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TECH TUESDAY

Find Your Way Home: New GPS Devices

Wednesday, February 25, 2009
FOX NEWS

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By Gary M. Kaye



The SPOT satellite tracker, which has already saved lives in a British Columbia avalanche.

Like many other technologies, the Global Positioning System (GPS) was initially developed for the U.S. military.

It was put to the test in the first Gulf War in 1991, when it was used to help troops find their way across a desert that was basically devoid of useful landmarks. The system was also available for commercial civilian use, but it was degraded so enemies of the U.S. couldn't use it with the same level of precision.

But less than a decade later, in 2000, the government decided to take off the mask and allow civilians to track locations to within one meter instead of 10. It didn't take long for a new raft of applications to hit the market, primarily in-car and handheld navigation devices.

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Only months later, the first recreational use for GPS was designed: "geostashing," later renamed the less pejorative "geocaching."

If you aren't familiar, geocaching involves putting trinkets and a log book into canisters that are then "cached" in various places, and their specific geographic locations entered on

any of several Web sites. There are now geocaches on every continent, including Antarctica, and the game has taken on a number of variations.

Now GPS technology is being embedded in a variety of devices. Some are significant improvements on earlier devices, while others are creative new applications that range from helpful to lifesaving. Here are some of the more innovative:

Find your car, track your kid — the Blackline GPS Snitch, gps-snitch.com/

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Device: \$270-\$340; yearly service \$170, monthly \$15

The Snitch operates with the GPS system and designated cell-phone networks to help you keep track of someone or something you care about. You can use it to recover your car if it's stolen, or you can use it to find out if your 16-year-old is really where he says he is.

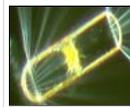
The Snitch comes with a code that, when activated, allows you to keep track of its location over the Internet. It has a motion-sensor so it activates only when your car (or whatever else you may want to track) is on the move.

A couple of weeks ago, my son needed to drop off my car in a very large train-station parking lot. He put the Snitch in the hatch.

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Fertilize the Ocean



Broadband Boondoggle?



Ride a Lifesaver

the Spot Satellite Messenger, www.findmespot.com

Spot Device: \$115-\$170; service options start at \$100/year

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The Spot Satellite Messenger is intended to literally save your life in a jam. At the heart of the Spot is a worldwide tracking network that uses satellite technology to receive a radio signal and send it to a ground station system to locate the source.

Only weeks ago, Spot was used to rescue victims of an avalanche in British Columbia. Its Web site lists other rescues as well.

But extreme life-saving isn't its only function. If you're headed into the great unknown, Spot will let you notify friends or relatives via e-mail, or SMS text message alerts that you're OK, and can even let them track your progress using Google Maps. Another button will let you notify those same friends or relatives that you're in need of help and, of course, give them your precise coordinates.

When things are really bad, a "911" button will just about call out the cavalry. Actually, the button alerts a monitoring system that will use your coordinates to determine the best course of rescue, whether that's a search party, the Coast Guard or even a helicopter rescue.

Nor is it going to cost you thousands of dollars for the rescue. A small service fee (\$7.95/year) pays for a Lloyds of London-type insurance policy that pays for up to \$100,000 of rescue costs, including helicopter extraction.

The basic Spot service is about \$100 a year, with additional fees for add-ons such as tracking notifications.

There are a couple of geographical holes in the Spot service, including India and southern Africa. I suggest you use the optional carrying case, since it's all too easy to accidentally activate the "911" button if you leave the device knocking around in your backpack.

I have other issues with Spot as well, which the company tells me they are working to fix in subsequent revisions.

The "Help" function to alert friends or relatives of a non-life threatening situation has no content. Were you injured? Did you run out of food? Do you need warm clothes? There's no way for them to know. They could get your message, come to get you, and yet not be able to solve your problem.

Worse, there's no means of confirmation. How do you know they even got the message? If a monitoring station can get your signal, then there should be a way to send a confirming response back.

Despite all that, Spot has already saved lives, and while the range of functions is limited, its effectiveness as a life-saver is beyond question.

