GstarCAD 2024 vs NanoCAD 23

GstarCAD 2024

GstarCAD

Table of Content

GstarCAD 2024 VS NanoCAD 23

With accelerated performance, enhanced compatibility and elevated user experience, GstarCAD 2024 takes design productivity to new heights. Experience our optimized operation speed and quality, enjoy the expanded compatibility for more file formats and APIs, and discover a new level of design satisfaction with upgraded Dynamic Input tool and adjustable viewports, etc.

1. Comprehensive Evaluation

- **Compatibility**

GstarCAD 2024 is compatible with all versions of AutoCAD® data such as DWG formats, fonts, hatch, linestyles and so on.

GstarCAD 2024 is fully compatible with the ARX 2020 interface. The ARX program developed based on AutoCAD® only needs to simply configure the compilation environment without modifying the code, and it can be successfully compiled, loaded and run, which greatly reduces the application development and migration time.

GstarCAD can load the FAS and VLX Programs which are not supported in NanoCAD 23.

- **Performance**

Higher performance plays an important role in GstarCAD. GstarCAD not only constantly provides users with more useful functions, but also delivers great performance in both 2D and 3D operations. GstarCAD is especially outstanding in dealing with the big size drawings that contain a large number of entities. The basic operations, such as move, copy, rotate, scale and so on are significantly enhanced to boost the working efficiency of designers.

- **Functionalities**

NanoCAD 23 adds some new features, such as Visual Styles Manager, Arc text, Text Character Spacing in Mtext Editor, IFC Import, Shade of Grey/X-Ray visuals, and so on, most of them are already supported by GstarCAD. GstarCAD not only continuously improves and develops new features to increase productivity, but also

develops many innovative functions in order to improve work efficiency. Comparing the total commands, GstarCAD 2024 (more than 900 commands) provides more commands than NanoCAD 23. In addition, the function detail is more attractive and useful.

- User Experience

GstarCAD brings you the familiar interface, commands and user operating habit. While NanoCAD doesn't provide color themes as GstarCAD, operating habit, the complex tree structure of the dialog box bring bad user experience.

2. Compatibility Comparison

The main compatible file formats and application development interfaces comparison:

Item	GstarCAD 2024	NanoCAD 23
2018 DWG/DXF	√	√
2.5-2018 DWG/DXF	√	√
Template file DWT	√	√
Standard file DWS	√	√
Interface file CUI/CUIX	√	√
Old menu file MNU	√	√
Sheet set file DST	√	√
Hatch file PAT	√	√
Font file SHX	√	√
Linetype file LIN	√	√
Print style file CTB	√	√
Import WMF	√	√
Export WMF	√	×
Import/export SAT	√	√
Import 3DS	√	×
Import and Export PDF	√	√
Import DGN	√	√
Import SVG	√	×
Import DWF/DWFX	√	√
Export DWF/DWFX	√	√
Export STL	√	√
Export EMF	√	×
DWF underlay	√	√
DGN underlay	√	×
PDF underlay	√	√
Load LISP program	√	√
Load FAS program	√	×
Load DBX program	√	×
Load VLX program	√	×
VBA develop interface	√	×
Class ARX develop interface	√	√
.net develop interface	√	√

3. Performance Comparison

The performance of common-use operations like "OPEN", "SAVE", "MOVE", "COPY", "CTRL+C", "CTRL+V" are significantly faster than NanoCAD 23.

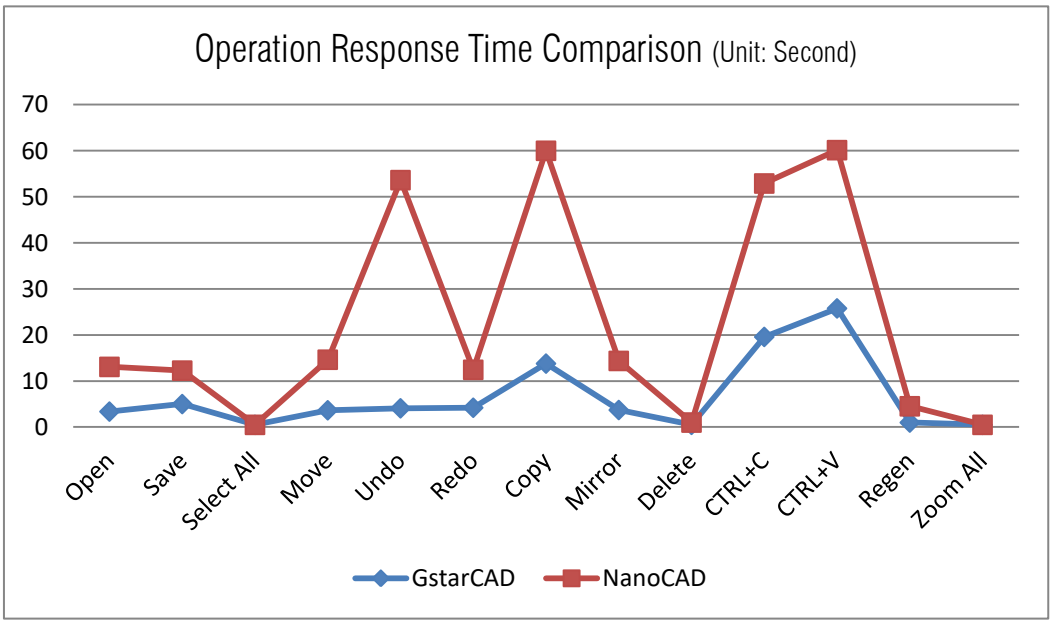
The chart below provides an overview of the performance. We build an operation speed comparison of the basic features between GstarCAD and NanoCAD. To make sure the data validation, same operations will be tested twice and get the average value.

Operation Time Comparison between GstarCAD 2024 and NanoCAD 23 (Unit: Second)

Testing environment:

WIN11 64bit; 16G storage; CPU: 12th Gen Intel(R) Core (TM) i5-12500 3.00 GHz;

Drawing Size: 48MB



When executing Copy command in NanoCAD, it shows "Not Responding" for more than three minutes, we marks the copy data here as 60 seconds to make other data in chart visible. It's obvious that GstarCAD 2024 is faster than NanoCAD for all the frequently used commands from the comparison data above, we get the conclusion that GstarCAD provides a better performance to enhance your working speed.

4. Function Comparison

4.1. Comparison Table

Although NanoCAD supports constraints and more powerful BIM, it lacks many important functions such as free scale, shortcut customization, match properties across drawings and so on.

Key Function Comparison Table between GstarCAD 2024 and NanoCAD 23:

Features	GstarCAD	NanoCAD	Description
3DFORBIT	√	√	Rotates the view in 3D space with constraining roll.
AutoCAD Tool Palettes Import Tool	√	×	Import AutoCAD® customized Tool palettes in the WINDOWS Start menu easily.
ADDSELECTED Command	√	√	Creates a new object of the same type and general properties as a selected object with different geometric values.
ATTIPEDIT	√	√	Edits the attribute text in the block attribute in-place.
Break Point Check (CLOSELINE)	√	×	Marks unclosed endpoints among selected lines, polylines or arcs, and close them immediately.
CLIPIT	√	×	Clips images, xrefs, wipeout, or specified parts of block objects using circles, arcs, ellipses, or text as boundaries.
Constraints	×	√	Supports geometric and dimensional constraint.
CONVTOMESH Command	√	√	Optimizes 2D polyline and associated hatches in early versions.
CONVTONURBS Command	√	×	Converts eligible 3D objects into meshes.
CONVTOSOLID Command	√	√	Converts 3D solids and surfaces into NURBS surfaces.
CONVTOSURFACE Command	√	×	Converts eligible objects into 3D entities.
COPYLINK	√	√	Copies the current view to the Clipboard for linking to other OLE applications.

Draw order by color (CDORDER)	√	×	Arranges the drawing order of selected objects by their color number.
Data Extraction (DATAEXTRACTION)	√	×	Extracts drawing data.
Digital Signature	√	√	Attaches a digital signature to a drawing.
Data Link (DATALINK)	√	√	Displays the "Data Link Manager" dialog box.
Dimcenter	√	×	Creates the non-associative center mark or the centerlines of circles, arcs or polygon.
DWG Convert	√	×	Converts drawing format version for selected drawing files.
Fast Select (FASTSEL command)	√	×	Selects the object that touches the specified object.
Gradient Hatch	√	√	Supports Gradient Hatch color
Hatch to Back	√	×	Sets the draw order for all hatches in the drawing to be behind all other objects.
HP\OCE\Cannon built-in	√	×	Supports the build-in HP\OCE\Cannon driver.
Layer Merge (LAYMRG)	√	√	Merges specified layer to target layer and delete previous one.
Layer Translator (LAYTRANS)	√	×	Changes the current layer to specified layer standard.
Layer Walk (LAYWALK)	√	√	Displays objects on selected layers and hides objects on other layers.
Merge Layout (LAYOUTMERGE)	√	×	Two or more layouts in one drawing can be merged into a specified layout.
Make Shape (MKSHAPE)	√	×	Creates a shape definition based on selected objects.
Match Properties Across Drawings	√	×	Matches properties across drawings.
Password Protection	√	×	Sets password for specified drawing file to lock it.
Point Cloud Attach	√	√	Inserts a point cloud scan (RCS) or project file (RCP) into the current drawing.
Quick Properties	√	×	A set of objects properties displayed through the Properties Palette which allows you to customize.

