



***Release Notes***  
***2.00 to 2.09 Changes and Enhancements***

February 19, 2009



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## General

- **User Interface (2.01):** More dialogs now have the OK button first in the tab order. Focus is set to first control and the Enter key now moves to the next field in more dialogs and tab pages.
- **Bug Fix (2.01):** All Data Collectors - If the data collector's battery was extremely low (less than 10%), it was possible for the icon in SurvCE to be drawn as full.
- **Bug Fix (2.01):** Allow "dots" in the folder names for .inf and .not file names.
- **User Interface (2.01):** Small adjustment to spacing between controls in RTK tab so there is enough room for Base ID label with "(0-1024)."
- **Bug Fix (2.02):** All WindowsMobile5 Data Collectors - SurvCE no longer produces "Out of Memory" errors during normal operation.
- **Bug Fix (2.02):** Previously, if the user attempted to browse up beyond the root in a file selection dialog, they would no longer be able to browse the root folder again. This is now fixed.
- **Bug Fix (2.02):** In the case of non-English versions of the WinCE OS, the task bar will now be hidden.
- **Bug Fix (2.02):** All Combo Box Selections - Arrow Keys and Enter now working in all dialogs/pages.
- **Bug Fix (2.09):** Polish translation - Fix a crash related to the translation in File/Job Settings/Stake/Alignment Settings and Surv/Stakeout Line/Arc/Define Line/Settings.
- **Bug Fix (2.09):** Carlson Surveyor+ - Hourglass will no longer appear on the screen for long periods when exiting survey routines.
- **New Feature (2.09):** Added new projection definition for New Zealand Transverse Mercator 2000.

## MAP

- **Bug Fix (2.01):** Map - The correct BS point is now used in the SS/TR map routines.
- **New Feature (2.02):** Implemented dynamic zoom in/out in map. When holding the +/- buttons for more than 1 second the MAP will dynamically zoom in/out until the stylus loses contact with the two buttons.
- **New Feature (2.02):** Place World Image – Added a toggle to allow this setting to be job specific. If the Recall Image Database checkbox is checked then Image Database is used in the next job. The default is for Recall to Image Database to be unchecked.
- **New Feature (2.03):** MAP, All Instruments – All routines which support the selection of points by list or by MAP will now allow the user to select points on the MAP using OSNAP procedures. (i.e. End Point, Mid Point, Intersection, Center, Nearest, Perpendicular, Tangent) Access this option by clicking on the selection from MAP icon.
- **New Feature (2.03):** MAP – COGO/Create Points/Draw Locate Points. This feature allows the user to create points in the MAP screen by either entering coordinates or using OSNAP procedures.
- **Improvement (2.09):** Import LandXML - When importing a LandXML DTM file, if an incomplete Source Data definition is detected, the user will now be prompted to load the surface from the TIN definition.
- **Bug Fix (2.09):** Import LandXML - When importing a spiral only element that has been defined in grads/gons, the direction of the spiral will now be properly interpreted.

## **File**

- **Bug Fix (2.02):** File/Raw Data – Fixed an error which caused the zenith angle record to be modified if the description was modified in the rw5 file.
- **Bug Fix (2.02):** Using the back button in File/Raw Data/Edit will no longer minimize SurvCE.
- **Error Prevention (2.02):** The user will no longer be allowed to delete the current job.
- **Bug Fix (2.02):** File/Job Settings/Stake/Cutsheet/Select File – If the user cancels or the program fails to open the file, the Format and Edit buttons will be disabled.
- **Improvement (2.09):** Export Note File - The '%' sign is now properly supported when exporting notes.

# Equipment

## General

- **Bug Fix (2.01):** All GPS - When the coordinate projection is changed in File/Job Settings/System, the change will now immediately be applied.
- **Bug Fix (2.01):** All GPS - Reset RTK button now only shows up in the monitor screen when a rover. Reset RTK now shows up for Sokkia OEM4 in monitor.
- **Bug Fix (2.01):** All Internet Enabled Data Collectors - The Data Collector Internet feature would often fail to connect when using a wireless internet connection.
- **Bug Fix (2.01):** All GPS and Robotic Total Stations - Change to Auto By Interval to capture the time trigger more closely.
- **Text Change (2.01):** Renamed Internal Radio to Data Collector Radio. Resized Portrait Comm tab controls to fit better.
- **Bug Fix (2.01):** Increased timeouts for Bluetooth connections.
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- **Bug Fix (2.01):** Explorer 600+ – Fix for the Carlson SS900 Radio driver in SurvCE. It now auto detects baud rates for this radio.
- **Bug Fix (2.01):** All Robotic Total Stations – Set Collection will now correctly turn to the reverse face.
- **Bug Fix (2.01):** **URGENT** All Total Stations – Set Collection now calculates the correct zenith angle.
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- **Bug Fix (2.01):** All Total Stations - Station/Elevation/Offset entry for selecting Occupy Point/Backsight Point, once selected was not possible to be removed from the list. Now the user can remove the entry.
- **Bug Fix (2.01):** All Total Stations - Changing the reflector height in Reading Results panel is not remembered in Review Resection panel. This did not affect the calculation result.
- **Bug Fix (2.01):** All Total Stations - Set Collection Routine, set report angles and distances were not correct. The actual data and coordinates calculated and value stored to RW5 file were correct.

