



*Version 5.0 Release Notes*

*Updated 12/4/17*

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# Improvements and Resolved Issues By Release

## Version 5.08

*Release Date: December 4, 2017*

### **New Instruments Supported:**

- Satlab SLC
- Satlab SL800

### **New Features and Improvements SurvCE:**

- SurvCE now supports coordinate system CANADA/NAD83/MTM Zone 11
- The NMEA GPS driver now supports getting the base position.
- Carlson F2F now supports creating additional points for Geopak/Microstation use when the SC DOT coding style is used. Redundant points will not be created.
- Import TXT or CSV to localization now turns ON all vertical residuals during import.
- An alternate Windows Mobile installer is now available to allow installation when a connection to Windows Mobile Device Center is not available. Contact support for more information.

### **Bug Fixes in SurvCE:**

- Nmea DGPS drivers now support the RTCM3.1 RTK option. Previously these drivers just supported AUTO, which blocked them from using 1021-1027 projection messages.
- SurvCE will now turn to the correct angle when using GPS search in "current localization" mode with units set to feet.
- SurvPC will display the complete prompt for reading including Reading # in the Resection dialog.
- Carlson F2F now supports the case where there is no separator in the coding style.
- The software has been changed to ensure that "GIS Attributes per Vertex" are controlled when using SC DOT (F2F style).
- CAD Map command SideShot, Angle usage now works correctly whether A, ANGLE, or Default value is used.
- SurvCE will consider a set collection reading invalid if one of the two readings is 0.0.
- Bluetooth selection is now more reliable.
- SurvCE no longer has the potential to fail when running MAP - Line Details.

### **Bug Fixes in SurvPC:**

- The software will now be installed in Administrator mode to prevent the OS keyboard from interfering with the SurvPC virtual keyboard. This behavior was changed in version 5.07 only, and this change reverts to behavior in all previous patches.
- The software will no longer generate a false "Canceled by user" error message when some receivers attempt to configure the radio and modem. This error could prevent the radio or modem from being configured.



## Version 5.07

*Release Date: October 18, 2017*

### **New Instruments Supported:**

- Champion NV3 GNSS Receiver
- Spectra Precision SP90 GNSS Receiver
- Stonex S800A GNSS Receiver
- Horizon H95A Total Station
- Topcon ES-60 Series Total Stations

### **New Data Collectors Supported:**

- Champion HC3
- Geomax Zenius 8

### **New Features and Improvements SurvCE:**

- "USA COUNTY KS/KRCS" predefined coordinate systems are now supported (20 zones).
- SurvCE now supports using EQs combined with Aliases Prompt Fields when editing, adding features, and exporting to SHP Esri files.
- SurvCE now supports the option 3D Total Extend Single Segment and same direction for a Polyline in the map screen.
- SurvCE now supports importing ECEF coordinates in localization.
- Import SHP now allows full control when using the Point ID or Point DESC as possible assignment to Fields from the SHP/DBF file.
- Carlson EQs, DESCRIPTION, now uses possible "true comments" only if available. E.g. MH /3456-234, value stored: \$DES = 3456-234.
- SurvCE can now import SMI/CH (Chain) files.
- Export ASCII using GIS Attributes now uses the order of the Fields used in the GIS Feature Definition when exporting the data. The end result is a correct CSV/TXT columnar based file, in which the columns will contain the available data per each Point/GIS Point Feature stored; if the Point has no data for a field empty values are added.
- GIS Equation TIME, \$EQN=\$TIM now supports the option HH:MM.
- SurvPC now allows "Edit" on the List of Values for a GIS Field=Attribute.
- GIS Feature/Field Definition is now limited to only one level of linkage between features. E.g. Feature Class: TREE, Field TYPE, "Cherry Tree" (Value), linked to be automatic to Field STATE, "To be Saved" (Value).
- The last file location for symbol setup in GIS is now retained by the software.
- Export ASCII has been improved to better handle GIS data.
- Numeric Equations Fields for GIS Features such as: Northing, Easting, Elevation, Rod Height, Remote Elevation, GPS Raw Elevation, etc will now display the value in the edit GIS Feature data.
- Generic GIS Feature Store and the use of Equations, for a generic Carlson Software GIS Schema, now supports defining field names differently from the Defaults used by the software. E.g. EQN > \$EQN=\$NOR, Field NAME: NORTHING, Field Prompt, Default: Northing: (or translated); the software now supports any value: e.g. "Some Prompt for Northing".

