Diagram Designer
User Manual

DiagramDesign

MeeSoft Diagram Designer software program is freeware and is licensed at no costs. MeeSoft does not make any warranty, expressed, or implied of this software, or related instructional materials. MeeSoft license Diagram Designer freeware "as is". In no event will MeeSoft be liable for, direct, indirect, consequential damages, or for any problems resulting from the use of Diagram Designer and/or its instructional materials. The program available for download is the full version without limitations.

Diagram Designer software can only be copied and/or distributed in its original form (installer or zip archive) unless permission is granted by the author. Distribution of this software for commercial purposes is not permitted without consent from the author.

Microsoft (MS) and other Microsoft titles are copyright and trademark protected.

If you like, Diagram Designer then please support the work of Michael Vinther. Funds are needed for continued development of the program, documentation, and website. There are two ways to help:

- Donate any amount through PayPal (note: PayPal charges 25¢ for each donation.)

- Note: Personal information entered in the donation transaction will only be used to complete the transfer. No personal information will be provided or sold to anyone.

1. Select **Help** from the Diagram Designer Menu Bar.
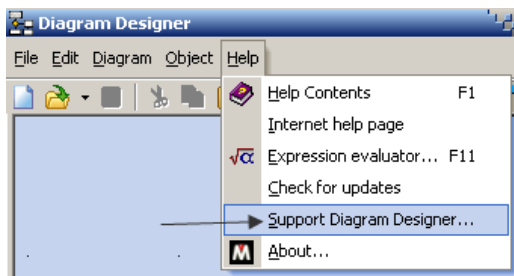
2. Select **Support Diagram Designer**

3. Select **Continue**

4. Select **Donate**

5. **Complete the form and make a donation** to help further development of Diagram Designer.

- Thank You for your support.

6. The second way is **help improve** Diagram Designer.

7. **All contributors** will be given credit for their contribution with a notation:

- This is the work of_ _ _ _ _ _ _ _

MeeSoft Diagram Designer

Software Contributors:

- Michael Vinther – Author and Owner of MeeSoft Diagram Designer

- Rune Moller Barnkob – Contributor

- Gabriel Corneanu - Contributor

- Jacob Dybala - Contributor

- Andy Gryc – Contributor

- Schelte Heeringa – Contributor

- Vit Kovalcik - Contributor

- Anders Melander – Contributor

- Laszio Molnar – Contributor

- Markus Oberhumer – Contributor

- Pierre le Riche - Contributor

- Brad Stowers - Contributor

User Manual Contributors

- Keith Thomerson – User Manual Author

- Schelte Heeringa – Contributor

- Dirk Hernalsteen - Contributor

- Allen Titley- Contributor

Table of Contents

Table of Contents

Diagram Designer is a tool that creates flowcharts, diagrams, and slide shows. The program excels at creation of technical diagrams, permits easy editing, and objects manipulations.

Main Features

- Freeware (user supported)

- Customizable templates that house regularly used pictures, symbols, or objects.

- Group objects together as a single entity.

- Spellchecker for text used in diagrams

- Automatic links between objects (move one object, the other is adjusted)

- Import objects or export diagrams as:

    - BMP   Windows® Bitmap

    - CUR   Windows® Cursor

    - EMF   Windows® Enhanced MetaFile

    - GIF   Graphics Interchange Format

    - ICO   Windows® Icon

    - JP2   JPEG 2000 (requires **image Analyzer** installed)

    - MNG   Multiple image Network Graphics

    - PCX   Zsoft Paintbrush

    - PNG   Portable Network Graphics

    - TIF   TIFF image (requires **Image Analyzer** installed)

    - WMF   Windows® MetaFile

- Use multiple layers and pages in a single diagram

- Slide show view (view sequential pages)

- Preview mode

- Optional snap mode with visible or invisible grid

- Compressed file format for minimizing drawing file solver

- MeeSoft Image Analyzer integration for bitmap image editing and extended file format support (separate package)

New Features in Version 1.29

Changes in version 1.29 (2017-08-26):

Diagram | Connector line style option to control whether the background of connector/curve texts are filled

Support for curved connectors (New Feature)
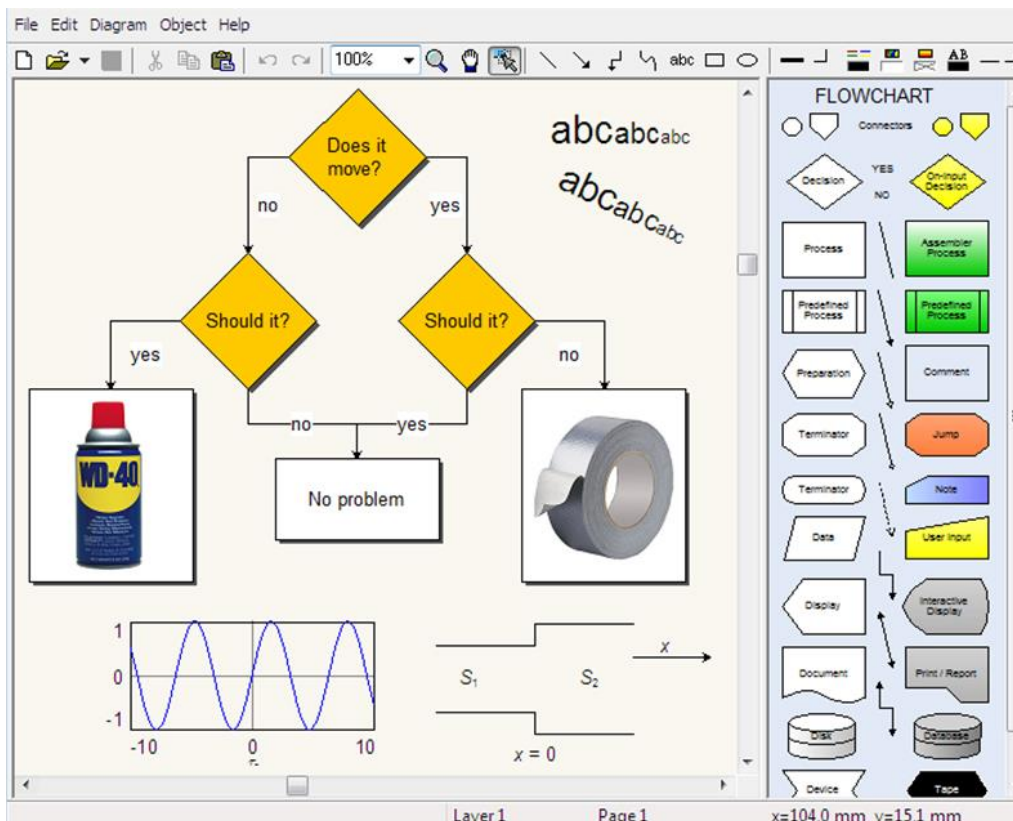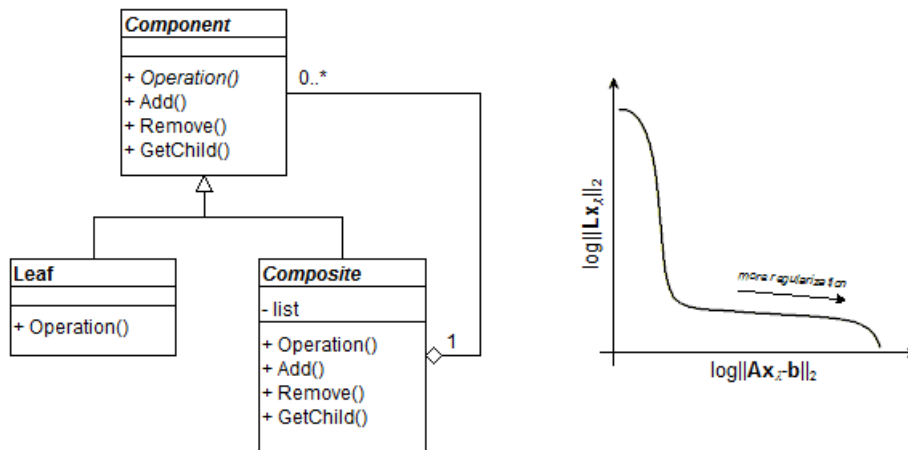
Automatically try to fix corrupted files

Fixed text rendering issues after automatic line breaks

Installation and Startup (New)

Installer Package

1. Go to https://www.fosshub.com/Diagram-Designer.html

2. Select **Download Diagram Designer MSI Installer** -1.92 MB | version 1.29 | File Signatures
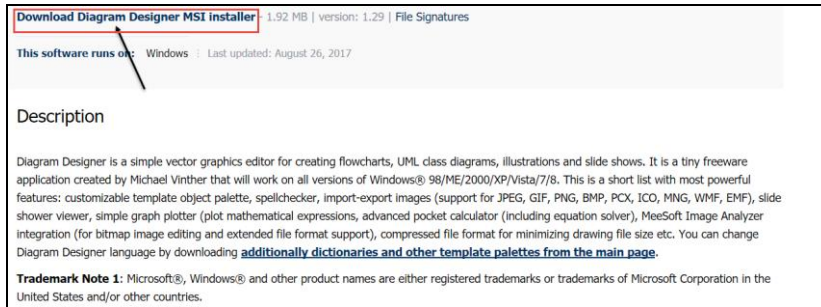
3. Select **Save File**
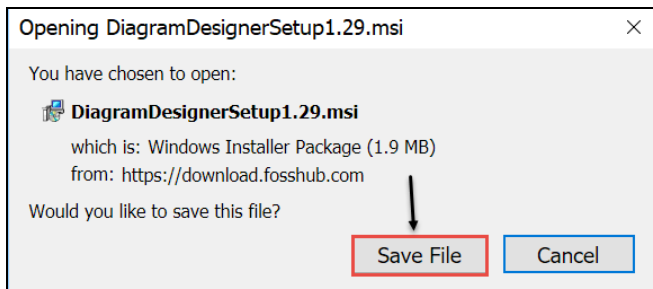
4. Within the **Title Bar** on the far right side, select the download arrow to open the Diagram Designer update.

5. Select **DiagramDesignerSetup1.29(2).msi**
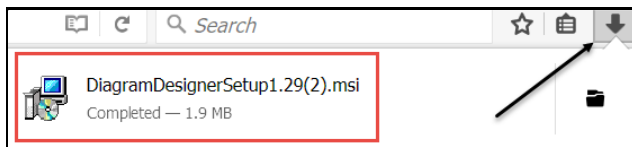
6. Select **OK** to the Open Executable File
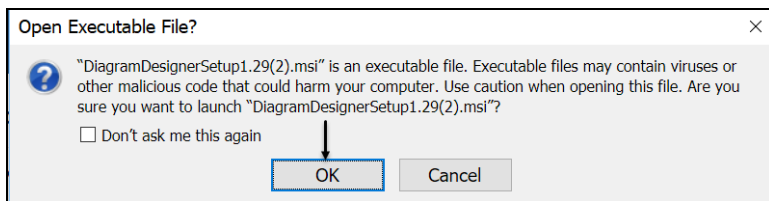
   a. Warning messages may appear that Diagram Designer (DD) may contain malware.

   b. Ignore these messages and select **Run this program anyway**.

   c. There is No Malware or Viruses connected with Diagram Designer software.

7. On the **Welcome to the Diagram Designer Setup Wizard** select **Next**
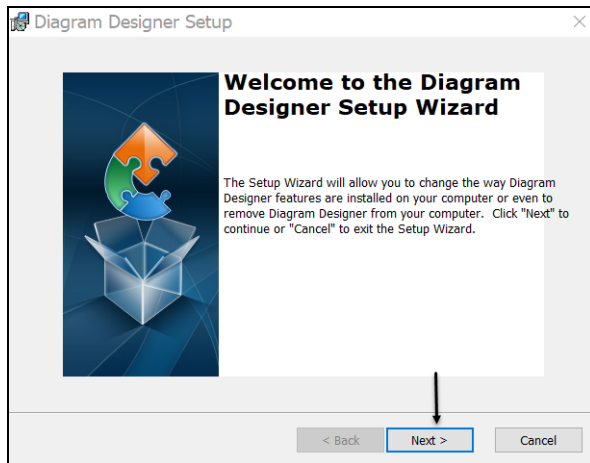
8. **Verify** the location that Diagram Designer is to be placed. Alternatively, select **Browse** to place Diagram Designer in another folder.

9. Select **Next**
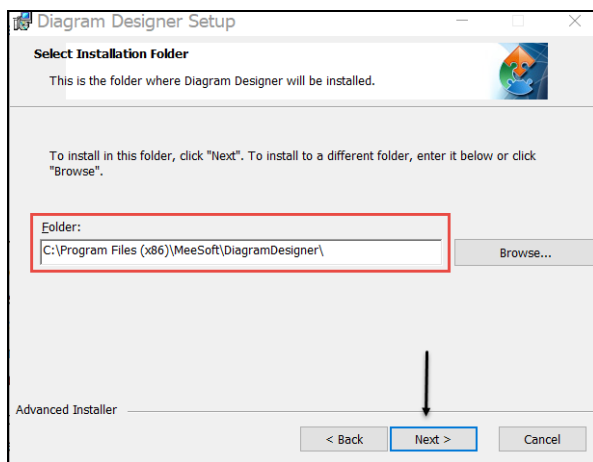
10. Select **Install**
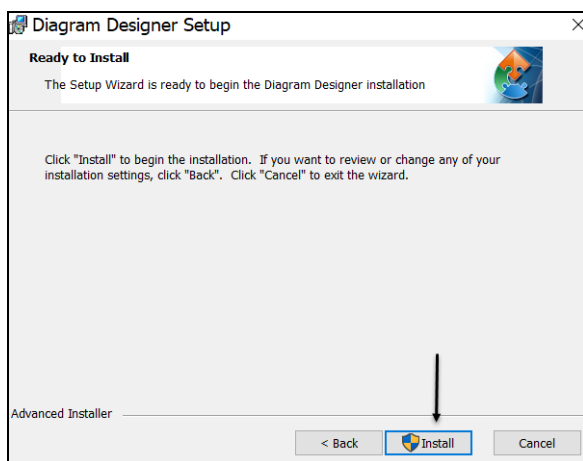
11. Select **Finish** completing the installation of Diagram Designer.
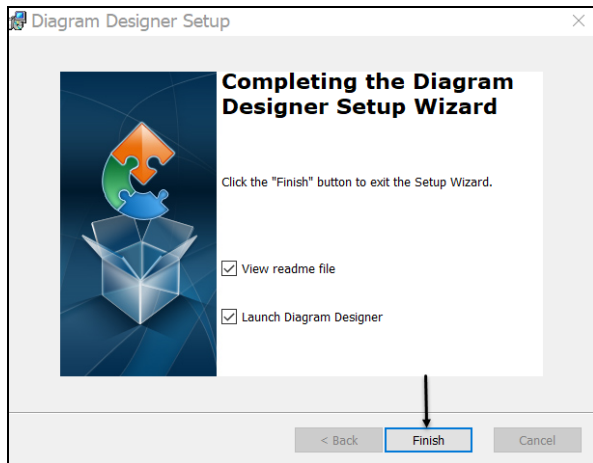
12. On the **Completing the Diagram Designer Setup Wizard** select **Finish**

- **Note:** Diagram Designer is a recognized FREE software program. Donations help pay the expenses that are incurred by Michael Vinther – Author and Owner of MeeSoft Diagram Designer

Startup

- Diagram Designer may be run by:

  - For those that are using newer version of Microsoft Windows™ a Diagram Designer a tile is automatically created on the Windows screen™. Select the Diagram Designer tile and open.