- **New Feature (2.02):** Sokkia GPS, Septentrio GPS, NavCom GPS, DataGrid GPS – Added "Network Connect" and "Network Disconnect" buttons in GPS Utilities.
- **Text Change (2.02):** Equip/Configure Reading/View Pt – When connected to a GPS system, the "Instrument" option now says "Base Station".
- **Feature Change (2.02):** GPS Cell Modems – Split APN Modem options into APN server and APN user/password.
- **Bug Fix (2.02):** All Robotic Total Stations – Changes made to ensure the start of continuous updates for robotic total stations when entering all Survey routines.
- **Bug Fix (2.02):** All Total Stations – Fixed potential crash in Instrument Setup/Backsight "Set Angle and Read".
- **Bug Fix (2.02):** All GPS with Data Collector Internet RTK Connections – SurvCE will better handle the RTK corrections tunnel, particularly when it is stopped and restarted.
- **Bug Fix (2.02):** All GPS with Data Collector Internet RTK Connections – All port settings are now set correctly.
- **Cosmetic Fix (2.02):** Equip/Instrument/Comm – Shortened Bluetooth Instrument combo box.
- **Bug Fix (2.02):** Equip/Instrument/Comm – Pressing OK with the Bluetooth instrument combo empty now gives an error and prevents the dialog from closing.
- **Bug Fix (2.02):** Equip/Instrument/Comm – For Microsoft Bluetooth connections, automatic retries are now used to ensure better connection success.
- **New Feature (2.03):** Most GPS – Dial up networking support added for Data Collector Internet radio method.
- **Bug Fix (2.03):** NTRIP – Sourcetable (list of NTRIP bases) retrieval is now more reliable.
- **New Feature (2.03):** Sending NMEA GGA positions through the Data Collector Internet radio method is now supported.
- **Enhancement (2.03):** For Data Collector Internet radio method, the currently used data collector comm. port will not be shown in the list of available comm. ports. Only available and valid ports will be displayed.
- **New Feature:** All Total Stations – New toggle to ignore instrument precision in stakeout and display precision based on stake tab setting.
- **Bug Fix:** Removed incorrect "No Bluetooth Instrument selected!" error messages for Other and AnyCom Bluetooth options.
- **Bug Fix:** All GPS - In Equip/Monitor/Skyplot, SurvCE will no longer show an incorrect "Error Initializing Trimble GPS" message.
- **New Feature:** All GPS – External ARWest UHF radios are now supported.

- **Bug Fix (2.09):** All total stations - The Resection routine will now take configured EDM readings.
- **Bug Fix (2.09):** All total stations - Angles will now display properly when in vertical angle mode.
- **Update (2.09):** Updated parameters are now used for T-Mobile SIM connections.
- **Text Change (2.09):** All GPS - In the Monitor/Skyplot REF tab, changed the size of the antenna name and distance to base tags to allow more data to be visible on the screen.
- **Bug Fix (2.09):** Change was made to prevent the Progress bar from getting 'stuck' under the main window of SurvCE.
- **Bug Fix (2.09):** All GPS - When changing the toggle to use or not use NGS absolute value offsets, the LS record in the rw5 file will be updated to reflect the change.
- **Feature Change (2.09):** All Robotic Total Stations - SurvCE will display "Turning to Point" while changing face during Set Collection.
- **Bug Fix (2.09):** All total stations - When collecting a set in Store Points, if the horizontal angles span left and right of 0.0, the correct difference will be used for the tolerance check. Previously, a 359.5959 type difference warning could result.
- **New Feature (2.09):** All GPS - SurvCE now allows the user to select between Digital and Analog connection types when using the "GSM Modem" RTK device type option.
- **Feature Change (2.09):** GPS Simulation - Starting latitude and longitude values will be stored and recalled with the job.
- **Bug Fix (2.09):** All Robotic Total Stations - Tracking will now start automatically when starting Elevation Difference.
- **Feature Change (2.09):** Slant option for antenna height measurement will not be allowed when an internal antenna with no defined radius value is used.

## **Altus**

- **New Feature (2.09):**Altus APS-3 GPS - SurvCE now supports the internal PDL radio. Please select the "PDL w/EOT" radio option.
- **Bug Fix (2.09):**Altus GPS - When reconnecting by Bluetooth after powering on the data collector, it was possible for the software to crash. This has been corrected.
- **Feature Change (2.09):**Altus GPS - A full list of available frequencies is now displayed for the internal radio.
- **New Feature (2.09):**Altus GPS - The firmware version of the internal radio will now be displayed.
- **Feature Change (2.09):**Altus and Septentrio GPS - Monitor/Skyplot will display more detailed information when no position is available.
- **Improvement (2.09):**Altus GPS - In the Monitor/Skyplot SatView and SatInfo tabs, data will populate the screen faster and be less likely to 'blank out' during operation.
- **Feature Change:** Altus GPS - When SurvCE stops logging static data, it will no longer disable static logging in the receiver.
- **Bug Fix (2.09):**Altus internal modem and Wavecom external modem - The user will not be prompted for a modem PIN if a PIN is not required.

## ***Javad***

- **Text Change (2.09):**Javad GPS - Info button will no longer display the words "Topcon GPS+".
- **Feature Change (2.09):**Javad Triumph-1 GPS - The default antenna is now the Internal antenna.
- **Feature Change (2.09):**Javad GPS - The 'co-op tracking' option will no longer appear.

## **Leica**

- **Bug Fix (2.01):** Leica Robotic Total Stations - Check level doesn't work if instrument was tracking and loses lock.
- **Bug Fix (2.01):** Leica Robotic Total Stations - Auto by interval frequently shows out of level for Leica robotic. Tracking message updated to show correct status. This is often "No Position", especially at short range when the prism is moving.
- **Bug Fix (2.01):** Leica GPS – In the Log Static feature, the antenna type was being set the first in the list every time the change Antenna dialog was entered.
- **Bug Fix (2.01):** Leica GPS – In the Log Static routine, if the antenna height changed, the change was not reflected in the log file.
- **Bug Fix (2.01):** Leica GPS – When dialing a modem through SurvCE, it was possible for the last number to be used instead of the current number.
- **New Feature (2.02):** Leica GPS – For GSM, CDMA and TDMA modems, the software will now prompt for the PIN and PUK.
- **Bug Fix (2.02):** Leica GPS – If GPRS/NTRIP Connection is selected, SurvCE will not send commands that could potentially break the connection.
- **New Feature (2.02):** Leica GPS – For GSM, CDMA and TDMA modems, the protocol may now be set by the user at the rover. Possible selections are "Analog", "ISDN V. 110" and "ISDN V. 120".
- **New Feature (2.02):** Leica GPS (System 1200) – SurvCE will now query whether the unit is capable of Glonass and display the option accordingly.
- **New Feature (2.02):** Leica GPS (System 1200) – SurvCE will now check whether the Extended OWI option is authorized and warn the user if it is not.
- **Bug Fix (2.02):** Leica GPS – Channel changing for the Intuicom radios now works properly.
- **Bug Fix (2.02):** Leica GPS – In the Log Static feature, the elevation mask used will be the same as the one set in Configure Rover or Configure Base.
- **Bug Fix (2.02):** Leica GPS - The modem status will now be correctly queried.