Reverse	√	√	Reverses the vertices of selected lines, polylines, splines, and helixes.
Section Plane	√	√	Creates sections of 3D object by creating section planes.
SELECTIONCYCLING	√	√	Controls the display option associated with overlapped objects and cycling selection.
Solprof	√	×	Creates a 2D profile of 3D solids and display it in a layout viewport.
Solview	√	×	Creates orthogonal views, layers, and layout viewports automatically for 3D solids.
Soldraw	√	×	Generates profiles and sections in layout viewports.
Superhatch (SUPERHATCH)	√	×	Fills an enclosed area or selected objects with a hatch pattern, solid fill or gradient hatch.
SURFOFFSET Command	√	×	Creates a parallel surface at a specified distance from the original surface.
Synchronize Viewports (VPSYNC)	√	×	Synchronizes one or more layout viewports to a master layout viewport to have the exact locations matched up.
System Variable Monitor (SYSVARMONITOR)	√	√	Monitors system variables in the list and sends notifications to alert users when system variables and the reported preferred values change.
Text Align / Text Match	√	×	Aligns multiple text objects vertically, horizontally, or obliquely. Matches both text and Mtext attributes text, such as color, font, height, alignment, angle, and matches the content and layer.
Viewport Scale (VPSCALE)	√	×	Displays the scale of the current viewport or of a selected layout viewport.
Visual Styles Manager	√	√	Creates and modifies visual styles.
……			

From the commonly used functions comparison table above, you can see GstarCAD provides richer functions than NanoCAD.

4.2. GstarCAD Innovative Features

GstarCAD has customized a large number of unique functions according to user needs.

The innovative features of GstarCAD:

GstarCAD Innovative Features

Features	Description
Align Tool (ALIGNTOOL)	Allows you to align the selected objects along the X or Y axis coordinates.
ACAD Tool Palettes Import Tool	Import AutoCAD© customized Tool palettes in the WINDOWS Start menu easily.
Area Sum (AREASUM)	Displays the current closed region value and area sum sequence in command line.
Area Table (AREATABLE)	Dimensions and counts the area of an enclosed object and exports the result to a table in the current drawing area.
Arrange Tool (ARRANGETOOL)	Aligns multiple objects left, right, top, bottom, center, vertical or laterally.
Attribute Increment (ATTINC)	Attributes values increment automatically or manually according to specified method.
Auto Layer (AUTOLAYER)	Customizes and predefines the associated layer of a command to streamline drafting workflow.
AUTOXLSTABLE	Allows to insert excel, and static block quantity, area and length and auto update the data according to the changes of the object.
Barcode (BARCODE)	Allows inserting the barcode to objects to corresponding paper documents and electronic drawing file.
Batch Print(BP)	Batch prints the drawing frames by pages.
Batch Purge (BATPURGE)	Batch purges the redundant blocks, layers, linetype, dimensions and text, etc in drawings.
Block Break (BLOCKBREAK)	Allows you to wipeout or break an object that is overlapped by a reference block.
Break Object (BREAKOBJECT)	Breaks the intersected lines and allows you to set the gap value.
CAD table to EXCEL (GC_CTE)	Converts sheets, composed by line/Spline and text/Mtext in CAD, to EXCEL.
Change Base (CHANGEBASE)	Modifies the base point position of the block.
Change Text (CHANGETEXT)	Modifies several texts simultaneously.
CIRCLE(C) Parameter	CIRCLE(C) parameter; Draws multiple concentric circles with one radius.
Collaboration	The GstarCAD Collaboration Tool is an embedded plugin available for GstarCAD platform aimed to help CAD designers work together among

	a single referenced drawing file at the same time, control drawing revisions and manage medium, big or complex projects with ease and reliability, reducing communication barriers across different industries.
Define Layout Viewport from Model Space(M2LVPORT)	Creates a viewport on layout space by selecting objects in the model space.
Dimension Coordinate (DIMCORD)	Marks X, Y coordinate values of the point.
Distance from Endpoint Snap	Allows to sap a certain distance from any endpoint of objects and the distance value can be modified at status bar at any time.
Divide Segments Snap	Allows snap the divided segment points of objects and the divided segment number can be modified at any time.
Export Coordinate (COEXPORT)	Exports the coordinate of the picking point to txt or xls files.
FILLET(I) Invert Parameter	Creates a reverse fillet by this option.
Frame Automatically (FRAMEAR)	Automatically searches for the frame, calculates according to the frame size, and arranges multiple drawings on a large-format drawing reasonably.
Free Scale (FREESCALE)	Scales an object without restrictions under three modes; Non-Uniform, Rectangle and Free.
Freeze Other Layer (LAYFRZOTHER)	Freezes other layers except the layer where the selected object is located.
Graphic Compare (OCMP)	Compares graphic of two groups of objects or two files.
GstarCAD tools (12 functions)	Allows you to quickly draw the industry drawings with GstarCAD tools
Import HPGL/2 (IMPORTHPGL)	Imports a PLT files.
Get Selection by Block Name (GETBLKSEL)	Multi-selects objects with the same name in specified area.
Get Selection by Object Type (GETENTSEL)	Multi-selects objects with the same entity type in specified area.
Get Selection by Layer (GETLAYSEL)	Selects all the objects in specified layer and specified region at one time.
Get Selection by Color (GETCOLSEL)	Quick selects the objects with the same color.
Get Selection by Object/Layer (GETENTLAYSEL)	Selects entities by entity type and layer.
Get Selection by Object/Color (GETENTCOLSEL)	Selects entities by entity type and color.
Get Selection by Layer/Color (GETLAYCOLSEL)	Selects entities by color and layer.
Dimension Coordinate Position	Dimensions the coordinate position.

(HCZZBD)	
Layer Draw Order (LAYDRAWORDER)	Changes the order of the layers by bringing to front or sending to back.
Lock Other Layers (LAYLCKOTHER)	Locks other layers except the layer where the selected object is located.
Layer Unlock All (LAYULKALL)	Unlocks all layers.
Off Other Layers (LAYOFFOTHER)	Turns off other layers except the layer where the selected object is located.
Magnifier (MAGNIFIER)	Views a specific area of your drawing as a magnifier with the capability of snap points without performing zoom in/out on big drawings.
OFFSET(B) Both Sides	Offsets to both side, no need to operate twice.
Outline (OUTLINE)	Generates the outline by clicking the closed region.
Pline Boolean (GC_BOOLOP)	Operates the closed pline with union, intersection and subtraction.
Print PLT(PRINTPLT)	Prints the generated PLT file.
QR Code(QRCODE)	Extracts data or inputs data to generate QRcode which can be scanned by mobile device to obtain data.
Rapid Distance (RAPIDDIST)	Measures distance and angle between 2D objects along X, Y axis rapidly by moving mouse.
RECTANGLE(O) Parameter	RECTANGLE(O) parameter, Draws an rotate rectangle with (O)option
Region Scale (REGSCALE)	Selects a region of a drawing to be cut and copied to a new location.
ROTATE(Multiple)Parameter	Copies many objects with different rotate angles, or draw circles array.
Shortcut Customization (CUSTACC)	Customizes the shortcut key.
Spline to Pline (Sptpl)	Converts spline to polyline according to the accuracy (number of segments of the arc) that the user assigns.
Statistics Summation (KLL01)	Sums up the selected text or Mtext.
Symmetric Draw	Directly draws symmetrical shapes, it can omit the operation of the mirror.
Text Incremental Copy (GC_dztext)	Accomplishes kinds of incremental methods for text.
Text Align (TEXTALIGN)	Aligns text along X or Y coordinates, or along a line of specific direction.
Text Match (TEXTMATCH)	Matches both text and Mtext attributes in the current drawing, avoiding select and edit text attributes one by one.

Text Online (TEXTONLINE)	Distributes the text uniformly along a selected spline, polyline or arc. It can also create text online quickly for multiple curves.
Total Length (MEASUREGEOM)	Inquire total length of the selected lines.
WIPEOUT (supports circle and arc)	Generates wipeout by clicking circle or a pline object contains arcs.
……	

Besides developing plenty of innovative features, GstarCAD has improved the basic operations in order to simplify the operation steps. For example, Adds the angle parameter to line and spline, when drawing an object, you can not only set the value between object and X axis, but also set the angle parameter between the selected line and the previous line; Adds the concentric circle and rotated rectangle; Adds multiple copies in rotate command, realize the copy rotate and circle array; Adds divided by segment and distance from endpoint, layout by path, etc. to accomplish the liner array. Supports invert fillet option in fillet command which is welcomed by designers.

