

## **OnStar System**

(Provides subscribers with directions, medical emergencies, tracking stolen cars, etc.)

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OnStar is a subscription-based telecommunication/communications, monitoring and Vehicle tracking system service provided by General Motors Corporation. Other manufacturers that also offer OnStar include Acura, Audi, Subaru and Volkswagen. The service is available for all vehicles that have the factory-installed OnStar computer hardware.

### **What Makes it Work**

It consists of both communication, through phone networks in the United States and Canada, and location information Global Positioning technology. Drivers and passengers can use its audio interface to contact OnStar representatives for emergency services, vehicle diagnostics and directions. OnStar equipped vehicles with an active subscription will contact representatives, in Troy, Michigan, Charlotte, North Carolina, Makati, Phillipines, and Oshawa, Ontario in the event of a collision where the airbags are deployed.

When a driver presses the Red OnStar Emergency button or Blue OnStar button, current vehicle data and the user's GPS location are immediately gathered. This information is then sent to OnStar. OnStar Emergency calls are routed to the OnStar Center with highest priority. Two centers exist to receive emergency calls: Charlotte, North Carolina and Oshawa, Ontario; and all centers are open 24 hours a day.

### **History**

OnStar, a subsidiary of General Motors, was founded in 1995 as a collaboration between GM, EDS and Hughes Electronics Corp. GM brought vehicle design and integration and a distribution system of millions of vehicles, EDS brought much of the systems development and information management and customer service technologies, while Hughes contributed communications and satellite technology and automotive electronics.

In 1996, GM North America introduced it at the Chicago Auto Show. OnStar delivered its first product and service to the market in 11 months - in the fall of 1996 for model year 1997 Cadillac DeVille, Seville and Eldorado models.

### **Promotion/Benefits**

OnStar is classed essentially as a safety tool for drivers and car owners. GM commercials have compared it to seatbelts and airbags, as the next major technology for safe driving. The major benefits include:

- Its ability to aid police in tracking down stolen vehicles.

- Contacting emergency medical services in case of an accident (should the driver request this or be non-responsive).
- Notifying drivers of potentially dangerous mechanical problems; emails are sent to owners that give a diagnostics of their vehicle every month if subscribed to.
- Unlocking doors for drivers (after verifying authorization over the phone) should their keys be misplaced or locked inside their car.
- OnStar's basic subscription also includes Roadside assistance, as well HFC (Hands Free Calling) which is integrated into the OnStar system and operates in the same way as a regular cell phone does except that it is operated through voice recognition.
- Advanced Automated Crash Notification allows emergency advisors to provide emergency medical services (EMS) with additional crash information such as rollover status, direction of impact, which airbags have deployed (front, side etc.).
- The Delta V-Force which is a medical measure of the intensity of an impact. All this information allows EMS to respond to the crash with appropriate equipment.

### **OnStar Technology**

OnStar consists of four different types of technology: cellular, voice recognition, GPS and vehicle telemetry. All of the services that OnStar provides are a result of one or more of these technologies working together.

- OnStar's cellular service has a better range than most cell phones, with a full three watts instead of a regular cell phone's 0.6 watts. With some OnStar plans, you can also use the cellular service just as you would a regular cell phone plan.
- For calls to the advisor, OnStar uses voice recognition software similar to that already used in some hand-held cell phones. However, one of OnStar's unique features is the ability to "surf the Web" using the **Virtual Advisor** automated system.
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### **Directions and Connections**

OnStar Turn-by-Turn Navigation is the simplest and smartest navigation system and part of OnStar's award-winning Directions & Connections Plan. Through voice-guided directions, it helps you find an address, business or practically any destination using the database of over 10 million points-of-interest. Stopping to ask for directions, fumbling with maps or printing out web directions are a thing of the past.

On automobiles equipped with OnStar technology it offers a real-time driving navigation system, called **Turn by Turn**. By depressing the Directional button, the operator will guide your vehicle, Turn bu Turn, to your destination. By the year 2010, all GM models will be equipped with OnStar Turn by Turn.

### **Accident Notification**

To give a vehicle the ability to call when it is in an accident, OnStar uses an event data recorder (also known as the **Advanced Automatic Crash Notification System** (AACN). It's the car's equivalent of an airplane's black box, except that the AACN only starts recording in the event of a crash and only records data. The AACN system consists of four components: sensors, the Sensing Diagnostic Module (which includes the event data recorder), the VCIM and the cellular antenna. The number and location of sensors vary depending on the specific car, but they all work the same way. When the car is in a crash, sensors transmit information to the Sensing Diagnostic Module (SDM). The SDM also includes an accelerometer, which measures the severity of the crash based on gravitational force.