### **Bug Fixes in SurvCE:**

- The Map screen now updates after a point rotate in Cogo/Transformation.
- Carlson F2F Data Collection will now preserve the style of DXF format  $\geq 2000$  and allow special characters in the layer name (spaces for example); large number of characters, etc.
- DC NMEA out settings will now be saved correctly for all total stations.
- Importing DXF files now support non-traditional CAD produced drawing files when loading the name of the BLOCKs. The software will ignore the block name and load the geometry using traditional DXF/CAD files.
- SurvCE will now clear localization settings such as scale factor, grid to ground, and scale point when creating a new job file.
- SurvCE will now show an error when NTRIP fails to connect because of an incorrect password.
- There is no longer the potential for the software to fail in the resection dialog when the new target selector is used.
- MAP/Draw/Extend/By Distance has been improved. It will now maintain the characteristics of the polyline being extended.
- WM5 Landscape Data Collectors -- SurvCE can once again run on Windows Mobile 5 Landscape data collectors. Note that limited space on these data collectors mean that some advanced features were removed in order to reduce the size of the software.
- Leica CS15 -- The ability to use DCI with a BT Pan connection on the CS15 is restored. This was broken in version 5.06 with the introduction of dual-bluetooth DCI.
- There is no longer the potential for GPS search to be wrong on the vertical by the rod height.
- Creating a Polyline in MAP using Points, PT, Radius Point and PC, plus the direction, in rare cases of perfect "semi-circle" curves, or Stakeout Line ARC, same way of defining the ARC (semi-circle) no longer has the potential to fail.
- If the last point in an alphanumeric crd file was defined by all 0's for x, y, and z and an empty description, the software would hang while opening the file. This issue is resolved.
- When staking with Avg set to more than 1, RW5 "GT" will no longer appear twice.
- Stake Road now computes the correct cross section when using Carlson RNF file and the use of Template Series, and using partial (GAPS) on the TPC/TPP (Centerline Point and Profile Point Files).
- Edit GIS Feature selection in the List works correctly on the touch screens displays. In the past the selection was used based on the true "click" on item approach. Now the software always allows press/dragging/hold, etc, and the selected Item is used for Add/Edit, etc.
- SurvCE will no longer attempt to stop logging before downloading a file if logging is not in progress.
- The MIN/MAX range is improved in export ASCII and Cogo Transformation to allow more flexibility.
- Inputting negative stations with the virtual keyboard now works as designed.

#### **New Features and Improvements SurvCE:**

*Note that SurvPC also includes all SurvCE features and improvements*

- SurvPC now allows export to XLS/XLSX files on any PC with an active Excel license.

#### **Bug Fixes SurvPC:**

*Note that SurvPC also includes all SurvCE bug fixes*

- The appearance of the user interface has been improved on some DPI screens.
- The WCS (coordinate symbol) will now display correctly in MAP screens without overlapping the image.

- The Esri ArcGIS Engine now is now automatically de-authorized when required.
- The software now cooperates better with the Windows Tablet Input Panel (the end user can Dock it, and close it).
- Operation of the joystick screen has been improved. It is no longer possible to lock up the tablet when using the soft-keys. The overlapping buttons have been corrected.

## Version 5.06

*Release Date: July 31, 2017*

### **New Instruments Supported:**

- Linertec LGP300N onboard total station
- Topcon GT Series RTS (*OAF required*)
- Hemisphere C321 GNSS
- Hemisphere A326 GNSS
- EOS Arrow 100, 200, Gold, and Lite GNSS
- Topcon Hiper M GNSS
- Juniper Geode GNSS
- Stonex S800 GNSS
- Stonex S10A GNSS
- Geobox Fora 10, 20, 30 GNSS
- HiTarget QBox8 GNSS
- Altus/Septentrio NR3
- Emlid Reach GNSS
- Sokkia GCX3 GNSS
- South G6 GNSS
- iGage IG8 GNSS
- Sanding S680p, T66 GNSS
- Ruide S680p, R6 GNSS
- Kolida K9Mini, K5Plus, S680p GNSS

### **New Data Collectors Supported:**

- Algiz 7 (2nd Generation)

### **New Features and Improvements SurvCE:**

- Installation of SurvCE over the Windows Mobile Device Manager now offers the option to register the software from the PC.
- SurvCE can now import and export Topcon localization files (\*.LOC)
- SC DOT (Geopak) F2F coding style now supports the use of "empty string designators" plus "empty code separator" and the use of "1--N" linework. Previous versions supported only default linework. E.g. "EP; EP; EP." Now it is possible to use "EP3 EP3 EP3."
- The COGO Transformation routine has been improved to increase speed of calculation.
- Import ASCII is now improved when working with CRDB files.
- GPS averages are now applied in elevation difference when configured.
- The offset value reported as text in elevation difference now uses the precision configured in Stake Settings.
- SurvCE now supports TCP/TPP from the road network (rnf) in Stake Road and Slope Stake.
- Eliminated unnecessary checks on the use of Superlevation. The software now allows the same values on the percentage used by the Road Network (rnf) as Carlson Office Software.
- Polyline selection has now been improved when inserting, removing, modifying vertices, and splitting polylines.