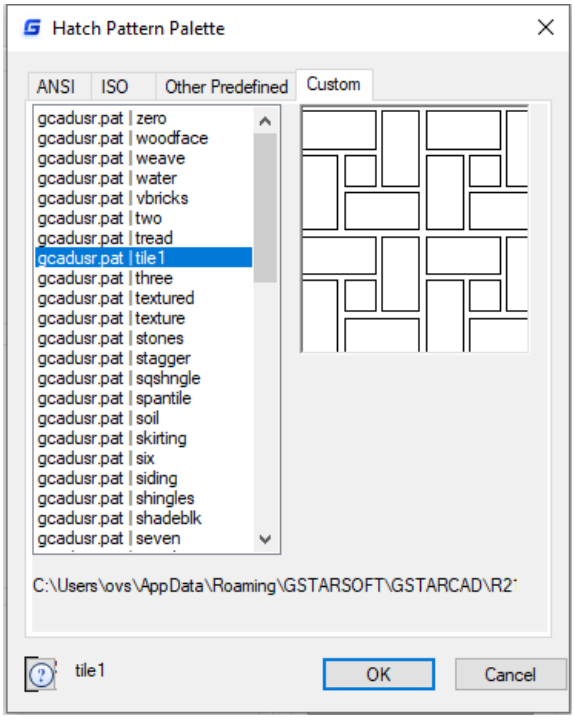
The innovative features enhance your drawing efficiency greatly.

4.3. Function Detail Comparison

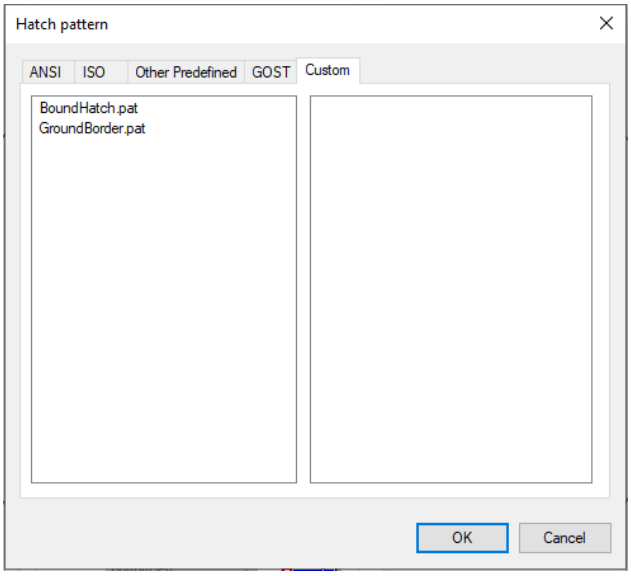
GstarCAD 2024 not only has more commands than NanoCAD, it is also better in the details of some interfaces and functions. The following is a comparison of important functions.

- **Hatch Patterns**

GstarCAD provides rich hatch patterns for users to meet more requirements. NanoCAD offers few hatch patterns.



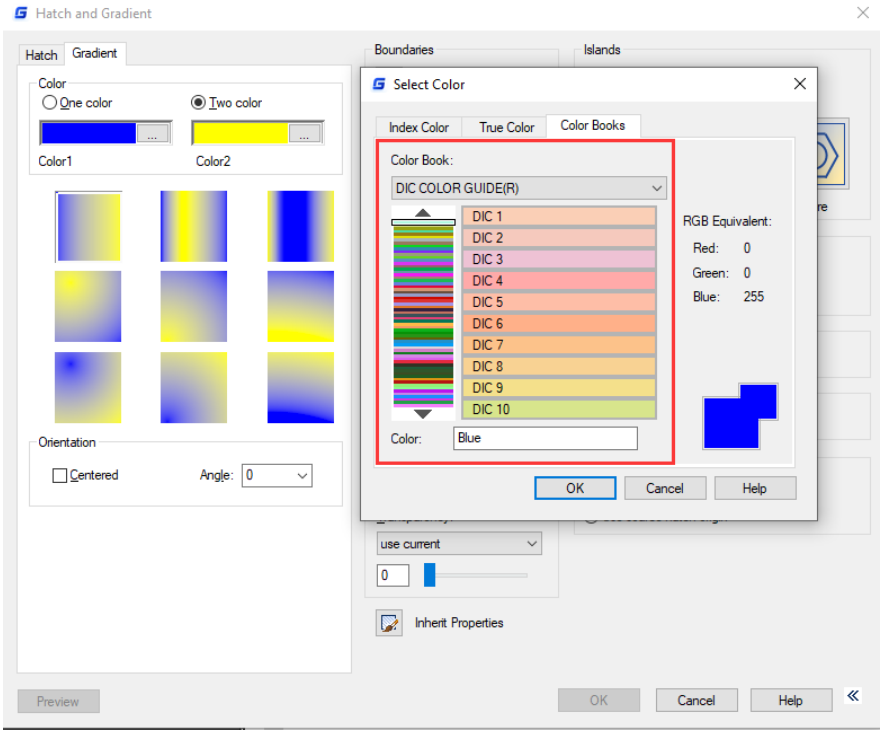
GstarCAD



NanoCAD

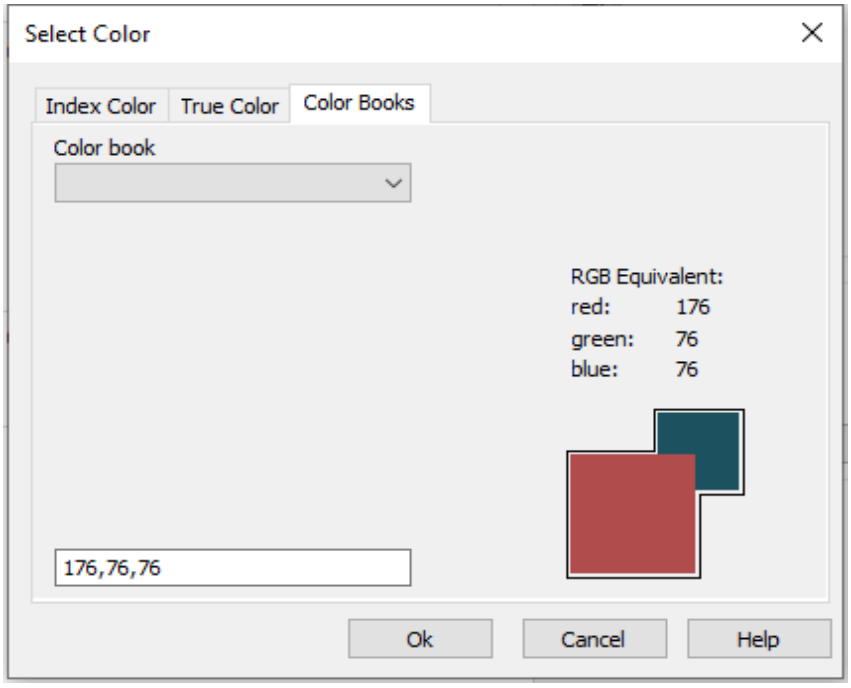
- **Color Books**

When assigning colors to objects, you can choose colors from color books in GstarCAD.



GstarCAD

NanoCAD does not support color books pull down list.

