





GstarCAD 2023 Content

1.	Exce	ellent Performance	4
2.	Perfe	ect Compatibility	5
3.	Flexi	ible Licensing	8
	3.1.	Licensing Policy	8
	3.2.	Licensing Options	9
4.	Inno	ovative Features	10
5.	Wha	at's New in GstarCAD 2023	11
	5.1.	NAVICUBE <i>New</i>	11
	5.2.	Digital Signature New	16
	5.2.7	1. DIGITALSIGN	17
	5.2.2	2. SIGVALIDATE	18
	5.3.	Lisp Debugger <i>New</i>	20
	5.3.7	1. Open File	21
	5.3.2	2. Edit File	21
	5.3.3	3. Debug	22
	5.3.4	4. Debug Actions	24
	5.3.5	5. Run View	24
	5.4.	VPSYNC <i>New</i>	25
	5.5.	SYSVARMONITOR <i>New</i>	26
	5.6.	Reset Settings to Default <i>New</i>	28
	5.7.	LAYOUTMERGE <i>New</i>	29
	5.8.	CLIPIT <i>New</i>	31
	5.9.	CLOSELINE <i>New</i>	33
	5.10.	ATTIPEDIT <i>New</i>	34
	5.11.	SVG File <i>Innovative</i>	35
	5.12.	VBA Improvement	36
	5.13.	Performance Improvement	38
	5.14.	ObjectARX API Improvement	38
	5.15.	Block Editor Improvement	39

5.15.1.	BAUTHORPALETTE	39
5.15.2.	BTABLE	41
5.16.	REVCLOUD Improvement	42
5.17.	PALETTES Improvement	. 44
5.18.	CUI Editor Improvement	. 46
5.19.	HELP Improvement	48
5.20.	LOCKUP Improvement	50
5.21.	Layout Expand Button Improvement	51
5.22.	DWF Import Improvement	51
5.23.	AI_EDITCUSTFILE Improvement	52

GStarCAD 2023 Complete Guide Remarkable Performance and Compatibility

GstarCAD 2023 is greatly optimized in performance by supporting Multi-Core and Parallel processing. The user experience and compatibility are also improved with many practical improvements and over 12 new features, such as supporting the NAVICUBE, Lisp Debugger, Digital Signature and VPSYNC, as well as compatibility with ObjectARX APIs, improving the display of Palettes, and providing two more valuable tools in the Block Editor, etc.

1. Excellent 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.

The performance of common-use operations like "OPEN", "QSAVE", "PLOT", "CLIP", "TRIM", "PASTE", "MOVE", "DYNAMIC SELECTION", and more commands are significantly faster than other CAD software. Big drawings could be opened more quickly and your work can be saved in only a fraction of a second.

The chart below provides an overview of the performance of GstaCAD 2023. We build an operation speed comparison of the basic features between GstarCAD and another CAD. The drawing which used to test the operation time is around 47 MB. To make sure the data validation, same operations will be tested twice and get the average value.

Operation Time Comparison between GstarCAD 2023 and GstarCAD 2022 and other competitors: (Unit: Second)

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

Drawing size:

- We tested the OPEN command with more than 10,000 drawings ranging from 20KB to 475MB, and got the average OPEN time.
- > We tested other operations with two 48MB and 114MB drawings, and got the average time.



It's obvious that GstarCAD 2023 is faster than the other CAD software when executing MOVE, UNDO, REDO, COPY, MIRROR, CTRL+C and CTRL+V commands. And it is extremely good when executing COPY TO CLIPBOARD command. Besides the chart, GstarCAD also works excellently in ARRAY and EXPLODE command, while another CAD couldn't even array objects in the same drawing. Additionally, executing EXPLODE with the other CAD software won't get response for a long time. Compared with other CAD software, GstarCAD is far ahead in performance especially for large drawings.

2. Perfect Compatibility

GstarCAD constantly improves its compatibility in all aspects and accomplishes the high compatibility with ACAD. The seamless data format, familiar interface, command structure and user operating habit, easy-to-use customization settings and applications/add-ons are all ready for you in GstarCAD 2023.

> Data Format

GstarCAD 2023 supports the native DWG/DXF file formats which are completely compatible with ACAD from version 2.5 to 2023. Any CAD drawings based on the DWG/DXF format can be easily handled by GstarCAD. Meanwhile, the drawing files created by GstarCAD also can be handled with other CAD software. GstarCAD 2023 fully realizes bidirectional compatibility with ACAD in data formats.

Furthermore, GstarCAD 2023 even supports various kinds of data file formats and application development interfaces. You could create or edit drawings in exactly original ways.

Save in:	MECHANIC	AL DRAWINGS2			•		Preview V
						Preview	
G	Name		Date modified	Туре	1		
3	a DRAWING	SAMPLE MECH4	2015/4/10 14:56	DWG File			
	a DRAWING	SAMPLE MECH5	2015/4/10 14:58	DWG File			
	a DRAWING	SAMPLE MECH6	2015/4/10 15:30	DWG File			
							Options
		AutoCAD 2018 Drawing(*.dwg)				
		AutoCAD 2010(LT2010) Drawi	ing(".dwg)				Security Options.
	AutoCAD 2007(LT2007) Drawing(*.dwg)						
		AutoCAD 2004(L12004) Draw AutoCAD 2000(L12000) Draw	ng(".dwg) ing(* dwg)				
		AutoCAD R14(LT98/LT97) Dr	awing(".dwg)				
		AutoCAD DrawingStandard(*.c	tws)				
Desktop		AutoCAD 2018 DXF(*.dxf)	1111)				
		AutoCAD 2013(LT2013) DXF(.dxf)				
	4	AutoCAD 2010(L12010) DXF(AutoCAD 2007(LT2007) DXF(.axr) .dxf)		F.		
		AutoCAD 2004(LT2004) DXF(.dxf)				
	File name:	AutoCAD 2000(LT2000) DXF(AutoCAD R12/LT2 DXF(* dxf)	".dxf)		Save		
		AULOGAD MIZ/LIZ DAF(.00)					

The main file formats and development interfaces between GstarCAD and ACAD.

Items	GstarCAD	ACAD
2.5-2018 DWG/DXF Versions	√	\checkmark
Drawing Template File (DWT)	\checkmark	\checkmark
Drawing standard File (DWS)	\checkmark	\checkmark
Customize User interface file (CUI/CUIX)	\checkmark	\checkmark
Old Menu File (MNU)	\checkmark	\checkmark
Drawing Sheet Set File (DST)	\checkmark	\checkmark
Hatch Pattern File (PAT)	\checkmark	\checkmark
Font File (SHX)	\checkmark	\checkmark
Line Type File (LIN)	\checkmark	\checkmark
Print Style File (CTB/STB)	\checkmark	\checkmark
Import and Export WMF	\checkmark	\checkmark
Import and Export SAT	\checkmark	\checkmark
Import 3DS	√	√
Import DGN	√	\checkmark

Export DWF/DWFX	\checkmark	√
Export STL	\checkmark	\checkmark
Export EMF	\checkmark	\checkmark
DWF Underlay	\checkmark	\checkmark
PDF Underlay	\checkmark	\checkmark
DGN Underlay	\checkmark	\checkmark
Script File (SCR)	\checkmark	\checkmark
LISP Development Interface	\checkmark	\checkmark
LSP File Loading	\checkmark	\checkmark
FAS File Loading	\checkmark	\checkmark
VLX File Loading	\checkmark	\checkmark
VBA Development Interface	\checkmark	\checkmark
Class ARX Development Interface	\checkmark	\checkmark
.net Development Interface	\checkmark	\checkmark

> Concise User Interface

GstarCAD 2023 offers you a concise and familiar interface. The combination of attractive dark color theme and icon designs will reduce your eyestrain. It's also available for you 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. The toolbars and command bar can also be floated anywhere on the screen or docked as well.



> Familiar Command

You can get started with GstarCAD immediately with the familiar command structure and shortcut system that you have known without any extra training. Whether you're a novice user or an experienced CAD professional, you'll soon be creating drawings using the productivity-enhancing features of GstarCAD.

GstarCAD Commands	ACAD Commands	GstarCAD Commands	ACAD Commands
Multiple	Multiple	Superhatch	Superhatch
Osnap	Osnap	Redraw	Redraw
Qselect	Qselect	Regen	Regen
Qleader	Qleader	Scalelistedit	Scalelistedit
Spell	Spell	Bedit	Bedit
Layerp	Layerp	Render	Render
Layoff	Layoff	Flatshot	Flatshot

Customized Settings

GstarCAD offers several methods to import your customized settings such as CUI, Lisp program, Shortcut settings, Blocks, DWT, Tool palettes, Plotters and so on from other CAD software. In just a few minutes, you will find your familiar interface in GstarCAD.

> API and Add-ons

GstarCAD offers friendly development interface such as GRX, .NET, VBA, Lisp, etc. Nowadays, hundreds of professional applications and industrial solutions are running on GstarCAD.

For more information about applications/add-ons of GstarCAD, please refer to the link:

https://www.gstarcad.net/application/

3. Flexible Licensing

3.1. Licensing Policy

GstarCAD licensing policy is flexible and simple. We provide both perpetual license and subscription. You are free to choose the license mode and you decide when to upgrade.

Perpetual License

When you choose to buy GstarCAD Perpetual License, you have the right to use it perpetually. You buy it once and it's forever yours. You are not forced to buy the subscription or upgrades.

Perpetual License and Subscription Plans

You can buy GstarCAD Perpetual License together with Subscription Plans. Gstarsoft releases a new GstarCAD major version every year, with Subscription Plans you can upgrade to the latest version of GstarCAD.