## ***Magellan***

- **Bug Fix (2.02):** Magellan ZMax – Radio/GSM Settings button is no longer disabled in GPS Utilities.

## **Navcom**

- **Bug Fix (2.01):** Navcom GPS – Improvements were made for the Bluetooth connection to the Navcom GPS with the Explorer 600+.
- **Added Feature (2.01):** NavCom GPS - Change channel for internal radio.
- **Bug Fix (2.03):** NavCom GPS – Position rate option now works correctly.
- **Feature Change (2.09):**NavCom GPS - For configuration of the internal radio, the Power Level will now be displayed and selectable by the user. If the radio is off, the power level will go to maximum when turned on.
- **Feature Change (2.09):**NavCom GPS - For firmware 3.2 an up, an active StarFire license is no longer required for using the RTK-Extend feature. The max RTK age was raised to 15.
- **Feature Change (2.09):**NavCom GPS - Order of commands sent for base configuration was modified to support new firmware, v3.2.
- **Bug Fix (2.09):**NavCom GPS - Setting the max RTK Float age now works properly.
- **Bug Fix (2.09):**NavCom GPS - Base setup for receivers running firmware versions less than 4.0 will now work properly.
- **Bug Fix (2.09):**NavCom GPS - Made correction for status changing from Data to No Data constantly in Monitor/Skyplot screen.

## ***Pentax***

- **Bug Fix (2.01):** Pentax W-800 series - Improved speed of level bubble readings in Check Level routine.
- **New Instrument Supported (2.09):** SurvCE now runs onboard the Pentax W-821NX.

## ***Septentrio***

- **Text Change (2.02):** Renamed Septentrio model to PolaRx2.
- **Feature Change (2.09):** Altus and Septentrio GPS - Monitor/Skyplot will display more detailed information when no position is available.

## **Sokkia**

- **Bug Fix (2.02):** Sokkia GPS – Base position in the REF tab will be displayed consistently.
- **Feature Change (2.09):** Sokkia Robotic Instruments - The default prism constant has been changed to -7mm.
- **Bug Fix (2.09):** Sokkia Total Stations - In Stakeout routines, readings will no longer timeout after using the "Zero Hz Angle To Target" option.
- **Bug Fix (2.09):** Sokkia ISX GPS - The receiver will now be able to go into Fix even when the user is waiting in the Monitor/Skyplot screen.
- **Bug Fix (2.09):** Sokkia SRX will now track and display data properly when entering stakeout routines.
- **Bug Fix (2.09):** Sokkia SDL laser is now working with AllegroCE and other WinCE 3.0 data collectors.
- **New Feature (2.09):** Sokkia GSR2700 ISX - SurvCE now allows the user to select between Digital and Analog connection types for internal modem connections.

## **Topcon**

- **Bug Fix (2.01):** Topcon GPS - Ambiguity Fixing label correction. Users selecting Auto were actually selecting Low.
- **Bug Fix (2.02):** Topcon 9000 Motorized - Auto Turn now works properly for reverse face readings.
- **Feature Change (2.02):** SurvCE now supports slant height for the Topcon PGA1 antenna.
- **Bug Fix (2.02):** Topcon GPS – Base Radio port now set correctly when using the Radio Configure button in the RTK tab.
- **New Feature (2.02):** Topcon 9000 TS – Motorized option is now available.
- **Bug Fix (2.02):** Topcon 9000 TS - Battery status is now being properly displayed.
- **Bug Fix (2.02):** Topcon 9000 TS - EDM mode is now being set according to EDM setting.
- **Bug Fix (2.02):** Topcon GPS – Improved interface with AirLink modem through Topcon GPS.
- **Bug Fix (2.02):** Topcon GPS – Satellites with azimuth values greater than 256 will now be correctly displayed.
- **Feature Added (2.02):** Added support for Topcon 900/9000 onboard motorized control.
- **Cosmetic Fix (2.02):** All Topcon Onboard TS Instruments – Removed options that are not needed.
- **Bug Fix:** Topcon GPS – RTCM 3 option is now properly supported.
- **New Feature:** Topcon GPS – Internal UHF radios are now supported.
- **New Data Collector Supported (2.09):** SurvCE now supports the internal radio of the FC2500 data collector. This option is "Internal FC Radio" and should be used for both the FC2200 and FC2500. The SurvCE\_FC2200.exe install will work for the FC2500 also.

## ***Trimble/Geodimeter***

- **Bug Fix (2.01):** Trimble GPS – Trimble GPS now works with SurvCE via Bluetooth.
- **Bug Fix (2.01):** Geodimeter does not turn sets correctly.
- **Bug Fix (2.01):** Explorer 600+ – Allow Geodimeter to work with Carlson Radios.
- **Bug Fix (2.02):** Trimble GPS – SurvCE now supports the Data Collector Internet RTK Connection option for this receiver type.
- **Bug Fix (2.09):** Geodimeter/Trimble 5600 "Station" - When set to Gons, the angle values will now be properly read by SurvCE.

## **Road**

- **Bug Fix (2.02):** Road/Offset Stakeout - SurvCE no longer reports an extra offset to the line. Only requested offset information is given.
- **Bug Fix (2.02):** Roading - SurvCE now displays the center of the road when drawing a template that has only grades at zero slopes at the zero elevation.
- **Bug Fix (2.02):** Stake Road – The center dashed line will now be drawn in the dialog after the using the Modify or Next options.
- **Bug Fix (2.02):** Stake Road and Slope Stake - When using the RNF (Road Network File) option in the graphic screen the title of the map is now displayed properly.
- **Bug Fix (2.02):** Cul-de-Sac and Intersections are now correctly converted to cross sections in the Stake Road and Slope Stake routine when using the RNF (Road Network File) option.
- **Bug Fix (2.02):** Section File Conversion – Restored the ability to convert SCT files to Geopak and IGRDS.
- **Bug Fix (2.02):** ISPOL Centerline Conversion - Ovoids followed and preceded by curves are now converting into a CL file.
- **Bug Fix (2.02):** LandXML Profile Conversion - The conversion of PRO file with symmetrical vertical curves is now converting the vertical elements into a LandXML file.
- **Bug Fix (2.02):** Geopak Centerline Conversion - Geopak centerline files are now importing in SurvCE even if the definition of each curve is Chord Definition based.