  - Direct execution of DiagramDesigner.exe (double-click from Explorer, use Start/Run,

  - Alternatively, execution of a created shortcut (created by installer or manually.

- Create a shortcut to automatically load the Flowchart template:

  - Create a Windows® shortcut to DiagramDesigner.exe

  - Edit the shortcut's Properties to add the Flowchart.ddt parameter.

  - Verify the Target is (Drive that Diagram Designer is located)

    - "C:\Program Files\MeeSoft\DiagramDesigner.exe"flowchart.ddt

    - **Special Note**: The parameter is outside the double quoted path to the executable.
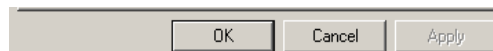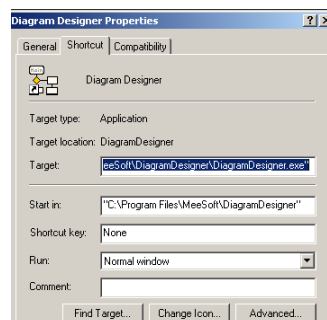
Set Dictionary Path (Spell Check)

- Diagram Designer's Spell Check feature cannot be enabled unless a dictionary is installed.

- This permits the user to specify the path to any installed dictionary files.

- Although the folder path is used, the user must select a valid dictionary file in a folder.

- Links to dictionaries are available at: http://meesoft.logicnet.dk/DiagramDesigner/

- Scroll down until the user sees **Dictionaries**

Diagram Designer International Support

Diagram Designer has been translated into 23 languages. The quality of the translations is unclear. However, having a software program translated into so many languages shows strong support.

- Chinese (Traditional)
- Chinese (Simplified)
- Czech
- Danish
- Dutch
- English
- Estonian
- Finnish
- French
- German
- Hungarian
- Italian

- Japanese
- Korean
- Norwegian
- Polish
- Portuguese (Brazilian)
- Portuguese
- Romanian
- Russian
- Serbian
- Spanish
- Swedish

Language Packs

Diagram Designer is designed for English usage; however, with the installation of a Language Pack other languages can be installed. Language Pack URL – http://meesoft.com/DiagramDesigner/LanguagePack.exe

1. Select Run to select and download a language pack.

2. Restart your computer for the new language pack to take effect.

Troubleshooting Language Pack

If you are experiencing problems with display of local character sets in the software translations, this may be due to incorrect Microsoft Windows character set settings.

1. Open **Control Panel**
2. Select **Regional and Language Options**
3. Select the **Advanced** tab
4. **Verify** and/or select the language for non-Unicode ✓
5. Select **OK**
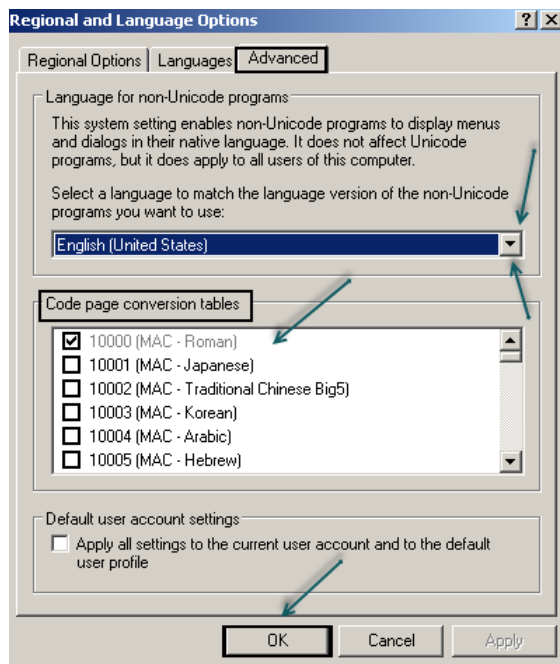
Video Tutorial

Watch and listen to Michael Vinther teach Diagram Designer:

1. Select **Help** from the menu bar.
2. Select **Internet Help Page**.
3. Select **Tutorial Video**.
   - Length 14 minutes 10 seconds

Clipboard Metafile Scale

- A Metafile is a file that contains or defines other files.
- When objects are copied to the clipboard (Microsoft (MS) Windows metafile) (Default value = 1) controls how large the objects are when pasted into another application as a metafile image.
- Setting the value to 2 will paste the metafile twice the normal size into a document.

Menu – File
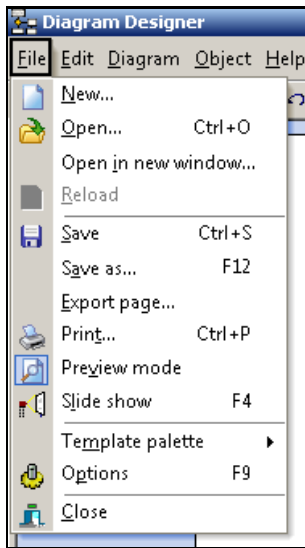
New

Creates and opens a new page in the diagram. Page name is always "Page n". Number 1 as the first page (regardless of whether it has been renamed.) This is also available by left clicking the current page name illustrated in the status area,

Open

- Shortcut – **Ctrl+O**

1. **Opens folders** that Diagram Designer files are kept.

2. A **saved file** must exist before Open will execute.

3. Select a Diagram Designer **existing file** and choose Open.

Open in New Window

1. This provides the ability to **open** Diagram Designer in an existing file that contains Diagram Designer files.

2. A **saved file** must exist before Open in New Window will execute.

3. Select a Diagram Designer **existing file** and choose Open.

Reload

- Reopens the existing diagram

- Reopen the existing diagram from the disk file

- If changes have been made to the existing diagram (but not saved), a warning dialog is opened to permit cancelling the reload operation.

Save

- Shortcut – **Ctrl+S**

1. **Saves** work to a file or location.

Save As

- Shortcut – **F12**

1. The user should always save their work in the **Save As** mode. This will direct the save tasks to a known file or location. Anyone that has ever lost a file somewhere on a large network will never use Save. The file can be found but the nervous feeling will teach the user to use Save As in all future saves.

Export Page

Opens a Save dialog to save the current diagram as an image file. Diagram Designer supports the following image formats"

- BMP   Windows® Bitmap
- CUR   Widows® Cursor
- EMF   Windows® Enhanced MetaFile
- GIF   Graphics Interchange Format
- ICO   Windows® Icon
- JP2   JPEG 2000 (requires Image Analyzer installed)
- JPG   Joint Picture Expert Group
- MNG   Multiple image Network Graphics
- PCX   Zspft paintbrush
- PNG   Portable Network Graphics
- TIFR   TIFF image (requires Image Analyzer installed)
- WMF   Windows® MetaFile
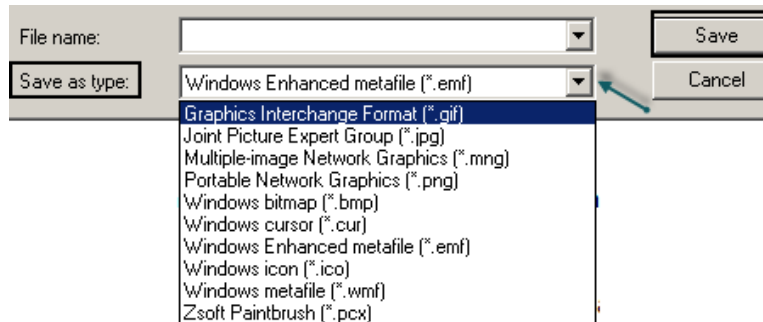
2. After the image format is specified, Diagram Designer prompts for the image resolution in Dots Per Inch (DPI). The default is 96 (resulting in the full-page size, as selected by the user using (page properties) however, Diagram Designer allows for a range of 64 to 2400 DPI.

   a. Example, the current page size is 4.25 inches x 5.50 inches (1/4 of a *letter* sheet); Diagram Designer will create images of the following sizes, depending on the DPI selected.

   b. Formula for getting pixels

   - Page size 4.25 inches x 96 DPI = 408 pixels
   - Page size 4.25 inches x 64 DPI = 272 pixels
   - Page size 4.25 inches x 192 DPI = 816 pixels
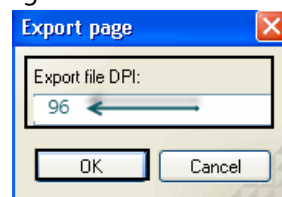
- Page size 8.5 inches x 96 DPI = 816 pixels

- Page size 8.5 inches x 64 DPI = 544 pixels

- Page size 8.5 inches x 192 DPI = 1,632 pixels

3. When exporting the diagram to an image file, All layers on the current page, whether currently visible (as determined by which layer is being edited) or not, are exported to the final image file. Inherited Layers are also exported. **Important Note**: the final image is the same as that shown in Preview mode.

Print

- Shortcut - **Ctrl+P**

4. **Opens** the standard Windows® print dialog, permitting the user to print the current diagram.

Preview Mode

This permits the user to view the current diagram as a finished page. It displays all layers on the current page whether currently visible (determined by which layer is being edited) or not. The Preview icon changes to reflect the current mode.

- Changes the page background to white

- Hides the grid if activated

- Displays all layers

Slide Show

- Shortcut - **F4**

1. This initiates a **slide show** presenting pages in full screen mode with a white background without displaying the grid,

2. If the diagram contains **more** than a single page, **left clicking** anywhere on the page advances the slide show to the next page.

3. **Right clicking** on the page during a slideshow will bring up the context menu that permits the user to control the slideshow. (jump a page)

4. Pressing the **Esc** (escape key) terminates the slideshow and return to the previous mode (usually the regular edit mode).

Template Pallet

This opens the template palette menu permitting the user to perform operations on the template pane. The following options are available:

- **Load** - loads a new template file (DDT) to the template pane.

- **Save** - saves the template pane as a template file.

- **Copy** - copies all template objects to the diagram pane.

- **Make** - converts the current diagram layer (visible) to a template. Note that the template is **not** saved as a file; the diagrams objects are simply placed in the Template pane.

Options

- Shortcut - **F9**

- Sets **global** program options

1. Select **File** from the menu bar.

2. Select **Options** from the drop down menu.

3. Select **Units** on the **Options** screen.

4. **Select** appropriate measurement unit from the drop down list.

5. Select **OK**.
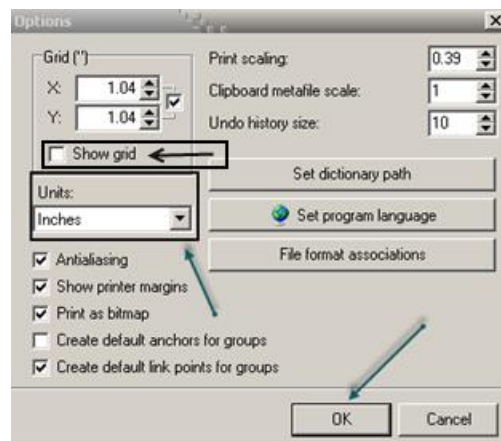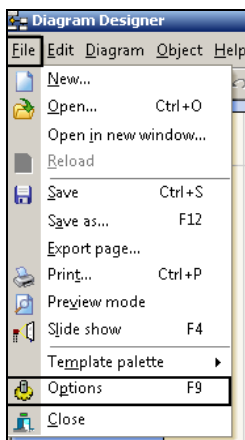
Measurement Units

Diagram Designer is designed to accommodate known measurement styles.

- Millimeters

- Centimeters

- Inches (1 point = 1/72 inches)

- Points

- 300 DPI Dots

- 600 DPI Dots

Special Note: Once units are set, all page and object properties are presented in those units.

- Exceptions: Line widths and margins (presented in points of ¼ point)

Grid

- Sets the grid spacing (X and Y) using the current units

- Toggles grid visibility on/off showing the grid
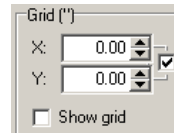
Special Note: When the grid is toggled off (clear the Show grid (check mark (✓) the grid snap mechanism is still in effect. To turn the grid check box off:

1. Set the grid spacing (X and Y) to 0.0

   a. Setting small grid spacing may cause the grid not to appear unless the zoom factor is increased.

   b. Diagram Designer's snap feature will cause the object link points and bounding box link resize points automatically align to a grid point when that point is close to the link point or resize point.

   c. This makes alignment and sizing of objects easier.

   d. Holding down <Alt> key disables the snap feature so an object can be resized or moved without interference from the snap feature.

Print Scaling - Margins

1. Leave the **Print Scaling** at **1** unless the drawing is to be printed on a paper size other than 8 ½ x 11. Diagram Designer software by default is designed to print on 8 ½ x 11-paper portrait or landscape.
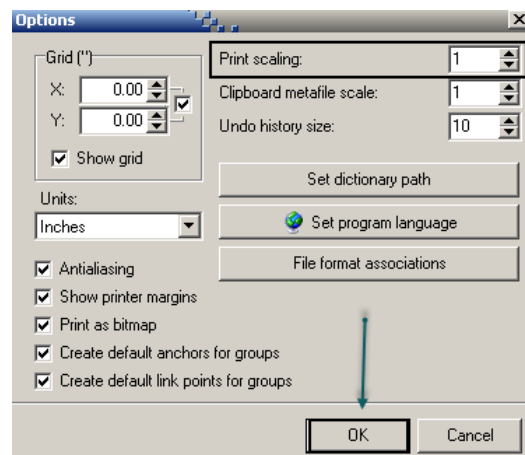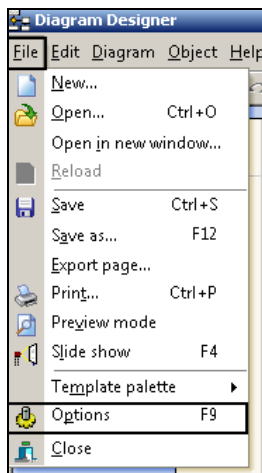
Close

1. **Closes** Diagram Designer

2. **Save** work before closing.