Yearly Subscription

GstarCAD Yearly Subscription is similar to ACAD Subscription; you can just pay a smaller amount for GstarCAD 1-year-license.

GstarCAD Upgrades

Gstarsoft releases a new GstarCAD major version every year; you can upgrade your GstarCAD Perpetual License to any newer version, still the Perpetual License!

3.2. Licensing Options

GstarCAD not only provides the flexible licensing policy, but also provides the flexible licensing Options. GstarCAD offers Stand-alone and Network licenses, both are available with Soft key (Serial number) and Dongle (USB-key).

Stand-alone license

The software is constrained to a certain host. A license is needed for each computer on which the software will be installed.

Network license

A pool of licenses is available on the server, for use in any computer on the network. You only need to have licenses for the maximum number of simultaneous users expected, not for each computer where the software will be installed.

	Stand-alone	Stand-alone	Network	Network
	License-key Serial number	USB-key Dongle	License-key Serial number	USB-key Dongle
Perpetual license			V	√
Rental license				×
License borrowing				
Connection to license server	×		\checkmark	V
Connection to license server	×	×	~	~

4. Innovative Features

GstarCAD offers over 100 unique and innovation tools like "Collaboration", "Area Table", "Auto Layer", "Viewport to Layout", "AutoxIstable". They are adopted to significantly speed up your drafting.

GstarCAD Innovative Features	Description			
Autolayer	Automatically switch the current layer while drawing the graph and draws the			
	graphic to the set layer.			
Area Table	Automatically dimension and count the area of an enclosed object and export the			
	result to a table in the current drawing area.			
Break Object	Breaks Objects by intersecting lines and allows to set the gap.			
Block Break	Breaks or shelter the graphic under the block.			
Graphic Compare	Compares graphic of two groups of objects or two files.			
Line2pl	Converts one or multiple connected straight line(s), arc(s) to one polyline.			
Sptpl	Spline created can be converted to a polyline according to the accuracy (number of segments of the arc).			
	A set of GstarCAD practical tools to enhance design efficiency, Including Drawing			
GSTATUAD TOOIS	Scale, Rotate Cursor, Draw Axonometric Line, Extension, Normal Connect, etc.			
Drawing Lock	Turns the drawing into a whole block to prevent be modified by others.			
Attribute Increment	Specifies attribute of blocks with incremental value, and to modify attribute value of			
	blocks according to the sort method.			
Define Layout Viewport from	Defines the range of drawing displayed in viewport from the model space, calculate			
Model Space (M2LVPORT)	the viewport size based on the set scale and position the viewport in the layout			
	space.			
Alian Tool	Aligns selected objects such as: rectangle, circle, line, spline, arc, pline, block and			
Alightion	even 3D model object along X or Y axis coordinates.			
Arrange Tool	Adjusts the arrangement of multiple objects. It can align multiple objects at left,			
Analige 1001	right, top, bottom and center and also can arrange vertical or laterally.			
MEASUREGEOM	Supports to measure distance, radius, angle, area, volume sum area and so on.			
Symmetric Draw	Generates the symmetrical object automatically when drawing an object.			
Outline Objects	Extracts the outline shape of selected closed objects in a window selection method.			
Invert Fillet	The FILLET command now offers a new option called Invert. You can create a reverse			
	fillet by this option.			
Magnifier	Views a specific area of your drawing as a magnifier with the capability of snap			
waynner	points without performing zoom in/out.			
Barcode & QR Code	Creates Barcode & QR Code by entering data or picking data from drawing.			
Shortcut	CUSTACC command allows you to customize, delete or modify existing command			
Customization(CUSTACC)	shortcuts.			
Table Tools	A set of practical tools to draw and edit tables and can export CAD Table to Excel			

	file.
	Opens Excel file to edit the data and insert it to GstarCAD. It also allows updating the
AUTOVESTADIE	table data after the drawing was modified.
Dline Pooloon	Supports different Boolean operation options such as union, intersection and
	subtraction.
Batch Print	Batch print drawings with the same drawing frame attribute in a drawing.
Arranga Frama	Inserts frames of drawings, calculates according to the size of the frame and then
Allaliye Flaille	arranges them to a big drawing.
GstarCAD Collaboration	Helps to improve project design efficiency and significantly reduce error and cost.

5. What's New in GstarCAD 2023

5.1. NAVICUBE New

The NaviCube is a navigation tool that is displayed when you are working in 2D model space or 3D visual style, which allows switching between standard and isometric views more easily. It consists of a cube, compass and options, which is draggable and clickable, and supports switching to any available preset views, rolling the current view, or setting the current view as the Home view.



You can enter the NAVICUBE command, or click Ribbon \gg View \gg 3D Tool \gg NaviCube to control whether to display the NaviCube in the drawing area. When the value is ON, the NaviCube is displayed, when the value is OFF, the NaviCube disappears.

Appearance of the NaviCube: The NaviCube is displayed in one of two states: inactive and active. When your cursor is not touching the NaviCube, it's inactive, it appears partially transparent by default so that it does not obscure the view of the model. When you move the cursor over it, it becomes active, it is opaque, so the view of the objects in the current view of the model may be obscured. And you can modify other properties of the NaviCube within the Settings option.



Cube: It is in the top right corner of the drawing area over the model, and shows the current viewpoint of the model. When moving the cursor over it, you are able to click the faces, corners or edges to change the views conveniently, as well as click on the cube and drag it to roll the current view.



Compass: The compass is displayed below the NaviCube and indicates the north direction defined for the model. You can click any of the direction letter on the compass to rotate the model.





When the view is "Front" "Back" "Left" or "Right", some little **triangle buttons** are displayed around the cube, which allow you to switch between adjacent views by clicking them.

When clicking the triangle button at the right or left side, the view is switched to its right or left adjacent view. Therefore, you can continuously switch between different views and rotate the navigation cube horizontally by clicking these two buttons.



When clicking the triangle button at the top or bottom side, the view is switched to top or bottom view. The top and bottom triangle buttons can only be clicked once.



When clicking the triangle button at corners, the view is switched to the edge view of two adjacent views. The corner triangle buttons can only be clicked once.



Options Menu:

- > Home: Changes to Home view
- > NaviCube Settings: Opens NaviCube Setting window
 - On-screen: Identifies the view in the viewport where the NaviCube is displayed.
 - Navicube size: Specifies the size of the NaviCube.
 - Inactive Opacity: Controls the opacity of the NaviCube when inactive.
 - Show UCS Menu: Controls the display of the UCS drop-down menu.
 - Zooms to extents after view change: Specifies if the model is forced to fit the current viewport after a view change.
 - Orient Navicube to current UCS: Controls whether the NaviCube reflects the current USC or WCS.
 - Show compass below the Navicube: Controls the whether the compass is displayed below the NaviCube tool.
 - Restore Default: Restore NaviCube settings to default values.
- > 3D views: Displays view control list.
- > Coordinated system: Controls coordinate system.
- > Upside down: Changes to the view side which is parallel to the current view side.
- > 90° Clockwise: Rotates 90 degrees clockwise.
- > 90° Counter Clockwise: Rotates 90 degrees counterclockwise.

Right-click Menu:

- ▶ Home: Goes back to Home view
- > Set Current View as Home: Specifies the current view as the Home view.
- > NaviCube Settings: Opens the NaviCube Setting window.
- Help: Open Online Help system, Home Commands N NAVICUBE command.

Home

Set Current View as Home NaviCube Setting Help

System Variable	Description	Value	Value Description
COMPACE	Controls whether the	0	Turn OFF compass
COMPASS	current viewport	1	Turn ON compass
		0	NaviCube is not displayed in 2D and 3D visual styles
	Controls the display of the	1	NaviCube is displayed in 3D visual styles, but not in 2D visual styles
	style and the current viewport	2	NaviCube is displayed in 2D visual styles
		3	NaviCube is displayed in both 2D and 3D visual styles
		0	Upper-right
	Identifies the corner in the	1	Upper-left
NAVVGUBELUCATION	is displayed	2	Lower-left
		3	Lower-right
NAVVCUBESIZE	Specifies the size of the NaviCube	30-300	The bigger the number, the bigger the NaviCube
NAVVCUBEOPACITY	Controls the opacity of the NaviCube when inactive	0%-100%	0% identifies transparent NaviCube, 100% identifies fully opaque NaviCube
	Controls whether the	0	NaviCube is oriented to reflect WCS
NAVVGUBEORIENT	USC or WCS	1	NaviCube is oriented to reflect the current UCS
		1	Small
NAVVCUBECUBEFONTSIZE	Controls the font size of the text on the cube	2	Medium
		3	Large
		1	Thin
NAVVCUBECUBEPRISMWIDTH	Control the width of cube edges and corners	2	Medium
		3	Wide

Note: The color of the cube can be changed at Logo > Options > Display > Windows Elements > Colors.

5.2. Digital Signature New

DIGITALSIGN and SIGVALIDATE commands are provided to support attaching and validating digital signatures, which can offer reliable information, and validate the authenticity and integrity of drawings.

System Variable	Description	Value	Value Description
	Controls whether the Digital Signature	0	The information is not presented if a file has a valid signature
SIGWARN	with a valid digital signature is open	1	The information is presented if a file has a valid signature

Display digital signature information: Located at Logo > Options > Open and Save > File Safety Precautions > Display digital signature information, has the same effect as the SIGWARN system variable.

