

## GINO v10.0

GINO is a 2D/3D development platform for creating complex interactive graphics applications. Its extensive range of graphics and GUI features are specifically aimed at engineers looking for ease of use and powerful functionality.

GINO is used as the graphics engine in hundreds of commercial and in-house products in industries such as:

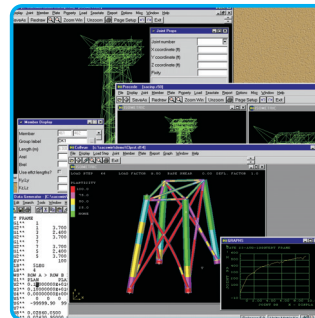
Aerospace  
 Ocean Research  
 Utilities, Oil & Gas  
 Defence  
 Education & Research  
 Semiconductors

Marine/Offshore  
 Environment  
 CAD/CAM  
 Surveying  
 Mining  
 Electromagnetics

## GINO

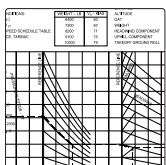
The core GINO library contains over 450 functions covering all the basic elements required for low-level application design. 2D, 3D and OpenGL primitives are all included in a compiler and operating system independent way to ensure rapid development and deployment regardless of the system in use.

GINO can utilise its own window-creation mechanism, but is best used within another development system such as GINOMENU or Visual Studio where the graphics can be sent to a variety of destinations such as a bitmap, picture-box, window or of course system printer.



## GINOGRAF - 2D Data Display

GINOGRAF is geared towards scientific and engineering style output and provides features such as logarithmic axes, Spline and Akima curve drawing and scientific axes labels. Graphs can be produced quickly using one or two calls and then customized with control over all aspects of the final layout.



Because GINOGRAF is used with GINO, user applications can be enhanced by using any of GINO's functionality including different fonts, multiple frames, transformations and interaction.

## GINO

### General Primitives

2D and 3D primitives (lines, arcs, etc)  
 curve drawing (bezier, splines)  
 polygonal windowing & masking  
 simple and complex polygonal fill  
 colour (true, RGB, HLS, HSV)  
 variable line styles, widths and ends  
 pixel read, write, copy, transform  
 text fitting, justification, super/subscript  
 TrueType + 25 software fonts + symbols

### Interaction

pre-defined and user-defined cursors  
 rubber line, square, circle cursors  
 event handling including mouse  
 movement, window resize, button  
 release, segment hit

### Transformations and viewing

shift, rotate, scale, shear in 2D and 3D  
 transformation matrix manipulation  
 viewing with zoom, distortion,  
 perspective and parallel control

### OpenGL

facets, bezier surface & volumes  
 material properties  
 ambient/directional/point/spot lights  
 fog, shadows, texture mapping  
 cube, box, wedge, sphere, cylinder, etc  
 Gouraud shading of textured facets

### Picture Segments

hardware or software display file  
 hierarchical structure definition  
 visibility, sensitivity, highlighting, colour,  
 drag, intensity, position, name,  
 transformation, deletion

### Additional Features

DXF, PNG, JPEG, BMP, SWF support  
 file handling, date/time, registry  
 multiple auxiliary bitmaps and windows  
 XOR, OR, AND, NOT drawing modes

## GINOGRAF

### 2D Plotting

histograms, bar, step, area charts  
 gantt, vector, scatter diagrams  
 line graphs, curve or spline graphs  
 error bars, square wave interpolation  
 polar charts, pie charts, text charts  
 colour scale charts

### Axes and Annotation

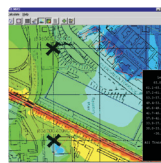
discrete, linear, log, polar and date axes  
 multiple data-sets and axes per plot

## GINOSURF - 3D Surface & Contour Display

3D data can be supplied as a function, as the nodes of a rectangular grid or as a set of randomly-spaced points and different interpolation methods can be used depending on the data set supplied.