3. Diagram Designer will **close** after selecting Yes.
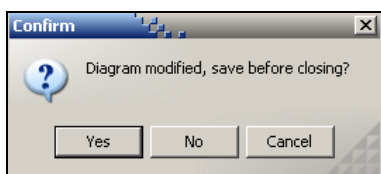
Menu - Edit
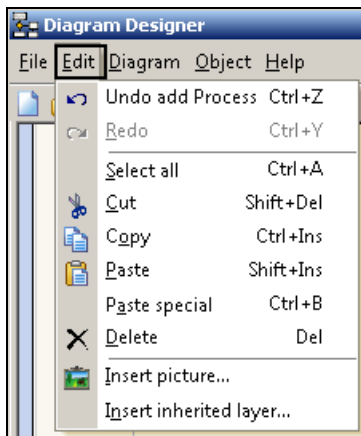
Undo/Redo

A mistake is made. How will the user fix the mistake? Use the Undo/Redo buttons to make corrections.
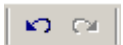
- Shortcut - **Ctrl+Z**

4. **Note:** As with any software, it is better to use the Undo button and continue clicking Undo to return to the beginning of the error rather than plowing ahead and trying to make the software bend to the users wishes. When a mistake is made, think it through and make the necessary corrections.
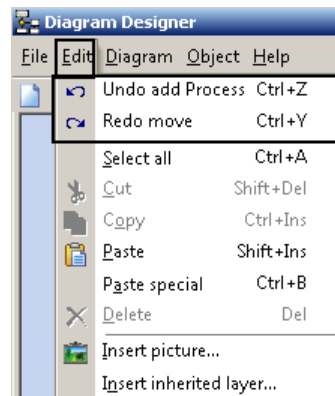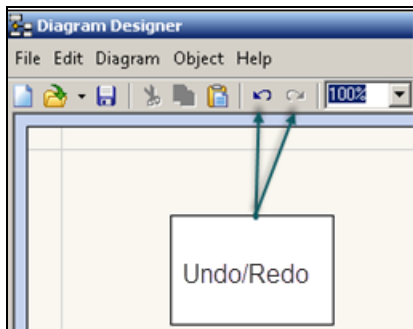
A secondary method to use Undo/Redo

1. Select **Edit** from the menu bar.

2. Select either **Undo Add Process** or **Redo Move** from the drop down list.

Undo History Size

- The Undo History will control how many past operations the user has made.

- The default size is 10. Increasing the setting to a larger number will use more memory. Using a smaller number will decrease the need for memory. **Caution**: Setting the Undo History Size below 5 may prevent the user from returning to the beginning of a problem.

1. Open **File**

2. Select **Options**

3. Use the up/down arrow box to **increase/decrease** the number of available undo history size.
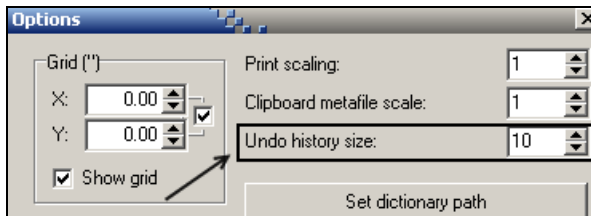
Select All

- Shortcut – **Ctrl+A**

- Selects everything on the Diagram pane

Diagram pane

- The Diagram pane is where all the work is done; actual creation of the diagram is done here.

- The Diagram pane is considered to be a blank page (size etc. determined by the user) on which the diagram is drawn by dragging objects from the template.

- Objects can be resized (most objects) and moved, once placed in the Diagram pane and, as well, their properties can be edited from here (e.g. color, line type).

- For extra sensitivity in movement, the Diagram pane can be zoomed (in or out - using the scale combo box or the magnifier both in the toolbar thereby changing the visual scale and allowing finer movement.

- The diagram can be larger than the pane permits - Windows® sliders will appear to access the entire diagram.

    Special Note: The Object Tree pane can be resized by dragging

- The divider between the Object Tree and Diagram panes, or

- The divider between the Diagram and Template panes

Template pane

- The Template pane (or Template Palette) contains objects for placement on the Diagram pane.

- Templates can be either:

  - Standard - loaded automatically at startup - contains basic shapes, lines and arrows, or

  - Custom - the user can create objects to suit a particular application, and then turn those objects (from the Diagram pane) into a template.

- Templates can be changed at any time during diagram construction. The template can be larger than the pane allows - Windows® *sliders* will appear to access the entire template.

  Special Note: Note that the Object Tree pane can be resized by dragging the divider between the Diagram and Template panes.

Status Area

The status area shows two basic pieces of information:

- The current page - Diagram Designer can operate on multiple pages as part of the same diagram. Left clicking on the current page permits access to other page features.

- The current cursor coordinates - coordinates are shown in the units set by the Options menu (File/Options). Coordinates are only valid for the Diagram pane.

Cut

- Shortcut – Shift+Delete

- This will **carve out** selected drawing or text.

Copy

- Shortcut – **Ctrl+C**

  - Selected drawings and text will be **retained for placement** at another location or screen.

Paste

- Shortcut – **Ctrl+V**

- **Select a location** and paste the copied drawing and/or text.

- MS Windows® provides a shortcut to deleting an object.

- Select the object to be deleted by right clicking the left mouse button and highlighting the object to be deleted. Alternatively, for an object, select the object by left clicking the mouse button.
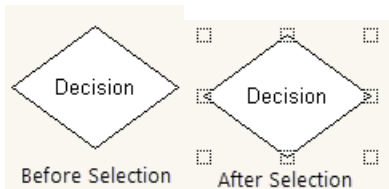
- Select Ctrl + X

Paste Special

1. Shortcut – **Ctrl+B**

2. **Move or copy** both the contents and formatting to a new location. The data may be merged or altered before it is pasted to a new location.

Delete

1. Shortcut - **Delete**

2. **Erases** selected text.

3. **A word of caution**: Backup all material before deleting anything.

4. The user can use **Undo** if the deletion is done by mistake and undone immediately.

Insert Picture

This will insert a picture or graphic in the drawing.

1. **Select** Insert Picture.

2. From the folder that contains the picture or graphic, select the appropriate **picture** or **graphic.**

3. Select **Open** to place the picture or graphic in the drawing and resize to appropriate dimensions.
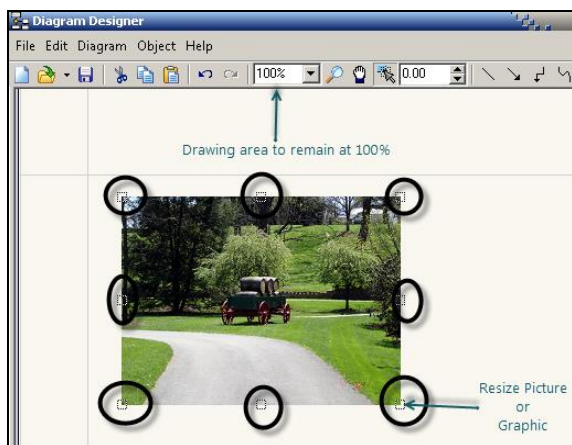
Insert Inherited Layers

Inserting an inherited layer into the current layer provides a means of including data in the current view other than the data on the current layer. By inserting an inherited layer, the user is actually inserting a viewport to a different layer, perhaps on a different page. This is equivalent to bonding a different layer form any page to the current layer.

- The current layer

- All layers underneath the current layer including Global stencil

- The inherited layer inserted

   a. As with normal layering, the user is editing a layer below the layer that contains the inherited layer. The inherited layer is not visible.

   b. Note: A change to the actual inherited layer is reflected in the inserted inherited layer. The inserted layer is not a copy but a viewport to the actual layer.

   c. To insert an inherited layer:

Inherited Layer Use Example

- Making presentation slides

- Each slide will build on top of the previous slide
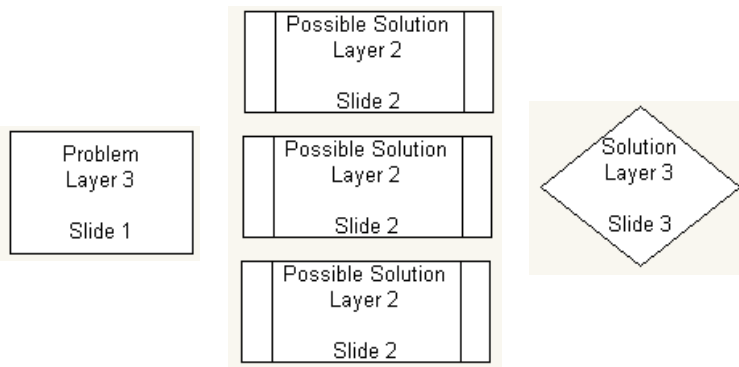
- Slide 1 is the start of building a slide presentation on layer 3.

- Slide 1 can be included with slide 2 (layer 2) or slide 2 can be independent covering slide 1.

- Slide 3 (layer 1) can be included with slide 2 or slide 3 can be independent covering slide 2.

1. Select **Insert Inherited Layer**

2. Enter the **page number**

   a. Page numbers are relative to the current page

   - 0=current page number

   - -1=Previous page number

   - 1=Next page number)

   b. This will permit renaming the pages subsequent to inserting an inherited layer.

3. Enter the **layer number** to insert.

   a. This must be 1, 2, or 3

   b. The Global Stencil cannot be inserted since it is visible on all layers
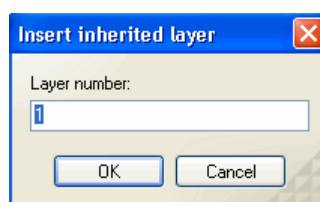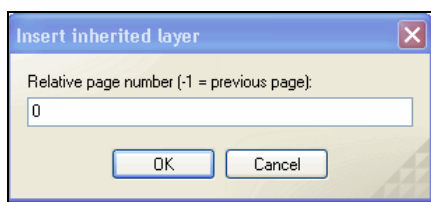
Menu - Diagram
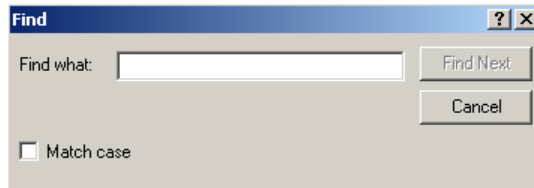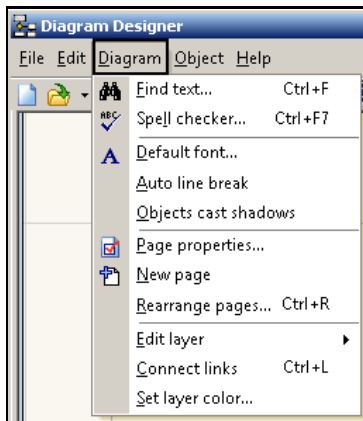
Find Text

- Shortcut – **Ctrl+F**

1. This is a useful option when you need to **add** or **find** a word or phrase.

2. Select **Diagram**

3. Select **Find Text**

4. Enter the **Word** or **text** that is to be located.

5. Select **Find Text**

   a. If the word to be located has a special spelling or capitalization, select **Match Case**

Spell Checker

- Shortcut – **Ctrl+F7**

- Spell Check requires a valid dictionary to be installed

- The dictionary path is set in the **File / Options** dialog.

- An error message will result if no dictionary is located.

  - The initial dialog shows the default language

- Changeable if more than one dictionary is installed

  - Spell check options:

- Check only the active layer

  - If the box is left unchecked, all layers will be checked

- Skip symbols. Example: mathematical symbols

6. Select **Language**

7. Select **Start** to begin the spell check

8. If the spell checker **locates a misspelled word**, the user is presented with a list of possible correct spellings.

9. Highlight the correct spelling choice from the **Suggestion** box.
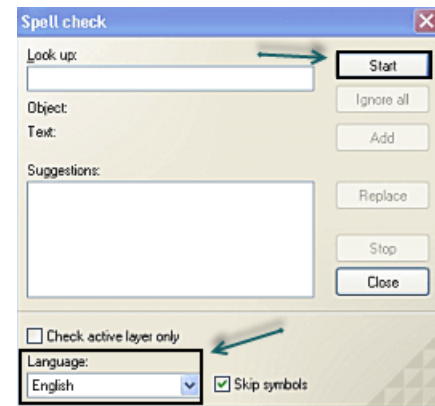
10. Select **Replace**

    a.   This will replace the misspelled word with the correct spelling word.

11. If a new term is not in the dictionary but spelled correctly, select **Add**.

    a.   This will add the new word to the current dictionary.

12. When **Ignore** is selected, the highlighted word will be bypassed.

13. When **Ignore All** is selected, all words spelled the same will be bypassed.

14. When the spell check is completed the **Spell Checker** will issue a completed message, Select **Close**
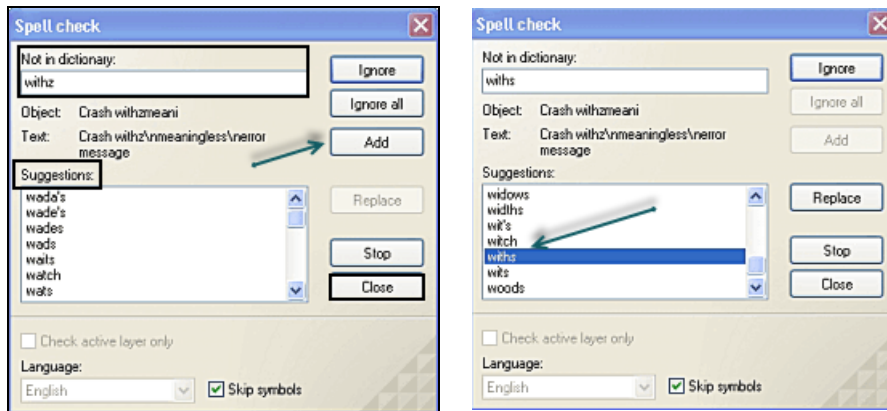
Default Font

Most Microsoft® software contains True Type fonts. A True Type font is a stylized typeface. Most also include four symbol Wingdings libraries. Wingding symbols can be useful if used sparingly. There are over 6,000 other fonts and most are free. The extra fonts can be secured from the internet.

    a.   The font used in Diagram Designer should match the font used in the written document.

    b.   **Caution about using fonts**. A font is a typeface that is used for written communication. Some fonts are so special they must be forwarded and installed prior to sending a document or drawing electronically.

1. It is important to set the default font for the work area. The **default setting for MeeSoft Diagram Designer**:

- Font – Arial

- Font Style – Regular

- Font Size - 10

2. Select **Diagram** from the menu bar.
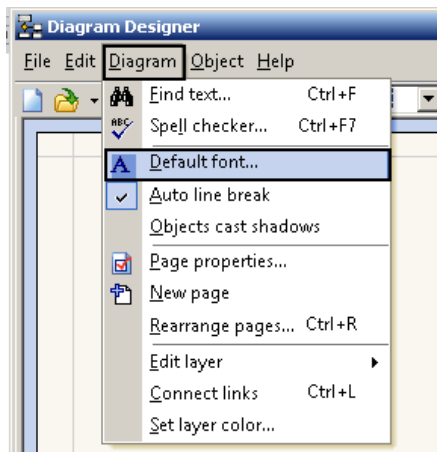
Common True Type Fonts

1. **Arial** – A part of the Sans Serif font family. This is a popular font used in magazines, presentations, and newspapers.

