

Configuring a Trimble® Pathfinder® ProXT™/XH™ receiver to output NMEA

April 21, 2015

In order to use a Trimble Pathfinder ProXT or ProXH receiver with software that requires the NMEA protocol, you must configure the ProXH/XT receiver to output the NMEA protocol. You must connect your ProXT/XH receiver via serial cable to your computer or mobile device running GPS controller or TerraSync™ software. This support note outlines the steps to configure your ProXT/XH to output NMEA via Bluetooth® or the 9-pin serial port using GPS Controller.

Step 1: Install a version of GPS Controller onto your desktop or laptop computer that is compatible with your computer's operating system.

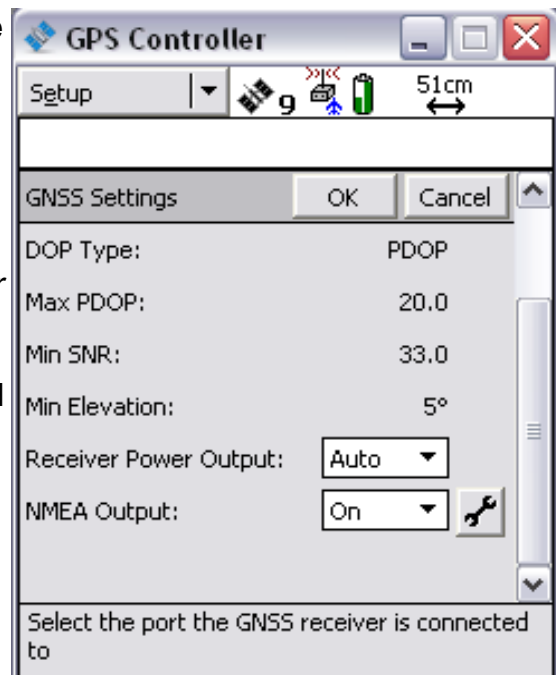
Reference [Trimble's Mapping and GIS Product Compatibility Chart](#) to ensure compatibility between you GPS unit and the software. GPS Controller is available for free download from the [Trimble website](#).

Step 2: Connect your ProXT/XH to your computer or mobile device using a 9-pin serial cable.

You must use a cabled connection to configure the receiver to output NEMA. Using a Bluetooth connection to your receiver for configuring NMEA will not work.

Step 3: Open up GPS Controller and configure the receiver to output NMEA.

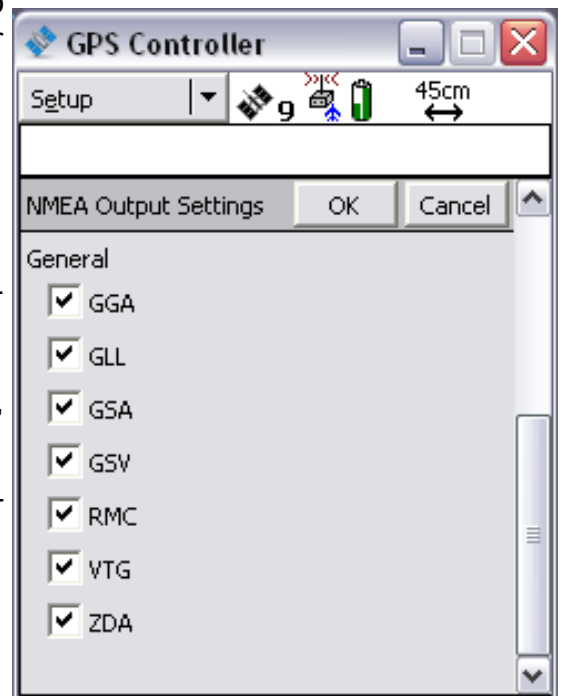
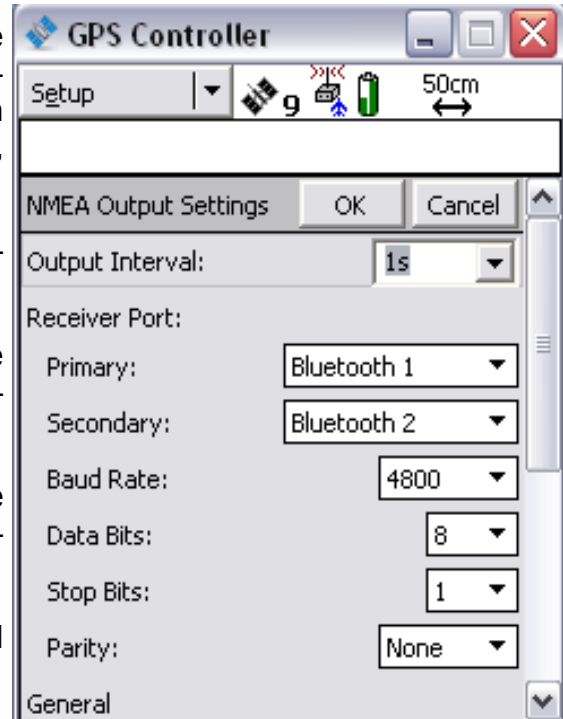
- Open GPS Controller or GNSS Controller
- Connect to GPS or GNSS
- Go to the *Setup* Menu > Select *GPS Settings* (or *GNSS Settings*)
- In the NMEA Output drop down box select *On* and hit the wrench icon next to the box



