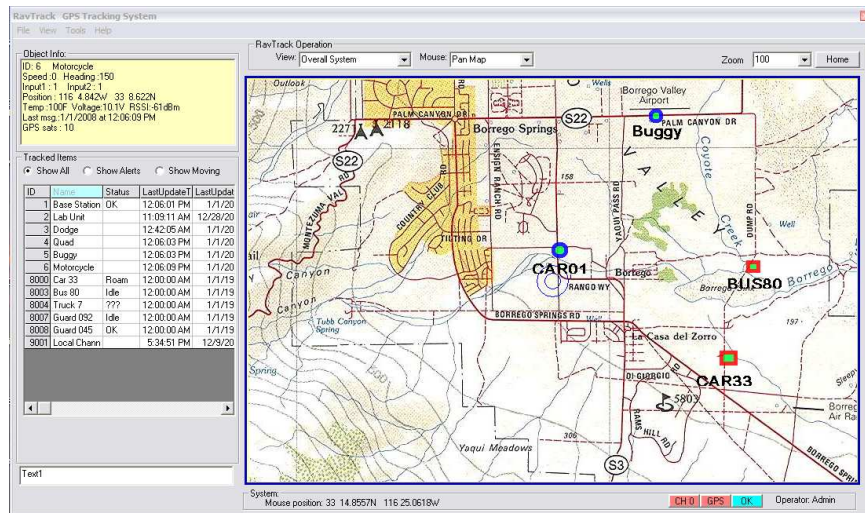


RavTrack PC

RavTrack PC AVL/Tracking Software Application

RavTrack™ PC by Raveon is a PC application for displaying, tracking, alarming, and logging the activity of *GX and GS GPS Transponders*.



This easy-to use PC application graphically shows the location and status of cars, trucks, people, or anything equipped with RavTrack Transponders. The displayed map may be any graphic image, bitmap, or .jpg.

RavTrack PC Features:

The features below are what make a RavTrack PC the right choice for real-time tracking:

- 1) **Real-time.** See where your vehicles are *NOW*, not a few minutes ago. Position and status updates are available as quickly as every second. No other UHF tracking system has as fast an update rate as *RavTrack*.
- 2) **In the Office or In the Field.** Track your vehicles and assets at field offices, temporary work sites, remote locations, or in the office. The RavTrack PC is a complete stand-alone tracking system. No server required. No Internet required. No satellite required. A single PC and a Raveon RV-M7 GPS transponder is all that is required. The map on the display may be any graphics image, scanned map, or photo you choose.
- 3) **Visualize your Operation.** The displayed map can be your city, or your construction site, or your park, or your Golf Course, or your city. See where people are, or should be. See where they aren't and should. *RavTrack PC* can show you your business in a way no voice system can. Zoom and switch between different maps with a click of the mouse.

- 4) **Geo-Fence monitoring.** RavTrack PC users may create geo-fences on the map around areas like keep-out zones, off-limit areas, must-patrol areas, and environmentally sensitive areas, and then have the system alert when geo-fence rules are violated.
- 5) **One-Click status.** Tracking is one thing it does well, but do you want to know status also? One-click on an icon on the map or click an entry in the tracked-object table, and the user can see complete vehicle status including location, distance, heading, velocity, I/O status, temperature, voltage, altitude, and radio signal strength.
- 6) **Custom Alerts.** Knowledge is power, and RavTrack PC gives you the power over your moving assets. Know where they are, when they move, how-long they are idle, or if they are miss-used. The *RavTrack PC* operator can be alerted to various transponder-specific events such as speeding, proximity to Points of Interest, Geo-fence violations, and digital input status.
- 7) **Database Driven.** The information on all units being tracked is stored in a Microsoft Access SQL database. All movements and events are logged in a separate MS Access SQL database. Users may use Access and other SQL tools to create custom reports or interface with the data in real-time.
- 8) **Single or Multi-User.** The software may be run in a single-user stand alone configuration on one PC, or operated in a multi-user configuration where multiple *RavTrack PC* users can monitor the system and create their own alarms.
- 9) **Log Replay** The user may select log entries to replay on the map, to show the past location and status information.
- 10) **Up to 6 radio Channels.** Expand the coverage with multiple radio channels. *RavTrack PC* will allow up to 6 radios to be connected to one PC, so up to 6 different RF channels may be utilized in the same area, or linked in via remote sites.
- 11) **Low Cost Transponders.** The highly integrated *RV-M7 series GPS Transponder* has a radio, modem, and GPS in one assembly. The per-unit cost is lower than any other UHF AVL product on the market. There is no cost for a wireless carrier or satellite provider.
- 12) **Secure.** All position transmissions are encrypted, so that only radios with the same pass-key code can communicate. The pass-key itself cannot be read out of the radio, so even a stolen radios will not make the system less secure. The *RavTrack PC* program is also administrator-rights protected, allowing a view-only user mode, and total-control for the administrator.
- 13) **Filtered View.** *RavTrack PC's* powerful display filtering allows the operator to filter the tracked vehicle list and the displayed icons on the map by over a dozen different parameters such as displaying only moving

vehicles, or alarming vehicles, or stationary vehicles, low-battery conditions, or emergency personnel, or ignition on.

