


SPECIAL REPORT WITH DAN DUBNO
DIGITAL DAN'S GIZMORAMA

GPS Devices: Finding Yourself

Digital Dan Scopes Out The Best In GPS & Other Location-Oriented Services

NEW YORK, July 20, 2006 (CBS) CBS News Technologist "Digital Dan" Dubno reviews the latest GPS (Global Positioning) devices.

Summer is here and that means plenty of vacation driving. Besides the perils of soaring gas prices, a more pernicious evil lurks in the family car: confusion and obstinacy. My darling wife instinctively finds the wrong turn at every intersection. And just as surely, I have time and again been proved incapable of asking other mortals for directions.

My fantasy is that my brain is as keen as a homing pigeon: blessed with the astounding sense of finding the right direction. Perhaps, I too, navigate by the magnetic emissions of the Earth or by some more mysterious instinct. My wrong-way wife thinks this pigeon brain analogy may be on target in my case. "Their brains are also about a thousand times smaller than humans," she smirks.

To achieve navigational and matrimonial bliss, I've reviewed the latest and greatest of new GPS devices and other tools. These should help you determine where you are and where you are going.

There have been some marvelous developments in the wide world of location-finding devices.

First, many of the older Global Positioning Satellite (GPS) receivers have been replaced with a revolutionary new SiRF III chip. This chip is far more sensitive and accurate and, as a consequence, allows reliable GPS use in locations (like urban areas) where signals were once impossible to acquire.

Traffic congestion data is being integrated into some of the more advanced devices. We're finding other useful features including cameras, cell-phone dialers, and even multi-media players integrated in GPS systems. At long last, cell phone companies are enabling location-based technologies, for example, allowing parents to locate missing children, and travelers to zero in on nearby goods and services.

Yet even as more consumer electronics companies enter the GPS market, an array of innovative technology promises to turn this navigation approach on its ear. European countries are planning to launch a series of satellites over the next decade that will compete with the U.S.-controlled GPS system. This new ring of satellites promises more precise navigation.

Location-based knowledge will become seamlessly integrated in networked devices that know your interests and needs. Already, new services are emerging to that use "where you are" data to offer discounted deals on what you may buy. Eventually, the devices you carry will continuously negotiate on your behalf for goods and services based on your location and preferences.

Here are a few choice new GPS devices:

Garmin GPSMap 76 CSX

My hands-down favorite GPS device for outdoor and marine use is Garmin's new GPSMap 76 CSX. In its sturdy yet lightweight waterproof housing, the 76 CSX features a large, bright color TFT display, plus expandable microSD card memory slot, electronic compass and a barometric altimeter.

The 76 CSX is a vast departure from the seemingly identical GPS Map 76 CS. The newer unit features the amazing new SiRF chip, a highly sensitive GPS receiver that acquires and processes satellite signals super-fast. It is so sensitive that location-signals are quickly obtained in the most challenging areas, including forests, mountainous areas, even cities - where tall buildings obstruct direct view of the band of satellites circling the earth.

Side-by-side comparisons are breathtaking: the new SiRF chip is at least three times faster in acquiring your initial location, and more than twice as accurate in finding your position, compared to models without the chip.

Garmin's GPSMap 76 CSX serves as a great turn-by-turn in-car unit (though it lacks the "talking" and "traffic monitoring" features described in more automobile-centric units below.) The built-in base map of America's highways and exits isn't awful, but you'll want to add higher resolution maps for areas you're likely to visit.

This unit is equally great for driving, marine navigation or hiking. Park the car, get on your boat, and navigate through the shallows using the highly accurate optional BlueChart maps, featuring updated coastal charts. Boaters, be forewarned: BlueChart maps are rather pricey (as everything else is in marine recreation.) An additional plus: drop this GPS in the water and it floats!

Landlubbers will "lub" the new large variety of additional street or topographical data now available, including many international locations (especially Europe and the Middle East). Using Mapsource software and the fast USB connection, the 76 CSX vastly reduces download transfer times for maps, routes and waypoints.

Garmin's 76 CSX retails for about \$589 and offers at least 18 hours of battery life using two AA batteries.

Garmin Streetpilot c550

If you have an excellent sense of direction and rarely consult a map, you still will enjoy Garmin's new Streetpilot c550 in-car navigation system. Even the grumpiest or most technologically obtuse will enjoy the simplicity and elegance of this device. Preloaded with full city maps for either North America or Europe, the c550 also has a super-fast SiRF chip and a brilliant screen. So no muss, no fuss with map downloads, etc. There is a card slot that you can use to swap in other regional maps if you need them. Plus the 2D and 3D map views are easy to understand.

