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Memo

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Re: SCC version changes to 7.0.9

Version	Modifications
7.0.9	<ol style="list-style-type: none"> 1) Fixed a bug in Leica 1200 interface to allow non-standard instrument height fields with free coding 2) Fixed a bug in the MX style set export converter to support variable width macro symbols. 3) Fixed a bug in MX export where the station (PSSA) string was not being terminated correctly in certain models. 4) Fixed a bug in the Leica 1200 interface where line of travel offsets were not being carried correctly when pre-coding was in use. 5) Default v7 feature library added 6) New splash screen added
7.0.3	<ol style="list-style-type: none"> 1) Fixed a bug where Add/Remove triangles was not saving ground type changes in the user updated the boundary on exiting the tool. 2) Fixed a bug in the Geodimeter interface where dimensions were being carried between features if the carry dimensions option was selected and neither LandScape nor SDR coding was selected. 3) Fixed a bug in the Leica 1200 interface where dimensions were being continued to the first point of a new string if the 'codes

	<p>precede observation' option was not selected and neither LandScape nor SDR coding was selected.</p> <p>4) Updated the 'Sections from points in a bandwidth' option to include survey remarks in the section.</p> <p>5) Fixed a bug in the Query/Edit option where changing adding a remark to a point was sometimes causing the level annotation to be redrawn at the default positions.</p>
7.0.2	<p>1) Updated the SDR interface to support multiple dimensions on a given feature code, e.g. OAK 8 2.5 5.0</p> <p>2) Fixed a bug in DXF output, whereby if 'Disable keyboard and command processing while drawing' was deselected prior to export on certain large models, and zoom, pan, or redraw commands were issued, the DXF would be incomplete.</p>
7.0.1	<p>1) Added a design option to set gradient between points by draping them onto a plane defined by point, position and gradient.</p> <p>2) Added an option to interactively delete contour labeling lines</p> <p>3) Updated purge model, and attach feature library, to update the model feature list.</p> <p>3) Changed the add contour label function to support single step undo's</p> <p>4) Fixed a bug wherein changing a closed string, (linked polygon), to another feature using the drop down feature list was causing the polygon to revert to a polyline, with a single point remaining on the existing feature.</p> <p>5) Fixed a bug wherein using query & edit to change the feature name of a single point in a point string was, in certain cases, causing another point on that string to be removed.</p>
7.0.0	<p>1) Added design option to balance cut & fill between design surface and survey surface using alignment earthworks</p> <p>2) Added option to link a triangulated design surface to the template based design for display and analysis purposes.</p> <p>3) Fixed a bug introduced in 6.14.22 wherein newly created triangles, created during editing, were sometimes not contoured.</p> <p>4) Fixed a bug, wherein models containing sheets with bitmaps</p>

	were reporting an error on opening.
6.14.30	<ol style="list-style-type: none"> 1) Added an option to support the Kingsland .OBS format for detail and traverse download. 2) Added an option to append multiple traverses into a single traverse sheet. 3) Added an option to check for reversed rounds in 'Check traverse route' 4) Added support for mouse wheel zooming and panning in model and section views. (Pressing the mouse wheel pans, as per the space bar). 5) Bug fix to Leica 1100 setting out, changed from 4 decimal places back to 3.
6.14.23	<ol style="list-style-type: none"> 1) An option has been added to the tool menu to convert 2d drawings to 3d models using the text nodes in that model. This is primarily aimed at creating models from 2D DXF file. This option searches for text nodes within a given distance from each point and sets the level of that point accordingly. Filters are provided for given text prefixes (e.g. IL), elevation ranges, and feature name matching. Where levels are not found for given points, they can be interpolated either from surrounding string points or the rest of the surface. 2) Creating a project with the same name as an existing project now produces a warning message.
6.14.22	<ol style="list-style-type: none"> 1) Triangle on/off and land use data is now preserved through re-triangulation 2) The number of automatic re-triangulations has been reduced 3) An extra option to compute a graphical distance-distance resection has been added for tree surveys using a disto. See tool / measure / intersecting circles 4) The title boxes in model and sections have been extended to support multi-line title text.

6.14.20	<p>1) An option has been added to browse through the model using a split screen including spreadsheet and graphic views whose position is updated when either is changed. This allows access to general purpose search and replace within the model. See 'Edit / Browse model points'.</p> <p>2) Support for NRG loggers providing either GPF or PDF data has been added to the download options, and replaces previous NRG interfaces.</p> <p>3) An option has been added to measure the minimum distance from a string to a point, for clearance checks.</p> <p>4) An option has been added to the horizontal geometry reduction facility to specify acceptable mis-closure between horizontal entities.</p> <p>5) In situations where bitmaps are inserted from network directories, the validity of the network addresses are checked only once when the model is initially opened. Where the address is invalid, the internally stored version of the bitmap is used. This removes the performance issue raised with a model that included an embedded bitmap from a network location.</p> <p>6) The redrawing of feature library legend entries for items that are not included in the legend has been corrected.</p>
6.14.18	<p>1) The NRG option in the GPS, X,Y,Z download now fully supports all of the GPF +'s and -'s</p> <p>2) The 3pt arc tag code is now only required on the first two arc points, such that the third may be used for the start of a new arc, curve etc..</p> <p>3) The Arc tag code may now be used for running 3 point arcs, for example given the 5 points with tag codes 1 A, 2 A,3 3ptA,4 3ptA,5 3ptA, the segment between points 1 and 2 would be generated using the 3 point arc from points 1,2, & 3, the segment between points 2 and 3 would be generated using the 3 point arc from points 2,3, & 4, and the segment including points 3,4 and 5</p>