## Survey

- **Name Change (2.01):** TrigLevReport.txt renamed to LevelingReport.txt.
- **Bug Fix (2.01):** Leveling - Now using Manual total station as the current total station when selected.
- **Bug Fix (2.01):** Leveling error "ERROR: Loop not closed" not reported now in Review when loop is closed.
- **Bug Fix (2.02):** Resection – Fixed an elevation calculation error caused by an angle conversion issue.
- **Bug Fix (2.02):** Surv/Set Collection - The coordinate file now stays in tact when canceling from the Set Collection routine.
- **Feature Change (2.02):** Surv/Resection – Replaced the Cancel button with a back button in the results screen.
- **Bug Fix (2.02):** Stakeout Line/Arc defined by points - SurvCE will no longer show the radius point as a stakeout target location.
- **Bug Fix:** Trig Leveling – Last used file name is now being saved for later recall.
- **Bug Fix (2.09):** In Stakeout Line/Arc by Station/Offset, if the user selects in invalid Skew ahead or back value (such as 0.0), the program will default the option back to "Offset".
- **Improvement (2.09):** Points stored out of sequence in the Backsight routine will no longer affect the sequence of points stored in Store Points or Stakeout. i.e. If the last point stored was point 10 and the next backsight stored is 100, the next foresight will default to 11, not 101.
- **Bug Fix (2.09):** On WM5 and WM6 data collectors, the Auto-Zoom feature for Stakeout Routines will now function properly.
- **Bug Fix (2.09):** Remote Benchmark - Storing a point through the remote benchmark routine will no longer set the next foresight ID to the occupy point ID.

## Changes by Release

### ***Release Dates***

- **2.00 May 29, 2007**
- **2.01 June 18, 2007**
- **2.02 August 12, 2007**
- **2.03 December 17, 2007**
- **2.04 March 20, 2008**
- **2.05 June 12, 2008**
- **2.06 August 15, 2008**
- **2.07 September 8, 2008**
- **2.08 December 9, 2008**
- **2.09 February 19, 2009**

## 2.01

- **Bug Fix:** All GPS - If the coordinate projection was changed in File/Job Settings/System, the change was not applied until the job was reloaded or the user went to the Equip/Localization routine.
- **Name Change:** TrigLevReport.txt renamed to LevelingReport.txt.
- **Bug Fix:** Leveling - Now using Manual total station as the current total station when selected.
- **User Interface:** More dialogs now have the OK button first in the tab order. Focus is set to first control and the Enter key now moves to the next field in more dialogs and tab pages.
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- **Bug Fix:** All Instruments which support continuous readings - When exiting a Survey routine, the program would often freeze if the user attempted to re-enter any Survey routine immediately.
- **Bug Fix:** Map - The osnap was always used to define the BS point in SS/TR map routines.
- **Added Feature:** NavCom GPS - Change channel for internal radio.
- **Bug Fix:** Leica GPS – When dialing a modem through SurvCE, it was possible for the last number to be used instead of the current number.
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## 2.02

- **Bug Fix:** Topcon 9000 Motorized - Auto Turn now works properly for reverse face readings.
- **Bug Fix:** All WindowsMobile5 Data Collectors - SurvCE no longer produces "Out of Memory" errors during normal operation.
- **Bug Fix:** Previously, if the user attempted to browse up beyond the root in a file selection dialog, they would no longer be able to browse the root folder again. This is now fixed.
- **Bug Fix:** Resection – Fixed an elevation calculation error caused by an angle conversion issue.
- **Bug Fix:** File/Raw Data – Fixed an error which caused the zenith angle record to be modified if the description was modified in the rw5 file.
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- **Bug Fix:** Topcon 9000 TS - EDM mode is now being set according to EDM setting.
- **Bug Fix:** Road/Offset Stakeout - SurvCE no longer reports an extra offset to the line. Only requested offset information is given.
- **Bug Fix:** Roding - SurvCE now displays the center of the road when drawing a template that has only grades at zero slopes at the zero elevation.
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- **Feature Change:** Surv/Resection – Replaced the Cancel button with a back button in the results screen.
- **Bug Fix:** Stake Road – The center dashed line will now be drawn in the dialog after the using the Modify or Next options.
- **Bug Fix:** Stake Road and Slope Stake - When using the RNF (Road Network File) option in the graphic screen the title of the map is now displayed properly.
- **Bug Fix:** Cul-de-Sac and Intersections are now correctly converted to cross sections in the Stake

Road and Slope Stake routine when using the RNF (Road Network File) option.

