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Eagle Point Solution to a Frequently Asked Question

Enhancements from *SMI Version 7.0* to *SMI Version 8.0*

Summary: This document provides a list of enhancements from *SMI Version 7.0* to *SMI Version 8.0*.

Product: SMI Version 7.0

Platform:

Related documents:

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As always, should you have any questions regarding any phase of installation, contact Eagle Point Technical Assistance at (800) 477-0909.

- On the Allegro CE and CX we added F6-F10 key assignments (use the **>BLUEKEY>** prior to pressing the function key). Now all 6 soft keys can be mapped in addition to 4 other commands. F11 is mapped to About Classic SMI, F12 is mapped to Show Title Bar. Don't run SMI with the title bar on because it hides the function key mappings.
- SMI Transfer is now available from within Classic SMI on all devices (allows for ActiveSync Job Transfer (USB, COM), email of Job from field (using cell modem), and IR transfer of job in field between devices). IR Transfer requires utility supplied on the SMI Installation CD (License fee applies).
- 4000+ geographic coordinates systems (including NAD 27, HPGN, ITRF, and UTM). The Installation Wizard allows you to select a smaller list of coordinate systems so as to save room on the device and make the selection of a geographic coordinates system simpler. Support for complete coordinate system conversion using all the listed systems.
- Bluetooth support on most devices (officially supported on the IPAQ and Allegro data collectors).
- Support for Geoid 96, 99, 03, and all other USGS World Geoids.
- A new Geoid toggle command was added to the **<GPS> <OPT>** menu. The existing Geoid Departure command is now hidden if Use Geoid is on.
- Javad Set Radio Channel, Port, and Sensitivity commands are now available in the Setup command group.
- Static GPS Logging for SMI Flex GPS system now available in the GPS command group (you can also access this function by pressing **<GPS> <NeXT> <LOG>**).
- Javad and Topcon GPS Sky View is now supported. This includes support for the GLONASS satellite positions.
- The SMI Flex GPS Sky View has been enhanced to show the active WAAS satellite location, all satellites in sky, those in view, those being used for the current solution, an elevation (in your working units) and other helpful GPS information. The SMI Flex GPS system automatically disables unhealthy GPS satellites.
- The horizontal error for the SMI Flex GPS system is now correctly calculated when in RTK Quality 5.

- SMI Flex GPS now supports both RTCM and CMR formats for base and rover systems in addition to the proprietary NCT format.
- New Instrument Functions for SMI Flex GPS (Reset Receiver, Reset Ports, Network ID, Radio On, Radio Off, GGA On, GGA Off). The GGA on/off support for the SMI Flex GPS system allows it to be used with other NMEA type devices.
- 300 new favorites, function key commands and macros. This includes every HP Calculator command needed by surveyors and engineers.
- SMI Flex GPS Multiple Rover set has been simplified by using the new BI macro feature (11 key strokes down to 4).
- Direct driver support for StarFire's QuickStart Feature (autonomous sub-inch support). Accuracy drifts out to a maximum of 4" over about an hour.
- Total Station Scale factor now correctly calculated by GPS Base command.
- SMI Flex GPS now has RTK GPS under tree capability (5 L1 Signals must still be present).
- SMI Flex GPS (SF Models) can now run for 20 minutes with complete loss of RTK Corrections while still maintaining 2.5 cm or better accuracies.
- SMI Flex GPS automatically adjusts the satellite masking angle to obtain maximum accuracy and usability. A simplified/general overview of how it works is: Standard RTK 7d, long range RTK varies from 7d up to 15d, RTG (Backup of RTK and standard RTG) 5d.
- SMI Flex GPS now supports 115,200 baud instrument communications and up to 25 Hz positioning. Use StarUtil.exe Ports to configure the control port (com 2) to 115200 and use the Force Baud Rate setting in Classic SMI File > Settings. Rates faster than 5 Hz require an upgrade code from Eagle Point for 10 Hz or 25 Hz. These higher rates are useful in very dynamic environments (i.e., airplanes and vehicles). Set the navigation rate that you want to use using the StarUtil.exe > Rover command.
- A toggle was added to Classic SMI File > Settings to allow the SMI Flex GPS user control whether RTG Backup of RTK is considered Quality 5. The HERR is now reported correctly, so this value may be a better control to use for actual positional accuracy determination.
- SMI Flex GPS now supports the Pacific Crest 35 Watt base and PDL rover system for increased range (requires an Allegro CX or Ipaq). These Pacific Crest PDL radios are also compatible with Topcon and Trimble's PDL radios and Trimble's TrimMark Radios when the SMI Flex GPS system is configured for RTCM or CMR.
- SMI Flex GPS now supports the use of 6 db Gain antennas with use of the new SSR Repeater radios for up to 2+ miles unlicensed range SSR Range.
- SMI Flex GPS now supports the Raven CDMA cell modems for RTK Communications. These cell modems can also be used in the field for remote synchronization and internet connection on the Allegro CE and CX devices.
- New windows interface for Classic SMI.
- Function key mappings are now touch active (Allegro and Titan devices).
- On screen buttons (i.e., NeXT , Graphical Stakeout , FAVORites , Soft keys 1-6, etc.) have larger intelligent touch areas making it easy to use the touch screen, even with gloves on.
- Support for color screens (numerous areas are now color coordinated)
 - ALT (Left) and CTRL (Right) shift key indicators are now Red and Brown.

- o F6-F10 function key mappings are blue to coordinate with the required blue shift key on the Allegro devices.
 - o Graphical Stakeout and Satellite View make full use of colors for easier identification.
- A new Note Sequencing program (could already be done with Eagle Point's desktop Data Collection program). Allows for automatic changes to the default note.
- Did away with the COGO only version of the SMI program (base program is Data Collection (DC)). COGO can still be purchased in the version 7 variety for numerous devices, including the PC. A PC version of SMI Version 8 can be purchased for as little as \$50 (instrument communication is disabled).
- Added the ability to run with both the internal and external radio systems to be used simultaneously (numerous advantages, light-weight rover local, use of SF units with RT units, etc.). The ability to turn on/off the internal radio at the base after it's configured is found in the <INFN> Menu.
- New SMI logo, desktop icons, and Windows desktop backgrounds.
- Graphical Stakeout has improved icons with transparency.
- Version 8 does not run on the HP 48 platform. However, you can still buy version 7.1n cards for the HP 48. Contact SMI at (800) 678-6565 or (563) 556-8392.
- The soft keys are now lightly numbered for quicker identification (helps in identifying function keys which are mapped to the soft keys, and for support/training).
- Windows desktop versions have had all the field enhancements plus the ability to capture the classic screen (click in the upper left quadrant of the classic screen). The SMI logo displays, indicating that the image has been sent to the Windows Clipboard.
- Alt + Print Screen captures the entire application window.
- Improvements to the documentation:
 - o Buttons are now searchable.
 - o Hundreds of additional commands have been documented.
 - o Documentation no longer references older HP 48 platform keystrokes.
 - o Only two manuals (User Guide and Reference Manual).