPS Studio for information on the *Map* window features.**

CHAPTER

6

Using the Map Window of GPS Studio

In this chapter:

- Opening Position Map Window and Using Position Map Tab
- Opening the Position Plot Tab

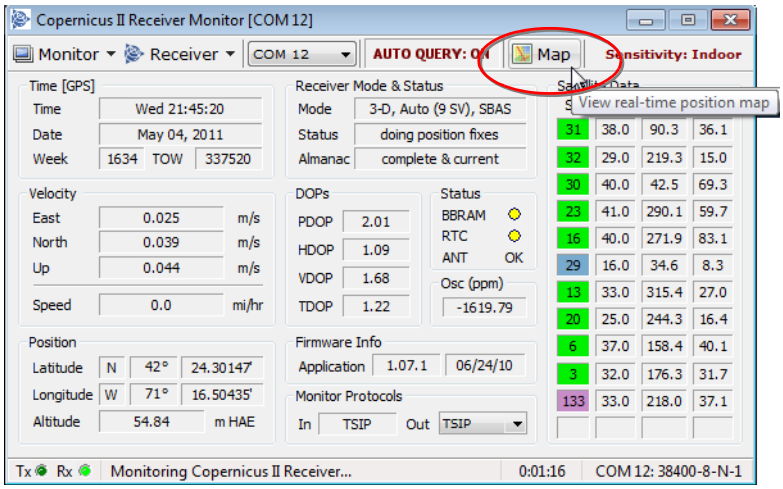
This chapter describes how to use the Trimble GPS Studio's *Position Map* window (accessed from the *Monitor* window).

Opening Position Map Window and Using Position Map Tab

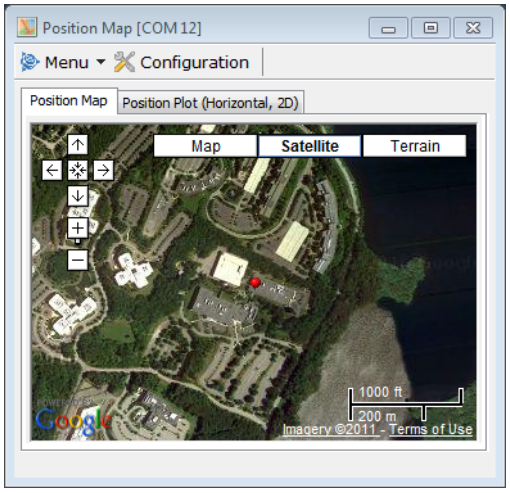
The *Position Map* window, launched from the *Monitor* window, provides a useful *Position Map* tab.

If your computer is connected to the Internet, the *Position Map* tab presents Google Map displays for your location.

1. From the *Monitor* window, click the Map button in the command bar. (Alternatively, click Monitor ▼ and select *Position Map*.)

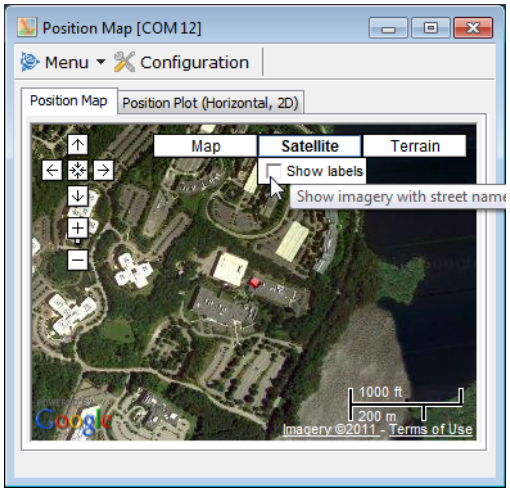


The *Position Map* window opens to the *Position Map* tab. Wait for it to load the Google Map data.

