

# **CADintosh**

## **V7.5**

**Documentation**

*Lemke Software GmbH*

*Dated: 2012-02-24*

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## 1 Introduction

### 1.1 Legal Stuff

1. The registered version of CADintosh is **not** freely distributable. Furthermore, it may only be installed on one computer per registration.
2. The authors assume no liability for damages, which may occur through the use of CADintosh.

### 1.2 System Requirements

- MacOS 10.5 or later
- older versions for older MacOS are available at our download page

### 1.3 About this Documentation

This documentation explains only the function of the application. This is not a book/documentation for learning technical drawing.

### 1.4 Overview

The CAD-program CADintosh is intended to fulfill the needs of the following applications:

- Technical drawings, e.g., mechanical engineering and architectural diagrams
- Schematic drawings, e.g., hydraulic, pneumatic and electrical system drawings
- Flow charts

### 1.5 Technical Details

- Numerical capability  $> \pm 10^{10}$
- 1,023 layers
- 32,000 groups
- In pen oriented mode: 8 line widths/line colors/pens
- In individual mode: line width from 0,0 to 99,99 mm, pattern and colors
- 6 line types (full line, dotted line (3 types), zigzag line, and short dotted line)
- Drawing size and symbol quantity limited only by computer memory
- Pre-defined metric units from Angstrom to km
- Alternate units in inches or freely definable

### 1.6 Bugs

Even in a thoroughly tested program, software problems can still remain hidden. If you should discover any program glitches, please send us a detailed description, and **the drawing on a cd(dvd or via e-mail**, (stuff the files for the internet transfer) to the following address:

Lemke Software GmbH  
PO Box 6034  
31215 Peine  
Germany

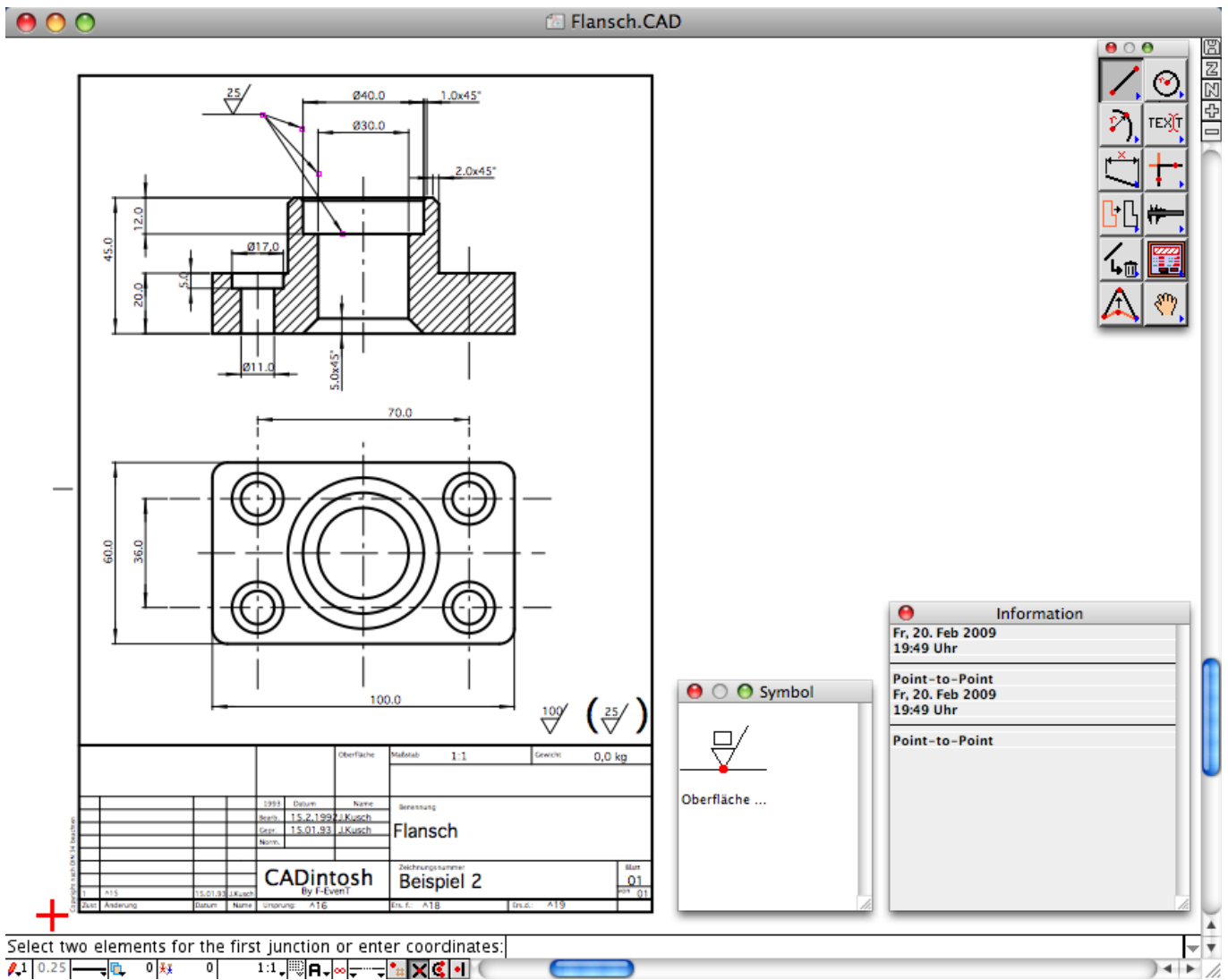
E-Mail: [support@lemkesoft.com](mailto:support@lemkesoft.com)



## 2 CADintosh Basics

### 2.1 Program Layout

CADintosh presents the following display upon startup:



Display after program start

#### 2.1.1 Toolbox

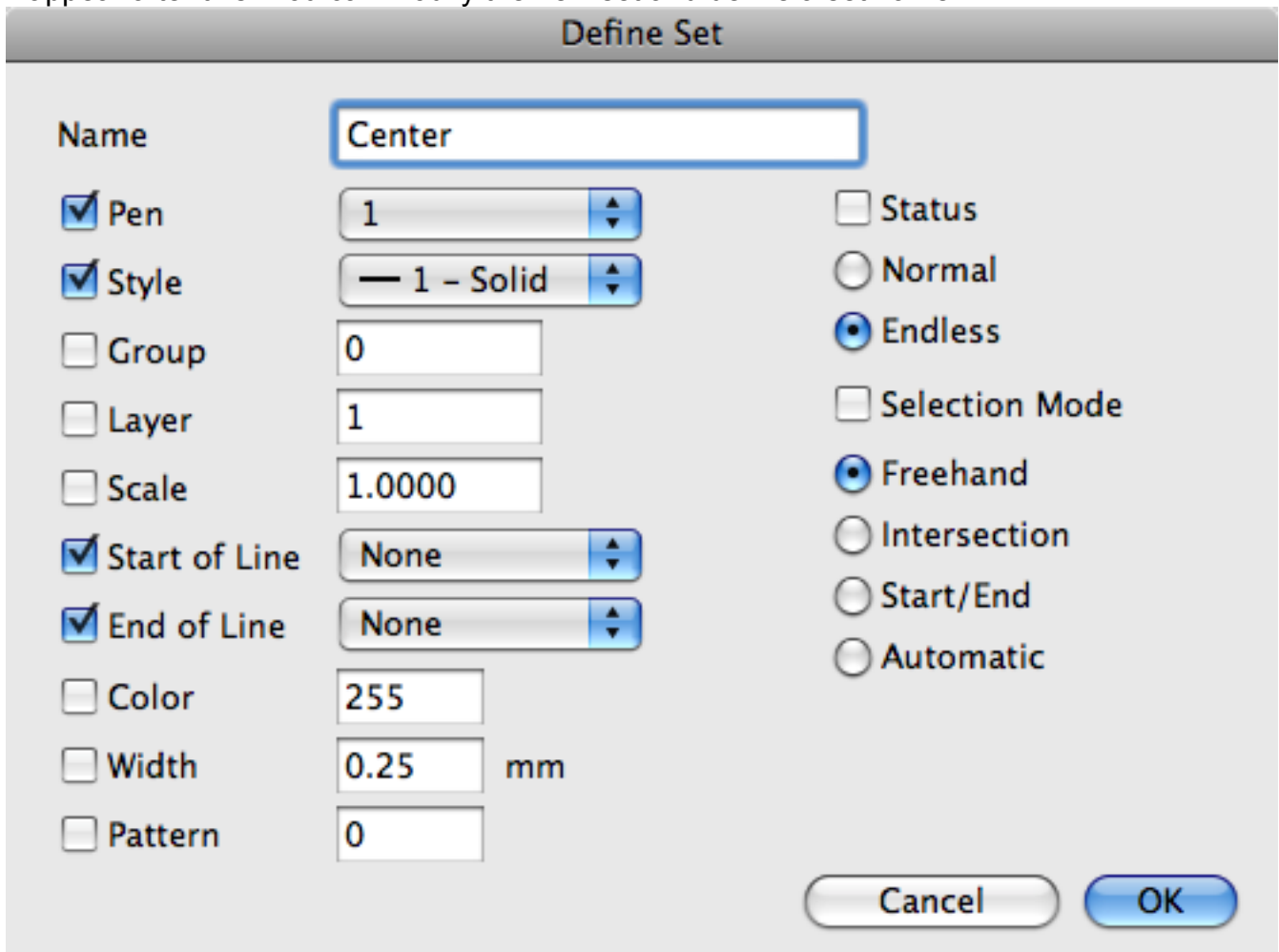
The toolbox includes all the major functions needed to produce and edit a drawing.

Use: Click on the desired tool/function to activate it. Holding down the mouse button will bring up a sub-menu with the different functions of a particular tool.

### 2.1.2 Set Table

Sets contain several different attributes like pen, style etc. You can use the sets to quickly and easily switch between different settings.

You define a new set simple by clicking the *define* button in the set palette. A dialog will appear after this. You can modify the new set and define a set name.



Dialog define new set

A set contains the checked settings.

The names of all sets are listed alphabetically in the set palette.

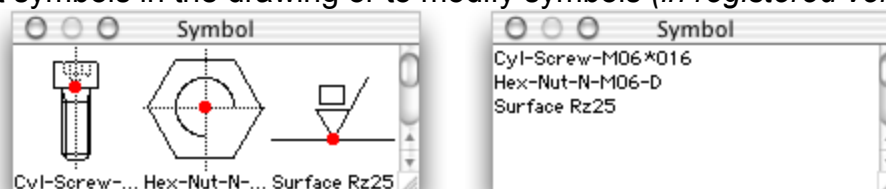
You active a set simply by clicking on the set name.

You modify a set simply by double-clicking on the set name. You will get a dialog to modify the settings.

You delete a selected set by clicking the *delete* button.

### 2.1.3 Symbol Table

The symbol table displays all symbols of a drawing in alphabetical order. You can use this table to insert symbols in the drawing or to modify symbols (*in registered versions only*).



Symbol Table (both modes)

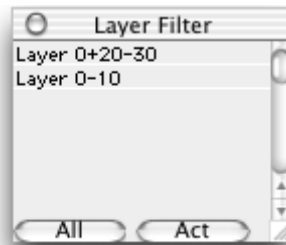
You insert a symbol by clicking on the symbol in the table and defining the insertion point in the drawing.

You modify a symbol with a double click on the symbol. You will get a new drawing window containing the symbol.

You switch between the both display modes by clicking in the field in the top right of the Symbol Table.

#### 2.1.4 Layer Filter

The window Layer Filter displays all predefined layer filters. By clicking on a filter, layers can easily be shown or hidden.



Layer Filter

Layer filters can be edited in the Filter dialog of the Layer menu.

Click on All to activate all layers.

Click on Act to activate only the current layer. All other layers get invisible.

You define the filters in the menu Layer item Filter.

#### 2.1.5 Color Table

In this table you can change the color of any element (Individual Mode only, see chapter 5.7.12).



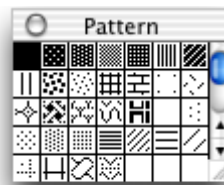
Color Table

- Color field  
By clicking on a field the color for the next element to be drawn is activated.

### 2.1.6 Pattern Table

In this table you can change the pattern of any element (Individual Mode only, see chapter 5.7.12).

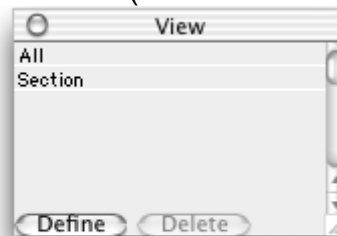
By clicking on a field the pattern for the next element to be drawn is activated



Pattern Table

### 2.1.7 View Table

The view table displays all defined views. (Refer also to menu window item view.)



View Table

- Click on Define  
Creates a new view with the current window.
- Click on a name in the list  
Activates and zooms the selected view.
- Click on delete  
Deletes the selected view.

### 2.1.8 Sub Window

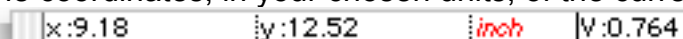
You can open an unlimited number of sub windows (only limited by memory). You can use all drawing command in the sub window. These kinds of windows are very useful for drawing of large beams. You can view and edit for this example the left side of the beam in the main window and the right side in a sub window.

### 2.1.9 Drawing Name

This displays the name of your drawing. The Symbol '◇' before the name indicates that the drawing has been changed since the last save.

### 2.1.10 Coordinate Display

This display shows the coordinates, in your chosen units, of the current mouse position.



Coordinate Display

- Click on coordinates  
You can change the base point of the drawing. Follow the instruction in the input line.
- Click on unit  
You switch between the standard and alternate unit.

- Click on display scale

The display scale shows the size relationship between the monitor display and what will appear in the printing or drawing.

Steps:

1. Click the display scale box .
  2. Enter the desired scaling factor in the entry box.
- > The drawing will be **displayed** using this scaling factor.

### 2.1.11 Save

The complete drawing will be saved.

### 2.1.12 Zoom all

The size of the entire drawing will be recalculated, and the drawing will be redisplayed. Be aware that this may take some time for large drawings.

### 2.1.13 Refresh Display

The current monitor view will be refreshed. This is sometimes necessary after large areas of your drawing have been moved around on the screen.

### 2.1.14 Enlarge

The drawing will be enlarged by a factor of two. The center of the window will remain in the same position.

### 2.1.15 Shrink

The drawing will be shrunken by a factor of two. The center of the window will remain in the same position.

### 2.1.16 Entry Box

Data and commands are entered here.

CADintosh can calculate your entries too. That means that you can enter “3\*5” instead of “15”.

The “,” is used to separate the input values if more than one value is needed.

The following operators are allowed:

- +, -, \*, /
- sqrt (square root)
- sin, cos, tan, cot
- asin (or. arcsin), acos (or arccos), atan (or arctan), acot (or arccot)
- sinh, cosh
- asinh (or arcsinh), acosh (or arccosh), atanh (or arctanh), acoth (or arccoth)
- log (common logarithm), ln (natural logarithm) lg, (decadic logarithm), ld (dual logarithm)
- ^, exp
- abs, frac.

There is no limit to the number of parenthetical operations. CADintosh accepts the following as parentheses: (, ), [, ], {, }.

Trigonometric functions use the 360-degree system.

You may use the “Edit” functions, e.g.; “Copy”, in the entry box.

*Tip:*

The Page-up /Page-down keys jump 10 entries ahead/back.

### 2.1.17 Pen

Clicking the pen produces a menu from which the desired pen may be selected.