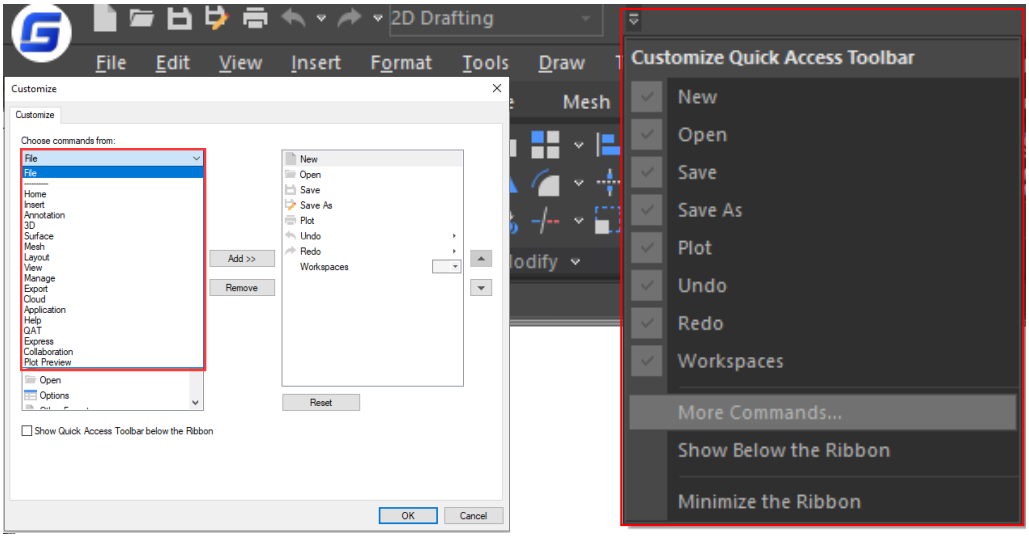


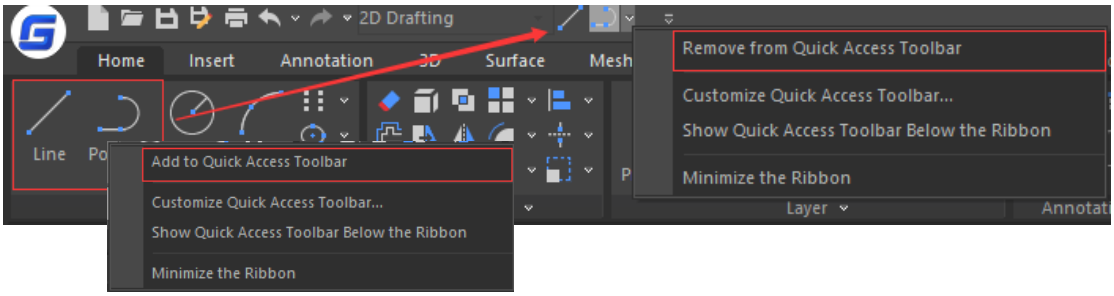
NanoCAD

- Quick Access Toolbar

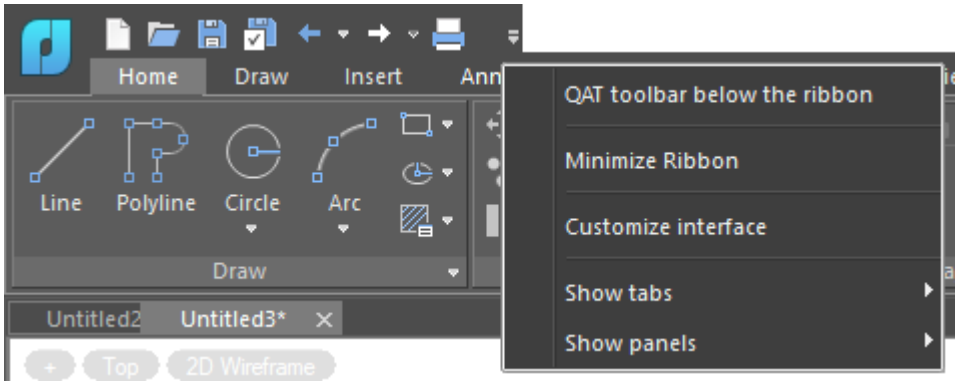
In GstarCAD, the commands displayed in the quick access toolbar can be customized directly in the drop-down menu and more commands can be added, and can be set to display below the ribbon.

What's more, you can add to or delete the command from the quick access toolbar by right clicking the command icon.



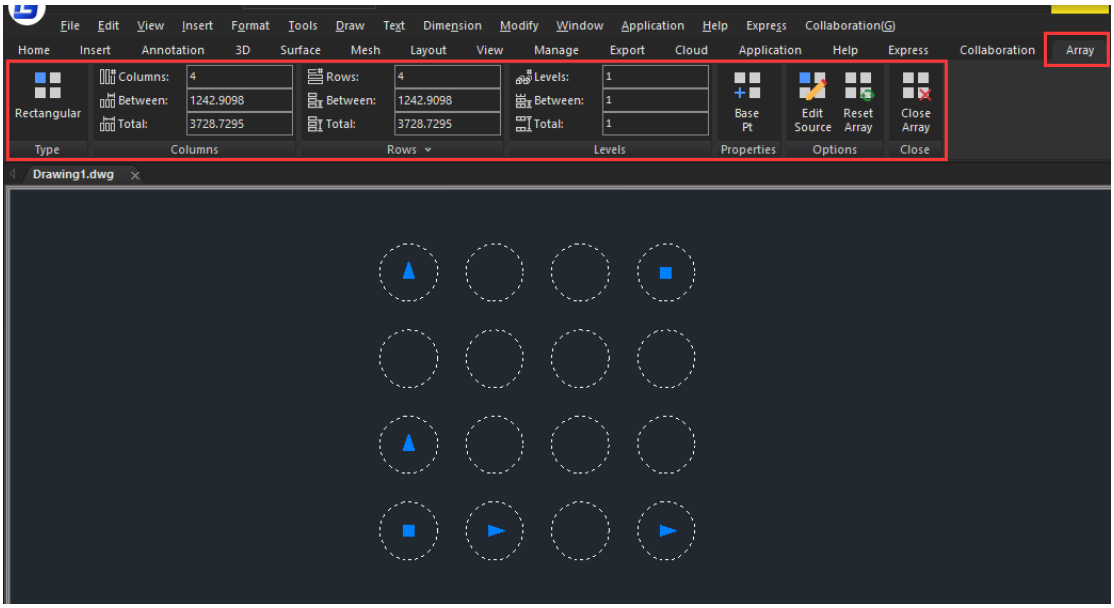


NanoCAD does not support customized quick access toolbar.

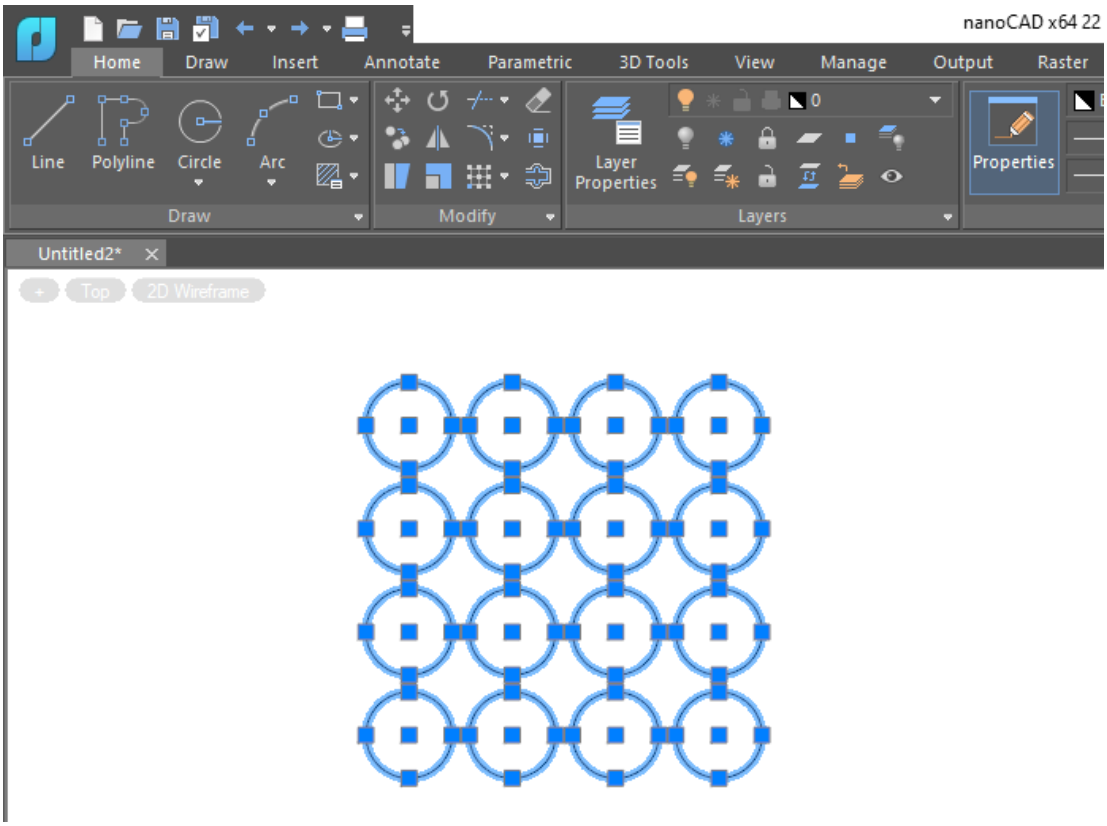


- Array Panel

GstarCAD array options provide dynamic adjustments to the number of ranks, spacing and other related parameters through Ribbon Panel, Properties and Grip.

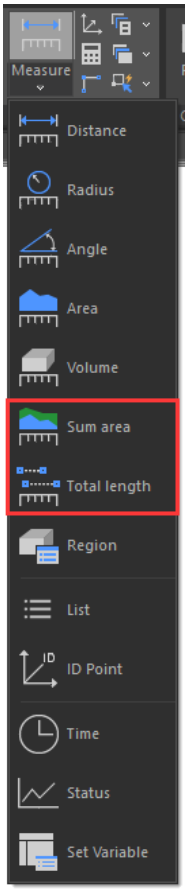


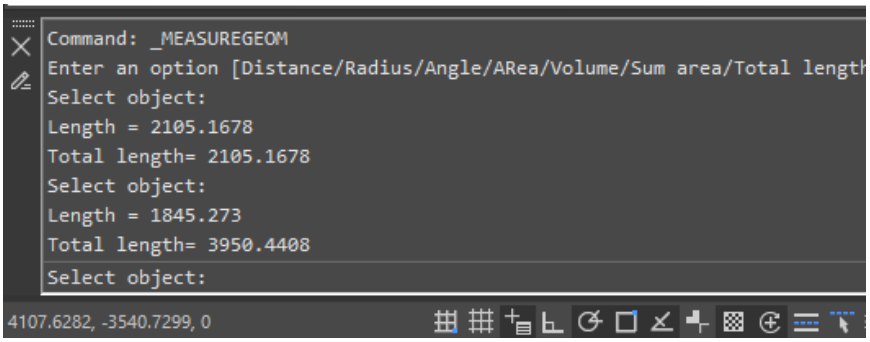
NanoCAD does not support Array associate which is not convenient to edit or control the objects.



