



MicroSurvey CAD 2022

Release Notes

MicroSurvey CAD 2022 SP1 (v22.1.2) – March 30, 2022

MicroSurvey CAD 2022 (v22.0.2) – December 22, 2021

30 March 2022

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MicroSurvey CAD 2022

MicroSurvey brings intuitive calculation tools for land surveyors to popular drafting platforms, including IntelliCAD and AutoCAD. MicroSurvey CAD 2022 runs on the all-new IntelliCAD 10.1 engine which provides much-anticipated improvements to graphics and adds table objects, array objects, sheet sets, and more.

What's New in Version 22.1.2

What's New

- The IntelliCAD 10.1a engine has been added to the program. See the [IntelliCAD section](#) for more details.
- We upgraded our SDK of ZipArchive, which is used to open and close databases. This adds threadsafe functionality and improves database performance.

Bug Fixes

- LICENSE OPTIONS – After opening the USB License Manager from the License Options dialog and updating the key, the license would not be refreshed upon return to the program.
- ASCII_OUT – Failed to export any points.
- MS_START_TRANSFER – Transfer points between drawings would consistently fail.
- COPY – XX labels were not being added to copied smart objects, notifying the user that they are no longer smart.

What's New in Version 22.0.2

What's New

- The IntelliCAD 10.1 engine has been added to the program. See the [IntelliCAD section](#) for more details.
- Floating licenses may now be checked out for offline work without a USB key. Click "Check out" on the licensing dialog to pull the license onto your computer for up to 4 days.

Bug Fixes

- ARC LABELS - After removing smart arcs from the database, labeling them would add incorrect information and the location of label would be wrong.
- HOUSE TIE ARROWS - Position was being incorrectly affected by scale factor.
- MANUAL DISTANCE - Command would cause a crash.
- START PAGE - Drawings created with the start page in a folder on the C: drive would cause database errors.
- LICENSING - Having an expired demo license would prevent the license dialog from being skipped when using a single USB license.
- MS_SAVE_DEFAULTS - The hover tip for MS_SAVE_DEFAULTS on the toolbar was incorrect.
- DBX Import - Importing DBX data with attributes into a drawing with existing attributes could cause a crash.
- MS_START_TRANSFER - Broken and would produce a database error 70 when run.
- FILEDIA - This sysvar would produce a message from the system variable monitor every time a project was opened.
- LICENSING - Maintenance reminder was not connected for floating perpetual licenses.
- DYNAMIC INPUT - The default value for Dynamic input has been set to OFF after it was causing input issues.
- LANDXML_OUT - Exporting a surface with spaces in the name would export multiple invalid surfaces to the file.

Important Notes

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.

Annual Maintenance Subscription (AMS) Program

- If your AMS has expired, you may not be able to update your key to the current version of MicroSurvey CAD.
- For a detailed explanation of the AMS program and how we use product numbers and USB keys to license our software, please review the following [article](#).
- Each key has a different AMS plan, so multiple keys may not have the same expiry date.
- You can confirm your AMS expiry date by reviewing the About screen found in the Help menu.

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

MicroSurvey Transfer Program for FieldGenius Users

- MicroSurvey Transfer can be [downloaded](#) to simplify the transfer of FieldGenius projects from your data collector to MicroSurvey CAD.
- This program has not changed since 2013; previous versions must be updated for newer versions of MicroSurvey CAD.
- Microsoft Windows Mobile Device Center is required to install MicroSurvey Transfer. It may be downloaded [here](#).

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.

MicroSurvey License Portal for Floating License Users

- If you have purchased a floating license, you may visit microsurvey.com/license 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.

System Requirements

- MicroSurvey CAD 2022 is compatible with 64-bit versions of Windows 8.1 and Windows 10. It is not compatible with any 32-bit operating system. [Additional details.](#)
- 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 2022, 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 2022 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 [AMS](#))
- [Helpdesk website](#)
- [Feature request forum](#)
- [Online store](#)

What's New in IntelliCAD 10.1a

What's New

Tables

- Format the data in table cells.
- Insert formulas and fields in table cells.

Printing and Publishing

- Zoom and pan using a mouse when previewing a drawing before printing.
- When using the Publish command, saving sheet lists and working with sheets is improved.

System variables

- 3DCONNEXIONDRIVER, COLORCONTROLSIZE, CURSORBADGE, MINTEXTHEIGHTPIXEL, STARTPAGEDOCCLICK.

More Features

- Synchronize all instances of blocks by applying changes made to block attributes.
- Specify the base point and north rotation when specifying a geographic location.
- Customize how often IntelliCAD checks for modified external references.
- When using the Sheet Set Manager:
 - Import a layout as a sheet and automatically include the filename as a prefix for sheet titles.
 - Specify import options when creating a new sheet set.
 - Specify whether to open drawings from the Start Page by single- or double-clicking.