- The new coordinate system CANADA/NAD83/BC Environment Albers is now supported.
- The Albers Equal Area Conic Projection is now supported.
- SurvCE will now maintain the slope between stations or from the current angular point picked when using Extend Current Slope in Stake Roads.
- Quick or full export of Esri SHP file from SurvCE/SurvPC will now export photo names from the collected entities. These are exported as an individual string field into the DBF.
- Import All Esri SHP and Quick Import Esri SHP can now use Point IDs from the SHP Attribute Field.
- User slopes are now supported in Slope Stake from TSF.
- Slope Edit boxes now support all cases of slopes including 2:1 (reverse), equivalent 0.5:1, etc.
- SurvCE now includes BLOCK, INSERT, and TEXT features when exporting user entered GIS data to lines.

### **Bug Fixes:**

- Settings for Time/Level in Auto By Interval routine are now working correctly. In the previous version you could have both settings set: Time + Level.
- The Input Edit GIS dialog appearance has been approved for portraitview.
- If no point ID is specified in the imported ascii file, the software will now properly increment to the next point ID and honor the "Add to Point ID" value.
- Import Ascii will now always recall the last selected user defined order, regardless of North/East order general setting.
- There is no longer a rare chance that the topbar will freeze during use of a capacitive screen data collector.
- Seeding a Quickstart position from a grid coordinate with orthometric elevation and datum shift in the projection will now calculate the correct elevation.
- The user will be warned more frequently when their position is outside of the geoid for the purpose of single calculations (i.e. Quickstart seeding, Cogo/Calculator, Base Configuration).
- Import ASCII now works when the Coordinate File (Job) targeted is not the current job.
- SurvCE will now skip/ignore invalid entries (e.g. Circle with radius 0) when importing drawing files (dxf, dwg, dgn).
- Sonarmite DFX -- SurvCE will not record an elevation incorrect by the amount of rod height for the second point of the pair recorded when using both low and high frequency depth readings from depth sounder.
- CRDB usage: File Delete, Copy Job, etc works now using SQLite Coordinate container.
- The software no longer has the potential to fail in the export to SWC, MML-ETRS or MMH360 file format functions.
- SurvCE will now mask user passwords when a virtual keyboard is used.
- The Grid Scan tool now switches to reflectorless on starting scan. Breaklines that overlap the perimeter no longer cause errors. Scan (Vert) is now more reliable.
- Total station offset dialogs no longer have the potential to revert the rod height to 0.00 when returning to the regular store routine.
- RNF files created in Carlson Office 2017 will now always work correctly in SurvCE. Some new TSF files contain a note about the CL used which will now be ignored by SurvCE.
- SurvCE no longer has the potential to lock up when the internet connection is lost in a live survey screen.
- There is no longer a potential for failure when creating a new drawing file by saving it from the MAP.

- Supervisor -- SurvPC will now properly identify Supervisor tablets on which the OS has been updated.
- The UI in the Rover Receiver and Advanced screens has been updated to ensure that all options will fit on the screen for all drivers.
- Topcon FC5000 -- To prevent a Topcon FC5000 from having SurvPC locked upside down, the user can now set his orientation to Landscape instead of Auto and SurvPC will not flip.
- Auto by Interval no longer fails to create a "GT" record when average is set to more than 1.
- The map command to draw 2D or 3D polylines using option ARC/use Center will now display the correct symbols.
- Importing a DWG inside of Carlson SurvCE no longer has the potential to fail with error message "incorrect version of dxf".
- SurvCE will now recall the Slope Distance value when using style "Slope Distance" in stake roads.
- Carlson Field to Finish allows the user to store GIS and Photo for a Line when the line starts. In previous versions, the software did not store the Photo of the Line, even if the Line was valid/present in the F2F/Map screen.
- SurvCE will now correctly update a line when the vertex is moved. If a 2D line is adjusted so that the vertex has elevation, the line will be converted to 3D automatically.
- When the job ratio setting is Format/Slope, SurvCE will no longer show a ratio checkbox in road, stake road, and slope stake.
- Export of RW5 to SDR Raw data now sets correct fill data.
- SurvCE will no longer report an error when switching a centerline and a profile within the stake roads/section files in the scenario where the profile does not entirely overlap the centerline.

**Bug Fixes SurvPC:**

*\*Note that SurvPC also includes all SurvCE bug fixes*

- The triangle position and the STK point in Cross Section View will now display more clearly.