What makes the Streetpilot essential is meaningful real time traffic updates. The integrated FM TMC traffic receiver (free three-month trial subscription) provides the terrific insight into sudden traffic problems (delays, construction, even weather problems) in most major metropolitan areas. In both New York and San Francisco, the Streetpilot warnings of traffic problems saved me hours of frustration - rerouting me on unusual but very effective alternative routes.

The real time traffic service is not reliable everywhere: it didn't warn me, for example, of several traffic jams I "enjoyed" recently in Phoenix. Once you become addicted to the traffic trial service,

you won't mind paying for the \$60 a year service (from Clearchannel). (XM Satellite Radio also offers a competing traffic data feed, which I did not test.)

Another great feature on the Streetpilot c550 is the integrated Bluetooth capability. This allows you to pair your GPS system with several mobile phones and use the windshield-mounted display as your communications center (instead of dangerously fumbling and driving while holding your cell phone.) It's great that, once you pair your compatible phone to the GPS, your full phone book, recent call lists, and other phone information are available to use right on the GPS screen. The built-in mike and speakers are fine; callers didn't complain about my sound quality too much.

There's a built-in anti-theft device and even an MP3 player (which I didn't find particularly useful.) The unit recalculates pretty quickly when you decide to take an alternative route. I even found the automated voice turn-by-turn instructions and street name information especially timely and helpful. The half-pound c550 is very portable so you can easily take it on trips and connect it to whatever rental car you might end up with. Street price: less than \$850.

JVC KV-PX9B Portable HDD Navigation

JVC hopes travelers will want to integrate even more digital content viewing with their eAvinu GPS device. It has a whopping 20-GB hard drive. That includes 15 GB of preloaded map data and over 13 Million searchable points of interest. (So many points of interest makes searching for them somewhat time consuming.) Use the other 5 GB to store movies, pictures, and audio files.

The JVC KV-PX9B has a nice full color 3.5-inch touch screen. The unit is small, hefty, boxy, and quite solid. I didn't love the synthesized voice. But the screen is lovely and the car-kit seems quite robust. Suggested retail price for the eAvinu is \$699.95 and is available both silver and black versions.

Pioneer AVIC-S1

Pioneer's AVIC-S1 is ultra slim, lightweight, and portable. The bright touch screen appears identical to the JVC above, but the AVIC-S1 is literally half the thickness of the JVC.

The preloaded U.S. and Canada map base is fairly detailed, but I was somewhat frustrated by the fingertip navigation on this unit. Perhaps my fingers are too big, but I would be trying to navigate around the screen and I'd end up accidentally rerouting my trip to a nearby Burger King. There is a nice jog wheel - which took some getting used to - that did help put me back on target.

Similar to the Streetpilot C550 mentioned above, the AVIC-S1 allows Bluetooth phone users to upload their entire phone book and make phone calls. The key selling point here is slim, sleek portability and the same fast SiRF chip. \$599

Navman ICN 750

Instead of just playing back photographs, what if you had a GPS with a built-in digital camera? That's the marvelous selling feature of Navman's ICN 750. This GPS has pre-installed NavPix photos of major landmarks, to help you get started, but there's a complete 4-gig hard disk containing maps of the U.S. and Canadian road network.

What's great is that you can park your car in a crowded lot, take a picture of it, and find it again just pushing on the picture. Want to go to Grandmother's house? Push on that picture - the GPS coordinates are linked to the image.

The Navman features a 4" color TFT widescreen and also has the ultra-fast SiRF III chip, for fast acquisition of location. Two cool features are "nearest fuel" and "nearest park" buttons, so you can focus on driving while quickly finding these critical locations.

I was so enamored with the idea of a digital camera in a GPS, I asked some colleagues to try it out for a more dispassionate view. Was "camera navigation" a truly useful function? The consensus was resoundingly positive.

CBS News editor Walt Leiding loved it when he tested it on a recent trip to Colorado: "I always seem to forget what my rental car looks like, so this was very useful. I marked destinations we needed to return to, like the airport, Hertz car return, Wal-mart, Costco, etc, and it was great." Walt even used it on the plane, taking pictures along the route and finding out precisely where his flight was at the time, astounded at the precision even at 37,500 feet.

