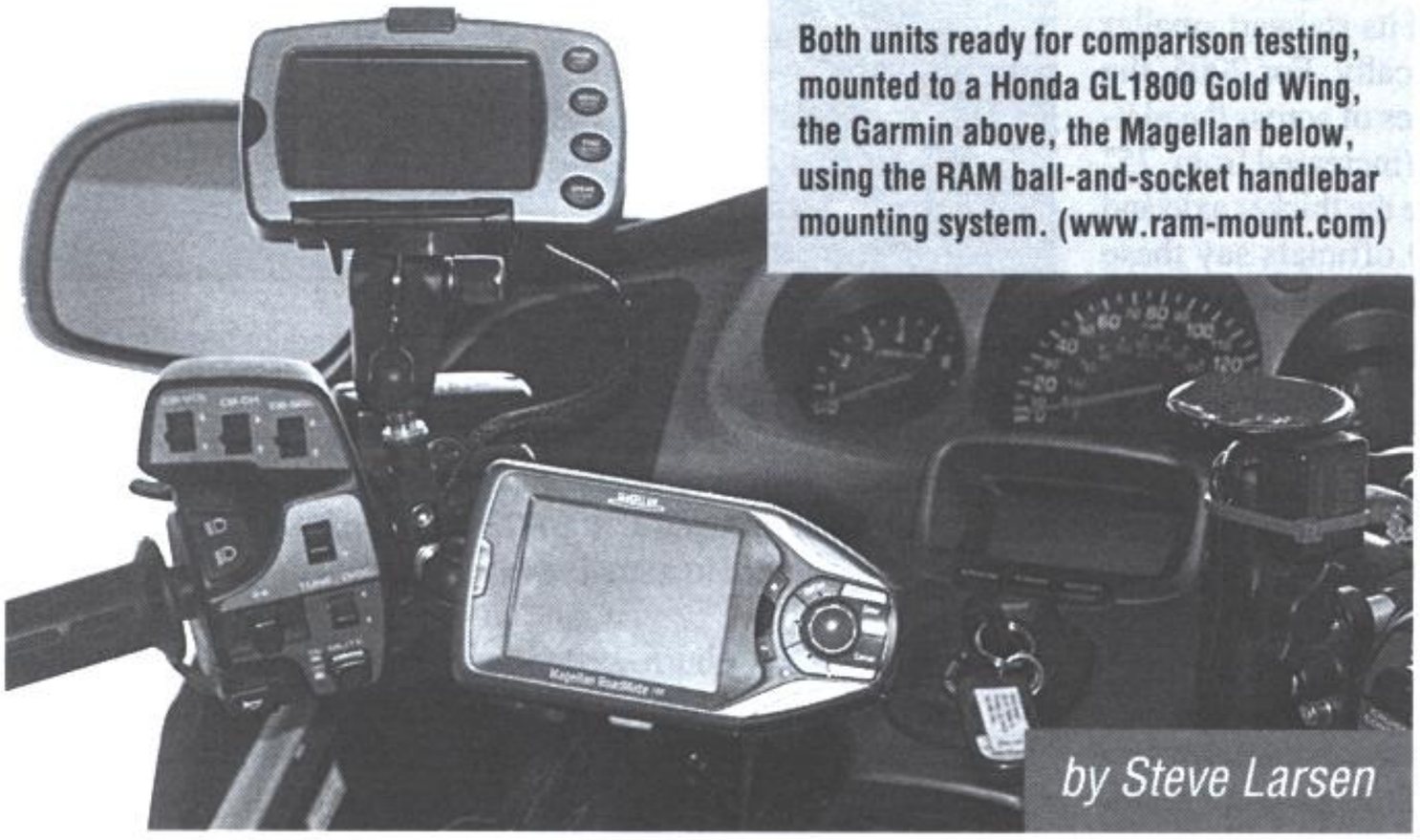
Bike-Mounted GPS:

Face-off Between Two Top Units—Garmin StreetPilot 2610 Vs. Magellan RoadMate 700



Both units ready for comparison testing, mounted to a Honda GL1800 Gold Wing, the Garmin above, the Magellan below, using the RAM ball-and-socket handlebar mounting system. (www.ram-mount.com)

by Steve Larsen

BY NOW, NEARLY everyone has had the chance to experience satellite-based global positioning system navigation through an onboard GPS device in an automobile, whether in your own car, with Hertz's NeverLost or in a friend or neighbor's car. The real techies have tried them out on a motorcycle or even used them for off road trekking. This article reviews two of the most recently released products, the new Garmin StreetPilot 2610 and the Magellan RoadMate 700. For dedicated, value-oriented MCN fanatics, I've included a third unit, which may just blow these two units away. We'll see.

