

11 May 2016

GPS CONNECT TOOL FOR MAPINFO PRO

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The GPS Connector allows the visualization of a live GPS point in a selected MapInfo Pro map window and the collection of point, line or polygon objects from the live GPS NMEA feed.

Supported Platforms

Operating System

Window 7/8/8.1/10

GPS Unit

Tested on external GPS units connected by USB cable, minor testing completed on Bluetooth connected Android and iPhone Operating Systems (Limited support).

MapInfo Pro Version

MapInfo Pro 64 Bit version 15.2 and 15.2.2

Supported GPS Feed

NMEA -0183 (National Marine Electronics Association)

The following NMEA Sentences are supported RMC, GSA, GSV, GGA.

Assist GPS AGPS a protocol used by mobile phone carriers is not supported.

NMEA Sentence Details

RMC-Recommended minimum navigation information required for the location fix.

GSA-Detailed satellite information and signal quality.

GSV-Satellite number and elevation information.

GGA-GPS receiver information.

The GPS Connect tool will only support these four sentences from a receiver compatible with the American GPS (Global Positional System). If the receiver supports the Russian GLONASS (Global Navigation Satellite System), the Chinese BDS (BeiDou Navigation Satellite System) or any other national system there is either no or limited support. All other sentence types will be dismissed.

Getting Started

Providing Feedback

We understand the effort required to test the new GPS Connect tool, and would appreciate your feedback or suggestion on features you believe are omitted. To provide feedback click on the Feedback button on the ribbon tab and email us your thoughts.

Opening GPS Connect

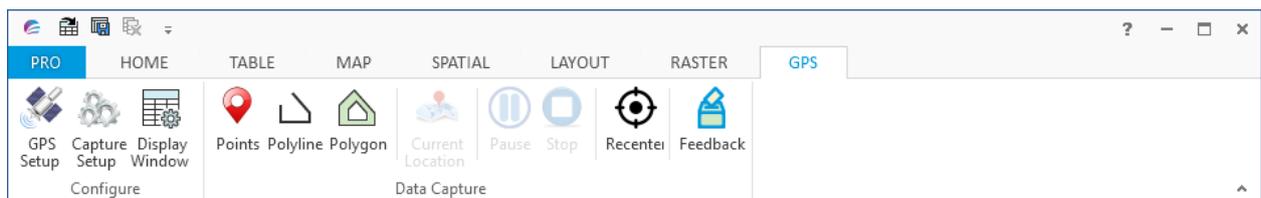
1. Save the downloaded files onto your computer into a folder.
2. Open MapInfo Pro, locate the file GPSLoggerConnect.mbx and either drop and drag into MapInfo Pro or register the MBX into the HOME>Tools to open automatically.

User Interface

The GPS Connect tool loads a new ribbon tab into MapInfo Pro. The tab is broken into two groups Configure and Data Capture.

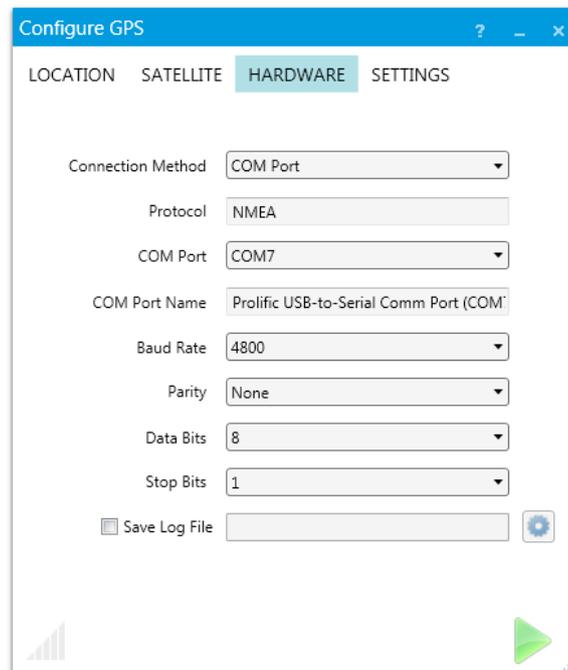
The Configure group has tools for setting up the GPS receiver and Data Capture.

The Data Capture group contain tools for capturing point, line and polygon data along with current location, stopping and pausing capture and manually recentering.



