

Re: GPSMAP 60Cx or 76Cx?

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Terje Mathisen <terje.mathisen@xxxxxxxxxxxxxx> writes:

Wolfgang, I agree. OTOH it is still one more decimal than any other external format Garmin have used previously. For my 76S WAAS/EGNOS/ESTB tests last year I had to write my own sw to download the semi-circle format binary values directly, having 10-cm level info directly available is *_nearly_* as good.

The semi-circles are nice aren't they? They roll around at automatically 360-degrees without having to explicitly clip them and they don't waste any bits by not having any huge unused bit patterns. I just wish someone would write a set of trig routines for them.

One thing I noticed long after doing tests on a 12xl and oncore m12 was that I was seeing quite a bit of error that reoccured roughly once per 24hrs. After pondering this for a day it hit me to try to line up the peaks and get a good handle on the amount of shift each day. Turned out to have a very very high correlation for 23hrs 56minutes. (At this point all the astronomers are probably jumping in their seats. Me I'm just a hardware jock turned code geek so it took a while for the significance of that number to sink in.)

The positional shifts would happen with almost the exact same direction and magnitude every 23h56m. This may make it possible to do an A-B comparison between waas and no waas by running two tracklogs over two days and only using the parts of the logs that I have overlapping readings for.

Since the shifts happen during the same times it is almost certainly multipath. I don't expect the WAAS to do anything for that problem, but it should allow me to subtract the waas tracklog from the non-waas one and have only the waas corrections left over. Well thats the theory at least.

The only catch is I have to get my old 5volt gps antenna off the roof and put a garmin 3volt antenna up there. My 60CSx really don't like

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the 5volt antenna.

–wolfgang

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