Should you consider a Global Positioning System for your bike? Are they "ready for prime time," or are these only for elite technology freaks? How well do they work? How big of a hassle is it to install one? Is it possible to use them without driving off the road or into oncoming traffic? What factors should be used to fairly compare one unit with another?

To answer these questions and many more, I recently acquired the two new "portable" GPS devices. Both were released in the past year and many experts consider them the "top-of-the-line." I mounted both of them on my Honda GL1800. After testing them around town for a few days, I set off on an 1800 mile, five-day trip consisting of a variety of roads, including interstate highways, state highways, county roads and city streets.

Before leaving, I spent a couple of days figuring the units out and getting them mounted to the bike. Manufacturers of both units were helpful on the use of the unit, but it was Sean Franklin at CycleGadgets.com (877-7-GADGET) who finally supplied authoritative information on how to properly mount these units to a motorcycle. Sean walked me through everything needed to make the perfect installation for both the Garmin and the Magellan systems.

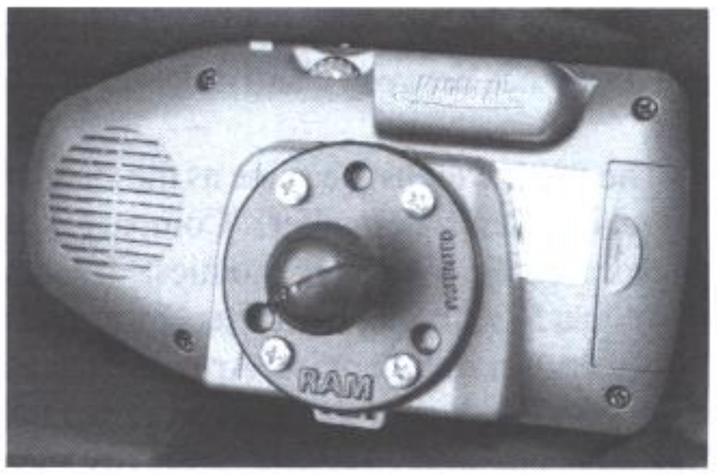
First came the R-A-M mounting system, a ball-and-socket affair that is highly flexible and easily adapts to a variety of devices and motorcycles. For the Gold Wing, Sean recommended a specially manufactured bracket, which fits either the left or right handlebar. I chose to mount it on the left handlebar as the right side already contains a mount for my Valentine One radar detector. Special mounts are also made for BMWs, as well as standard handlebar bases for bikes with normal $^3/_4$"–1" tubular handlebars. Pricing varies depending on what's required to hold the device being mounted and the base mount chosen. For mounting the Garmin 2610 to the Gold Wing, I combined a handlebar mount with a 3" arm, a cradle for the 2610 and a ball adapter at a cost of $44.50. I then added an extra ball, another 3" arm and a plate with a ball on it for the back of the Magellan. This allowed me to mount both units to the left handlebar, positioning one unit up and the other unit toward the center. Not only could I easily interact with both units while riding, swapping the positions of the units was easy. This allowed me to quickly change and put the unit that had been the lower one on the top.

CycleGadgets.com also sold me on getting an interface called the "SingleSet," designed for the Garmin GPS and the Gold Wing by Kennedy Technology Group of Rose Hill, KS. It powers the GPS and introduces the unit's voice into the Gold Wing intercom, automatically muting the music. The SingleSet with the attachments for the Garmin 2610 cost $99.95. They also have a version that will power and interface both the GPS and a radar detector. While the SingleSet works on Gold Wings and other touring motorcycles with factory intercom systems, such as the Kawasaki Voyager, it would not be possible to use the SingleSet with the Magellan, as that sort of interface capability is not a part of the product.