## Version 5.05

*Release Date: April 3, 2017*

### **New Instruments Supported:**

- Zenith 35 Pro
- UBlox M8P
- Pentax G6
- SunNav GPS

### **New Data Collectors Supported:**

- Geomax Zenith 5

### **New Features and Improvements SurvCE:**

- Stake point using ranges has been improved. SurvCE now complies with the order of the user input and adheres more consistently to merge/priority user settings.
- The Stake Road feature Divided Highway now allows user definable horizontal and vertical offsets. These can be applied to the south or north bound auxiliary centerlines work.
- The Danish coordinate system has been updated.
- The antenna database has been updated from NGS.
- Carlson SurvCE/SurvPC can now import redux 3DFaces. These are drawing created without CAD software which contain only entities, and no layers or headers.
- Import of Microstation Geopak/GEN to Carlson SCT has been improved.
- The configure button has been moved into the top bar for instrument setup in both Set Collection and Advanced Occupation.
- When an existing localization file is loaded, the geoid separation information will be compared against current user settings. Current user settings for geoid separation will override geoid separation data in the localization file. A note regarding the change will be recorded in the rw5 file.
- SBAS PRN numbers in Sat View screen will now match numbers in Sat Text screen. Also, SBAS satellites in the Sat Text screen will no longer show as 'disabled by user'.
- SurvCE will now sound an audible alert each time a point is collected in the one point test.
- The copy routine allows multiple entity copy, using different target end points.
- SurvCE now includes an option to recall saved Point, Name, Elevation, Description text color per a New/Created Job.
- When a user selects Local Coordinates for Base configuration and those coordinates match grid coordinates for the current autonomous position within 5" of latitude and longitude, and the selected localization file is empty, the base will be configured with the latitude, longitude and elevation that have been calculated from the grid coordinate entered.
- SatView now displays "More Sats" arrow when sat list overflows available screen space.

### **Bug Fixes:**

- All settings in Offset stake out and Stake road are now recalled correctly between sessions.
- SurvCE will now hide the RTK message type combo at rover for Listen-Listen for receivers which support RTK-AUTO.

- Labeling has been improved for settings in the store->view settings screen.
- Carlson SurvCE/SurvPC now correctly exports point ranges from a Carlson CRDB file.
- The Proximity Stakeout routine will now display only decimal feet when job units are US Feet or International Feet.
- Carlson SurvCE/SurvPC now saves the setting for F2F usage within Elevation Difference routine, and also saves the setting relative to Prompt when a new active linework has the same string designator.
- The next available point id will now be filled-in for the Remote Elevation routine.
- NMEA GSV message now outputs the Elevation and Azimuth values in degrees.
- SurvCE will continue to make entries to the RW5 file after that file has been uploaded using the Carlson Cloud feature.
- The preview button will now be enabled appropriately when using Selected Pline or Points to CL.
- Mission Planning - SV colors now match Monitor/Skyplot for each constellation.
- If connection to the receiver is lost or position data is otherwise not available, the text in the bottom of the Store Points screen will update to reflect this. Previously, only the text at the top of the screen reflected this and the bottom of the screen remained unchanged.
- The reporting for satellites disabled by user has been improved.
- SurvCE will now display more useful Carlson Cloud login failure error messages.
- SurvCE install to a clean Surveyor2/Mini2 will now correctly program the helmet key to start SurvCE.
- SurvCE will now use the center of the map screen as the seed location for the NGS Search when GPS Simulation is used. If a live GPS is in use, the lat/lon of the GPS will be used.
- SurvPC Portrait Lowercase 'm' now works as intended, and lowercase 'o' button style now matches others.
- SurvCE will now prompt to turn and aim instrument during sets for two-man total stations.
- Reciprocal Calculator, now writes the correct RW5 entry for the original Z elevation point.
- The "Use 1021-1027" checkbox in RTK tab now shown for Direct Dial when appropriate.

### **Bug Fixes SurvPC:**

*\*Note that SurvPC also includes all SurvCE bug fixes*

- SurvPC no longer has the potential to fail after running with the Windows Compass enabled for extended periods of time, or after closing it.

## Version 5.04

*Release Date: December 9, 2016*

### **New Instruments Supported:**

- Sokkia IX Total Station (driver updated)
- Zenith 35 TAG GNSS
- Stonex S9i GNSS
- EFT M3 GNSS

### **New Data Collectors Supported:**

- Champion HC1 (including built in long-range Bluetooth)
- Stonex S4II

### **New Features and Improvements SurvCE:**

- Increased leap seconds to 18 for expected change 12/31/2016.
- The IMU tab now has a Declination button next to the "Use DC compass for guidance" checkbox that allows selection of automatic or manual magnetic declination correction.
- Set Collection backsight setup now allows Set Angle, but warns user to use Set Angle and Read for a prism.
- SurvCE now writes up to 10 decimal places when saving the projection scale factor. This may slightly improve position calculation for some coordinate systems like OSTN15 and OSTN02.
- Import TEXT/MTEXT now allows simple alignment usage; especially "Left" alignment.
- Import TEXT/MTEXT allows now loading pure 2D text entities from a reduced AutoDesk \*.dxf produced by a non-CAD software.
- The speed of map redraw has been improved. This allows for larger number of points in the job on some HDPI data collectors which require increased resources for graphics.
- Import ASCII for CRDB files is now much faster.
- TSF files produced within C2016 now work on 5.x versions of SurvCE. TSF produced using previous versions continue to be supported.
- SurvCE now includes the "UNITED KINGDOM/OSGB 1936/British National Grid OSTN15" coordinate system.
- All GPS -- SurvCE will now write latency in the GPS notes record of the RW5 file.
- All GPS -- The Antenna definition file has been updated from the NGS database.
- Auto By Interval now displays a red status bar whenever an Error/Blunder is detected.
- If a raw data log file has been started through SurvCE, points stored by Average or Single Store methods (not Auto By Interval) will be tagged in the raw data log file automatically if the receiver supports this feature.
- SurvCE now includes projection type Transverse\_Mercator\_South\_Orientated. South African projections have been changed to use this projection type and their associated scale factors have been changed from -1 to 1.

