



Track Star AVLS Overview Brochure



Celebrating 10 years of Excellence in GPS and Communications Technologies

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Overview

The Track Star AVLS (Automatic Vehicle Location System) provides users with an affordable, flexible and powerful system for managing vehicle fleets. The system has a number of unique features and capabilities which are highlighted in this publication.

The system uses GPS (Global Positioning System) data to monitor the location, movement and status of vehicles in real time and provide that information in the form of on-screen map displays and a variety of reports to the users of the system. The specific features of the AVLS system that differentiate the product from others in the market include:

- AVLS is a completely private and customer operated product, delivering by virtue of this architecture the following important benefits:
 - Complete data privacy especially useful when data is to be used in an evidentiary role.
 - Very low operational cost
 - Unlimited storage of historical data
 - Ability to use customer owned GIS and aerial imagery data
 - Complete user control over user access rights, vehicle configurations and functions
- AVLS works with a wide variety of GPS devices that are installed in the vehicles and can use many forms of communications for GPS data.
- AVLS can support fleets of any size, from single vehicles to thousands of vehicles and provide real time location and status information.
- A full alerting function allows users to configure the system to send out alerts on desired events to email and or text message recipients. Alerts can be configured for geo-fence violations, posted speed limit violations, input activations, excessive stop times, maintenance reminders, etc.
- Extensive reporting functions allow generation of reports to examine and maximize the operational efficiencies of vehicles and personnel.
- Flexible geo-fencing functions that allow notification when vehicles enter or leave specific, user specified areas.
- Vehicle activity replay functions allow users to graphically recreate the activity of vehicles for any desired date and time range and export the replay as a Windows AVI movie file.

The Components

The AVLS system is comprised of 3 primary components:

- AVLS Server software
- AVLS Database
- AVLS Client software

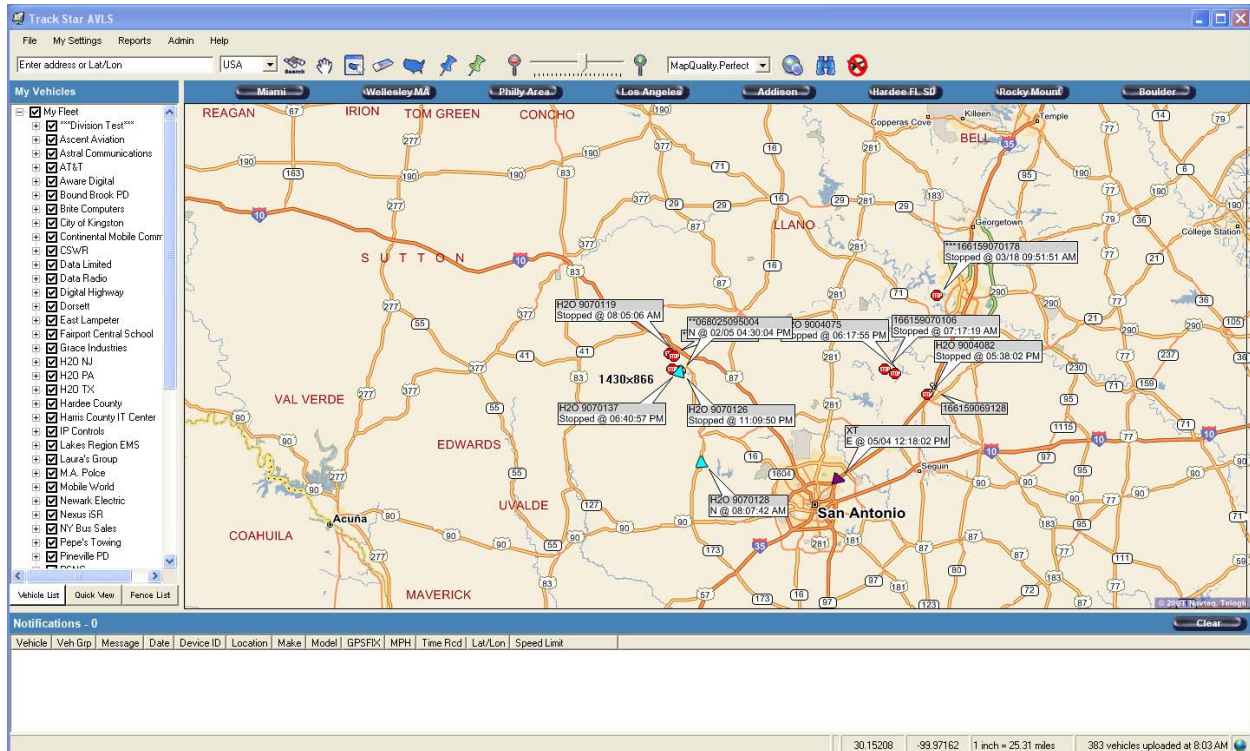
These 3 components operate together to provide the functions of the overall AVLS system.

