

PONTTECH

Glyph

Ver 1.0

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Glyph - Requirements, Installation

System Requirements

	OS	Hard Disk Space Required	I-DEAS Version
SGI	IRIX 5.3 or >	3MB Minimum	Master Series 4

Glyph Installation Instructions

Mount the glyph CDROM, Silicon Graphics computers will mount the CD on the */CDROM* directory automatically.

Switch user to the I-DEAS administrator account (The account which I-DEAS was installed with):

```
su - ideasadm
```

Shutdown the I-DEAS license manager (where (...) is the directory in which ideas was installed). If your ideas license was started automatically when your machine booted you may have to switch users to root before running the following command:

```
.../ideas/ms4/sec/Downdaemon
```

Change to the directory where I-DEAS is installed:

```
cd .../ideas/ms4
```

Run this install script on the CDROM:

```
/CDROM/install.com
```

Continue with [Configuring the Glyph License](#).

WARNING: The Glyph installation script by default modifies the icon panels in I-DEAS. The icon definition files *.../ideas/ms4/geo/geomod.icn* and *.../ideas/ms4/geo/geomod.vgc* will be renamed and replaced by the Glyph installation script. Any site-specific modifications made to these files (i.e. by another third party software package) will no longer be accessible. You will be given the option of overriding this default behavior during installation. See "Launching Glyph" below for more details.

Glyph - Configuring the Glyph License

The licensing software for Glyph was designed so that administrators familiar with I-DEAS licensing will be able to quickly learn Glyph licensing. Glyph uses FLEXlm licensing software. To obtain your Glyph license call PONTECH at 714-537-3480.

Glyph is licensed on a per seat basis with floating options. All licenses are locked to a license server with options to float to limited number of machines. For an example we will use an installation with two seats and ten floating options of Glyph making for a total of twelve machines that Glyph can run on. Each seat allows for a copy of Glyph to be run on any given system on the network. Each floating option allows for an additional system which a seat can float to. The license server may or may not be licensed to run Glyph.

Copy the license file you received from PONTECH to the `.../ideas/ms4/pontech/sec/pontech.dat` file. Add the lmhostid information for each system which glyph is to float to the `.../ideas/ms4/pontech/sec/pontech.opt` file.

When your license is ordered from PONTECH lmhostid for your license server and each machine that Glyph will float to must be supplied (NOTE: PONTECH may, at its option, charge a fee to change your license server).

Glyph - Starting the Glyph License Server

Restart the I-DEAS license server:

```
.../ideas/ms4/sec/Secdaemon
```

Start the Glyph license server:

```
.../ideas/ms4/pontech/sec/GlyphSecdaemon
```

This will only start the Glyph security daemon for this session, to start the Glyph license server each time the machine is booted copy the S99GlyphSecdaemon to the /etc/rc2.d directory.

Switch users to root:

```
su -
```

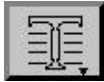
Copy the Glyph security script to the /etc/rc2.d directory as S99GlyphSecdaemon:

```
cd /etc/rc2.d
```

```
cp .../ideas/ms4/pontech/sec/S99GlyphSecdaemon .
```

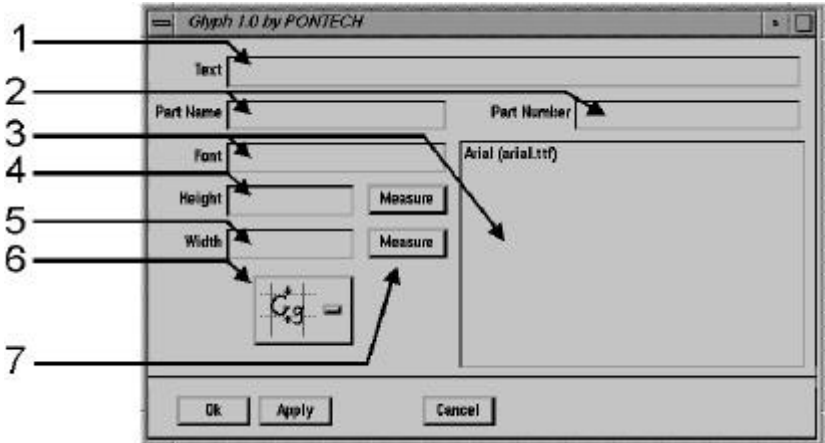
Glyph - Launching Glyph

There are four options for launching glyph. Review all four before deciding which is most appropriate for your site. The first option is recommended (and installed by default by the installation script) because it is the easiest to install and use.