Bike delight — the Garmin Edge 705, www.garmin.com

Price: \$389-\$500

As an avid biker, and an avid geek, I've been riding with an assortment of GPS devices for years, often getting puzzled looks from my fellow riders. I prefer them to cyclometers because they don't need to be wired, and they provide convenient map information as well.

Garmin's Edge 705 makes it an art form. The 705 is smaller than most handheld GPS devices, and specifically designed to fit easily on handlebars or stems.

The screen displays provide all the mapping, speed and direction information you'd expect. In addition, it provides elevation profiles and training data including cadence and heart rate (a wireless heart rate sensor is included).

You can use a micro-SD card to store more detailed mapping and workout information. If you program a route, it will give you turn-by-turn directions (something I find useful on often unmarked back-country roads). In addition, you can plug in topological data, which is especially helpful if, like me, you are into hill avoidance.

When it's over, you can even wirelessly transmit your route data to nearby fellow bikers for a little show and tell.

Where was I? — the Sony Handycam HDR-XR520V, <http://tinyurl.com/an93tq>

Price: \$1500

This Sony camcorder is pretty impressive in its own right, with a huge 240GB hard drive to record more than 96 hours of high-definition video.

But what landed it in this roundup is that it's the first HD camcorder to let you do "geotagging" — embed a location's coordinates directly into the video or photo file — with a built-in GPS receiver.

This camcorder features a built-in GPS receiver that automatically adjusts the camcorder's clock to the proper time zone and lets you view your current location on the LCD map display, as well as "tag" your shooting locations.

You can view your tagged videos and pictures via the Map Index function or after you've downloaded them to your PC using the supplied Picture Motion Browser (PMB) software.

Coming to a computer near you — GPS-enabled notebooks and subnotebooks

Sony P-Series Lifestyle PC, <http://tinyurl.com/75tqyc>

Price: \$900 - \$1500

I looked for the location over the Internet. I was able to use a map superimposed with a Google Earth image. The net result: I found the car within three feet of where the Snitch software told me it would be.

Snitch's coverage doesn't yet blanket the entire U.S., so you're well advised to check if your area's included. The device is a little bigger than a pack of cigarettes, runs for a week on a battery and is hard-wired inside your car with an optional kit.

Fujitsu Lifebook U-820, <http://tinyurl.com/6rn7co>
Price: \$957 - \$1398

Lenovo X301, <http://tinyurl.com/6k8f9j>
Price: \$1999 - \$3880

Overtured Boat, 1 Survivor Found in Search for NFL
These three laptops are part of a growing trend to include GPS along with wireless cellular **broadband** and Bluetooth in very portable devices.

Sony's Series P Lifestyle PC, with a 10-inch screen, is a revised model with a built-in GPS antenna. Units are just now starting to ship, and haven't yet taken one for a test drive.

The Fujitsu Lifebook U820 is a standard-issue Windows PC with a built-in GPS antenna and built-in Garmin navigation software. The tiny 5-inch touchscreen is too small to get a real Windows user experience, unless you have magnifying glass. But the navigation software fills the screen with an image comparable to a 5-inch display on one of the Garmin units.

The Lenovo X301 is the top-end ultra-portable in the Thinkpad series. It has a solid-state drive and a built-in GPS antenna and tracking software, but requires third-party software for mapping. An upgraded version (not free) of the Garmin software is preferred software, but Lenovo claims that other software programs with a GPS receiver can be used as well.

Just remember that GPS doesn't work through walls. Your computer needs to be near a window or outdoors to get a good fix on the constellation of GPS satellites circling overhead.

Serious tool — the DeLorme PN-40, www.delorme.com
Price: \$308-\$427

Delorme, best known for its maps, has long made GPS receivers but has only recently moved into handhelds. It advertises the PN-40 as a "serious tool," and that's an understatement.

There is little that you could want from a handheld GPS that is not available in the PN-40. At the same time, it's really not for the casual user who is going for a stroll in a nearby park.

This thing can download satellite imagery, topographic maps, and standard maps, and also allow you to overlay whatever maps you need to provide the most comprehensive information for whatever your task.

You can use it for hiking, biking, kayaking, even detailed directions for driving. But the toughest navigation you're likely to encounter is just learning your way around the complexities of the device itself.

