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# **MicroSurvey CAD 2021**

## Release Notes

2 November 2020

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# MicroSurvey CAD 2021 Release Notes

## Release History

MicroSurvey CAD 2021 (v21.0.9.1175) – November 10, 2020

## Important Notes

### Activating or Updating your USB License Key

If you are licensing MicroSurvey CAD for the first time you will need to activate your new USB License Key using the USB License Manager program on a computer with internet access.

If you are upgrading from MicroSurvey CAD 2020 thru 2008, you will need to update your existing USB License Key using the USB License Manager program on a computer with internet access.

If you are upgrading from MicroSurvey CAD 2005 or previous, you will need to activate your new USB License Key using the USB License Manager program on a computer with internet access.

A copy of the USB License Manager program is automatically installed with MicroSurvey CAD, or it can be [downloaded](#) from our online Helpdesk system and installed separately onto another computer which has internet access.

Please refer to the [following topic](#) for detailed instructions about activating or updating your key.

You might not be required to update your USB key to run certain MicroSurvey CAD service pack updates. For a detailed explanation of MicroSurvey's Annual Maintenance Subscription (AMS) program, and how we use product version numbers and USB keys, you can refer to the following [online article](#).

If your AMS has not yet expired, you can use the USB License Manager to update your key to work with the most current version. You can confirm the expiry date for the AMS by going to the About screen found in the Help menu. Each USB License Key has its own maintenance subscription plan, so if you have multiple keys it is possible that they may each have a different expiry date.

**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

FieldGenius users need to download a copy of the MicroSurvey Transfer program to simplify the process of transferring FieldGenius projects between your data collector and MicroSurvey CAD.

If you have a copy of MicroSurvey Transfer already installed from use with MicroSurvey CAD 2010 or previous, you will need to update it to recognize MicroSurvey CAD 2013 or newer. Previous versions of MicroSurvey Transfer will not show MicroSurvey CAD 2013 or newer as a sync option in the Options screen.

The MicroSurvey Transfer program has not changed since the release of MicroSurvey CAD 2013. This is only necessary for users who are setting up communications between FieldGenius (any version) and MicroSurvey CAD (2013 or newer) for the first time.

MicroSurvey Transfer can be [downloaded](#) from our online Helpdesk system.

**Note:** A copy of Microsoft ActiveSync (for Windows XP or earlier) or Microsoft Windows Mobile Device Center (for Windows Vista or newer) must be installed before MicroSurvey Transfer can be installed. Both can be downloaded free from Microsoft or from the [MicroSurvey helpdesk](#).

## MicroSurvey License Server for Network License Users

Users who have purchased a network license will need to install a copy of the MicroSurvey Network License software.

If you have purchased a Network License and are setting it up for the first time, you can [download](#) the Network License Server application from our online Helpdesk system.

The MicroSurvey Network License Server program has not changed significantly since the release of MicroSurvey CAD 2008. This is only necessary for users who are setting up a MicroSurvey CAD 2008 or newer network license for the first time.

**Note:** You will be required to enter a password in order to install the Network License Server.

## System Requirements

MicroSurvey CAD 2020 is compatible with 64-bit versions of the following operating systems:

- Windows 8.1
- Windows 10

MicroSurvey CAD 2021 is not compatible with any 32-bit operating system.

A free USB port is required for connecting the USB License Key (to either the local workstation or the license server, as appropriate).

MicroSurvey CAD 2021 does not have any hardware requirements above and beyond what is required by your version of Microsoft Windows, aside from a compatible video card for the 3D Rendering engine. Please refer to [this online article](#) for a list of compatible video cards.

Full Administrator rights are required to install MicroSurvey CAD 2021, but it can be run by limited user accounts.

## Important Announcement re. 32-bit MicroSurvey Applications

MicroSurvey has announced that it will no longer produce new 32-bit versions of MicroSurvey CAD and other products, effective November 1, 2018.

Please refer to [this online article](#) for additional details.

## Software Requirements

MicroSurvey CAD 2021 Ultimate/Studio requires that the following prerequisite software packages be installed to work with certain point cloud formats:

1. Leica Cyclone 9.1.1 or newer is required (current version is recommended) to import and view Cyclone point clouds
2. Leica JetStream 1.0.1 or newer is required to import and view JetStream point clouds
3. Leica Client License Manager (CLM) 1.4 or newer is required to license Cyclone or JetStream

Please visit <http://www.leica-geosystems.com/> to download these Leica Geosystems products. A registered account is required.