	<p>would be the three point arc from points 3, 4 and 5.</p> <p>4) Attaching a long or cross section now allows annotation of chainage. This is controlled using the 'Chainage' annotation settings from the '~SECT' feature. You will need to properly set this up, such that chainage is displayed.</p> <p>5) The GPS X,Y,Z bug introduced in 6.14.15 has been fixed.</p> <p>6) The DWG link to AutoCAD 2002 & 2004 has been corrected and tested.</p> <p>7) The least squares adjustment now allows user defined maximum iterations and convergence tolerance to be set.</p>
6.14.6	<p>1) The export to CAD option now includes full support for direct creation of DWG files, in formats suitable for AutoCAD from version 12 to AutoCAD 2005. This was the most requested new feature from the feedback from users of SCC release 6.9.25. In response to this, Atlas Computers has become a sustaining commercial member of the Open Design Alliance, http://www.opendesign.com/membership/sustain.htm, an association of software developers and users committed to promoting open, industry-standard formats for the exchange of CAD data. As such, we will be providing timely bi-directional support for all the latest AutoCAD file formats as they become available.</p> <p>2) The Import and Model DXF functions, now also work directly with DWG formats as well as DXF.</p> <p>3) A bug, introduced in 6.14.4, which did not allow the use of LandScape coding in the GPS X,Y,Z interface for all formats, has been fixed.</p> <p>4) Triangle numbers are now only displayed and exported to CAD when diagnostics are enabled.</p>
6.14.4	<p>1) Support has been added for parallel string sections, that is overlaying multiple strings from a model into a single section graph. A detailed explanation of how this works is given in the attached document.</p> <p>2) An option has been added to the tool-bar to toggle on or off the display of a marker that shows all survey points. For this option to work, you must have a feature '~SURVOBS' set-up in your feature library as a point symbol with the desired dimensions. A feature style file is included in the update zip file to simplify setting</p>

	<p>this up.</p> <p>3) The traverse processing has been updated to allow processing of simple base lines based on a single observation.</p> <p>4) A bug has been corrected that was preventing the editing of certain survey remarks, using the query function, in the situation where the survey files were no longer available, and the model contained multiple strings with the same survey point number and observation number.</p>
6.14.1	<p>1) Editing speed - Previous versions of SCC could be quite slow when performing edits on models in excess of > 20,000 points that included a large amount of text. The updated release resolves these performance issues, and is typically 5-10 times faster on model editing operations in such circumstances. Redrawing speed has also been significantly improved in this release.</p> <p>2) An option to search for 'Orphaned' points has been included on the model tools menu. An 'orphaned' point, is a single point that, due to editing, is the only point on what otherwise should be a line-string, such as a kerb or building. Orphan points can cause labelling problems when exporting in GENIO format to MX/MOSS or LSS.</p> <p>3) Additional tag codes and menu options have been added to support multi-point circle and arc fitting, for features such as large metal tanks. When applied, the original points are converted into discrete points with DTM code 'Elevation' for annotation purposes. The circle and arc fits also do a plane fit on the strings elevation for modelling purposes.</p> <p>4) The equivalent linear accuracy computations in the least squares adjustment report has been enhanced to report traverse leg types. These can be one of fixed, free, or closed, where a fixed leg is based on observations between two fixed stations, a free leg is a leg that is part of a run that is fixed at one end only, and a closed leg is a leg that lies on a loop, or on a run between fixed stations. The equivalent linear accuracy figures are now reported for all observations, all except free legs, and closed legs only. The computation based only on closed legs gives the best equivalent to a Bowditch or compass rule style traverse adjustment.</p> <p>5) Point symbols, such as square gullies, that lie on a point string may now be oriented based on the direction of that string.</p> <p>6) An extra field has been added to the feature library to allow certain features to be excluded from the feature library legend in sheet layouts.</p>

- 7) A new option has been added to the model tools menu to compare model revisions. This tool analyses differences in points, strings, text nodes, triangulation and graphical representation, and allows you to scroll through the differences in both models, displayed side by side.
- 8) The Nikon AP700 interface has been updated to work with data sets that do not include backsight observation, e.g. 520 series.
- 9) The colour string direction arrows has been changed from black to the string colour to facilitate working on a black background
- 10) The add/remove triangles option has extra methods added to allow all triangles to the left or right of a string, all triangles between two strings, and all triangles in a closed polygon. This greatly speeds up the process of applying ground types and setting the contour boundaries.
- 11) Enhanced coding options have been added to the Leica GSI 8/16 and Trimble/Geodimeter interfaces. These are fully described a document included in the update.
- 12) A new interface has been added for the TopCon TopSurv data logger
- 13) A new interface has been added for the TopCon .NEU neutral file format
- 14) The tape measurement function has been enhanced to allow extension of existing string gradients.
- 15) The GENIO geometry import function has been enhanced to support 6-D m-Strings in addition to 12-D g-Strings. An option has also been added to the horizontal entities sheet to compress the geometry to the minimum number of elements.
- 16) An option has been added to the model tools menu to report average point density and observation density.
- 17) The X,Y,Z GPS interface has been enhanced to include support for NRG X,Y,Z data and enhanced coding.
- 18) An option has been added to the tools menu to find and edit points that are very close to one another. This is fully described in a document included in the update.

