



Phone 563.556.8392  
Toll-free 800.678.6565  
Fax 563.556.5321  
4131 Westmark Drive  
Dubuque, IA 52002-2627  
www.eaglepoint.com

## Eagle Point Solution to a Frequently Asked Question

---

### Enhancements from *SMI Version 6.0* to *SMI Version 7.0*

---

**Summary:** This document provides a list of enhancements from *SMI Version 6.0* to *SMI Version 7.0*.

**Product:** SMI Version 6.0

**Platform:**

**Related documents:**

---

The tips, solutions and suggestions contained in Eagle Point Solution Papers, any Eagle Point Technical Assistance Document or given by an Eagle Point Technical Assistance Representative are suggested for use at your own risk. Document contents are subject to change without notice. No warranty of any kind, expressed or implied, is made with respect to such tips, solutions, and suggestions except as may be expressly stated in the licensing agreement or other contractual document, including, without limitation, any warranty of merchantability of fitness for a particular purpose. In no event is Eagle Point Software Corporation liable for incidental or consequential damages in connection with or arising out of the use of such tips, solutions and suggestions.

All product names are trademarks of their respective holders.

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

---

### Driver/Instrument Changes

- (GPS) Added NCTG driver to support the SMI Flex GPS system StarFire QuickStart function. Allows for sub-inch autonomous mode GPS for up to 20 minutes, after 20 minutes accuracy will always remain at 4" (decimeter) or better!
- Javad/Topcon GPS driver now uses a native Instrument Functions window.
- (GPS) NCT Instrument Functions menu now has buttons to turn the internal radio off ( +RAD ) and on ( -RAD ).
- (GPS) SMI Flex GPS internal radios are turned off when external radios are selected and on when internal radios are selected to extend the battery life of base and rover. With internal radios off, battery life should be 10 – 11 hours.
- (Robotic) Topcon 800 driver changes:
  - Optical Communications mode can now re-zero, take reverse face shots and do auto shots. It ignores the arrow keys for turning the instrument and turning to a point commands because that stops the communications.
  - Added option in the Topcon Instrument Functions menu (<INFN>) to toggle between using the distance mode on the instrument or having the data collector set it each time. This can make taking shots faster.
- (GPS) SMI Flex GPS now has the ability to send and receive CMR corrections. This provides compatibility with other brands of receivers. The CMR mode is prompted for if using external radios when BASE and ROVER are pressed.
- Added Topcon GPT driver for reflectorless use. GPT, GMT1 and 800 cable drivers can use the <PRISM> / <REFL> toggle in the <SRVO> and <INSTR> menus.
- (GPS) The SMI Flex GPS default baud rate is now 19200. In addition, baud rates as high as 115,200 baud are now supported on the Allegro CE and CX devices.

- (GPS) SMI Flex GPS Instrument Functions menu now has a <NETID> soft key to see and change the current Network ID. The <NETID> setting allows multiple bases to work in the same radio area without causing interference.
- (Robotic) Updated Geodimeter 600 and Trimble 5600 drivers for firmware newer than 1999. Instruments with older firmware may need to be updated.
- Made new Leica TC600 driver. 2400 baud Even parity, uses Distance mode on instrument.
- (Robotic) Topcon 800 optical communications driver changed so that instrument goes into standby mode when PAUSE key is pressed.
- (DCE) Trimble 3600 driver now supports the 600 CU faceplate. Same driver as the Geodimeter G420 driver.
- (Robotic) Topcon 800 driver improved to support optical communications. This replaces the old 800, 800I, and RC2 drivers. Uses the new 800 driver when connected directly to the instrument instead of the GMT1 or GTS4 drivers. When the 800 driver is selected, it prompts with the appropriate connection options.
- Removed Leica REFL driver and OLDTC because TC, TCM, and TCA drivers now support the reflectorless toggle key in the <SRVO> and <INSTR> menus.
- Added <DIST> toggle key in the Leica TC, TCM, and TCA Instrument Functions menu ( <ALT> <INFN>). Toggles between having the data collector set the Distance mode each time a distance is taken and using the current distance on the instrument.
- (GPS) Ashtech RTK GPS drivers supported.
- (GPS) Javad/Topcon now has <OFF> soft key in the Instrument Functions ( <ALT> <INFN>) menu to turn off the receiver.
- Nikon – NKN driver now supports <REFL> / <PRISM> and <LTON> / <LTOFF> toggles in the Instrument menu.
- (GPS) Released the new Leica GPS driver.
- (GPS) NavCom driver (NCT) now shows number of satellites tracked and used.
- (GPS) Leica GPS 500 driver {Leica} added to the <GPS> <INSTR> menu.
- (GPS) NavCom NCT2000 driver {NCT} added to the <GPS> <INSTR> menu.
- (Robotic) Geodimeter 600 (G600) improved to prevent old distances from being used. This added some time to Coarse mode shots. Every time you switch to Coarse mode, the Distance mode must be entered using the <DIST> soft key in the <INFN> menu. Taking the time to do this reduces the time every coarse shot takes. Current shot times are: Fine = 12 seconds; Coarse STD Distance mode with AIM & Follow off = 6 seconds; Coarse Track Distance mode with AIM & Follow off = 4 seconds.
- Added <TRIM> menu to the list of instrument drivers for selection of Trimble instruments. Drivers listed in the <TRIM> menu are:
  - TTS – For the original Trimble instruments – same as the Lietz driver.
  - 3300 – Same as the Zeiss Elta R50 driver
  - 3600 – Same as the Zeiss ELTA C driver
  - 5600 – Same as the Geodimeter 600 driver (Robotic only)
- (Robotic) Both the Satel 3ASd and Satel 2ASx radios used by Topcon instruments are now supported. New soft keys <CH3AS> and <CH2AS> have replaced CHAN in the Topcon Custom Instrument menu.
- Added Topcon DL100 Digital Level driver.