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- The output interval is the rate at which NMEA message are generated. Set to your desired interval. Default is 5s.
- The primary port is the port on the ProXT/XH where you want NMEA message output. The GPS Controller software allows NMEA to be output from up to two ports concurrently on the GPS Pathfinder ProXT and ProXH receivers.
- If you are wanting to output NMEA via Bluetooth, be sure to set both the primary receiver port to Bluetooth 1 and the secondary receiver port to Bluetooth 2. If you are wanting to output NMEA via serial cable, choose Port 1 (serial) as the primary.
- The Baud Rate (the rate of electronic code transmission) default is 4800 for NMEA.
- Data Bits (the number of data bits used when the GPS receiver and external device communicate) default is 8.
- Stop Bits (the number of stop bits used when the GPS receiver and external device communicate) default is 1.
- Parity (the parity settings when the GPS receiver and external device communicate) default is none.
- Under General, select the required output formats to generate messages of a specific type. Refer to your software for the required message types.



GGA: Time-, position-, and fix-related data

GLL: Position fix, time of position fix, and status

GSA: GPS receiver operating mode, SVs used for navigation and DOP values

GSV: Number of visible SVs, PRN numbers, elevation, azimuth, and SNR values

RMC: Recommended minimum specific GPS/TRANSIT data

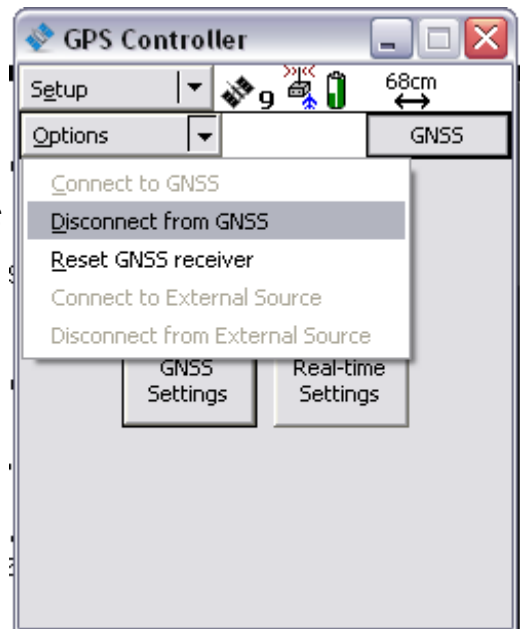
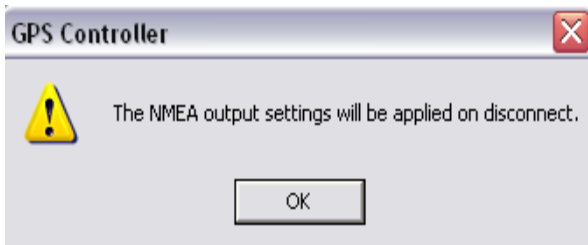
VTG: Actual track made good and speed over ground

ZDA: UTC day, month, year, and local time zone offset.

- Click **OK** on the NMEA Output Settings screen, and **OK** on the GPS/GNSS settings screen.

Step 4: Disconnect from the receiver

Be sure to disconnect from the receiver by hitting the GNSS or GPS icon, or choosing *Options > Disconnect from GNSS (GPS)*. Failing to disconnect from the receiver will result in TSIP being output rather than NMEA. You should see the message below.



Warning:

- *If you connect to a ProXT/XH receiver via Bluetooth in GPS Controller or TerraSync software (only to test GPS performance and tracking), the receiver will switch back to outputting the TSIP protocol, and you will need a serial cable to re-configure the device to output the NMEA protocol.*
- *Each time you connect to the ProXT/XH receiver with a cable in Trimble software, you will need to be sure NMEA output is set to on and configured and then disconnect from GPS/ GNSS before closing the software to switch the receiver back to outputting the NMEA protocol.*