MicroSurvey

# MicroSurvey CAD 2027.1

## Release Notes



*MicroSurvey CAD 2027.1 (27.1) –November 2026*

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# Contents

**MicroSurvey CAD 2027.1 ..... 3**
What's New in Version 27.1 ..... 3
What's New ..... 3
Bug Fixes (27.1) ..... 4
What's New in Version 27.0 ..... 6
What's New ..... 6
Bug Fixes ..... 9
Important Notes ..... 10
Migrating your MicroSurvey CAD Settings Between Versions ..... 10
Customer Care Package (CCP) ..... 10
MicroSurvey License Portal for Floating License Users ..... 10
MicroSurvey License Server for Network License Users ..... 10
Activating or Updating your USB License Key ..... 11
System Requirements ..... 11
Software Requirements ..... 11
Run as Administrator ..... 12
Online Resources ..... 12

# MicroSurvey CAD 2027.1

MicroSurvey brings intuitive calculation tools for land surveyors to popular drafting platforms, including IntelliCAD, BricsCAD, and AutoCAD. The 2027.1 release builds on the features introduced by the IntelliCAD engine update in MicroSurvey CAD 2027, adding the new Point Changes Summary feature for supported commands, along with several bug fixes and improvements.

## What's New in Version 27.1

### What's New

Point Changes Summary:

- We have changed how Point Protection works on the most common commands to no longer operate one point at a time! The new Point Changes Summary window shows all pending changes and how points have moved in a single window, with additional controls that allow only certain point parameters to be changed, or only allow points moving beyond a specified 3D distance to be transformed. This way, all changes are visible in one easy-to-use window, without needing to manually overwrite each point or turn off point protection to accept all overwrites.
    - Appearing on supported commands, the Point Changes Summary allows you to view all pending changes to multiple points in a single window when Point Protection is enabled in the drawing.
    - Supported commands currently include Rotate Translate Scale (RTS), Active Coordinate Editor (COORDEDIT), ASCII Import (ASCII_IN), Leica DBX Import (DBXIN), FieldGenius Legacy SyncWizard (SYNCWIZARD), Helmert Transformation (MS_HELMERT), and Recoordinate Traverse (MS_COORDINATE).
    - While point protection is active and a change is pending to one or more points using a supported command, the Point Changes Summary window will open instead of the Advanced Point Protection dialog.
    - In the Point Changes Summary window, every pending point change is laid out in a table showing the changes in northing, easting, elevation, and description, along with the command used, timestamp, and maximum delta (value change) readout.
    - The command used (and filepath if applicable), timestamp, maximum delta values, and the table itself can be copied and pasted as formatted text into other applications such as Microsoft Word and Excel.
    - The size of the columns in the table can also be resized by clicking and dragging on the lines between two table columns.
    - Clicking Overwrite will cause every point to be updated in accordance with the command used, while clicking Cancel will cancel the transformation without changing any point data. By default,

the “Overwrite: All Changes” option is enabled, which does not restrict any point parameters from being transformed.

- For additional flexibility in transformation, the options under “Overwrite Only” allow the transformation of the command to only affect the Northing/Easting, Elevation, and/or the descriptions of the point.
- The “Only Apply when 3D Distance >=” option can also be toggled in the Point Changes Summary, allowing for the transformation to only affect points that have a 3D distance value greater than or equal to the specified amount. The 3D distance that a point will move is listed in the Point Changes Summary window in the “Delta Distance” column.
- The “Include” (Inc) column has been implemented to allow for individual points to be included or excluded from the point transformation. If there is a conflict between a point being included and the 3D distance value (i.e., the include checkbox is checked but the point's Delta Distance value is lower than the user-specified value), both criteria must pass for the point to be included in the transformation.
- A simplified version of the Point Changes Summary window has been implemented to the Recoordinate Traverse (MS_COORDINATE) function, allowing you to see all pending changes to a traverse network in one window.
- In the Recoordinate Traverse version of the Point Changes Summary window, you can "Accept" the transformation to commit the changes to the traverse, or "Undo" to revert the changes to the traverse without modifying the data.
- Please note that the Recoordinate Traverse version of the Point Changes Summary window does not include the controls for overwriting selected parameters, the include column, or the 3D distance toggle. This is to ensure that networked point data cannot be accidentally modified by the Point Changes Summary dialog.