- **New Feature:** Implemented dynamic zoom in/out in map. When holding the +/- buttons for more than 1 second the MAP will dynamically zoom in/out until the stylus loses contact with the two buttons.
- **Bug Fix:** Section File Conversion – Restored the ability to convert SCT files to Geopak and IGRDS.
- **Bug Fix:** ISPOL Centerline Conversion - Ovoids followed and preceded by curves are now converting into a CL file.
- **Bug Fix:** LandXML Profile Conversion - The conversion of PRO file with symmetrical vertical curves is now converting the vertical elements into a LandXML file.
- **Bug Fix:** In the case of non-English versions of the WinCE OS, the task bar will now be hidden.
- **Bug Fix:** Geopak Centerline Conversion - Geopak centerline files are now importing in SurvCE even if the definition of each curve is Chord Definition based.
- **Bug Fix:** Stakeout Line/Arc defined by points - SurvCE will no longer show the radius point as a stakeout target location.
- **New Feature:** Place World Image – Added a toggle to allow this setting to be job specific. If the Recall Image Database checkbox is checked then Image Database is used in the next job. The default is for Recall to Image Database to be unchecked.
- **Text Change:** Renamed Septentrio model to PolaRx2.
- **Bug Fix:** Sokkia GPS – Base position in the REF tab will be displayed consistently.
- **Feature Change:** GPS Cell Modems – Split APN Modem options into APN server and APN user/password.
- **Bug Fix:** Magellan ZMax – Radio/GSM Settings button is no longer disabled in GPS Utilities.
- **Bug Fix:** All Robotic Total Stations – Changes made to ensure the start of continuous updates for robotic total stations when entering all Survey routines.
- **Bug Fix:** Topcon GPS – Improved interface with AirLink modem through Topcon GPS.
- **Bug Fix:** Topcon GPS – Satellites with azimuth values greater than 256 will now be correctly displayed.
- **New Feature:** Leica GPS – For GSM, CDMA and TDMA modems, the software will now prompt for the PIN and PUK.
- **Bug Fix:** Leica GPS – If GPRS/NTRIP Connection is selected, SurvCE will not send commands that could potentially break the connection.
- **Bug Fix:** All Total Stations – Fixed potential crash in Instrument Setup/Backsight “Set Angle and Read”.

- **New Feature:** Leica GPS – For GSM, CDMA and TDMA modems, the protocol may now be set by the user at the rover. Possible selections are “Analog”, “ISDN V. 110” and “ISDN V. 120”.
- **New Feature:** Leica GPS (System 1200) – SurvCE will now query whether the unit is capable of Glonass and display the option accordingly.
- **New Feature:** Leica GPS (System 1200) – SurvCE will now check whether the Extended OWI option is authorized and warn the user if it is not.
- **Bug Fix:** All GPS with Data Collector Internet RTK Connections – SurvCE will better handle the RTK corrections tunnel, particularly when it is stopped and restarted.
- **Bug Fix:** Trimble GPS – SurvCE now supports the Data Collector Internet RTK Connection option for this receiver type.
- **Bug Fix:** All GPS with Data Collector Internet RTK Connections – All port settings are now set correctly.
- **Cosmetic Fix:** Equip/Instrument/Comm – Shortened Bluetooth Instrument combo box.
- **Bug Fix:** All Combo Box Selections - Arrow Keys and Enter now working in all dialogs/pages.
- **Bug Fix:** Leica GPS – Channel changing for the Intuicom radios now works properly.
- **Bug Fix:** Leica GPS – In the Log Static feature, the elevation mask used will be the same as the one set in Configure Rover or Configure Base.
- **Bug Fix:** Equip/Instrument/Comm – Pressing OK with the Bluetooth instrument combo empty now gives an error and prevents the dialog from closing.
- **Feature Added:** Added support for Topcon 900/9000 onboard motorized control.
- **Cosmetic Fix:** All Topcon Onboard TS Instruments – Removed options that are not needed.
- **Bug Fix:** Equip/Instrument/Comm – For Microsoft Bluetooth connections, automatic retries are now used to ensure better connection success.
- **Error Prevention:** The user will no longer be allowed to delete the current job.
- **Bug Fix:** File/Job Settings/Stake/Cutsheet/Select File – If the user cancels or the program fails to open the file, the Format and Edit buttons will be disabled.
- **Bug Fix:** Leica GPS - The modem status will now be correctly queried.

## 2.03

- **New Data Collectors Supported with this build:** MobileMapperCX, Topcon GPT7500 Onboard, WM2003 Generic Portriatview and Landscape.
- **New Languages Supported with this build:** Finnish, German, Polish, Spanish, Swedish.
- **New Feature:** MAP, All Instruments – All routines which support the selection of points by list or by MAP will now allow the user to select points on the MAP using OSNAP procedures. (i.e. End Point, Mid Point, Intersection, Center, Nearest, Perpendicular, Tangent) Access this option by clicking on the selection from MAP icon.
- **New Feature:** MAP – COGO/Create Points/Draw Locate Points. This feature allows the user to create points in the MAP screen by either entering coordinates or using OSNAP procedures.
- **Bug Fix:** NavCom GPS – Position rate option now works correctly.
- **Bug Fix:** Topcon GPS – RTCM 3 option is now properly supported.
- **New Feature:** Most GPS – Dial up networking support added for Data Collector Internet radio method.
- **Bug Fix:** NTRIP – Sourcetable (list of NTRIP bases) retrieval is now more reliable.
- **New Feature:** Sending NMEA GGA positions through the Data Collector Internet radio method is now supported.
- **Enhancement:** For Data Collector Internet radio method, the currently used data collector comm. port will not be shown in the list of available comm. ports. Only available and valid ports will be displayed.
- **New Feature:** All Total Stations – New toggle to ignore instrument precision in stakeout and display precision based on stake tab setting.
- **Bug Fix:** Removed incorrect "No Bluetooth Instrument selected!" error messages for Other and AnyCom Bluetooth options.
- **Bug Fix:** All GPS - In Equip/Monitor/Skyplot, SurvCE will no longer show an incorrect "Error Initializing Trimble GPS" message.
- **New Feature:** All GPS – External ARWest UHF radios are now supported.
- **New Feature:** Topcon GPS – Internal UHF radios are now supported.
- **Bug Fix:** Trig Leveling – Last used file name is now being saved for later recall.