2. `Courier New` – `This font was designed to look like a typewriter font. Notice the default spacing is the same as a typewriter, if anyone remembers.`

3. Times New Roman – This old 1931 font is widely used by government agencies and private businesses. The most common size is 12. It continues to be popular because it is easy to read.

4. **Tahoma** – This is a close relative to the Sans Serf font family. It is recognized to have good quality readability. It is the default font used in Microsoft Windows 2000 and XP.

5. **Segoe UI** – A Sans Serif font that is used by Microsoft. It is easy to read. This user manual is written in Segoe UI font.

Font Style

1. **Regular** – This is the normal typeface used in documentation.

2. *Italic – Used sparingly this style can catch the reader's eye to take notice of a word or phrase. (Shortcut Ctrl+I)*

3. **Bold – This style can catch the reader's eye for a word or phrase. This should be used sparingly in documentation. (Shortcut Ctrl+B)**

4. ***Bold Italic – This style is bold and uses the Italic style in combination. This font style is rarely used. (Shortcut Ctrl+B & Ctrl+I)***

 Size

1. Select a **size** by selecting a size number.

    a. Generally, accepted sizes for drawings and documentation are 10 and 12. The size of the font will depend on the audience. Pick a font size and try not to use too many different sizes. If it becomes necessary to use other font sizes, use them sparingly. Always remember, communication is the goal.

    b. This line is written in size 10.

    c. This line is written in size 11.

    d. This line is written in size 12.

Setting the Font – Font Style – Size

1. Select **Diagram**

2. Select **Default Font**

3. Select a **Font**

4. Select **Font Style**

5. Select a **Font Size**

6. Select a **Script Language** (Default is Western)

7. Select **Color** (Default color is Black)

8. Select **OK** (The drawing will be defaulted to the settings selected unless changed.)
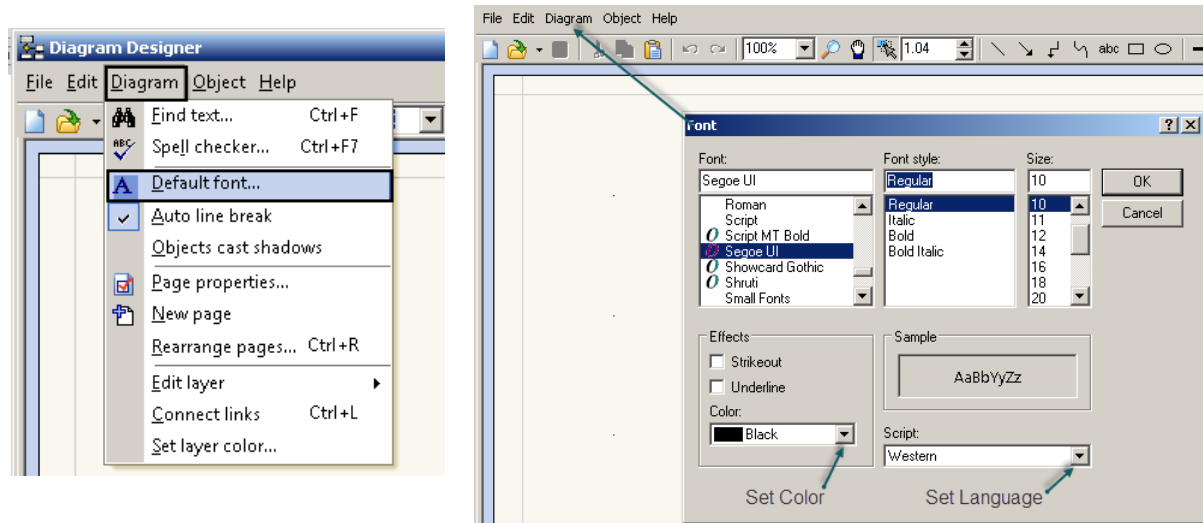
Auto Line Break

1. With Auto Line Break **activated**, the text within a box/object will be wrapped. Example: 1

2. With Auto Line Break **not activated,** the text with a box/object will be one line. Example 2
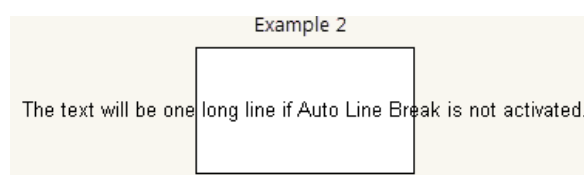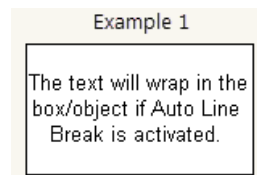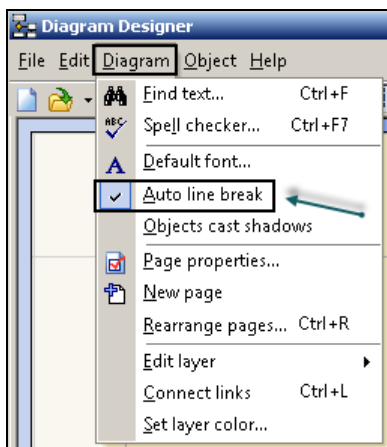
Objects Casts Shadows

1. Select **Diagram** from the menu bar.

2. Select **Objects** Casts Shadows.

   a. This will cast a shadow on all Flowchart objects on the page.

No Shadow   Shadow
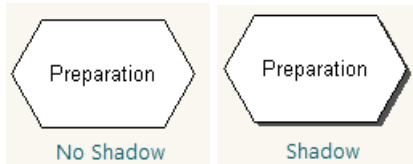
Page Properties

1. Provides page **Width** and page **Height**
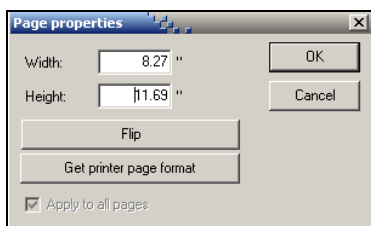
Page Setup

Before a drawing begins, the user will need to think how they want their drawing to look and printed. Most drawings will be done in the Landscape position but in printed material most drawings will be in the portrait setting.

Portrait View

1. Select **Diagram** from the menu bar

2. Select **Page Properties** from the drop down list

3. The **Default** setting is **Portrait**

4. **Verify or change** printer settings select Get Printer Page Format

    a. **Verify** the default setting is Portrait

    b. Select **OK**
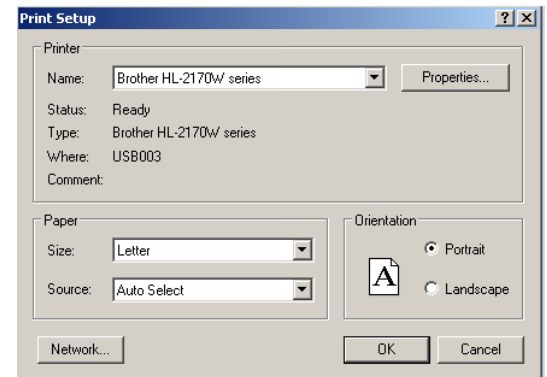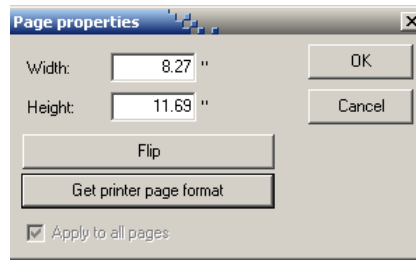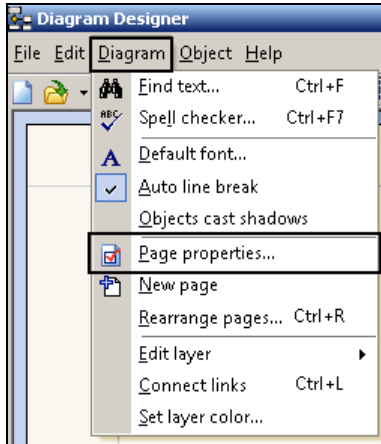
Landscape View

1. Select **Diagram** from the menu bar

2. Select **Page Properties** from the drop down list

3. Select **Flip** to change the Portrait setting to **Landscape**.

4. Select **Get printer page format**

5. **Verify** or **change** the printer setting to Landscape

6. Select **OK** on the **Print Setup** screen

7. Select **OK** on the **Page Properties** screen.
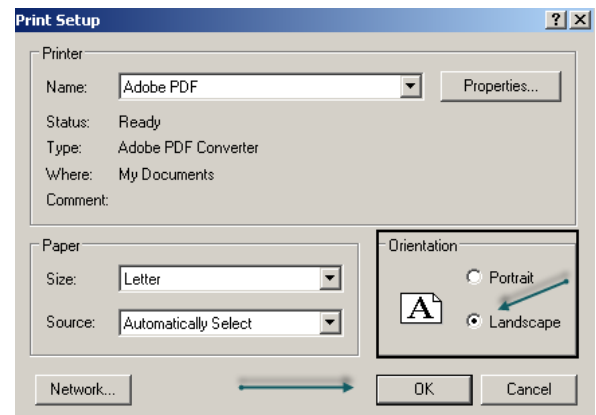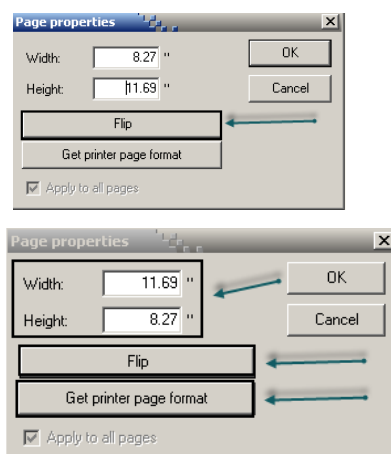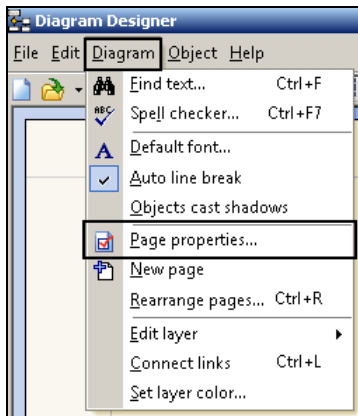
New Page

1. This will provide a **new** work page,

     a. A workbook may contain many pages.
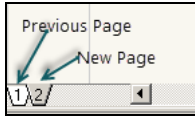
Rearrange Pages

This will permit the rearrangement order of pages.
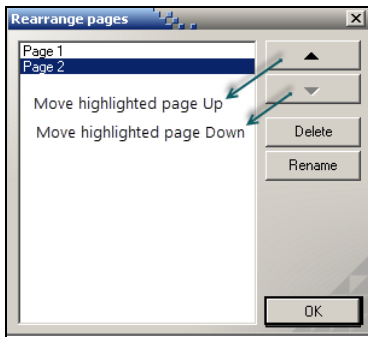
- Shortcut – **Ctrl+R**

1. Pages may be **deleted** by selecting the delete button.

2. Pages may be **renamed** by selecting the rename button.

3. Select **OK** when selections are completed.

Edit Layers

- The use of layers is a valuable efficient use of Diagram Designer.

- There are four layers available in the software program.

    - Layer 1

    - Layer 2

    - Layer 3

    - Global Stencil

- Visualize three transparent sheets (layers 1, 2, and 3) laid over top of an opaque sheet (Global Stencil) as illustrated:
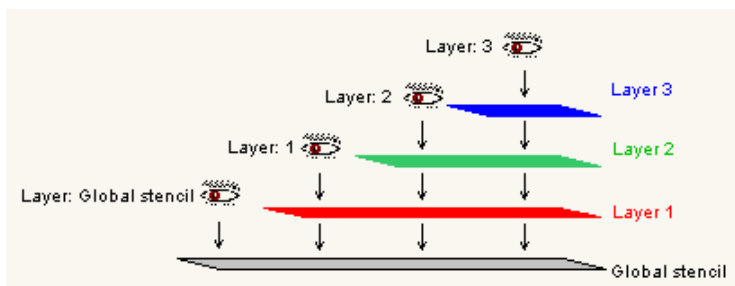
- Viewing the sheets from above, the Global Stencil is visible through Layer1
  - Viewing Layer 2 and Layer 3 will not be visible because the point of view is between layers 1 and 2.
  - **Special Note**: Global stencil layer is visible on all pages and all layers.
- Working on an individual layer, the other layers while perhaps visible are locked objects and cannot be moved or modified.
  - This feature makes editing diagrams easier.
- Objects may be moved from one layer to another by:
  - Enable the proper layer (objects currently reside) using the Diagram Edit layer menu
  - Selecting the object(s)
  - Using cut to remove the objects, placing them on the clipboard
  - Enable the target layer
  - Paste the object(s). The object(s) may have to be positioned, since they are pasted slightly offset.

How to Use Layers

1. Decide how many layers is wanted (1,2,3,or Global Stencil)
   - This example will illustrate Global Stencil.
2. Place the desired object on the page: (For this example we will start with Global Stencil)

Purpose of Global Stencil Layer

- Global Stencil Layer is for the placement of objects that are needed or required for **all stencil layers**.
  - Page Header Information
  - Page Footer Information
  - Page Numbers (text box – "Page \p"
  - Logos
  - Copyright and/or Trademark Information
  - Version Control
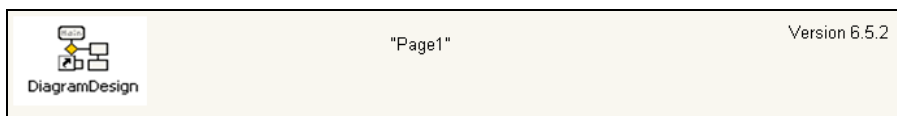
1. Select **Global Stencil**
2. To **add page numbers**, select the **text label** and type "Page \p"
   - This will add continuous page numbers to the slides.

3. From the **Global Stencil** selection, **right click Page 1** and select **New Page**. This will transfer all information in the footer or header to the ensuing pages.
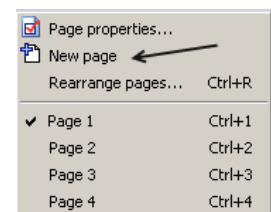
Global Stencil in Action

- Using the Global Stencil will permit the building of slides on top of the previous slide.

- The following example illustrates three slides starting with a problem, three possible solutions, and the solution. Presentations like these are helpful to stimulate discussions.