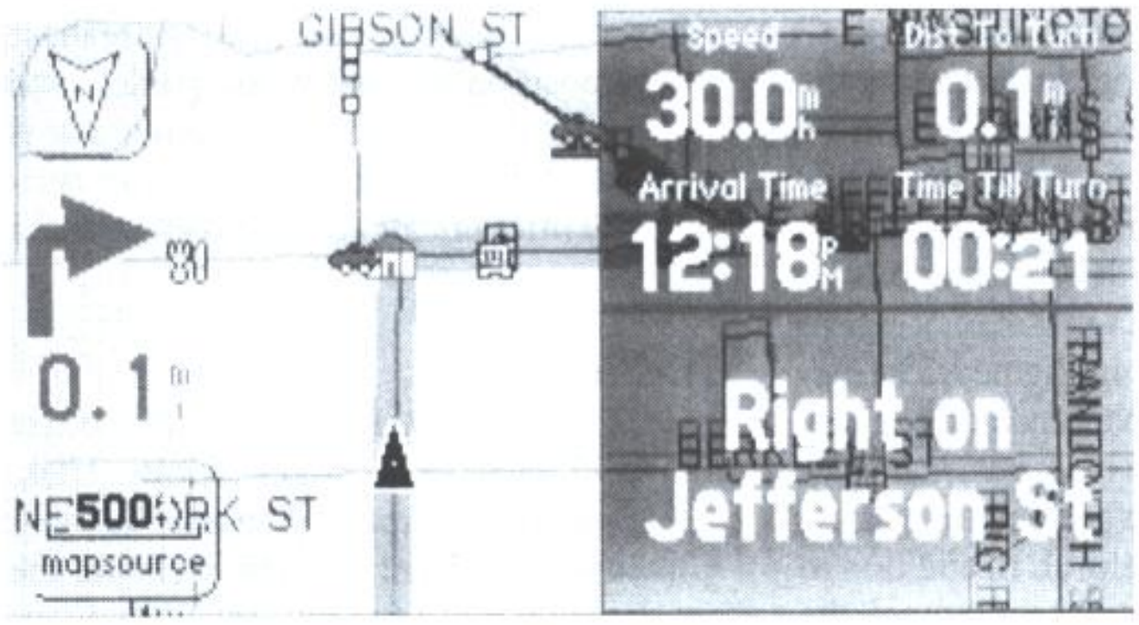
Installation & Setup

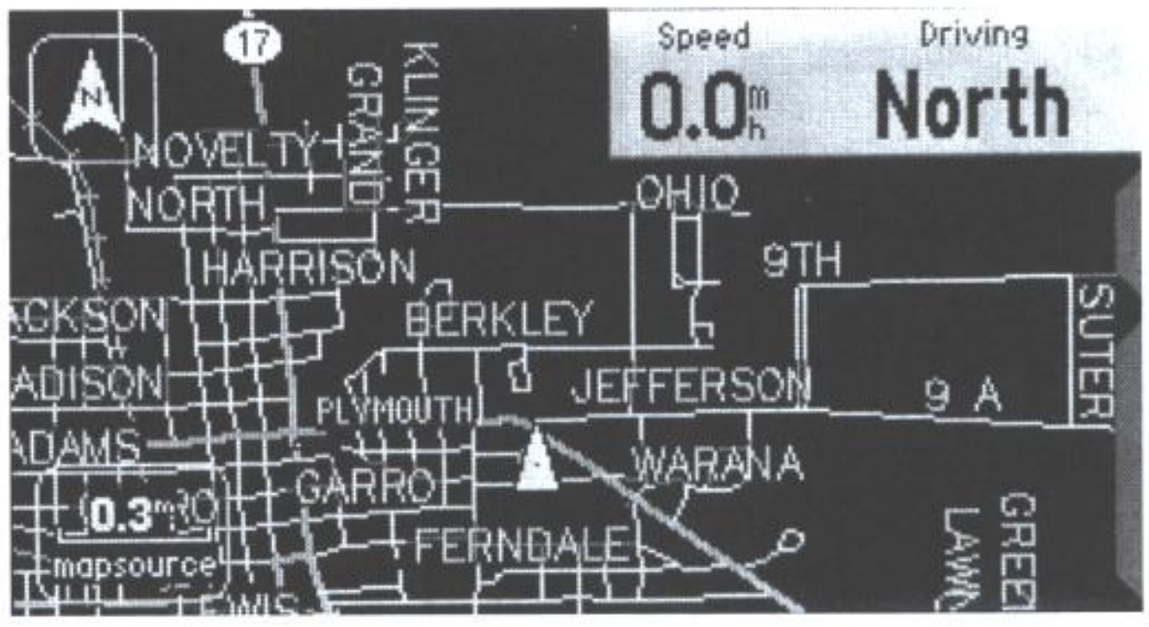
Once they arrived, I sat down with the manuals to figure each unit out. The Garmin 2610 is far more complex and takes a bit of effort. Sean at CycleGadgets.com shortened my learning curve by pre-loading the western half of the United States into the Garmin. The typical user is faced with a slightly bigger challenge: Unlike the Magellan, the Garmin arrives with only a limited amount of information (main roads and the like) in the USA. First you install software onto your computer, select a particular geographic area for which you want detailed maps, and then download that information onto a CF (CompactFlash) memory card. An AC adapter and USB cable connect the GPS directly to your computer. Being able to skip this step saved me a lot of time, as the instructions and screen examples provided for the Mapsource program did not appear easy to decipher. However, once the data is in the Garmin, you are set to go.