Leica Cyclone and Leica JetStream are licensed independently from MicroSurvey CAD by entering an entitlement certificate ID into the Leica CLM application. Leica Cyclone does not have to be licensed. MicroSurvey CAD will be fully functional with an unlicensed version of Cyclone Viewer.

## Windows 8.1 and Windows 10 Notes

### Run as Administrator

You **must** run the program at least once elevated with "Run as administrator" access, even if you are already logged in with an "Administrator" account on the computer. After this is done, it can be run by any user on the computer, including those who don't have administrative accounts.

To accomplish this, once the program is finished installing do the following:

1. Right click on the MicroSurvey CAD 2021 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.

### What's This? Help

If you wish to use the "What's This? Help" feature, you may need to download and install an update from Microsoft. Please refer to the following [Microsoft Knowledge Base](#) article for more information.

Please note that the main Help files will work without this update.

## Online Resources

### Release Notes

For a current version of this document, please visit the [MicroSurvey CAD 2021 Release Notes](#) topic in our online helpdesk.

### Known Issues

For a list of known issues please visit the [MicroSurvey CAD 2021 Known Issues](#) topic in our online helpdesk.

### Training Movies

For over 16 hours of training movies that you can watch online or download for offline viewing, please visit the [Training Movies](#) topic in our online helpdesk.

### Technical Support

MicroSurvey provides free 24x7 self-support to all users via our online helpdesk at [helpdesk.microsurvey.com](http://helpdesk.microsurvey.com) where you can find knowledgebase articles, downloads, and a troubleshooter. This is a good starting point for any problems that are not answered in your Help file and Manuals.

For technical support, please visit our helpdesk at [helpdesk.microsurvey.com](http://helpdesk.microsurvey.com) to submit a helpdesk ticket to our technical support staff. If you do not have internet access you can phone our office at 1-800-668-3312 or 1-250-707-0000 and a ticket can be entered for you.

Technical Support is provided free of charge for 90-days following the purchase of your MicroSurvey product. Following this introductory period, additional technical support is available via your [Annual Maintenance Subscription \(AMS\)](#).

To purchase or renew your AMS, please phone MicroSurvey Software at 1-800-668-3312 or 1-250-707-0000, phone your local MicroSurvey dealer, or visit our online store at <http://store.microsurveysales.com/>.

### Feature Request Forum

Help us make your MicroSurvey product better! To submit a feature request, or to comment and vote on other users' feature requests, please visit our Feature Request Forum at <http://feedback.microsurvey.com>.

## MicroSurvey CAD 2021

Release Date: November 10, 2020

Version: 21.0.9.1175

### New Features

#### Powered by IntelliCAD 10.0

- MicroSurvey CAD 2020 is powered by the latest IntelliCAD technology, IntelliCAD 10.0.
- See below for additional details about what's new and fixed in IntelliCAD 10.0.

#### Shapefile Export

- CAD objects, GIS objects, and smart points containing GIS, DBX, and FieldGenius attributes can now be exported to the shapefile format using the GISEXPORT command.
- CAD objects will be exported with two attributes; CAD Handle and CAD Layer, for maintaining a reference to the original drawing.
- Smart Points will be exported with cartesian and geodetic coordinates, descriptions, and any other associated attributes.
- GIS objects will be exported with all original attributes, and GIS points will have cartesian and geodetic coordinates added.
- The function will create multiple shapefiles, so the user does not need to select specific objects and object types to satisfy shapefile requirements.

#### Export Attribute Table

- Using the command ATTR\_TABLE, you may now quickly export a selection of points and their attributes to CSV format.
- This function makes it easy to view all points and attributes in a project when looking for specific values, checking field data, or simply reviewing the project.

#### Simple Point Cloud Import

- If you own a license for Leica Cyclone Publisher or Leica Jetstream Publisher, you may now use the simple point cloud import processes to directly import .las, .pts, and .e57 point cloud files to MicroSurvey CAD.
- The two commands to do this are CWIMPORTPC\_LGS and CWIMPORTPC\_JS.

### Enhanced Features

#### Auto Add Points to Objects

- The Auto Add Points function (AUTOP) has been enhanced to include Civil 3D COGO points.
- AEC COGO points are now read by this command, and point numbers and descriptions are copied to a new MicroSurvey Smart Point at the same location.

#### Point Cloud Engine

- Updated to Leica EpcA 2020.1.0.836.
- Supports Leica Cyclone 2020.1, Leica JetStream 2020.1, and Leica Cyclone REGISTER 360 family 2020.1. Older versions are also still supported.