Setting up your GPS

1. Plug in your GPS receiver or connect your GPS receiver via Bluetooth to your computer/tablet. Depending on the GPS receiver a driver may need to be installed to communicate with the device.
2. Navigate to the GPS>GPS Setup tool this will open the Configure GPS dialog.
3. On the Configure GPS dialog navigate to the HARDWARE tab, this is where you will need to configure the settings specific to your GPS receiver.



The following describes the options:

Connection Method: The NMEA feed can only be accessed through the COM Port interface.

Protocol: GPS feed is NMEA

COM Port: Select the specific COM Port the GPS Receiver is connected to, you may need to navigate to the Windows Device Manager to see which COM Port is assigned to your device.

COM Port Name: Generic Windows name for COM port which may assist in determining the COM the receiver is assigned.

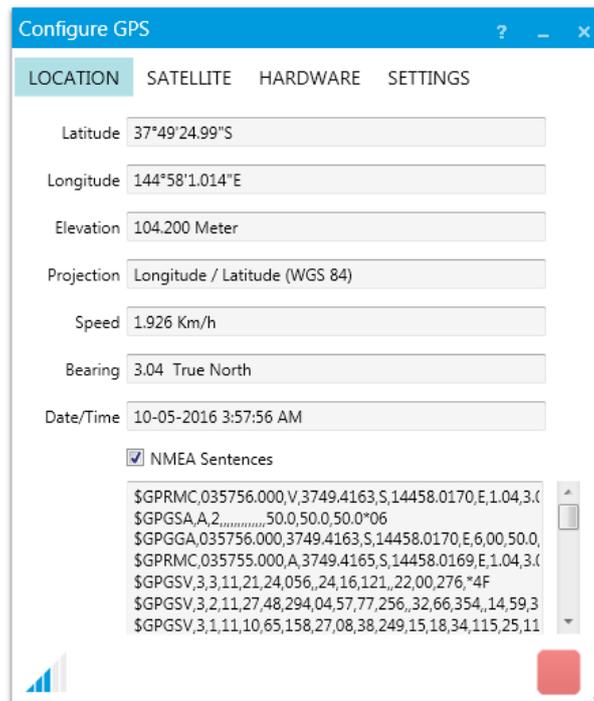
Baud Rate: Rate at which information is transferred, generally a GPS receiver is set to 4800 (Refer to GPS receiver specifications for this value.)

Parity: Method of detecting errors in data transmission, generally a GPS receiver is set to None (Refer to GPS receiver specifications for this value.)

Data Bits: Number of data bits in each character, generally a GPS receiver is set to 8, (Refer to GPS receiver specifications for this value.)

Stop Bits: Number of bits as the end of a character, generally a GPS receiver is set to 1, (Refer to GPS receiver specifications for this value.)

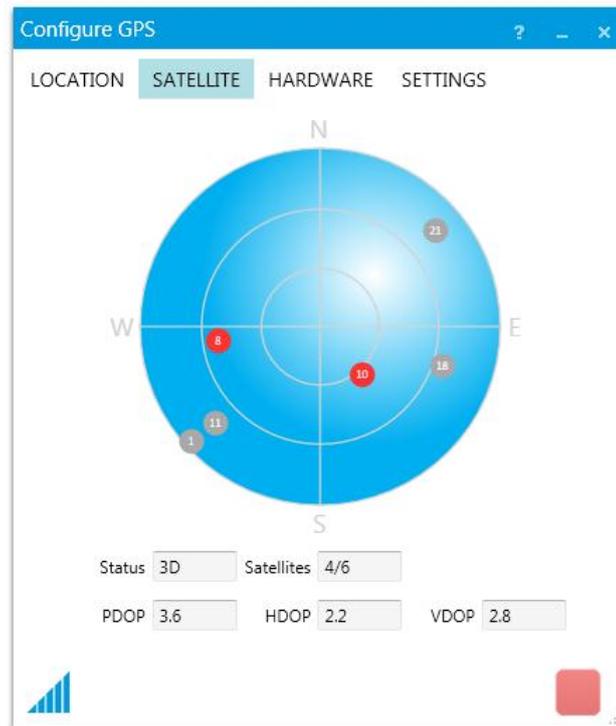
- Once the hardware has been configured, the connection to the GPS receiver can be established. On the bottom of the Configure GPS dialog click the Play button. To validate the GPS receiver is connected and working, navigate to the LOCATION tab to see the live NMEA stream. To stop the GPS receiver click the Stop button.



Note

You may need to be patient for a properly fixed GPS signal, depending on your receiver it can take up to 10 minutes for a correct fix.