### 2.1.18 Width

After clicking on the current width, the new pen width can be entered in the entry line.  
(This applies to the Individual Mode only.)

### 2.1.19 Style

To change the line style, click on the line symbol and select the desired options from the popup menu.

### 2.1.20 Layer

CADintosh allows up to 1,024 layers in a drawing. A practical use of layers is to separate the various elements of a drawing, e.g. individual components, dimensions, and textures, into their own layers for ease of selection and editing.

Steps:

1. Click the layer symbol
  - 2a. Enter a layer number (0...1,023)
  - 2b. Click a reference element
- > This becomes the current layer.  
(a and b are alternatives)

### 2.1.21 Group

The group function is useful for structuring part groups on the one hand, and for moving and editing several objects simultaneously on the other hand.

Steps:

1. Click the group symbol
  - 2a. Enter a group number (0..32000)
  - 2b. Click a reference object
- > This becomes the current group.

*Note:*

Group 0 means no group.

### 2.1.22 Drawing Scale

A scale is needed for every technical drawing. CADintosh proposes common scaling factors in the popup menu.

Steps:

1. Clicking the drawing scale box displays the popup menu from which the scaling factor can be selected.
  2. You may enter your own factor by clicking "User Defined", select from those displayed, or click on a reference object.
- > This becomes the current drawing scale.

### 2.1.23 Set

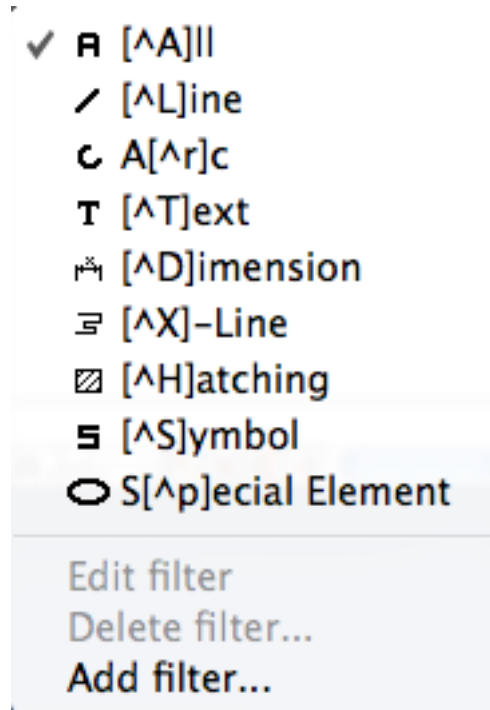
You get a pop-up menu with all defined sets. You activate a set by selecting it.

### 2.1.24 Background Display Processing

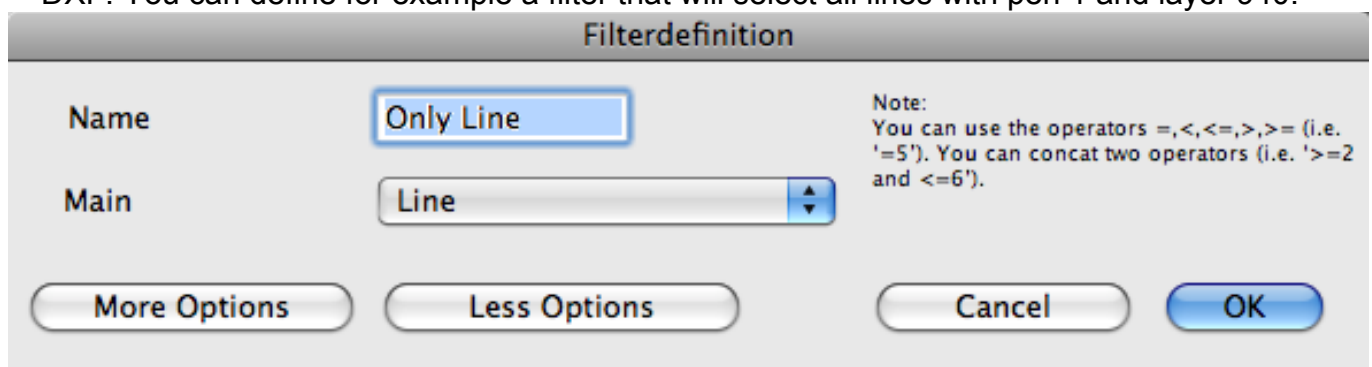
The "painting manlet" appears at the bottom of the window during display processing. The drawing is processed in the background and can be edited in the meantime. Editing speed will, however, be reduced.

### 2.1.25 Selection Mode



The selective filter can be used to select objects of a certain type. Click on the selective filter symbol to bring up a popup menu with filter options.



Select “Add filter” to add a userdefined filter. This is useful for editing of imported files like DXF. You can define for example a filter that will select all lines with pen 1 and layer 940.



### 2.1.26 Endless/Normal Line




The  symbol indicates an endless line, and the  symbol with a cross through it indicates a normal line (line with endpoints). The both side endless line can be used as a help line during drawing, and can then be trimmed to give it endpoints.

### 2.1.27 Line Start / End

In these popup menus the beginnings and the endings (eg. arrows, etc.) of lines are defined .

### 2.1.28 Selection Mode

There are three selection modes:

1. Freehand/Snap to Grid ()  
The selection point will be the grid point nearest to your mouse-click.
2. Intersect ()  
The selection point will be the intersection of two objects.
3. Middle/End ()  
The selection point will be either the middle or the endpoint of an object, depending upon, which is closer to the click point.

*Note:*

You can rotate through the modes with the tab key

### **2.1.29 Reference Point**

The reference point is assigned the coordinates (0,0). All entries are based on this reference.

## **2.2 Specials**

### **2.2.1 Dialog**

A very important feature of CADintosh is its ability to **calculate** entries in the edit field of dialogs. That means e.g. you can type for the text height "2\*3.5" instead of "7.0".

You can't use variables

You can switch between metric and imperial unites. ( see chapter 5.7.1).



## 3 Basic Functions

### 3.1 Line

Every line is defined by the following characteristics : Pen, Style, Group, Layer, Length, and “Endless Status”.

Endless lines have a unique feature. They are lengthened during editing and display to the drawing borders. Their status can be changed any time.

#### 3.1.1 Point-to-Point Line



Steps:

1. Select a starting point with the mouse or enter the starting coordinates.
  2. Select an ending point with the mouse or enter the ending coordinates.
- > A line will be drawn through both points.

#### 3.1.2 Parallel Lines



Steps:

1. Click the reference line .
  - 2a. Select a point with the mouse or enter the coordinates.
- > A parallel line is drawn through the point.
- 2b. Enter a offset distance.
  - 3b. Click on which side you want the parallel to be drawn.
- > A parallel line is drawn on that side at the specified offset distance.

#### 3.1.3 Parallel Lines, Tangent to an Arc



Steps:

1. Click on the reference line.
  - 2a. Click on an arc.
- > A tangent is drawn on the arc parallel to the reference line.

Note:

The position where you click the arc defines the position of the parallel line.

- 2b. Click on a second line, which is parallel to the reference line.
  - 3b. Enter a number.
- > That number of parallel lines is drawn between the two selected lines.

#### 3.1.4 Line at an Angle



Steps:

1. Select a point or enter the coordinates.
  2. Enter the angle (positive, in degrees above the horizontal) and the length.
- > A line is drawn, starting at the selected point, with the selected angle and length.

#### 3.1.5 Line at an angle to another Line



Steps:

1. Click the baseline.
  2. Select a point on the baseline.
  3. Enter an angle (positive, in degrees above the baseline) and a length.
- > A line is drawn, starting at the selected point on the baseline, with the selected angle and length.

### 3.1.6 Perpendicular Line



Steps:

1. Click on the baseline.
  2. Select a point or enter the coordinates.
- > A perpendicular line is drawn from the baseline to the selected point.

### 3.1.7 Tangents



Steps:

1. Click on an arc.
  2. Select a point or enter the coordinates.
- > A tangent is drawn from the circle to the point.

*Note:*

The side of the arc from which the tangent is drawn is determined by where you click on the arc.

### 3.1.8 Tangents to two Arcs



Steps:

1. Click on the first arc.
  2. Click on the second arc.
- > A line is drawn running tangentially to both arcs.

*Note:*

The side of the arc from which the tangent is drawn is determined by where you click on the arc.

### 3.1.9 Tangents at an Angle



Steps:

1. Click on an arc.
  2. Enter an angle (positive, in degrees above the horizontal) and length.
- > A tangent is drawn on the arc with the selected angle and length.

*Note:*

The side of the arc from which the tangent is drawn is determined by where you click on the arc.

### 3.1.10 Tangents Perpendicular to a Line



Steps:

1. Click the baseline.
  2. Click the arc.
- > A tangent is drawn which is perpendicular to the baseline.

*Note:*

The side of the arc from which the tangent is drawn is determined by where you click on the arc.

### 3.1.11 Tangents at an Angle to a Line



Steps:

1. Click the baseline.
  2. Click an arc.
  3. Enter the angle ( in degrees above the baseline).
- > A tangent is drawn with the selected angle.

*Note:*

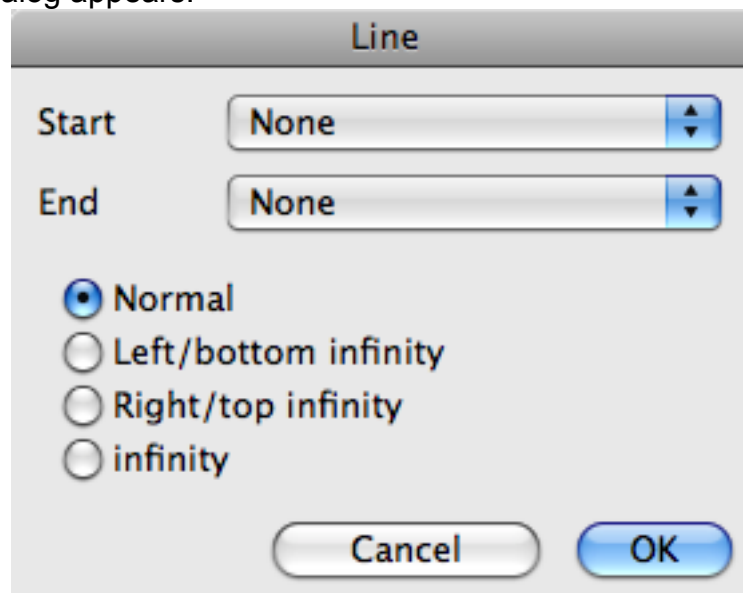
The side of the arc from which the tangent is drawn is determined by where you click on the arc.

### 3.1.12 Change Line Attributes



Steps:

1. Click a line.
2. The following dialog appears:



You can change the following parameters:

- Type line start/endpoint (None, Arrow, Circle, etc.).
  - Infinity status (none, left, right and both sides)
- > The line attributes are changed as selected.

*Note:*

The symbol size is changed with the menu selection "Line" in the menu "Options".

## 3.2 Circle

Along with its center and radius, a circle has the following parameters: Pen, Style, Group, Layer and Dimension. These can be changed with the “Graphics” functions (see chapter4.8).

Note: A circle can be thought of as an arc with a starting point at 0° and an endpoint at 360°.

That means it has a meeting point at 0° / 360°.

### 3.2.1 Circle with Center and Radius



Steps:

1. Select a point or enter the coordinates for the circle center.
  2. Select a second point for the radius or enter the radius .
- > A circle is drawn with the selected center and radius.

### 3.2.2 Circle Defined by two Points and a Radius



Steps:

1. Select a point or enter the coordinates.
  2. Select a second point or enter the coordinates.
  3. Enter a radius .
- > A circle running through both points is drawn with the selected radius.

### 3.2.3 Circle Defined by two Points



Steps:

1. Select a point or enter the coordinates.
  2. Select a second point or enter the coordinates.
- > A circle is drawn with its diameter being determined by the two points.

### 3.2.4 Circle Defined by three Points



Steps:

1. Select a point or enter the coordinates.
  2. Select a second point or enter the coordinates.
  3. Select a third point or enter the coordinates.
- > A circle is drawn through the three points.

### 3.2.5 Circle on an Object Defined by a Point and a Radius



Steps:

1. Click on a line or arc.
  2. Select a point or enter the coordinates.
  3. Enter a radius .
- > A circle, running through the defined point, is drawn tangential to the selected object.

### 3.2.6 Circle on two Objects Defined by a Radius



Steps:

1. Click on a line or arc.
  2. Click on a second line or arc.
  3. Enter a radius .
- > A circle with the defined radius is drawn tangential to both objects.

### 3.2.7 Circle on three Objects



Steps:

1. Click on a line or arc.
  2. Click on a second line or arc.
  3. Click on a third line or arc.
- > A circle is drawn tangential to all three objects.

### 3.3 Arc

An arc differs from a circle only in that it includes start and end angles (angles of a circle) as data. Therefore, whatever the program or documentation says about arcs refers to circles as well.

#### 3.3.1 Arc Defined by a Center and Radius



Steps:

1. Select a point or enter the coordinates for the arc center.
  2. Select a second point for the radius or enter the radius .
  3. Select a point for the starting angle or enter the starting angle .
  4. Select a point for the ending angle or enter the ending angle .
- > An arc is drawn around the selected radius, with the selected angles.

#### 3.3.2 Arc Defined by two Points and a Radius



Steps:

1. Select the start point or enter the coordinates.
  2. Select the end point or enter the coordinates.
  3. Select the side you want the center to be on.
  4. Enter a radius.
- > An arc with the selected radius is drawn from the start point to the end point.

#### 3.3.3 Arc Defined by two Points



Steps:

1. Select the first point or enter the coordinates.
  2. Select the second point or enter the coordinates.
  3. Select the third point for the starting angle or enter the angle.
  4. Select a fourth point for the ending angle or enter the angle.
- > The points 1 and 2 determine the arc diameter, and the arc is drawn between the two angles.

#### 3.3.4 Arc Defined by three Points



Steps:

1. Select a point or enter the coordinates.
  2. Select a second point or enter the coordinates.
  3. Select a third point or enter the coordinates.
  4. Select a point for the starting angle or enter the angle.
  5. Select a point for the ending angle or enter the angle.
- > An arc is drawn through the points 1-3, from the starting to the ending angle.

#### 3.3.5 Arc on an Object Defined by a Point and a Radius



Steps:

1. Click on a line or arc.
  2. Select a point or enter the coordinates.
  3. Enter a radius.
  4. Select a point for the starting angle or enter the angle..
  5. Select a point for the ending angle or enter the angle.
- > An arc running tangent to the object is drawn through the selected point, with the radius and the starting and ending angles.

### 3.3.6 Arc Tangent to two Objects with a Radius



Steps:

1. Click on a line or arc.
  2. Click another line or arc.
  3. Enter a radius.
  4. Select a point for the starting angle or enter the angle..
  5. Select a point for the ending angle or enter the angle.
- > An arc running tangent to both objects is drawn through the selected point, with the radius and the starting and ending angles.

### 3.3.7 Arc on three Objects



Steps:

1. Click on a line or arc.
  2. Click another line or arc.
  3. Click on a third line or arc.
  4. Select a point for the starting angle or enter the angle.
  5. Select a point for the ending angle or enter the angle.
- > An arc is drawn running tangent to all three objects.

### 3.4 Text

“Text” is the general term for normal Text, Notes and Item numbers. The individual text forms can be changed into the other forms.