File Display Open and Save Plot and Publish User Prefe	rences Draw Selection set Profiles
File Save Save as: AutoCAD 2018 Drawing(*.dwg) Maintain visual fidelity for annotative objects Maintain drawing size compatibility Ihumbnail Preview Settings	File Open 9 Number of recently-used files Display full path in title Application Menu 9 Number of recently-used files
50 Incremental save percentage File Safety Precautions ✓ Automatic save 90 Minutes between saves ✓ Create backup copy with each save	Xrefs Demand load <u>X</u> refs: Enable Retain <u>changes</u> to Xref layers Retain <u>changes</u> to <u>Xref layers</u> Retain <u>changes</u> to <u>Refedit current</u> drawing
Full-time CRC validation Maintain a log file sv\$ File extension for temporary files Security Options Display digital signature information	GRX Applications Proxy images for custom objects: Show proxy graphics

	ings\Digital signature.dwg	
The digital signature is The drawing has not be	valid. en modified since signed.	
Signed by:	Other fields(0);	
GCAD-2023	Subject	~
Voluos	Subject	
CCAD-2023	Issuer Valid from	
UCAD 2025	Valid to	
	Serial number	_
	×	
S	2	
Comment		
Signature date and time:	Time service used:	
signature date and time:	Time service used:	
ignature date and time:	Time service used:	
ignature date and time:	Time service used:	

If your digital signature has a password, you will need to enter
the password first.

Password			×
Enter passw	ord to open drawing:		
E:\GstarCAD	2023 Materials\Drawings\Digital	signature.dwg	
l	OK	Cancel	

Note: The digital signature will become invalid when:

- The file is modified after the digital signature is attached.
- The file is damaged during transmission or when a digital signature is attached.
- The digital certificate has been revoked by its certificate authority.

Digital	Signature Warning	\times
<u> </u>	The saved version of this drawing has a digital signature attached. Saving a new version will invalidate the signature.	
	Do you want to continue?	
	OK Cancel	

5.2.1. DIGITALSIGN

You can enter DIGITALSIGN command to attach a digital signature to a drawing, which can provide reliable information of the origin, identity and status on a drawing file. And if an unauthorized change is made or the signed file is corrupted, the digital signature becomes invalid.



After executing the DIGITALSIGN command, the Security Options window will pop up, after checking the 'Attach digital signature after saving drawing' option, you are able to select a digital ID and edit signature information (Time stamp and Comments).

But, if there is no valid digital certificate in your PC, a warning box will pop up.

1	Digital Signature - Digital ID Not Available	×
	No Valid digital ID is available on your system.	
	A digital ID, also known as a digital identity or digital certificate, is an encypted file that contains your personal security information. Digital IDs prove your identity in electonic transactions, and are included with digital signature.	
	You can obtain a digital certificate from a reputable certificate authority(CA).	
1	ОК	

✓ <u>A</u> ttach digital sig Select a digital ID (gnature after saving drawing		
Issued To	Issued By	Expiration Date	
GstarCAD-certific.	GstarCAD-certificate1	2027-12-31	
Signature informa	tion	Commenter	
Signature informa Get time stamp from Time of the Com	tion om: puter (DESKTOP-HG96M2N)	<u>C</u> omments: ✓ GstarCAD 2023 d	igital signature
Signature informa Get time stamp fr Time of the Com Successfully con	tion om: puter (DESKTOP-HG96M2N) tacted time server.	Comments: GstarCAD 2023 d	igital signature
Signature informa Get time stamp fr Time of the Com Successfully con	tion om: puter (DESKTOP-HG96M2N) tacted time server.	Comments:	igital signature

Except the DIGITALSIGN command, you can also enter 'SAVEAS' command, or click Logo > Save as > Security Options, to open the 'Save drawing as' dialog box and attach a digital signature to the drawing. The Security Options window that is popped up is the same as DIGITALSIGN command.

Name Date modified Type CLIPT SAMPLE 28/06/2022 16:08 File folder Guide 16/05/2022 13:41 File folder BTABLEdwg 15/06/2022 14:25 DWG File G ATTIPEDIT/dwg 14/06/2022 15:37 DWG File G CLOSELINE.dwg 14/06/2022 10:33 DWG File G DWF.dwg 21/06/2022 10:38 DWG File G DWF.dwg 21/06/2022 13:38 DWG File G LAVOLTMERGE2.dwg 15/06/2022 13:38 DWG File G LAVOLTMERGE2.dwg 15/06/2022 13:31 DWG File G LAVOLTMERGE2.dwg 15/06/2022 13:31 DWG File G LAVOLTMERGE2.dwg 15/06/2022 13:31 DWG File G NAVCUBE.dwg 10/06/2022 13:31 DWG File File game: Digital signature.dwg Save	Save in:	Drawings				~	🗢 🛄 🛄 Pre <u>v</u> iew 🔹 🔻
Image: Cupier SAMPLE 28/06/2022 16:08 File folder Image: Cupier SAMPLE 28/06/2022 13:41 File folder Image: Cupier SAMPLE 16/05/2022 13:41 File folder Image: Cupier SAMPLE 28/06/2022 13:47 DWG File Image: Cupier SAMPLE 15/06/2022 15:47 DWG File Image: Cupier SAMPLE 16/06/2022 15:37 DWG File Image: Cupier SAMPLE 16/06/2022 10:33 DWG File Image: Cupier SAMPLE 21/06/2022 10:33 DWG File Image: Cupier SAMPLE 21/06/2022 13:38 DWG File Image: Cupier SAMPLE 21/06/2022 13:38 DWG File Image: Cupier SAMPLE 10/07/2022 13:01 DWG File Image: Cupier SAMPLE 10/06/2022 13:01 DWG File <td< th=""><th></th><th>Name</th><th>^</th><th>Date modified</th><th>Type</th><th>^</th><th>Preview:</th></td<>		Name	^	Date modified	Type	^	Preview:
Demo 16/05/2022 13:41 File folder Guide 16/05/2022 13:41 File folder USP 22/06/2022 14:36 File folder Overview 16/05/2022 13:41 File folder Overview 16/05/2022 13:41 File folder Overview 16/05/2022 13:41 File folder G BTABLE dwg 15/06/2022 14:26 DWG File G BTABLE dwg 27/06/2022 16:22 DWG File G COMBINELAVOUT.dwg 16/05/2022 16:40 DWG File G Digital signature.dwg 24/06/2022 16:32 DWG File G DWF dwg 21/06/2022 10:38 DWG File G DWF dwg 21/06/2022 13:38 DWG File G DWF dwg 21/06/2022 13:38 DWG File G DWF dwg 30/03/2022 13:38 DWG File G LOCKUP.dwg 30/03/2022 13:31 DWG File File game: Digital signature.dwg Save		📙 CLIPIT SAM	PLE	28/06/2022 16:08	File fold	er	
Guide 16/05/2022 13:41 File folder LISP 29/06/2022 13:41 File folder Overview 16/05/2022 13:41 File folder G ATTIPEDITIOng 14/06/2022 13:41 File folder G BTABLE,recover.dwg 17/06/2022 13:42 DWG File G BTABLE,recover.dwg 27/06/2022 16:22 DWG File G CLOSELINE.dwg 14/06/2022 13:37 DWG File G DWF.dwg 16/05/2022 13:38 DWG File G DWF.dwg 21/06/2022 13:38 DWG File G DWF.dwg 21/06/2022 13:38 DWG File G DWF.dwg 21/06/2022 13:38 DWG File G LOKUT.Meg 30/03/2022 13:38 DWG File G LOKUT.Meg 30/03/2022 13:38 DWG File G LOKUP.dwg 30/03/2022 13:31 DWG File G LOKUP.dwg 30/03/2022 13:31 DWG File File game: Digital signature.dwg Save		📜 Demo		16/05/2022 13:41	File fold	er	
ILISP 29/06/2022 14:16 File folder Overview 16/05/2022 13:41 File folder Overview 16/05/2022 13:41 File folder StaffEdLdwg 15/06/2022 14:26 DWG File StaffEdLdwg 15/06/2022 16:22 DWG File G COMBINELANOUT.dwg 14/06/2022 16:22 DWG File G COMBINELANOUT.dwg 16/05/2022 16:32 DWG File S DWF.dwg 21/06/2022 10:33 DWG File G DWF2.dwg 29/06/2022 13:38 DWG File G DWF2.dwg 29/06/2022 13:38 DWG File G LOXUJTMERGE2.dwg 11/06/2022 13:31 DWG File G LOXUJTMERGE2.dwg 11/06/2022 13:31 DWG File G LOXUJTMERGE2.dwg 30/03/2022 13:51 DWG File G LOXUJTMERGE2.dwg 30/03/2022 13:01 DWG File File game: Digital signature.dwg Save		📕 Guide		16/05/2022 13:41	File fold	er	
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File game: Digital signature dwg Save		S NAVCUBE.d	wg	14/06/2022 13:01	DWG Fil	e v	
File game: Digital signature dwg V Save		<				>	
		File name:	Digital signature.dwg		~	<u>S</u> ave	

Note: You can only digitally sign the following file types:

- DWG and DWT files that are compatible with AutoCAD 2000 and later drawing-file formats.
- DWS files.

5.2.2. SIGVALIDATE

You can click the signature validate icon in the Status bar or enter the SIGVALIDATE command to check whether the digital signature attached to a drawing file is valid or invalid. The Validate Digital Signatures dialog box that shows information about the digital signature is displayed.

|--|

After executing the SIGVALIDATE command, the Validate Digital Signature dialog box pops up. When it is valid:

The digita The draw	al signature is valid. ing has not been modified sinc	e	View Base Signature(V
ret drawings View Xref draw	rings(<u>X</u>)		View Xref Signature(S)
Name	Folder	Status	
Clipit_Sample_1	_Fur E:\GstarCAD 2023 Mate	erials\Drawi	

Name: Displays the location and name of the file whose digital signature is being viewed.

