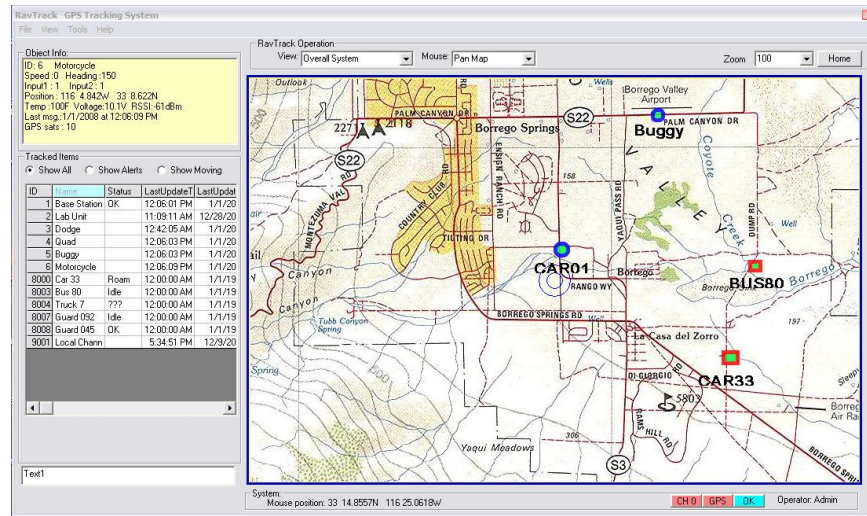


RavTrack PC

RavTrack PC AVL/Tracking Software Application

RavTrack™ PC by Raveon is a PC application for displaying, tracking, alarming, and logging the activity of GPS Transponders such as Raveon's RV-M7-GX series of vehicle trackers and ATLAS series of personnel locators.



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 RavTrack PC the right choice for tracking your vehicles and personnel:

- 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 radio 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. RavTrack PC is a complete stand-alone tracking system. No server required. No Internet required. No satellite required. A single PC and a Raveon 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, your airport, your construction site, or park, golf course, or city. See where vehicles and personnel are, or should be - see where they aren't but 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* has a powerful rules engine to create alerts and record data. Users 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 either a Microsoft Access SQL database or a Microsoft SQL server database. All movements and events are logged in a database table base. Users may use Access, Crystal Reports, 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. Users can be assigned to groups to restrict their access to vehicles in other groups.
- 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 radio AVL product on the market. And there are no service fees 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 Raveon GPS 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) **Text Messaging.** Using a mobile data terminal connected to the Raveon radio in the vehicle, RavTrack PC users can send text messages to the vehicles and the vehicle operators can set up to 8 status flags to be displayed on RavTrack PC.

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 or SQL Server. 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
Exceeding certain number of alerts per time period
All can be restricted by date, time or day, geolocation, and speed.*

Alert Actions

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

Communications:

*Radio Interface..... RS-232 COM port or telnet socket connection to terminal server
Maximum number of channels (open Com Ports):6
GPS tracking data Protocols.....\$PRAVE*

RavTrack PC Screen Shots:

Main Screen.

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

Pan, click to center, or measure distance

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

Name, location and status of selected object.

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

Location of the mouse on the map.

Status of the radio channels.

Status of GPS connected to PC

The screenshot shows the RavTrack GPS Tracking System interface. The main window displays a map of the Borrego Springs area with various tracked objects marked. Annotations point to specific features:

- Object Info Panel:** Located on the left, it displays details for the selected object (ID: 6, Motorcycle). It includes fields for Speed, Heading, Input, Position, Temperature, Voltage, RSSI, Last message, and GPS satellites.
- Tracked Items Table:** Below the Object Info panel, a table lists all tracked objects with columns for ID, Name, Status, Last Update Time, and Last Update Date.
- Map:** The central map shows the Borrego Springs area with roads, landmarks, and tracked objects. Annotations point to the map for panning, zooming, and measuring distance.
- System Status Bar:** At the bottom, it displays the mouse position (33 14.8557N 116 25.0618W) and the status of the radio channels (CH 0, GPS, OK) and the operator (Admin).

