



GET TO KNOW YOUR Navigation System

The amazing technology that shows you where you need to go

By Patricia Kutza

YOU SCHEDULE YOUR BUSY DAY WITH LITTLE margin for delays, and that's when knowing about a traffic jam near the airport can really come in handy. Many car navigation systems can show you the route involved. But the Acura Real-Time Traffic feature, standard in the RL and released RD-X, alerts you to that accident in advance. It gives you valuable time to consider alternative routes, keeping you right on schedule to catch your flight.

Real-Time Traffic is just the latest innovation made to the already acclaimed Acura Navigation System, a tool more and more drivers are finding they can't do without. The system's popularity is indisputable—in 2004, purchases of navigation-enabled Acuras made up 41 percent of total Acura vehicle sales. To understand what has made the Acura Navigation System such a necessity, it helps to understand the complex systems composing it and how they work together to bring you, the Acura owner, an award-winning product.

Navigation 101

When the engineers at Acura built this navigation system they knew that it would only be as good as its ability to track all of a vehicle's movements. That's why they created three separate tracking inputs, making the system far more sensitive than others of its kind.

The first tracking source uses a constellation of 24 Global Positioning System (GPS) satellites that orbit at almost 11,000 nautical miles above the earth. Each satellite transmits a coded signal telling the GPS receiver mounted in your Acura its identity, its precise location, and the exact time the signal was sent. This receiver compares the time the signal was sent with when it was received in order to compute its distance from the satellite. Multiple comparisons from the remaining satellites help the GPS receiver refine its accuracy and create what is known as a "3-D fix," an exact positioning of its location.

The second tracking device, built into the transmission controls, senses and calibrates the speed of your car. The third tracking mechanism is a device unique to the most sophisticated systems, a gyro-yaw sensor. Built into the control unit of your vehicle, it detects lateral car movement and ensures that the cursor display on your navigation monitor is smooth and therefore easy to read.

All of these devices communicate with the digital map software that comes preloaded in all Acura Navigation Systems. The data for this software is provided by Navteq, which is just one of the companies responsible for the accurate information you rely on to get you from place to place.

It takes lots of vendor coordination to provide seamless support to the company's lauded navigation system. Alpine,



CONSTANTLY IN TOUCH:
The Real-Time Traffic
feature on the '05 RL
alerts you to accidents
so you can avoid them.



AT HOME AND ABROAD: Navteq field agents trot the globe to keep the data used in the Acura Navigation System current.

Acura's navigation control unit software vendor, purchases the Navteq map software and integrates it with the proprietary operating system. Acura owners see the results of this

extraordinary research and integration on the monitor built into the vehicle's dashboard. Customer feedback gives high marks to these extremely personalized map displays; they define approximately seven million points of interest and also hold as many as 100 personal addresses.

Been There, Verified That

There's no guesswork allowed in developing the digital map database that forms the nucleus of the Acura Navigation System. That's why approximately 575 Navteq field researchers around the globe drive the same metropolitan roads, freeways, and interstates that you do.

To gather and verify the data for the network, researchers head out in highly customized vehicles. Often paired in teams, they use a geographic laptop, tablet pen, custom joystick, and digital camera to record the data; audio headsets help them react to both visual and audible cues. As they travel, they collect close to 160 different road characteristics per day. With a signal that is processed and corrected in real time, the saucer-shaped GPS equipment integrated onto their cars ensures accurate positioning of up to five meters.

Cherry-Picking the Best Talent

Acura owners know that their car's navigation systems are incredible, but it's comforting to know that industry leaders agree with the company's choice of suppliers. Vendors such as Navteq have been well recognized for their trendsetting technologies. Among the honors bestowed on the data provider are the Consumer Electronics Association Innovation Award, which honors excellence in consumer technology design and engineering, and *Popular Science's* 2004 "Best of What's New" award.

In 2004, Alpine, the supplier of voice-activated controls for the Acura Navigation System, received the J.D. Power and Associates award for "Highest Customer Satisfaction—

Navigation System" for the Acura TL, which ranks highest in Power's overall satisfaction chart. In fact, Acura models hold all of the study's top ratings, with the MDX ranked second and the TSX ranked third. The rankings are statistically compelling: 9,271 navi-savvy motorists were surveyed for the study on which these results were based.

Continually Working to Bring You the Best

But Acura hasn't been content to stop there. "After launching the first factory-installed navigation system in the United States, we've been listening to our customers to make sure we fully understand what they need in a navigation system," says product development manager Rich Shannon. For example, in designing the disc-uploadable database, engineers refined the system to include all of the 48 contiguous states along with Hawaii and parts of Canada. This means customers can "drive almost anywhere they want without having to think about swapping out discs," notes Shannon. Consider also the improvements to the in-dash screen: The already large 8-inch display is now even easier on the eyes, with a fingerprint-resistant finish and day/night viewing modes. New 3-D simulations of road features such as freeway ramps now enhance route information too.

In what is surely the greatest navigation system innovation so far, the company debuted the aforementioned Real-Time Traffic feature on the 2005 RL. It's composed of AcuraLink™, the first satellite telematics system for passenger cars with broadcast capabilities, and the companion XM NavTraffic™ service. This revolutionary feature provides drivers with the 21st-century equivalent of a crystal ball. At their fingertips, drivers now have data about accidents and disabled vehicles as well as road construction and road closures. AcuraLink also knows about traffic-flow information—culled by Navteq from road sensors, departments of transportation, police and emergency services, cameras, and airborne reports—and is able to determine alternate routes so that, even when confronted with accidents and traffic jams, you can get to your destination hassle-free.

With such a state-of-the-art tracking system, highly informative digital maps, and finger and voice activation, it's no wonder that Acura owners are boasting that they have the best navigation system on the market. (A)