6.13.6	This update includes the requested tool to interactively resolve joining points within a specified horizontal and vertical distance, as described in the attached document. Also included is the requested enhancement to report survey point density within a polygon, under 'Tools / Report Polygon point density'.
6.13.2	<ol style="list-style-type: none"> 1) The 1100/1200 interface now supports both pre-coding and post-coding of free codes 2) The remarks work correctly with pre-coding and post-coding on the 1100/1200 and GSI 8/16 interfaces 3) The GSI 8/16 and Geodimeter interfaces now support SDRmap style enhanced coding 4) The TopCon TOPSurv interface has been added
6.12.0	<ol style="list-style-type: none"> 1) The 'Edit / Text / Redraw string annotation' option has been enhanced to include a dialog that allows the user to select one of the following three options; <ul style="list-style-type: none"> - Redraw all string annotation for all selected points using the feature library - Check for, and automatically correct, any annotation errors in existing macro text - Check for any errors in existing text and highlight the errors, do not change the model 2) SCC now only automatically checks for potential annotation errors when opening models that were created in versions 6.11 or earlier, as the potential for causing such errors was corrected in SCC 6.11.8. This check can still be manually carried out using the 'Edit / Text / Redraw string annotation' option described above. 3) A problem wherein OLE objects were becoming replicated in the model when Undo & Redo were used has been corrected. Note that this does not effect existing models that contain embedded OLE objects, these should be removed manually as required. 4) A problem where line of sight offsets were not being copied for all cases, across duplicated points using the Geodimeter interface in conjunction with Landscape numeric coding, has been corrected. 5) A problem relating to sizing and spacing of macroline symbols, specifically road line markings, has been corrected. 6) A problem relating to the importing of fixed station coordinates from the Leica 1200 series instruments has been

	<p>corrected.</p> <p>7) A problem relating to annotation of plot names for strings using the feature '0' has been fixed.</p>
6.11.10	<p>1) Two new options have been added to save and restore the SCC configuration to external files. These are 'File / Workspaces / Save SCC configuration' and 'File / Workspaces / Load SCC configuration'. These configuration files store all user definable parameters relating to survey download, reduction, etc... that are not stored as part of the project template or workspace, i.e. all the values in the system registry under 'HKEY_CURRENT_USER/SOFTWARE/Atlas computers Ltd'</p> <p>2) The drop down 'Feature' list in the model tool bar may now be used to change the feature of selected text items as well as selected points. This will effectively change the colour, and output parameters for that text.</p> <p>3) The Undo facility in the move and rotate text functions has been modified to save the model state for each item moved, rather than each time the tool is picked.</p> <p>4) The Search & search next buttons may now be used from the model to search for a point number or given feature code.</p> <p>5) The Cut & Paste functions now maintain links back to the original survey observations. As such they are the most appropriate tools for combining models.</p> <p>6) Copy parallel has been amended such that level crosses are not lost under any circumstances.</p> <p>7) An extra variable has been added to the 'Units and data checking' panel under general options to hide any dimensional annotators that have a value 0.</p> <p>8) A new button has been added to the model editing tool bar to toggle ground types on and off.</p> <p>9) The add points to a string option has been added to the model editing tool bar.</p>

6.11.9	<p>This update automatically checks for any invalid annotation when models are opened and provides the user with an option to automatically correct all such errors. If this option is accepted the details of any modifications are written to the log file and highlighted on screen such that they may be easily navigated towards using the F2 key. If the option is not accepted, the errors are highlighted in the model, and again can be navigated between using the F2.</p> <p>The check is made by calculating the distance between the text node and the point being annotated. If the text node has not been manually edited, and this distance is greater than the width of the text plus the default distance between the text and point being annotated, as set in the feature library, the text node is considered to be invalid, and is updated. The update is carried out by connecting the text to the nearest point that has a matching feature name, and is at the distance from the survey point specified in the feature library.</p> <p>This update also draws a line connecting annotators with the point being annotated whenever that text is selected, and does not require the software to be in diagnostics mode. In addition to this, the 'File / Open' command has been enhanced to allow multiple file selection to be used in order to open a number of models at the same time.</p> <p>Using this update should ensure that any models with invalid annotation can be quickly rectified, and that no further such incidents should occur.</p>
6.11.8	<p>1) Two new options have been added to save and restore the SCC configuration to external files. These are 'File / Workspaces / Save SCC configuration' and 'File / Workspaces / Load SCC configuration'. These configuration files store all user definable parameters relating to survey download, reduction, etc... that are not stored as part of the project template or workspace, i.e. all the values in the system registry under 'HKEY_CURRENT_USER/SOFTWARE/Atlas computers Ltd'</p> <p>2) The issue with level crosses disappearing, and incorrect level annotation appearing in some jobs using the 'Disable redrawing of string annotation with string edits' has been resolved.</p> <p>The update also includes the following general enhancements</p> <p>3) The drop down 'Feature' list in the model tool bar may now be used to change the feature of selected text items as well as selected points. This will effectively change the colour, and output parameters for that text.</p> <p>4) The Undo facility in the move and rotate text functions has been modified to save the model state for each item moved, rather</p>

	<p>than each time the tool is picked.</p> <p>5) A survey interface has been added for the Topcon / CivilCAD neutral file format (.NEU)</p>
6.11.2	<p>This update resolves an isopachyte creation issue relating to isopachytes created on models with different vertical origins</p>
6.11.1	<p>1) Reversing strings prompts you whether you wish to redraw annotation text as part of the operation. This has been added, as users of previous versions used this function specifically for re-orienting text.</p> <p>2) An option has been added to the general options screens to convert polygons to simple line strings during editing, rather than using gaps. This makes SCC operate in a manner closer to CAD when dealing with polygons. This applies to trim strings, partial delete, and break links. The advantage of using gaps is that a broken polygon still remains a polygon from the point of view of computing areas and boundaries, and generating offset strings. Thus a building outline with a door would still be treated as a polygon. The disadvantage of using gaps is that they can be confusing, particularly when joining and extending strings from a gap point.</p> <p>3) The copy parallel function now allows the level of the new string to be calculated by extending the existing surface gradient at all points. This is useful for extrapolating non-uniform surface edges.</p> <p>4) Creating long sections from an existing string now allows you to annotate the section with the survey remarks.</p> <p>5) A bug has been fixed whereby cutting and pasting annotation text in a polygon was not working in cases where the annotation text had its feature name changed from the original point being annotated.</p> <p>6) A bug has been fixed whereby the triangulation was reporting model errors in extreme geometric cases, where the model included small clusters of data separated by very large distances.</p>