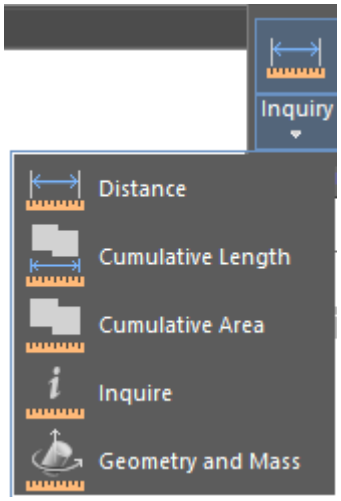
- MEASUREGEOM

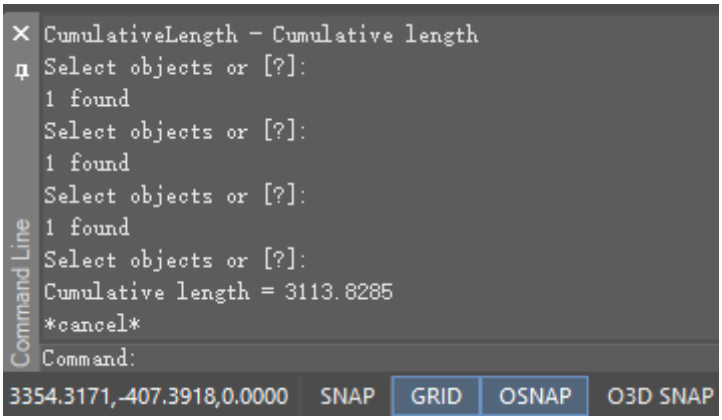
GstarCAD not only supports the measure area and measure distance, but also supports measure radius, measure volume. GstarCAD shows both the selected and total measure value after the specified object is selected.





NanoCAD does not support measure radius, measure volume, and the the cumulative length and cumulative area are not convenience. It couldn't show the value after the specified object is selected. The cumulative length value can be shown only all the objects are selected.

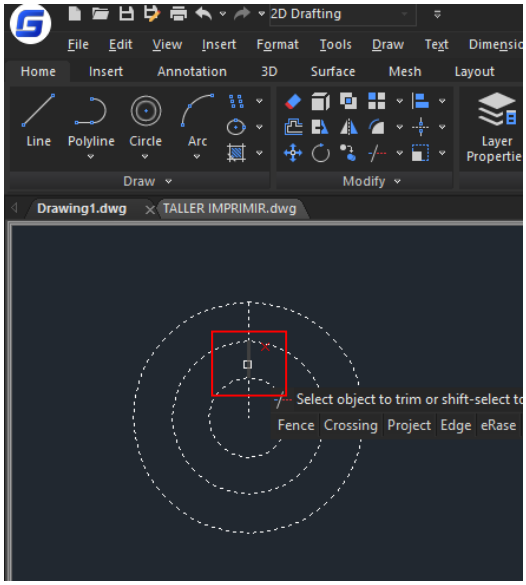




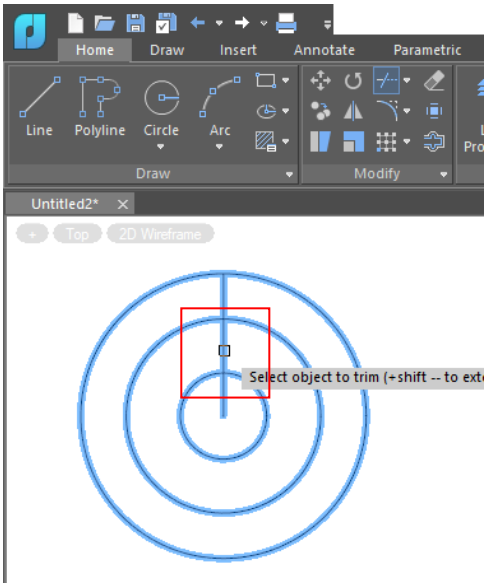
- **Hatch, Trim, Extend Preview**

GstarCAD supports preview effects when trimming, extending and hatching, which can help users judge the correctness of the operation.

NanoCAD does not support preview effects when trimming, extending, and hatching.



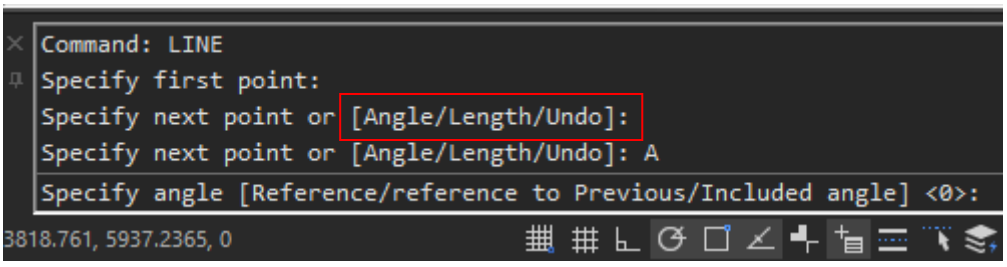
GstarCAD



NanoCAD

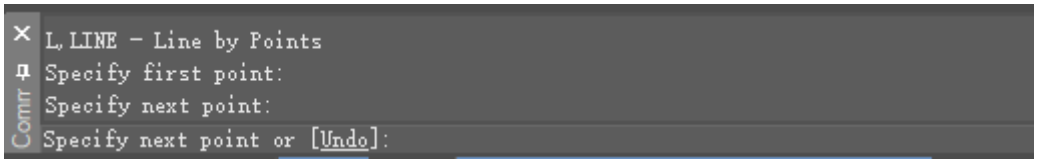
- **Line**

GstarCAD can set the reference angle or included angle with the reference object or the previous section when setting the angle.



GstarCAD

NanoCAD does not support the options such as angle, length to assist you to draw the line.

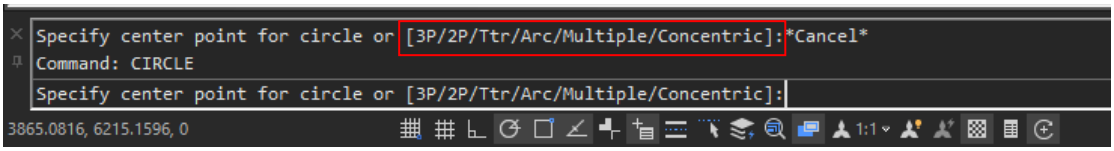


NanoCAD

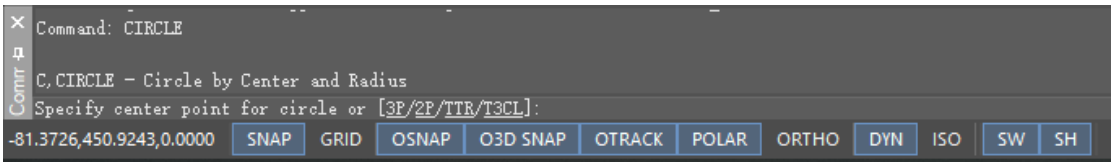
- **Circle**

GstarCAD supports convert arcs to circles, multiple circles, and multiple concentric circles at one time.

However, NanoCAD only supports the basic options.