The standard attributes for text are found in the menu selection “Text/Note/Item number” in the “Parameters” menu. In general, the text selection point is the beginning of the text.

#### 3.4.1 Horizontal Text



Steps:

1. Select the text entry point or enter the coordinates.
  2. Enter the text
- > The text is drawn.

#### 3.4.2 Text at an Angle



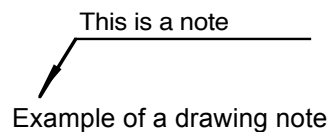
Steps:

1. Select the text entry point or enter the coordinates.
  2. Enter the desired angle (in degrees above the horizontal) .
- > The text is drawn at the selected angle.

#### 3.4.3 Notes



A note is underlined text with a pointer. The pointer can have an endpoint, e.g., an arrow.



Example of a drawing note

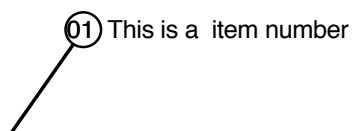
Steps:

1. Select the note point (usually on an object) or enter the coordinates.
  2. Select the text entry point or enter the coordinates.
  - 3a. Enter the text.
- > A note is drawn.

#### 3.4.4 Item Number



An item number is an object identification number, which may be enclosed by a circle or square. Additional text may be written outside the frame. CADintosh uses the first empty space between text to locate a circle or square frame.



Example of a Item Number

Steps:

1. Select the position point (usu. on an object) or enter the coordinates.
2. Select the text entry point or enter the coordinates.



3. Enter the text.
- > A item number is drawn.

### 3.4.5 Edit Text



Steps:

1. Click on the text, note or item number.
  2. Edit the text.
- > Voilà!

### 3.4.6 Move Text



Steps:

1. Click on the text, note or item number.
  2. Select the new position or enter its coordinates.
- > The text is moved to the new point.

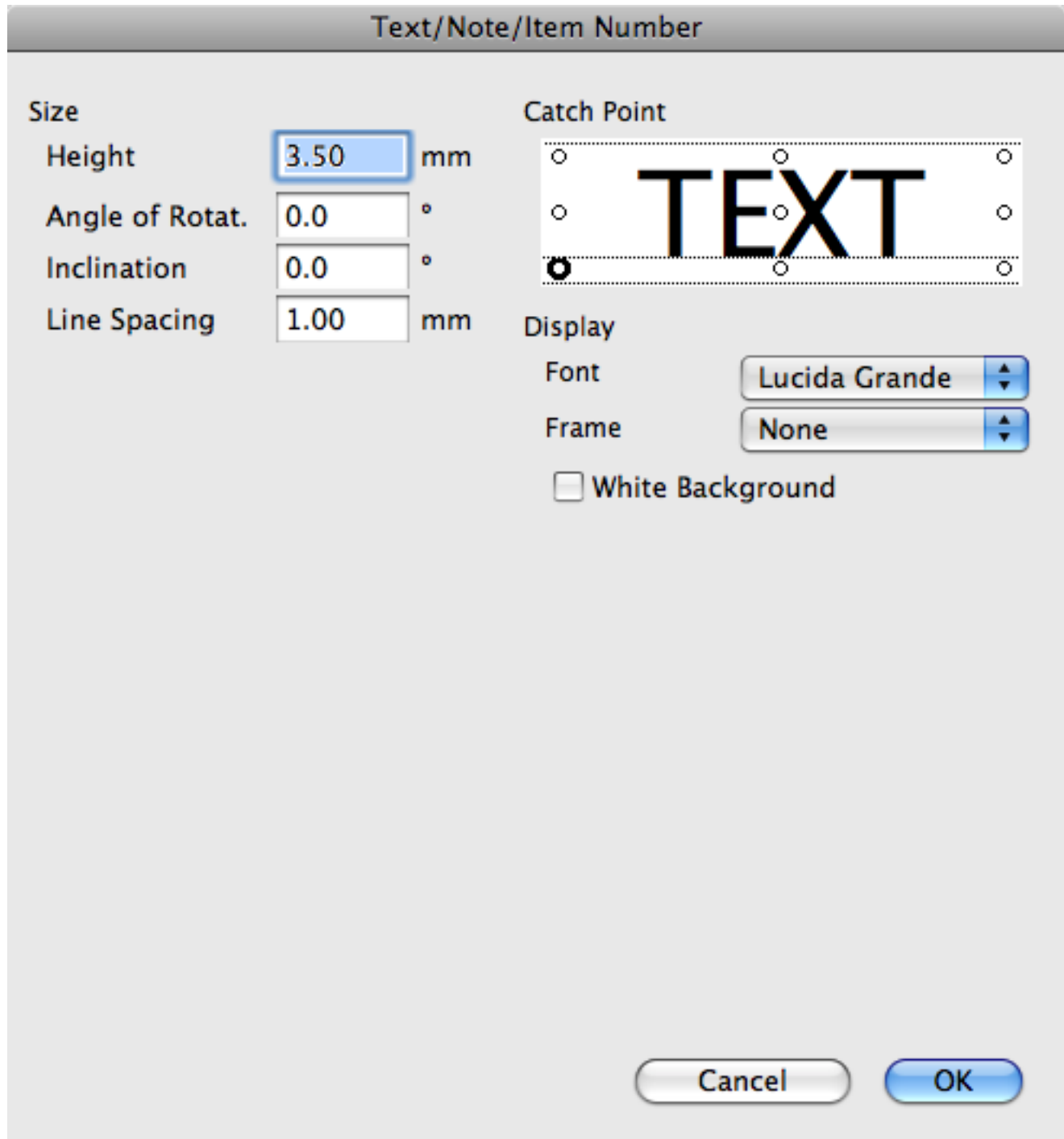
### 3.4.7 Change Text Attributes



Steps:

1. Click on the text, note or item number.
2. The following dialog appears:

See also chapter 5.7.4.



-> Make the desired changes to the attributes.

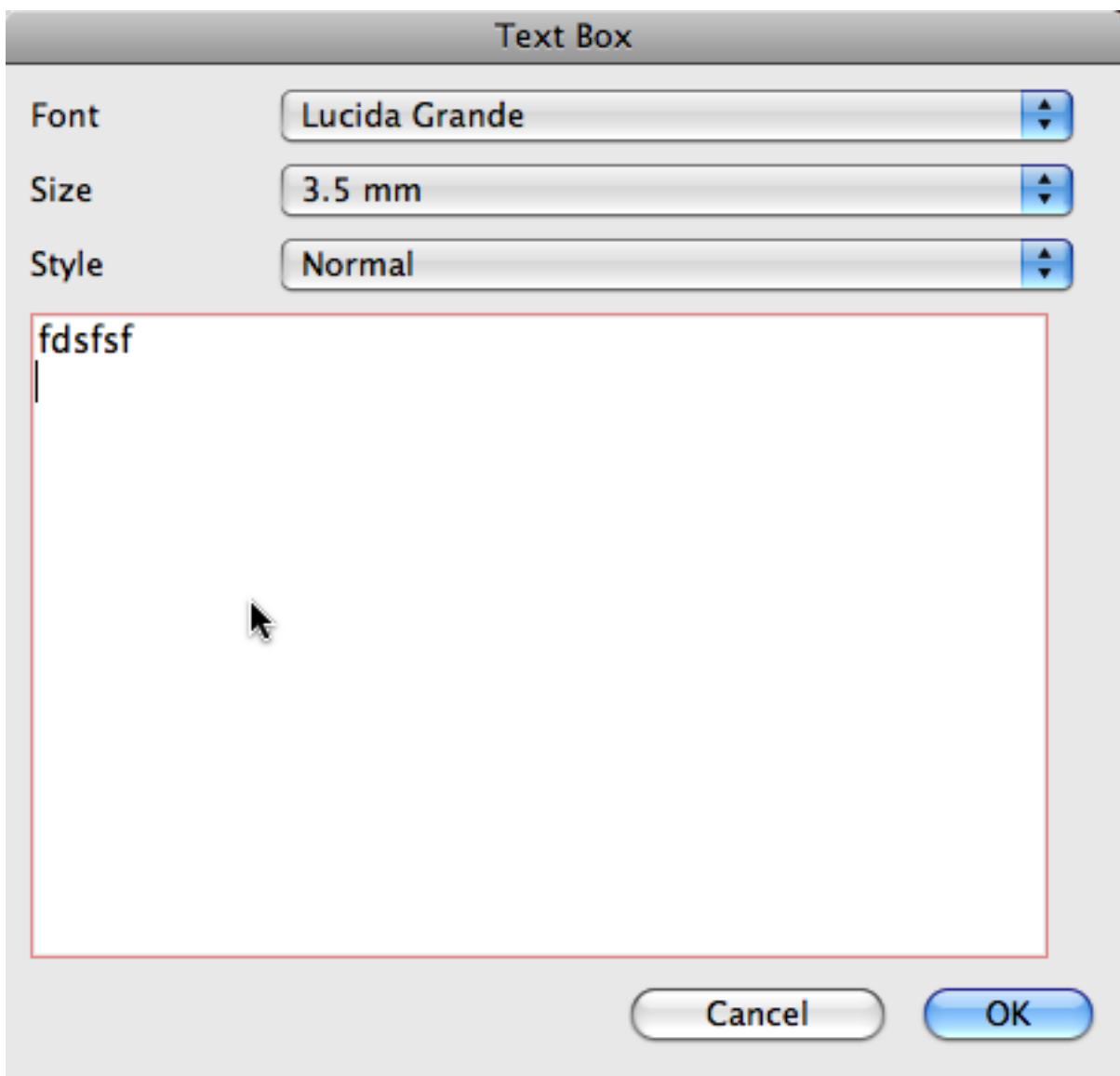
You switch between the planes for notes and item numbers with a click on the tabs. The following settings are only available for notes and item numbers.

Note: You can't change back to type note or item number when you select text.

### 3.4.8 Textbox

Steps:

1. Create a rectangle with the mouse or click in a textbox.
2. You get a dialog for changing/editing the textbox.



=> You change the text.

### 3.5 Dimensions

A dimension contains the following information along with the points to be measured and the dimension position: Pen, Group, Layer, Dimension, Font, Units, Type, and type of dimension line Delimiter.

Most of the dimension attributes are found in the menu "Parameters" under the selection "Dimension".

Note;

Dimensions are not associative. This can be worked around with the function 'Stretching' (Æ Transform).

#### 3.5.1 Horizontal Dimension



Steps:

1. Select the first dimension point or enter the coordinates.
  2. Select the second dimension point or enter the coordinates.
  3. Select the dimension text position or enter the coordinates.
  4. Enter the tolerances, if applicable.
- > A horizontal dimension is drawn.

#### 3.5.2 Vertical Dimension



Steps:

1. Select the first dimension point or enter the coordinates.
  2. Select the second dimension point or enter the coordinates.
  3. Select the dimension text position or enter the coordinates.
  4. Enter the tolerances, if applicable.
- > A vertical dimension is drawn.

#### 3.5.3 Parallel Dimension



Steps:

1. Select the first dimension point or enter the coordinates.
  2. Select the second dimension point or enter the coordinates.
  3. Select the dimension text position or enter the coordinates.
  4. Select the reference line for the parallel dimension.
  5. Enter the tolerances, if applicable.
- > A parallel dimension is drawn.

#### 3.5.4 Chain Dimensions



Steps:

1. Select the dimension points or enter the coordinates, following the last entry with 'Return'.
2. Select the dimension text position or enter the coordinates.
3. Enter the dimension option::
  - H - horizontal chain dimension
  - V - vertical chain dimension

P - parallel chain dimension

4. Enter the tolerances, if applicable.
- > A chain dimension is drawn.

### 3.5.5 Reference Dimensions



Steps:

1. Click on a reference line.
  2. Select the dimension points or enter the coordinates, following the last entry with 'Return'.
  3. Select the dimension text position of the first dimension or enter the coordinates.
- > A reference dimension is drawn.

### 3.5.6 Dimension by Coordinates



Steps:

1. Click on a reference line.
  2. Select the dimension points or enter the coordinates, following the last entry with 'Return'.
  3. Select the dimension text position of the first dimension or enter the coordinates.
- > A coordinate dimension is drawn.

### 3.5.7 Diameter Dimensions



With this function, diameters of arcs and holes can (in the page view two parallel lines) be measured. There are two different procedures for this, step a) and b):

Steps:

a for the freehand selection mode

- 1a. Click on an arc.
  - 2a. Select the dimension text position or enter the coordinates.
- > A diameter dimension is drawn.

b for the other modes

- 1b. Select the first dimension point or enter the coordinates.
  - 2b. Select the second dimension point or enter the coordinates.
  - 3b. Select the dimension text position or enter the coordinates.
- > A diameter dimension is drawn, with the symbol "Ø" automatically added.

### 3.5.8 Circular Dimensions



Steps:

1. Click on an arc.
  2. Select the dimension text position
- > A circular dimension is drawn.

### 3.5.9 Angular Dimensions



Steps:

1. Click the first line.
  2. Click the second line.
  3. Select the dimension text position.
  4. Select the help line end position.
- > An angular dimension is drawn.

### 3.5.10 Edit Dimension



Steps:

1. Click on a dimension.
  2. Change the dimension text and/or the tolerances.
- > Voilà!

*Note:*

If you change the dimension number, the dimension will be disproportionate to the drawing. This is indicated by an underlined dimension text.

### 3.5.11 Move Dimensions



Steps:

1. Click on a dimension.
  2. Select the new dimension text position .
- > The dimension text is moved.

*Note:*

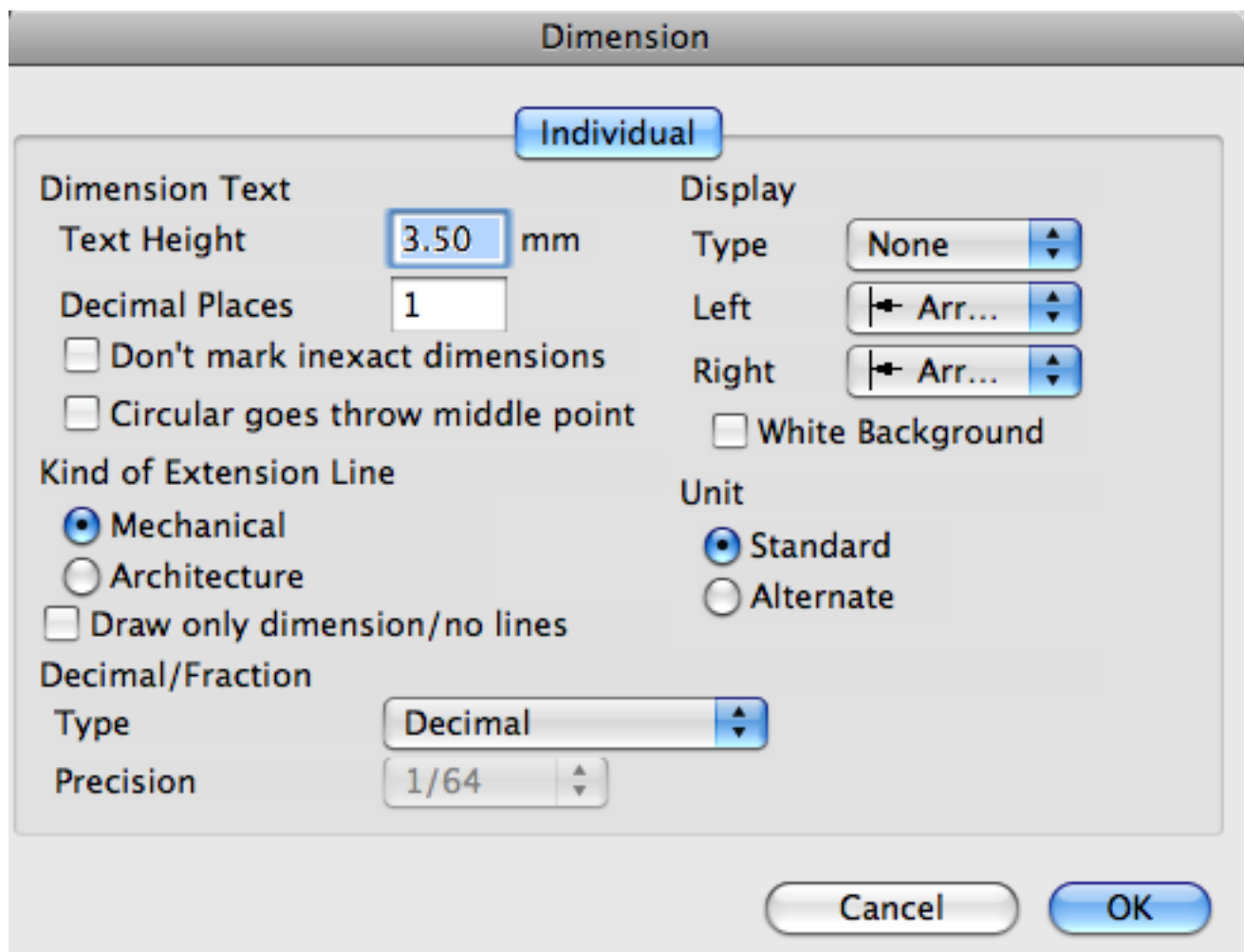
This function works in combination with the grid for arranging dimensions.