Garmin also offers another version of their GPS, the Model 2620, with a hard drive containing all maps pre-installed in the same



The RAM ball mount attached to the Magellan GPS unit.





The Garmin automatically adjusts the backlit display in response to lighting conditions, above left is what the display looks like in daylight, and to the right is how the screen appears at night.

manner as the RoadMate 700, should you want to go that route. In all other respects, the 2610 and 2620 function identically.

The next step with the Garmin is to decide on how you want it to look and work—it's customizable. You can choose what information you want to have displayed when the unit is guiding you and where on the screen you want it to appear, as well as what colors you like. While this can be a bit complicated, it's a good exercise for getting to know how the unit functions and what information is available on the various screens.

My first test of these units was to enter an address and navigate to it. The Garmin was first. It took repeated attempts and several references back to the manual before I got it to work. Once I'd figured out how the Garmin liked to receive my navigational wishes, we got along fine.

Putting the Magellan RoadMate 700 through this first test was an entirely different story. The RoadMate comes with all of the USA detailed maps preloaded on its 10-gig hard disk. There is no setup or tuning. I turned it on and it asked me where I wanted to go. I put in an address and it started directing me there. It was dead simple. There was no learning curve.

Magellan has put years of experience and feedback from the 4 million renters of Hertz automobiles fitted with Magellan's "NeverLost" units to good use. Have you noticed the IQ tests required prior to renting a car? You get the idea. They've made the RoadMate so intuitive, I didn't need to read the manual. Seriously, Magellan needs to be commended here. The effort required to make high-tech things simple, and make them work the first time, is not insignificant. It takes an incredible amount of discipline to know the difference between what you *can* do with technology and what you *should* do. Coupling a microprocessor with a GPS receiver offers engineers the opportunity to add an almost infinite number of features and options. But each new feature comes with a price—increased complexity. Magellan's approach also leaves them vulnerable, and we'll cover that in a bit. Some people want options; others do not.

Display

The Garmin has a slightly smaller screen than the Magellan, but I was impressed with both of them. They are very bright and the color screens gave excellent contrast that allowed me to easily see what was going on with just a quick glance. Even in bright sunlight, both screens had excellent visibility. After several days of working with both of them, I'd give a slight edge to the graphics,

Day and night screen again from extreme viewing angles.

color and type font deployed on the Magellan unit. Perhaps because the screen is a tad larger, it is a bit easier to read. Nevertheless, they are very close and the Garmin unit alters the backlight brightness in response to ambient light, dimming the display in low light so it does not glare. Both units have light/dark sensors that switch automatically at sunrise and sunset.

User Interface

In addition to function buttons, the Garmin screen functions as an input device. This means that if you want to move a map, for instance, you touch the screen with your finger and "drag" it. Magellan relies on a series of menus which you navigate using a center round button that indicates up/down/right/left and then "enter" when you push it. As the Magellan gives you fewer things to do, this works out fine. I suspect that after a week of using either of these units, your favorite would be whichever one you bought.

The Garmin 2610 also has a remote control. At first, I could not see the value of this, especially on a motorcycle. But then it occurred to me that it could be most useful when riding two-up. Having a co-rider on the back seat enter the destination, while the rider follows the voice and on-screen prompts, could be very convenient.