- 1) Glyph can be run from the *polyline* icon stack in Master Series Design. Click and hold on the *polyline* icon and the Glyph *wireframe from text* icon will appear at the bottom of the stack.  Drag to the *wireframe from text* icon and release to launch Glyph.
- 2) A user profile (`.../ideas/ms4/pontech/glyph/userprof.prg`) is supplied by the installation script. Concatenating this user profile to the *userprof.prg* file in the directory from which a user runs I-DEAS will allow that user to launch Glyph by typing:
glyph
at the command prompt (after they have restarted I-DEAS in this directory).
- 3) A program file is provided (`.../ideas/ms4/pontech/glyph/glyph.prg`) which will launch the Glyph software. This program file can be run by choosing File->Program Files->Run from the I-DEAS File menu.
- 4) If a user has already created a customized icon panel (for example, by placing a special *geomod.icn* and *geomod.vgc* in the directory where they run I-DEAS), they can add glyph to the user icon panel using the supplied program file. The program file contains a command which launches glyph via the `/oaxx` menu command. The user can attach this command or the program file to a custom icon in the custom icon panel.

Glyph - Using Glyph

Glyph allows you to insert True Type Font outlines onto the I-DEAS workplane as a wireframe. Once on the workplane the wireframe can be manipulated as any other wireframe object.



Text (1)

Text string to place on workplane.

Part Name & Part Number (2)

Glyph creates the font outline as a new part in I-DEAS. Part Name is required, if left blank Glyph will return an error in the I-DEAS prompt window.. Part Number is optional.

Font Name (3)

Select a font name from the list box to the right of the Glyph dialog box. Once selected the filename for the font will be place into the Font edit window.

Height (4)

Specify height of character in model file units.

Width (5)

Specify width of string in model file units.

Glyph - Using Glyph (continued), Adding Fonts

Normalization Option (6)

This option menu is used to select between one of six possible font normalization styles. Normalization allows you to specify height and width parameters for the desired text. The ascent is defined as the distance from the baseline to the highest point of a glyph. The descent is defined as the distance from the baseline to the lowest point of a glyph.



Specify height of character from baseline to ascent, maintain aspect ratio (width ignored).



Specify height of character from descent to ascent, maintain aspect ratio (width ignored).



Specify width of string, maintain aspect ratio with respect to height from baseline to ascent (height ignored).



Specify width of string, maintain aspect ratio with respect to height from descent to ascent (height ignored).



Specify height from baseline to ascent and width, do not maintain aspect ratio.



Specify height from descent to ascent and width, do not maintain aspect ratio.

Measure (7)

These buttons activate the I-DEAS measure command. Once complete the distance measured is dropped into the corresponding edit box.

Adding Fonts to Glyph

Glyph looks for fonts in the `.../ideas/ms4/pontech/fonts/ttf` directory. True Type Fonts from a third party disk can be copied into this directory. Glyph will recognize the additional fonts the next time it is launched.

Glyph - Application Notes

App Notes Topics:

1. Extruding text
2. Extruding overlapping characters
3. Aligning text to a new plane
4. Projecting text onto a surface
5. Embossing text into a non-planar surface
6. Stretching letters in a word

Extruding text (1)



Use the Glyph program to generate a planar wireframe section. This section can be used just like any planar section in I-DEAS. For example, the "Extrude" icon in I-DEAS Master Modeler can be used to extrude the text into a solid part.

Extruding overlapping characters (2)

Some fonts cause adjacent characters to be drawn overlapping each other. Cursive fonts often overlap, and consecutive underscore (_) characters overlap in most fonts. In this situation, I-DEAS will not allow you to directly extrude the section created by Glyph because it is "self intersecting." To work around this situation, extrude every other letter, as follows:

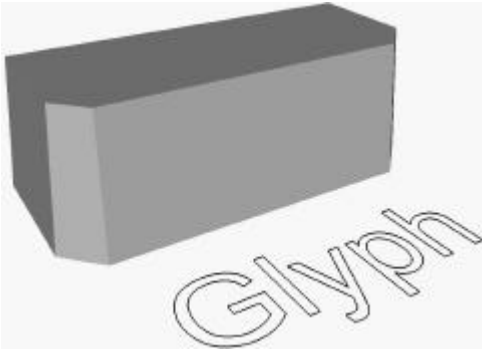
- Create your text wireframe section with Glyph.
- Delete the section Glyph creates over the wireframe.
- Create a new section of the 1st, 3rd, 5th, etc. characters. (be sure to pick all the 'loops' in each character).
- Create another section of the 2nd, 4th, 6th, etc. characters. (be sure to pick all the 'loops' in each character).
- Extrude the first section (odd characters).
- Extrude the second section (even characters).
- Join the two parts just extruded.

Glyph - Application Notes (continued)

Aligning text to a new plane (3)

Glyph draws text on the global XY plane. Since the section created by Glyph is planar, it can be moved to any other plane with the "Align" icon.