- 7) The MOSS GENIO geometry string input has been enhanced to support cases where S-curves were separated by a single transition rather than two transitions. In this case the entire transition is applied to the curve with the smaller radius.
- 8) A bug has been fixed, whereby manually added text could be lost when the model was saved in situations where multiple remarks were entered against a single point.
- 9) An additional option has been added to the model editing menu to add new points to an existing string. This option can also be used to create new string junction points where the base point selected is not the strings end point.
- 10) An additional option has been added to the sections, in View / Scales Titles & Grids, to control the width of the title box, and whether or not the box itself is drawn
- 11) An additional option has been added to the sections, in View / Scales Titles & Grids, to control whether the width of the section is calculated from the 3d descender offset range, or the 2d section template width specified. Specifying the former option will lead to narrower sections in situations where the model being sectioned is narrower than the section width specified.
- 12) An additional option has been added to the sections, in View / Scales Titles & Grids, to allow starting offset, and section number & starting offset to be added to the title blocks. This latter option is useful for sections that have been subdivided.
- 13) An extra option has been added to the General Options dialogs to control the availability of OLE server and container functionality for sheet and graphic documents. Disabling OLE functions will reduce the amount of system resources used by SCC, and hence allow more other programs to be run simultaneously with SCC.
- 14) A bug fix has been made to the Leica GSI interface to default correctly default DTM codes from the library, in situations where they are specified as 'Survey' in the library, and Landscape coding is in use in conjunction with alpha coding and comma separated tag codes.
- 15) The advanced data selection options have been enhanced to automatically complete the tick boxes and lower limits when any upper limit field is entered.
- 16) A bug has been fixed, whereby certain title macros were not working in the user defined text output function.

	<p>17) A bug has been fixed, whereby pressing the string update button while not in an add string function was leading to a crash.</p> <p>18) The query and edit function has been modified to properly set the position of remarks text added or modified based on the feature library settings.</p>
6.9.29	<p>1) Reversing strings prompts you whether you wish to redraw annotation text as part of the operation.</p> <p>2) An option has been added to the general options screens to convert polygons to simple line strings during editing, rather than using gaps. This makes SCC operate in a manner closer to CAD when dealing with polygons. This applies to trim strings, partial delete, and break links. The advantage of using gaps is that a broken polygon still remains a polygon from the point of view of computing areas and boundaries, and generating offset strings. Thus a building outline with a door would still be treated as a polygon. The disadvantage of using gaps is that they can be confusing, particularly when joining and extending strings from a gap point.</p> <p>3) The copy parallel function now allows the level of the new string to be calculated by extending the existing surface gradient at all points. This is useful for extrapolating non-uniform surface edges.</p> <p>4) Creating long sections from an existing string now allows you to annotate the section with the survey remarks.</p> <p>5) A bug has been fixed whereby cutting and pasting annotation text in a polygon was not working in cases where the annotation text had its feature name changed from the original point being annotated.</p> <p>6) A bug has been fixed whereby the triangulation was reporting model errors in extreme geometric cases, where the model included small clusters of data separated by very large distances.</p> <p>7) The MOSS GENIO geometry string input has been enhanced to support cases where S-curves were separated by a single transition rather than two transitions. In this case the entire transition is applied to the curve with the smaller radius.</p> <p>8) A bug was fixed relating to text processing, where deleting a single remark, was actually deleting other remarks. This was occurring due to a clean-up function that automatically removed duplicate identical annotators attached to the same point. The bug</p>

	<p>was arising as this function was also being applied to duplicate free form remarks under certain circumstances.</p>
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6.9.26	<p>This version includes an enhancement that allows you to display survey remarks on surveyed sections. To do this, use the 'Long Section from Existing string' option. This will ask you if you want to store survey remarks in the sections feature column. Select 'Yes' to this question, and select strings from the model as normal. In the section, use View / Annotation settings, and enable the feature name. The remark points appear in the section as if they were string intersection points.</p>
6.9.25	<p>Christmas 2004 general release to all users</p> <p>This release contains the following major modifications from the previous general release, 6.8.4</p> <ul style="list-style-type: none"> · Support for AutoCAD compatible simple and complex line styles · Support for Leica 1200 series instruments · Additional Leica interface for LisCADD/Wildsoft style coding · Text macros for all feature based model annotation · Enhanced default feature library, including an extensive range of road marking features, symbols and line styles · Panterra PXT translator · Support for Panterra data loggers · Horizontal design by entities · Option to replace model heights with dataset heights to allow changes to level control without losing model edits · Model query and edit now supports modifications to detail observation without rebuilding the associated survey · New volumes by ground type options · Enhanced grid annotation routines · Enhanced station annotation routines · Enhanced text manipulation via 'View feature annotation' · New 'macroline(side)' and 'strip level(side)' symbologies · Equivalent linear accuracy option for least squares adjusted traverses and networks · Keyboard shortcut to navigate between selected points · Tab key may now be used to navigate between a wider range of potential model QA errors · Breakline intersection report now includes other potential model QA errors · Additional field code added to feature library to allow multiple naming conventions to be used with a given feature library · Option to allow mouse centering with zoom, pan and navigation functions · Option to control whether string editing affects annotation · Enhanced string editing reprocesses curve fits where required · New tool bar added for interactive selection of string dimensions