- To verify the quality of the signal, navigate to the SATELLITE tab, the satellite radar displays the used satellites in red and tracked satellites in grey.



The quality of the fix can be determined using the following:

Status: A 3D fix means the geometry and amount of satellites is sufficient to have confidence in the fix.

Satellites: Satellites used for fix/Satellites tracked.

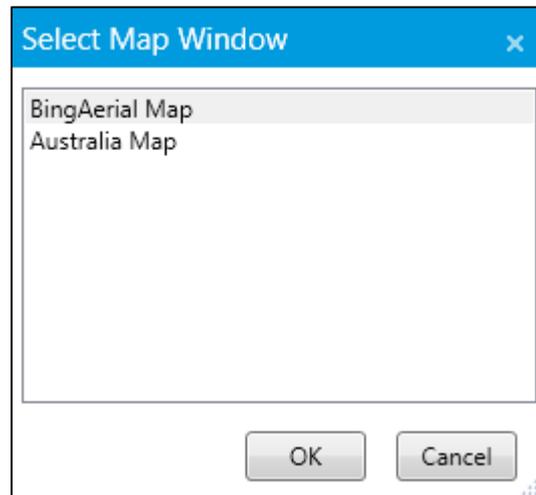
PDOP, HDOP, VDOP: A value below 2 is good with a value between 2 and 5 acceptable, any higher indicates a bad quality position fix with low confidence.

6. Minimize the Configure GPS dialog to continue.

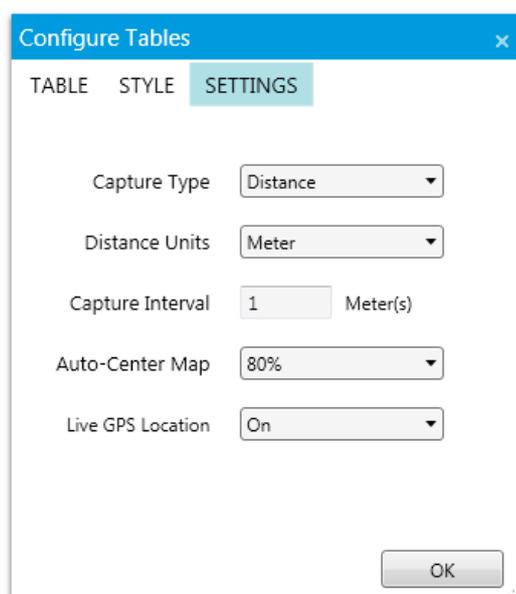
Capturing Data

Once the GPS receiver has been configured the live GPS location can be viewed in a Map Window and/or data can be captured in the form of point, polyline or polygon features.

1. To view the live GPS location in a Map Window navigate to MapInfo Pro and open a table/layer in your location. If a live point object is not displayed in the current Map Window perform the following. Stop the GPS feed on the Configure GPS dialog then click on the Display Window button on the ribbon. Select the Map Window and click OK. Restart the GPS connection to view the GPS location on the Map Window.



2. Navigate to the GPS>Capture Setup button on the ribbon to open the Configure Tables dialog. This dialog contains settings for capturing data into a MapInfo Pro table, selecting default symbology and various other settings.
3. Navigate to the SETTINGS tab to set up some import settings for the capture and display of data.



The following options are available:

Capture Type: Method of capturing data select from either Time or Distance.

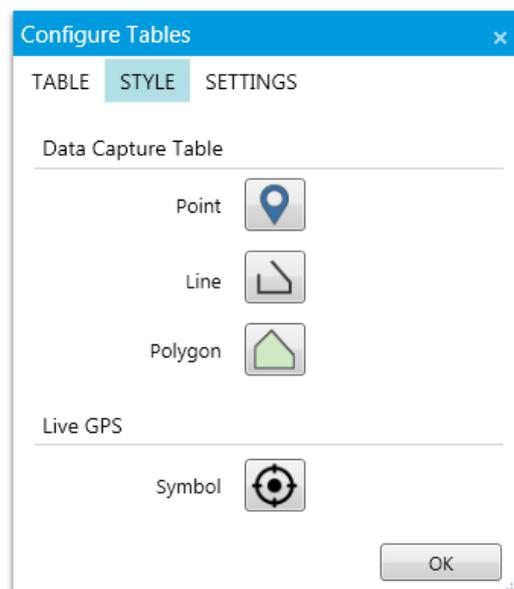
Distance Units: When Distance method selected choose between Meter or Feet.