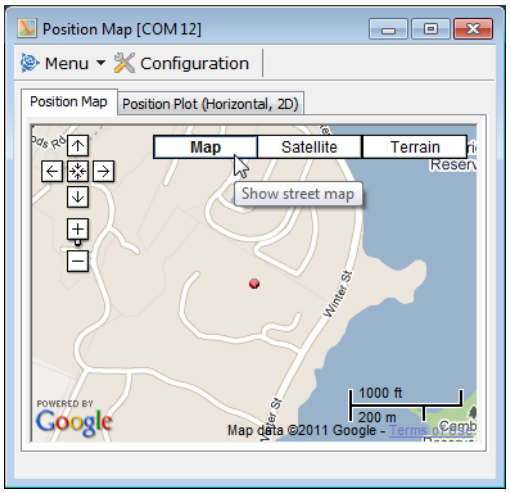


The *Position Map* tab includes Map, Satellite (with a “Show labels” toggle), and Terrain view options.

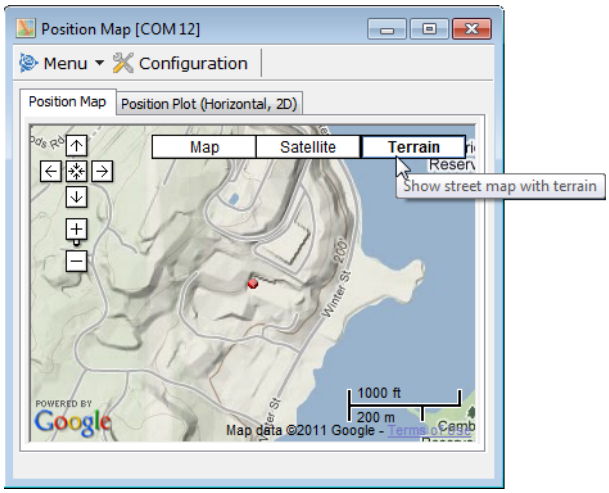
2. In the Satellite view, mouse over Satellite to view the "*Show labels*" checkbox. Click "*Show labels*" to turn overlay map labels on and off.