	<ul style="list-style-type: none"> · Enhanced MX / MOSS output · Enhanced MOSS SURVEY interface · Option to control annotation masking by derivation code · Option to enable annotation for specific points
<p>6.9.24</p>	<p>This update resolves the issues in the LandScape model translator described below;</p> <p>Thank you for the updated SCC version 6.9.23 which I have tested on the attached file thus:</p> <p>[1] I opened M065LA01.Model and attached my latest feature library from MWH10.Project</p> <p>[2] I ran your new routine (Literal > Macro Text) using the advised settings (3m search and 0.010 tolerance) per your screenshot, and saved it as M065LA01-Processed.Model</p> <p>The results are generally very good apart from two problems:</p> <p>(a) The routine has failed to replace the D2 texts for the trees (although it has correctly read the S=nnn and applied it to Dim2 on each feature - as can be seen by Query/Edit on any of them.</p> <p>(b) Some of the point-crosses have disappeared - possibly due to them having duplicates?</p> <p>I also noticed that there were some oddities in the conversion you carried out on TextTest.Model whereby a "." within a literal text has become 0.00 (eg: "G.P.R " has become "G0.00P0.00R")</p>
<p>6.9.23</p>	<p>1) The 'Convert Literal Text' routine has been significantly enhanced to allow conversion of any free from text into SCC text macros. This routine is specifically to further automate conversion of LandScape DXF files into full SCC models.</p> <p>2) The three point rectangle routine now calculates the level of the third and fourth points based on a plane generated by the three input points. Note that the third point will also have its plan position</p>

	<p>input points. Note that the third point will also have its plan position altered such that it is at right angles to the second point.</p> <p>3) A further text editing bug has been corrected, wherein a piece of macro text was occasionally hidden in small models that had undergone a lot of text editing.</p> <p>4) A bug has been corrected in the join strings function, wherein use of 'Snap 3d' was sometimes required to join to specific points that had other points in very close proximity on the same string.</p> <p>5) An option has been added to the coordinate reduction options to specify the convention used for parallel offsets. SCC has previously followed the Eclipse convention, which was later carried through to the MOSS Site Measurement Module (MSMM) remark coding. In this case a left (or negative) offset, implied that the survey point was on the left of the object being surveyed. The alternative, and to many people more logical, convention is to say that a left offset implies that the object is on the surveyors left. This convention is used in MOSS Survey and other packages. The former option is default, in that it means that those already using parallel offsets do not have to change anything in the field.</p>
6.9.21	<p>1) Using Query & Edit to modify the elevation of levels on certain models was not updating the associated macro text correctly. This was happening on manually created points, where Query & Edit was subsequently used to significantly change the coordinate or level of the point, such that it was further from the original point than another point on the same string. This was affecting the annotation of both points on that string.</p> <p>2) The break-links function was not working correctly on polygonal features, as it was attempting to break the string into two separate strings, using and End tag. This was leaving the closing link joined to the point where the break was inserted. This function has been modified to use a Gap tag in the case of polygonal strings, such that this does not happen.</p> <p>3) The GSI interface was incorrectly interpreting the first detail point on mixed detail and traverse jobs, that used LandScape coding, had a traverse feature code entered in the GSI dialog, and where coding the feature details after the observation was being used. The reason for this was that the GSI interface supports use of multiple reference objects on detail set-ups, but this facility is not compatible with the LandScape coding interface. This is now automatically disabled if LandScape coding is enabled.</p> <p>Parallel features (strip levels), can now be edited as if they were surveyed as closed polygons.</p>

6.9.18	<p>1) The '~STATION' feature is used for controlling annotation of model stations, e.g. stations manually included in a GPS model. The '~TRAVLIN' is used for controlling all annotation involved with an attached traverse file.</p> <p>2) The text pop-up item has been modified to 'Delete Points', it was called 'Delete points and strings' as the right mouse button may be used to select between different delete functions.</p> <p>3) When using spline fit curves, the labelling text can appear to have moved slightly from the contour. The reason for this is that the text is placed at the exact contour position, whereas the spline curves smooth the contour to provide a more aesthetically pleasing effect. This does not occur with Catmull-Rom or T-Spline contours, which do not feature the same type of smoothing. A work-around for this is to avoid placing contour text in areas where the contour is making a severe change of direction or passing through an acute angle.</p>
6.9.17	<p>This version allows query and edit to be used at observation level while only modifying a single model point. Note that using query and edit to modify a station, instrument set-up, or attribute, will cause the regeneration of the entire survey job within the model.</p> <p>An enhancement has been added to SCC which allows the sub-divide sections function to correctly work in section files which contain multiple profiles.</p>
6.9.14	<p>Additions and modifications were made to the LandScape importing routines for MWH</p>
6.9.7	<p>Additions were made to the Panterra model translator for RBK</p>