Capture Interval: Select interval either in distance or time units.

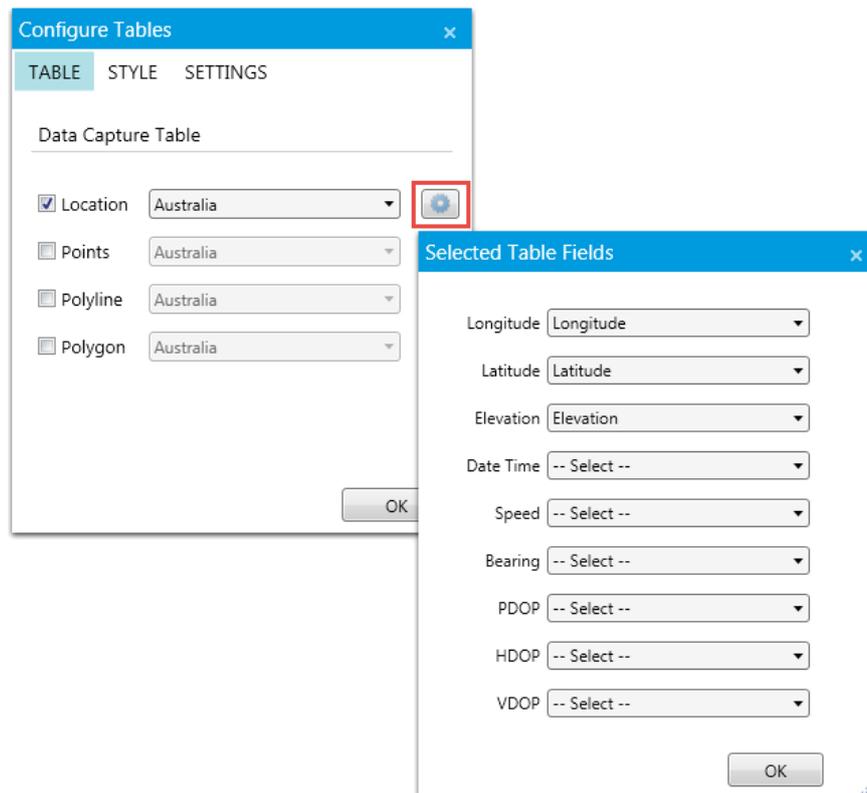
Auto-Center Map: Select when and how a Map Window is recentered when the GPS location icon moves around the Map Window.

Live GPS Location: Turn live GPS location on or off in the Map Window.

4. Navigate to the STYLE tab you can modify the default styles used to capture point, line and polygon data with the GPS tool. You can also alter the style of the live GPS position icon.



5. Three methods are available for capturing data, Defined MapInfo Pro Table, Create New Table and Append to open table. To define a table to enter GPS data into navigate to the TABLE tab, select one or all capture types, you can enter data into the same or individual tables for the different data types. The advantage of selecting a table for the entry of the GPS data is that the saving of that data at the termination of the capture session is seamless with no prompt boxes.
6. On the Location and Points Data Capture Tables types a configure button is available to select fields for the automatic capture of GPS data.



- To begin GPS data capture you need to select the type of data you wish to capture. Four distinct types of data can be captured Point, Polyline, Polygon and Current Location.

Points: This option will capture a trailing series of point objects based on either distant or time units. Can be used when wishing to capture points along a defined path.

Polyline: This option will capture a polyline object with the node locations based on either distant or time units. Can be used when wanting to capture a linear feature such as a road.

Polygon: This option will capture a region object with the node locations based on either distant or time units. Can be used when wanting to capture an area feature such as a geological outcrop.

Current Location: This option will capture a point object from the current location where the GPS receiver is located. Can be used when wanting to capture single features such as trees, bench, and grab sample.

Note

The Current Location option can only be used if saving directly into a table on the Configure Tables dialog, otherwise the option is disabled.

- To capture Point, Polyline, Polygon objects click on the one of the buttons such as Polyline, this will disable the other capture types. The Pause and Stop buttons will enable. To temporarily pause the capture session but keep the live feed click Pause. You may wish to pause to take a break and resume without terminating the current object capture.
- To finish the capture click stop, if you have designated a table to save into on the Configure Tables dialog the feature will be automatically saved to the table. If you haven't specified a

table the Save GPS Data to Table dialog will appear. Select *New Table* to save into a new table, or select an open table from the list to append into.