Ease of Use

If you've read this far, you know that the "easy-to-use" rating goes to the Magellan RoadMate. You open the box, plug it in and go. It's that simple. That said, don't ask it to provide you with your current, accurate speed, top speed or your average speed over a route. Don't try to plot a route with a number of waypoints on the Magellan. Don't ask it for a host of other useful information associated with a particular trip. For instance, do you want to know exactly how "off" your odometer is? The Garmin will tell you in an instant, and in real time.

If you are "sense-of-direction" challenged, a GPS unit can save your life. You turn it on and in a minute or so it acquires the satellite data and shows you a real time display of where you are. If you're moving, you'll see your compass direction, what street you are on and (on the Garmin) the next cross street you are approaching. You can zoom in or out to get greater perspective on your whereabouts.

Navigating

Navigation begins on both units by entering your destination. With the Magellan RoadMate, this is one step. With the Garmin StreetPilot, you have a number of options, and sometimes it might take a while to figure out which option you want to use. Both units have databases of points of interest (service stations, food and accommodations). Magellan claims to list over 2 million and the Garmin has over 5 million points of interest in their North American database.

Exact addresses are critical, as they must match the database, which contains the street address or the location name. Enter-

The Magellan's display is slightly easier to read due to better graphics, color and fonts.

ing "Street" when the actual address is "Drive," "Road" or "Circle," can result in your being directed to the wrong location. Once you've entered a destination in either the Garmin or the Magellan, select "go to" and you are given the option to choose the shortest time, most use of freeways or, on the Garmin, a straight line ignoring roads. You then are provided with turn-by-turn directions onscreen with or without voice. On the screen you will see a map of where you are with the route highlighted. The displays move as you move (updated roughly every second) and both units automatically zoom in and out, as you get close to making a turn, which is very helpful. In addition to what is on screen, you will hear through the speaker (in your helmet if you're using the Garmin and have wired it in) comments such as "Drive 2.5 miles and then exit right," or, "In 500 feet, make a right turn." If you deviate a good bit from the route, both units will automatically begin calculating a new route to your destination based on your new location. On the Garmin, route recalculation is user-selectable, so it can be automatic or prompted (e.g. "Off route, recalculate?" voice with Yes/No prompt on screen).

If you are planning a more complex route, the Garmin offers you the option of navigating "Via Point" along a route. These are stored locations along your route and are called "Waypoints." They can also be frequent destinations, such as your home. One of my routes was from Moab, UT to Phoenix, AZ. I wanted to avoid Hwy. 17 as it is much too straight and boring. The Magellan would not give me a route that did not include Hwy. 17. Using the "Via Point" feature on the Garmin, I set up waypoints along my selected route, towns such as Monticello, Blanding, Rock Point, Chinle, Greasewood, Dilkon, Winslow, Strawberry and Payson. This allowed me to choose a more scenic route with more twisties—something the Magellan did not allow. It was fun to watch the Magellan recalculate my route each time I deviated from the plan it preferred. Once I got through Winslow and past Hwy. 40 and was on my way to Strawberry, AZ, the two units finally came into agreement on the best route for the balance of my trip.

Neither unit is foolproof, like any other computerized product. It is only as good as the information put into it—by you and the company. While you need to get the address entered correctly, you can also expect to find occasions when the electronic database disagrees with what you are seeing on the road. Printed maps and electronic databases both lag reality, so don't be surprised if you are instructed to exit because the highway is ending—and it really isn't, or it shows a road that does not exist any longer or has been moved. For example, in Phoenix, where I live, the Loop 101 East has been completed and open for at least a year, but neither unit had this section of highway in its database. Fortunately, this does not happen all that often, but it reinforces the need to use these global positioning systems as "guides" and not the final word on where something is located. Both Magellan and Garmin periodically offer updates to their databases for a fee.

Accuracy

As I left Phoenix, I set both units to direct me to 12 West Main Street, Torrey, Utah. This was the address given for Austin's Chuckwagon Hotel on their website, the rendezvous point for my travel companions—the American Flyers Motorcycle Club. Neither unit chose a route identical to what I'd followed on previous trips, so I ignored both of them and went with the route I remembered. At each decision point, one or both units agreed with my choice. The biggest difference came toward the end of my journey. The Magellan unit indicated I had arrived, approximately five or so miles before I actually reached Torrey. As I rode through Bicknell, UT, the Magellan confidently announced, "You have arrived." "Huh, this is odd," I thought. The Garmin unit indicated I should keep going, so I did. Sure enough, the Garmin unit directed me to stay on Hwy. 24 toward Torrey. Five miles later, just as I approached the hotel, it chirped, "Arriving at destination, on left." And it was. To be fair, I contacted Magellan and attempted to find out why this happened. The Magellan PR folks did not seem to know why this happened and short of trying to duplicate what I did, had no explanation. I went to the MapQuest Website and entered 12 West Main Street, Torrey, Utah. When the map came up, it showed the location as being in Bicknell, Utah—not in Torrey—and the exact spot at which the Magellan announced I'd reached my final destination. I'm not sure what the problem was, but the bottom line is that the Magellan was fooled where the Garmin was not.

