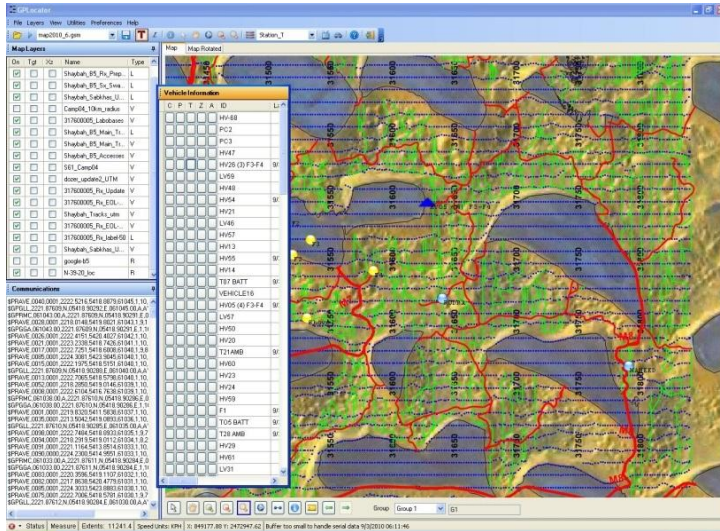


# GPLocator by Dynamic Survey Solutions, Inc.

**GPLocator** is a fleet tracking application written by **Dynamic Survey Solutions, Inc.** the authors of **GPSeismic**® and is a Windows® XP (SP2 and SP3), Vista and Windows 7 (32 and 64 bit) compatible program.



GPLocator is capable of tracking up to 130 vehicles simultaneously. It has a map component in which the user can display up to 100 map layers which are comprised of registered raster images or shape files. There is a tabular component which gives constant readouts of all important vehicle information including position, speed and heading. There is also a quality control component that alerts the user if certain conditions have been met.

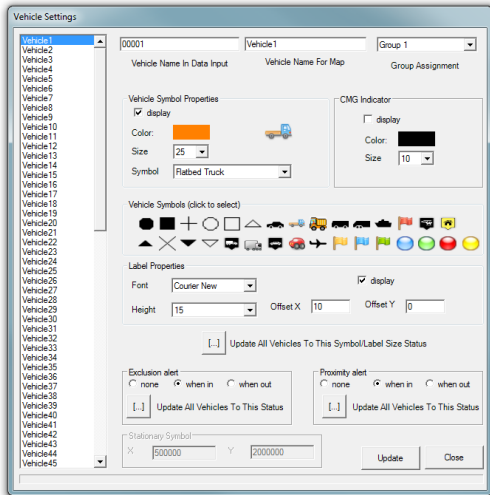
Dynamic Survey Solutions, Inc. does not provide hardware for fleet tracking. Rather, GPLocator has been designed to interface with a number of protocols including serial comms, UDP, web services, and flat files. All protocols provide at a minimum, a vehicle ID and position. In most cases, the vehicle messages are time stamped. A summary of all protocols follows:

**Web and network based** - There are two supported formats. The first is UDP packets, and in this case, the origin IP address uniquely identifies the vehicle. The second is a formal web service utilizing XML serialization that is offered by Fleet Management Systems (FMS). FMS provides its client with vehicle tracking hardware consisting of a GPS receiver and a phone (cell or satellite). Their system periodically relays the position of each vehicle to their website where the data is available to anyone with the correct user name and password. GPLocator can be configured to make periodic request for vehicle position data from their website via its web service.