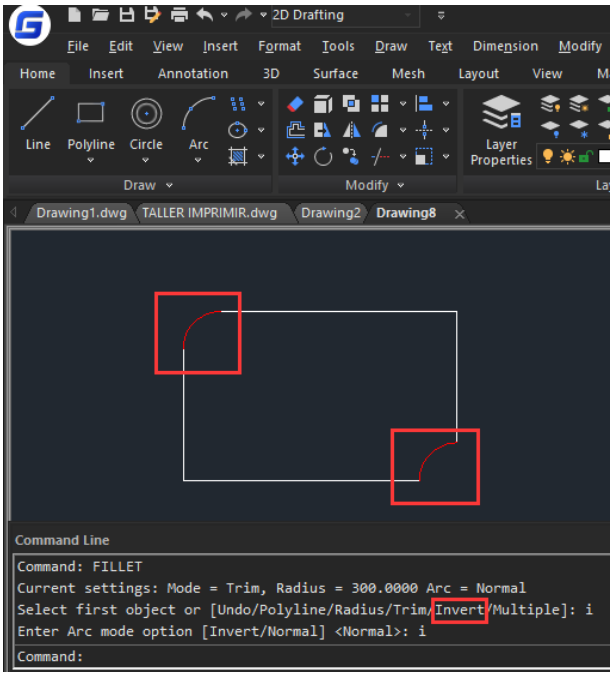
GstarCAD

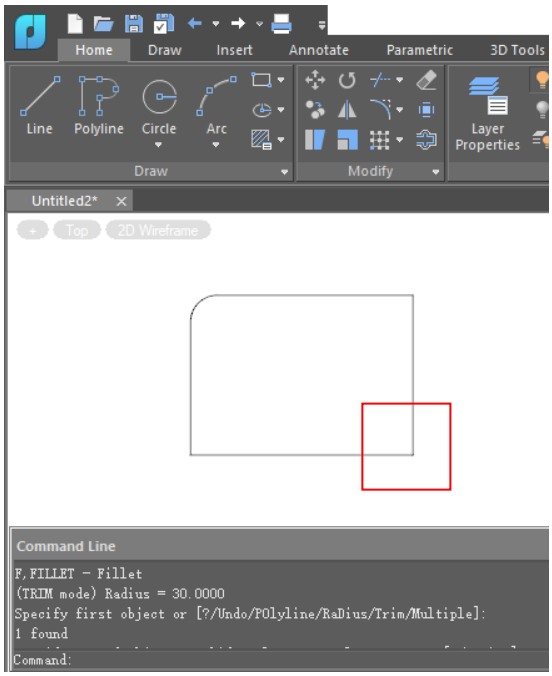


NanoCAD

- **Fillet**

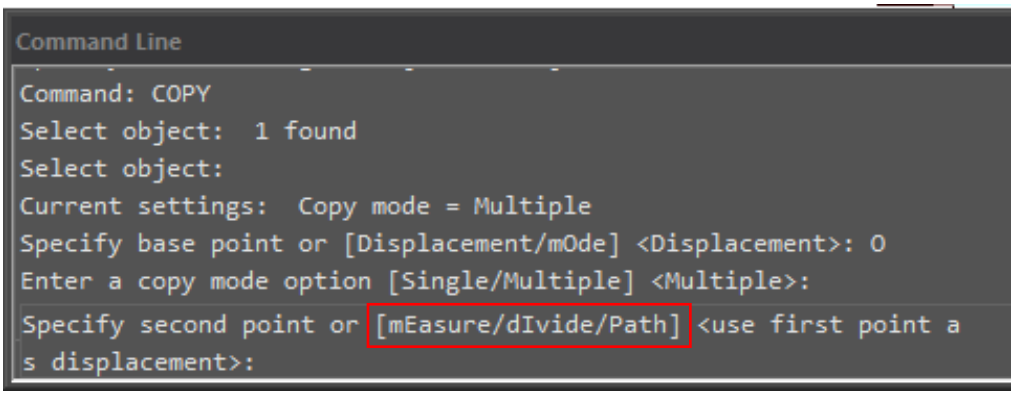
GstarCAD can create the normal fillet and reverse fillet. NanoCAD only supports the normal fillet.





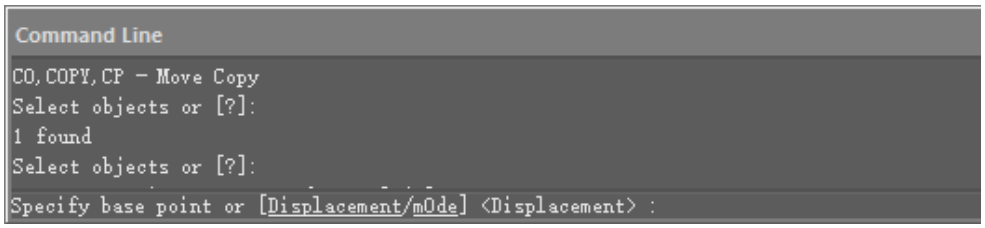
- **Copy**

GstarCAD provides three array modes for copy command: measure, divide and path which can be copied along a straight line or curve.



GstarCAD

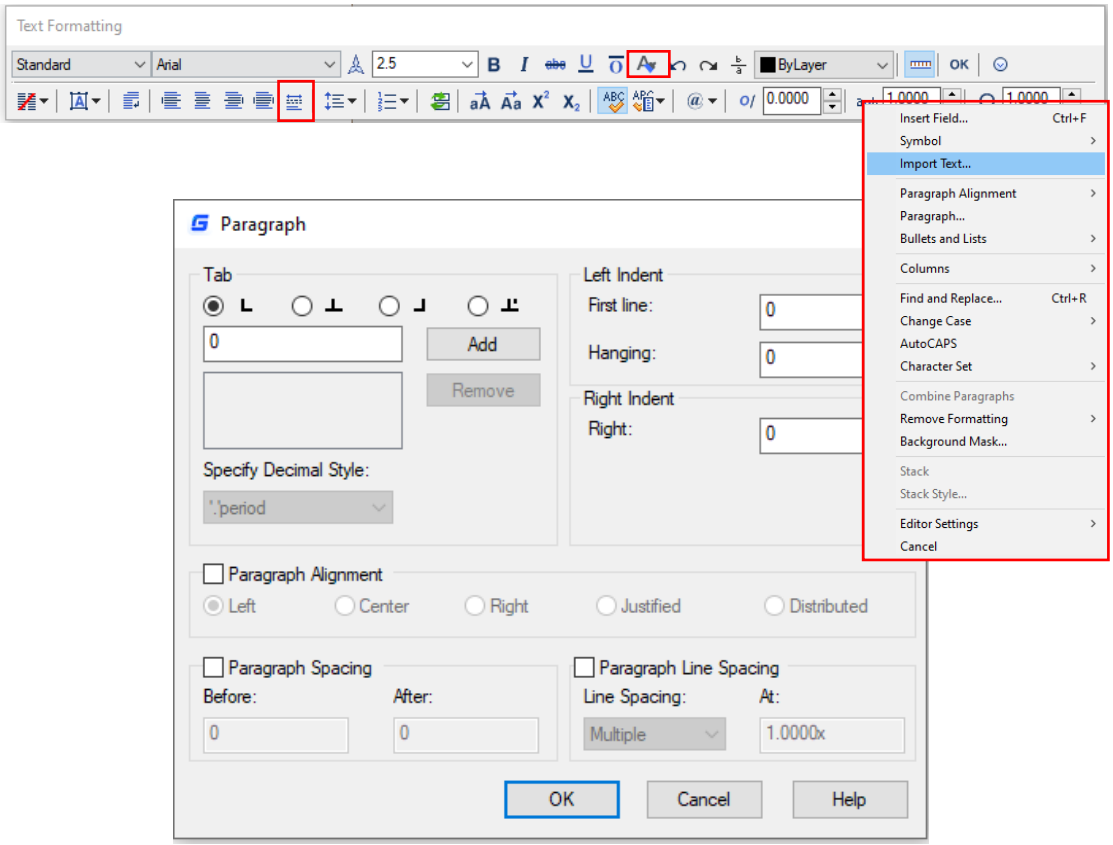
NanoCAD does not support the copy array modes.



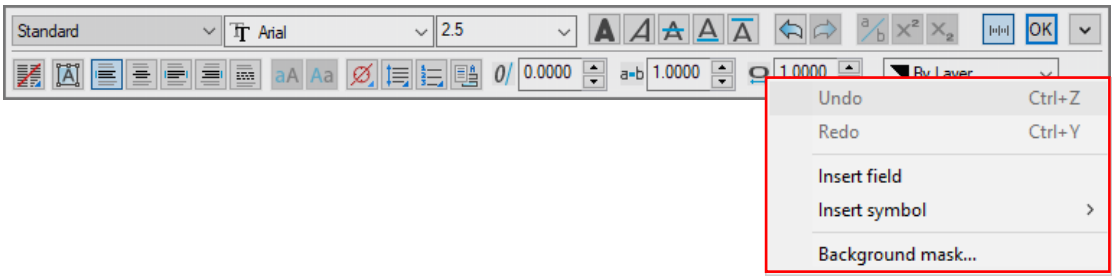
NanoCAD

- **Mtext**

GstarCAD provides rich options in Mtext, such as match text formatting, check spelling and so on.

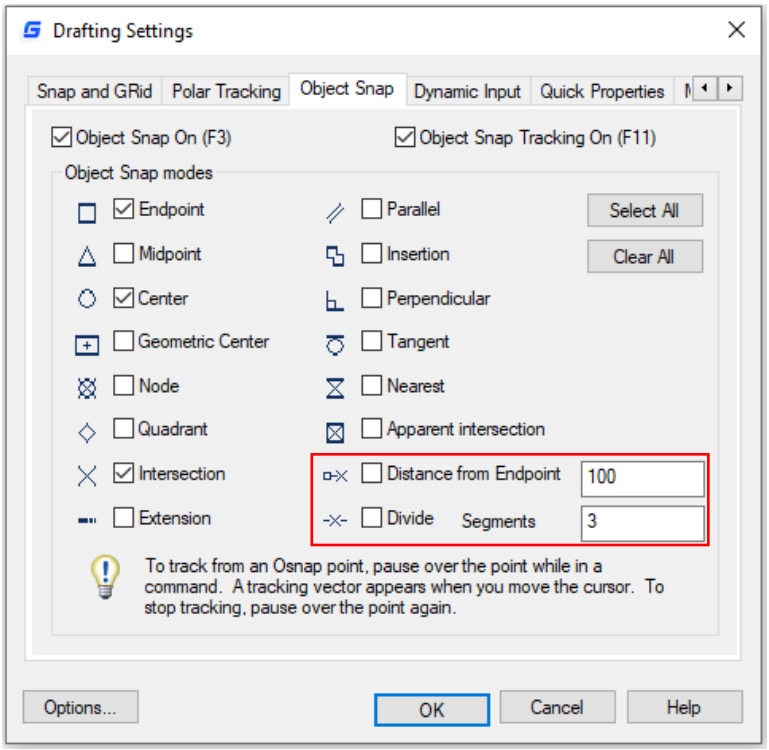


NanoCAD not only lacks these important functions, but also hides some of the frequently used options, and does not support paragraph dialog box.

