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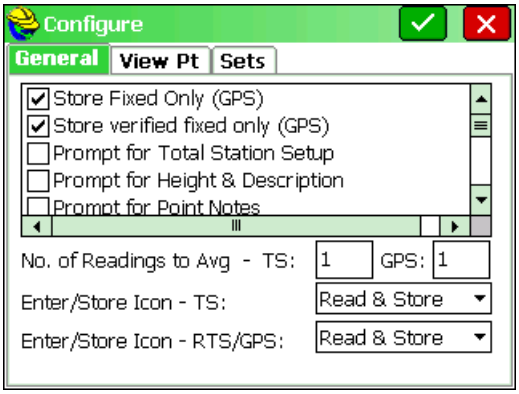
This is in regards to using a Carlson Surveyor+ with a GPS Pack module in regards to the verified solution of ***Fixed*** compared with an unverified **Fixed*** solution.

The Novatel board has an RTK verification filter running in the background. When the solution is verified (which will give extra reliability) the Status indication will go from FIXED* (with an asterisk) to FIXED. This usually takes a few extra seconds during the beginning of the survey when conditions are 'normal'.

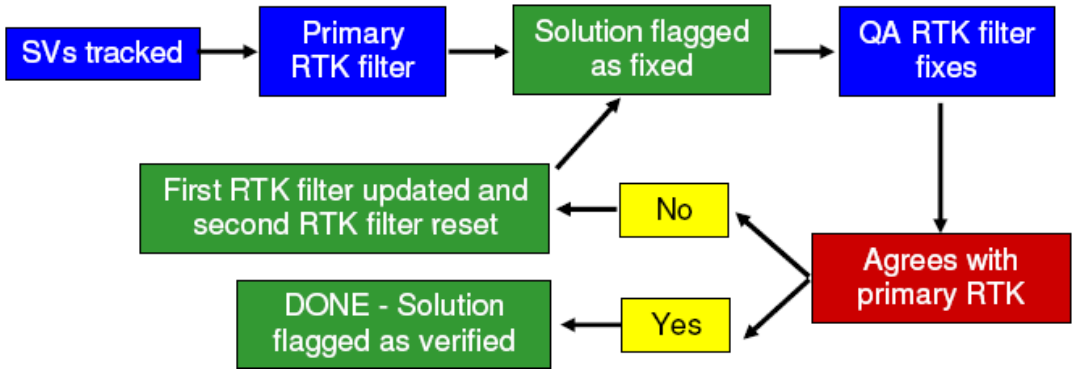


We recommend downloading and installing SurvCE Version 2.52 or higher and going into Equip / Configure / General tab to ***check both boxes*** for "Store Fixed Only" and "Store verified fixed only" then tap the Green Check to save these changes. This will warn you if you are trying to store an unverified Fixed* position.

AdVance RTK Solution Verification

Part of the AdVance RTK engine is solution verification capability. Solution verification means that in addition to the primary RTK filter, a second independent RTK filter with tighter parameters (optimized for reliability instead of speed) performs background calculations to verify the integrity of the fixed RTK solution. Once the solution is flagged as being "verified" it is considered to be undoubtedly the correct GPS fix.

The basic flow chart on how solution verification works is shown below:



The AdVance RTK solution verification method was designed considering GPS RTK fundamentals – there is only one correct answer for GPS fixed solutions.

Other manufacturers have a second independent RTK filter used in the background for integrity monitoring, however, choose to switch the GPS fixes if the solution of the QA filter does not agree with the primary RTK filter.

The solution is still labeled as a fixed solution without notifying the user that the GPS RTK solution has changed. This means that a user could be surveying for tens of minutes before the RTK solution is found to be incorrect and switched to the correct GPS fix resulting in reduced accuracy for all points surveyed during this time. Contrarily, with the Carlson GPS approach a user can wait to achieve a "verified" solution prior to beginning their survey and rest assured that the GPS fix is correct and the RTK solution is accurate.