

Personal Security and the Global Positioning System

by Doug Adomatis

Awareness of your surroundings and communication with others, are every citizen's weapons in the war on terror. Arm yourself with a cell phone and a GPS receiver.

During the attacks of 11 September, people used cell phones and other electronic devices to call for help. According to television news reports, one man – trapped in the rubble where previously a courtyard existed between the twin World Trade Center towers – was rescued after he was able to call for help using his mobile phone. The victim knew his approximate location, enabling rescuers to find him.

Had the wireless cell phone carriers been in compliance with an earlier mandate from the Federal Communications Commission (FCC), perhaps even more victims would have been rescued. Maybe the assault could have even been thwarted completely.

In 1996, the FCC mandated that all wireless carriers locate 911 callers within 50 meters [1]. This “Enhanced 911” (E911) service was intended to allow emergency personnel to find 911 cell phone callers when they don't know their exact location. In '96 authorities were probably more concerned about finding travelers stranded in snowstorms, rather than finding victims of terrorist acts. Now, we can see how the E911 system will be useful in abductions, hijackings, and intelligence gathering.

Unfortunately, all major wireless carriers failed to comply entirely with the FCC mandate, filing temporary waivers well in advance of the 1 October 2001 deadline. However, one carrier, Sprint PCS, demonstrated partial compliance, unveiling a mobile phone, manufactured by Samsung (model SPH-N300), which includes a global positioning system chip [2].

Despite intense demand since the assaults on 11 September, the E911 system faces significant obstacles and will not likely be available anytime soon. According to WIRED NEWS online magazine, wireless carriers cited a lack of equipment, complexities regarding differing standards, and/or exorbitant costs to implement the system [3].

The completed E911 system with GPS enabled handsets will be an eloquent solution to the problem of locating 911 callers. In the meantime, you can bolster your sense of security by carrying your GPS receiver along with your cell phone.

As an alternative to carrying *both* a GPS receiver and a cell phone, Garmin and Benefon [4] offer integrated solutions.

Garmin's Nav-Talk combination cell phone GPS receiver is advertised as “the ultimate in outdoor survival gear” [5]. Nav-Talk's advantage over the Benefon product is the feature that enables it to transmit its location and have it displayed on another unit. Addressing the disadvantage that the Nav-Talk is an analog-only cell phone, Guy Waitley at Garmin International, Business Development/Marketing, says “Garmin does have products,

similar in concept to the Nav-Talk, under development which are compatible with the various digital technologies”.

Recently, authorities have told us to go about our daily lives with a heightened sense of awareness. Many have questioned, what specifically does that mean? Prior to 11 September, carrying a GPS was not part of most peoples’ daily lives, but that was then. In an emergency, and when observing suspicious activity, having a heightened sense of ‘geo’ awareness, is being a good citizen.

Footnotes and Links:

[1] http://www.fcc.gov/e911/factsheet_requirements_012001.txt

Note: The 50-meter requirement is for handset-based solutions. Network-based solutions only require accuracies of 100 meters. See FCC fact sheet for more detail.

[2] http://www.sprintpcs.com/aboutsprintpcs/mediacenter/2001/01_10_01.html

Note: The Sprint PCS/Samsung phone does not use a traditional GPS chip like those found common in GPS receivers. Instead, it has what Guy Waitley, at Garmin, refers to as a GPS patch, which uses the network to do most of the position calculation instead of the device itself. “For it to be functional, Sprint PCS will need to install upgrade equipment into the network. That is why these phones were introduced and only available in a small area in the northeast.”

[3] <http://www.wired.com/news/wireless/0,1382,47220,00.html>

[4] <http://www.benefon.com/eng/frameset/frameset.asp>

Note: Benefon offers the ESC! cell phone / GPS receiver, but as of this writing Benefon has not responded to queries.

[5] <http://www.garmin.com/products/navTalk/>

Note: Nav-Talk will not provide Automatic Location Identification (ALI) to a Public Service Answering Point (PSAP, i.e. 911 call center) unless the PSAP has the appropriate equipment to receive and interpret the location information transmitted by the Nav-Talk units.