### 3.5.12 Change Dimension Attributes



Steps:

1. Click on a dimension.
2. The following dialog appears:



-> You can change the dimension attributes.

## 3.6 Trimming

Trims can be applied to lines and arcs (including circles), or combinations. When breaking elements apart, the newly formed elements retain the attributes of the parent objects.

### 3.6.1 Trim



Steps:

1. Click the reference trim-object.
  2. Click all of the objects to be trimmed.
- > The objects are trimmed to the reference object.

*Note:*

- a. Lines:
  - Shorter lines are lengthened to the reference trim-object.
  - Longer lines retain the clicked side.
- b. Circles / Arcs:
  - A circle in CADintosh is a 360° arc with meeting point at 0°.
  - Selection mode endpoint:  
The arc/circle is trimmed so that it runs through the click point, and both endpoints lie on the reference trim-object.
  - Selection mode intersect:  
The selected circle segment with its intersect at the reference trim-object remains, and the rest of the Circle is removed.

### 3.6.2 Fillet



Steps:

1. Click the first object.
  2. Click the second object.
  3. Enter the desired corner radius and the options as follows.
    0. - don't trim
    1. - trim first object
    2. - trim both object
- > The corners are rounded on the objects.

*Note:*

- a. Circle-circle, circle- line, and line- line junction corners can be rounded.
- b. The clicked side of the object to be rounded remains unchanged.

### 3.6.3 Chamfer.i.Trim:Chamfer



Steps:

1. Click the first object.
2. Click the second object.
3. Enter the desired bridge angle and the options as follows.
 

Description of options:

  0. - don't trim
  1. - trim first object



2. - trim both object

-> The objects are bridged.

*Note:*

- a. Circle-circle, circle- line, and line- line junctions can be chamfered.
- b. The clicked side of the object to be chamfered is retained.

### 3.6.4 Split



Steps:

1. Click the reference object.
  2. Click all of the objects to be split.
- > The objects are split about the reference object.

*Note:*

The objects are split at their intersection with the reference object into new, independent objects (max. 3 pieces for arcs).

### 3.6.5 Join



Steps:

1. Click the first object.
  2. Click the second object.
- > The objects are joined to form one new object.

*Note:*

- a. Both objects must be of the same type.
- b. Clicking an arc twice will turn it into a complete circle.

### 3.7 Transform

Moving includes all functions relating to changing locations of objects and groups. All functions can also be used to duplicate the original object or group.

#### 3.7.1 Move



Steps:

1. Select the reference point .
2. Select the destination point.
3. Click an object.
4. If desired, click more objects and select the 'copy' options.

Description of copy options:

0. - don't copy, just move
  - n - number of copies
5. If the selected objects belong to a group you will be asked if the entire group or just individual objects should be moved/copied.
- > The selected objects are moved/copied.

#### 3.7.2 Move by an Amount dx, dy



Steps:

1. Enter the dx- and dy-values (relative to the original location).
2. Click an object.
3. Click more objects if desired and enter the 'copy' options.

Description of copy options:

0. - don't copy, just move
  - n - number of copies
4. If the selected objects belong to a group you will be asked whether the entire group or just individual objects should be moved/copied.
- > The selected objects are moved/copied.

#### 3.7.3 Rotate



Steps:

1. Select the rotation point .
2. Enter an angle of rotation.
3. Click an object.
4. Click more objects if desired and enter the 'copy' options.

Description of copy options:

0. - don't copy, just rotate
  - n - number of copies
5. If the selected objects belong to a group you will be asked if the entire group or just individual objects should be rotated/copied.
- > The selected objects are rotated/copied.

#### 3.7.4 Move Clockwise/Counterclockwise



Steps:

1. Select the rotation point .
2. Select a radius point or enter a radius .
3. Enter a rotation angle.
4. Click an object.
5. Click more objects if desired and enter the 'copy' options.

Description of copy options:

0. - don't copy, just move
  - n - number of copies
6. If the selected objects belong to a group you will be asked if the entire group or just individual objects should be moved/copied.
- > The selected objects are moved on an arc/copied on an arc.

### 3.7.5 Mirror



Steps:

1. Click a line to be used as the mirror axis.
2. Click an object.
3. Click more objects if desired and enter the 'copy' options.

Description of copy options:

0. - don't copy, just mirror
  - n - number of copies
4. If the selected objects belong to a group you will be asked if the entire group or just individual objects should be mirrored/copied.
- > The selected objects are mirrored/copied.

### 3.7.6 Stretch



Steps:

1. Draw a selection frame.
  2. Select additional objects, if desired.
  3. Enter the dx and dy-values .
- > The selected objects are stretched by an amount dx and dy.

### 3.7.7 Scale Object



Steps:

1. Select the reference point .
  2. Click an object.
  3. Click more objects if desired and enter a scaling factor .
  4. If the selected objects belong to a group you will be asked if the entire group or just individual objects should be scaled.
- > The object or group is re-scaled.

## 3.8 Graphics

The graphics functions let you change object parameters after you have drawn them.

### 3.8.1 Apply Pen



Steps:

1. Click a reference object or enter the desired pen number (1-8) .
2. Click on objects to apply the new pen setting.
3. The esc-Key brings you back to step 1.

### 3.8.2 Apply Style



Steps:

1. Click a reference object or select a style from the popup-menu.
2. Click on objects to apply the new style setting.
3. The esc-Key brings you back to step 1.

### 3.8.3 Apply Group



Steps:

1. Click a group reference object or enter a group number (0-32000) .
2. Click on objects to apply the new group setting.
3. The esc-Key brings you back to step 1.

### 3.8.4 Apply Layer



Steps:

1. Click a layer reference object or enter a layer number (0-1023) .
2. Click on objects to apply the new layer setting.
3. The esc-Key brings you back to step 1.

### 3.8.5 Apply Color



Steps:

1. Click on the color reference object and select a color.
2. Click on all elements, which you want the new color to apply to.
3. The esc-Key brings you back to step 1.

*Note:*

Individuell mode only, see also chapter 5.7.12.

### 3.8.6 Apply Width



Steps:

1. Click on the width reference object and select a width.

2. Click on all elements, which you want the new width to apply to.
3. The esc-Key brings you back to step 1.

*Note:*

Individuell mode only, see also chapter 5.7.12.

### 3.8.7 Apply Pattern



Steps:

1. Click on the pattern reference object and select a pattern.
2. Click on all elements, which you want the new pattern to apply to.
3. The esc-Key brings you back to step 1.

*Note:*

Individuell mode only, see also chapter 5.7.12.

### 3.8.8 Apply all Attributes



Steps:

1. Click a reference object.
2. Click on objects to apply the new attributes settings.
3. The esc-Key brings you back to step 1.

### 3.8.9 Measure



Steps:

1. Click on a line or an arc.
- > The intersection/distance and all attributes will be displayed.

*Note:*

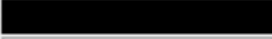
The data is displayed in the Info window. If the Info window is closed, it will automatically be opened.

### 3.8.10 Edit Element



Steps:

1. Click on an element.
- > You get a floating window to modify it. Click on take to take the changes..

Edit Line	
Group :	0
Layer :	1
Pen :	1 [0.25] ▼
Style :	1 - Solid ▼
Width :	0.25
Color :	
Scale :	1 :1
X start point :	-105.83mm
Y start point :	94.37mm
X end point :	-55.39mm
Y end point :	45.33mm
<input type="button" value="Take"/>	

## 3.9 Clearing

Clear is a function for deleting one or more objects.

### 3.9.1 Clear Object



Steps:

1. Click the object. It will be deleted.

*Note:*

If the functions Undo/Redo are enabled, the clear action can be undone.

### 3.9.2 Clear using Window



Steps:

1. Draw a selection frame completely around the objects to be deleted. They will be deleted.

### 3.9.3 Clear using Window and (de)Selection



Steps:

1. Draw a selection frame completely around the objects to be deleted.
  2. Select or de-select additional objects.
  3. Press "Return".
- > All selected objects are deleted.

### 3.10 Fill

A fill is defined by an outline. Possible holes are defined by additional outlines.

The outline may consist of lines, arcs (circles) and X-lines. When using X-lines a start and an end point must be clicked. An outline is defined clockwise or counterclockwise. If there are any arcs and X-lines (Splines and Bézier curves) contained in the outline they will disintegrate into several elements. Text and measures may only be selected as distinct elements.

*Note:*

- Try a larger view (cursor up-arrow) if you have trouble selecting objects.
- Press esc if you've selected the wrong object.

#### 3.10.1 Hatching



Steps:

1. Select all objects in sequence until they encompass an enclosed area (terminated by RETURN).
2. Select any islands (also enclosed) that you want to leave as is.
3. Enter the angle, distance, and, if desired, the options.

Description of options:

1. - simple hatching
2. - crosshatch

-> Hatching is drawn in the selection.

#### 3.10.2 Material



Steps:

1. Select all objects in sequence until they encompass an enclosed area (terminated by RETURN)..
2. Select any islands (also enclosed) that you want to leave as is.
3. Enter the desired material: cast iron, steel, cast steel, copper, bronze, brass, tin, lead, zinc, babbitt., nickel, nickel alloy, winding, glass, cellulose, marble, slate, porcelain, insulation, rubber, leather, Plywood, grinding wheels, wood with grain, wood against grain, brickwork, stonework, concrete, refractory clay, soil, or liquid.

Notes:

- a. The reference for material representation is: ANSI Y14.2 --American Drafting Standards Manual. Ambiguous material representations should be identified with the material name in the drawing.
  - b. An easy way is to choose a material you know, like tin, then change it to the desired material by changing its attributes (see 3.10.5).
- > The area will be filled in with the selected material.

#### 3.10.3 Grayscale



Steps:

1. Select all objects in sequence until they encompass an enclosed area.
2. Select any islands (also enclosed) that you want to leave as is.



3. Enter the percentage (0 - 100) for the grayscale .
- > The area will be filled with the selected grayscale.

### 3.10.4 Pattern



Steps:

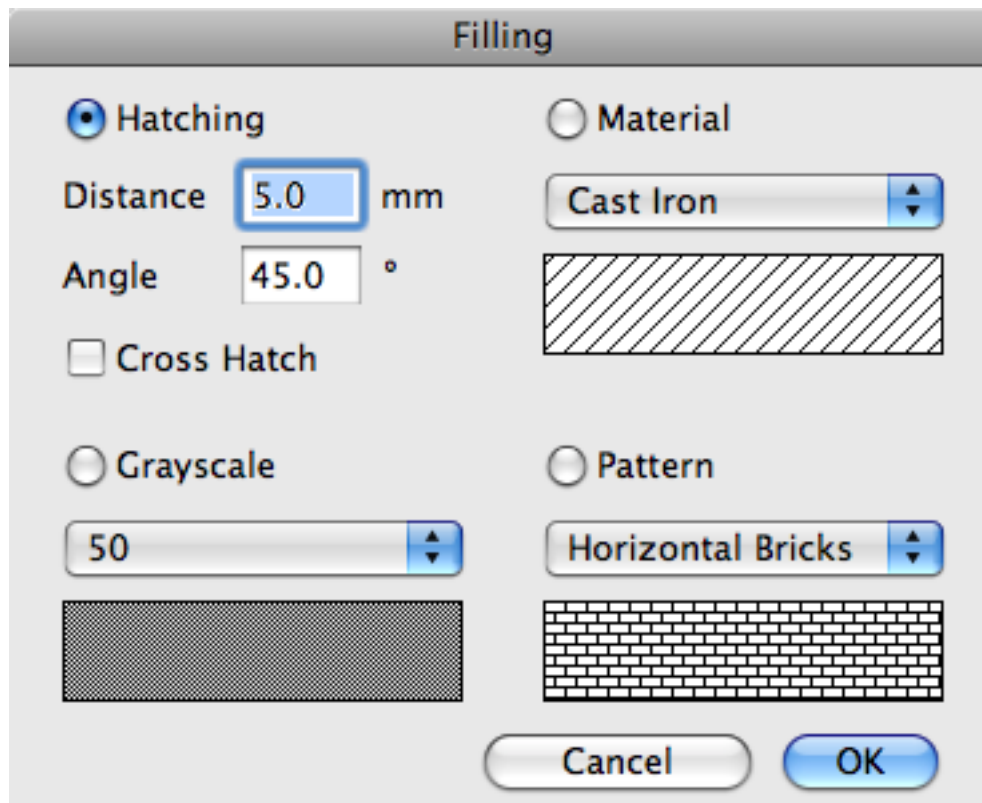
1. Select all objects in sequence until they encompass an enclosed area area (terminated by RETURN)..
2. Select any islands (also enclosed) that you want to leave as is.
3. Enter the pattern: horizontal bricks, slanted bricks, grass, arcs, zigzag, dots, mosaic 1, mosaic 2, mosaic 3, balls, horizontal roof-tiles, vertical roof-tiles, checkerboard, diamonds, floor-tiles.
- > The area will be filled in with the selected pattern.

### 3.10.5 Change Fill Attributes



Steps:

1. Select the pattern to be changed.
2. The following dialog is displayed:



- > The selected area will be changed accordingly.

## 3.11 X-Line

### 3.11.1 Polyline



Steps:

1. Click a series of points where you want to build a polyline. Press 'Return'.  
-> A polyline is drawn.

### 3.11.2 Bézier Curve



Steps:

1. Click a series of points where you want to place a Bézier curve. Press 'Return'.  
-> A Bézier curve is drawn.

### 3.11.3 Spline



Steps:

1. Click a series of points where you want to place a spline arc. Press 'Return'.  
-> A spline is drawn.

### 3.11.4 Marker



Steps:

1. Click a series of points where you want to place markers. Press 'Return'.  
-> The markers are drawn.

### 3.11.5 Move X-Line Points



Steps:

1. Click the desired point and move it.  
-> The X-Line is re-drawn accordingly.

### 3.11.6 Delete X-Line Point



Steps:

1. Click the X- Lines points that you want to delete.  
-> The points are deleted.

### 3.11.7 Insert X-Line Point



Steps:

1. Select the base point of the x-line after wich the new point should be inserted.
2. Select the base point of the x-line before wich the new point should be inserted.
3. Select the position for the new base point

-> The X-Line is re-drawn incorporating the new point.