Digital Signature Status: Displays a Valid Signature icon if a digital signature is valid, and an Invalid Signature icon if the digital signature is not valid.

View Base Signature: Displays the Digital Signature Contents dialog box. The option is available only if the digital signature is valid.

View Xref drawings: Displays the Xref drawings contained in a file's base drawing. After checking it, a list of Xref drawings will be shown below as long as there are some Xref drawings contained in the current signed file.

View Xref Signature: Displays the Digital Signature Contents dialog box of the Xref file. It can be clicked only when the Xref file is selected in the list.

The Digital Signature Contents dialog box includes;

- > Name: Displays the location and name of the file whose digital signature is being viewed.
- Digital Signature Status: Displays a Valid Signature icon if a digital signature is valid, and an Invalid Signature icon if the digital signature is not valid.
- > Signed by: Displays the location and name of the file whose digital signature is being viewed.
- > Other fields: Displays the subject, issuer, valid from date, valid to date and serial number in the Values box.
 - Subject: Displays information about the organization or individual who owns the digital ID and attached the digital signature.
 - Issuer: Displays the name of the certificate authority that originally issued the digital ID.
 - Valid from: Displays a day, month, year, and exact time, the digital ID is valid from that time.
 - Valid to: Displays a day, month, year, and exact time, the digital ID will be invalid after that time.
 - Serial number: Displays the serial number assigned to the digital ID.
- Values: Displays information about a digital signature based on the item you select in the 'Other fields' drop-down list.

	js(ATTPEDIT.dwg
The digital signature is val	lid.
The drawing has not been	modified since signed.
Digital ID	
Signed by:	Other fields(<u>0</u>):
GstarCAD-certificate1	Serial number 🗸 🗸 🗸
Values:	Subject
-Eas -40- 6417 7296 499- 4711 14	Issuer
esac a40c 6417 7361466e 4711 10.	Valid to
	Serial number
	~
<	>
	J
Jomment	
GstarCAD 2023 digital signature	
GstarCAD 2023 digital signature	,
GstarCAD 2023 digital signature	
GstarCAD 2023 digital signature	
GstarCAD 2023 digital signature	
GstarCAD 2023 digital signature	Time service used:
GstarCAD 2023 digital signature Signature date and time: 06/07/2022 16:05:46 W. Australia Stej	Time service used: Time from local computer
GstarCAD 2023 digital signature Signature date and time: 06/07/2022 16:05:46 W. Australia Sta	Time service used: Time from local computer

- > Comment: Displays comments about the digital signature that is attached to the current file.
- Signature date and time: Displays the date and time that the digital signature was attached to the current file. The date and time are based on the time service used when the signature was attached.
- > Time service used: Displays the time service used to add the time stamp to the current file.
- Close: Closes the dialog box.
- ▶ Help: Opens Online Help system, Home Commands S SIGVALIDATE command.

When the drawing file is not signed:

Validate Digita	I Signatures	ital signature dwg			>
No digital	signature	iai signature.uwg		View Base Si	gnature(<u>V</u>)
view Xref drawi	ngs(<u>X</u>)			View Xref Sig	gnature(<u>S</u>)
Name	Folder		Status		
				Close	Help

5.3. Lisp Debugger <u>New</u>

You can enter the VLISP or VLIDE command, or click Ribbon >> Manage >> Applications >> Visual LISP Editor to launch the Visual Studio Code as the Lisp Debugger in GstarCAD 2023, in which you are able to edit and debug Lisp programs conveniently.



If you haven't installed the Visual Studio Code software, a warning will pop up, asking you to install it first.

If the Visual Studio Code software has been installed in your PC, it will be opened in a few seconds. You can visit VS Code official website (<u>https://code.visualstudio.com/docs/getstarted/userinterface</u>) to learn more details.

GstarLisp:

This extension adds support for Lisp files to Visual Studio Code. It allows you to edit and debug your lisp programs with GstarCAD. When you start VS Code through GstarCAD, it will install the GstarLisp extension for you by default. And when there is a new version of the GstarLisp extension, it will be updated automatically the next time you start VS Code through GstarCAD. Alternatively, you can also search and install it in marketplace.

EXTENSIONS マひ =・・・ F Extension	n: Gstanläp ×		
South Extensions in Marketplace	GstarLisp v1.0.1 Gatarot ↔ 3 ★★★★★ GstarCAD liep delogger for Vocal Studio Code Ostatic One Delogger for Vocal Studio Code This extension is enabled globally.		
	Details Feature Contributions Changelog Runtime Status		
	GstarCAD lisp debugger for Visual Studio Code Thic extension allowe you to cells and debug your lisp programs with GatarCAD.	Categorie Programmi Debuggers	S ng Languages Snippets
	Features	Extension	Resources
	 syncax highlight Code folding Smart hird: Autocompletion Code subpets 	More Info Released on Last updated Identifier	17/06/2022, 16:17:12 17/06/2022, 16:19:59 gram-off-gstar-21:pp
	2.1ISP Debugger		
	• Launch/Attach • Vuisibles • Calitacks • Breakpoints		
	Step In/Out/Over		
	Requirements		

5.3.1. Open File

You are able to open LSP files or DCL files and debug them when the VS Code is opened and GstarLisp extension is installed.

- Click the GstarLisp extension icon, then click "Open Folder" icon, select the folder, and the .lsp and .dcl files will be filtered out.
- > Click the file in the list to open it in the editing area.
- Click the refresh button to reload the selected file if you need.

5.3.2. Edit File

What you can do to edit the program with GstarLisp extension in VS Code:

- ➢ Syntax highlight
- Code folding
- > Smart hints
- > Autocompletion
- > Code snippets



5.3.3. Debug

Basic debugging steps include:

- Step 1. Launch VS Code \triangleright
- Step 2. Open a LSP file or a DCL file
- Step 3. Add debug configurations and edit launch.json
- > Step 4. Choose a debug configuration: GstarLisp-Launch or GstarLisp-Attach
- Step 5. Click Run > Start Debugging (or Press F5)

GstarLisp-Attach:

Allows you to attach to a running instance of the GstarCAD application to debug the current LSP or DCL file.

ſ	Ç	RUN AND DEBUG: RUN			
		Open a file which can be	GstarLisp-Attach	Suggested	
	🔎 or run.	GstarLisp-Launch			
Ľ			Node.js		
٩	ور	Run and Debug	Web App (Chrome)		
		To customize Run and Deb	Web App (Edge)		
		folder and create a launch.	Install an extension for LISP		
E			7 (print "finish circle 1")(print)		

As long as you choose GstarLisp-Attach configuration, you need to select a running GstarCAD instance as debug adapter. If there is no running GstarCAD instance in your PC, a warning will pop up, and the file can't be debugged.



Cancel

GstarLisp-Launch:

Launches a new process of the GstarCAD application to debug the current LSP or DCL file.

Ð	RUN AND DEBUG: RUN	\$elect debugger	¢.
	Open a file which can be de	GstarLisp-Attach	Suggested
	or run.	GstarLisp-Launch	
Ŷø	Run and Debug	Node.js Web App (Chrome)	
6	To customize Run and Det-	Web App (Edge)	
$\mathbf{\Sigma}$	folder and create a launch.	Install an extension for LISP	
		<pre>7 (print "finish circle 1")(print) 8 (command "circle" p3 r) 9 (print "finish circle 2")(print)</pre>	

As long as you choose the GstarLisp-Launch configuration, you need to specify the absolute path of the gcad.exe file in the extension settings of the GstarLisp extension (path format C://Program files//Gstarsoft//GstarCAD2023//gcad.exe)

			E Settings ×			°D
						3 Settings Found 🗮 🏹
	GstarLlsp (%)13 GstarCAD lisp debugger for	uns 				Turn on Settings Sync
⊳	Autolisp' langua Φ4κ Autolisp' language syntax jpnacaduser			System IndexOutOfRangeException System InvalidCastException System NutReferenceException	never never never	
5 1,				System.OutOfMemoryException System.OverflowException System.StackOverflowException	never never never	
		Install Another Version Uninstall Copy		System TypeInitializationException		
		Copy Extension ID Extension Settings		Gstar Lisp > Debug: Attach Process		
				Absolute path to the GCAD executable.		
		PROBLEMS OUTFUT D No problems have been d	EBUG CONSOLE TERMINAL			oouks/**) ♀∂≡^×

If you haven't set an absolute path to the gcad.exe file, the debug window will prompt you to set the path.



5.3.4. Debug Actions

Once a debug session starts, the Debug toolbar will appear on the top of the editor.

- Continue / Pause: Jumps to next breakpoint.
- Step Over: Completes current line and moves to the next line of code in the current function.



- > Step Into: Completes the next line of code. If this line contains a function, go to the first line of the function's code and stop.
- Step Out: Completes all the code in the current function and return you to the previous function that "called" this function.
- Restart: Restarts the debug session.
- Stop: Stops the debug session.

Note:

- In GstarLisp, press F10 to complete current line and move to the next line of code, while in AutoLisp, press F10 to complete current line, and then press F10 to move to the next line.
- > When you click the **Restart** icon:
 - GstarLisp-Attach configuration: Current debugging session will not be stopped, and the debugging will be restarted in the current CAD instance.
 - GstarLisp-Launch configuration: Stops the current debugging session, ends the current CAD instance (without asking whether to save the drawing), and then re-launches a new CAD instance for debugging.
- > When you click the **Stop** icon:
 - GstarLisp-Attach configuration: Stops debugging session, but keeps current CAD instance.
 - GstarLisp-Launch configuration: Stops debugging session, ends the current CAD instance (without asking whether to save the drawing).