## Other Enhancements

- Support for installation directly from Compact Flash cards
- Added commands “GPS Receiver Logging”, “Start GPS Log On Receiver” and “Stop GPS Log On Receiver” NavCom RTK and RTG
- Added “GPS Static” command key menu.
- Added HMS+, HMS-, +, -, \*, /, and SQRT commands to the Trig Command Group.
- Added "Math Operators" and "Trig" Command Key menus.
- (GADOT) The GF (Grid Factor) routine for Georgia state plane zones now assumes meters when in Meter mode. It also prompts for points to use to calculate the grid and gives an option for storing the grid factor as the current scale factor.
- (GADOT) There is a new command to change the Georgia Next Available Chain - CHNNO. The command is “Georgia Next Available Chain” in the Survey Settings Command Group.
- (GPS) Added check to make sure the base routine has been run before allowing a coordinate conversion.
- Graphical Stakeout now displays Cut/Fill correctly for Landscape mode devices.
- (GPS) The <BASE> key no longer reinitializes the base point until after the first prompt. This prevents accidental tapping of <BASE> and losing the base point.
- New product created: SMI Allegro Windows PC Desktop. This product is available to all SMI users for a minimal fee.
- (GPS) Added <LBASE> key on the second page of the <GPS> <UTIL> menu. Prompts for Lat/Long/Height of base instead of getting it from the receiver. Using <LBASE> is a way to set up without having to use the <BASE> key when the base receiver is already transmitting corrections. Should be used with Local coordinate systems. Assumes you will also key in the correct occupied point and backsight angle using <OCPT> and <BKAZ>.
- (GPS) Added <SBASE> key on the second page of the <GPS> <UTIL> menu. Prompts for base point number. Using <SBASE> is a way to get set up without having to use the <BASE> key when the base receiver is already transmitting corrections. Should be used with State Plane coordinate systems.
- Resetting the program via FILE > RESET CLASSIC SMI no longer sets the variables and flags back to their default settings. To clear variables and flags, use FILE > CLEAR CLASSIC SMI.
- When prompted to recover memory, always tap <NO>.
- Command line can now be active when using F-Keys.
- Added support for the DPSTATUS command.
- (CVC) When a ditch distance of zero is keyed in the template editor, it is automatically changed to 0.0001 to prevent a divide by zero error.
- (GPS) When in GPS mode, north/south and east/west directions are shown in addition to go/come, left/right, and clock direction while staking.
- Added <REFL> / <PRISM> to the <ROBOT> menu and removed <CLR> because it is assigned to the keyboard.
- More functions made visible for use on F-Keys.

- (GPS) Local Inverse method now allows you to occupy a known point with the base. Tap <BASE> to key in the point number. Tap <BKPT> to key in a known backsight, occupy the back point with the rover, and tap <ZERO> to orient the horizontal angles.
- (GPS) Benchmark (<BM>) now supported in both the Local Inverse method and SPCS.
- (GPS) GPS manual entry option (<MAN5>) added to GPS instruments menu. Shot routines prompt for latitude, longitude, and altitude.
- (GPS) Angle only routines now work with Local GPS systems.
- (GPS) Changed <BASE> routine. If in SPCS mode, you must key in a known SPCS point the base is occupying. If in Local mode, you can key in a known local point and later key in a back point, or key in 0 and later perform a 2PFS.
- <SDA> improved so that the elevation of the first shot is not changed unless the second zenith angle shot is greater than 1 foot different than the first zenith angle. If the second zenith angle is different by more than 1 foot, the elevation is calculated using the second zenith angle and the horizontal distance of the first shot plus any horizontal distance adjustment entered.
- (CVC) Added ability to draw the template as modified by the <BNCH> routine. If there is a bench that is active when <DRAW> <TMPL> is pressed, you are asked whether to draw the template or bench. Remember that when taking shots when there is a bench, shots inside the shoulder will use the template and shots outside the shoulder will use the bench.
- Added FT2IN function. Key in decimal feet and get feet and inches to the nearest 16th on the stack. Feet, inches, numerator, and denominator on the stack in that order.
- The 12345 flags in the status area have been replaced with ORZNIM representing Overwrite mode, Raw data, Elevations, Notes, Instrument mode, and Meters mode respectively.
- (GPS) Graphical stakeout now takes height of rod into account.
- Support added for Geoid99 files.