## 2.04

- **!!Notice!!:** FC200 Users with Bluetooth should select Bluetooth type "Other" and Com Port 6.
- **New Languages Supported with this build:** Greek and Turkish.
- **Improvement:** Improvements made for Sokkia internal GSM connections.
- **Improvement:** Improved error reporting when obtaining memory card information for Septentrio GPS.
- **Improvement:** Septentrio and Altus GPS – SurvCE now prompts for Bluetooth or Serial reconnect when power cycling the data collector.
- **Improvement:** Improvements for WaveCom GSM modem connections.
- **New Feature:** Added support for Belgium xyGridLb72 Coordinate System.
- **Bug Fix:** Corrected bug for WindowsMobile5 that caused modem connections to fail.
- **New Feature:** Leica RX Series Data Collectors Only – Additional support added for the Leica RX900 GPS. Users can now query and set the radio channel. Base setup will launch the GPS900 program. The Extended OWI
- **New Feature:** Topcon GPS – Added support for internal CDMA modems.
- **Feature Change:** Septentrio GPS – RTK Reliability setting changed from 3 to 4. Factory Reset changed from None to All.
- **Text Change:** Changed the prompt for “Would you like to configure the modem now?” to “Connect to RTK network?”
- **Bug Fix:** Leica Series 1200 GPS (including the RX1250) – When the user selects “GPRS/Internet” at the base, the correct commands will be sent to keep this configuration in tact. The user may select their RTK message type through SurvCE and the position of the base will be set through SurvCE, but all other parameters of the internet connection must be set through the Leica controller.
- **Feature Change:** All GPS – Now blanking out old values in the Monitor/Quality tab.
- **New Feature:** Trig Leveling parser now support FE fields in the benchmark record.
- **New Feature:** Altus GPS – Logging Raw GPS data to a file is now supported.
- **Improvement:** Altus GPS – Improved position reading stream. Improved Hard Reset feature.
- **Feature Change:** Topcon GPS – Changed position update rate options to 1, 2, and 5 Hz.
- **Bug Fix:** Trig Leveling – Descriptions now have carriage return appended to end.
- **Bug Fix:** Topcon GPS – Modem configuration progress no longer goes over 100%.
- **Bug Fix:** Sokkia SRX – Instrument now returns to tracking mode after storing a point in Stakeout.

- **Bug Fix:** Sokkia SRX – Occasional failure of reading in Backsight check routine now resolved.
- **Bug Fix:** All Total Stations – A cancelled direct and reverse reading to the Backsight now writes only valid records to the rw5 file.
- **Bug Fix:** All Total Stations – Survey sets now displays warning when tolerances for angles and distances are exceeded.
- **Bug Fix:** All Total Stations – When Sets is toggled on for Survey routines and tracking readings are stored, correct rw5 records are now written.
- **Bug Fix:** Topcon Robotic Total Stations – SurvCE will attempt to start tracking upon entering a Survey routine if a prism is in view. If no prism is in view, the instrument will be put in Standby mode.
- **Bug Fix:** All Total Stations – When using a backsight azimuth other than zero in the survey set routines, the azimuth is now accounted for in the set report and RW5 record. This does not affect the calculated coordinate value.
- **Bug Fix:** Left and Right arrow keys are now working as expected in Backsight.
- **Bug Fix:** All Total Stations – Remote Benchmark routine will not display junk data when entering a non-existent point ID.

## 2.05

- All GPS: Fixed an issue related with using more than 20 points in a Localization file. It now creates a better localization model for the project.
- Feature Change: Changed behavior of traverse button when running in robotic mode to always take a new configured reading regardless of tracking status. If running in robotic mode and locked on a prism but not tracking, the store button will take a reading and store.
- Bug Fix: Edit Rw5 file correction for Editing BD records and Direct Reverse reports at the end of Set Collection are now displaying the angles correctly as DMS and not as Decimal Degrees.
- Topcon GPS: “Set Satellite Status” button for Topcon GPS Firmware 3.2 and higher now allows you to configure Glonass Satellites. SurvCE will no longer show “Error retrieving Glonass Satellite information”
- Bug Fix: COGO / Intersections – corrected an issue where after you tap “S” or hit enter to store you could not pick solution A or B on the screen
- Updated Zeiss Reflectorless communication to handle changes in message format.
- Bug Fix: Topcon Robotic - SurvCE no longer shows invalid 0.0 slope distance readings in Face 1/ Face 2 reports.
- Feature Change: Import LandXML now supports file generated by the '12D' software package. Cross Section descriptions will be taken from the Feature tags.
- Feature Change: SurvCE now supports LandXML files exported from ModelMaker and RoadMaker software packages.
- Bug Fix: Corrected a program crash that occurred when the user hit cancel from the First Offset in the Slope Stake routine.
- Bug Fix: When taking an FD & FR set collect on the fly Direct & Reverse shot to a point where the Horizontal angle was really high such as 359.5959 the RW5 raw data was correct for the angles and averages but an error of 0.4040 {0 degrees 40 min 40 sec} was stored in the actual Northing and Easting of the CRD coordinate file.
- Bug Fix: Resolved an issue caused with “Backsight D&R” turned on in the Backsight routine if you took your BD and BR shots then canceled out of the “Set Collection Report” displayed and then continued to cancel out to the Live Routine your setup was Incorrect.
- French GPS Grid File -- when localization is carried out while using a coordinate system with a grid file and previously surveyed points are to be reprocessed, SurvCE no longer shows the error “Missing grid files”
- For All GPS: Stakeout\_Line\_Arc / Store a stake or tap “M” / changes made to the Next Alignment tab caused the Live GPS updates to stop when you return to the Live Stakeout screen.
- For All GPS: Store Points -- Alt-A keyboard shortcut now acts the same way as tapping the "A" average icon on the screen.

- For Leica GPS: if you blank out the Pt ID field in the Survey / Store Points screen and try to store a Point, the Moving Height sent to the Leica Receiver was 0.0, regardless of what the user has entered into the Rod Height field
- For Topcon GPS: in EQUIP / Monitor Skyplot / Ref Tab = now displays the proper Base Antenna Height value
- For Sokkia SDR conversion: FILE / Write Job Note / if the job note they create starts with a number like 13” it now correctly adds in the "13NM" code on the SDR file created in FILE / Data Transfer / SDR Transfer
- For Topcon Total Station: made a change to allow for Difficult Prism or Reflectorless shots at long distance or to moving objects.
- For Topcon Robotic: we now use "Streaming" instead of "Polling" which should increase Performance and possibly even increase the Range from the Robot to the Prism pole
- For Leica Total Station or Robotic: SURVEY / "Check Level" routine now forces the Compensator On
- For Topcon Legacy E GPS: "Read GPS" with Topcon Firmware 3.2 and higher stores the readings slower to avoid timing errors
- For Topcon GPS: with a Bluetooth Connection - in SURVEY / Store Points / "A" button = we now store the readings slower to avoid timing errors

## 2.06

- **Bug Fix:** Corrected display issues with the Chinese version of SurvCE for the Pentax W800.
- **Improvement:** Total Stations – Check level routine will now enable compensator when initialized, and return it to previous state when routine is closed.
- **Bug Fix:** The calculator feature now works for the Chinese version of SurvCE on the Pentax W800.
- **New Feature:** Check level now works for the Leica 1100 in robotic mode.

