

What's New in SurvCE 1.50.001

New Features

- Raw file editor with full audit trail.
- Virtual keyboard for the Compaq Ipaq and Recon versions.
- Localization 2 Pt Rotate Only: This option adds the ability to localize to two points. The first point is the fixed point for X,Y,Z and the second point is held for rotation only.
- Template Stakeout & Template Series: This allows the user to stakeout any point along a road using design files or section files. Slope staking is also allowed from any point on the template or section.
- Slope Staking (Real Time): The software can now slope stake without defining a target station.
- MAP: Reverse Polyline.
- Elevation Difference (DTM Staking) using design road files.
- Stakeout Line/Arc now allows arcs to be defined by PC, PT and delta angle, degree of curvature, radius or arc length. Also added an option to calculate "Increment station" value, based on number of segments.
- Import Text/ASCII file now has an option to import SDR POS files.
- Import Text/ASCII file now has an option to export TDS CR5 Binary Files.
- The base station position can now be stored from the rover as a local coordinate through the Monitor/REF tab.
- Added reciprocal calculations for total stations. Under the Configure Reading screen, there will be a setting for Recip Calc (values: Never, Prompted, Always). When set to Prompted or Always, if the user occupies a point previously collected from a situation where he occupied his current backsight point, a new elevation will be calculated on the occupy point.
- Instrument Recall. Now, when you click on the instrument icon at the top of the screen, you will see a selection of pre-saved instrument configuration sets, in addition to a tab that will allow you to view details about your current configuration as you have seen in the past. The user will be able to save current configurations to a file, rename any existing file or delete any existing file. Switch to any existing instrument configuration by double-clicking on the icon or selecting it with a single click or arrow key and pressing enter.
- The COGO/Inverse function now has "2D" and "3D" options at the top of the screen. When set to 2D, the display will be minimalized to show only point information,

azimuth/bearing and horizontal distance. When set to 3D, the display will show point data, azimuth/bearing, horizontal distance, slope distance, elevation difference, slope percent and slope ratio.

- MAP: Field to Finish - Command under tools that will allow the user to redraw linework to reflect coding modified points or codes.
- MAP: Under File/LandXML, a new command was added, called "Chain to LandXML". This feature allows the user to export linework using the LandXML file format.
- Added a new routine that will allow the user to customize the description automatically generated by the program in stakeout routines. This setting is found in Job Settings/Stakeout. Users can also turn off the automatic descriptions and the software will retain the last description entered from point to point.
- Added new options to recover cutsheet data from the raw file. Under Job Settings/Stakeout/Set Cutsheet Format/ per routine there is a button that will extract Cutsheet Data from a selected RAW file and append/overwrite to an ASCII cutsheet file. The routine will use the current Cutsheet Settings to write the data to the file.
- Added a new option when the user stores an existing point to give them the opportunity to store data to the raw file only, as opposed to both the raw file and the CRD file.
- Added new options under Road Utilities/Section File Conversion for Geopak and IGRDS file conversions.
- Points List in Stakeout Points. In the Stakeout Points dialog there is now text that will let the user to know the source of the point. The list of points prepared for stakeout has the same option to display the source of the points. The points or range of points could be from the Control Job or the Current Job. If the user types a point or a range of points in the edit box the routine will use the Job Settings Stakeout settings that define if the points in the Control Job have precedence over the points from Current Job.
- Some GPS receivers now have the ability to store and recall user defined modem settings providing a simple interface for switching connections to various base stations on a GPS network.

New Equipment

- Leica Older T1600/T2000 Total Stations.
- Novatel OEM4 GPS.
- Allen-Osbourne GPS.
- Topcon RC2 only Robotic Total Station.
- Support for depth sounders.
- NavCom 2050 GPS.
- Sokkia 110M Total Station.

Enhancements

- File Delete command has been upgraded to allow the user to remove empty directories. The routine will not delete directories that have files or another directory tree within.
- In Input-Edit GIS Data dialog, added a check box "Save Values" that will allow the user to save the last entered attribute values for the current code in order to be able to use them later, without re-typing them. The program automatically detects if there is no "last entered attribute values" saved for the current code and checks ON by default the check box.
- In Input-Edit GIS Data dialog, added a button "Last Values" that will allow the user to recall the last entered attribute values. If the user presses this button a dialog will appear and will display the last entered attribute values for review purposes.
- Added a Check Battery button to Receiver Utilities for the Trimble GPS General equipment type.
- For the UTM predefined coordinate system, only the "WGS84" datum will be supported. For all other datums, the user should select "User Defined".
- "Oblique_Mercator" is now "Oblique_Mercator_83" to be OpenGIS compatible.
- For the Radian/Radian IS/NovAtel/GRS2600 GPS equipment types, the ability to set the radio baud rate was added for both the base and the rover.
- The Data directory will be based on the full path of the current coordinate file. This will allow users to consistently select files from different working directories.
- Added a list of modules and whether they are turned ON or OFF to the "About" screen.