### **New Features and Improvements SurvPC:**

*\*Note that SurvPC also includes all SurvCE improvements*

- Drop down selection boxes have been improved for ease of use. It is now possible to tap and scroll the list using the data itself, and not just in the scroll bar.

**Bug Fixes:**

- Robotic TS -- Robotic Grid/Face scan now properly increments point numbers from starting point id
- The cells Design Nor and Design Eas are now added to the RW5 for elevation difference. They were missing in version 5.03 only.
- The COGO calculator dialog now calculates LLA height correctly.
- Stakeout Report now uses the Stake/Precision setup. In the past the precision of the digits displayed were locked at 3.
- Import CH/SMI vertical data now ensures creation of the appropriate PVI last element (in some cases CH writes the PVT, rather the PVI's).
- Manual Traverse routine now works correctly when using traverse. The routine preserves the correct movement when traversing from BK-OP, etc, even when the Trg point created is a "point replacement" and uses new Point ID. The software will now also recall back correctly the state of the OC and BS after the traverse is complete.
- SurvCE will no longer display unnecessary warnings when using File/Raw data to run a compass rule or direct-reverse.
- The method of calculating a datum shift from WGS84 to a datum with non-zero rotational parameters has been enhanced. This should result in improved positions.
- SurvCE will no longer get a stuck wait cursor when leaving monitor skyplot on a Ranger 3 data collector.
- When data collector internet is used for RTK corrections, the status of the connection will now be checked once per second.
- MAP/Self-Intersecting polygon which was reporting an invalid area is now working correctly.
- Both GSF and GSB files will now be available when choosing a geoid under Process Raw File.
- The name column no longer truncates the projection name in the coordinate projection window. It will display a horizontal scrollbar if necessary.
- All GPS with IMU -- A bug has been resolved in tilted distance tolerance which caused the tolerance to be tighter than intended when ft/ift units were used.
- Installation of the US geoid is now optional. The file will be selected by default for English installs, and disabled for International.
- Spanish language users (and others e.g. French) can now successfully use their language's cardinal direction letters that correspond to English N-E-S-W
- Import LOC from TXT now allows Point IDs; when detected SurvCE will store the Points from Local Coordinates read. Existing points will be skipped.
- If the projection has a negative scale factor, SurvCE will now allow (and require) a negative grid to ground scale factor when validating it.

# Improvements And Resolved Issues By Manufacturer

## GNSS Receivers

## Carlson

### *Version 5.08*

- BRx6 -- Sensor Calibration is now working on landscape devices. This was broken in recent versions only.
- BRx6 -- SurvCE no longer has the potential to report a false "canceled by user" error message during radio/modem configuration.

### *Version 5.07*

- RT3 -- SurvPC will allow the use of the RT3's internal GPS regardless of whether their serial number includes the GPS module.
- BRx6 -- When the selected RTK device is LBand/Atlas, the SureFix setting will be ignored and RTKMODE set to NORMAL. SureFix mode is not compatible with Atlas-only RTK.
- BRx6 -- Autonomous positions will now be shifted from the WGS84(G1150) reference frame to the WGS84(ORIG) reference frame before the coordinate system transformation is performed.
- BRx6 -- When Atlas LBand is selected as the radio type for RTK, all unnecessary options will be hidden.
- BRx6 -- When Atlas LBand is selected as the radio type for RTK, the REF tab will not be shown in Monitor/Skyplot.
- BRx6 -- 10Hz will no longer be shown as a "Subscription". This is a permanent activation on all BRx6/S321 models.
- BRx6 -- Lband options will correctly be sent to the receiver when restarting SurvCE with RTK device set to Lband/Atlas.
- BRx6 -- RTK reset command will be sent after the datalink parameter is changed to use lband (Atlas) only, when the user has selected Atlas-only RTK. Previously, the RTK reset command was sent before the datalink parameter was set.
- BRx6 -- When the position status is Atlas (Converging) or Atlas (Converged), the program will no longer warn the user that the base position cannot be stored. Base Position does not apply in this situation.

