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 at http://trl.trimble.com/docushare/dsweb/Get/Document-160913/.


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.
- 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.