- 14) **Advanced Features.** Advanced features are configured when the Transponder is installed. The RavTrack Transponders have alarm inputs, status output pins for specialized applications.
All *RavTrack GX Transponders* report position, velocity, time, temperature, voltage, altitude, I/O status, alarms, GPS signal quality, and radio signal quality in each transmission, so the system operator has enormous visibility to the status and location of his tracked objects.
- 15) **ESRI Shape Files.** ESRI shape files may be imported and overlaid on the map.

RavTrack PC Specifications:

Map Files

Any .jpg, .tiff, geo-tiff, or .gif graphics file
Photos, scanned maps, or screen captures may be used
User may easily switch between available maps stored on local hard drive
Comes with standard database of icons to display tracked objects
Supplied utility to calibrate user maps
Raveon map calibration service available
User may add custom icons to map file.

DataBases

Tracked Objects: Microsoft Access. One record for each tracked M7 Transponder.
Fields: ID, Name, Status, Time, Date of last report, Lat, Lon, Altitude, Alerts, Speed, Direction, Inputs, GPS status, Icon used, Voltage, Temperature, Radio Signal Strength
System Log File: Microsoft Access. One record for each position report received over the air.
Fields: Entry Number, ID, Status, Time, Date, Lat, Lon, Alerts, Speed, Altitude, Inputs, UTC time, Voltage, Temperature, RSSI, Operator Text
System Log Filter: Log all activity or log only moving objects.

Map Home Location

Center map on current position as reported by local GPS
Center map on a fixed lat-lon
Optionally draw circles around home location
On-click to re-center map on home location

Alerts Triggers (rule based):

Zone alert. entering or leaving a geo-fence
Low battery
Speeding
Idling too long
Stopped
Proximity to points of Interest on the map
Distance from home location

Alert Actions

Message box pop-up showing ID and rule that caused the alert
Play a .wav file
Send an email
Execute a shell program

Communications:

Radio InterfaceRS232 COM port
Maximum number of channels (open Com Ports):6
Com port numbers supported 1-16
Protocols Raveon \$PRAVE, NMEA 0182

RavTrack PC Screen Shots:

Main Screen.

The screenshot shows the RavTrack GPS Tracking System interface. It includes a menu bar (File, View, Tools, Help), a toolbar (View: Overall System, Mouse: Pan Map, Zoom: 100, Home), and a main map area. A sidebar on the left displays 'Object Info' and a 'Tracked Items' table. The map shows a geographic area with roads, landmarks, and tracked objects labeled CAR01, Buggy, and CAR33. A status bar at the bottom shows system coordinates, radio channel status (CH 0), GPS status (OK), and the operator's name (Admin).

Select what you would like to view. Turn layers on or off.

Pan, click to center, or measure distance

Name, location and status of selected object.

Database view of all tracked objects. One click on any to display detailed status.

Zoom map and center it one "Home" with one click

Location of the mouse on the map.

Status of the radio channels.

Status of GPS connected to PC

ID	Name	Status	LastUpdate1	LastUpdate2
1	Base Station	OK	12:06:01 PM	1/1/20
2	Lab Unit		11:09:11 AM	12/28/20
3	Dodge		12:42:05 AM	1/1/20
4	Quad		12:06:03 PM	1/1/20
5	Buggy		12:06:03 PM	1/1/20
6	Motorcycle		12:06:09 PM	1/1/20
8000	Car 33	Roam	12:00:00 AM	1/1/19
8003	Bus 80	Idle	12:00:00 AM	1/1/19
8004	Truck 7	???	12:00:00 AM	1/1/19
8007	Guard 092	Idle	12:00:00 AM	1/1/19
8008	Guard 045	OK	12:00:00 AM	1/1/19
9001	Local Chann		5:34:51 PM	12/9/20

System Configuration Screens

Rule Edit Screen

Rule Edit

Rules

Name of this rule
No Reports lately

Rule Enabled

Rule applies to:

A single object Object ID 1

A range of objects to Object ID 9999

Rule only applies if this flag is received Vibration

Alert/alarm when the object does this:

Electronic Fence INSIDE FENCE
Fence name

Parameter Monitoring NO REPORTS
GREATER_THAN
1 hours

Distance Monitoring DISTANCE FROM HOME
GREATER_THAN miles

Action to take:

Alert Operator Execute Shell 1
 Play sound Test Sound Execute Shell 2
 Send Email
 Log the rule event when alert triggers.