Suitability for Motorcycles

Garmin designed the 2610 for rugged, outdoor use, such as being mounted on a motorcycle. It is not bothered by rain. It will work with your bike's intercom system if you have one. Wiring it to a bike's power source is a breeze, while the Magellan only allows you to plug it into a cigarette lighter.

There is no other area in which these units are so different. Garmin's designers clearly intended the 2610 to be used outdoors on a variety of marine, aviation or motorcycle equipment. This "made for outdoor use" construction will no doubt make it the best choice for many motorcyclists. Garmin even claims the unit has been tested to the IPX7 standard, which means it should work after being submerged in one meter of water for 30 minutes.

GARMIN 2610

List Price: $1166

Best Price: $849 at www.cyclegadgets.com

The 2610/2620 units are brand new from Garmin. The 2620 is functionally identical to the 2610, but comes with a built-in hard drive preloaded with map data for all of North America (MSRP $1516; CycleGadgets price $1099).

Detailed Specifications:

Fast microprocessor – quick redraw and route calculation

Built-in antenna

CompactFlash data card (type I or II) slot for map storage (128MB included)

Audio and visual navigation instructions

Bright, automotive-grade 8-bit, 256 color LCD display with automatic dimming backlight and touch screen: 3.3" W x 1.7" H, 305 x 160 pixels

Alphanumeric remote control

Turn-by-turn automatic route generation

Indefinite data storage (no memory battery required)

Integrated dash mounting system provides easy adjustment and quick release

Dimensions: 5.6" W x 3.2" H x 2.0" D

Weight: .93 pounds (420 g)

Power Usage: 6 watts max @ 13.8 Vdc

Map Scale: Screen-width scale 900 feet to 6,100 miles

Receiver: 12 parallel channel GPS receiver continuously tracks and uses up to 12 satellites to compute and update your position

Acquisition times:

Warm: Approximately 15 seconds

Cold: Approximately 45 seconds

AutoLocate®: Approximately 2 minutes

The Magellan RoadMate, thanks to the folks at CycleGadgets.com, easily mounted to my motorcycle, but it was not designed with this in mind. This unit was designed for use in a car. (Be prepared to bag it in the rain.) The speaker is built into the unit, and unless moving at an extremely slow speed or stopped, it is impossible to take advantage of the audible navigation prompts on a motorcycle. This is a pity, as Magellan's verbal prompts seemed a bit friendlier and clearer to me than the audio advice from the Garmin unit.

But does a GPS belong on a motorcycle at all? People viewing my bike rigged with the two GPS units commented that it must be dangerous to ride with so many distractions. Perhaps. I worried about this too, before the trip. However, once oriented to the systems, a quick glance at the display to see the thick, marked line, takes only a fraction of a second. And, in fact, after some experience with a GPS, my guess is that it may make you a safer rider. How many times have you been driving down the street, searching for an address by trying to read the numbers on the front of a building instead of paying attention to the car in front of you? Have you ever quickly changed course because you found your turn at the last minute? GPS systems help to eliminate this type of driving danger. They tell you where your destination is and the precise time and distance to your arrival.

Miscellaneous

Both units had one drawback I did not like—they will not work on batteries. A power cord is required for the units to work at all. While older units would work on batteries, the faster processors and the larger color screens with their rapid refresh rates have made battery operation impractical. So, although the manufacturers call them "portable," forget using either of these units for hiking or taking along on a commercial airplane.

If you ride overseas, plan on taking your GPS with you. Garmin offers detailed maps that can be loaded into the 2610 for Australia/New Zealand, Europe, the Middle East and South Africa. In addition, they have a product called "WorldMap," that contains basic high-level mapping for much of the world. You can get the RoadMate 700 in a European version, but you don't have the flexibility to switch around as easily as you can with the Garmin.