- Added support for left/right GPS offsets for both laser and manual inputs. Left/right is specified with respect to the direction of motion.
- When Configuring GPS Base by Lat/Lon, State Plane Coordinates, Previously Surveyed Point, Local Coordinates and Read from file, SurvCE will take a GPS reading to compare and warn user if off by more than 2 seconds.
- Show Localization File information in raw file.
- Added support for the CE.NET platform.
- Added GPS offset target height feature for laser offsets.
- Now Input-Edit Template allows the user to review the contents of the tpl file: grades, medians, and curbs. The user will be able to edit/add/remove grades, remove medians, and remove curbs.
- Added the option that allows the user to run “user-defined” slope stake from Template Stakeout. The elevation of the pivot can be extrapolated from the road files or can be entered by the user. A vertical offset for the final pivot elevation could also be used.
- In Input-Edit GIS Data dialog, added accelerators keys (ALT + key) for all the buttons.
- In stakeout points, store by interval and in any other routines for GPS equipment, the solution status will be displayed only in the top bar screen area.
- For UTM and 3TM predefined coordinate systems, the correct parameters will now be displayed in the “Define” window based on the zone last used.
- In Monitor/Skyplot, show "SATS: used/total" with Leica GPS.
- In Monitor/Skyplot - SATView graphic, pick on sat to get more information.
- Added audible tone for loss or gain of GPS lock.
- Warning if user has scale factor and adds 2nd localization point.
- Different sound for "GPS connect to receiver" vs "store point".
- The local coords of the GPS Base station will now show in the Monitor\Ref tab.
- Made changes in order to avoid the “OFF CENTERLINE” messages (these messages always have occurred when the current position was before the centerline starts or after the centerline ends).
- In Surv\Store Points, added new dialog with "Store when Fixed" button to store position as soon as the solution is fixed.
- Offset routines will prompt the user if they want to store the last reading before exiting if not previously stored.

- Show number of "SATS:" for GPS while collecting in STORE PNTS graph dialog.
- Show "Distance:" from last point to current point in AUTO INTVL map dialog.
- The option to define grades in input-edit template based on delta HD and delta Z.
- Under Job Settings/Units there is a new combo-box that will allow the user to select the format in which the user wants to have stationing displayed, available options: +00.000, +000.000,0.000.
- Added improvements to Cross Section Survey that will gather information on as-built sections more thoroughly using an option that allows the user to store a Section File in Geodimeter style format (IGRDS).
- Added a new button to the Equip menu for GPS only, entitled, "Peripherals". This is where the user will be able to set his parameters for lasers, depth sounders and light bars.
- For all total stations, the backsight rod height and foresight rod height will be recorded separately.
- Closure was added to the report following a 2-pt Resection for total stations.
- Show "Angle to Turn" in stakeout for TS as separate info item from current angle.
- Report unused points in List Points Details. Applies to Numeric files only.
- Prompt for starting point ID when creating points in MAP screen.
- When reading from the GPS for an Average Reading, the Float/Fix status will be displayed along with a Cancel button to allow the user to exit from the Averaged Reading.
- For GPS offset, a new note will be added to the rw5 file to indicate the original lat/lon/elv read from the receiver. The original x,y,z will be noted as well. The actual lat/lon/elv used in the GPS record will now be the modified value that corresponds to the calculated offset position.
- For Stakeout, the reference options previously only available in Stakeout Point in Text mode are now available in the graphics (MAP) mode as well. "Configure" is accessible within any graphics (MAP) screen through the Alt + C hotkey.
- Renamed the "Topcon GTS Series" to "Topcon GTS 3/3B Series". Removed the "Topcon 200 Series" equipment type and merged this with the "Topcon 300/600/700/2000" equipment type, which was renamed to "Topcon GTS Series".
- Added the Azi-Dist display option for all Stakeout methods.
- For the Topcon GTS Series, added a toggle for "Reflectorless Series". If this is not active, the Guide Light and Reflectorless Read Mode options will be disabled.