6.9.5	<p>1) The View/Feature annotation option has been amended such that the 'Display Strings' option has been re-enabled, e.g. it can be used to turn on and off traverse lines and stations. As it stands, this option can be used to turn on and off entire features (including all annotation) or to turn on and off annotation associated with on or more features. In order to hide feature graphics, and change level symbols, it does modify the model feature library to some extent, but does not change annotation settings, or cause any annotation to be re-drawn.</p> <p>2) I have re-checked the GSI files which were reporting a spurious 'W' feature. This is occurring because of the feature W/BIN_G1 in the feature library. SCC feature names are limited to alpha-numeric characters and underscores only, the slash '/' character was causing this feature to be interpreted as 'W'.</p>
6.9.3	<p>1) The major and minor grids now use apply the height, alignment, justification, prefixing and suffixing from their features, which are '~GRID' and 'GRID2' respectively. Any of the 'reverse' alignments will allow the grid to be read in the reverse order.</p> <p>2) The stations are now drawn, when using annotate traverse, with the '~STATION' feature, and use the height, width and color from this feature. Note that the station text is placed as a multi-line text node to simplify rotation and movement. Use the Annotate Traverse feature more than once in order to place different station annotators as separate nodes.</p> <p>3) The 'View Feature Annotation' option has been modified to work closer to a layer on/off system as you suggest. Using this option will hide and display existing annotation, it no longer adds or deletes annotation, or modifies the feature library unless the edit feature button is pressed. To add or hide annotation for selected points, use 'Edit / Text / Edit Text Annotation' as before, or 'Edit / Text / Redraw string annotation' to do this en-mass for using feature library settings. To permanently delete text, use the 'Delete Text' option, which can also be used with pre-selection to delete large amounts of text.</p> <p>4) Turning off remarks using the facilities above merely hides the remark, such that it can be turned back on. Delete Text will permanently delete it.</p> <p>5) In 'File / General Options / Units and Data Checking', you will find an extra option to 'Edit Text Masks'. This allows you to control which derivation codes, such as parallel feature, are masked out of annotation commands.</p>

<p>6.8.22</p>	<p>1) In mixed traverse and detail jobs, the first point before a 990 record was being set to ignore. This has been fixed.</p> <p>2) The Leica interface no longer requires that you clear the traverse feature name field, prior to downloading, if you have LandScape coding selected.</p> <p>Panterra migration updates -----</p> <p>1) SCC now scans the 20 records in the PXT files for level text annotation fields. A level is placed using the offset distance, justification and bearing (in fields Q,R,S & T) if the flags (field U), are set to zero. The results of this can be seen in the files PXT.MODEL and PXT.DXF. Note that the use of the bearing typically appears to leave levels string aligned, rather than grid aligned as was the case in the 3d DXF files provided.</p> <p>2) As per point 1, hidden levels are not placed in the model. i.e. if the flags field is set to anything other than 0, a level is not placed.</p> <p>3) Trees are now placed using the dimensions provided, again see PXT.MODEL and PXT.DXF for an example of this.</p> <p>4) Drop kerbs are now being placed correctly. Basically, if SCC sees a feature change between a 30 record and 20 record, or vice versa, it creates a duplicate point, such that the point lies on both features.</p> <pre>02,20,4 00009 , 21,KC , 241.03261, 239.58417, 46.24728, , , , ,0, , ,000,000000.4230 ,000000.1000 ,4, 0.00000,000,000 02,30, , 21,DK ,1,1, 224.24337, 44.24336, , , , , ,0</pre> <p>Note that the PXT import testing to date is still based around the original NRG3d.PXT file provided. The subsequent PXT file, 031104.PXT, was binary and could not be read.</p> <p>Editing an SCC model -----</p>

	<p>1) Whether or not a level is placed by default on a feature is determined by the feature library, and the current DTM setting. For example SCC will typically place a level for a TB (Top of Bank) string. However, if the TB string is set to a DTM status of 'Approx Elevation', i.e. 2d, it will not be annotated with the level. In addition to the default placement of elevations, you can turn on or off levels for selected points, as required. SCC is also set-up by default not to annotate interpolated points, such as curve fit points and copy parallel points. Each point in an SCC model has a derivation code to enable this behaviour.</p> <p>2) You can place as many pieces of text against a given point as is required. You can also use multi-line text in SCC.</p> <p>Traverse and detail downloading -----</p> <p>1) This updated SCC reads comments from the Panterra traverse input file and includes them on the traverse sheet. See 'Traverse.Traverse' and 'Traverse.Txt' for an example of this.</p> <p>2) In SCC, if you have a two point symbol, or two point rectangle, D1 is used for the transverse dimension (width). If this is not entered in the field, a default value will be taken from the feature library. If this value is zero, the symbol or rectangle will be squared, i.e. the join distance between the two points will be used as the dimension.</p>
6.8.21	Includes enhancements to the user defined ASCII output to support the ISIS type of format. Also included is a memo on how to use this format, and a sample section data set with ISIS output. To use this, unzip this file and copy the SCCW.EXE and ISIS output format file into your SCC directory.
6.8.18	Update for annotation of fully coded MOSS strings, e.g. VE01, using partial feature names, e.g. VE