- First image using Global Stencil so the graphic will be inserted on all future slides.
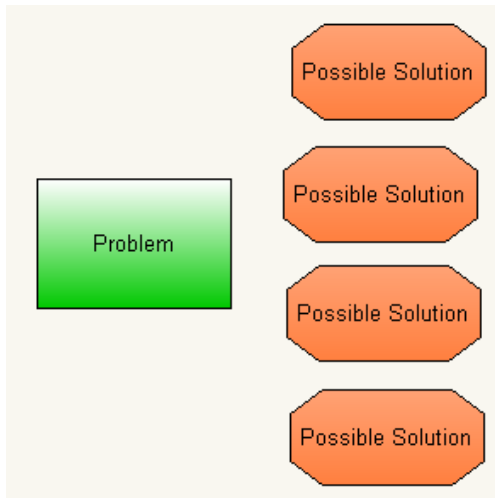
- The second slide carries over the original graphic and adds three additional graphics.
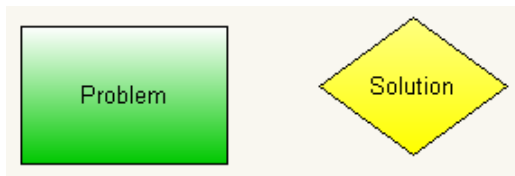
- The third slide illustrates the Global Stencil plus the third slide graphic.

Design Selection Default Template Palette

- Default

- Electronic Symbols

- Flowchart

- GUI Design 1

- LaChimere AutoRealm

- Polygons

- UML Class Diagram
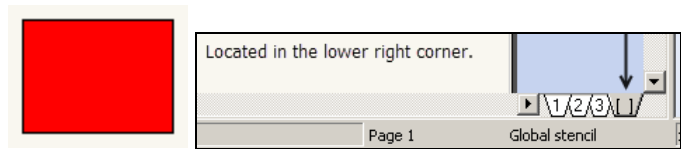
4. Add color if desired.
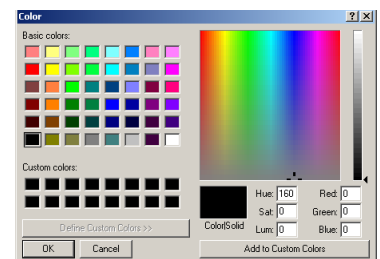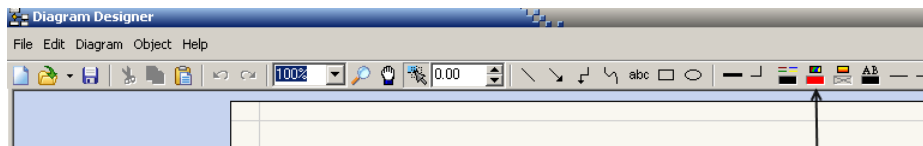
- If the user does not like the color selected:

  - Each object placed on the page can have a different color.

  - Select Undo and choose another color.

- If text is inserted within the object and color is added, make sure there is a contrasting difference between the object color and text color.

- Layer 1
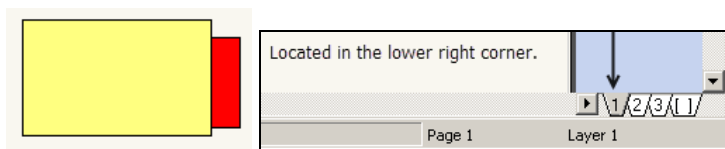
- Layer 2
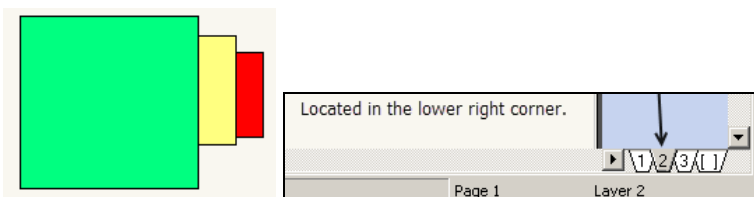
- Layer 3
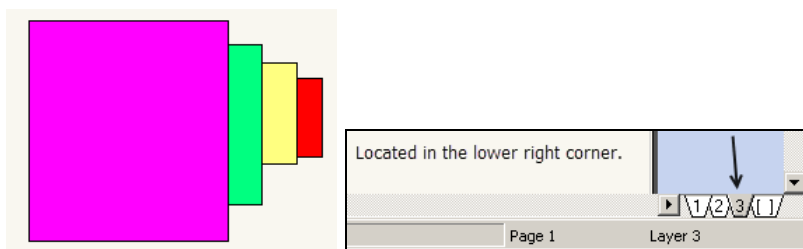
Edit Layer

1. This operation permits the user to select the **current layer**.

2. Only the current layer can be **edited**.

3. This effectively **joins** two or more objects. If one is moved the other(s) move also.

4. This operation attempts to **join all links** on the page that should have been linked at creation.

Connect Links

- Shortcut – **Ctrl+L**

1. When **link points** contained in different objects occupy the same location, the usual behavior is for the links to connect.

Set Layer Color

1. Highlight **Flowchart** object

2. Select Set **Layer Color**

3. Select a **color**
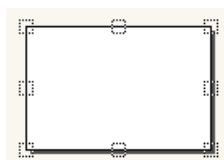
   - Custom colors can also be selected

4. The **color selected** will be applied to all objects in the active layer.

5. Select **OK**
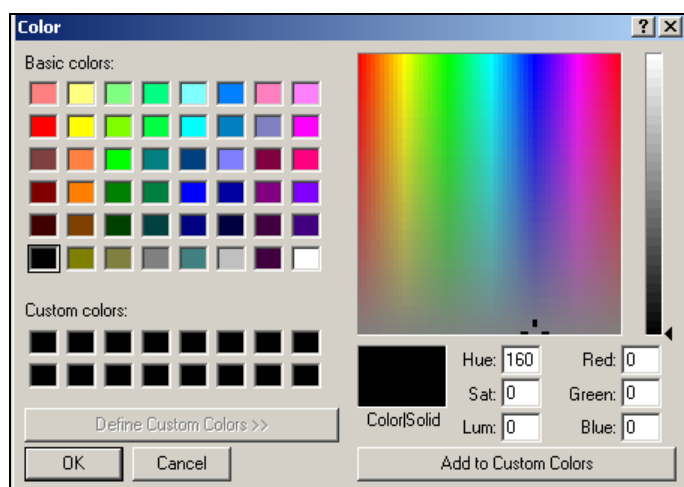
Menu – Object
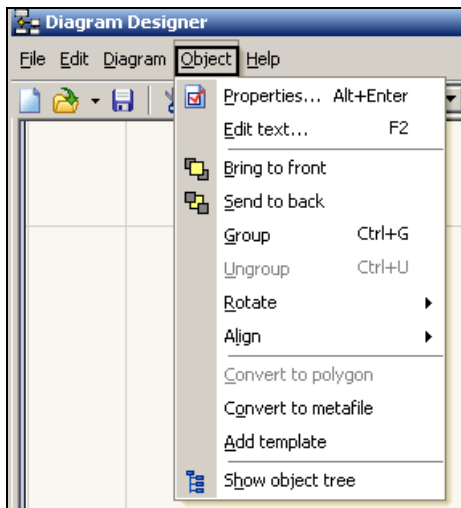
1. Select **Object**

    - Shortcut – **Alt+O**

Properties

This example drawing describes a decision process. This can be an explanation for a written document or the beginning a software development process.
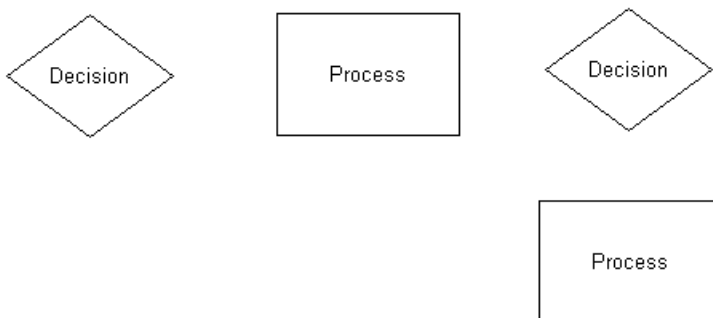
1. Click on an object to activate menus

    a. The square symbols will permit resizing the object. □

    b. Click on the square to activate a double arrow for resizing. ↔
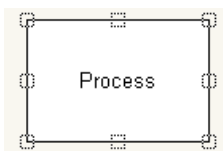
2. Select **Properties** to activate the Properties screen.

General Tab

The General tab provides name changing capabilities and line sizing capabilities.

1. **Name** – This is the name of the Flowchart object. There is rarely a reason to change this name.

2. **Text** – This is one of two places to change the objects name. Change the name to something that is meaningful. In this example, we will change the **Text Name** to **Thirsty**?.

    The **second way** to change the **Text Name** is to select **Edit Text**. This will provide a screen with **Text Formatting Codes**.
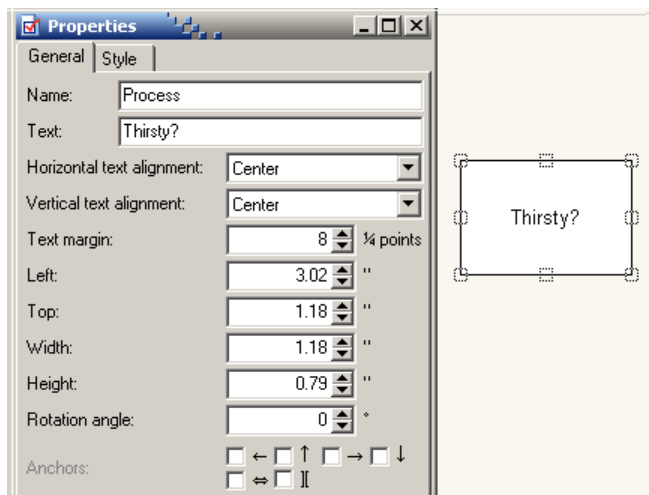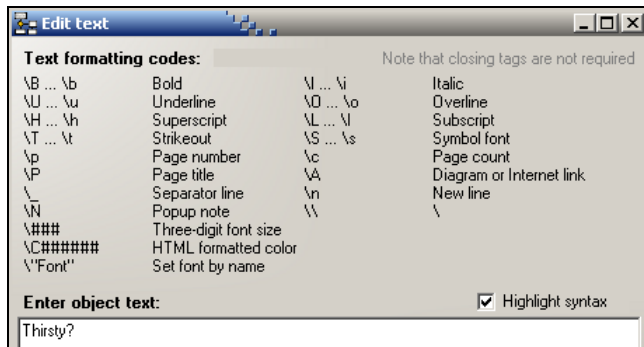
Horizontal Text Alignment

This feature contains multiple choices:

    a. **Left** – Single word or if text fits within the object the text will align Left.

       If the text is longer then will fit with-in the object, the text will wrap to the left.
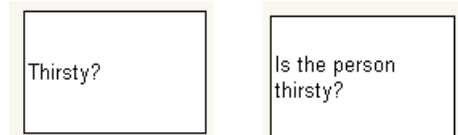
b. **Center** – Single word or if the text fits within the object, the text is centered

If the text is longer then will fit within the object, the text will wrap in the object with the second line centered.
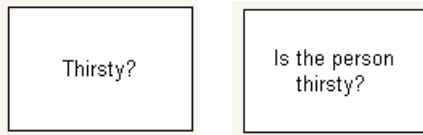
c. **Right** – Single word or if the text fits within the object, the text will align right.

If the text is longer then will fit within the object, the text will wrap in the object with the second line aligned right

d. **Block Left** – Single word or if the text fits within the object, the text will align center.

If the text is longer then will fit within the object, the text will wrap align center with additional lines aligning with the left edge of the first line.
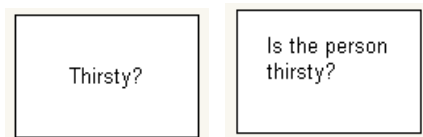
e. **Block Right** – Single word or if the text fits within the object, the text will align center.

If the text is longer then will fit within the object, the text will wrap align center with additional lines aligning with the right edge of the first line.
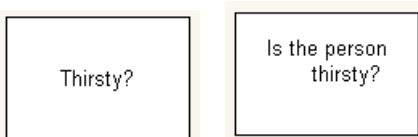
Vertical Text Alignment

a. **Top** – All text is aligned at the top of the object.
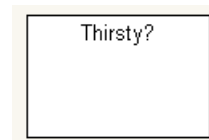
b. **Center** – All text is aligned centered.
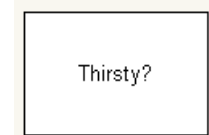
c. **Bottom –** All text is aligned bottom.
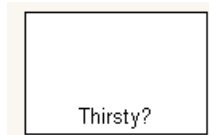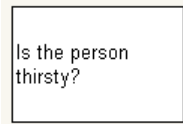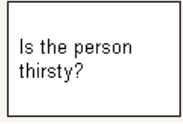
Text Margin

Special Note: All measurements are in increments of ¼ point. Each whole point represents 1/72 of an inch. It takes 72 points the equal one inch.

Text margin:	8	¼ points
Left:	3.00	"
Top:	1.19	"
Width:	1.18	"
Height:	0.79	"
Rotation angle:	0	°

Text Margin

    a.   This represents the space between the text edge and the beginning of the text statement.

    b.   This is applicable to horizontal text alignment left and right.

    c.   This is applicable to vertical alignment top and bottom.

Text margin: 0 ¼ points   Text margin: 24 ¼ points

Is the person thirsty?   Is the person thirsty?

Object Position

    a.   This feature permits setting the object position for **Left** and **Top**, distances from the edges of the page.

    b.   **Width** and **Height** setting determines the size of the object.

Left:	2.95
Top:	1.05
Width:	1.16
Height:	0.84

Left: 1.75

Decision

Paper's Edge

Width: 1.16

Is the person thirsty?

Height: 0.84

Is the person thirsty?

Left: 0.25

Decision

Paper's Edge

Width: 0.75

Is the person thirsty?

Height: 0.50

Is the person thirsty?

Top: 1.06

Paper's Edge

Is the person thirsty?