## Important Fixes

- [D10918] SCALEVAL - The custom scale factor was ignoring decimal values and rounding the scale to the nearest integer.
- [D9985] COGO - Computing a curve using a point number with 10 or more digits would cause a crash.
- [D10570] FG\_MAKE\_PROJ - If a selection to export to FieldGenius contained an arctext label, the DXF export would fail.
- [D10852] FieldGenius Attributes - The icon for FieldGenius attributes was not being displayed in the Active Coordinate Editor.
- [D10479] MSCOPY - The block inserted into the second drawing was not being automatically exploded on insertion.
- [D10979] MSALIGN - The block inserted into the second drawing was not being automatically exploded on insertion.
- [F4300] Licensing Dialog - The Activate License button has been de-emphasized and a request trial button has been added.
- [F4348] News Feed - The default IntelliCAD news feed has been removed from the Start Page.
- [F4273] Attributes Viewer - The attributes viewer window is now resizable and contains scroll bars to view many or long attribute values.
- [D10104] South Azimuth - South Azimuth entry in the lot closure function would treat entries as North Azimuth.

## New Features in IntelliCAD 10.0

### Performance

- Switch easily between graphics devices, including OpenGL ES, to improve quality and display performance. Click Switch Graphics Device on the status bar, or right-click and choose Settings for more options.
- A new high-performance progress indicator displays for complex tasks that may take extra time to complete.

### Working with files

- Import Wavefront Technologies Object (.obj) files and Stereolithography (.stl) files.
- Export Stereolithography (.stl) files.
- Exporting to PDF now uses the PDFium library.

### BIM Files

- Draw roofs and beams.
- Create mitered joints for beams.
- Use the BIM Explode command to explode attached BIM underlays into polyface meshes and polylines that can be edited.
- New options for section lines and elevation lines.

### User interface

- Migrate user interface customizations from previous versions of IntelliCAD to the current version using the MIGRATE command.
- Import and export .cui files directly using the new CUIIMPORT and CUIEXPORT commands.
- Open a tool palette directly using the TPNAVIGATE command.
- Determine whether the mouse wheel can be used to scroll ribbon tabs.
- Use the CLEANSCREENOPTIONS command to determine which user interface items are hidden when using CLEANSCREENON.
- Clickable keywords are now available for all command prompts. They allow you to quickly select options when you run a command.
- Status bar icons are redesigned, including a 50% increase in size.
- Enhancements for Section 508 usability and also 4K and larger displays.

### Drawing, Selecting, and Modifying Entities

- Dynamic input includes command prompts and measurement guides that display on the screen as you draw and edit drawings. Dynamic input is turned on by default.
- To change the settings, use Toggle Dynamic Input On/Off in the status bar.
- The Properties pane supports display and selection for many new properties of various entity types. You can also view properties of custom objects.

### Multiline text

- Combine multiple paragraphs of multiline text into a single paragraph.
- Clear formatting from characters and paragraphs.
- Paste text without formatting.

### Viewing drawings

- The redesigned View Manager has many more options, including the ability to dynamically set a view's background, perspective, lens length, clipping, and more.
- View drawings using additional visual styles, including Shaded, Sketchy, X-ray, and more.
- Include background images.
- Display materials and lights.
- Improved transparency quality.

### Explorer

- Use the new Explore Materials command to import materials that can be assigned to entities and layers and viewed in the drawing with the Realistic visual style.
- Re-order layer filters by dragging and dropping them in the list, or sort them alphabetically.
- Assign materials by layer in Explore Layers.

### Printing and publishing

- Customize .pc3 files with many more options, including margins and .pmp files. Click Properties for a .pc3 file in the Print dialog box.
- Select a layer state for each sheet when publishing drawings.

### APIs

- ODA SDKs version 2020 Update 2.
- .NET PaletteSet API.
- IRX API: AcUI\* controls.

### More features

- More colors are available in the color book sample.
- Export a layout to model space of a new drawing using the Export Layout command.
- Import and export system variable settings using the new SVIMPORT and SVEXPORT commands.
- The Purge command supports materials.
- The eTransmit command can include background images and material bitmaps.