Garmin also provides a portable bean-bag mount for use in a car. While expedient for a quick trial, I doubted it would actually hold the unit securely to my car dash. Boy, was I wrong! Unable to dislodge it from the dash of my wife's econobox, I tried putting it in the BMW. Even with spirited driving, the bean-bag mount kept the Garmin firmly in position on the dash. Amazing. Voice prompts come out of a speaker that is mounted to the 12-volt cigarette-lighter adapter. If you are considering the Garmin for your motorcycle and are wondering if it will work in the car as well, the answer is definitely "yes."

Delivery on Promise

Magellan's slogan is, "Turn it on and go," and positions their unit as a personal assistant in your car. This is largely true and, when contrasted with the Garmin, is probably the right line to competitively differentiate these two units. Garmin claims to have, "raised the bar for portable automotive navigation—everything you want in an automotive navigation system." This too, is largely true, and encapsulates Garmin's feature-rich, highly capable system.

Value

The Garmin StreetPilot 2610 lists for $1166 and can be found online for between $850 and $900. The Magellan RoadMate 700 lists for $1299 and the best price I found was $1050. Not cheap. I mentioned early in this article that dedicated readers of *Motorcycle Consumer News* deserve to know that there is an additional navigation system to consider. This system was demonstrated to me by Matt Gunsch. Matt is an engineer, airplane mechanic and long-time rider and member of the world champion Arizona Precision Motorcycle Drill Team. Matt's system: A red grease pencil. Matt explained that when touring, each morning he writes turn-by-turn directions for the day's ride along the right inside edge of his windshield with his red grease pencil. He enthusiastically pointed out that his navigation system was small, extremely portable and inexpensive. It required no user manual (other than a good map). It never needs batteries and when it wears out, replacement units are available at any hardware store for a couple of bucks. There was little I could argue with and, in fact, if not for my love of gadgets, Matt's method would be the only one I would consider.

Summary

So you want a GPS system for your bike, but which unit is right for you? At the beginning of this project, I expected to fall in love with one of these two units and have a clear favorite. In the end, the techie side of me loves the Garmin StreetPilot 2610. It's a highly sophisticated, rugged and capable unit. However, as a Don Norman fan (author of "The Design of Everyday Things" and many other excellent books on design), I came away deeply impressed with the ease-of-use and superior "out-of-the-box" experience of the Magellan RoadMate 700. There was no "clear favorite."

So, which should you choose for your motorcycle? If you want a GPS unit that offers instant gratification and flawlessly guides you from point A to point B, and don't mind that you won't be able to hear the voice prompts on your bike and will need to quickly stow it when it begins to rain, the Magellan may be the better choice for you. If you want a GPS unit that is highly rugged and portable, that provides a plethora of features, was designed to work on a motorcycle through all sorts of weather, and you don't mind spending some time with the user manual, you will be overjoyed with the Garmin StreetPilot 2610.

And if you are a total do-it-yourselfer and don't want to spend the money, go for the Matt Gunsch system. All of them, I'm afraid, get my vote.

MAGELLAN ROADMATE 700

Specifications (North America)—
List Price: $1,299.
Best Price: $1050 at www.familyphotoandvideo.com
Map Software: Ready to use detailed U.S./Canada map loaded on internal HDD.
Loaded Map Size: Built-in map of the U.S. and major metro areas of Canada
User Interface: Touch Screen or dynamic keypad input
Display: High Resolution TFT LCD full color display automatically adjusts to lighting changes
Display Size: (H/W): 2.25" x 3.0" (5.71 x 7.62 cm)
Route Calculator: Four methods: Shortest Time, Shortest Distance, Least Use of Freeways, Most use of Freeways
Turn-by-Turn Navigation: TrueView® 3D screen shows upcoming turn while voice prompt politely gives turn-by-turn guidance
Route Recalculation: Automatically calculates new route when car deviates from route
Track Progress on Map: Dynamically tracks progress on onscreen map
QuickSpell® Technology: Simplifies data entry by pre-determining letters when spelling street and city names
Address Book: Holds 100 addresses per user, up to 300 total
Points-of-Interest: Over 2 million points of interest
Dimensions: 3.25 H x 6.5 W x 2.0 D in.
Weight: 13 oz./.81 lb.
Portable: True plug-n-play in any region
Mapping Data: Provided by NAVTEQ®