## Bug Fixes (27.1)

- The performance of the Point Changes Summary dialog and the overwrite operation has been improved by reducing the amount of drawing regen calls made to the program during an overwrite operation.
  - Our internal testing showed an improvement of over 5 minutes in performance when using the Point Changes Summary tool with RTS.
  - The performance of using the Point Changes Summary with point import functions (ASCII_IN, SyncWizard, DBXIN) has also been improved.
- Changed the behavior of the Point Changes Summary dialog so that the “Accept”, “Undo”, and “Overwrite” buttons can no longer be unintentionally disabled.
- Updated the appearance of the Advanced Point Protection dialog to clean up incorrectly positioned UI elements.

- Added the “Abort” button to all instances of the Advanced Point Protection dialog to allow users to abort the entire point protection process without committing changes on more commands.
- When using the Rotate-Translate-Scale (RTS) command, typing “No” when prompted to use the command line will now directly open the graphical dialog instead of having to press the “Esc” key to access it.
- The Properties Panel now saves its current opened/closed state and window size when MicroSurvey CAD is closed and reopened.
- Added a descriptive error message to the ASCII Export command (ASCII_OUT) when trying to enter an invalid 2D coordinate (x,y) or 3D coordinate (x,y,z) into the “Enter Point or Range: #..#,#,#..#” section of the command.
- Fixed an issue with the ASCII Export Command (ASCII_OUT) displaying the error message “Attempted an unsupported operation” when trying to select the output file when exporting in the “Lat/Long Delimited” format.
- Fixed an issue with the Inverse Points to Alignment (INVERSEALIGN) command where the outputted inverse alignment information in the command line contained corrupted or invalid characters.
- Fixed an issue with the Label Alignment (LABELALIGN) command’s Reports tool where corrupted or invalid characters would appear in the Station and Offset Reports.
- Fixed an issue with Leroy text styles where the previously chosen text style could be used instead of the currently selected Leroy text style.
- Fixed an issue where selecting a CAD DWT Template file using the Start Page would not apply that template to the next new project created using the Start Page.

# What's New in Version 27.0

## What's New

### Performance Improvements:

- Entity snapping has been refactored to improve performance and reliability.
- Performance of pan, zoom, and orbit with large surface TIN files is now 70% faster.

### Commands:

- Copy Multiple (COPYM) command allows copying entities and pasting them in repeating arrays or patterns.
- A new calculator utility which integrates into the drawing to do calculations and inspect drawing elements. It's found on View > Panes > Quick Calculator.
- Trim, Offset, and Extend now dynamically show a preview of the result before clicking to finalize the edit.
- The Trim and Extend commands have a new system variable TRIMEXTENDMODE. When set to on (the default), you no longer need to preselect the entity or define boundaries for trim and extend operations. Turning this sysvar off will revert the behaviour to align wih previous releases.
- Tables can be used as a cutting edge for the Trim command.
- The new ISAVECOUNT system variable will control the number of incremental saves before a full save is performed.
- VLISP command to open Visual  Studio Code with the Intellicad Lisp Debugger Extension. This allows you to create, debug, and test LISP code, along with your favourite AI coding assistant.
- Four new LISP functions: dumpAllProperties, getPropertyValue, setPropertyValue, and isPropertyReadOnly.
- The Overkill command now supports Text, Multiline text, Rays, Infinite lines, Hatches, Dimensions, and Multileaders.
- The MicroSurvey Title Block command was renamed to MS_TB to not confict with the Intellicad Table command alias.

### Tables:

- In the TABLE command, you can extract data from the drawing into a table using the Data Extraction command.
- New TableExport command to export a tables contents into a csv export.
- Edit Borders command on the Table Cell ribbon when editing a table to control the appearance properties of individual cells.

- The DATAEXTRACTION command found on Annotate > Tables > Extract Data can now create customizable tables and reports from drawings in DWG and BIM in IFC, RVT, and RFA formats. This can be used to create window and door schedules from BIM models. The command also extracts AEC objects, Attributes, and Advanced Blocks, with inclusion and exclusion filtering.
- Support for autofill of cells in tables similar to common spreadsheet programs. Select a selection of cells, then click and drag the grip in the bottom right of the selection across new cells to continue the pattern, including with blocks in a cell.
- Table cells can be navigated with the keyboard buttons Home, Page up, and Page down keys.