The buttons are large enough for gloved fingers, although some of them might be a tiny bit small for ski gloves. They stick out from the housing, but that makes them easier to use when you are going by feel or using a glove. The side buttons are a bit more recessed, which makes it feel very rugged. The battery compartment is watertight, locked down by screws with easily manipulated locking rings.

Like almost every other handheld GPS, this one sucks battery power, so my suggestion is to use lithium-ion batteries. Delorme makes a 1300mAh lithium battery that has gotten solid reviews.

Also on the back of the device are eight metal connectors, flush with the housing, that are used to initiate a computer connection to the PN-40 for downloading maps, transferring waypoints and the like. In heavy use, you may have to clean the connectors periodically.

The screen is quite readable in direct sunlight, and when light is low you can turn on the backlight. The PN-40's screen is a bit smaller than some competing GPS devices, but has so much functionality you probably won't notice.

What you will notice though, especially if you're an aging baby boomer, is that the font size is tiny and cannot be adjusted.

One of the most attractive features of the PN-40 is the availability of maps for the device. For a \$29 annual subscription, you can download unlimited maps from Delorme's map library: Official NOAA marine charts, high resolution aerial photography in color or black and white, satellite imagery, and scanned USGS topo maps in 1:24,000 scale. All of these can be downloaded to your computer then cut and installed on your GPS.

You can also combine some map types to create a "hybrid" map. This takes the line-based vector parts of a traditional topo map such as roads and contour lines and overlays them on top of an aerial image or other raster image. This can give you the best of both worlds on one map display; detailed color aerial imagery along with contour lines from the topo data.

One warning, this stuff eats up a lot of memory. So even with an 8GB SD card, you need to know what to download before you go.

The PN-40 comes equipped with Delorme's Topo USA software, which will be a pretty solid base for most users. If anything, it may be too complex for some, and presents a pretty steep learning curve for those used to the simpler Garmin offerings.

One nice feature is that it does offer you the ability to create your own trail routes on your PC and then download them to the PN-40. You can also use the PN-40 for on road navigation, but it's not the device's strong suit.

In short, this is one powerful tool for serious GPS enthusiasts. Just expect that you're going to need a lot of time to learn to take full advantage of its capabilities.

Simple tool — the Bushnell Backtrack, http://www.bushnell.com/gps/gps_backtrack.cfm

Price: \$52-\$80

There is a common moment of panic shared by many business travelers: You've rented a car. You've parked it in a large parking lot. You parked it during the day. You come to get back into it at night. Where did you leave it? What make was it? What color?

The Backtrack, from Bushnell, a longtime maker of outdoor optics, offers a very simple solution. It has two buttons: "on/off" and "mark your spot."

When you get out of your car, you turn it on, mark your spot and walk away. When you want to find

When you get out of your car, you turn it on, mark your spot and walk away. When you want to find it again, just turn it on and an arrow points the way and tells you the distance back to your starting point.

Of course, you can also use it to find your way back home from a walk in the woods. Sometimes you just don't need a serious tool.

Are you talking to me? — the Garmin Nuvi 885T, www.garmin.com

Price: \$660 - \$800

The new top of the line for Garmin's Nuvi GPS navigator series includes both voice recognition and its graphical Lane Assist in a compact package. Lane Assist is quite helpful for some of those huge multi-lane freeway intersections that seem to be a California staple.

While the Nuvi 885T may not have any single breakthrough technology, the combination of features makes it state of the art. I've tried several voice-recognition devices, and have found the Garmin to be the most accurate and least frustrating of the lot.

The Nuvi 885T will also let you find nearby gas stations and prices, as well as the usual assortment of points of interest, and real-time traffic information.

It comes with 3 months of MSN Direct traffic service. It is small, and easily movable. Just don't misplace the little wireless transmitter that activates the voice-recognition feature.

GPS technology has made it easier for us to get from point "A" to point "B." There are new devices coming to market every day for tracking the people and things we care about, from Alzheimer's patients to pets, from cars to kids.

GPS has become a staple in [cell phones](#), and essential to limousine and delivery-truck drivers. They can help you avoid traffic jams and optimize routing to save time and money.

But if these latest devices are any indication, this is still only the beginning of what's to come.

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