

Yankee Ingenuity:

Economy + Efficiency = The Right Equipment



Assistant Chet Kasper initializes the ProMark3 rover with the aid of an initializing bar consisting of the two antennae 20 cm apart.

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s a fifth-generation New Englander and son of a Connecticut farming family, I know the virtue of economy.

Therefore, when it came time to expand my surveying capabilities, I first needed to decide what equipment would allow me to be cost effective and still remain a small, efficient operation. We ran some field trials with several different GPS products, and settled on the single-frequency Magellan ProMark3.

I bought our first Magellan ProMark3s late in 2005, and they paid for themselves within a month. Now I can do jobs that larger firms often do, but I'm out there competing with them every step of the way.

Basically, I use the ProMark3 in static mode for setting control, for kinematic stop-and-go topo work, and for GIS work. My work takes me throughout Connecticut, with much of it being in the hilly, rural northwest corner of state where old family farm parcels are being subdivided for housing. One of my upcoming projects is a challenging project to do the GIS for one of Connecticut's larger towns.

In my twenty-eight years of surveying, since leaving the Navy as a chief quartermaster, I have used virtually all types of surveying equipment. One of the reasons I really like the L1 Magellan ProMark3 is because it's so efficient and easy to use.

I'd like to see more surveyors get involved with GPS. I'm a great believer in mission planning, that is, knowing

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Kasper uses the ProMark3 to locate the boundary in a tree line.



Laferriere measures the height to the antenna during initialization setup.

satellite configuration and the Kp index. Surveyors tend to give it a short shrift, which often leads to frustratingly poor results. [Editor's note: The Kp index is a measure of geomagnetic storm activity and is available from the Space Environment Center at <http://www.sec.noaa.gov/SWN/index.html>]

Efficiency begins by bringing control to the job site. In Connecticut, our state monumentation has deteriorated pretty badly, and much of it has been destroyed. We often need to go more than a few miles to tie the job into a NAVD 29 or NAVD 88 bench mark. Instead of taking a day to do it conventionally, I can do it much more efficiently with the ProMark3.

Once control is on the job site, either my assistant (Chet Kasper) or I can quickly perform the required number of stop-and-go measurements to produce either a two- or five-foot contour topographic map of the site. The ProMark3 is easy to initialize and it

works well in tree cover, too. It amazes me how well it holds lock, even, for example, on the south side of a field where dense boundary foliage comes between the antenna and the satellite constellation. We consistently get $\pm 1\text{-}2$ mm horizontally and ± 6 mm vertically, in the static mode.

I'm looking forward to growing the GIS component of the business. I was once the head of a municipal survey department, and there were some folks who believed that survey firms can't make good money doing GIS for municipalities. The fact is, it can be much more economical for a municipality to hire an outside GIS service than to staff the function themselves. The Connecticut town where I'll be starting the upcoming GIS contract work had previously been serviced by an in-house GIS team. When the town requested bids for the extensive contract, I won despite competition from some much larger firms.

I still continue to do many private GIS-type jobs. In one recent GIS application, I used the ProMark3 to map the wetlands on a 150-acre parcel. The owner wanted to do a development feasibility study, and the parcel had been marked with 150 flags by soil scientists. Within less than five hours, I was able to collect and map all 150 flags. Instead of using conventional methods where we would have to leapfrog into the site, we were able to go directly to the site, turn on the unit and begin work. The site had dense brush and a thick pine forestation canopy. Generally, you'd expect to have problems with a situation like that, but the ProMark3 never missed a beat. It's a terrific system. *AS*

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