5.3.5. Run View

Once a debug session starts, the Run View windows will appear on the left of the editor, including:

VARIABLES:

The Locals and Last Value windows show variable values while you are debugging. The windows are only available during a debugging session. The Locals window shows variables defined in the local scope, which is usually the current function or method. The Last Value displays the value of the last changed variable.



WATCH:

While you're debugging, you can use Watch windows to watch variables and expressions. The windows are only available during a debugging session. Watch windows can display several variables at a time while debugging. You are able to add, edit or remove expressions by right clicking on the Watch windows.

✓ WATCH		
A: 1235		
II: 1 ✓ D: (T . 234) [0]: T [1]: 234	Add Expression Edit Expression Copy Value	F2
	Remove Expression Remove All Expressions	Delete

CALL STACK:

The Call Stack windows display a list of all the procedures that have been executed. It lists the name of the function or procedure that is currently on the stack. In GstarLisp, the call stack mainly displays the name of the called function.

\sim CALL STACK	PAUSED ON STEP
C:F00	foo.lsp 9:3

BREAKPOINTS

□ user-unhandled ✓ foo lsn_E\GstarCAD.3

> Remove Breakpoint Remove All Breakpoints Enable All Breakpoints Disable All Breakpoints Reapply All Breakpoints

BREAKPOINTS:

A breakpoint is a setting that you can add to a line of code to temporarily pause the execution at that line. Breakpoints can be toggled by clicking on the editor margin or using F9 on the current line. The Breakpoints windows allow you to control all breakpoints.

5.4. VPSYNC New

You can enter VPSYNC command or click Ribbon > Express > Layout > Synchronize Viewports to synchronize one or more layout viewports to a master layout viewport to have the exact locations match up.



All synchronized viewports use the zoom factor of the master viewport.

Select viewports to be aligned to master viewport: space = Model space 1 = 307790.8 Select master viewport:*Cancel* Command:

5.5. SYSVARMONITOR New

You can enter SYSVARMONITOR command to open the System Variable Monitor dialog box, which can monitor a list of system variables and send notifications when any one of them changes. There are already some system variables in the monitor by default.

- Notify when these system variables change: Displays a command line and status bar notification when monitored system variables do not match their preferred value. (SYSMON system variable = 1)
- Enable balloon Notification: Displays a balloon alert notification when monitored system variables do not match their preferred value. (SYSMON system variable = 2)

AUTOLAYERMODE 0 ? BLKOPT 1 ? CMDDIA 1 ? FILEDIA 1 ? MAGMODE 5 ? MIRRDRAWMODE 0 ?	0 0 1 0 1 0 1 0 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0
BLKOPT 1 ? CMDDIA 1 ? FILEDIA 1 ? MAGMODE 5 ? MIRRORAWMODE 0 ?	I Q Edit list. 1 Q I 5 Q I 0 Q I
CMDDIA 1 ? FILEDIA 1 ? MAGMODE 5 ? MIRRDRAWMODE 0 ?	1 00 1 00 5 00 0 00 0 00
FILEDIA 1 ? MAGMODE 5 ? MIRRDRAWMODE 0 ?	1 ? 5 ? 0 ? 0 ?
MAGMODE 5 (?) MIRRDRAWMODE 0 (?)	5 ? 0 ? 0 ?
MIRRDRAWMODE 0	0 (2) 0 (2)
	0 😯
MIRRTEXT 0 (?)	
PICKADD 2 🕜	2 🕜
PICKAUTO 1 🕜	1 😯
PICKFIRST 1 🕜	
SDI 0 😯	1 🕜
_	1 (?) 0 (?)
SELECTIONPREVIEW 3	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

Reset All: Enabled whenever a monitored system variable does not match the preferred value. When selected, it will queue up system variables to be reset and reset them when you click OK.

💪 Syst	G System Variable Monitor									
<mark>∕ N</mark> otif										
Status 4	System Variable	Prefered	Current	Help	<u>R</u> eset All					
0	AUTOLAYERMODE	1		0	Talik link					
	BLKOPT	1		0	Euit list					

- > Edit list...: Opens the Edit System Variable List dialog box where you can add or remove system variables to be monitored.
- > OK button: Closes the System Variable Monitor dialog box and applies any system variable changes marked by Reset All.
- > Help button: Opens Online Help system, Home Commands S SYSVARMONITOR command.

After clicking the 'Edit list...' button, you are able to add or remove system variables in the "Edit System Variable List" dialog box.

- Available system variables: Lists the system variables that are not monitored.
- Monitored system variables: Lists the system variables that are monitored.
- Filter Search box: Types a specified string to quickly find system variables.
- Adds the selected available system variables into the monitored system variable list.
- Removes the selected monitored system variables from the monitored system variable list.

Available system variables	5		Monitored system variables	
Search list			Search list	
System Variable	Help	^	System Variable	Help
*_TOOLPALETTEP	0		AUTOLAYERMODE	0
3DCONVERSIONM	2		BLKOPT	0
3DDWFPREC	0		CMDDIA	0
3DOSMODE	8		+ FILEDIA	8
3DSELECTIONMODE	0		MAGMODE	8
ACADLSPASDOC	8		MIRRDRAWMODE	0
ACISOUTVER	0		MIRRTEXT	8
ACISPROXYMODE	8		PICKADD	0
ACISSAVEASMODE	0		PICKAUTO	8
ACTPATH	8		PICKFIRST	0
ACTRECPATH	0		SDI	8
ACTUI	8		SELECTIONPREVIEW	8
AFLAGS	0			
ALLOWSAVINGEMP	8			
ANGBASE	0	\sim		

- > 🕜 : Opens Online Help system
- > OK button: Closes the Edit System Variable List dialog box and applies all system variable changes.
- > Help button: Opens Online Help system, Home Commands S SYSVARMONITOR command.

When any system variable in the list is changed, there will be a warning in the command line:



And if you check the 'Enable balloon Notification' option (SYSMON = 2), a balloon notification will pop up:

System Variable Changed One of the monitored system variables has been changed from	m the preferred value
Click To View Change	
	🗢 🗗 🌻 戦 🙀 💽 GstarCAD

Right click the system variable monitor icon in the status bar:

- Reset All System Variable: Resets current value as the default value of the system variables that do not match their preferred value.
- Enable balloon notification: Displays a balloon alert notification when monitored system variables do not match their preferred value.

	Reset All system variables Enable balloon notification
_	Settings

Setting: Opens the System Variable Monitor dialog box.

System Variable	Description	Value	Value Description
		0	System variables are not monitored.
SYSMON	Controls whether the defined system variable	1	System variables are monitored. Notifications are displayed on the command line and status bar.
	list is monitored.	2	System variables are monitored. Notifications are displayed on the command line and status bar, as well as Balloon notifications.

5.6. Reset Settings to Default New

From GstarCAD 2023, you are able to reset GstarCAD settings to default by clicking Windows Start menu > GstarCAD 2023 > Reset Settings to Default.



You can only reset the settings when the software is closed. If the GstarCAD software is running, a warning will pop up:



If the software is closed, the Reset Settings dialog box will pop up, you can select 'Back up and reset custom settings' option to create a backup file that contains your customized files before resetting the product. Alternatively, you can select 'Reset custom settings' option to reset the product without creating backup files of your custom settings.

Reset	Settings - Backup	×
	Resetting GstarCAD 2023 will remove all user customized settings and files, and restore the to their original installed states. What do you want to do?	m
	Note: Custom settings and files can be backed up before performing the reset. Not all custom settings are stored in files and cannot be backed up.	1
	→ Back up and reset custom settings A backup file is created that contains your customized files before resetting the product.	
	→ Reset custom settings Custom settings are not backed up before the product is reset.	
	Cancel	

Note:

- Resetting the custom settings actually is cleaning up the registry information of GstarCAD software and deleting the Local folder and Roaming folder. After starting GstarCAD again, the new Local and Roaming folder will be regenerated.
- Backing up and resetting the custom settings actually is cleaning up the registry information of GstarCAD software and backing up the Local folder and Roaming folder under C:\Users\username\AppData, and then deleting the Local folder and Roaming folder. After starting GstarCAD again, the new Local and Roaming folder will be regenerated.

5.7. LAYOUTMERGE New

You can enter the LAYOUTMERGE command or click Ribbon > Express > Layout > Merge Layout, to merge specific layouts into a single layout. All layouts or model are available to be picked, and you can specify an existing layout or enter a new name to create a new layout as the destination layout.

After enabling the command, the LAYOUTMERGE dialog box pops up, you can select any layouts or model in the list as the source layouts to be merged:

G LAYOUTMERGE	×
Specify layout(s) to	
Layout1 Column Base Plate	~
Layout10 Welded Plate 1	
Layout11 Welded Plate 2	
Layout12 Column Assembly	
Layout2 Support 1 for Base Plate	
Layout3 Support 2 for Base Plate	
Layout4 Column AB	
Layouts Motor Base Support	
Layouto Block Chain Support	
Layoutz Euching Flate	
Layout9 Bottom Pulley Base Support	\sim
Pick<	
OK Cancel <u>H</u> elp	

After clicking OK button, you are supposed to specify the destination layout into which to merge them, or enter a name for a new layout. If you specify an existing layout as the destination layout, and enter Y in the 'Delete unused layouts' prompt, the source layouts will all be merged to the new layout while layouts that are not used will all be deleted.