6.8.15	<p>Pressing the F2 key within the model window allows you to move through the selected points, much the same way as pressing the TAB key allows you to move between the potential modelling errors. Thus to navigate to a given point or set of points, select those points via the data selection dialog, and press F2.</p> <p>SCC 6.8.13 modified the way the zoom and pan functions work, such that the mouse was centred over the target point on the screen. The reason for this was to simplify tabbing to points and zooming in. As some users do not like this behaviour, it has been made optional. It can be disabled from the File / General Options / Units and data checking dialog.</p> <p>SCC 6.7.5 changed the way that string editing worked, such that the string was not automatically re-annotated when edited, thus preserving any text edits done on the string, prior to the string editing. While providing much more flexibility in terms of the order in which text and string editing could be carried out in SCC, it made certain operations more cumbersome, such as reversing a string to flip the annotation from one side to the other. As such this behavior can now be disabled via File / General Options / Units and data checking.</p> <p>The 'Delete overlapping text' option now interprets a priority setting of 999 as signal to never delete that piece of text. Thus if two pieces of text overwrote each other, but were related to a feature library entry with text priority of 999, neither would be deleted.</p> <p>Joining strings with the same partial name will now result in a single string whose name is taken from the first selected string. e.g. joining HE01 to HE02 will result in a single string called HE01.</p> <p>The MOSS SURVEY translator has been enhanced to search for a check station placed directly after a 200 instrument set-up record, if it finds this measurement it is copied into the instrument set-up sheet to track station mis-closures.</p> <p>In cases where a copy parallel is used from a given string, and the parallel string has the same feature name as the base string, and the option to close ends on parallels is selected, the base string will be joined to the parallel string to form a single closed polygon.</p> <p>The resection routines in the least squares adjustment have been enhanced to support a two point resection where the occupied station lies on a line connecting the two target stations, and the distances are too short to use an intersecting circle method. In this case, SCC checks to see if the distances are within a 20mm tolerances of allowing an intersecting circles method to work, and if they are, calculating the occupied station position as being on the mid point of the line separating the two circles.</p>
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	<p>Bug fixes:</p> <p>The join strings option was not working for strings with different feature names. This has been fixed.</p> <p>Circles created using the extra measurements sheet were not being closed with a link. This has been fixed.</p> <p>A number of the attribute functions, specifically CRDS and CR2S, in the MOSS SURVEY 201 option were not being correctly translated by SCC. This has been fixed. The attribute file used to test the SCC MOSS SURVEY input has been attached to this message.</p> <p>The 'Keep old log files' option, in the general options dialog, was not being saved between SCC sessions. This has been fixed.</p> <p>A bug, whereby reversing a curved 3 point string, that was created using the copy parallel function, was causing the curve fit points to disappear, has been fixed.</p> <p>The feature name on sections was annotating using the feature description field rather than the plot name, this has been changed to use the plot name.</p> <p>A bug has been fixed whereby plot names on sections were not being annotated for both strings, where both strings were on different edges of the same triangle.</p> <p>Opening model files created in SCC v5.0 or earlier, was causing all annotation text to be coloured black. This has been changed so that it is coloured based on the primary feature colour, as was the case in SCC 5.0. (Note that feature colour and text colour were always the same in SCC 5.0 and earlier, this was changed in SCC 6).</p>
6.8.15	<ol style="list-style-type: none"> 1) The complex line types have now been tested with AutoCAD 2000, AutoCAD LT 95 & 97, IntelliCAD 4, and IntelliCAD 2001. (Many thanks to Mike Wynne at MWH for his input on this one). 2) A bug in the 'Join Strings' option, which was causing annotation errors with macro text, has been fixed. 3) A bug in the 'Join Adjacent Strings' option, which was causing annotation errors with macro text, has been fixed. 4) The text tool, 'Edit \ Text \ Convert literal text to macro text' now includes extra options to correct any annotation errors present in the model. These are to remove duplicate annotation occurring at the same point, and to check, and correct, a piece of annotation is a

	<p>significant distance from the point being annotated. These errors could arise from the corrected bugs describe above, and if annotation text is cut & paste from another part of them model, without including the associated point data. Note that the cross associated with the level is part of the level annotation in the MWH library, turning off the text will also remove the cross.</p> <p>5) A bug has been fixed whereby the remark text for the last point on a string was not being correctly aligned with the string.</p> <p>6) The Panterra migration tools now include support for translation of Panterra models in comma separated PXT format, and download of detail and traverse files from the Panterra Husky field logger.</p> <p>7) A number of potentially confusing Windows pop-up messages, such as 'An unnamed file could not be found', have been changed from pop-up messages to log file messages.</p>
6.8.4	<p>1) Support for line types similar to AutoCAD, including complex line-types with embedded text. (Complex line types with embedded shape files are not yet supported). Line types may be imported from DXF, saved and loaded to file, and assigned against any feature. When outputting models to CAD, an extra option has been added to enable the creation and translation of SCC line types back into AutoCAD complex line types. Disabling this feature gives a DXF output the same as SCC 6.7.20, enabling it causes SCC to create an AutoCAD 2000 format DXF with a full line-type table generated from the feature library. The attached ZIP file contains a model, FGL4.Model, with embedded complex line types. Note that we have seen variations in different AutoCAD versions and set-ups in their ability to handle input of complex line types in this manner. Please try exporting the FGL4.MODEL to CAD on your own system to ensure that it is fully compatible with you own set-up, and get back to me if you encounter any problems. The line type options are available from the Edit menus in the model and project.</p> <p>2) The SCC Leica interface has been modified such that it does not carry line of sight and level offsets between observations.</p> <p>3) On previous versions of SCC, selecting the feature list drop down option within the model would change all the strings with any points selected to the feature name selected. This has been modified, such that in the case of point strings, only the selected points will be modified. Note that for line strings, this option still modifies the entire string, as not to do so would change the string geometry.</p> <p>4) The Active Elevation box in the model window has been widened.</p>

5) An option has been added to replace heights in a model with heights from the original data set that created that model has been added. This is to overcome potential errors in height offsets, rod heights, and benchmark changes that are discovered late in the editing process. It provides the advantage that the model heighting can be changed without having to re-process cartographic and topographic edits.

6) An option has been added to replace literal text with macro text, such that if a model is edited the dimensional text will immediately reflect the edited values. Note that most new feature libraries should be set to use 'Macro Text' rather than 'Literal Text' for text creation.