## 2.07

- **Bug Fix:** Sokkia SRX – Corrected an issue when the Foresight Search Method was set to None that would cause an infinite hour glass to appear when the instrument was instructed to turn to a point.
- **Bug Fix:** Sokkia SRX – Corrected an issue that would cause the software to report "Error Reading Data" from the "Set Angle and Read" option of Backsight Check if the instrument was in tracking mode.

## 2.08

- **Improvement:** Topcon Total Stations – A longer timeout for readings is now used. The user now has the ability to cancel effectively during a reading.
- **Improvement:** For SDR files exported from RW5, the coordinate order, N-E or E-N, will be maintained. Also, the record 10NM now writes the settings for the job regarding the sea level correction, atmospheric correction, and curvature & refraction.
- **New Instrument:** SurvCE now supports the Contour XLR Laser from LaserCraft, Inc.
- **New Instrument:** SurvCE now supports the Leica TS0x Series instruments.
- **New Instrument:** SurvCE now supports Javad Triumph GNSS receivers. Support is available to control the internal radio. Support for controlling the internal modem will be available in a future update.
- **Bug Fix:** Topcon Robotic – QuickLock button now works from store points screen on Topcon robots.
- **Bug Fix:** MAP - Metric Volume calculations now display the correct metric ton value.
- **Improvement:** Sokkia GPS – Improvements for Log Static. Correct antenna names will be used for internal antennas. POWERUP will no longer be the default group if other groups exist.
- **Bug Fix:** Corrected an error when reading data from peripherals (depth sounders, lasers, etc) when connected to a Trimble GPS.
- **Improvement:** Sokkia GPS – Reading time for position data was improved.
- **Bug Fix:** Italian version will now register properly.
- **Bug Fix:** MobileMapperCE – Registration issue is now resolved.
- **Bug Fix:** MAP - Corrected issue that caused Place World Image to fail.
- **Improvement:** Pentax W800 onboard total stations - Changes were made to the Check Level routine to improve speed.
- **New Feature:** New setting for Targetsheet Offset added for Sokkia SRX and SetX drivers.
- **Bug Fix:** Magellan ZMax GPS – For RTCM3, elevation used in base configuration will now be that of the phase center and not the ARP.
- **Bug Fix:** Topcon 8000 and Topcon 9000 robots will now take shots at the correct EDM mode as set in the equipment settings, even when "lock on read" is turned on.
- **Improvement:** Total stations will no longer search after auto-turning to a stake point.
- **Bug Fix:** For UTM selected zones, the one point "Geodetic" north azimuth calculation has been corrected. The Automatic Zone Selection option was not affected by this change.
- **Improvement:** Topcon GR3 with CDMA modems - Added support for firmware 3.3p4 at Baud Rate of 115200 and resolved a "2 minute disconnect" issue.
- **New Data Collectors Supported:** SurvCE is now supported on the Carlson Surveyor, Juniper AllegroMX, and generic Windows Mobile 6 devices.

- **New Feature:** Added new CLIP section file option (TER) to Export Section File routine.
- **New Feature:** Topcon TRL-35 External Radio is now supported.
- **New Feature:** SurvCE now supports import of Seismic seg files in File/Import Ascii.
- **New Feature:** Stakeout Points now supports reverse incrementing of target point IDs. Access this option under File/Job Settings/Stake be deselecting the "Increment Point IDs for Stakeout" option.
- **New Feature:** SurvCE now support decrementing point IDs in Store Points. Access this feature under File/List Points/Settings by entering a negative value in the "Add to Next Pt ID:" field.
- **New Feature:** SurvCE now allows for staking a point at a given offset perpendicular to and azimuth from a point. To access this feature, go to Stake Points, enter a point ID and select Point by Direction. Enter an azimuth from the point, then go to the "H. Distance" field and use the right arrow key to toggle to "H. Offset". Now, enter your offset value.
- **Bug Fix:** COGO/Calculator now allows angles to be added above 360 degrees.
- **Improvement:** Added zones for: CANADA/NAD83/MTM zone 12 - CANADA/NAD83/MTM zone 32; CANADA/NAD83/UTM zone 07N - CANADA/NAD83/UTM zone 10N; CANADA/NAD83/UTM zone 14N - CANADA/NAD83/UTM zone 16N; CANADA/NAD83/UTM zone 22N
- **Bug Fix:** Positions outside of the valid NAPTrans 2000 and 2004 grids will produce results of 0,0 and no longer display bogus values.
- **Bug Fix:** After importing points through the File/Import Ascii routine, total station occupy and backsight information will remain in tact.
- **New Feature:** Import DXF Files now supports import of 3D lines.
- **Bug Fix:** MAP/Traverse will now write correct instrument setup information to the rw5 file.
- **Bug Fix:** SurvCE now displays 3 degree zone width for Canadian MTM projections. There was no error in the calculation. This change is only in the display.
- **Improvement:** When exporting rw5 files to SDR, if the selected angle unit is Gons, Resection and Benchmark notes will be converted to Gons.
- **Bug Fix:** LandXML import now correctly handles "Surfaces" nodes.
- **Bug Fix:** MAP, for Pntdesc and Pntelev layers, if the color selected is the same as the background, it will now be reversed. i.e. a white layer on a white background will be draw as black.
- **Bug Fix:** For NovAtel and Sokkia GPS, the PDOP values are correctly written to the rw5 file.
- **Bug Fix:** For Topcon GPS, Satellite view will correctly denote satellites that are not in use.