G LAYOUTMERGE	×
Specify destination	
Layout12 Column Assembly Layout13	
Layout2 Support 1 for Base Plate Layout3 Support 2 for Base Plate Layout4 Column AB	
Layouts Motor Base Support Layout6 Block Chain Support Layout7 Locking Plate Layout8 Support Base Hydraulic Cylinder	C Delete unused layouts? <y></y>
Layout9 Bottom Pulley Base Support Model Newdestinnationlayout	~
Pick<	
OK Cancel	Help

If you enter a new layout name and click OK, a window will pop up to ask whether you want to create a new layout, if you click yes, and enter N in the 'Delete unused layouts' prompt, the source layouts will all be merged to the new layout while other layouts will not be deleted.

G LAYOUTMERGE	×
Specify destination	
Layout1 Column Base Plate Layout10 Welded Plate 1 Layout11 Welded Plate 2 Layout12 Column Assembly	create layout?
Layout2 Support 1 for Base Plate Layout3 Support 2 for Base Plate Layout4 Column AB Layout5 Motor Base Support Layout6 Block Chain Support	The layout 'Newdestinationlayout' does not exist. Do you want to create it ?
Layout7 Locking Plate Layout8 Support Base Hydraulic Cylinder Layout9 Bottom Pulley Base Support	Yes No Cancel
Pick< Newdestinationlayout	
OK Cancel <u>H</u> elp	

Note:

- Each merged layout will have a corresponding view saved in the destination layout and will be labeled with a rectangle and text identifier on the DEFPOINTS layer.
- > Object Handle IDs are changed for all merged objects.

5.8. CLIPIT New

You can enter the CLIPIT command or click Ribbon > Express > Modify > Extended Clip, to clip or remove specified portions of blocks, Xref drawings, images, and wipeout objects by defining polyline, Spline, circle, arc, ellipse, text, mtext, or attribute definition as clipping boundaries.





After enabling the command, you will be prompted to pick an object as the clipping edge:

C Pick a POLYLINE, CIRCLE, ARC, ELLIPSE, or TEXT object for clipping edge...

After picking the clipping edge, you will be prompted to pick an Image/Wipeout/Xref/Block object to clip:

C Pick an IMAGE, a WIPEOUT, or an XREF/BLOCK to clip...

After picking the object to be clipped, you will be prompted to enter maximum allowable error distance for resolution of arc segments:

C Enter maximum allowable error distance for resolution of arc segments<0.5501>: 0.5501

The CLIPIT command traverses arc segments with a series of short straight segments to clip to curved boundaries. the precision can be controlled by specifying the maximum distance between the midpoint of any given segment and the arc.

If you enter a large error value, you get fewer segments and faster performance, but arcs appear less smooth. Conversely, if you enter a very small value, you get smooth clipping along arcs, but worse performance during regeneration. If you enter 0, 'Value must be Nonzero' warning appears in the command line.



Invert clipping boundary:

You are able to invert the clipping boundary after clipping by selecting the boundary and clicking the 'Invert clipping boundary' grip.



5.9. CLOSELINE <u>New</u>

You can enter the CLOSELINE command to immediately mark unclosed endpoints among selected lines, polylines or arcs, and close them conveniently.

Method of automatically closing:

- When the selected lines or polylines are parallel to each other, usually they cannot be closed, but if they are two parallel line objects, they can be closed with an arc.
- When the selected lines or polylines are not parallel to each other, they can be closed according to the position and the order they are clicked. Sometimes they need to be extended to intersect each other, and segments outside the closing point will be trimmed.





Object types that can be selected and automatically closed:

- \succ Line \iff Line
- \succ Line \iff Polyline
- \succ Line \iff Arc
- \succ Polyline $\leftarrow \rightarrow$ Polyline

Note: If you select an object that is not marked by a red circle, it cannot be closed automatically, and it will prompt 'The line segment you selected was invalid. Please select it again' in the command line.

5.10. ATTIPEDIT New

You can enter the ATTIPEDIT command or click Ribbon > Express > Blocks > Edits Block Attributes in Place, to edit the textual contents of an attribute of a block easily and fast when you feel like editing the attribute values in the In-Place Text Editor other than in the attribute editor.

If you select a single-line attribute, the In-Place Text Editor is displayed without the Text Formatting toolbar and the ruler. And you can right-click to display options.

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	Always Display as WYSIWYG	Paste Editor Settings	Ctrl+V	Ray
	 Check Spelling Check Spelling Settings Dictionaries 	Insert Field Select All Change Case	Ctrl+F Ctrl+A	
		Find and Repla Cancel	ice Ctrl+R	
L			GS	TARSOFT

If you select a multiple-line attribute, the In-Place Text Editor is displayed with the Text Formatting toolbar and the ruler.

Hotel Floor	plan	
SCALE : 1		
REVISIONS :	STUDIO: Gstarsoft,co	
Arial ▲ 18.6 □ [▲] ▲ ■ ■ ■ ■	$ \begin{array}{c} \underline{056} & \checkmark & \mathbf{B} & \mathbf{I} & \underbrace{\mathbf{U}} & \overline{\mathbf{O}} & \mathbf{A}_{\mathbf{F}} & \mathbf{K} \\ \hline \mathbf{e} & \mathbf{i} & \mathbf{A} & \mathbf{A} & \mathbf{A}^2 & \mathbf{X}_2 & \mathbf{M} \\ \hline \mathbf{e} & \mathbf{i} & \mathbf{A} & \mathbf{A} & \mathbf{A} & \mathbf{A}^2 & \mathbf{X}_2 & \mathbf{M} \\ \hline \mathbf{e} & \mathbf{e} & \mathbf{i} & \mathbf{i} \\ \hline \mathbf{e} & \mathbf{e} & \mathbf{i} \\ \hline \mathbf{e} & \mathbf{i} & \mathbf{i} \\ \hline \mathbf{e} & \mathbf{i} & \mathbf{i} \\ \hline \mathbf{e} & \mathbf$	O Ca ♣ ■Blue ✓ Immodel OK ⊙ ✓ 0/ 0.0000 ▲ b 1.0000 ▲
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5.11. SVG File Innovative

In GstarCAD 2023, SVG (Scalable Vector Graphics) files are available to be imported and exported.

Import

You can enter IMPORT command or Click Logo > Import > Other Formats and select the .svg format to import SVG files. The imported SVG graphic is a block which can be edited directly after being exploded or being edited in the block editor. Objects like lines, polylines, polyons, circles, ellipses, text and hatch can be imported correctly.

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		Guide		16/05/2022 13:	:41	File folde
		LISP		15/08/2022 12:	:24	File folde
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	\sim	Files of type:	SVG File(*.svg)	×	~	Cancel
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Export

You can enter EXPORT/Plot command or Click Logo \succ Export \succ Other Formats and select .svg format to export SVG files. Almost all kinds of objects in a drawing can be exported as a SVG file except images. And the exported SVG file can be displayed accurately by third-party tools.



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5.12. VBA Improvement

The 64Bit Visual Basic for Applications (VBA) has been supported in the GstarCAD 64bit Platform since GstarCAD 2023. You are able to access and use the VBA integrated development environment (VBAIDE) and work with the GstarCAD object model.

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Visual Basic for Applications (VBA): A programming environment created by Microsoft that is built into applications to automate operations. You can drag and drop tools to build a graphical user interface (GUI) and use the programming language to interact with GstarCAD objects.

VBAIDE Command: Launches the AutoCAD Visual Basic for Applications Integrated Development Environment. You can enter the VBAIDE command to access the VBA integrated development environment to create a simple VBA application, create the graphical user interface (GUI), and write code to execute simple commands.

 Microsoft Visual Basic for Applications 		= U ×
<u>File Edit View Insert Format Debug</u>	g <u>R</u> un <u>I</u> ools <u>A</u> dd-Ins <u>W</u> indow <u>H</u> elp	
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VBAMAN Command: Displays the VBA Manager.

互 VBA Manage	r		×
Drawing			
Drawing1.dwg		~	
Embedded	NONE		Extract
<u>P</u> rojects			
names	Location		Emb <u>e</u> d
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			<u>U</u> nload
<		>	Macros
<u>V</u> isual Basic	Editor	Close	<u>H</u> elp

Note:

- > The 32Bit GstarCAD Platform and 32Bit VBA are not going to be provided since GstarCAD 2023.
- You can find more information about how to migrate programs that are developed with AutoCAD VBA to GstarCAD VBA in the GstarCAD 2023 VBA Project Migration Guide document.

5.13. Performance Improvement

Multi-Core is supported in GstarCAD 2023, which makes the performance significantly optimized. The speed of opening drawings increases by almost 100%, and the operation process is much smoother.



5.14. ObjectARX API Improvement

GstarCAD 2023 GRX is perfectly compatible with AutoCAD ObjectARX 2020 APIs, programs can be successfully compiled, loaded and used without editing code. You just need to modify some options of the Configuration Properties and Rebuild Solution.

onfiguration:	Active(GDebug20	23-2)	 Platform: 	Active(x64)		\sim	Configuration Manage			
Configurati	on Properties	~	General							
General			Target Platform		Windows 10					
Debugging VC++ Directories ▷ C/C++			Windows SDK Vers	ion	10.0.17763.0					
			Output Directory		\$(Platform)\\$(Configuration)	Λ				
			Intermediate Direc	tory	\$(Platform)\\$(Configuration)	Λ				
Linker	inker Taro		Target Name		\$(ProjectName)					
Manifest Tool Resources XML Document Generator Names Information			Target Extension		.grx					
			Extensions to Delete on Clean *.c		*.cdf;*.cache;*.obj;*.obj.enc;*.ilk;*.ipdb;*.iobj;*.resources;*.tlb;*.tli;*.tlf					
		ent Generator rmation d Step	Build Log File		\$(IntDir)\$(MSBuildProjectName	e).log				
Browse information Build Events Custom Build Step Code Analysis	ation			Platform Toolset		Visual Studio 2017 (v141)				
	Enable Managed Ir		ncremental Build	No						
	~		Project Defaults							
	Configuration Type		•	Dynamic Library (.dll)						
						Use of MFC		Use MFC in a Shared DLL		
					Character Set		Use Unicode Character Set			
			Common Language	e Runtime Support	No Common Language Runtim	e Suppoi	rt			
			.NET Target Framev	work Version						
			Whole Program Op	otimization	No Whole Program Optimization	on				
			Windows Store Ap	p Support	No					
		T	arget Extension							

GRX: The Runtime extension programming environment of GstarCAD, which is compatible with ARX application programs of AutoCAD on the source-code level.