Top: 0.25

Paper's Edge

Is the person thirsty?
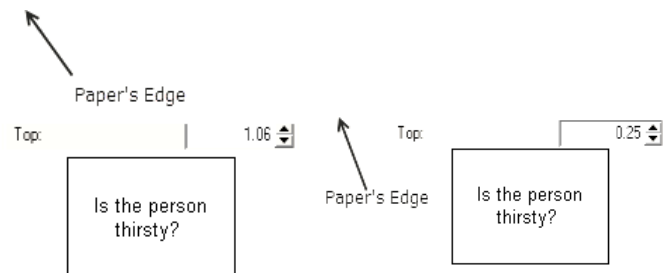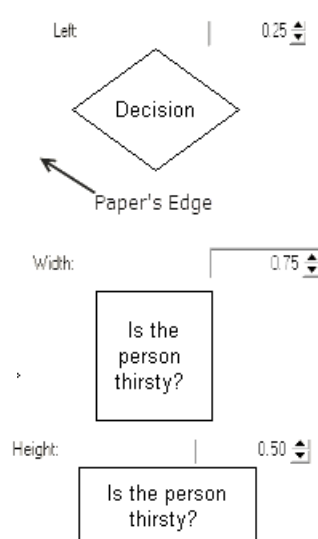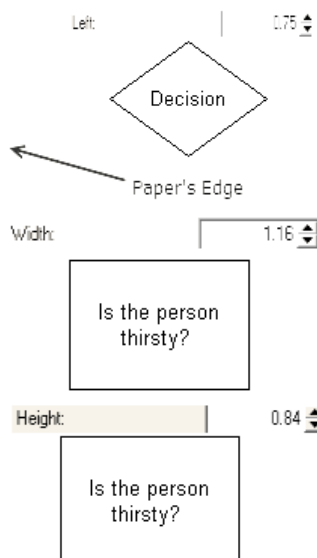
Rotation Angle

1. Select an object with text.

2. Change the text's angle by selecting the **Rotation Angle**'s edit box. Angle values can be positive or negative values ranging from 0° to 1000°. The user may choose a default values or use a custom value of their choosing.

- 90°
- 180°
- 270°
- 360°
- 450°
- 540°
- 630°
- 720°
- 810°
- 900°
- 990°
- 1000°
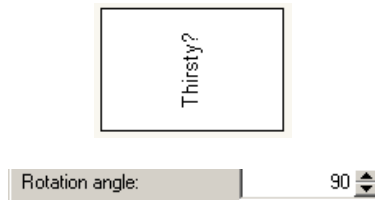
Bring to Front

a. There will be times when objects overlap and may obscure the other object.

1. To bring the **Thirsty?** text box in front of the **Drink Water** text box, select the **Thirsty?** text box.

2. Select **Bring to Front**
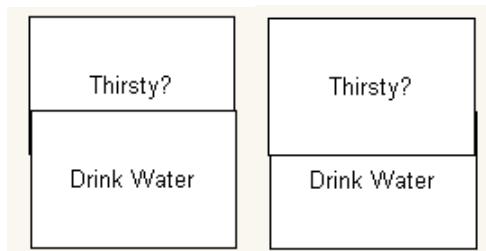
Send to Back

1. To bring the **Drink Water** text box in front of the **Thirsty?** text box, select the **Drink Water** text box.

2. Select **Send to Back**
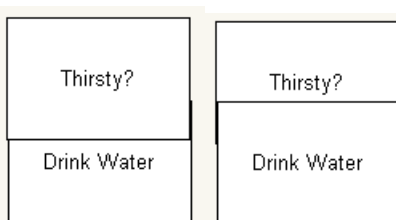
Group

1. Select **Object** from the Menu bar

2. Open **Show Object Tree** on the left side (default) of the screen.
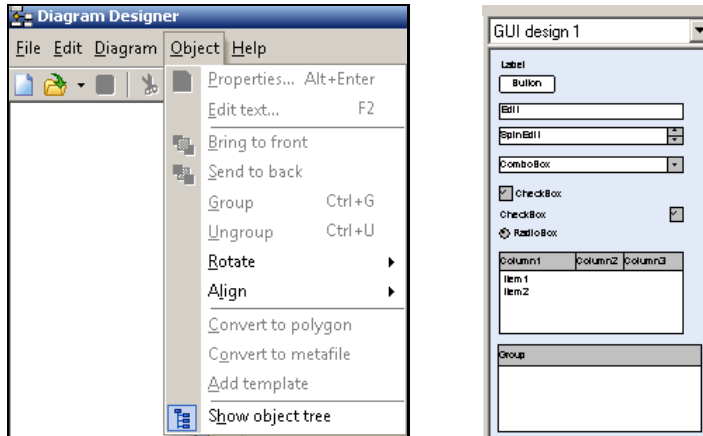
3. Open **GUI Design 1** from the drop down selections.

   a. This is a starting example of a design for a possible computer program.

4. To **group** (Shortcut Ctrl + G or right click the mouse button) Rental Type, Monthly Rent, Annual Rent, and Lease Agreement Length **as one group**, highlight the first item Rental Type.

5. Press the **Shift key** and select each item to be grouped.

6. Select **Group** after all the objects has been selected.
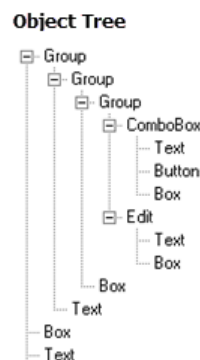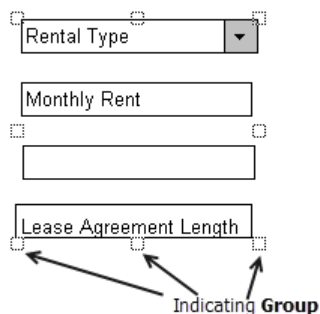
7. By grouping, objects together **permits resizing** the entire group as one instead of being forced to resize each item individually.

8. **Anchor Explanation**: There are six anchor checkboxes.

   a. The first four anchors; **left arrow**, **top arrow**, **right arrow**, and **down arrow** causes the corresponding edges of the object inside the group to follow the edges of the group.

   b. Example: If the left and right anchor checkboxes are selected, the scale of the group of objects left and right edges will maintain a constant distance to the edge of the group. The object inside is also scaled. If only the right anchor is checked, the object will move with the right edge of the group when the group is scaled.

   c. The **horizontal** and **vertical** arrows make the object scale and move proportional to the group.

Ungroup

1. Shortcut Ctrl + U
2. To **Ungroup** items **back to individual items**, select the group.
3. Select **Ungroup**.

Rotate

1. Select an **object**
2. Select **Rotate**
3. Select a **Rotate style**

4. Choose **Any Angle** for a custom look.
5. Select **OK**

Align

This feature permits the user to align an object(s) relative to the current page.

- Left – Shift to the left edge, preserve vertical location

- Center – Center horizontally on the page

- Right – Shift to the right edge, preserve vertical location

- Distribute

- Top – Shift to the top edge, preserve horizontal location

- Center – (Vertically) Center on the page, preserve horizontal location

- Bottom – Shift to the bottom of the page edge, preserve horizontal location

- Distribute

- Fill – Expand object to full page

Note: If more than one object is selected, Diagram Designer tries to align one or more objects to meet another. The objects are aligned with the selected object closest to the final alignment location. If Fill is selected, one or more objects will try to fill another with unpredictable results.
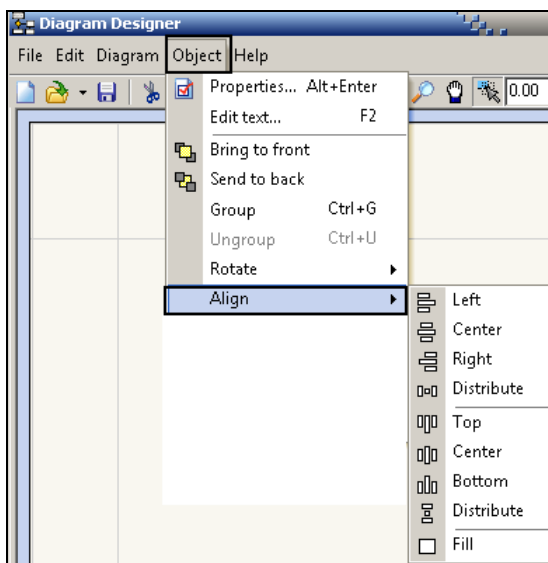
Convert to Polygon

Converts a collection of objects to a polygon

- Additional information about objects can be found in Help.

Draw the outline using simple lines.
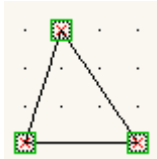
Select all lines. Lines must be connected with no gaps in the shape. Use **Diagram/Connect Links** if necessary to ensure lines are connected.

- **Diagram/Connect Links** - When link points contained in different objects occupy the same location, the usual behavior is for the links to connect. This effectively joins the two (or more) objects such that, if one is moved, the other(s) move also. However, this linking does not always occur; this operation attempts to join all links on the page that should have been linked upon creation
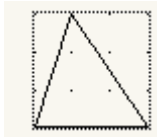
All lines should be combined to a group using Object/Group.

- This tool groups selected objects together, allowing them to behave as a single object. Once objects are grouped together, they may be moved as a single object, but individual object properties are no longer available. Link points associated with the former individual objects are also no longer applicable, although the user may assign new link points to the grouped object. Note that groups may be nested; grouped objects may be collectively grouped.

- Objects that have been grouped together are separated (back to individual objects) by this tool. Individual properties for each object are restored and may be edited. If the original grouped object was a collection of groups, rather than objects, only the separate groups are restored by ungroup.

Group Now is to be converted using Object/Convert to Polygon. The new Polygon is still selected, if not, select it to edit properties.
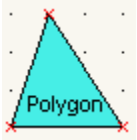
Polygon properties can now be edited. Example: addition of text, fill color, etc.

Convert to Metafile

Windows® metafiles are graphics files, but have a different structure from most other formats. Essentially they consist of a collection of commands (in **Graphics Device Interface** language) to present a graphics image. Diagram Designer can convert objects to Windows® metafiles using this command. The simple procedure is

- select an object or objects to convert

- use the Object/Convert_to_metafile option

The object is converted to a single metafile, which has a reduced set of properties. Be aware that metafile objects (like polygons) **cannot be returned** back to Diagram Designer objects. Many object properties (Example: Edit text) are not available once an object has been converted to a metafile. Line widths, for example are fixed after conversion and are relative to the current size; enlarging the metafile enlarges the line widths as well.

Why convert?

Once a metafile is converted, it is a pure graphical object and can be rotated to any angle using the <u>Object/Rotate</u> functions. In addition, converting an object to a metafile *freezes* its components relative to each other; no further modifications (other than shrink/grow/rotate) can be made. This might be an advantage in a complex diagram, although grouping objects exhibits similar (and less permanent) behavior.

Add Template

This adds selected objects to the current template palette in the **template pane**. Since only a single object is added to the template, only one object should be selected.

    a. Template pane contains objects for placement on the Diagram pane.

    b. Templates can be either:

- Standard – loaded automatically at startup – Contains basic shapes, lines, and arrows

- Custom – The user can create objects to suit a particular application. Then turn those objects from the Diagram pane into a template.

    c. Templates can be changed at any time during a diagram construction.

    d. The template can be larger than the pane permits.

    e. Windows® sliders will appear to access the entire template.

    f. Note: The Object Tree pane can re resized by dragging the divider between the Diagram and Template panes.

Show Object Tree

    a. The Object Tree pane shows all current objects in the diagram. Objects are identified by (user assigned) name; groups are represented just as an expandable Group with the individual objects shown (including other groups) when the Group name is expanded. Selecting an object in the Object Tree also selects in the Diagram Pane, unless that object is part of a Group. In a similar manner, selecting an object in the Diagram pane selects the object in the Object Tree pane.

    b. The Object Tree can be toggled on/off in the Object menu. Object properties can be accessed from the Object Tree either by double-clicking the object, or by opening Properties... in the Object menu. The object tree can be larger than the pane allows - Windows® *sliders* will appear to access the entire tree.

c. Note that the Object Tree pane can be resized by dragging the divider between the Object Tree and Diagram panes.

d. This is an example of how anchors can be manipulated and how they behave when the anchors are resized using the mouse.
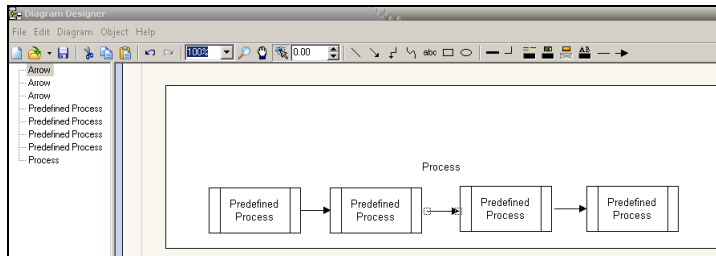
Menu - Help
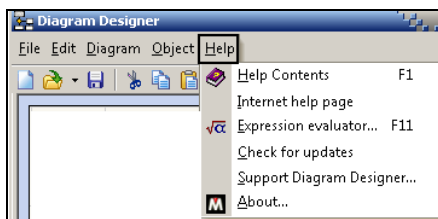
This file contains directions to put something together and making it work as intended. Diagram Designer Help file includes:

Help Contents

- Shortcut – **F1**

1. Type a word or short phrase in the **Type in the Keyword to Find** to locate a subject to learn.
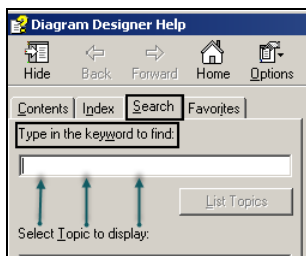
Internet Help Page

1. This will provide **additional help** topics and access to updates.

2. Must have an **internet** connection

Expression Evaluator (New Feature)

1. Select **Help**

2. Select **Help Contents**

3. Select Advanced Pocket **Calculator** with Equation Solver

4. Double click on the **Symbol** or **Description** to transfer the Description to the **Expression Evaluator**.

  a.

√α Expression evaluator

Operators:	
&	Logical AND
|	Logical OR
=	Equal
#	Not equal
>	Greater
<	Less
+	Add
-	Subtract
*	Multiply
/	Divide
%	Modulus
^	Power

Defining symbols:
:Name = Value;
:Func(x) = Expression;

Symbol	Description
Gb	1,073,741,824
Mb	1,048,576
abs(x)	|x|
arccos(x)	Standard function
arccosh(x)	Standard function
arcsin(x)	Standard function
arcsinh(x)	Standard function
arctan(x)	Standard function
arctanh(x)	Standard function
bin(x)	Convert binary number
ceil(x)	Rounds up toward positive infinity
cos(x)	Standard function
cosh(x)	Standard function
cot(x)	Standard function
e	2.718281828459
exp(x)	e^x
fac(x)	x!
floor(x)	Rounds toward negative infinity
frac(x)	Fractional part of real number
if(condition,trueVal,fals...	Conditional value
inf	INF
kb	1,024
ln(x)	Base e logarithm
log10(x)	Base 10 logarithm
log2(x)	Base 2 logarithm
num.Guess	0.500000001
num.argmin(expression...	Find x that minimizes expression
num.min(expression,x)	Minimum value for expression in x
num.root(expression,x)	Root of expression in x
num.solve(equation,x)	Solve equation in x
pi	3.14159265359
plot(expression,x)	Plot graph of expression in x
rand(x)	Random number in [0;x[
randn(x)	Gaussian random number, StdDev=x

round(x)	Round to nearest integer
sign(x)	Standard function
sin(x)	Standard function
sinh(x)	Standard function
sqrt(x)	Square root
tan(x)	Standard function
tanh(x)	Standard function

The Diagram Designer Expression Evaluator is a powerful *programmable* calculator and equation plotter. Notable features are:

- trigonometric functions

- hyperbolic functions

- logical operators

- named user variables can be created and used

- *recursive descent parsing* (ie. handles nested terms)

- equations can be *programmed* and used later

- multi-line programming with a single result

- some constants built-in, more can be added by user using expressions

- equation solving (roots, minimums, etc.) and plotting - plots can be inserted into diagrams

Usuage

The Expression Evaluator is used by entering statements in the expression area, then using Evaluate (F5) to evaluate the statements. Statements fall into the general format of:

1. **:**Variable_name=variable_contents**;**

2. **:**Function_name(function_variable)=expression_in_variable**;**

3. expression_to_evaluate

Variable assignments and user functions (enclosed by **:** and **;**) may used multiple times (in any order), but the expression to evaluate is a single expression and is the last line of the *program*. Note that variable names, function names (internal and external) and internal constants are case-sensitive; *UserFunc* is not the same as *userfunc*. Spaces in expressions and assignments should not be used, if possible. Note that the Expression Evaluator does **not** support the use of

- strings; it is numeric only

- comments. You may comment your code. However when using it (i.e. pasting it into Expression Evaluator), <u>comments must not be used</u>.