## 2.09

- **Bug Fix:** Geodimeter/Trimble 5600 "Station" - When set to Gons, the angle values will now be properly read by SurvCE.
- **Text Change:** Javad GPS - Info button will no longer display the words "Topcon GPS+".
- **Feature Change:** Javad Triumph-1 GPS - The default antenna is now the Internal antenna.
- **Feature Change:** Javad GPS - The 'co-op tracking' option will no longer appear.
- **New Feature:** Altus APS-3 GPS - SurvCE now supports the internal PDL radio. Please select the "PDL w/EOT" radio option.
- **Bug Fix:** Altus GPS - When reconnecting by Bluetooth after powering on the data collector, it was possible for the software to crash. This has been corrected.
- **Bug Fix:** All total stations - The Resection routine will now take configured EDM readings.
- **Feature Change:** Altus GPS - A full list of available frequencies is now displayed for the internal radio.
- **New Feature:** Altus GPS - The firmware version of the internal radio will now be displayed.
- **Feature Change:** Altus and Septentrio GPS - Monitor/Skyplot will display more detailed information when no position is available.
- **New Data Collector Supported:** SurvCE now supports the internal radio of the FC2500 data collector. This option is "Internal FC Radio" and should be used for both the FC2200 and FC2500. The SurvCE\_FC2200.exe install will work for the FC2500 also.
- **New Instrument Supported:** SurvCE now runs onboard the Pentax W-821NX.
- **Bug Fix:** All total stations - Angles will now display properly when in vertical angle mode.
- **Bug Fix:** In Stakeout Line/Arc by Station/Offset, if the user selects an invalid Skew ahead or back value (such as 0.0), the program will default the option back to "Offset".
- **Update:** Updated parameters are now used for T-Mobile SIM connections.
- **Feature Change:** Sokkia Robotic Instruments - The default prism constant has been changed to -7mm.
- **Improvement:** Points stored out of sequence in the Backsight routine will no longer affect the sequence of points stored in Store Points or Stakeout. i.e. If the last point stored was point 10 and the next backsight stored is 100, the next foresight will default to 11, not 101.
- **Bug Fix:** On WM5 and WM6 data collectors, the Auto-Zoom feature for Stakeout Routines will now function properly.
- **Bug Fix:** Sokkia Total Stations - In Stakeout routines, readings will no longer timeout after using the "Zero Hz Angle To Target" option.
- **Bug Fix:** All total stations - The correct records are now written to the raw file after performing a backsight "check" or "check all" following a full direct and reverse reading.
- **Feature Change:** NavCom GPS - For configuration of the internal radio, the Power Level will now be

displayed and selectable by the user. If the radio is off, the power level will go to maximum when turned on.

- **Bug Fix:** Sokkia ISX GPS - The receiver will now be able to go into Fix even when the user is waiting in the Monitor/Skyplot screen.
- **Feature Change:** NavCom GPS - For firmware 3.2 an up, an active StarFire license is no longer required for using the RTK-Extend feature. The max RTK age was raised to 15.
- **Feature Change:** NavCom GPS - Order of commands sent for base configuration was modified to support new firmware, v3.2.
- **Bug Fix:** NavCom GPS - Setting the max RTK Float age now works properly.
- **Improvement:** Altus GPS - In the Monitor/Skyplot SatView and SatInfo tabs, data will populate the screen faster and be less likely to 'blank out' during operation.
- **Text Change:** All GPS - In the Monitor/Skyplot REF tab, changed the size of the antenna name and distance to base tags to allow more data to be visible on the screen.
- **Bug Fix:** Change was made to prevent the Progress bar from getting 'stuck' under the main window of SurvCE.
- **Feature Change:** Altus GPS - When SurvCE stops logging static data, it will no longer disable static logging in the receiver.
- **Bug Fix:** All GPS - When changing the toggle to use or not use NGS absolute value offsets, the LS record in the rw5 file will be updated to reflect the change.
- **Improvement:** Import LandXML - When importing a LandXML DTM file, if an incomplete Source Data definition is detected, the user will now be prompted to load the surface from the TIN definition.
- **Feature Change:** All Robotic Total Stations - SurvCE will display "Turning to Point" while changing face during Set Collection.
- **Bug Fix:** Sokkia SDL laser is now working with AllegroCE and other WinCE 3.0 data collectors.
- **Bug Fix:** NavCom GPS - Made correction for status changing from Data to No Data constantly in Monitor/Skyplot screen.
- **Improvement:** Export Note File - The '%' sign is now properly supported when exporting notes.
- **Bug Fix:** Import LandXML - When importing a spiral only element that has been defined in grads/gons, the direction of the spiral will now be properly interpreted.
- **New Feature:** Sokkia GSR2700 ISX - SurvCE now allows the user to select between Digital and Analog connection types for internal modem connections.
- **New Feature:** All GPS - SurvCE now allows the user to select between Digital and Analog connection types when using the "GSM Modem" RTK device type option.
- **Feature Change:** GPS Simulation - Starting latitude and longitude values will be stored and recalled with the job.
- **Bug Fix:** All Robotic Total Stations - Tracking will now start automatically when starting Elevation

Difference.

- **Feature Change:** Slant option for antenna height measurement will not be allowed when an internal antenna with no defined radius value is used.
- **Bug Fix:** Carlson Surveyor+ - Hourglass will no longer appear on the screen for long periods when exiting survey routines.
- **Bug Fix:** All total stations - When collecting a set in Store Points, if the horizontal angles span left and right of 0.0, the correct difference will be used for the tolerance check. Previously, a 359.5959 type difference warning could result.
- **New Feature:** Added new projection definition for New Zealand Transverse Mercator 2000.
- **Bug Fix:** Altus internal modem and Wavecom external modem - The user will not be prompted for a modem PIN if a PIN is not required.
- **Bug Fix:** Remote Benchmark - Storing a point through the remote benchmark routine will no longer set the next foresight ID to the occupy point ID.
- **Bug Fix:** Sokkia SRX will now track and display data properly when entering stakeout routines.
- **Bug Fix:** NavCom GPS - Base setup for receivers running firmware versions less than 4.0 will now work properly.
- **Bug Fix:** Polish translation - Fix a crash related to the translation in File/Job Settings/Stake/Alignment Settings and Surv/Stakeout Line/Arc/Define Line/Settings.