Save Rule Delete Rule Exit

Properties

Program Operation Alerts Shell Programs Units and Display

System Log

Log activity to disk
 Only moving objects logged 50 ft

Start a new log file:
Never. Use same file at all times.

Store all activity log files in this directory
s: (\Server1\Eng)

Log File Entry Comment
16cm

Home Location

Home at my GPS position
 Home at fixed location

Fixed Home Position
Lat. dd mm.mmm Lon. dd mm.mmm
33 8.9000N 117 13.1100W

Center as new Home

Current Map File
NorthCounty.MapLib

Save and Exit Quit - No Save

Properties

Program Operation Alerts Shell Programs Units and Display ESRI Data Servers

Object highlight

Highlight object ID with RED background when it triggers a Rule Alert

Clear alerts

Clear Rule Alerts for individual objects upon program start

The .WAV file to play for Rule Alerts

evillaugh.wav
hal, always human error.wav
HeresJohnny.wav
i am your father.wav
jetson space car.wav
makemyday.wav
notify.wav

Test Sound

Digital Input Descriptors

Input 1
Low Door Open
High Door Closed

Input 2
Low Siren ON
High Siren OFF

Input 3
Low Input 3 is low
High Input 3 is high

Save and Exit Quit - No Save

Properties

Program Operation Alerts Shell Programs Units and Display ESRI Data Servers

Distance Units of Measure

Metric (kilometers)
 English (miles)

Map Center

Keep map centered on My GPS location

Icon Label Font

Arial Narrow Change

Size 10

Normal Color Alert Color

Icon Label Offset 0 16

Default Icon for Importing POIs
1-Red

Show POI names with the Icons

Track Dots

Draw Track Dots for all objects
 Make dot color proportional to RSSI
Minimum distance between dots
0 ft

Circles

No circles shown
 Draw circle around center of map
 Draw circle around home location

List Filter Settings

Speed Limit 55 Idling Time (hours) 1
Voltage Limit 11.5

Save and Exit Quit - No Save

Radio Channel Configuration

The screenshot shows the 'System Communications' window with several sections: 'Port 1' through 'Port 6' tabs; 'Enable this port' checked; 'Serial COM Port' with 'Use a serial COM port' checked and 'COM3' selected; 'Network IP Port' with 'TCP/IP Server' unchecked and 'Port Number' set to '53885'; 'Device' set to 'Raveon RV-M7 (38.4k baud)'; and 'Interpret GPS data w/o ID as:' with 'Ignore' selected. 'Save' and 'Exit' buttons are at the bottom.

Tracked Vehicle Information

The screenshot shows the 'Edit Object Information' window. It includes: 'ID' field with '1'; 'Base #1' dropdown with 'Base #1'; 'User Group' dropdown with 'Everyone'; 'Alerts' section with 'Clear Alert' button and 'Current Alert Codes' field; 'Enabled' checked, 'Displayed on Map' checked, and 'Store reports to the log file' checked; 'Icon for this object' dropdown with '1-Red'; 'Color of Track Dot' color picker; 'Last Reported Information' section with 'Last reception a' date/time, 'Location' coordinates, 'Heading', 'Velocity', 'Altitude', 'Voltage', 'Temperature', 'RSSI', and 'Bearing'; and 'Digital Input Bits Used' section with 'Input 1', 'Input 2', and 'Input 3' checked. 'Exit', 'Save', 'Delete', 'Add New', and 'Quit - No Save' buttons are at the bottom.

Load Historical Log Data to Map

The screenshot shows the 'Load Historical Log Data to Map' window. It includes: 'Date Range' section with 'From' and 'To' date/time pickers; 'Comment Filter' text box; 'ID Filter' section with 'Only load the IDs within this range' checked and '1' to '9999' range; 'Load Log Data For a Single One' section with 'Only load data for this object' checked and '1 Base #1' dropdown; 'Action' section with 'Stop Receiving new positions while displaying' unchecked; and 'Status' text box. 'Begin' and 'Exit' buttons are at the bottom.

For More Information

For more information about this or any other Raveon product, call in the U.S.A. 1-760-727-8004 or visit us at www.ravtrack.com.

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