### 3.11.8 Ungroup Polyline



Steps:

1. Click the polyline that you want to ungrouping.

-> The polyline is broken into individual lines.

Note: Works also for rounded rectangles and n-agons.

### 3.11.9 Change X-Line Attributes



Steps:

1. Click the X-Line you want to change.

2. The following dialog is displayed:

X-Line

Type Polyline

Marker Type/-Size

Start None 10.00 mm

Middle None 10.00 mm

End None 10.00 mm

Cancel OK

-> The selected X-Line will be changed accordingly.

## 3.12 Special

This chapter covers all the remaining functions in CADintosh

### 3.12.1 Move Object



Steps:

1. Click the object that you want to move.  
You can:
    - move the whole object
    - move a start point or endpoint
    - change diameters of arcs
- > The object is moved.

### 3.12.2 Send an Object to the Back



Steps:

1. Click the object, which you want to send to the back.
- > The object is sent behind all other objects of the same type.

*Note:*

Objects in the back are the last to be selected when several objects of the same type overlap. More recently drawn objects lie behind older objects of the same type.

### 3.12.3 Ellipse



Steps:

1. Click a center point.
  2. Enter an x-radius and y-radius .
  3. Select a point for the starting angle or enter the starting angle.
  4. Select a point for the ending angle or enter the ending angle.
- > An ellipse is drawn.

### 3.12.4 Rounded Rectangle



Steps:

1. Click the first corner.
  2. Click the second corner, diagonally opposite.
  3. Enter the corner radius .
- > A rounded rectangle is drawn.

*Note:*

Explod with function 4.12.8.

### 3.12.5 N-agon (Polygons)



Steps:

1. Select a center-point.
  2. Select or enter a radius (of the circumcircle).
  3. Enter the number of corners (3 - 100) .
  4. Select or enter a starting angle.
- > An n-agon is drawn.

*Note:*

Explod with function 4.12.8.

### 3.12.6 Section Line



Steps:

1. Select the first point.
  2. Select the second point.
  3. Enter any accompanying text.
  4. Select the side that the arrows should lie on.
- > The section line is drawn.

*Note:*

The section line are entities.

### 3.12.7 Selectable/Not Selectable



Steps:

1. Click an object. It will toggle between selectable and not selectable.
2. Enter 'S' or 'N'. All objects will then toggle between selectable and not selectable.

**This function is useful when you move objects on top of others.**

### 3.12.8 Erase in bitmaps (TIFFs)



You erase the area under the mouse by pressing the mouse button.

You can't undo this.

This function is normally used to erase parts of a scanned drawing that are redrawn in CADintosh with a construction.

## 4 Menus

### 4.1 CADintosh



Apple menu

#### 4.1.1 About CADintosh

A dialog is displayed with information about the CADintosh version.

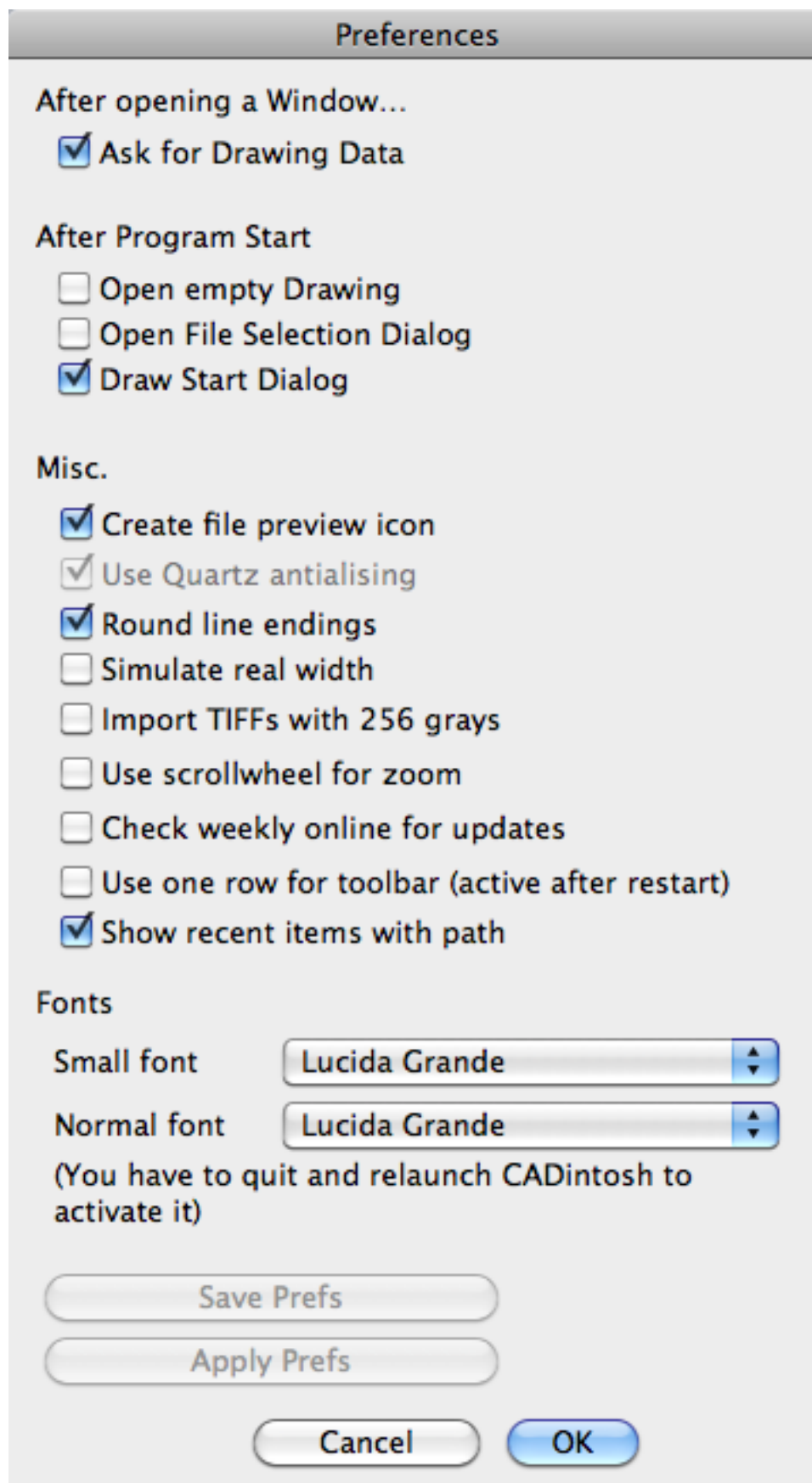
*Note:*

Try holding the 'option' key down when you select "About CADintosh" with a drawing window open.

Feel free to click the CADintosh icon in the dialog box repeatedly.

#### 4.1.2 Preferences

The following dialog is displayed



- Ask for drawing data  
Choosing this option causes the drawing data dialog to be displayed when you begin a new drawing (see 4.3.12).
- Open empty drawing  
Tells CADintosh to open a new file window upon starting.
- Open file selection Dialog  
Tells CADintosh to open a the file selection dialog upon starting (see 5.3.12).
- Draw Start Dialog  
Tells CADintosh to display the startup dialog with information about the CADintosh version and the registered user for ca. 5 seconds. This function can only be disabled in registered versions.
- Preview  
Check this option to create automatically a preview of the complete drawing upon saving.
- Save Prefs  
The current setup preferences are saved.
- Apply Prefs  
The saved setup preferences are applied to the current drawing.

#### **4.1.3 Quit**

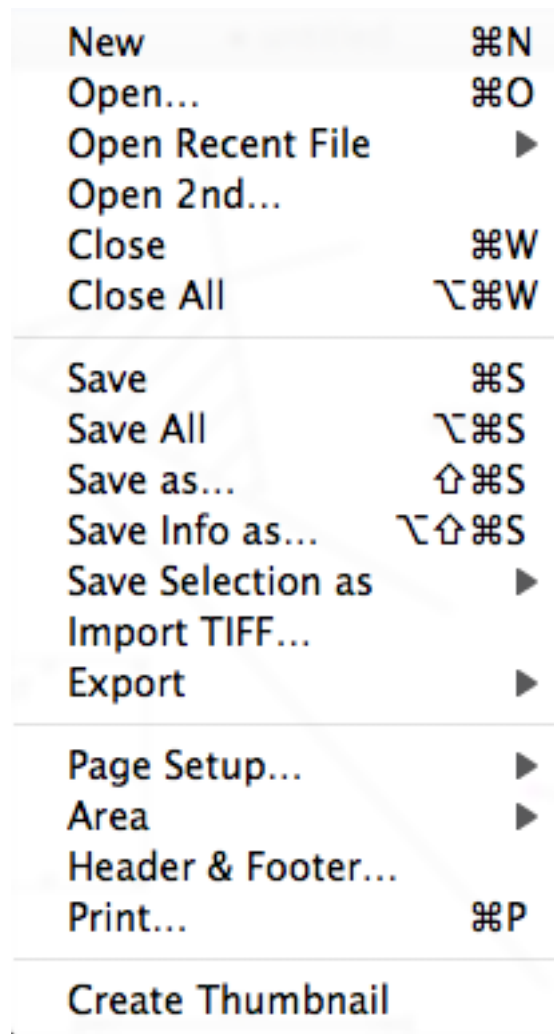
Quits CADintosh.

If you have unsaved changes, the following options are presented:

1. Don't Save  
Quits CADintosh without saving.
2. Cancel  
Cancels 'Quit' and returns you to CADintosh.
3. Save  
Saves the drawing and ends CADintosh.



## 4.2 File



File menu

### 4.2.1 New

Start a new drawing. The drawing data dialog will appear, if so set in 'Preferences'.

### 4.2.2 Open

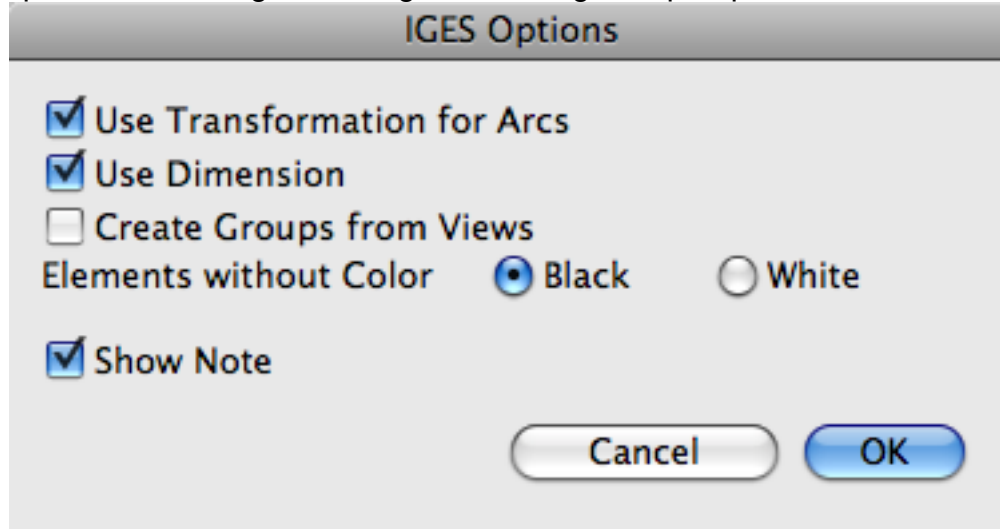
Open an existing drawing.

The following file types can be opened:

- Standard  
The CADintosh drawing format
- DXF  
Data exchange format
- HPGL  
Plotter file (no group or layer information is retained)
- PICT  
Picture format
- IGES  
Data exchange format
- Measurement date file format  
Measurement record for example from a theodolite.

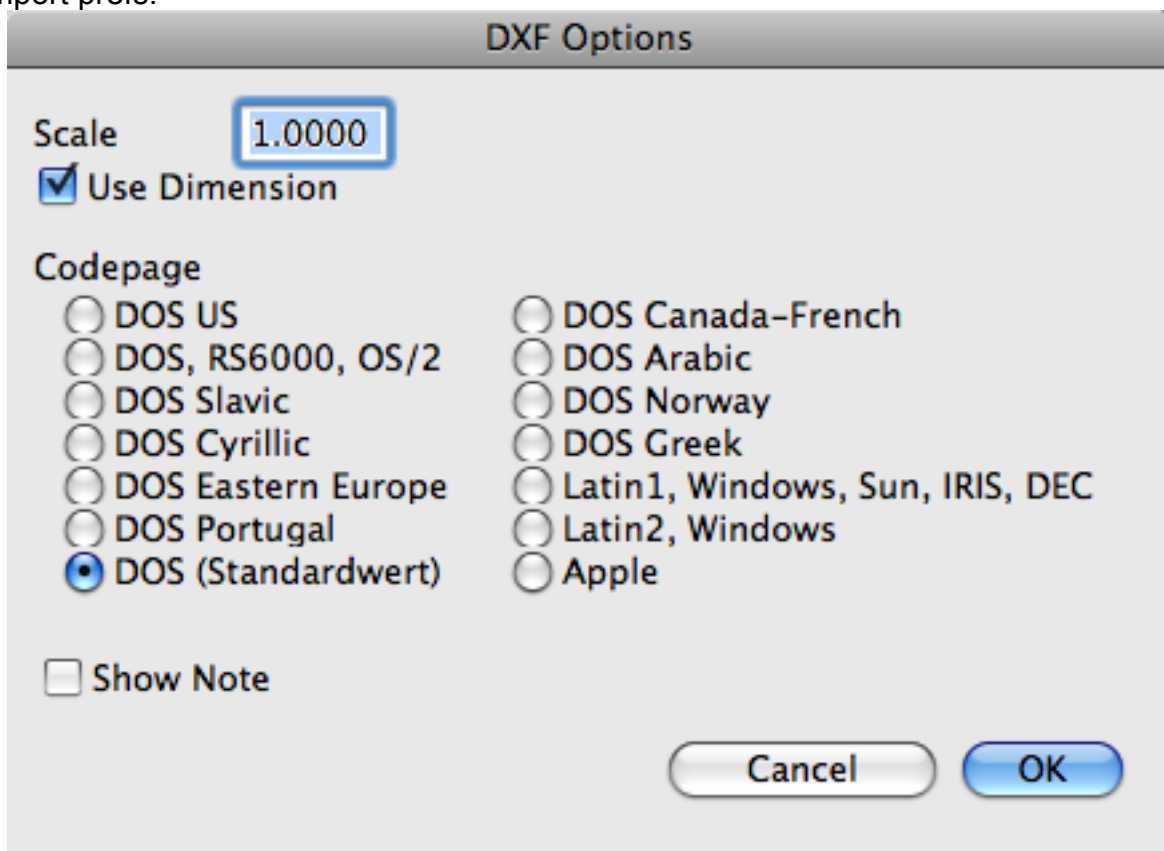
- SELIG format  
Contains the section of wings from airplanes.

Click on the options button to get a dialog to set the iges import prefs.



