Never Be Lost Again (If You Have a GPS Unit)

By Sara J mcBride

Are you "directionality challenged"? Do you look at a map, wonder where you are and wish an arrow would magically appear pointing out your position? A GPS receiver can be the answer to that age old question, "Where the heck am I?". GPS units are powerful navigation tools that provide detailed mapping information in a convenient, compact package. With a GPS unit, you can determine where you are, what speed you're traveling, how many miles have you traveled and a wealth of other information.

The stars have provided man a way to navigate and we now have man made stars to use. In 1978, the US Defense Department launched the first of 24 GPS (Global Position System) satellites. This network of satellites transmits coded information which makes it possible to identify locations on earth by measuring the distance from the satellites. A receiver measures the travel time of the signal generated from the satellites then multiplies this by the speed of light to determine exactly how far the unit is from every satellite it samples. Originally, since the system was for military use, the civilian codes that were transmitted were not as precise as the military access codes. Civilian GPS receivers proved to be more accurate that the Deptartment of Defense anticipated, so a system known as Selective Availability (S/A) was introduced to degrade the accuracy. Due to technology to deny GPS to specific areas, effective May 2000, S/A has been eliminated. Where a GPS unit once had accuracy anywhere from 20 to 100 meters, now a GPS unit is now ten times more precise.

There are many types of GPS unit, some with no map, a base map, or a highly detailed map, some with a grayscale display or a color display. Of course, the fancier you get, the higher the cost. Most units come with a base map, but can you can download upgraded maps by way of a computer and a CD-ROM containing maps. I chose a Garmin unit, the GPSIII+, and all descriptions that follow are from this unit.

Out of the box, the unit is easy to use-turn it on, it will locate all the available satellites, find itself and then display your position on a map. The first time you use the unit or if you have travelled more than 500 miles with the power off since the last time you used it, this may take a few minutes. Of course, the receiver needs an unobstructed view of the sky for best performance.

The display is set up to display six pages which are linked together in a chain, which you can quickly scroll though. The first screen you will see is the Satellite Status page. The display will show what the receiver status, a sky view of the satellites it is acquiring, the signal strength of each, and the battery level indicator. After the satellites have been acquired, the display automatically changes to the Map page which shows your location. Other pages include the Position page, the Compass page, the Highway page, and the Active Route page.

The Position page includes a compass and has six user selectable fields. I have mine set to display speed, a trip timer and trip odometer, average speed, and sunrise and sunset. Below these fields are your current latitude and longitude readings and the time and date. If I don't have a destination programmed in, this is the page I usually use.

The Map page shows your movement using a real time map log (an electronic "bread crumb" trail) and your position as a pointer icon in the middle of the map. It will also show nearby highways, lakes, rivers, railroad tracks. Detail is fairly good, most major streets in cities are shown. You can change the scale from 120 feet out to 500 miles by using zoom keys on the unit.

There are two different navigation pages: the Compass page and the Highway page. The Compass page provides steering guidance to a destination waypoint and emphasizes the bearing and current direction you are traveling. The Highway page places greater emphasis on the straight line desired course, and the distance and direction you are off course.

The last page is the Active Route page, which shows waypoints that you have entered. If no destination has been entered, this page is blank.

The GPS unit is positioned directly in front of the driver for easy access and viewing. Velcro is used to safely secure the unit to the dash.

Zoom-Zoom to page 8