ID	Name	Status	LastUpdateT	LastUpdate
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

multimap.MapLib
NorthCounty.MapLib
Ocotillo.MapLib
SanDiego.MapLib
SanDiegoNorth.MapLib
WorldMap2.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)

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

Map Center

☐ Keep map centered on My GPS location

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 tabs for Port 1 through Port 6. Port 1 is selected. It has a section for 'Serial COM Port' with 'Enable this port' checked, 'Use a serial COM port' checked, and 'COM Port' set to 'COM3'. Below is a 'Network IP Port' section with 'TCP/IP Server' unchecked and 'Port Number' set to '53885'. The 'Device' is 'Raveon RV-M7 (38.4k baud)' with an 'Advanced' button. At the bottom, 'Interpret GPS data w/o ID as:' has 'Ignore' selected. 'Save' and 'Exit' buttons are at the bottom.

Tracked Vehicle Information

The screenshot shows the 'Edit Object Information' window. It includes an 'ID' field with '1' and 'Next >' button. 'Base #1' is 'Base #1'. 'User Group' is 'Everyone'. The 'Alerts' section has 'Clear Alert' button and 'Current Alert Codes' field. 'Enabled' is checked, 'Displayed on Map' is checked, and 'Store reports to the log file' is checked. 'Icon for this object' is '1-Red' with a 'Color of Track Dot' color picker. The 'Last Reported Information' section shows 'Last reception a 11/9/2008 8:20:27 PM 0 (UTC time)' and various location and status data. 'Digital Input Bits Used' has 'Input 1' and 'Input 2' checked. 'Exit', 'Save', 'Delete', 'Add New', and 'Quit - No Save' buttons are at the bottom.

Load Historical Log Data to Map

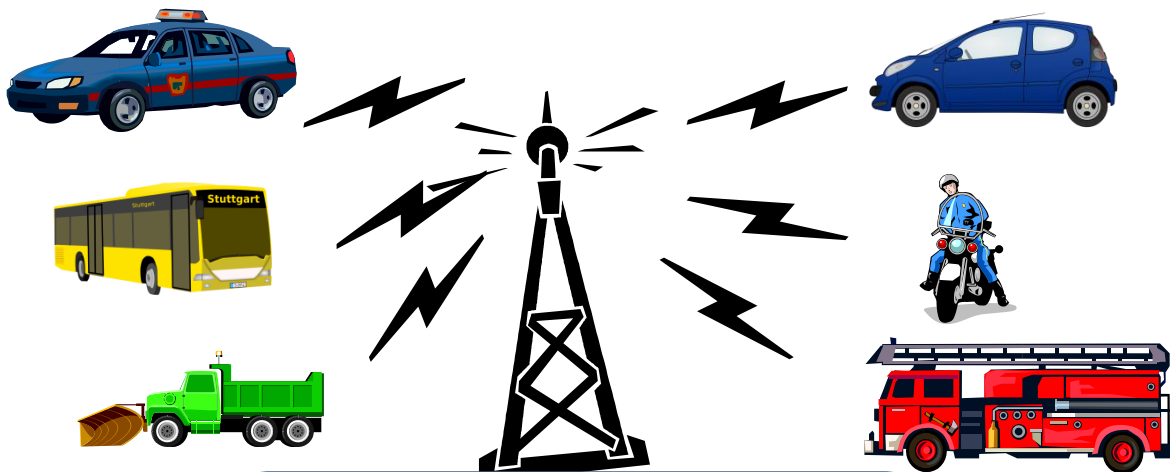
The screenshot shows the 'Load Historical Log Data to Map' window. It has a 'Date Range' section with 'From' and 'To' date and time pickers. A 'Comment Filter' section has a text input field. An 'ID Filter' section has 'Only load the IDs within this range' checked, with '1' and '9999' in input fields. A 'Load Log Data For a Single One' section has 'Only load data for this object' unchecked, with '1 Base #1' in a dropdown. An 'Action' section has 'Stop Receiving new positions while displaying' unchecked. A 'Status' section has a large text area. '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. 1-760-444-5995 or visit us at www.ravtrack.com

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transmitted
securely and
received by
authorized**



Dispatch



Mobile
Command
Centers

For more information about these or any other Raveon product, see www.ravtrack.com
or in the U.S.A. call 1-760-444-5995 or send an email to sales@raveon.com