UI Additions:

- A new dark theme to reduce eye strain and fatigue. Light and gray themes are also available, selected in the menu Options > Display > Theme, or through the COLORTHEME system variable.
- Drawings can be detached by click + dragging on the drawing name in the file tab, this is useful for having a reference or second drawing visible on a second monitor.
- Undocked command windows like Properties and the Command Line have a new option in the right click context menu, transparency. This controls the transparency of the windows when the mouse is on and off the command.
- Toolbars that contain pulldowns can now be docked vertically on the side of MicroSurvey CAD.
- Tool Palettes now support leaders and external references, and images now show the image name and a preview of it.
- Snap settings on the status bar now allow multi-select.
- The SNAPUIDISLAY system variable controls how running snaps and one time snaps are set in and out of an active command. These affect the draw entity snaps ribbon panel, tools > entity snaps menu, entity snaps toolbar, control or shift + right click menu, and the entity snaps in the status bar menu. This is also accessible in the menu DSETTINGS (Drawing Settings) > Coordinate Input > Running Entity Snaps > Display in program.
- The STATBARMENUMODE system variable controls how multi-select status bar menus will close when interacting with them outside of a command. 0 = closes after an option is selected, 1 = closes when you click outside of it, 2 = closes when the mouse moves outside of it. This is also accessible in the menu Options > User Preferences > Undo/Redo > Status Bar Settings.
- Quick Properties pane, when grips is on (Grips is set to 1 or 2), double clicking on an entity will open the Quick Properties pane. This is a floating panel which shows the selected entities' properties for verification or edits.
- The Options dialog has been reordered to group similar settings and more closely align with other CAD packages. The OPTIONSCLASSIC command will open the previous dialog.
- Layout tabs can be reordered through drag and drop of the tab at the bottom of the drawing pane.
- Multiple layout tabs can be copied or deleted at once.

- Selection Cycling has a shortcut button added to the status bar.
- The Toggle Grips command has been added to the quick access toolbar.

Explorer:

- Layer information can be copy + pasted into a spreadsheet program of your choice, by highlighting the rows, right click + copy, and paste into the external spreadsheet program.
- Visual Styles was added to the Explorer, you can now control various properties of the visual style to better visualize your data.
- Icons have been added to the Layout Explorer for: export layout to model, layer states manager, page setup manager, print, and publish
- Columns in the Explorer can be hidden to only show the columns you need.

Printing/Publishing:

- When publishing to a PDF, there are now preset configurations.
- When publishing to a PDF, you can now optionally be prompted for a filename.
- Digitally sign drawings using Cryptography Next Generation.
- The page setup manager, print dialog, and publish dialog now allow you to import page setups. This can also be done with the page setup in (PSETUPIN) command.
- Access the layer states manager directly from the Publish dialog to verify layer states before proceeding with a publish.
- In the Print menu, a PublishToWeb PGN (Transparent).pc3 option was added. This allows you to print to a PNG image format with a transparent background.
- The PDFSHX system variable controls how SHX fonts are stored in PDF files, controlling: comments, hidden text, and making text searchable.
- Import page setups from DWT and DWF files.

BIM:

- A new layer attribute has been added, Sectionable. This attribute controls if entities on the layer are cut by the section plane command.
- The RVT2IFC command will convert a revit filetype (RVT or RFA) into an IFC format. The IFCVALIDATE command will check an IFC file for errors.
- When using a BIM Underlay in a drawing, it can now be unloaded from the external references in the Explorer pane.
- BIMATTACH and other commands support 2025 Autodesk Revit RVT and RFA file formats.

- The command Anchor Edit (AECANCHOREDIT) accessed from the entity properties pane gives control over the anchor point to a wall in the X, Y, and Z axis.

Blocks:

- You can now view the block properties table outside of the block editor. This is accessible from the block properties pane, or through the grip context menu.
- New reset block command (RESETBLOCK) reverses all changes made to advanced block references and set the default values of the block definition.
- New advanced block system variables: (changes are visually applied after running the regen command)
    - BPTEXTHORIZONTAL controls the orientation of text related to dimension lines of block parameters.
    - BGRIPOBJCOLOR controls the colour of grips.
    - BPARAMETERCOLOR controls the colour of parameters.
    - BGRIPOBJSIZE controls the size of parameter grips in pixels.
    - BPARAMETERSIZE controls the size in pixels of text and controls.
    - GRIPDYNCONTROL controls the colour of grips for advanced blocks that were created in a different application.
- The command Test block (BTESTBLOCK). This works exclusively in the Block Editor and allows you to test advanced blocks without leaving the editor.