Note:

- > The APIs are not going to be changed in the next several years, so the applications only need to be migrated once.
- You can find more detail information about GRX Migration, Development and Upgrade at GstarCAD 2023 GRX Migration Guide document, GstarCAD 2023 GRX Development Guide document and GstarCAD 2023 GRX Upgrade Guide document.

5.15. Block Editor Improvement

The BAUTHORPALETTE and BTABLE commands are supported to enhance the compatibility of the block editor.

5.15.1. BAUTHORPALETTE

You can enter the BAUTHORPALETTE command or click Ribbon \gg Block Editor \gg Tools \gg Authoring Palettes to open it.

The Block Authoring Palettes window contains the following tabs:

- > Parameters tab
- Actions tab
- > Parameter Sets tab

Right click the floating Block Authoring Palettes window:

- > Allow Docking: Allows/disallows the window to be pinned to the side.
- > Auto-hide: Automatically hides when the cursor is moved away.
- > Transparency: Controls transparency of the window.



View Options: Tab display settings, you can define the image size, View style and whether to apply the setting to all tool palettes.

G View Opti	ons		×				
4	Image <u>s</u>	ize					
View style:							
lcon	only						
O Icon with text							
● <u>L</u> ist v	iew						
Apply to:							
Current To	ols Palette		\sim				
ОК		Cancel					

. ≎			Parameters	
	×∱ Linear Stretch	\checkmark	Allow Docking	
	× ¹ Linear Array		Auto-hide Transparency View Options Sort By	>
	Linear Stretch Pair		Add Text	
			Add Separator	
ALETTES	Polar Stretch		New Palette Delete Palettes Rename Palette	
NGP	Polar Array		Customize Palettes	
HOR	🥕 Polar Move Pair		Customize Commands	
ICK AUT	🤣 Polar Stretch Pair			
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- Sort By: Sorts by Name/Type.
- > Add Text: Adds a line of unselectable text in the tab where the mouse hovers.
- Add Separator: Adds a line separator at the mouseover position in the tab.
- > New Palette: Creates a new tab.
- > Delete Palettes: Deletes a tab.
- Rename Palette: Renames a tab.
- Customize Palettes: Creates, modifies and organizes Palettes and Palette groups, as well as imports and exports the Palettes files.
- Customize Commands: Not available in the Block Editor.

G Custom	×
Authoring Palettes	
Palettes: Parameters Parameter Sets Parameter Sets	Palette <u>G</u> roups:
Current Palette Group: All Palettes	Close Help

Note: You can open the Block Authoring Palettes window only from the Block Editor.

5.15.2. BTABLE

You can enter the BTABLE command to store variations of a dynamic block in the Block Properties Table. You can access values of one row by the lookup grip, each row in the table defines a different variation of the dynamic block.

Properties available in the Block Properties Table including: Legacy parameters and User parameters.

After enabling the BTABLE command, if a block table is already created in the block editor, the Block Properties Table dialog box will be displayed immediately. If there is no block table in the Block Editor, you will be prompted:

- > Specify parameter location: Specifies where the grip and table icon are located in the block definition.
- > Palette: Specifies whether the block table item is displayed in the Properties palette when the block reference is selected.
- Enter number of grips: Specifies the number of grips to use. You can choose value 0 or 1, value 0 means there will be no grip displayed when you select the dynamic block.

The Block Properties Table window includes:

ock Properties Table					
7x 7x III					
anna an					
Block properties must match a row in the table					
Default value when properties do not match table:					
	ОК		Cancel		<u>H</u> elp
		_		_	

Displays Add Parameter Properties window, adds properties which appear as columns in the table. Properties that already have been selected are not displayed in the list. And Basepoint, Lookup and Alignment parameter properties can't be added to the table.

Name	Туре	
Angle1	Rotation	
/isibility1	Visibility States	
COISTANCE1	XY	
Y DISTANCE1	XY	
DISTANCE1	Linear	
Position1 X	Point	
Position1 Y	Point	
DISTANCE2	Polar	
Angle2	Polar	

Image: Displays New Parameter window, creates a new user parameter and adds it to the table. There are six types can be created, including: Real, Distance, Area, Volume, Angle, Sting.

G New Parameter	×
Name(<u>N</u>):	
usen Value(<u>V</u>):	
1 Type/T):	
Real ~	
☑ Display in properties palette(<u>D</u>)	
OK Cancel	<u>H</u> elp

> 💷 : Audits the block property table for errors. If there is an error, a warning window will pop up:

Block Table Error	×
An empty cell exists in the block ta All cells in the block table must be value.	ble. set to a
	Close

- Block properties must match a row in the table: specifies whether the properties added to the grid control can be modified individually for a block reference.
- Default value when properties do not match the table: Displays the default value when other properties are changed without matching a row.

Note:

- > The legacy action parameters that are added to the lookup tables cannot be added to the Block Properties Table.
- > You can open the Block Authoring Palettes window only from the Block Editor.

5.16. REVCLOUD Improvement

In GstarCAD 2023, the REVCLOUD command adds "Rectangular", "Polygonal" "Modify" and "Freehand" options, as well as three more system variables.



After enabling the REVCLOUD command, the following prompts are displayed in the command line:

Minimum arc length, Maximum arc length, Style, Type:

When the same drawing is opened with a higher version, the minimum arc length/maximum arc length may be different from what are specified in the lower version.

- > Rectangular: Creates a rectangular revision cloud that is defined with two diagonally opposite corner points.
- Polygonal: Creates a polygon revision cloud that is defined by three or more points that are used as vertices to generate the revision cloud.
 - Specify next point: Specifies the next point to define the polygon. This prompt repeats until you click an existing vertex in the revision cloud.
- > Freehand: Creates a freehand revision cloud.
- Modify: Redefines an existing revision cloud by specifying one or more new points. The option replaces specified portions of an existing revision cloud with a new portion defined by the points that you enter.
 - Select polyline to modify: Specifies which revision cloud to modify. The start of the replacement section is specified to the revision cloud vertex which is closest to where you click.
 - Specify next point: Specifies the next point to define the polygonal shape of the replacement section. This prompt repeats until you click an existing vertex in the revision cloud.
 - Pick a side to erase: Trims the existing revision cloud.
 - Reverse direction: Inverts the arcs in the revision cloud between convex and concave.

System Variable	Description	Value	Value Description
	Controls the number of grips	0	Displays a grip for each arc segment on a revision cloud
nevoluoudanir5	displayed on a revision cloud	1	Displays limited number grips on a revision cloud
REVCLOUDAPPROXARCLNE	Controls the approximate chord length for the arcs in a revision cloud.	From 0.0000	/
REVCLOUDARCVARIANCE	Controls whether revision cloud arcs are created with varying or generally uniform chord lengths	0	Arcs are created with generally uniform chord lengths
		1	Arcs are created with varying chord lengths makes it looks more hand-drawn

Note:

- When the REVCLOUDGRIPS system variable is off (value=0), grips can be used to edit individual arc and chord lengths on the revision cloud.
- When the REVCLOUDGRIPS system variable is on (value =1), the cloud can be stretched or vertices can be added, deleted, or stretched according to the grip position.

5.17. PALETTES Improvement

You can click the Properties button or right-click on the Title bar of the palette or window to enable Anchor left/right, Auto-hide (There is an Auto-hide button in the Title bar) or adjust the transparency of the floating palettes or windows.



- Anchor Left<: Anchors a dockable window or palette to the left of the drawing area. When the cursor is moved on it, the anchored palette or window displays with full opaque, when the cursor is moved away, it hides automatically. Also, when an anchored window is open, its content overlaps the drawing area.</p>
- Anchor Right>: Anchors a dockable window or palette to the right of the drawing area. When the cursor is moved on it, the anchored palette or window displays with full opaque, when the cursor is moved away, it hides automatically. Also, when an anchored window is open, its content overlaps the drawing area.
- Auto-hide: A floating window rolls open and closes as the cursor moves across it. When this option is unchecked, the window stays open.
- Transparency: Adjusts the level of transparency for the window and on mouse over.
 - How transparent should the palette be: Sets the transparency of a palette while the cursor moves away from the palette. It's also controlled by the GLOBALOPACITY system variable.
 - How transparent should the palette be on mouse-over: Sets the transparency of a palette while the cursor moves on the palette. It's also controlled by the ROLLOVEROPACITY system variable.

G Transparency	×
General	
How transparent should the palette be?	
Clear	Solid
100% Opacity	
Rollover	
How transparent should the palette be on mouse-	over?
Clear	Solid
100% Opacity	
Click to Preview	
Apply these settings to all palettes	
Disable all window transparency (global)	
Ōĸ	<u>C</u> ancel

- Click to Preview button: Press the button, it displays the transparency of palette while the cursor moves away from the palette, release the button, it displays the transparency of a palette while the cursor moves on the palette.
- Apply these settings to all palettes: Applies transparency settings to all palettes. It's also controlled by the APPLYGLOBALOPACITIES system variable.
- Disable all window transparency(global): Controls whether palettes can be adjusted transparency. It's also controlled by the PALETTEOPAQUE system variable.