Bug Fixes

Tables

- Several fixes for working with tables, including table styles and cell styles.
- Fixed issue when using arrow keys to navigate table cells.
- Fixed issue with the right-click shortcut menu.

User Interface

- When creating new commands, you can now specify which menu group the new command belongs to when you add it to the user interface.
- Fixed issue when minimizing the ribbon.

Printing and Publishing

- Fixed crash when printing or working with page setups in a specific drawing.
- Several fixes for the Publish command.

More fixes

- Fixed editing of entity properties for items on locked layers.
- Fixed snapping issue with a linear dimension.
- Fixed issue with using WBLOCK in specific drawing.
- Fixed associativity issue for a dimension applied to a polyline.
- Fixed associativity issue when stretching the boundary of a hatch.
- Fixed issue with extruding entities after offsetting them.
- Explorer now lists layouts and dimension styles in the correct order.
- Fixed dynamic input for commands that were not showing the menu correctly.
- Fixed distortion of entities when located at a high coordinate range.
- Fixed issue with LISP commands for a complex LSP file.
- Clean Screen is set to off at startup.
- Fixed issue when using angular dimensions and polylines.
- The Quick Select tool was added to the Properties pane.

What's New in IntelliCAD 10.1

What's New

Performance

- OpenGL is now the default graphics device and is faster and more stable than OpenGL ES.
- For enhanced visual styles and line smoothing, you can still switch to OpenGL ES using the status bar, the GRAPHICSCONFIG command, or on the Options > Display tab, click Graphics Performance.

Working with Files

- Open and create sheet sets (.dst files) to help organize and publish collections of layouts from multiple drawings.
- Import .pdf files with many more options.
- Import point data from .csv and .txt files.
- Import map files of the following formats: ESRI[®] shapefiles(.shp), Autodesk[®] .sdf, and Spatial[®] .sqlite.
- Insert and work with geographic maps by specifying a .kml/.kmz file, latitude and longitude, or current location.
- Specify where to back up temporary drawing files that are saved when a document or the program closes.

Working with BIM Files

- Import Autodesk[®] Revit[®] 2021 files.
- Specify AEC drawing units on the Drawing Units > Linear tab of the Drawing Settings dialog box.
- Create a beam using a new option for converting an existing entity to the beam path.
- Determine the smoothness (level of detail) of curves in BIM underlays created from .rvt files.

User Interface

- In the Customize User Interface dialog box, sort the command list according to the source menu group.
- The status bar displays an external reference icon when an external reference is attached to the current drawing. Use the icon to access the Xref Manager command and to reload external references.
- The status bar can display geographic coordinates.
- Each drawing window has its own minimize, maximize, and close buttons.
- Use the Customize Aliases command to edit aliases.
- Press the Tab and Arrow keys to navigate the Properties pane.
- Use several new contextual menu enhancements for arrays, tables, multiline text and others.

Selecting and modifying entities

- Specify whether to allow moving selected entities by clicking and dragging the mouse. See the Display > Display tab of the Drawing Settings dialog box.
- Specify additional grips for blocks and groups on the Display > Grips tab of the Drawing Settings dialog box.
- Array entities with more functionality using new Rectangular Array, Polar Array, and Edit Array commands. Older array commands are still available from the command line.
- Group entities using more commands: Quick Group, Group Edit, and Ungroup.

Text

- Include tabs for multiline text.
- View misspelled single line and multiline text on-the-fly. Misspelled text is underlined in red.

Layers

- Use the Layer Previous command to reverse changes made to layer settings.
- Restore a layer state to the current viewport, all viewports, all layouts and viewports, or the Model tab.
- Apply more options to layer filters when working on a Layout tab: Current Viewport Thaw/Freeze, Current Layout All Viewports Thaw/Freeze, Isolate Viewport Freeze.
- Locked Layer Fade Control is added to the user interface to make it easier to specify the fade percentage applied to entities that are located on locked layers.
- Apply a layer filter to the Layer controls on the ribbon and toolbars. You can also customize the size of the Layer control.

APIs

- ODA SDKs version 2021.11.
- .NET updated to version 4.8.
- Initial implementation of CACUiDialog.
- IntelliCAD source code and add-on applications are built with Microsoft® Visual Studio® 2019 and VC toolset 14.28.

More features

- Use a 3Dconnexion mouse to streamline the CAD workflow and improve control and efficiency while drawing in two or three dimensions.
- Turn on smooth view transitions to enhance the speed and performance when changing the view direction.
- Use the Clone command to draw a new entity of the same type and properties as a selected entity.
- Break dimensions using the Dimension Break command and specify the break size according to the assigned dimension style.
- Insert dynamic blocks.
- Insert tables, edit them, and assign table styles.
- Filter annotation scales according to whether they originated from an external reference.