Labelling/Annotations:

- To work with and add QR codes to your drawing, the QRTEXT and QRLEADER commands have been added, including additional property fields to configure them.
- A new MTEXTAUTOSTACK system variable to control how fractions are displayed in mtext.

## Bug Fixes

- Loading drawings into MicroSurvey CAD 2027 made in earlier versions of the program now brings over any applicable label scale factor changes made in those drawings:
    - MicroSurvey CAD 2023 and earlier will only have the first 5 styles labelling scale factors (because they only had 5), MicroSurvey CAD 2024 and onwards will have all 10 styles labelling scale factors.
- Undoing a Copy + Paste would cause an unhandled exception and a freeze of the program.
- When inserting a block in MicroSurvey CAD since the 2021 release, certain blocks would show “Duplicate Record error” on the command line. This would sometimes cause problems storing points with AutoMAP symbols later on in the drawing.

# Important Notes

## Migrating your MicroSurvey CAD Settings Between Versions

Most MicroSurvey users have customized MicroSurvey CAD to suit their workflows, CAD Standards and regional requirements. All customizations are stored as settings files that can be transferred from an older release to a newer release, or between workstations within a company. Please review this article to ease the process of updating from MicroSurvey CAD 2026 to 2027 and to optimize your setup to increase efficiency for all future updates.

## Customer Care Package (CCP)

- In 2025, the Annual Maintenance Subscription (AMS) program has been renamed to the Customer Care Package (CCP).
- If your CCP has expired, you may not be able to update your key to the current version of MicroSurvey CAD.
- For a detailed explanation of the CCP program and how we use product numbers and USB keys to license our software, please review this article.
- Each key has a different CCP plan, so multiple keys may not have the same expiry date.
- You can confirm your CCP expiry date by reviewing the About screen found in the Help menu.

**If your CCP has expired, you can phone us at 1-800-668-3312 or 1-250-707-0000 to renew it. Without a current customer care package plan, you may not be able to update your key to work with the new version.**

## MicroSurvey License Portal for Floating License Users

- If you have purchased a floating license, you may visit our license page to review usage statistics on your license.
- After purchase, you will be asked to create a login for the portal.
- Log in to the portal, click "Licenses & Activations", then the desired license to review its details.

## MicroSurvey License Server for Network License Users

- If you have purchased a network license, you must download and install a copy of the MicroSurvey Network License software on your intended license server computer.
- A password is required to install the License Server.

## Activating or Updating your USB License Key

- Software licenses are stored on the USB key. These must be activated after a new purchase, and usually require manual updates when new versions of MicroSurvey CAD are released.
- The process is the same for both; click here for detailed instructions.
- The USB License Manager program is automatically installed with MicroSurvey CAD; it can be found in the MicroSurvey CAD folder in your start menu. Open it with your USB key inserted and click the "Update Key with New Information" button.
- You must have an internet connection to use the USB License Manager. You may download the program and install it on another computer to update keys when corporate policy and firewalls prevent access from your work network.

## System Requirements

- MicroSurvey CAD 2027 is compatible with Windows 11.
- A free USB port is required for the USB License Key (local workstation or network server)
- Full administrator rights are required to install MicroSurvey CAD 2027, but it can be run by limited user accounts
- For detailed system requirements and recommendations, please review this online article.

## Software Requirements

- MicroSurvey CAD Ultimate and Studio require Leica Cyclone Viewer (free download) at a minimum to work with point clouds. MicroSurvey CAD will be fully functional with an unlicensed version.
- Licenses of Leica Cyclone Publisher, Publisher Pro, or Leica Jetstream may be used to access additional functionality.
- Leica CLM (client license manager) is required to license Leica Cyclone or Jetstream.
- Please visit leica-geosystems.com to download any additional Leica products listed above. A registered account is required.

## Run as Administrator

- You must run the program at least once elevated with "Run as administrator" access
- Clicking “Run” from the installation package does this automatically
- If this step is skipped, you may run as administrator by doing the following:
    1. Right click on the MicroSurvey CAD 2027 icon.
    2. Choose "Run as administrator".
    3. Select "Yes" on the "User Account Control" dialog when prompted to allow the program to make changes to your computer.
- After this step is complete, you may run the program from any user account on the computer, even if they do not have administrative privileges.

## Online Resources

- Online Release Notes
- Known Issues
- Tutorials
- Online training courses
- Technical support (1-800-668-3312; free with valid CCP)
- Helpdesk website
- Online store