- Use transformation for arcs  
Check or uncheck this option if circles and arc are not positioned correct after import.
- Use dimensions  
Check this option to get import dimension as dimensions and not as normal elements.

DXF import prefs.



- Elements without color  
You set the color of elements wich have no color in the IGES file.

- **Scale**  
The DXF file format does not support scales. So, you can change the import scale here. Use 1.0 as default.
- **Codepage**  
Use this option when the special character of a DXF file not correct after the import.

#### 4.2.3 Open Recent

Displays a submenu of recently opened drawings for quick selection.

#### 4.2.4 Open 2nd

*Registered Versions Only !*

Steps:

1. Select the insertion point in your drawing .
  2. Select a drawing or PICT file.
- > The drawing or PICT is placed into your drawing.

#### 4.2.5 Close

Close the active window. If you haven't saved changes, you will be asked if you would like to save before closing.

*Note:*

Holding the option key while selecting 'Close' will close all open windows (also with 'save' warnings, if applicable).

#### 4.2.6 Save

Saves the active drawing. If it has no name, you will be asked to provide one.

*Note:*

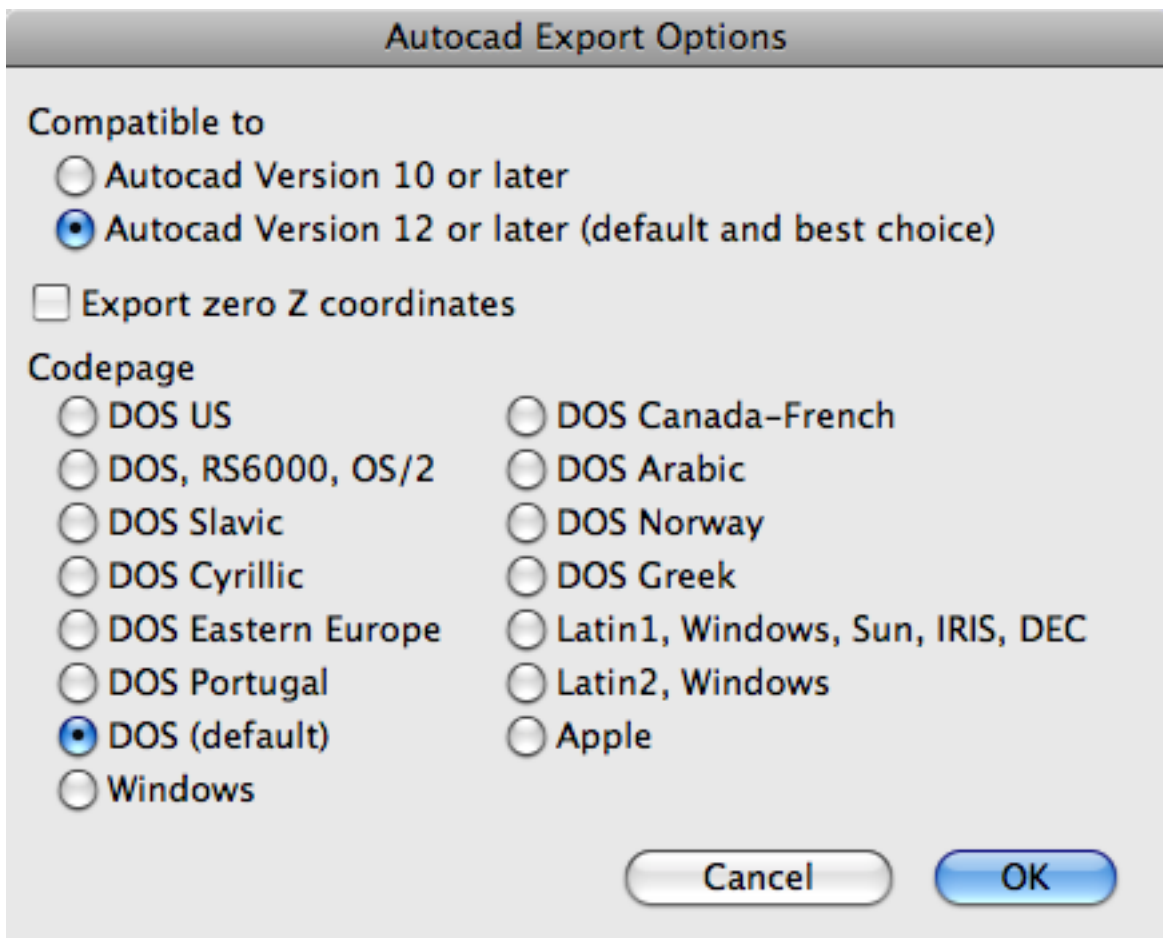
Holding the option key while selecting 'Save will save all open windows (also with 'name' dialogs, if applicable).

#### 4.2.7 Save as

Save the file according to file format as follows:

- **Normal**  
Saves the active drawing under a new name.
- **DXF**  
Saves the active drawing in DXF format.
- **HPGL**  
Saves the contents of the HPGL selection in the HPGL format.
- **PICT**  
Saves the contents of the PICT selection in the PICT format.
- **IGES**  
Saves the active drawing in IGES format (no x-lines).

Click on options to get an options dialog. Such a dialog is available for DXF and HPGL.  
DXF:



You set the compatibility for AutoCAD.

HPGL:

Refer to the HPGL section.

**HPGL**

HP-GL     CR  
 HP-GL/2     LF     Use Style

Text Factor   

Style Factor           

Init Sequence

Exit Sequence

Base Point  
 Left-Bottom     Middle

Scale       

IGES

**IGES Export Options**

Line End Characters  
 No  
 CR/LF  
 LF/CR  
 CR  
 LF

Elements without color  
 Black     White

**5.2.8. Save Selection as**

This selection contains a sub-menu:

1. Copy  
A copy of the drawing is saved under a new name.
2. Group  
Enter a group number . This group is then saved under a new name.
3. Frame  
Draw a frame around the desired drawing area. The frame contents are then saved under a new name.

#### 5.2.9. Import TIFF

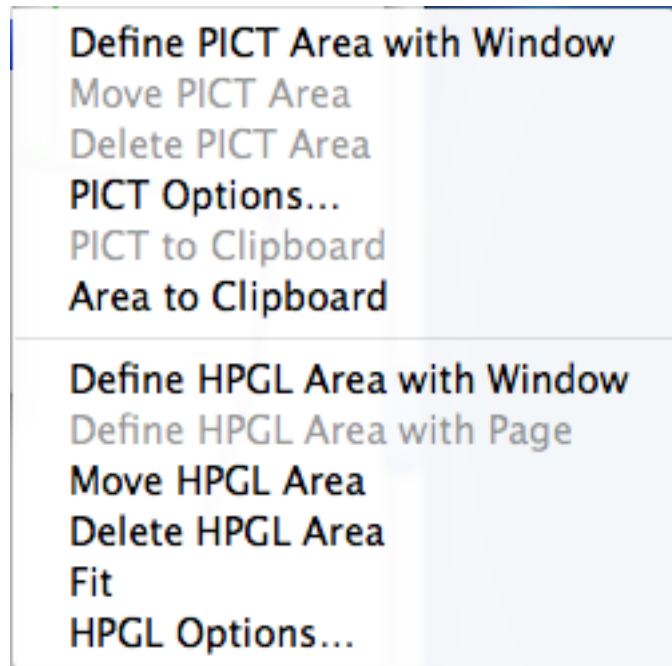
You get a file selector to open a TIFF drawing. The first drawing will be inserted at 0,0.

This function is very usefull if you want to construct some additions to a scanned drawing.

The TIFF will always be imported as 1 bit (black&white).

#### 4.2.8 Export

This selection contains a sub-menu:



Export sub-menu

##### 4.2.8.1 Define PICT Area with Window

Define a selection with two points.

##### 4.2.8.2 Move PICT Area.

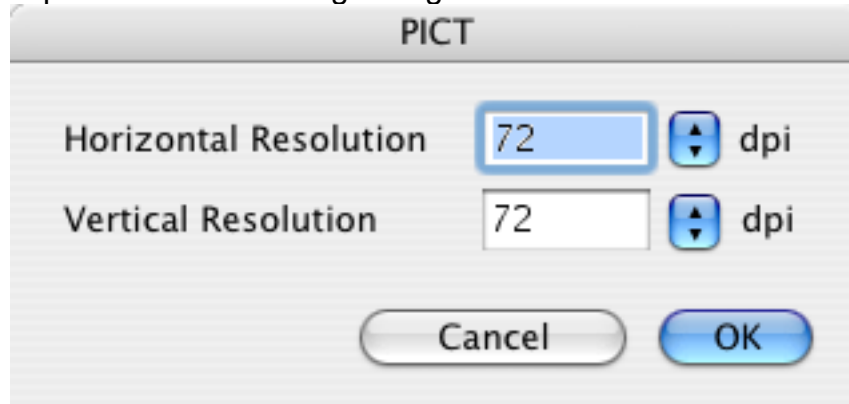
Move the PICT area with the mouse..

##### 4.2.8.3 Delete PICT Area

The PICT area is deleted.

##### 4.2.8.4 PICT Options

Select the PICT options in the following dialog.



The resolution determines the quality of the PICT. The higher the resolution the higher the quality.

#### 4.2.8.5 PICT to Clipboard

The defined PICT area (with the second menu choice) is copied as a PICT to the Clipboard.

#### 4.2.8.6 Area to Clipboard

A window is drawn with the mouse and the area enclosed is copied as a PICT to the Clipboard.

#### 4.2.8.7 Define HPGL Area with Window

Select an HPGL selection with two points.

#### 4.2.8.8 Define HPGL area with Page

Define an HPGL selection with paper size under "Parameters".

#### 4.2.8.9 Move HPGL Area

Move the HPGL selection with the mouse.

#### 4.2.8.10 Delete HPGL Area

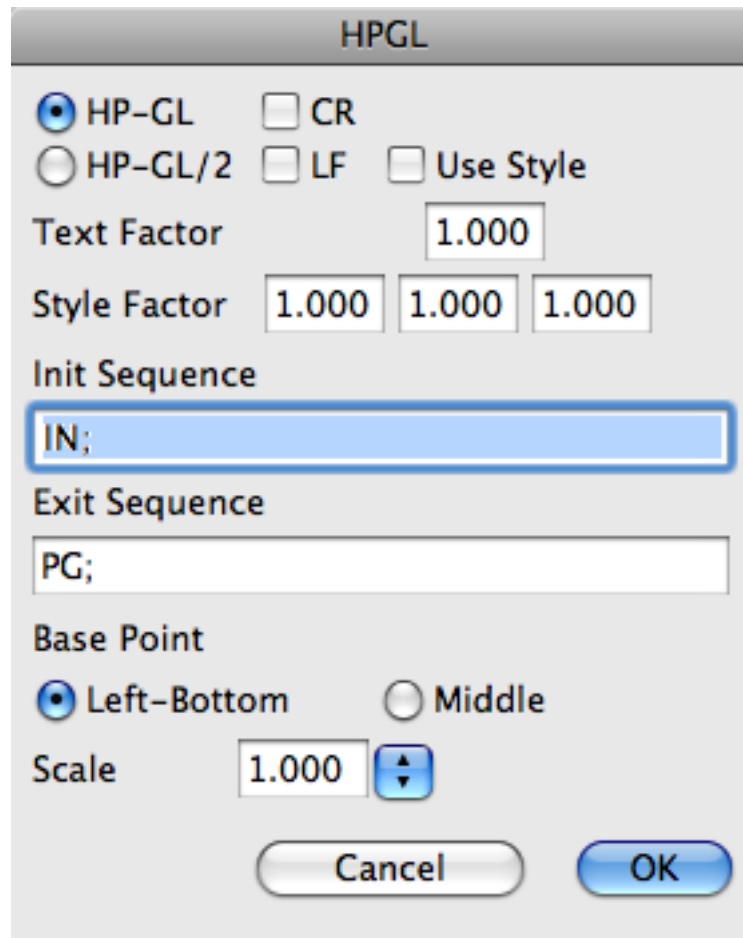
The HPGL area is deleted.

#### 4.2.8.11 Fit

Click line and enter its length. The entire drawing will be scaled accordingly.

## 4.2.8.12 HPGL Options

The following dialog is displayed.



Dialog HPGL

- *Use Label Command*  
CADintosh will use the LB command to plot text. This reduces the file size. But the plotting of labels will not be absolute WYSIWYG.
- *Use Style Command*  
CADintosh will use the plotter line styles if this option is selected.
- *Factor for text correction*  
This factor is for the HPGL text height correction.
- *Factors for line style*  
These factors are for the Zigzag line style correction.
- *Init Sequence*  
This is the first sequence in the plot file.
- *Exit Sequence*  
This is the last sequence in the plot file.
- *Scale*  
You can scale the HPGL data

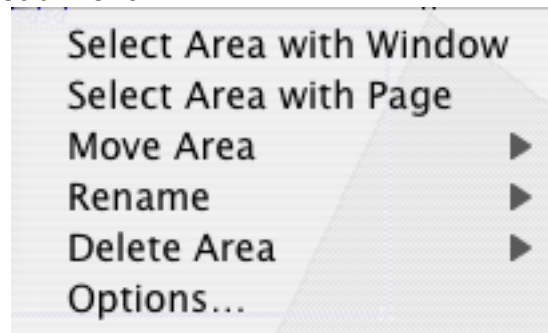
## 4.2.9 Page Setup

This menu option contains a sub-menu with all the names of the defined print areas and the standard print area. Select the paper format using the standard printer dialog for the chosen area.



#### 4.2.10 Area

This selection contains a sub-menu:



##### 4.2.10.1 Select Area with Window

Define the print area by drawing a window.

##### 4.2.10.2 Select Area with Page

Defines the print area according to the selected page size.

##### 4.2.10.3 Move Area

Move the print area with the mouse.

##### 4.2.10.4 Rename Area

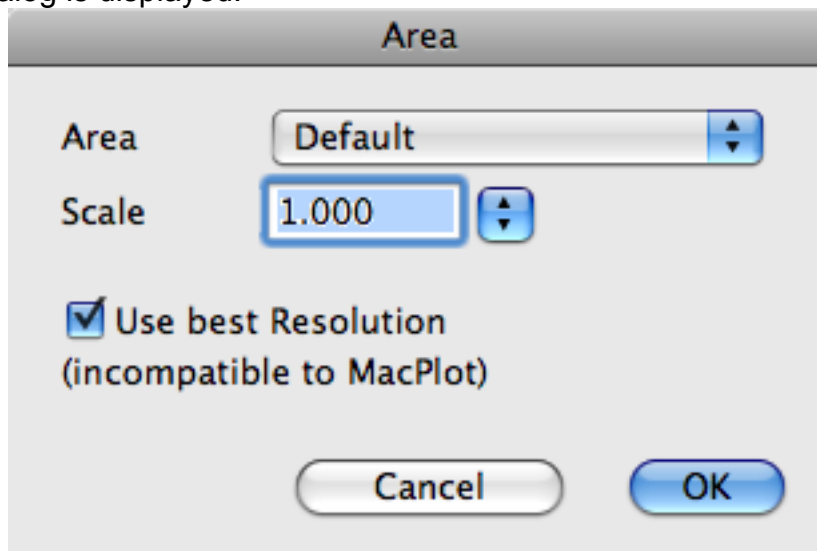
Rename the selected print area.

##### 4.2.10.5 Delete Area

The selected print area is deleted.

##### 4.2.10.6 Options

The following dialog is displayed.