Floating Palettes and Windows that are enhanced include:

- ➢ PROPERTIES
- ➢ TOOLPALETTES
- > QUICKCALC
- > XREF
- ➢ SHEETSET
- > ADCENTER
- > LIGHTLIST
- > MATERIALS
- > VISUALSTYLES
- > LAYER
- > DRAWINGRECOVERY
- > POINTCLOUDMANAGER
- > BAUTHORPALETTE (Only available in the Block Editor)
- > COMMANDLINE

Note:

- > The Anchor Left and Anchor Right options are available only when Allow docking option is selected.
- > Transparency is unavailable when palettes or windows are docked.
- > The transparency level of a palette while the cursor moves over the palette should not be smaller than the transparency level of the palette.
- COMMANDLINE doesn't support "Apply these settings to all palettes" or "Disable all window transparency(global)" option in its Transparency dialog box.

- > SHEETSET, ADCENTER, DRAWINGRECOVERY, QPMODE and TOOLBAR don't support adjust transparency.
- > To place the palette or window in a docking area without docking it, just hold down the Ctrl key while dragging.

Memories Locations and Settings:

The settings and locations of floating palettes or windows will remain the same when you access them again after opening a new drawing or restarting the software.

System Variable	Description	Value	Value Description
	Controls whether palettes can be adjusted	0	Turns on palette transparency
FALETTEOFAQUE	transparency	1	Turns off palette transparency
ROLLOVEROPACITY	Controls the transparency of a palette while the cursor moves over the palette	0-100	Full transparent to full opaque
	Controls whether to apply the transparency	0	Transparency settings off
AFFLIGEODALOFAGILES	settings to all palettes	1	Transparency settings on
GLOBALOPACITY	Controls transparency level for all palettes	0-100	Full transparent to full opaque

5.18. CUI Editor Improvement

"Ribbon Control Elements" and "Toolbar Control Elements" items are added to the categories drop-down list in the command list pane of the CUI editor, which you can select to filter and add elements quickly.

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> Ribbon control elements: Filters Ribbon control elements, such as:

Ribbon control elements V	۹ 🖬 🖆
Command	Source
Array Level Count	RIBBONCONTROL
Array Level Spacing	RIBBONCONTROL
Array Level Span	RIBBONCONTROL
Array Row Count	RIBBONCONTROL
Array Row Elevation	RIBBONCONTROL
Array Row Spacing	RIBBONCONTROL
Array Row Span	RIBBONCONTROL
Layer List Combo Box	RIBBONCONTROL
Layer State Gallery	RIBBONCONTROL
LayerFilterComboControl	RIBBONCONTROL
Named UCS Combo Control	RIBBONCONTROL
Path Array Item Count	RIBBONCONTROL
Path Array Item Spacing	RIBBONCONTROL
Path Array Item Span	RIBBONCONTROL
Path Array Type	RIBBONCONTROL
Polar Array Item Count	RIBBONCONTROL
Polar Array Item Spacing	RIBBONCONTROL
Polar Array Item Span	RIBBONCONTROL
Polar Array Type	RIBBONCONTROL
Rect Array Column Count	RIBBONCONTROL
Rect Array Column Spacing	RIBBONCONTROL
Rect Array Column Span	RIBBONCONTROL
Rect Array Type	RIBBONCONTROL
Ribbon Combo Box - Block Visibility States	RIBBONCONTROL
Ribbon Combo Box - Dimension Style	RIBBONCONTROL
Ribbon Combo Box - Linetype	RIBBONCONTROL
Ribbon Combo Box - Lineweight	RIBBONCONTROL
Ribbon Combo Box - Multileader Style Manager	RIBBONCONTROL
Ribbon Combo Box - Object Color	RIBBONCONTROL
Ribbon Combo Box - PlotStyle	RIBBONCONTROL
Ribbon Combo Box - Table Style	RIBBONCONTROL
Ribbon Gallery - Text Style	RIBBONCONTROL
Toolbar	RIBBONCONTROL
Transparency	RIBBONCONTROL

> Toolbar control elements: Filters Toolbar control elements, such as:

oolbar control elements V	Q 🗖	
Command	Source	
Dim Style Control	CONTROL	
Layer Control	CONTROL	
Line Type Control	CONTROL	
Line Weight Control	CONTROL	
Multileader Style Control	CONTROL	
OPT Color Control	CONTROL	
Plot Style Control	CONTROL	
Redo Skinny Button Control	CONTROL	
Reference Block Name Control	CONTROL	
Table Style Combo Control	CONTROL	
Text Style Control	CONTROL	
UCS Control	CONTROL	
Undo Skinny Button Control	CONTROL	
Viewport Scale Control	CONTROL	
Visible State Control	CONTROL	

Two elements are added under Ribbon Control Elements category:

- Layer State Gallery: Allows users to add a layer state pulldown in the Ribbon, which can show the existing layer states and access layer states manager.
- LayerFilterComboControl: Allows users to add a Layer Filter Combo Control pulldown in the Ribbon, which can access your filters directly from the ribbon and turn layers on/off and freeze/thaw them in logical groupings.

5.19. HELP Improvement

You can press F1, enter HELP command or click Ribbon > Help > Help to access the Online Help in your default browser. Clicking the help button in the dialog box of the software can access the Help page where the command is located. Whether you are creating a new drawing or opening an existing drawing, press Enter, and the Online Help will pop up.

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al's new			Official Website
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Iser Guide			
ommands	The help system provides complete informatio	n on using GstarCAD, please use the Content:	s tab on the left to browse the help topics.
ystem Variables		-	
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	What's new	Innovative Features	User Guide
		0,	
	Comm	ands System Va	ariables
	Copyright (C)2013-2023. Gstan	soft Co.,Ltd All rights reserved.	

You can set whether to access online help in Options window:

Access online Help when available: Specifies whether Help content is accessed from the GstarCAD website, or from locally installed files.

urrent profile:	<<	Unnamed Profile>	> ia	Current d	Irawing:		Digital signature.dwg	
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If you are not connected to the internet, a dialog box will pop up, allowing you to choose to use offline Help instead:

G Gst	arCAD 2023 - Online Help not accessible	X
Onli do?	ne Help not accessible. What do you want to	
You do	not currently have Internet access.	
+	Check access and try again Confirm that you have Internet access.	
+	Use offline Help instead You can choose which Help browser to use from the Options dialog box, U Preferences tab.	ser
	Cancel	

Note: When the cursor hovers over a command in the ribbon or toolbar, and a tooltip prompt appears, Pressing F1 can navigate to the Help page of this command.

5.20. LOCKUP Improvement

You can enter the LOCKUP command or click Ribbon > Express > Drawing > Drawing Lock to lock selected objects in a drawing with a password to prevent accidentally being modified or deleted, and enter the UNLOCK command or click Ribbon > Express > Drawing > Drawing Unlock and input the password to unlock them.

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After enabling the **LOCKUP** command, the following prompts are displayed:

- Objects will not be able to be modified after using this function, would you like to continue? [Yes(Y)/No(N)]: Confirms whether to continue executing the command.
- Select Object: Selects objects that you want to lock in the drawing. If any of them is already locked, the "1 was on a locked layer" prompt will be displayed in the command line.
- > Do you want to create a password [Yes(Y)/No(N)]: Asks whether to add a password after locking objects.
- > Enter password: Inputs the password you set for the locked objects.

Note:

- The locked objects can be selected as trim boundaries to unlocked objects.
- The locked objects are turned into a block reference, and displayed on a temporary layer.
- The locked objects can be selected. A little lock mark is displayed when you hover the cursor on a locked object.
- When executing the ERASE command to delete the locked objects, the delete command cannot be executed, and the "1 was on a locked layer" prompt will be displayed in the command line.
- Versions lower than GstarCAD 2023 may not unlock the objects locked with password.



5.21. Layout Expand Button Improvement

When there are too many layouts in your drawing and some of them are not visible, the Layout Expand Button at the left side of the Layout Tabs can open a layout list that allows jumping to any existing layout quickly.



Note: The button won't be displayed if there is enough space for layout names.

5.22. DWF Import Improvement

You can enter DWFIMPORT command, click Logo >> Import >> DWF, or Execute IMPORT command and select the DWF file to import DWF files in GstarCAD 2023.

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The imported DWF file is displayed as a block reference in GstarCAD 2023, you can edit it after exploding with EXPLODE or BURST command.



5.23. AI_EDITCUSTFILE *Improvement*

You can enter the AI_EDITCUSTFILE command to open the Program Parameters (PGP) text file where you can add or edit your command aliases. You can also access the PGP file by clicking Ribbon \gg Manage \gg Customizes settings \gg Edit Aliases.

After executing the command, a dialog box pops up, asking you to pick a platform to open the .pgp file:

How	do you want i	to open this .pgp file?
	Notepad	
	Look for an ap	p in the Microsoft Store
More a	apps \downarrow	
		OK

For example, opening it with Notepad:

gcad.pgp - Notepad	_	×
File Edit Format View Help		
This PCP file was created with the GCAD Alias Editor.		
Last modified 2013-03-29. 15:20		
, ,		
; Use the Alias Editor (ALIASEDIT command) to edit this file.		
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B, *BLOCK		
-B, *-BLOCK		
BC, *BCLOSE		
BE, *BEDIT		
BH, *BHATCH		
BO, *BOUNDARY		
-BO, *-BOUNDARY		
BR, *BREAK		
BS, *BSAVE		
*BTABLE		

Note: If you edit a PGP file while GstarCAD is running, you can enter the REINIT command to use the aliases that are edited in the file, or restart GstarCAD to automatically reload the file and use them.



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