### New and changed system variables

- New system variables: BIMUNITS, BLOCKEDITNAME, DEFAULTLIGHTINGINTENSITY, DGNWORKSPACE, DWGWORKSPACE, DYNDIGRIP, DYNDIVIS, DYNMODE, DYNPICOORDS, DYNPIDISPMODEBOX, DYNPIFORMAT, DYNPIVIS, DYNPROMPT, DYNSHOWDEFAULT, DYNTOOLTIPCOLORLAYOUTBKG, DYNTOOLTIPCOLORLAYOUTTEXT, DYNTOOLTIPCOLORMODEL BKG, DYNTOOLTIPCOLORMODELTEXT, DYNUSEANGBASE, EMPTYWORKSPACE, EXPLSTMAT, GRDRAWPACKAGESIZE, GSMSAA, GSUSEDDEVICEMODE, LENGTHENOLDCOMPAT, LINESMOOTHING, MATERIALLIBPATH, PRESERVEDOCUMENTWORKSPACE, PSPACEBKGCOLOR, RIBBONMOUSEWHEEL, SELECTIONCYCLING, SELECTIONCYCLINGMODE, VSBACKGROUNDS, VSEDGEJITTER, VSEDGES, VSEDGESMOOTH, VSFACEHIGHLIGHT, VSFACEOPACITY, VSFACESTYLE, VSHALOGAP, VSISOONTOP, VSMATERIALMODE, VSSILHEDGES, VSSILHWIDTH.
- SHOWTABS renamed to LAYOUTAB.
- WNDLSTAT renamed to STATUSBAR.

### Important Fixes in IntelliCAD 10.0

The following list details some of the many fixes that were implemented since the 9.2a release.

#### Performance

- Array command is two times faster.
- Freezing and thawing layers in viewports is 15 times faster.
- Using the layers list in Layer Explorer is 8 times faster for drawings with long lists of layers.
- GRDRAW display performance is 2 times faster.
- Additional improved performance for selection preview, explore blocks, offset, overkill, snapping in large drawings, boundary hatches with island detection.

#### Working with files

- Fixed issues with automatic saving of drawings.
- Fixed issue with specific drawings exporting to 3D PDF.
- Fixed display of .rcp files for point cloud underlays.
- Fixed specific issues with the content of exported .dwf files.
- Improved error prompts when a BIM file cannot be attached or imported.
- Fixed imported geometry for IFC format files converted from Autodesk® Revit® 2019.
- Several fixes for using the BIM Properties pane.
- Fixed snapping to large underlays.
- Fixed DIMDIAMETER and DIMRADIUS for wall arc segments.
- Fixed display of AEC entities in certain scenarios.

#### Editing and selecting entities

- Many improvements to editing with grips.
- Several fixes for selection cycling and entity snapping.
- Several improvements for the Selection Filter pane.
- Fixed several issues for the OFFSET, EXTEND, FILLET, CHAMFER, and TRIM commands.
- Fixed issue when scaling by point.
- Fixed error when working with a specific sequence of copying and then zooming in and out.
- Many improvements to the Properties pane.

## Text

- Several fixes for multiline text formatting.
- Fixed issue with the multiline text window display.
- Fixed bold and italic text pasted from .rtf files.
- Several fixes for the ruler in the multiline text editor.
- Fixed formatting of SHX text in non-English languages.
- Fixed error when handling text assigned a font that isn't found.
- Several fixes for stacked text.

## Blocks and external references

- Fixed issue with PASTEBLOCK after hatching.
- Fixed reloading external reference when saving and printing.
- Fixed ability to edit blocks created from 3D solids.
- Fixed block position when it is created at an offset distance of the UCS origin.

## Printing

- Fixed issue when printing did not use the correct paper size.
- Fixed specific issue for printing with transparency.
- Fixed drawing orientation when using XGA size type with .pc3 files.
- Fixed printing of entities that are assigned different linetypes.

## APIs

- SDS: Fixes for sds\_cbentdel, sds\_cbentmake, sds\_cbentmod, and sds\_ssgetwithprompt.
- LISP: Fixed error in the lsp\_ssname() function, (getpoint), (gread), and (vl-registry-write).
- VBA: Fixed issue with AddEllipse method.

## More fixes

- Fixed several issues with the block editor.
- Several improvements made to working with fields.
- Many improvements and fixes for the Customize User Interface dialog box.
- Several user interface improvements for IntelliCAD Converter.
- Fixed display and creation of hatches and hatch boundaries in specific scenarios.
- Several fixes for publishing drawings.
- Several fixes for dimensions.
- Several fixes for multileaders.
- Fixed issues with the HPTRANSPARENCY and CETRANSPARENCY system variables.
- Fixed specific issues for working with facet meshes.
- Fixed panning inside a locked viewport.
- Several fixes for working with raster images.
- Fixed camera height issue for cameras.
- Many fixes for command prompts of various commands.
- Several fixes for the OVERKILL command.