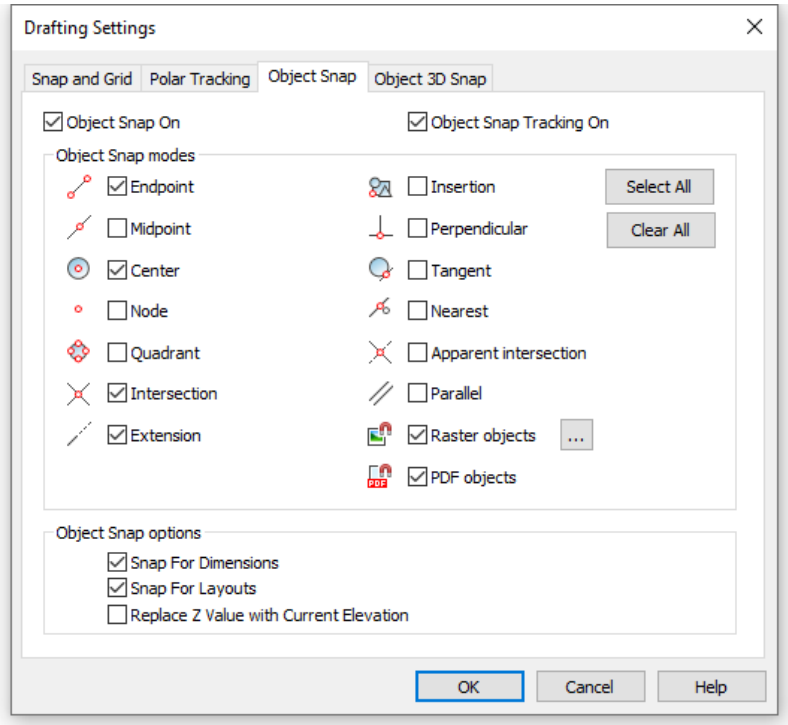


- **Snap Options**

GstarCAD supports Distance from Endpoint and Divide Segments snap options.

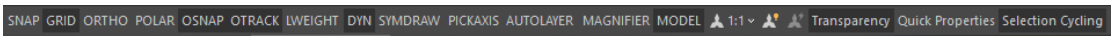


NanoCAD does not support Distance from Endpoint and Divide Segments snap options.



- **Status Bar Display Method**

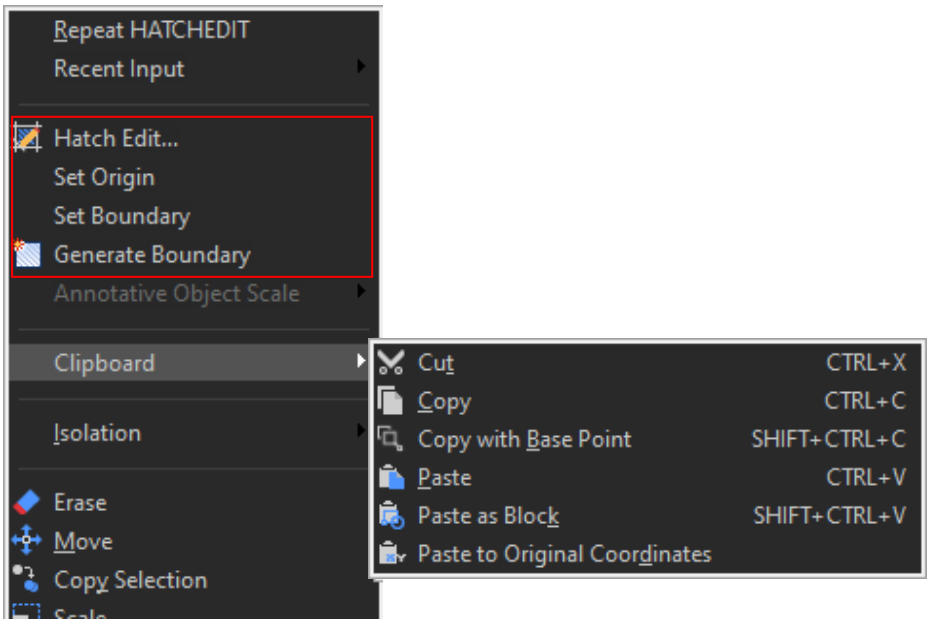
GstarCAD supports the icon display and function name display on the status bar.



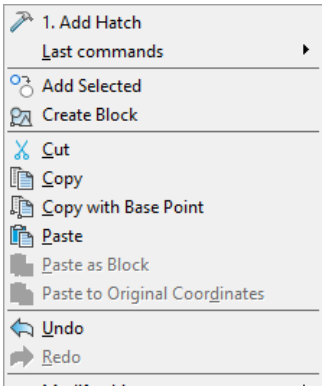
NanoCAD only supports the function name on the status bar.

- **Hatch Edit Options in Context Menu**

GstarCAD supports more options such as set origin, set boundary and generate boundary when right clicking on the hatch objects.



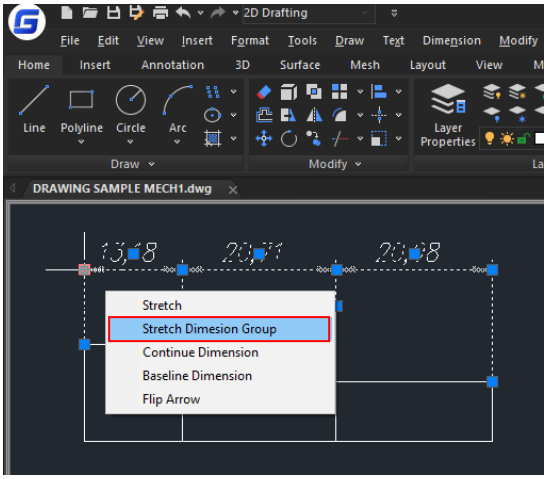
NanoCAD does not support set origin, set boundary and generate boundary and so on.

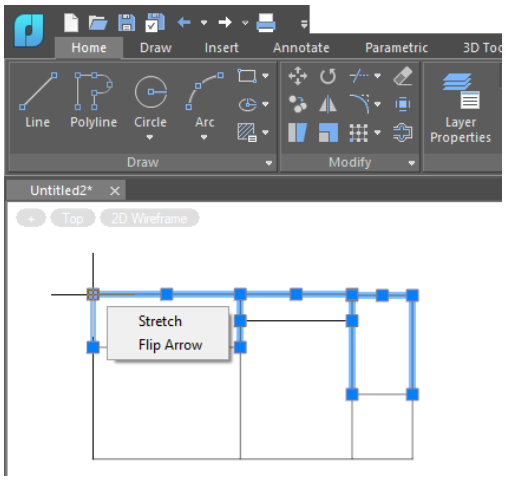


- **Stretch Dimension Group**

GstarCAD supports the “Stretch Dimension Group” option which allows adjusting dimensions that share same grips with each other as a whole.

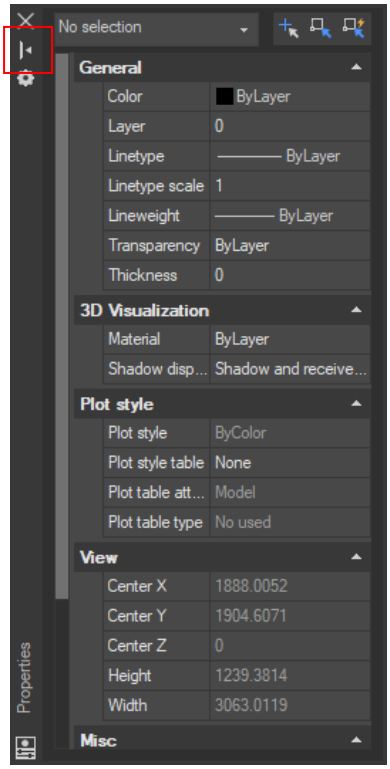
In NanoCAD, you have to stretch such dimensions one by one, which wastes your design time.

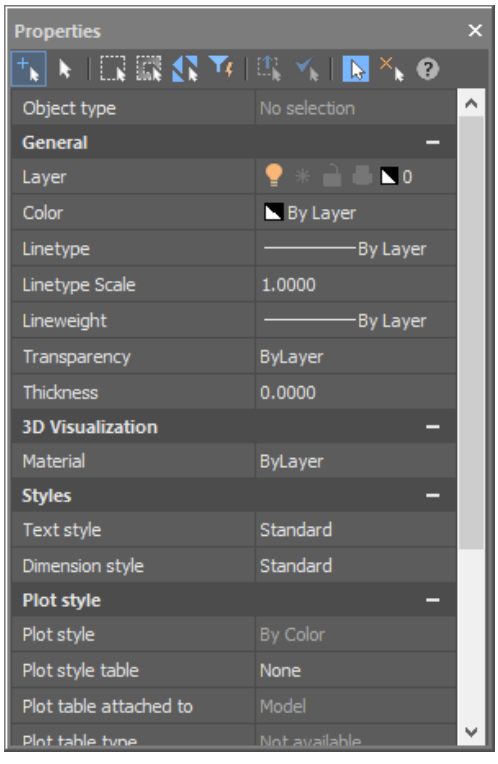




- **Properties Palette**

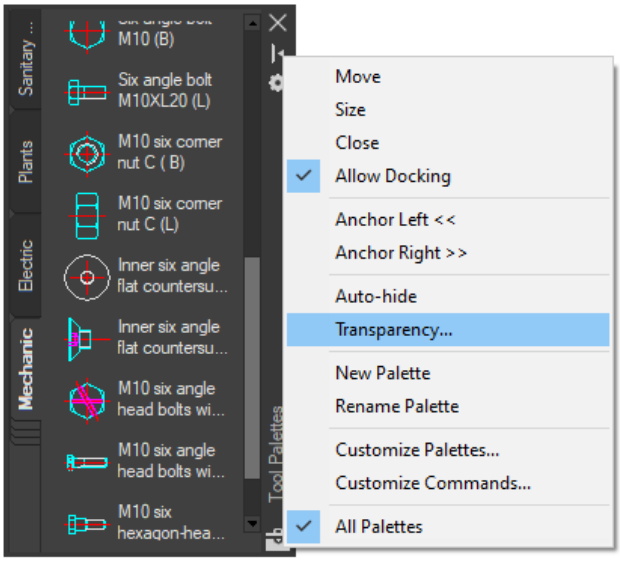
GstarCAD supports hide properties palette in workspace. NanoCAD only hides the properties on the right and left side out of the workspace.