### *Version 5.06*

- BRx6 -- The Atlas LBand correction system is now supported. Visit [www.survce.com](http://www.survce.com) for a trial subscription.
- BRx6 -- The RTK type combo will now be hidden on the RTK tab when Listen/Listen is selected.
- BRx6 -- The wait cursor will no longer be on the screen during the confirmation message at the end of sensor calibration.
- BRx6 -- The subscriptions, options and activations information for the receiver will be more effectively displayed in the info screen.
- BRx6 -- Enable SureFix and Store SureFix Only options will now default to "OFF".
- BRx5 -- Glonass satellites will no longer appear as disabled by the user in Monitor/Skyplot if they have not actually been disabled by the user.
- Surveyor 2 L1 -- SurvCE now supports the new uBlox firmware 3.01 on the Surveyor2 Geo.



### *Version 5.05*

- BRx6 -- Satellite data handling has been improved for smoother display in Sat View/Text screens.
- BRx6 -- Improved backward compatibility with older firmware versions without Galileo support.
- BRx6 -- Full sensor calibration is now available under GNSS Utilities.
- BRx6 -- SurvCE will no longer fail to program certain frequencies to the radio (for example, 469.0125).
- BRx6 -- SBAS satellites will now display accurately in Sat View and Sat Text screens.
- BRx6 -- Support for Galileo has been added.
- Surveyor2 -- NVS elevation is now ellipsoid instead of orthometric.

### *Version 5.04*

- BRx6 -- Setting the frequency for channel 1 in the internal UHF radio now works properly.
- BRx6 -- Channel Spacing for internal UHF radio is now properly displayed.
- BRx6 -- Internal UHF configuration has been updated to support latest firmware (S231\_WebUI\_160930.bin).
- BRx6 -- Default setting for receiver audio is now "Silent". This will only affect new users or users pressing the "Defaults" button for receiver settings. Otherwise, the previously set value will be recalled.
- BRx6 -- For Stop and Go site tagging, modified rod height information is now written to the binary data file for each point tagged.
- BRx6 -- SurvCE will now allow the user to select any RTK type for Listen-Listen.
- BRx6 -- Raw data files logged at the base will now start with a "Stationary" antenna marker.
- BRx6 -- The BRx6 will no longer offer the option for receiver nmea out. This feature will be restored once the firmware supports it.
- BRx6 -- Improvements have been made to how data is processed for Wifi DCI connections to prevent receiver lockups.
- BRx5 -- For internal modem network connections requiring position data sent back to the server, the GGA message will now be sent every 5s. Previously, it was sent every 10s.

## Champion

*Version 5.05*

- Champion Pro -- The radius and shmp values of the antenna have been updated.

## CHC

### *Version 5.08*

- I80 -- Vectors are now working correctly.
- LT500 -- The main data collector installer (and Alternate) will once again deliver all the files needed to allow registration of these devices.

### *Version 5.07*

- LT500T -- The default communication port baud rate of the LT500T has been updated to 38400.

### *Version 5.06*

- I80 -- SurvCE is now updated to SDK 1.6.1 and requires firmware 1.5.5.
- I80 -- The CHC i80 will no longer intermittently fail to get single positions. This was an error detected primarily in the offsets routine.
- x91+ -- SurvCE will now properly identify an invalid position on this receiver.

### *Version 5.05*

- X91+ -- There will no longer be a failure when configuring a base using an existing position.
- I80 -- Sensor calibration on the i80 now works more reliably.
- I80 -- CHC i80 -- TCP/IP connections are now supported.
- I80 -- The Internal GSM will no longer show port options that are not valid.

### *Version 5.04*

- I80 -- The receiver no longer takes 10 seconds to read a position in Offset dialog.
- I80 -- SurvCE now includes CHC SDK version 1.5.3.

## ComNav

### *Version 5.05*

- The IntRTK option is no longer supported for ComNav.

### *Version 5.04*

- SurvCE will now download very large source tables without error.
- There is no longer a potential for failure during base configuration.

## Geomax

### *Version 5.06*

- Zenith35/Zenith35 Pro -- The built in internal antenna is now the only possible selection for these receivers. The firmware does not allow changing the antenna.
- GeomaxZ35 Pro -- The UHF radio settings have been improved to show the correct protocols. FEC has been added.
- Zenith25/Zenith25 Pro -- These receivers now supports data collector internet using a port "Bluetooth" on the RTK tab.

### *Version 5.05*

- Zenith35 -- SurvCE will now warn the user if firmware version < 1.24 is detected. SurvCE requires firmware 1.25 and higher.
- Zenith35/Zenith35 Pro -- SurvCE will now use the correct base and rover elevations for all correction types and all firmware versions of Geomax Zenith 35 and Zenith 35 Pro receivers.
- Zenith35 Pro -- The Zenith35 Pro will now show the correct elevation on the monitor skyplot screen when configured as a base.
- Zenith35 TAG -- SurvCE will now start the sensor message correctly.
- Zenith35 TAG -- SurvCE will now allow up to 10 seconds to check the calibration status.