The Navman has a lovely form factor with a large and vibrant screen. There are a number of automated voice characters, and Walt enjoyed changing these along his journey, pretending the accented voices were strange fellow travelers. There's some delay when you switch between map modes: 2D to 3D views for example. But signal acquisition and new route computation were quite fast. Navman iCN 750 costs about \$799.

Navizon

Navizon is a fascinating startup company that doesn't sell any GPS hardware. Instead, Navizon CEO Cyril Houry designed a new software-driven approach to location-finding. Navizon supports a free network displaying the fixed locations of WiFi hotspots and cell phone towers.

With a WiFi-enabled device, or even simply a GSM phone, your location can quickly be triangulated and determined. Simply download the Navizon software and enroll in the free community, and your wired device will become a full mapping tool.

About ten thousand users across the country, mostly hardcore computer hackers, have adopted Navizon. Because this is a shared community, sophisticated users who have paired their wireless devices with GPS units are constantly collecting and enhancing the huge database of known WiFi hotspots and cell towers. This database, in most urban areas, will free the rest of us from having to rely on GPS technology.

I'm a huge fan of Navizon and Cyril Houry's vision, but must confess that the software still has kinks and bugs in it. Before you chuck out your GPS, test out the Navizon approach first. You can even choose to share your location with friends over the Navizon network if you wish.

VZ Navigator Phones from Verizon

On an increasing variety of location-enabled phones (including the Motorola V325, RAZR models, and the LG 9800) Verizon has launched an astounding application, the VZ Navigator. This "Get-It-Now" software service costs an additional \$9.99 a month, but it provides you with a fairly straightforward and effective interface to find where you are just using your mobile phone.

Initial setup is slightly complicated (only if you don't read instructions) because you not only have to download the new VZ Navigator software, but also enable the not-so-easy-to-find "Location-

On" function. Once you're over that hurdle, click on "Where Am I?" and, even indoors, your location will pop up on a map. You need to be outside to truly utilize all the navigational functionality: find services, favorite locations, even route and turn-by-turn instructions.

The newly-enabled service is not without some modest glitches: for example, I "thought" I was standing on Long Island, but the phone briefly was convinced my location was in the middle of the Great South Bay. Maps on the phone screen are very tiny, compared to full-featured GPS devices, but having precise location information can be a life-saver (or at least a time-saver) if you are stuck someplace with no idea where you are.

The service actually worked: a tiny phone with some excellent software actually pinpointed my location within a few feet. Even though I knew precisely where I was, I kept trying to see if the phone could "find" me - and for the most part, it did a great job. I confess that I only tested the service in three major cities, so I can't vouch for the entire Verizon network, but the VZ Navigator solution is astounding.

Verizon's Chaperone

Another variation on Verizon's phone navigation system is a wonderful service for parents to keep track of their young children, particularly if kids have active schedules or complex babysitting arrangements. Your child gets a kid-friendly Migo phone which is a little green Martian-like phone with just 5 buttons: pre-programmed numbers they can call or the emergency 911 number.

If you subscribe to the "Chaperone" service, a parent's phone can be used to locate a child (or at least locate the Migo phone he or she was supposed to be wearing.) There's even an enhanced mode, using the Internet, that allows you to see where your child is on a map. You can set zones so you may be contacted should your child leave a pre-determined area.

We tested these services for a while and they were remarkably rapid and accurate. Giving a child his or her own phone is a tough call (both for the added expense and the likelihood the phone will be misused.) The simple Migo phone limits opportunities for unauthorized or phony phone calls. Plus, if you aren't looking for a lost child, you can at least use the Chaperone service to find the child's phone when it (inevitably) gets lost.

The Chaperone service is about \$9 a month, with additional charges for the Migo phone.

Pharos Traveler GPS 525

The Pharos Traveler GPS 525 is a fascinating and elegant GPS hybrid device. It features a PDA that integrates navigation directly to addresses in the Outlook contact directory. With integrated WiFi and Bluetooth, the Traveler can become a voice-over-IP phone in WiFi hotspots. I enjoyed having both a GPS and a Windows Mobile 5.0 PDA in one ultra-slim (4.4 ounces) unit. It's also inexpensive: just \$379 at CompUSA.

Note: All products reviewed for this article and for the on-camera segment were loaned to CBS News for evaluation by the companies that manufactured or marketed them.