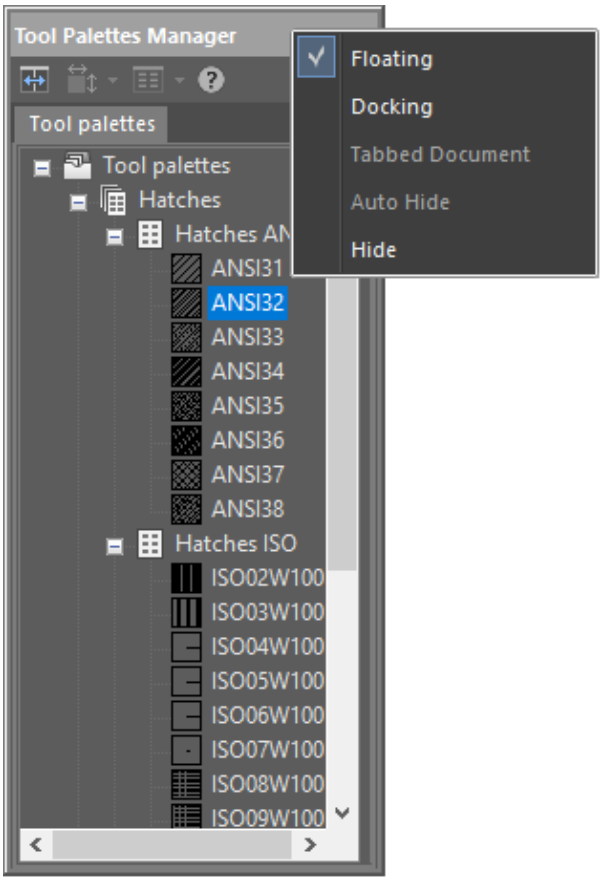


- **Transparency of the palettes**

GstarCAD supports adjusting the transparency of the palettes.



NanoCAD doesn't support transparency and other options.

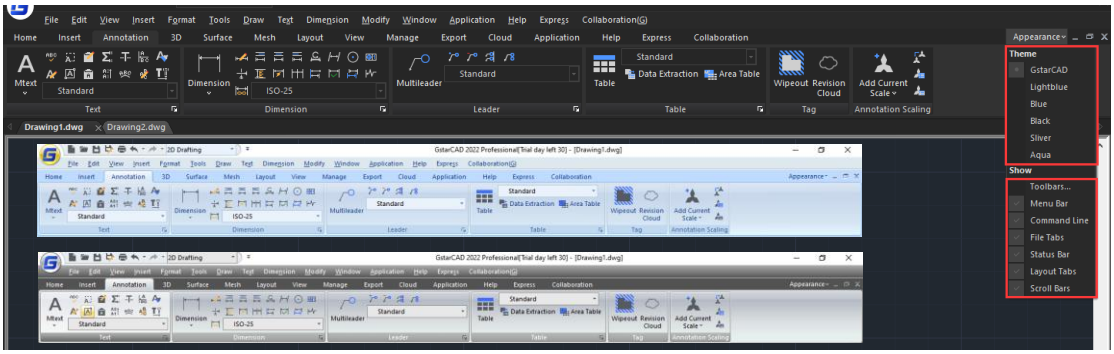


5. User Experience

5.1. Interface

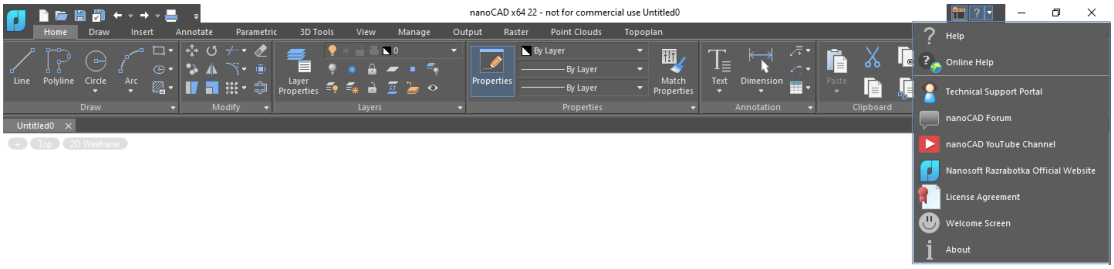
GstarCAD offers you a concise and familiar interface. It provides 6 color themes in total, and the combination of attractive color themes and icon designs creates a most comfortable work environment for you.

Interface switching in GstarCAD is simple and you can see the effect without closing the software. It's also available to display and rearrange elements like the toolbars, display the command bar, switch between workspaces, change the interface themes, customize your own interface and enable the status bar and menu bar.



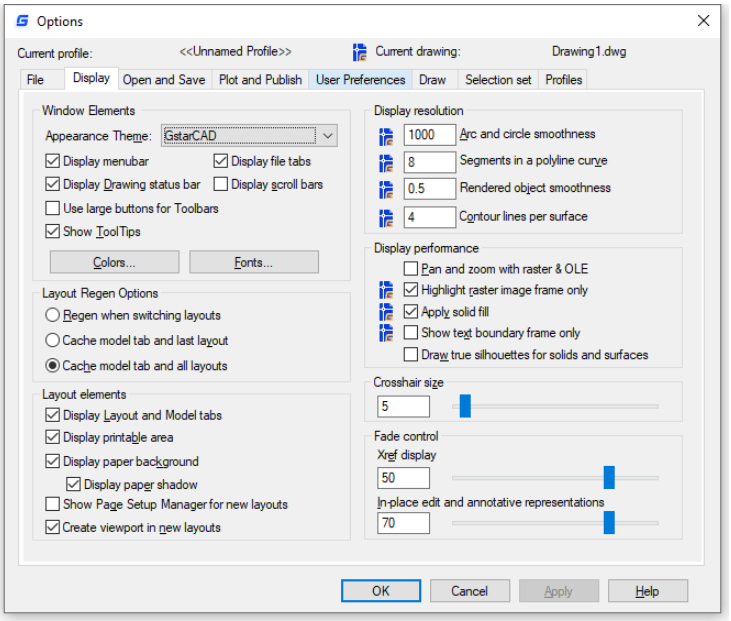
NanoCAD does not support color themes like GstarCAD.

NanoCAD does not support appearance tab to manage the display of the menu bar, command line, file tabs and so on.

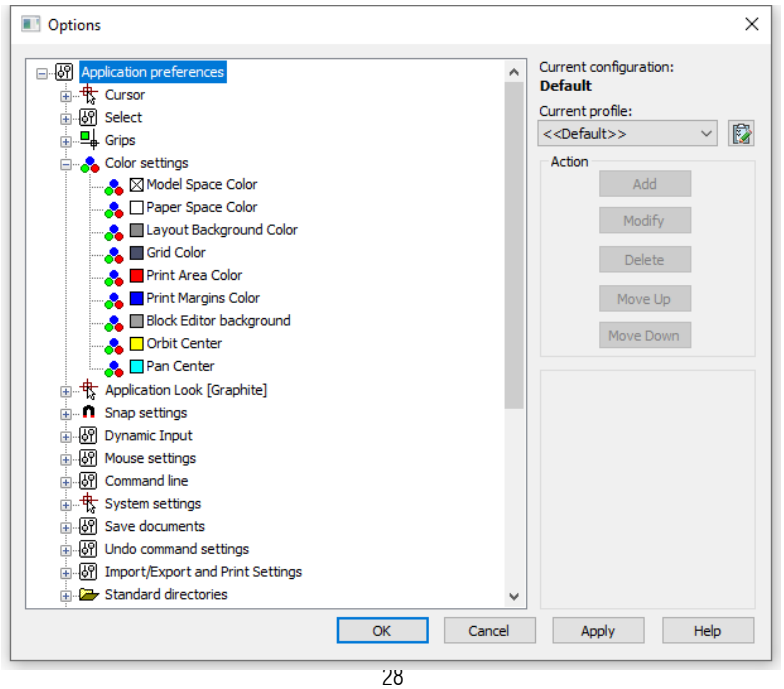


5.2. Dialog Box Structure

GstarCAD continues its concise dialog box with clear horizontal tabs display. You will feel familiar with GstarCAD for its high compatibility and you will be soon creating and handling drawings in the exactly original ways.



In NanoCAD, the options dialog box display with tree structure which has complex hierarchical relationships and is quite different from other competitors. And you need plenty of time to adapt to the complex hierarchy.



6. Conclusion

Through the above comparison, we can make the following conclusions: GstarCAD 2024 is far advantageous in terms of compatibility, functionality, user experience and so on. Compared with NanoCAD, GstarCAD is a better choice.

https://www.gstarcad.net/