### *Version 5.04*

- Zenith35 Pro -- Improvements have been made to how data is processed for Wifi DCI connections to prevent receiver lockups.

## Hemisphere

### *Version 5.04*

- S321 -- New firmware options for the internal UHF radio are now supported. Channel Spacing, Frequency and Max Power will all be linked to Channel selection.
- S321 -- Internal UHF configuration will no longer list channels with maximum output power of 0mW at the base. For both and rover, the list of available protocols will be limited by channel spacing of current channel selection.

## HiTarget

### *Version 5.08*

- QBox8 is now simpler and more reliable. Hold Power button for 10 seconds before first use.

### *Version 5.07*

- HiTarget models will now properly report success/fail in Establish link. Previously, the drivers could still report Success even if the connection was lost.

### *Version 5.06*

- V90+ -- SurvCE will now send a ping command every 5 seconds. This will prevent the receiver firmware from dropping the Bluetooth connection.

### *Version 5.04*

- V100 -- The HiTarget V100 will no longer list SD card as an option for storing raw data.

## Juniper

### *Version 5.07*

- Geode -- This model now supports RTK corrections over data collector internet.
- Geode -- The correct default antenna is now used.



## Leica

### *Version 5.04*

- SurvCE will no longer report a false failure when the reconnect button is pressed.
- GS14 -- Leica GS14 PXS8 now works for Direct TCP/IP.

## Navcom

### *Version 5.07*

- Starfire over IP is now working. This feature was broken in recent versions due to a server change.

### *Version 5.06*

- When entering the Starfire Quickstart routine, if there is a communication error with the instrument, the user will be properly notified. Previously, the user would receive an incorrect error message regarding the 14 parameter datum shift.

### *Version 5.05*

- SurvCE will now properly ignore antenna management in new Navcom firmware.

### *Version 5.04*

- SurvCE no longer has the potential to fail on a quickstart very close to the equator.

## Novatel

### *Version 5.04*

- All -- SurvCE now streams more fluidly. This affects all receivers with Novatel OEM6 board.

## Satlab

### *Version 5.07*

- Satlab models will now properly report success/fail in Establish link. Previously, the drivers could still report Success even if the connection was lost.

## South

### *Version 5.08*

- G1/G6 -- Vectors are now supported

### *Version 5.06*

- S82-V -- SurvCE will now more reliably set the radio channel on South S82-V receivers.
- G1 -- The South G1 will now configure the modem correctly.
- G1 -- SurvCE now allows programming radio frequencies.
- G1 -- The South G1 will now be able to retrieve the source table more reliably.
- G1 -- The radio power level will now be queried correctly.

### *Version 5.04*

- G1 -- The South G1 will no longer fail periodically when configuring the UHF radio.
- G1 -- The South G1 will now use all SIC2 commands when configuring the base.
- G1 -- The South G1 will now turn the sensor data back on when calibrating the sensor.

## Septentrio/Altus/Altus

### *Version 5.08*

- APS3G -- Internal GSM is now properly identified for firmware versions before and after 4.2.
- APS3G -- Internal Satel radio configuration now more dependable.
- NR2/NR3 -- The timeout value for internal modem connection has been increased from 60 seconds to 120 seconds.
- Models that support Galileo now show those satellites in monitor view if Galileo is turned on.

### *Version 5.07*

- APS3G -- Improved detection of firmware support for internal GSM modem.
- ASP3G -- There is now a Dial Mode selection for Direct Dial calls when configuring the internal GSM modem. Use "Auto" if you want to use the workaround of specifying the mode in the phone number field.
- APS3G/NR3 -- APS3G firmware versions 4.2 and higher and the NR3 require a different method of determining the active GPS Log file. Old and new firmware versions are now supported.
- APS3G/NR2 -- UDP Direct is now working for base setup.
- NR3 -- Antenna information is now updated with Geo++ measurements.
- NR3 -- Internal GSM configuration now shows PIN and PUK all the time even if it is unknown whether they are necessary. The commands are not sent if the fields are empty.
- Internal GSM modem Configure button in RTK tab is now always shown and auto detect of modem is working again for APS3 V1, V2.

### *Version 5.06*

- Septentrio with Satel Radio --SurvCE will revert back to using frequencies instead of channel numbers if the firmware is too old to fully support channel tables.

### *Version 5.05*

- Altus/Septentrio NR2 -- Internal modem Direct Dial reliability has been improved.
- Altus/Septentrio NR2 -- Unsupported Constellations from Advanced Setup dialog have been removed.
- Altus/Septentrio -- The method of enabling/disabling constellations has been improved.
- APS3G -- The new firmware version 4.2 for internal GSM control is now supported.

### *Version 5.04*

- The Satel channel table will now be displayed for newer firmware versions.
- Multiple Rovers can now be configured to use the same base radio.
- Internal GSM now supports Carlson Listen-Listen.
- NR2 -- Internal Satel now uses channel table instead of entered frequency.