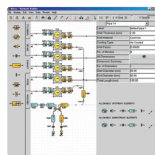
The output of contour maps and surfaces can be enhanced by using triangular interpolation providing higher accuracy, non-rectangular boundaries, faults and break-lines.

Complete drawing routines can be accessed with a single call, or for greater control, GINOSURF provides additional routines to allow complete styling of all aspects of the image, such as frame type, scaling and labelling of axes, line styles and contour annotation control. GINOSURF applications can be enhanced by using GINO features such as professional looking fonts, OpenGL lighting & shading, animation and user-interaction.



Whether your application is terrain analysis, environmental management, seabed analysis or mining, GINOSURF provides the tools you need for the graphical display of your three-dimensional data.

## GINOMENU - Programmable GUI Interface



GINOMENU contains over 200 routines for developing user interfaces and includes a whole host of window and widget styles to satisfy the most complex of GUI requirements. A few basic graphics functions are included with GINOMENU, but for any demanding graphics application, other graphics functions can be used from any of the other GINO libraries.

GINOMENU sets itself apart from other GUI API's by including on-the-fly widget creation and control, and adoptable widgets whereby an application can be designed giving the user full control over the look and feel at run-time.

## GINOMENU Studio - Drag and Drop Interface Designer

GINOMENU Studio is a fully interactive GUI builder and development environment with visual drag-and-drop design, integrated callback editor, coding-error tracer and run-time project manager.

GINOMENU Studio contains all the most common components from GINOMENU all wrapped up in an intuitive point and click design. Context sensitive F1 help is provided in the designer and code-editor giving quick programmable help to all GINO functions.

GINOMENU Studio can be used for prototyping, or complete application development saving a huge amount of time in understanding, programming and final deployment.

## Consulting Services

Bradly Associates' consulting services team have the combination of decades of experience and a portfolio of products to identify and deliver the best solution to your visualization requirements. From one-day assistance to full application development, your technical team will benefit from our unparalleled expertise working with GINO.

### Sales & Support

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www.gino-graphics.com

## GINOSURF

### 3D Display Types

- contour, surface, X-section plots
- line, colour & shaded
- points, grid lines, network overlay

### Data Interpolation

- random, gridded or triangulated
- weighted average of points
- weighted least squares
- Clough-Tocher C1 cubic
- constrained network with breaks/faults

### Contour Control

- fill or line style attributes
- full control over annotation
- straight line or curve drawn contours
- polyline overlay

### Surface Control

- hidden line/surface removal
- height to base ratio control
- polyline overlay, 3D/4D contour overlay
- area/volume & cut/fill calculations
- import DXF polymesh surface

## GINOMENU

### Windows

- MDI parent and child windows, SDI
- parent and floating child windows,
- docking panes, menu bar and menu
- entries with separators, dockable
- toolbars

### Dialogs/Common Dialogs

- combo-boxes, list-boxes, RTF text entry,
- value entry, panels, tabbed-dialogs,
- graphics frames, tree views, table
- boxes, TTY entry, video input, property
- lists, File browser, colour selector, print,
- message box, font selector, calendar,
- find/replace text

### Grids

- cut/copy/paste to Clipboard
- grid control including cell width/height,
- background colour, axes labels, cell text
- colour and justification of text

### Interaction

- mouse move/position/key detection
- built-in cursors & rubber-band types
- adoptable controls for user-positioning

### Other features

- tooltips/bubble help, progress bars,
- gauges, radio-boxes, spinners, buttons,
- toggles, check-boxes, sliders, timer
- callbacks, on-the-fly widget creation,
- hypertext link callbacks

### Compilers/Platforms

#### Windows:

- Intel iFORTH & IFX Fortran (32/64bit)
- Absoft Pro Fortran (32/64bit)
- Lahey LF95
- Silverfrost FTN95 (32/64bit)

#### Linux:

- Intel Visual Fortran (32/64bit)
- Absoft Pro Fortran (32/64bit)
- GNU gFortran (32/64bit)

UNIX/OpenVMS - on request