7) A bug has been corrected in the cross section drawing where the X, and Y text for interpolated points was being annotated a Y and X.

8) An enhancement has been added whereby pressing the TAB key in the model will zoom to other potential model errors as well as crossing break-lines and duplicate points. These included duplicate DTM points with different heights, and links between 2d and 3d strings.

9) An enhancement has been added to the crossing break-lines report to include the position of potential errors. This includes discrimination between identical duplicate points, and duplicate DTM points with differing elevations.

10) An additional tool bar has been added to allow specification of string dimensions when creating new strings. This is available on the View / Customize menu.

11) A bug has been fixed, whereby creation and editing of curve fit points was creating additional annotation for the curve fit points.

12) An enhancement has been added whereby adding, deleting, moving or inserting of points on a curve re-processes all the curve fitting for the entire string.

13) A bug has been fixed whereby the LandScape coded implicit duplication of the first point on strings connecting 2 point features, such as gates, was not working correctly with the SCC Leica interface.

6.7.13	<p>Corrections:</p> <ol style="list-style-type: none">1) SCC now uses the project station values when computing values the traverse annotation. Previous versions used values from the traverse sheet.2) Cutting and pasting text between models was losing the text nodes feature name. This has been fixed.3) Elevations were not being displayed in the preview dialog in the feature wizard. This has been fixed.4) All text layers now export to DXF with a layer line type of CONTINUOUS5) All DXF files are now output with an LTSCALE of 1.0 <p>Enhancements:</p> <ol style="list-style-type: none">1) The status line now shows text details when the model cursor is placed over a piece of text in point select mode.2) The Leica interface now includes extra fields for Line of Sight offset left and right, parallel offset left and right, and height offset. These offsets had to be created using the extra measurement coding in previous versions.3) The traverse report now includes an equivalent linear accuracy figure, to reduce the need for Bowditch adjustments. This value is computed by comparing the average observed distances on each leg with the computed join distances for each leg, summing the leg lengths and length differences, and computing the ratio from the result. While this is a comparable figure to a Bowditch linear accuracy, it has the following notable differences;<ol style="list-style-type: none">a) The linear accuracy reported will typically be less than the Bowditch accuracy for the same data as it is not affected by compensating errors. e.g. a distance that is too short followed by a distance that is too long in a Bowditch adjustment will tend to cancel each other out. This will not be the case with the above computation.b) The linear accuracy on a Bowditch adjustment is given as the total traverse length divided by the distance of the provisional value of the closing station to the known value of the closing station. The above figure assumes that each leg is a 'mini-traverse' in itself with known coordinates for stations at either end of the leg. This means that all observations, including cross braces and spur stations, are included in the computation.
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	<p>c) Where the network or traverse does not contain any loops, this value will be artificially high, as it is based on the adjusted coordinates being correct. In this case, this value should be ignored.</p> <p>The net effect of the above is that if a client specifies a Bowditch linear accuracy, a Bowditch adjustment must be carried out. In other cases, it may be advisable to notify the client that the linear accuracy has been computed as part of a least squares adjustment.</p> <p>Notes:</p> <p>The inclusion of multiple symbol insert points requires redefinition of the default insert point for the station symbol. The corrected symbols have been attached to this message, and can be imported using Edit / Symbols / Import Symbols from file.</p> <p>In order to display and annotate a traverse in SCC, you must first adjust and save that traverse. If you are annotating multiple traverses on a single model, detach all the traverses apart from the one that you are annotating, prior to selecting the annotate option.</p>
6.5.5	<p>This update supports alignments starting in curves. Also included is a facility to simplify entry of Horizontal Entities, in Design / Computer Horizontal Entities. This allows you to re-compute sets of unknown values in the horizontal entity sheet based around the input information you have available. For example, if you did not have length and vector information, you could re-compute it from the other parameters. Alternatively, if you did not have plan position, or chainage, you could re-compute these values. You are limited to having up to two unknown fields, as this is the minimum computational requirement.</p>
6.5.0	<ol style="list-style-type: none"> 1) An extra field has been added to the feature library that corresponds to the field code used for any given feature. This is used in conjunction with the 'Translate survey field codes into feature codes' option in the general options dialog. If this option is selected, all field codes will be translated into feature codes on download. 2) A bug has been fixed wherein hiding remarks text for a given feature in a LandScape translated model was not working correctly in conjunction with the data selection dialog. 3) A bug has been fixed whereby the crossing break line symbol was, in certain cases, still being displayed after an edit that had removed the crossing break line condition. 4) A bug has been fixed wherein the speed of operation of downloading, on computers with power saving features enabled,

	was unacceptably slow.
6.4.16	Update to allow import of Traverse from PocketDTM versions prior to release 10
6.4.13	<p>1) In the feature library, the text insertion method may to be set to text macro, as well as associative text and literal text. The text macro is a text node whose position, orientation and style may be changed, but whose contents will always reflect the current value of the dimension being annotated. If you edit the contents of this text node you will see that the text will always read [VTX].</p> <p>2) You may now press the '*' key to change between editing text position and editing text orientation during any text editing operations.</p> <p>3) You can disable screen refreshing during any model editing operations by selecting 'Disable automatic screen refreshing' from the advanced options in the triangulation options dialog.</p> <p>4) The GENIO output now includes an option to convert rectangular features into point strings, where the point occurs in the centre of the rectangle.</p> <p>5) An option has been added to the CAD output to disable the translation of true-type fonts on export.</p> <p>This version is currently undergoing further system testing prior to release to yourselves. If you have any queries relating to it please give me a call,</p>
6.4.8	Christmas 2003 general maintenance release, see release notes or on-line help for details.