After the program (ie. statements and expressions) is entered, pressing F5 (or clicking the button) will evaluate all statements (in order) and place the result in the results area in decimal, hexadecimal and binary format. Results can be highlighted and copied to the clipboard, if desired. In addition, expressions may be pasted into the expression area to save typing.

Diagram Designer   Page 40   Documentation
Version 1.29   Version 8.7.1

Example

Problem	The formula $Y=X^2$ determines a parabola, centered around the Y axis (ie. X=0). Imagine that *2 dimensional liquid* is poured into the parabolic cup; find the cross-sectional area of that liquid, with the cup filled to a level of 2.

Solution

Area under the curve is calculated by integrating the function, with respect to X (ie. $\int f(x)\,dx$, where $f(x) = x^2$), yielding $1/3*X^3$. If *liquid* were to be poured into the *parabolic cup* formed by the equation, the cross sectional area of that *liquid* (2 dimensional) can be calculated using the area under the parabola, for the limits of X, and the area of a simple rectangle. First, the value of N must be calculated - the point on the X axis where the level of 2 units occurs. Since $Y=N^2$ and Y = 2, then N = sqrt(2). This can be *proven* by using an "adjusted" equation $Y=X^2$ - 2 which shifts the parabola down 2 units. This means that the value of X which yields a Y of 0 (the fill point) is equal to N. The proof of this can be input into Expression Evaluator as:

num.root(X^2-2,X)=sqrt(2)

This means: if the equation root = $\sqrt{2}$ then return true (ie. 1) as the result, else return 0 (false). Pasting this into the expression area and evaluating confirms this result. The simple rectangle area (includes the desired area, plus the area under the curve) = ($\sqrt{2}$ - (-$\sqrt{2}$)) * 2. Reducing this further; this can be written as:

(sqrt(2)+sqrt(2)) * 2

The area under the curve (from -N to N), then can be calculated (with a little reducing) as:

:N=sqrt(2);
:A_under=(2*N^3)/3;

Subtract this from the rectangle, then yields the final program as:

:N=sqrt(2);
:A_under=(2*N^3)/3;
:A_rect=(sqrt(2)+sqrt(2))*2;
:A_in=A_rect-A_under;
A_in

Evaluating this program yields a final result of 3.771236166328, the area of the *liquid*.

Operators are listed in order of precedence. Note: symbol spelling is case sensitive

Equation solving, etc.	RESULT/Comments
&	logical AND. For testing purposes, any non-zero number is considered true.
|	logical OR
=	equality (test). Tests return 0 (false) or 1 (true)
#	inequality (test)
>	greater than (test)
<	less than (test)
+	addition
-	subtraction, or negation (as in -5)
*	multiplication
/	division
%	modulus. Result is the remainder of integer division, eg. 16.1%3.03 is equivalent to 16/3. Remainder (result) in this example is 1.
^	power (ie. Y^X = Y^X). Raises any real (ie. Y) to the power of any other real (X).

  Constants Note: symbol spelling is case sensitive

CONSTANT	RETURNS/Comments
e	2.718281828459
inf	infinity ($\approx$ 1 / 0)
kb	kilobyte = 1024
Mb	megabyte = 1048576
pi	= 3.14159265359

Functions

Note: <u>symbol spelling is case sensitive</u>

FUNCTION - trigonometric	RETURNS/Comments
cos(x)	cosine of X (in radians)
arccos(x)	inverse cosine of X, returns radians
sin(x)	sine of X (in radians)
arcsin(x)	inverse sine of X, returns radians
tan(x)	tangent of X (in radians) = sin(x) / cos(x)
arctan(x)	inverse tangent of X, returns radians
cot(x)	cotangent of X (in radians) = cos(x) / sin(x)

FUNCTION - hyperbolic	RETURNS/Comments
cosh(x)	hyperbolic cosine = $(e^x + e^{-x})$ / 2
arccosh(x)	inverse hyperbolic cosine of X
sinh(x)	hyperbolic sine = $(e^x - e^{-x})$ / 2
arcsinh(x)	inverse hyperbolic sine of X
tanh	hyperbolic tangent of X = sinh(x) / cosh(x)
arctanh(x)	inverse hyperbolic tangent of X

FUNCTION - rounding	RETURNS/Comments
ceil(x)	nearest integer, rounding *up* towards positive infinity
floor(x)	nearest integer, rounding down towards negative infinity
frac(x)	fractional part of real number
round(x)	nearest integer, *up* or *down*

FUNCTION - random no.	RETURNS/Comments
rand(x)	real number in range 0..X This is a *white noise* random number generator. No apparent pattern of the random numbers should be detected.
randn(x)	return Gaussian random numbers, with X as a standard deviation. Gaussian random numbers are clustered around 0 in the typical Gaussian standard distribution curve. This function returns random numbers clustered around 0, with a standard deviation of X.

FUNCTION - logarithmic	RETURNS/Comments
exp(x)	natural exponential function = e^x
ln(x)	natural logarithm (base e)
log10(x)	common logarithm (base 10)
log2(x)	logarithm (base 2) where x = $2^{log2(x)}$

FUNCTION - misc	RETURNS/Comments
abs(x)	absolute value of X (value or variable)
bin(x)	converts X (binary integer) to decimal
fac(x)	factorial function, eg. fac(4) = 4 * 3 * 2 * 1 = 24
sqrt(x)	square root of X

Equation Solving, ETC.

Note: symbol spelling is case sensitive

FUNCTION	RETURNS/Comments
num.Guess	Expression Evaluator uses numeric methods to solve for minimums, etc. This variable houses the initial guess used in numeric computations (initial default on program startup = 0.500000001).
num.argmin(expression,x)	Find X that minimizes the expression given. Example: num.argmin((x-1)*(x-1)+4,x) will yield 0.999999999976 as a result. The equation is a parabola, centered on the X=1 axis and shifted 4 units *up*. The result is effectively 1.0(internal rounding errors will cause the last few decimal places to change), the value of X at the minima of the curve.

num.min(expression,x)	Find the minimum value for the expression show. This is similar to num.argmin, but returns the function of X (or other variable) at the minima. Example: num.min((x-1)*(x-1)+4,x) will yield 4 as a result, the value of $f(x)$ at the minima.
num.root(expression,x)	Find the root (value of X where $f(x)=0$) of the expression. Example: num.root(x^2-5*x+4,x) yields 1.0 as a result. This is verified by showing that 1^2 - 5 * 1 + 4 = 0. In fact, there is another root at 4.0; this can be found by setting num.Guess to 6 prior to computation. This can be accomplished by the following *program*: :num.Guess=6; num.root(x^2-5*x+4,x) which yields 4 as the result.
num.solve(equation,x)	Solves for the value of the target variable. This is similar to num.root, but solves for X (or other variable) yielding values other than 0. Example: num.solve(y^2-5*y+4=14,y) yields 6.531128874149 as a result. This can be proved by pasting the following into Expression Evaluator and evaluating: :y=6.531128874149; y^2-5*y+4 The result (13.999999999998) is effectively 14, with rounding errors, proving the equation's solution.

Plotting

Note: symbol spelling is case sensitive

Equation solving, etc.	RETURNS/Comments
plot(expression,x)	Plots any expression, if possible. Try pasting this into the expression area: plot(1/x,x) The above plots the equation Y=1/X, including both the positive and negative portions. Once evaluated, the plot window opens displaying the plot, and allowing different X limits (range). The plot can be copied to the clipboard, then pasted into Diagram Designer as a metafile. Left-clicking on any point of the curve (as near a possible) and hovering there will display the coordinates (approximate) of that point. In the examples above for **num.argmin**, etc., try pasting the samples into Expression Evaluator, but change the function to **plot** - you can see the answer!

Image Analyzer 1.38 (New Feature)

1. Select **Help**

2. Select **Help Contents**

3. Select **MeeSoft Image Analyzer**

   a. Integration for bitmap image editing and extended file format support

   b. This is a separate download software package.

4. Select **Download Installer (2.7 Mb)**

   a. Image Analyzer 1.38 for Windows®98/ME/2000/XP/Vista/7/8/10

   b. Contains:

      • Image Analyzer

      • 3D modeling Plugin 1.07 (This is also available from the plugin page)

5. Select **Download Image Analyzer** (Three Choices)

   • Download Windows Installer – 2.73 MB | Version 1.38

   • Download Image Analyzer Beta Version – 2.76: 1.38.4

   • Download Image Analyzer PhotoShop Plugin – 488.56 KB |Version 2015-12-56

6. Select **Save File**
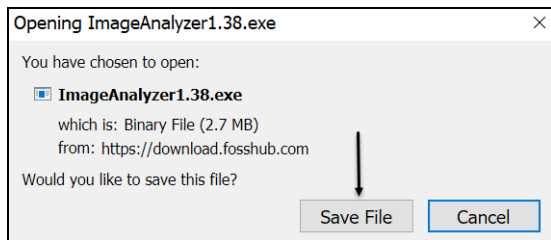
7. Within the **Title Bar** on the far right side, select the download arrow to open ImageAnalyzer1.38(1).exe.

8. Select **ImageAnalyzer1.38(1).exe.   Completed 2.7 MB**

9. **Accept** the message that states: Do you want to accept this program from an unknown publisher?

10. Select **Accept** to the License statement.
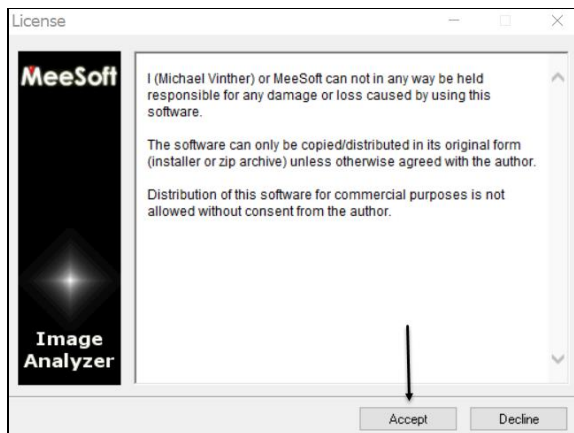
11. Select **Install**
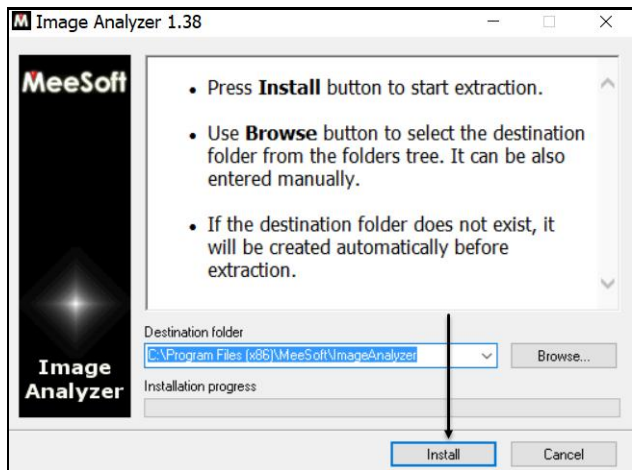
12. Your computer will need to be **restarted** to include all the files.

Description

This is an Advanced image editing, enhancement and analysis software. The program contains both most image enhancement features found in conventional image editors plus a number of advanced features not even available in professional photo suites.