- Create section
- Pick Info on section
- Pick Align



Before



After



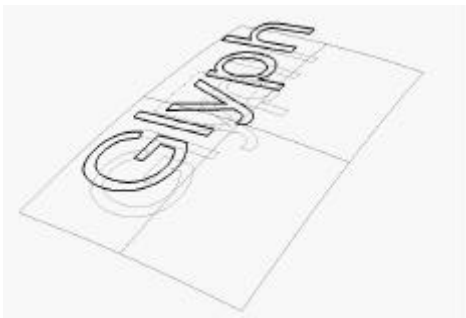
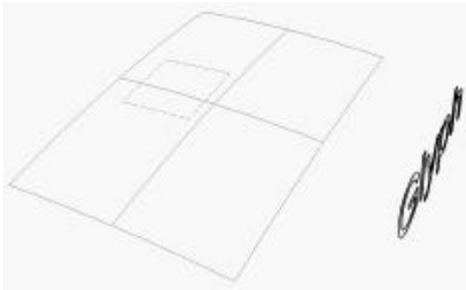
Glyph - Application Notes (continued)

Projecting text onto a surface (4)

When it is necessary to place text on a curved (non planar) surface, the text can be "projected" onto the curved surface within I-DEAS Master Surfacing. This works best when there is a plane just in front of the curved surface from which to project the text:

- Create a reference plane nearly parallel to the curved surface.
- Create a text wireframe section with Glyph.
- Align the text wireframe section to the reference plane.
- Project the section onto the surface.

Be aware of the difference between PROJECTING a curve onto a surface and MAPPING a curve onto a surface (which I-DEAS does not support). Mapping a curve onto a surface would "wrap" the curve on the surface, transforming the curves from a planar coordinate space into the coordinate space defined by the rails and cross sections of the destination surface. A linear projection onto the surface may produce unexpected results if any ray from the projected curve (along the projection direction) intersects the target surface more than once.



Glyph - Application Notes (continued)

Embossing text into a non-planar surface (5)

The section created by Glyph can be used to create raised or lowered letters ('embossed') on a curved (non planar) surface. One technique requires the use of I-DEAS Master Surfacing:

- Create a copy of the original part.
 - ◊ Use "Manage Bins" to create a copy of the original part.
 - ◊ Use "Manage Bins" to put away the original part.
- Offset the surface to emboss text upon:
 - ◊ Use the "offset surface" icon in I-DEAS Master Surfacing.
 - ◊ Offset by the desired embossing thickness.
 - ◊ If the text is to be raised, offset away from the material of the part.
 - ◊ If the text is to be depressed, offset into the material of the part.
 - ◊ Do not keep the surfaces which were not offset.
- Orphan the copied part.
 - ◊ Delete the history of the copied part.
 - ◊ Use the `/mo de' menu command.
- Project text onto the new surface(s).
- Trim the new surface(s) with the projected text.
- Create a non-planar section to make picking the curves easier
- Shell the new part:
 - ◊ Shell in the direction towards the original surface.
 - ◊ Choose a thickness slightly greater than the embossing thickness.
- Join or cut the new text part and the original part.

Glyph - Application Notes (continued)

If I-DEAS Master Surfacing is not available, there are ways to create text with non-planar end caps within I-DEAS Master Modeler. These methods typically involve extruding a text section with a very large depth. Then the end caps are cut with curved cutting shapes and joined to the desired part:

- Extrude a text wireframe section created by Glyph.
- Generate a cutter surface/part with I-DEAS Master Modeler commands:
 - ◊ Extrude and/or revolve can be used to create the cutter surface.
 - ◊ If only a surface has been generated, set its material side.
 - ◊ The material side of a surface cutter should point away from the inside of the text extrusion.
- Cut the text wireframe solid with the non-planar surface.
- If necessary, repeat the above two steps for the other end of the text.
 - ◊ Necessary if the other side of the extruded text extends outside the original part.
- Join the new text part (with wavy end cap(s)) onto the desired part.

Tip: solid modelers often have difficulty joining/cutting parts having what appear to be exactly mating surfaces. To avoid this situation, make sure that there is some overlapping material between the parts before cutting or joining them.

Cutting the text end caps is actually more flexible than offsetting the target (embossed) surface, because the end cap surfaces can be generated independently of the target surface. This allows end caps with a different shape than the embossed surface to be used. It also eliminates the tasks of projecting the section and trimming a surface with the projected section. However, the additional task(s) of generating (and possibly orienting) the end cap cutters are required.

Glyph - Application Notes (continued)

Stretching letters in a word (6)

It is often desirable to have one letter taller or fatter than the letters in the rest of the word. There are two ways to do this using Glyph.

First, the text can be drawn in two steps; first using Glyph to draw the oddly shaped letter(s), then using Glyph to draw the rest of the letters with another size.

Second, the text can be drawn with Glyph, then individual letters can be scaled.

- Generate a text section with Glyph.
- Delete the section generated on top of the text wireframe.
- Scale the individual letter.
 - ◊ Use the "scale" icon in Master Modeler.
 - ◊ You may want to generate a section over the letter for easier picking.