- Added a new dialog that could be activated when pressing ALT + V in all MAP screens with the following options:
 - View/Edit Raw Data
 - Input/Edit Points
 - Feature Code List
 - Input/Edit Point Cutsheet
 - Input/Edit CL Cutsheet
 - Input/Edit Slope Stake Cutsheet

- For the Leica and Sokkia 2-Way instruments, the prism constant that is set in the gun will be recorded as a note in the rw5 file.

- For all total stations, the option to cancel from a configured reading will be available to the user.

- The complete list of Alt Hot Keys was added to the online help.

- When writing a record in the rw5 file, a note will be added if the equipment type, localization file or geoid file have changed.

- Remote benchmark – added option to enter just reference elevation. No longer requires point id from crd file.

- When modifying a localization file, if existing GPS data is found in the rw5 file, the user will be prompted to reprocess the file.

- Added support for turning on and off the tracking lights for the Topcon 8000.

- Reflectorless read method for Topcon 8000.

- Reflectorless read method for Leica 1100 Robotic Total Stations.

- For Leica GPS, the receiver utilities are now available from Store Points/Stakeout through the Configure Reading hotkey. This will allow the user to change modem configuration “on-the-fly”.

- Added a note to the rw5 file to record the software version number. This will only be written at the time the file is created.

- Added a note to the rw5 file to record the number of localization points in use, as well as the one point localization azimuth and multi-point transformation settings.

- The project scale factor will be noted upon the next addition to the rw5 file if it has changed. Previously, this was only noted with the first record of each session.

- If the GPS coordinate system or Rover Antenna type has changed, a note will be recorded in the rw5 file.

- The user's last settings for Export ASCII will now be remembered.
- The user may now select a destination file in Import ASCII. Previously, points would only be imported to the current job.
- For Cutsheet reporting, Added a prompt that will ask for additional descriptions if any of the vertical offsets are used.
- All Sideshot records to the rw5 file for collected data will report the zenith angle as a "ZE" record. Previously, the record type depended on the zenith angle display type.
- Reciprocal calculations will now write "BD" records to the rw5 file as opposed to "SP" records.
- The Backsight screen for total stations has been redesigned. This new screen allows the user to set an angle in the instrument, check an angle, check angle and distance, or set the angle and check the angle and distance. There is also a Turn to BS feature for robotic and motorized total stations. The raw file records for backsight check have been enhanced and a point ID is now required for the backsight, even if no coordinates are ever calculated for the BS. This allows the software to record angle only backsight readings.
- For unregistered copies of SurvCE coming from Carlson Software, the demo will limit each coordinate file to 30 points, vs 50 demo uses. This will allow the user to use the program in demo mode for an unlimited period of time.
- Changes made to the NavCom interface. They are as follows: Added support for the Navcom Starfire receivers with the DGPS correction types WCT, RTG, and WAAS/EGNOS. Also, added a feature to use the best corrections available, and a quickstart on known position feature to obtain high-accuracy DGPS quicker.
- Translate/Rotate/Scale will no longer produce "SP" records in the rw5 file. Only comment records regarding the transformation will be created. This will allow users to process the original raw data if necessary. Comment can be referenced to reproduce the transformation if necessary. If the raw file is re-processed, the transformation will need to be performed again as well.
- Added the option to store the results from the Cogo/Area function as a comment in the rw5 file.
- Users will now be warned when they switch their configuration from Base to Rover and vice versa (GPS Only).
- Changed the default value for "Control File has Priority in Stakeout" to OFF.
- In the Monitor REF tab, for some receivers, the distance from the Rover to the Base will be shown.
- The routine that saves/exports the drawing data into the DXF format will store the points from the CRD into AutoCAD "Point" entities form (layer PNTS).

- In the rw5 file, we now write separate records for the GPS Scale and the TS Scale. Scale factors will change automatically when users switch from GPS to TS or TS to GPS. Default values for both on each new job are 1.
- Added a new option in the reference setup display used for STK to point orientation. The new option will allow the user to have the display info for the case of Azimuth & Distance to the Stakeout point displayed using “Horizontal Clock System” values rather than Angle values.
- The routine Stakeout Line defined by points or by point and azimuth now saves the last input values between sessions.
- When starting a new job, the project scale factor will be reset to 1.0. Previously, the project scale factor from the last job was carried over.