3. Click Map for the street map view.

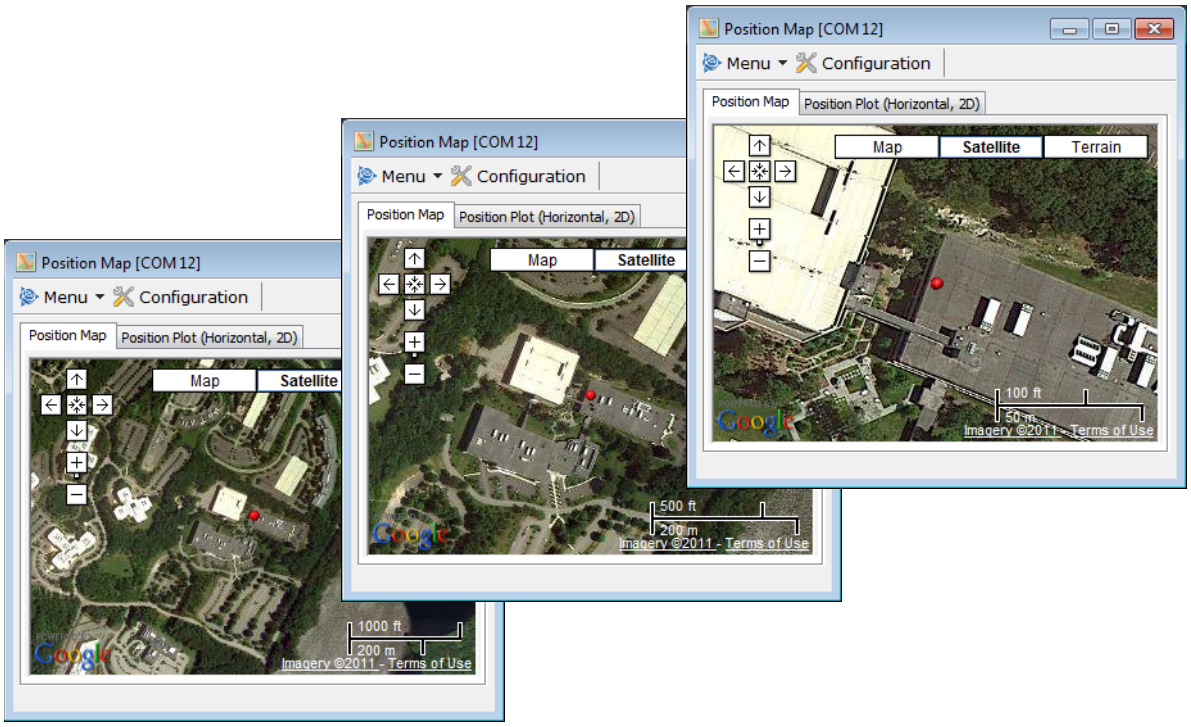


4. Click Terrain for the terrain view.



Tip – **Click** Menu ▼ **for useful features such as *Zoom In*.**

5. Optionally, click Menu ▼ and select *Zoom In* for a more detailed view. Repeat as needed.



Tip – **Other useful** Menu ▼ **features include *Zoom Out*, *Erase*, and *Measure Distance*.**

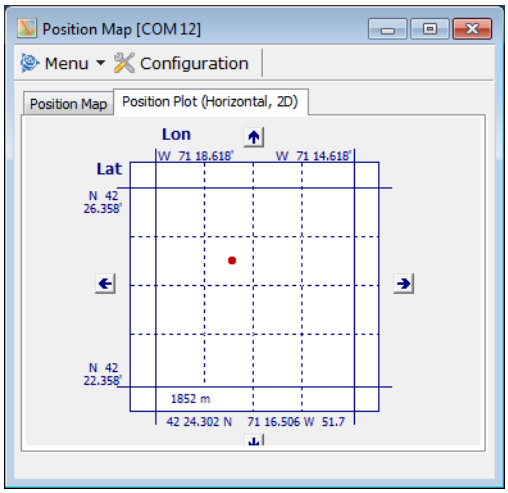
Tip – **To measure distance, click** Menu ▼ **and select *Measure Distance*. A box is displayed to step you through the process. (Click** Menu ▼ **and select *Measure Distance* again to clear the distance box.)**

Opening the Position Plot Tab

The *Position Map* window provides a useful *Position Plot (Horizontal, 2D)* tab.

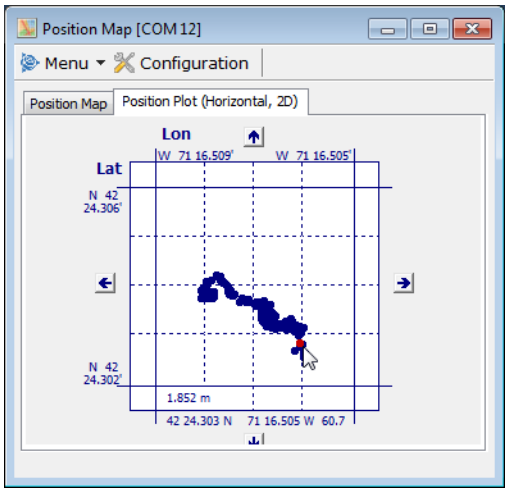
1. Click the *Position Plot (Horizontal, 2D)* tab.

   The tab displays a position plot such as this.

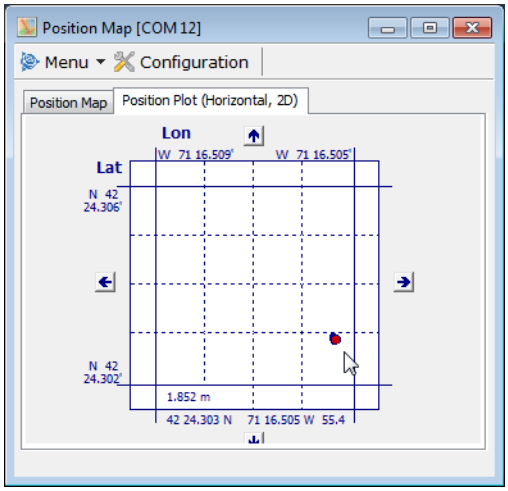


Tip – Menu ▼ provides features that are applicable for the ***Position Plot*** tab, including ***Zoom In***, ***Zoom Out***, and ***Erase***.

2. Optionally, click Menu ▼ and select *Zoom In* for a more detailed view. Repeat as needed.



3. Optionally, click Menu ▼ and select *Erase* to clear earlier plots.



This is the end of the user guide. We hope you enjoy Trimble GPS Studio.
See Chapter 1 for technical assistance contact information.