You set the scale of the output. If you select “1:1” you will get a WYSIWYG printing. This dialog allows you to rescale a drawing e.g.A0 to A4.

If you select “use best resolution” the maximum resolution of the printer will be used. This option is incompatible with the plotter driver MacPlot, the drawing shrinks.

#### 4.2.11 Header & Footer

You can add during printing a header and a footer. You define the elements with the dialog.

**Header & Footer**

**Header**

Left Middle Right

**Footer**

Left Middle Right

Font

Size

White Background

Description

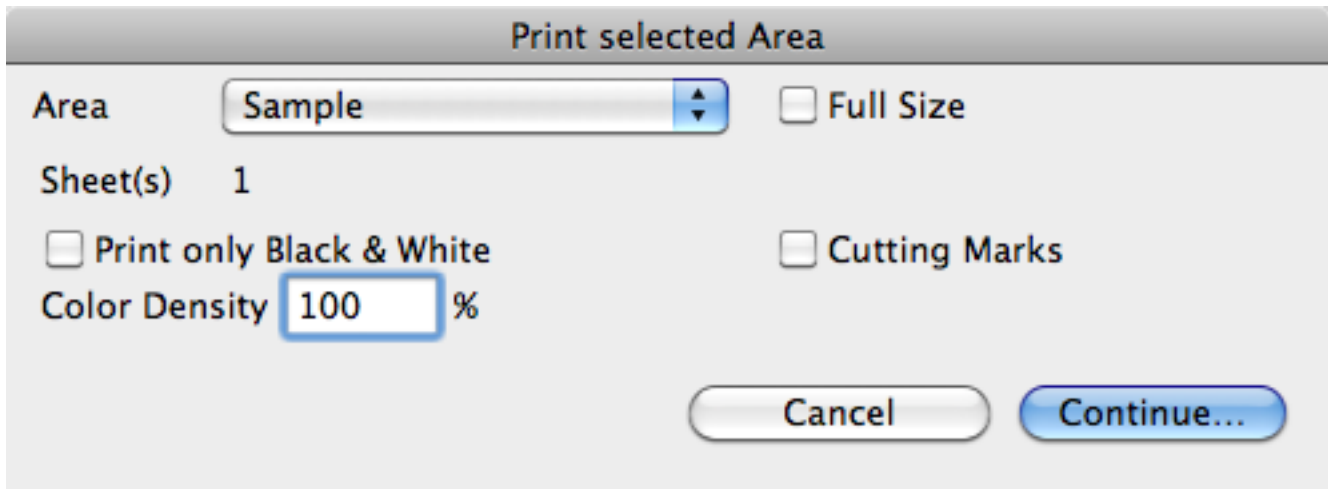
- &# - current page
- &+ - total number of pages
- &f - filename
- &g - path and filename
- &p - name of print area
- &d - date
- &t - time
- &l - aktive layers

Cancel OK

You can use normal characters and special wich will be replaced during printing.

#### 4.2.12 Print

Prints the contents of the defined print area. It brings up the standard print dialog of the selected printer. In the lower left corner you can select which area to print.

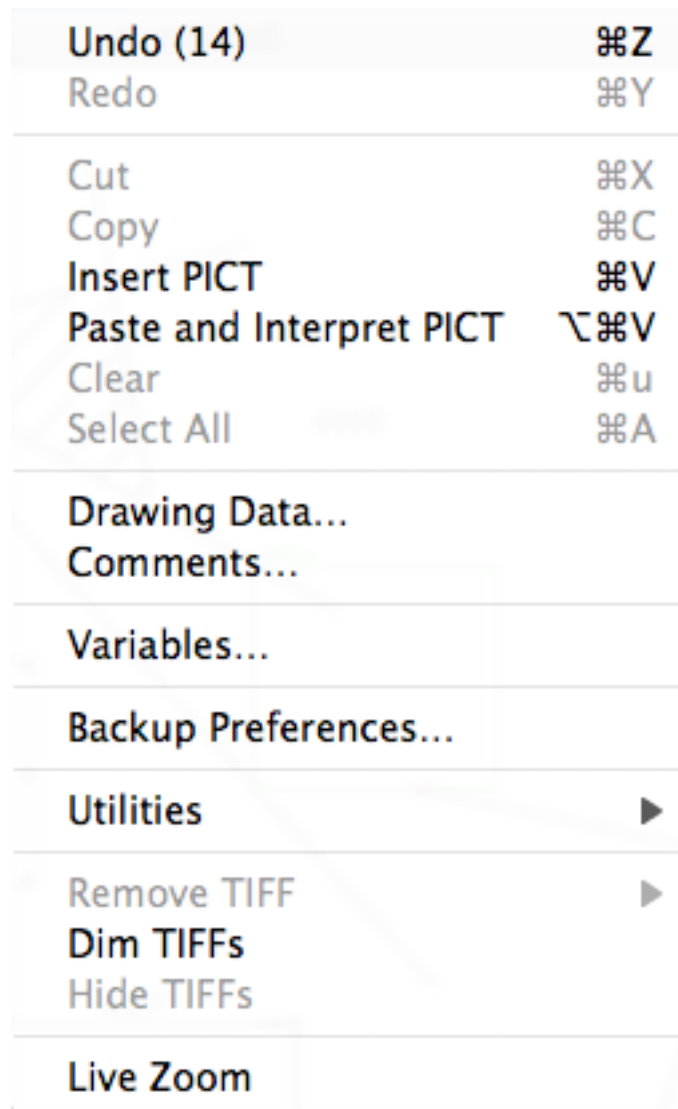


- **Popup menu area**  
You select the area for printing. CADintosh will automatically calculate the number of pages for the area.
- **Print only black&white**  
Check this option to get only black & white printouts on color printers.
- **Color density**  
You set the ink/toner density.
- **Cutting Marks**  
Prints cutting marks on every page when you're drawing requires more than one page for printing. This is useful for pasting the pages together.

#### 4.2.13 Create Thumbnail

Draw a frame from which a preview for the file selection dialog will be generated.

## 4.3 Edit



Edit menu

### 4.3.1 Undo

Undoes the last action. The number of possible undoes appears in the brackets.

### 4.3.2 Redo

Restores the drawing to 'pre-undo' status. The number of possible redoes appears in the brackets.

### 4.3.3 Cut

Cuts text from the text entry box.

### 4.3.4 Copy

You can copy text from the text entry box, or a PICT picture from the drawing.

### 4.3.5 Insert

Inserts text from the Clipboard into the text entry box or a PICT picture into the drawing. If the contents of the clipboard is a PICT this item will read 'Insert and interpret PICT'.

### 4.3.6 Clear

Deletes text from the text entry box or a PICT picture from the drawing without copying to the clipboard.

#### 4.3.7 Select All

Selects the entire contents of the text entry box.

#### 4.3.8 Frame on/off

CADintosh will display frames of publishers and subscribers if this option is selected.

#### 4.3.9 Drawing Data

Displays the following dialog for changing or entering the administrative data of the drawing.

The image shows a dialog box titled "Drawing Data" with the following fields and labels:

Drawing-No.	^01	Sheet	^02	Sheets	^03
Description	^04				
Usage	^05				
Paper Size	^06	Scale	^07		
Date of Creation	^08	Creator	^09		
Date of Checking	^10	Checker	^11		
Changing	^12	Changer	^13		
Index	^14	Change	^15		
Source	^16	Material	^17		
Replacement for	^18	Replaced thro.	^19		
Note	^20				

At the bottom right of the dialog are two buttons: "Cancel" and "OK".

If text in the drawing contains text with the contents of the parentheses, the data will be automatically incorporated into the drawing.

Additionally:

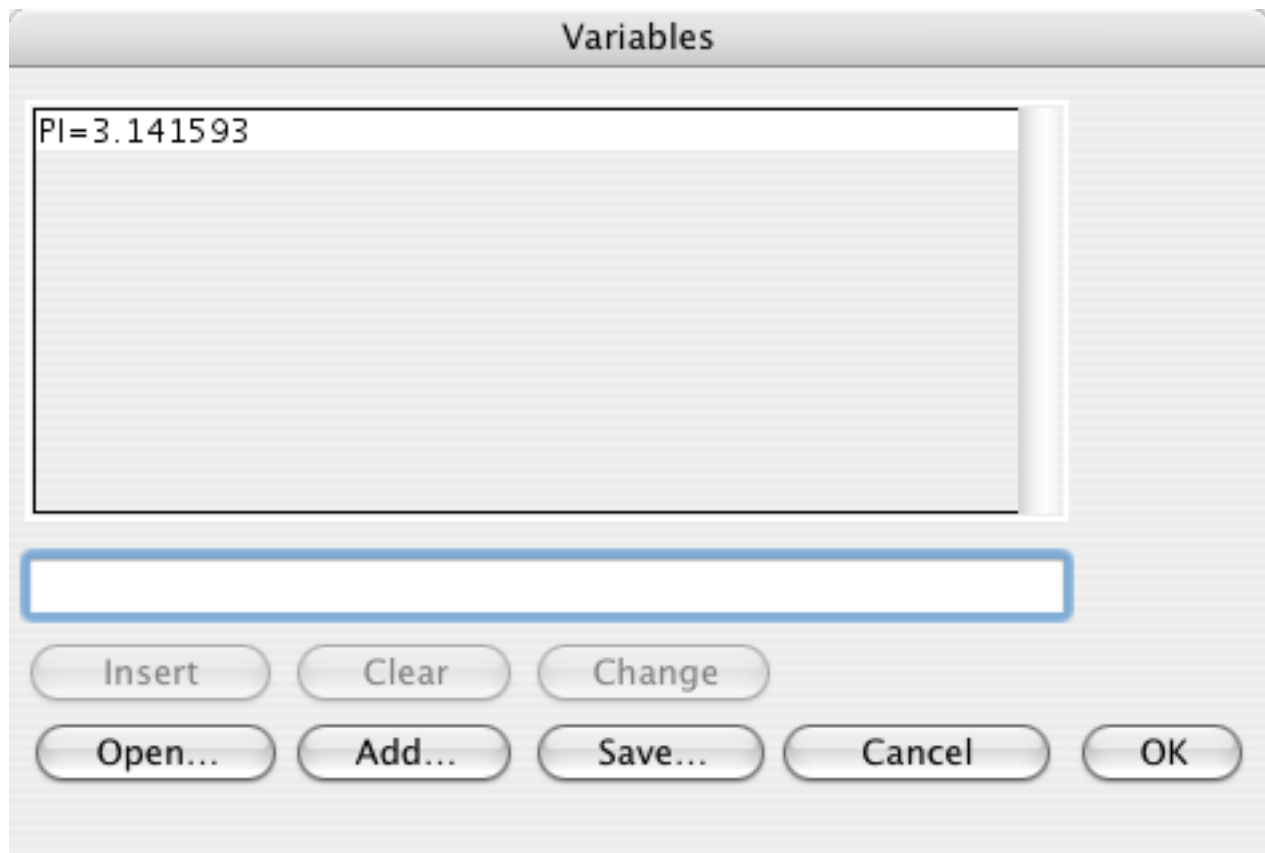
- System date (^50)
- System time (^51)
- File name (^52)

#### 4.3.10 Commentary

A dialog for comment input is displayed. These comments may be pasted in from the clipboard. In addition to that, the comments may be printed. When importing DXF and IGES files information about the files are displayed in this window.

#### 4.3.11 Variables

Displays the following dialog for defining variables.



The displayed functions are:

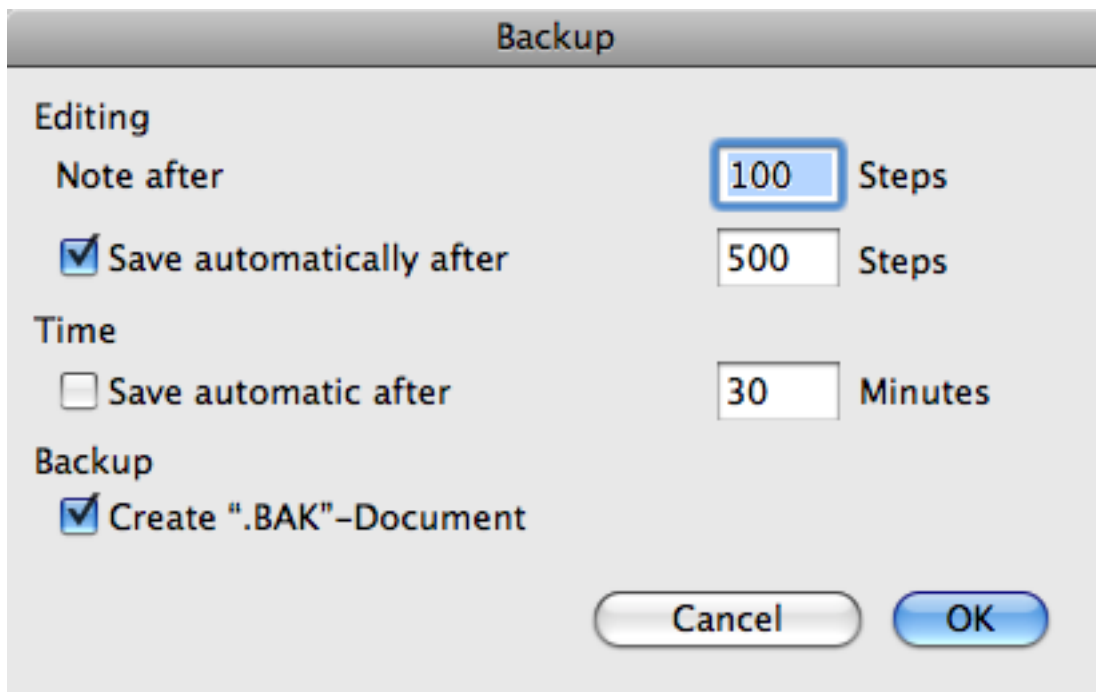
- Insert  
Inserts the variable in the entry column of the variable list .
- Clear  
Clears the selected variable.
- Change  
Changes the selected variable.
- Open  
Opens a variable list. The existing variables will be overwritten.
- Add  
Attaches a variable list. to the existing list.
- Save  
Saves the variable list under a new name.

*Note:*

1. Variables can be created from other variables.
2. Variables always have the following construction:  
<variable name> = <definition>

#### 4.3.12 Backup Preferences

Displays a dialog for setting your backup preferences. That is, you tell CADintosh to automatically save your drawing every so often, or after a certain number of changes.

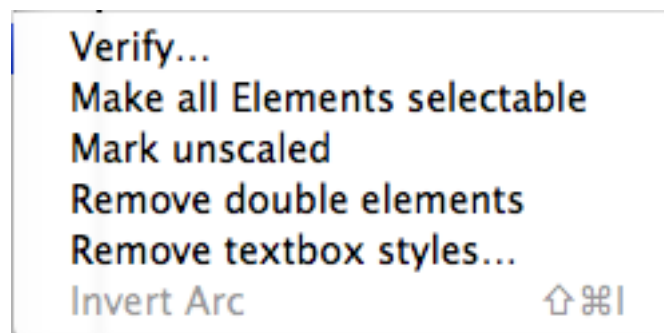


Dialog Backup

- **Editing**  
You will get a note after the number of drawing steps. Additional if Save automatic after is checked the drawing will be saved after the number of steps.
- **Time**  
The drawing will be saved after the number of minutes.
- **Backup**  
CADintosh creates a document with the same name as your existing drawing but with the extension .BAK each time you save your drawing.