Features

- Automatic brightness, contrast, gamma and saturation adjustment
- Build-in conventional and adaptive filters for noise reduction, edge extraction etc.
- Retouch tools including clone, spot healing and warping brushes
- Basic support for layers
- Retinex filter for reducing shadows and increasing local contrast
- Deconvolution for out-of-focus and motion blur compensation (see below)
- Easy red-eye removal
- User specified filters in spatial and frequency domain
- Resize, rotate, crop and warping of images
- Pixel art scaling operation for icons and other graphic (xBR/HQx/Waifu2x)
- Scanner, camera and printer support
- File format support:
  Read/write BMP, ICO, CUR, WMF, EMF, PNG, MNG, GIF, PCX, JPEG and JPEG 2000 images
  Read CR2, RAS, PNM, PGM, PPM, HIPS and Matlab files
- Morphological operations
- Color model conversion: RGB, CMY, HSI, Lab, YCbCr, YIQ and PCA
- Distance, Fourier and discrete cosine transformation
- Math expression module for creating and transforming images and advanced "pocket" calculator with equation solver
- Plugin system for adding more specialized features. See below for available plugins
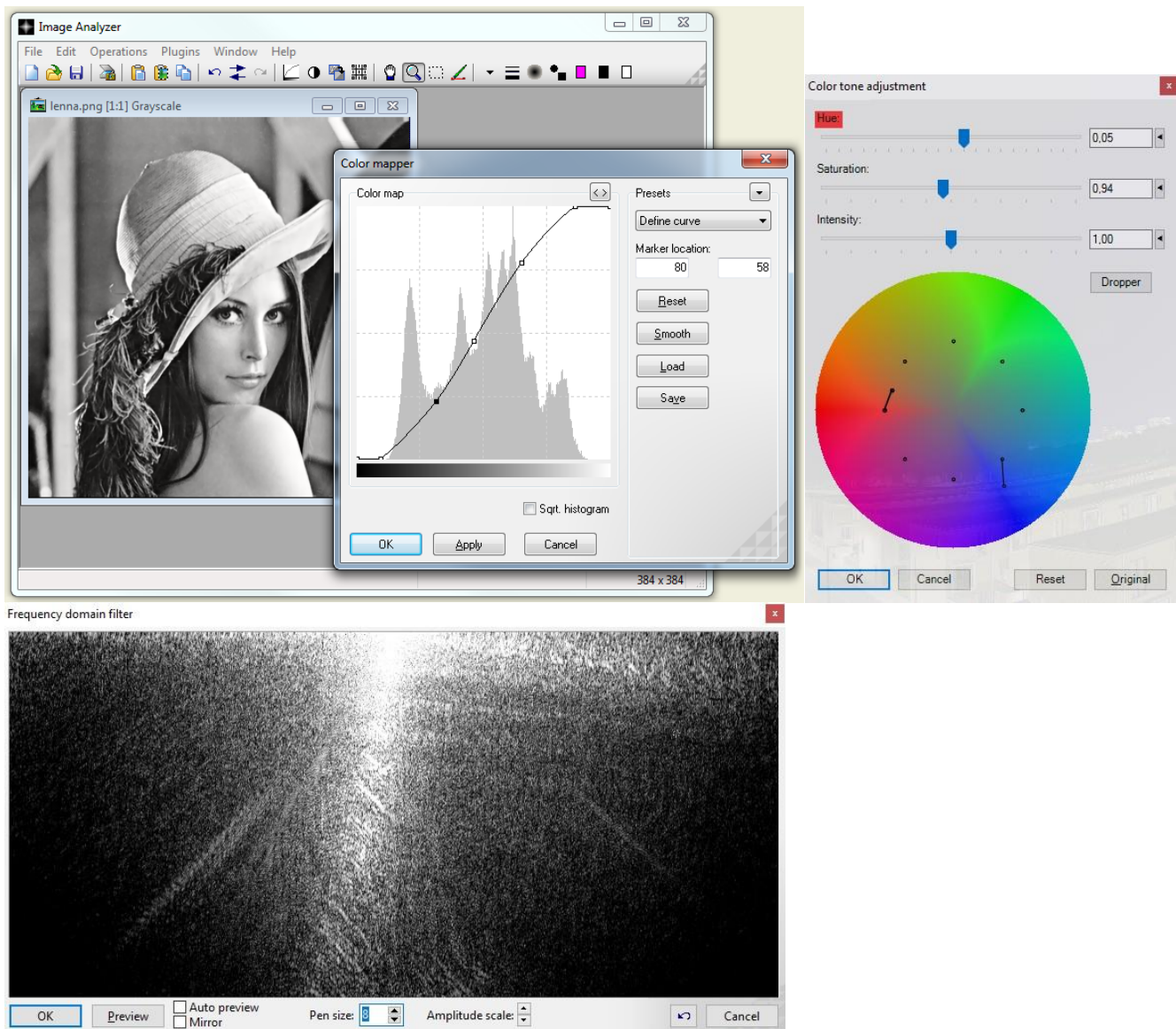
Examples

Some of the features are described with examples in this page. It is a work in progress, and answers to questions I receive might be added.

For more help, go to our support forum. Everybody is welcome to both ask and answer questions. All members of the forum will also receive version update announcements.

Plugins

Here you can find short descriptions of the plugins currently available for Image Analyzer and references to developer information for the plugin system.

In addition to those available here, we can offer developing custom plugins for Image Analyzer for specific purposes. It could be special processing, automatic analysis, image acquisition etc. Send a description as precise as possible of the desired feature.

Special Note:

- Use **Ctrl + Clicking the mouse button** to proceed to selected feature.

  - [Combine for High Dynamic Range (HDR)](#)

  - [Microscopic imaging](#)

  - [3D modeling](#)

  - [Batch processing](#)

  - [Fractal interpolation](#)

  - [Add text and vector graphics](#)

  - [Raster Export](#)

  - [Profile line](#)

  - [PCA Color Stretch](#)

  - [8fb Plugin Interface](#)

  - [Developers' information](#)
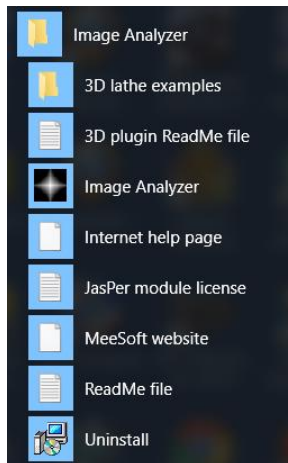
Windows Users

1. Select the **Windows®** tile

2. Scroll down to Image Analyzer

3. Make your selection.

Check for Updates

1. **Check for updates** from time to time to make sure the latest version of Diagram Designer is installed.

2. Must have an i**nternet** connection

Diagram Design Default Design Shapes (New Additions)

Default Shapes

Electronic Symbols 1

Symbols by
Schelte Heeringa

Electronic Symbols 2

Symbols by Schelte Heeringa

Rearranged by Paolo Romanin

Electronic Symbols 3

Symbols by Schelte Heeringa

Rearranged by Paolo Romanin

Flowchart

GUI Design 1

GUI Design 2

LaChimere AutoRealm

Polygons

UML Class Diagram
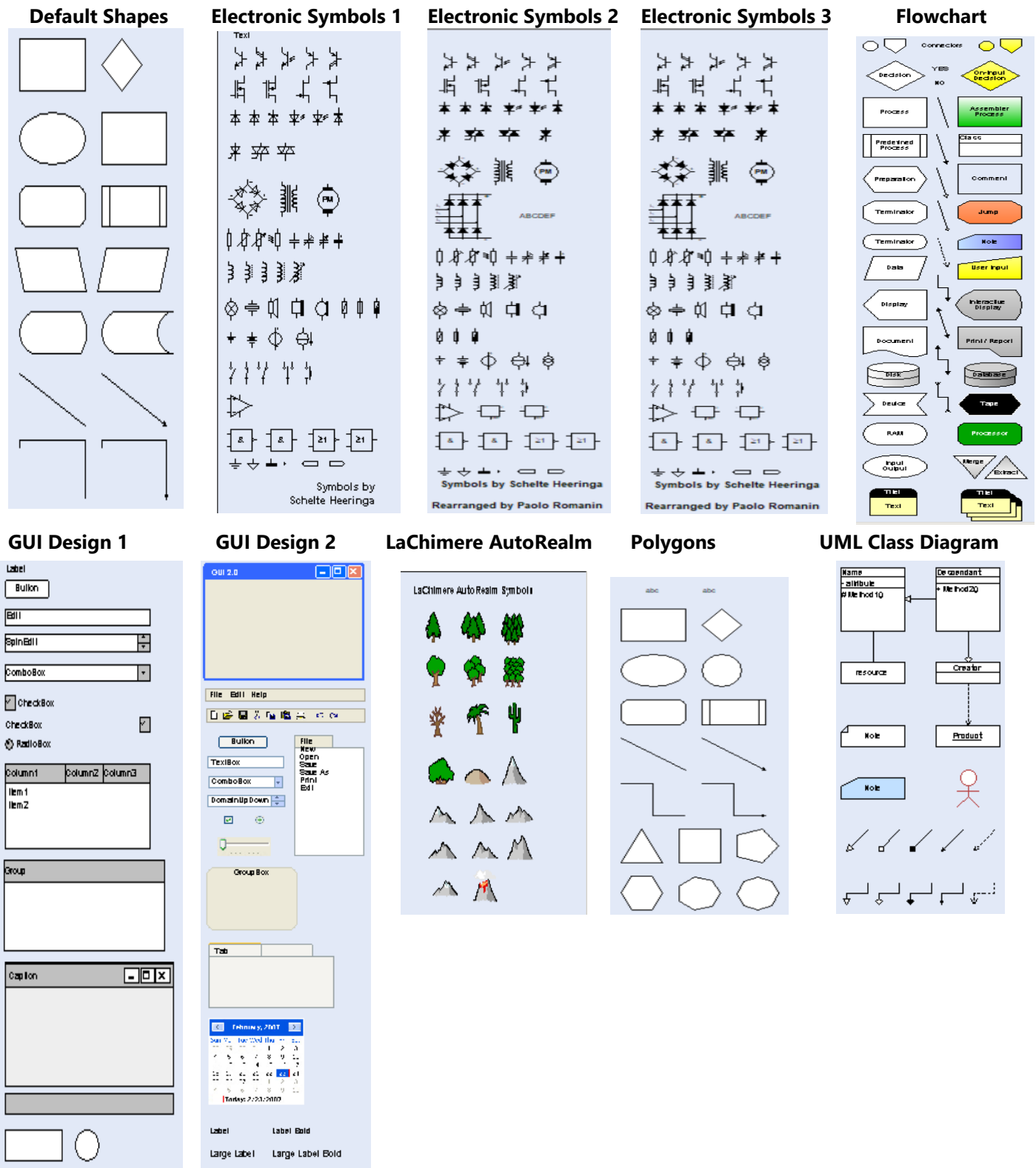
Formatting Codes

Effect	Code(s)	Source Example	Output example	Comments
Bold	\B \b	Why \Bme\b?	Why **me**?	turn off with \b
Underline	\U \u	Why \Ume\u?	Why <u>me</u>?	turn off with \u
Superscript	\H \h	E=mc\H2\h	E=mc^2	turn off with \h
Overline	\O \o	\Oaaaaaa\o	āāāāāā	turn off with \o
Subscript	\L \l	Footnote\L2\l	Footnote$_2$	turn off with \l
Italic	\I \i	Why \Ime\i?	Why *me*?	turn off with \i
Font	\"fontname"	Why \"lucida handwriting"me?	Why me?	font name must be in double quotes
Font size	\###	Why \014me?	Why me?	requires 3 decimal digits
Symbol font	\S \s			\S = enable Symbol font \s = restore diagram font
Text color	\Chhhhhh	Normal\Cff0000Red	NormalRed	hhhhhh stands for 6 hex digits, corresponding to RRGGBB (red/green/blue), as used in web page design,etc. You can play with colors <u>here</u> to see the effect.
link	\Afilename	\Atest.ddd	n/a	creates a link to another diagram, a path (absolute alternatively, relative) to another file, a mail to: link or a URL Double clicking on the object will activate the link and load (example) TEST.DDD. The link text is not visible; loading the new diagram opens a new copy of Diagram Designer

Keyboard Shortcuts

File Menu

F3, Ctrl+O	Open
Ctrl+S	Save
F12	Save As
Ctrl+P	Print
F4	Slideshow
F9	Options

Edit Menu

Ctrl+Z	Undo
Ctrl+Y	Redo
Ctrl A	Select All
Shift+Del, Ctrl+X	Cut
Ctrl+Ins, Ctrl+C	Copy
Shift+Ins, Ctrl+V	Paste
Ctrl+B	Paste Special
Del	Delete

Diagram Menu

Ctrl+F7	Spell Checker
Ctrl+R	Rearrange Pages
Ctrl+L	Connect Links

Object Menu

Alt+Enter	Object Properties
F2	Edit Text
Ctrl+G	Group
Ctrl+U	Ungroup

Help Menu

F1	Help Contents (if DiagramDesigner.chm *installed*), About (if no help file)
F11	Expression Evaluator

Toolbar

F6	Zoom Mode
F7	Move Canvas Mode
F8	Edit Mode
F5	initiate Draw Line
+	Increase zoom (x2) centered on mouse cursor, see zoom center. Using the + or - keys does not change the current mode (edit mode is retained, etc.).
-	Decrease zoom (x2) centered on mouse cursor, see zoom center. Using the + or - keys does not change the current mode (edit mode is retained, etc.).

Slide Show

PageDown	Next page
PageUp	Previous page
Home	First page
End	Last page
G	Goto page
Esc	Close

Misc

F10	focus = Main Menu
Ctrl+1	Select Page 1 (Note: **not** numeric keypad!)
Ctrl+2, etc.	select Page 2, etc.
Insert	toggles between insert and overwrite mode, in Edit Text dialog

Terminology

TERM	MEANING/comments
atomic	Re: objects, an atomic object is in its *simplest* form, that is, it cannot be separated into components. The term atomic comes from Lisp, an early programming language.
bitmap	This is a simple image format, containing a rectangular array of colored pixels. Bitmaps, while used extensively in Windows®, are seldom used for final images, since they offer no compression (size reduction).
bounding box	An imaginary (although it may be visible) box which contains an object or collection of objects. The size of a bounding box is determined by the X and Y extremities of the object(s).
canvas	the term applied to the actual drawing area of a diagram, similar to the canvas of a painting
CHM	This is a file extension of a compiled HTML help file. CHM files exhibit most of the properties of true HTML files, but have the advantage that multiple files (such as a complete website) may be compiled to a single file.
context (menu)	A context menu is a Windows® menu, only visible when the mouse is hovered over a specific location (such as an object), then the right-mouse button is clicked. Context menus provide an easy way to access features specific to a particular object or window location.
dictionary	a spell check dictionary (for Diagram Designer) is simply a collection of words, arranged in alphabetical order for high speed searching
expression	an expression (mathematical) consists of mathematical notation which can be evaluated (usually) to a single numeric value, Example: 1 + (23 * 6) * sine (85)
flowchart	a diagram explaining (pictorially) the sequence of events in a process, program, etc.
flowchart object	the name for a class of Diagram Designer object which can be used as a symbol in a flowchart
grid	This is a rectangular array of points (user alterable) that provide a visual cue to object location. See snap
group	a collection of diagram objects, *joined* together to form a single object
inherited (layer)	Object inheritance (in the programming realm) means that an object is created from other objects and adopts (inherits) all the properties of those objects. An inherited layer is an object inserted into a diagram that adopts all the properties of the target layer.
layer	see Using Layers
link	an internal connection made between a line or connector and an object
link point	a point on an object (either internal or user created) to which a line or connector may be linked
MDI	Multiple Document Interface - a method used by many Windows® programs to accommodate multiple documents open in a single program
metafile	A file that contains or defines other files

node	in curve objects, the location of a key deflection point in a continuous curve
object	a collection of lines and arc, etc. which is bound together to form a single shape
object tree	the leftmost pane (optionally visible) showing the hierarchy of current objects in the diagram
page	Each diagram can contain separate pages, in effect, a different diagram. This concept is similar to spreadsheets that can contain multiple pages in the same file.
palette	the rightmost pane in the main screen, showing the collection of template objects
pane	a portion of a window which allows separate content, much like the panes of a wood frame window
point	An old printing unit, adopted from the printing press use. One point = 1/72 inch.
preview	a view of the diagram, as it would be printed - user grid is masked, background is set to white, etc.
properties	Object properties are those features that determine the quality or behavior of the object. Object properties include: line width, line color, text size, etc.
registry	This is the single repository of Windows® configuration data. The registry can be edited by a user (with care!).
shortcut	a file in Windows® which allows quick and easy access to another location or file
slide show	a mode which allows full page viewing of diagram pages, providing easy movement between pages
sliders	Windows® controls which allow viewing of an window which is larger than the page
snap	feature which allows objects to be easily aligned with a user grid
stencil (global)	see Using Layers
template	a pre-made object which can be inserted into a diagram
zip (archive)	a common compression format used to collect files into a single file (a single file containing multiple compressed files)