**Serial comms based** - There are several supported formats. Each serial format includes a vehicle ID, time of position and position (in WGS84 geographic coordinates). You should note that Dynamic Survey Solutions will support additional protocols at no charge. Currently supported serial protocols include:

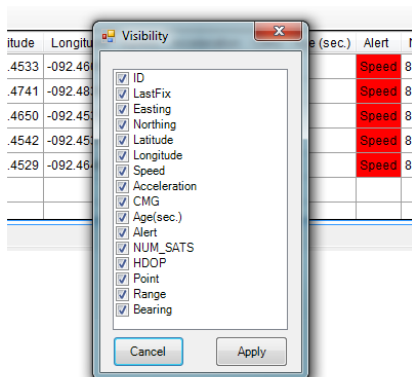
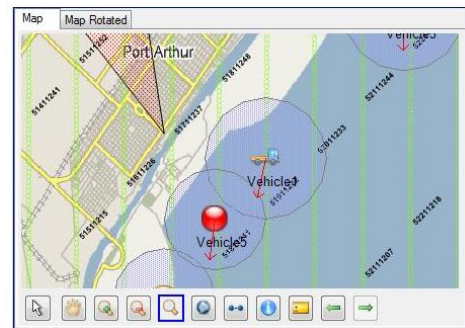
- Raveon
- Teledesign
- Kantronics
- Kenwood
- PBX Tail Buoy Tracking System
- GPWPL
- TAIP PV Message

GPLocator also supports GPTracker and Faucon flat ASCII data files. These are produced by 'black box' instruments that are placed on vehicles and record positions.



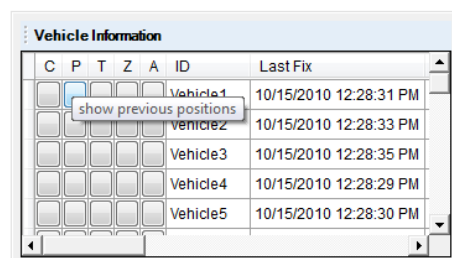
Vehicle Settings – Each vehicle can be depicted by any of 31 different symbols and bitmaps. The vehicle’s name and a course made good indicator can be displayed as well. Each vehicle can be configured so it triggers an alert when entering an exclusion zone or when it is within a specified distance of a user entered location. Vehicles can be assigned to one of ten groups, and the user can quickly switch between groups for display on the map.

The user has all the tools normally associated with a mapping application including pan, zoom in, zoom out, zoom extents, entity information and map measurements. In addition, the vehicle symbols, label, CMG indicators, snail trails and alert halos can all be turned on or off.



Vehicle Information - The main vehicle spreadsheet displays all relevant information for the tracked vehicles. You can select which columns to display by using the column visibility dialog. Information includes each vehicle’s position speed, acceleration, course made good, data age, alert message, satellites tracked, and nearest point of a designated point map layer.

A group of controls for each vehicle allows the user to quickly configure its display settings, display all previous positions, toggle its alert status, zoom to the vehicle and add a comment about the vehicle to the current log.



## Alerts

Speed	Acceleration	CMG	Age (sec.)	Alert	NUM_SATS	HDOP
155.46	2.13	12	4		8	0.9
344.51	4.99	340	2	inside (GPSeismic_exclusions2)	8	0.9
232.54	3.11	18	0	inside (GPSeismic_exclusions2)	8	0.9
386.11	5.04	333	7		8	0.9
233.41	3.24	8	5		8	0.9

**Exclusion Areas** - The user can designate any polygon layer as an exclusion area. Each vehicle can be configured to issue an alert when inside or outside the exclusion area.

**Data Age** - GPLocator constantly takes the last received position time for each vehicle and computes the difference between that

time and current time. If the difference is greater than a user specified value, an alert is issued.

**Vehicle Movement** – The user can specify a speed at which an alert is issued for a vehicle. Additionally, an alert can be issued if a vehicle is stationary (actually moves a distance less than user specified distance) for the time period greater than that specified by the user.

**Proximity** - A circular proximity area can be defined by entering coordinates and a radius from this location. This proximity area can be displayed on the map and also used on a vehicle by vehicle basis. The user can elect to issue an alert when the vehicle is in or outside this area.

**User defined** - Two user defined alerts can be configured. This is accomplished by indicating a comma delimited item in the incoming position message and when to issue an alert based on value of this item.