## Spectra Precision (formerly Ashtech)

### *Version 5.08*

- All -- There is no longer a potential to fail when the rod height is changed and data collector internet is used.

### *Version 5.07*

- SurvCE will no longer insert an error message in the RW5 file when we fail to retrieve the base ID during DGPS mode.
- The packet size for RTK data is reduced to 1000 bytes for the SP80 and newer Spectra Precision receivers.
- SurvCE will now complete the datum shift before sending the command for the RTX QuickStart.
- SurvCE will no longer attempt to get the base position information when the position is not fixed.

### *Version 5.06*

- Promark 500 -- SurvCE no longer has the potential to fail when the Promark 500 is used with stakeout method in-out-left-right.
- SP60 -- SurvCE will now disable any existing long range bluetooth connection if a different RTK connection method is selected.
- SurvCE will no longer automatically turn on SBAS when user enables/disables individual sats.
- SurvCE will now correctly enable/disable QZSS sats.
- SurvCE will no longer show the message “Error detecting correction type for base position” in the RW5 file when in RTX mode.
- SurvCE will no longer consider dithered float and dithered fixed to be fixed.

### *Version 5.04*

- SurvCE will no longer report a false failure when the reconnect button is pressed.
- Promark 500 -- Promark 500 (and other Magellan) will no longer drop RTK corrections during GPS Average.



## Stonex

### *Version 5.07*

- S9III/S9III+ -- These drivers will now stream data more fluidly.
- S9III/S9III+ -- NMEA out will now work more smoothly on these drivers.
- S800 -- Extra Safe mode is now supported.
- S800 -- The antenna parameters have been updated to match new NGS calibration.

### *Version 5.05*

- Stonex S9i -- The Stonex S9i will now choose the correct default antenna. Values have also been updated to match newly released values from manufacturer.
- Stonex S10 -- The Stonex S10 will now always stream positions. This prevents delays going in and out of routines.
- Stonex S10 -- Full sensor calibration is now available under GPS Utilities.

### *Version 5.04*

- S10 -- SurvCE will now show the correct air baud rate inside of UHF radio configuration.

## Topcon/Sokkia

### *Version 5.07*

- SurvCE now includes the "Use Glonass" checkbox in Receiver Tab / Advanced button to correct the issue where Glonass was getting Disabled every time they configured a Topcon / Sokkia base or rover in 5.06.

## Total Stations

## Foif

*Version 5.07*

- TS 680 -- SurvCE will guard against invalid values generated by instrument to avoid using these in subsequent commands. This scenario had caused bad prism constants to be set.

## GeoFennel

*Version 5.05*

- Onboard TS -- The large executable file needed for importing dwg files is now in the installer for this Onboard.

## Geomax

### *Version 5.04*

- SurvCE onboard the Zipp20 will no longer freeze or incorrectly indicate as unregistered when "Show Quick View Dialog" is not used.

## Leica

### *Version 5.07*

- TS16 -- The Leica TS16 will now retry on a stream position when it fails. This will prevent the position blip that occurs when the compensator adjusts.
- SurvCE will no longer prompt "already locked on prism" when a search is initiated in wait mode.

## Spectra Precision

### *Version 5.04*

- Ranger3/Focus30 -- The files needed to try to obtain Focus30 license are now included in the installer.
- Ranger3/Focus30 -- The connection between the Focus30 and SurvCE will no longer be lost after a few readings.
- Focus30 -- The Focus30 TS can now be used from SurvPC via SP Radio Bridge product.



## Stonex

### *Version 5.06*

- R2W+ -- SurvCE will now perform the correct angle unit conversion when in perfect precision mode and using GONS.

### *Version 5.04*

- R2+W -- Distance measurement will be correct when a failed prism read is followed by change back to reflectorless target.
- R2+W -- SurvCE will no longer report connection lost following a failed prism read. This will allow target type to be changed to reflectorless if needed.

## Topcon/Sokkia

### *Version 5.07*

- Topcon GT/Sokkia IX -- SurvCE will now hide the wait-time option and force the setting to 9999.

### *Version 5.06*

- Topcon RTS now supports search on read and BS read options.
- SurvCE will now go back to standby when pressing the "tracking icon" does not succeed.
- SurvCE will now go back to standby when a power search cancels or times out.
- Topcon total station will no longer fail to reconnect when connection is lost during an active survey screen.

### *Version 5.05*

- Sokkia RTS -- When AT Setting "Track" is used, SurvCE will now stop the tracking before setting the horizontal angle.

## Trimble

### *Version 5.06*

- Trimble 5600 Robotic -- This receiver now supports viewing the digital level in Equip => Check Level. Exiting this screen will prompt the user to re-initialize the compensator. The initialize compensator option has been removed from instrument setup.