System variables

- ARRAYASSOCIATIVITY, ARRAYBLOCKNAME, ARRAYTYPE, AUTOSAVERETAIN, BIMRVTDEFAULTQUALITY, BLOCKFRAMECOLOR, CGEOCS, DWGUNITSIN1SVGPIXEL, DWTSHEETSETPATH, FILESYSTEMMENU, GEOLATLONGFORMAT, GEOMARKERVISIBILITY, GEOMARKPOSITIONSIZE, GRIPBLOCK, GROUPDISPLAYMODE, GROUPFRAMECOLOR, GSDEVICEMODE, IFCLIB, INPUTECHOFLAGS, LATITUDE, LAYERCONTROLFILTER, LAYERCONTROLSSIZE, LONGITUDE, OLESCALE, PDFIMPORTFILTER, PDFIMPORTIMAGEPATH, PDFIMPORTLAYERS, PDFIMPORTMODE, PDFIMPORTOPTIONS, RIBBONCONTEXTSELLIM, SELECTIONFRAMECOLOR, SHEETSETPATH, SSMSTATE, TABLECELLMAX, TABLEINDICATOR, TABLELINKINDICATOR, TABLESELECTINDICATOR, VTDURATION, VTENABLE, VTFPS.
- ENTPROPSETTINGS renamed to VSSHOWALL.
- GSMSAA renamed to 3DLINESMOOTHING.
- MAKEBAK renamed to ISAVEBAK.
- Updated: COORDS, GRIPS, OLEQUALITY, and OSNAPMAX.
- Removed: GROUPSELECT, HWACCELERATION, and PLINEGRIPS (its functionality is now value 2 of GRIPS).

Bug Fixes

Performance

- Up to 7 times faster selection.
- Approximately 2 times faster grip editing and grip displaying.
- Approximately 2 times faster entity snapping.
- Approximately 2 times faster switching layouts in large drawings.
- Approximately 2 times faster regenerating large drawings.
- Approximately 2 times faster loading of large .cui files.

Working with files

- Faster opening of very large .rvt files.
- Improved results when attaching certain .ifc files.
- Improved handling of .rvt files with multiple views.
- Added properties to wall entities.

Drawing entities

- Fixed issue with drawing arcs.
- Fixed issue with creating pyramids in NWUCS.
- Fixed issue when using the Center option for creating boxes.
- Fixed negative height values when creating 3D entities.

Selecting and modifying entities

- Several fixes for editing while using grips.
- Several fixes for copying nested entities (NCOPY command).
- Dynamic input includes many fixes across numerous commands.
- Arrays created using the ARRAYCLASSIC command can be associative.
- Multiple fixes for filleting, chamfering, and trimming entities.
- Several fixes for joining entities.

Text

- Spell checking now includes multileader text and handles punctuation better.
- Multiline text fixes include improvements to autostacking, numbering, columns, scaling, letter spacing, and more.

Dimensions

- Fixed radius dimensions for arc segments in closed 2D polylines.
- Fixed issue with dimensions not updating after using the Stretch command.
- Fixed issue with dimension lines when ORTHO is enabled.
- Fixed issue with mirroring of dimensions.
- Fixed incorrect radius dimension when circle has a z-coordinate different from the elevation.
- Fixed issue with extending linear dimensions.

Hatches

- Fixed issues with hatching profiles and hatching circles.
- Fixed issue with HPANG after changing the hatch angle during grip editing.
- Fixed the hatch origin when bound to extents.
- Fixed several issues with boundary hatches.

APIs

- SDS: Fixes for sds_dictsearch and switching between a drawing file with geographic data and the Start Page.
- .NET: Fixed issues with PaletteSet.
- LISP: Fixed issue in _lsp_lispev().

More fixes

- SETLAYER is now an alias to LAYMCUR and no longer a command in the .cui file.
- Localization resource IDs are added to the icad.tips file.
- Fixed issue with changing the snap color using Options > Display > Color scheme.
- Fixed issue with the -PURGE command for multileader styles.
- Several fixes for the Loft command.
- Several fixes for working with layer states.
- Fixed issue with the font mapping file (icad.fmp).
- Fixed issue with extruding a circle along a spline path.
- Fixed issue with chain filleting solids.
- Several fixes for inserting and editing blocks.
- Fixed issue with LAYISO command.
- Fixed several issues with multileaders, including: display of text height, label alignment, annotative multileaders, and not being affected by a change in the scale of the assigned multileader style.
- Fixed Ctrl+R shortcut for switching the active viewport.
- Corrected the height when selecting a 3D point using entity snaps.
- -T now starts the -MTEXT command.
- Fixed issue with incorrect text scale for annotative leaders.
- Fixed incorrect entity snap with the center of a circle.
- Several fixes for the Lengthen command.
- Many fixes for using the CUI command.
- Fixed global width of polylines when copying a filleted polyline.