The **AVLS Server** software is the recipient of the GPS data coming from the vehicles. The function of this software is to relate the incoming GPS data to the appropriate vehicle and then send the location data to the AVLS database and to the AVLS Client software. AVLS Server installs as a service so that it can be configured to run automatically whenever the host computer is started.

The **AVLS Database** is a **Microsoft SQL®** database that stores all of the positional records from the vehicles as well as all of the vehicle and user information that the system requires. Since this database is hosted by the using organization, there is inherent privacy of the location data as well as unlimited storage for the historical records. For users who do not have SQL Server, Track Star provides Microsoft SQL Server Express 2008® with the product installation media.

The **AVLS Client** software serves as the user interface of the system. It receives vehicle location

information from the AVLS Server and, in accordance with user visibility rights, displays the location and status of vehicles on the map display. The Client software is also where users generate reports



on vehicle status and activity with the data for those reports coming from the AVLS database. The data offered by the reports in the Track Star AVLS product provide users with the ability to analyze vehicle and personnel activity, make efficiency improvements to those activities and measure the effectiveness of those improvements.

Communication

The various components of the AVLS system communicate with each other using TCP/IP data over LANs, WANs and WWANs. This function allows remote use of the AVLS Client when desired and the small packet structures inherent in the system design even allow for use of the Client in mobile environments on laptop computers equipped with wireless connectivity.

Devices

The Track Star AVLS system supports a wide range of devices that users can select from to form the complete GPS vehicle tracking system. The AVLS system is uniquely able to support devices in various types of cellular communication and radio communication platforms and is even able to allow users to employ combinations of these devices and technologies in the system. The AVLS system supports cellular devices from Sierra Wireless AirLink and Sierra Wireless AirCard product lines, Blue Tree Wireless, Enfora, CalAmp and DCT Antares. In the realm of radio communications the AVLS system supports the Kenwood LMR series, the GE Mercury MDT series and the CalAmp Data-Radio Gemini series. Support is also provided for generic TAIP and NMEA type devices when not specifically supported otherwise.

Another product that is supported in the AVLS system is the Track Star Smart Antenna / GPS Data Forwarder product. This product is intended to allow users of in-vehicle laptop computers, such as Panasonic ToughBook®, a GPS vehicle tracking capability using those laptops. With integral GPS in the laptop, the use of the GPS Data Forwarder software provides the ability to track the laptop.

When no integral GPS is available, the Smart Antenna product provides both the GPS Data Forwarder software and a USB GPS receiver / antenna device. The Data Forwarder product also works with many of the newly available wireless data cards that include GPS functionality.

Inputs and Outputs

Many of the devices supported in the AVLS system provide analog and digital inputs and outputs. The AVLS system is able to work with the signals generated by these features in the devices and provide through them real time notification of events occurring in the vehicle. For example, law enforcement fleets often connect a digital input to the lights and siren switch in the vehicle so that the AVLS system can depict this event on-screen. Public works departments instrument snow plows and sanders, in another example, to show when roads have been plowed and sanded. There are many uses for these features and the flexible implementation of them in the AVLS system allows them to be used for practically limitless applications.

Maintenance Alerting

The Track Star AVLS system provides mechanisms by which alerts can be generated to serve as reminders for scheduled maintenance events. These are entirely user configurable and can be based on time as well as vehicle mileage. Alerts can be configured to appear on screen but can also be configured to automatically generate email and / or text message reminders.

Beyond this reminder functionality, the AVLS system also offers interaction with the Agnik Mine-Fleet® system to provide alerts and select reports on maintenance related data from the vehicle diagnostic data bus. Diagnostic fault data, fuel economy, engine idling and PTO utilization data is available with this interface.

Map Data

Track Star AVLS uses precise and current map data from TeleAtlas® and NAVTEQ®. This map data is updated frequently and provides street level detail for the entirety of the United States and Canada complete with posted speed limit data for those countries. Maps for many other countries are also available.

Mobile Devices

By employing desktop sharing applications on mobile devices, many users are able to access the full power of the Track Star AVLS on their mobile devices. Successful implementations have been realized on BlackBerry®, Windows Mobile® and iPhone® platforms.

Summary

The Track Star AVLS system is unique in the GPS vehicle tracking market. It is a powerful yet singularly cost effective solution for fleets of all sizes. It is widely deployed in Utility, Law Enforcement, Municipal and Service fleets and supports fleets both large and small with flexibility, reliability, performance and low cost of operation. The unique features, data privacy, inherent flexibility and low cost of operation allow the Track Star AVLS system to provide users with state of the art GPS vehicle tracking technology and realize significant Return on Investment much more quickly than with other systems. A 30 day no-obligation trial is available to allow potential users an opportunity to see this amazing product first hand.



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