#### 4.3.13 Utilities

This menu item contains three submenus with several helpful functions.



Utilities Submenu Functions

##### 4.3.13.1 Verify

All elements are verified (e.g. length is not zero). Invalid elements are deleted.

##### 4.3.13.2 Make all Elements selectable

All elements, which are not selectable, will become selectable again.

##### 4.3.13.3 Mark unscaled

All unscaled elements are selected.

##### 4.3.13.4 Remove double elements

All double elements will be removed.

#### 4.3.13.5 Remove textbox styles

Removes all teststyles from textboxes. This does increase the compatibility of the drawing between Intel and PowerPC Macs.

#### 4.3.13.6 Invert Arc

Lets you choose the other arc after the trim function.

### **4.3.14 Remove TIFF**

This submenu contains all opened TIFFs. You can remove one by selecting it.

### **4.3.15 Dimm TIFFs**

This function displays the TIFFs dimmed. So, you can better see the difference between the TIFFs and the new drawing.

### **4.3.16 Hide TIFFs**

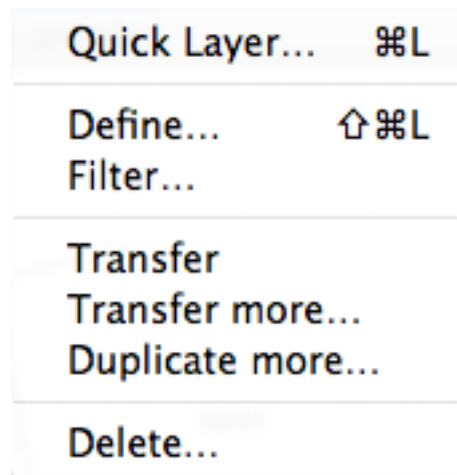
This function hides all TIFFs. Select it again to show the TIFFs.

### **4.3.17 Live Zoom**

Enables the live zoom. This is usefull on fast machines.



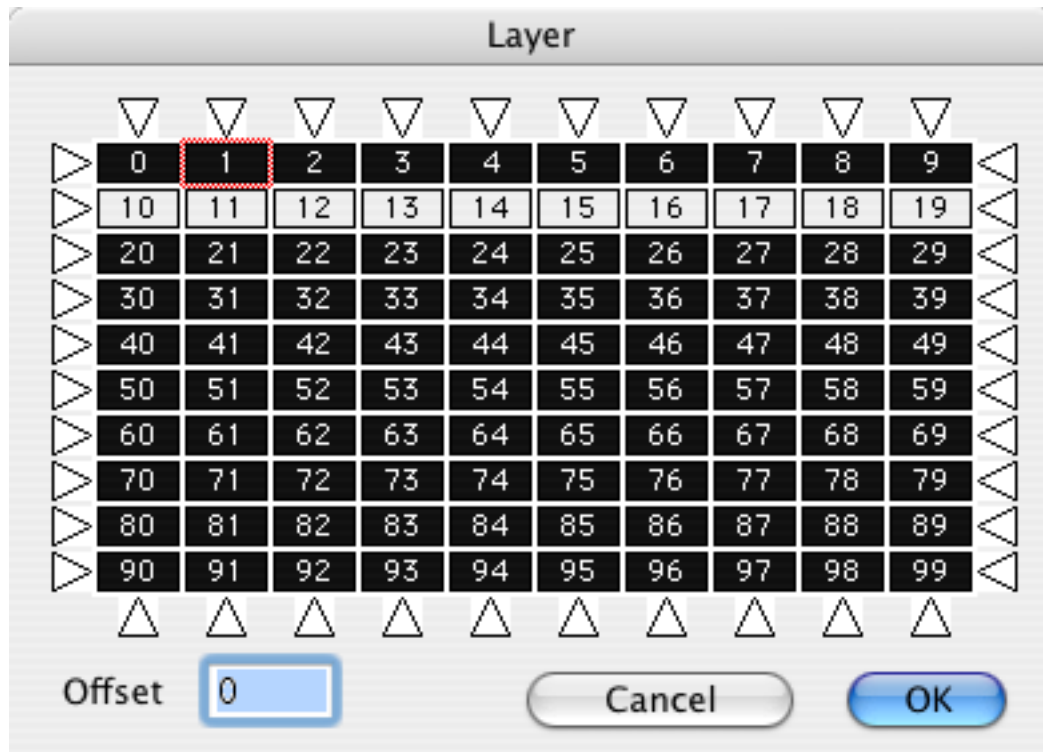
## 4.4 Layer



Layer menu

### 4.4.1 Quick Layer

Displays a dialog for turning on and off layers (0-99).



Dialog Quick Layer

The name of this menu item is quick layer because you can set the status of one hundred layers at a time (any 100 from 1024). You activate or deactivate a layer simply by clicking on it. If you click on an arrow the complete row or column will be toggled. Through changing the offset you determine the first layer to appear in the table.

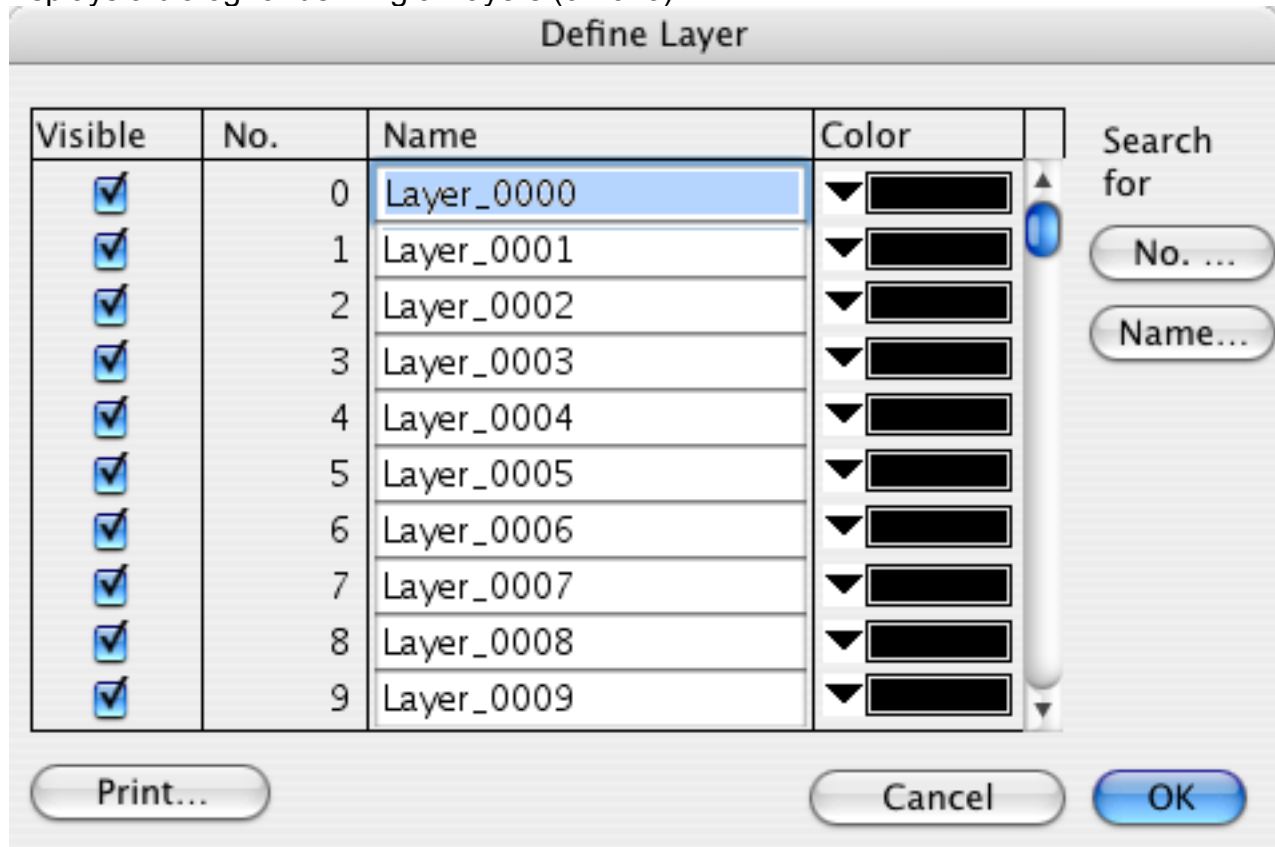
*Note:*

The current layer has a frame around it

### 4.4.2 Define

*Registered Versions Only !*

Displays a dialog for defining all layers (0-1023).



Dialog Define

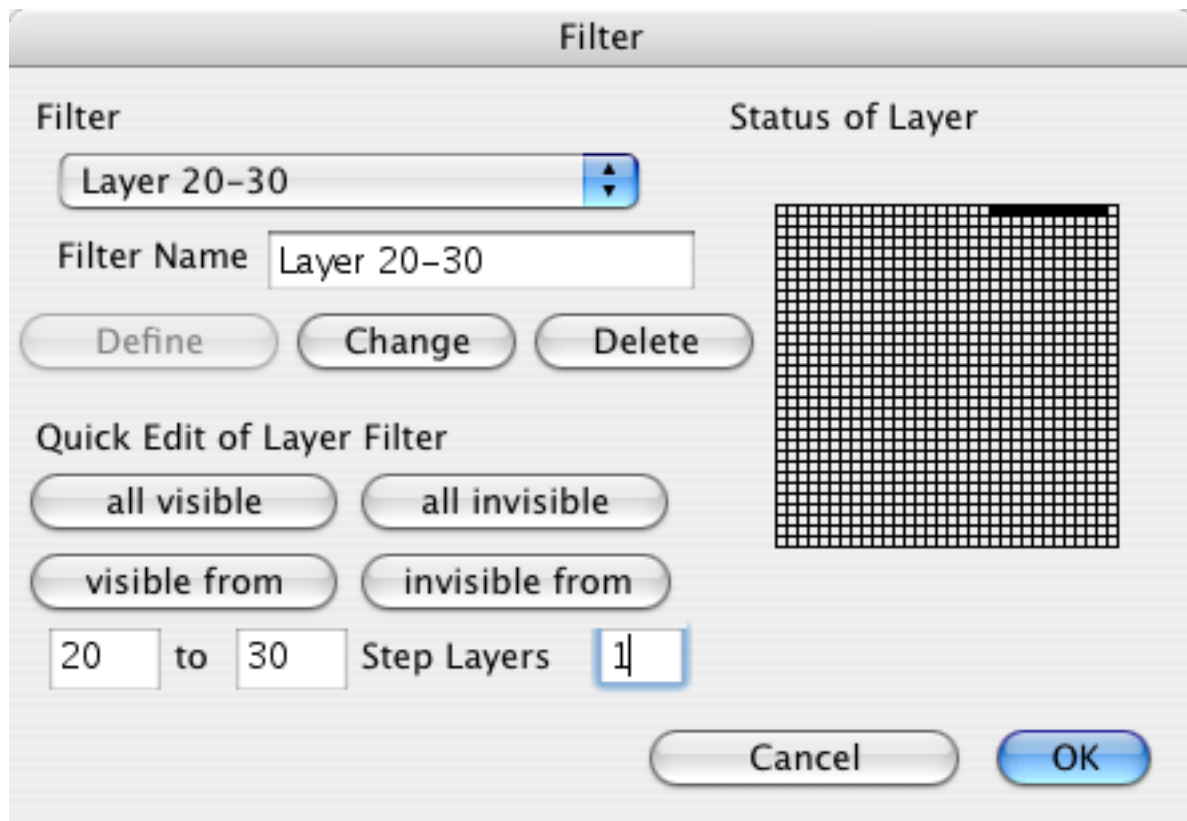
In this dialog you can modify 1024 layers.

- *Visible*  
Activate or deactivate a layer.
- *Name*  
Edit the layer name.
- *Color*  
Click on the arrow to select a layer color out of the standard eight Macintosh colors. You can click in the color field to get the color circle, as well.
- *Scrolling*  
Jump between the layers.
- *No.*  
You get a dialog to specify a layer number. The layer number will be activated.
- *Name*  
You get a dialog to search for layer name. The layer name will be activated.
- *Print*  
A list of all selected layers will be printed.

#### 4.4.3 Filter

*Registered Versions Only !*

Displays a dialog for activating layers. You can also define rules .



Dialog Filter

The editing of the layer filters consists of three parts:

- **Filter**  
You can define, change and delete the filters. The popup menu shows the active filter. You can create a new filter if you select *New*. *Define* creates a new filter with the filter name. *Change* changes the options of the selected filter. *Delete* deletes the selected filter after a request for confirmation.
- **Quick Edit of Layer Filter**  
You can use the four buttons to enable or disable more layers.
- **Status of Layer**  
You enable or disable single layers with clicking.

#### 4.4.4 Transfer

Steps:

Click an object from the source layer.

Enter the destination .

-> All objects are transferred from one layer to the other.

#### 4.4.5 Transfer more

Steps:

Enter the first of source layers.

Enter the last of source layers.

Enter the offset.

-> All objects are transferred from the source layers to the destination layers.

#### 4.4.6 Duplicate more

Steps:

Enter the first of source layers.

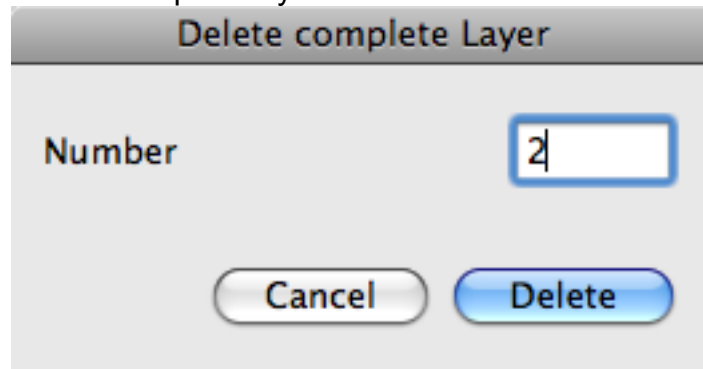
Enter the last of source layers.

Enter the offset.

-> All objects are duplicated from the source layers to the destination layers.

#### 4.4.7 Delete

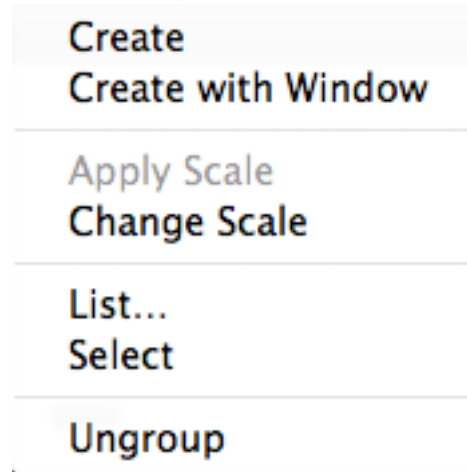
This function lets you delete a complete layer with its content.



Delete complete Layer dialog

Please enter the layer and press OK.

## 4.5 Group



Group-Menu

### 4.5.1 Create Group

Steps:

1. Click all the objects, which should belong to the new group.
  2. Enter the new group number .
- > The objects will form a new group or be attached to an existing group.

*Note:*

If the group already exists, you will be asked if the objects should be appended to the group.

### 4.5.2 Create Group using Window

Steps:

1. Draw a frame around the desired objects.
  2. Click any other objects, which you want in the group.
  3. Enter the new group number .
- > The objects will form a new group or be attached to an existing group.

*Note:*

If the group already exists, you will be asked if the objects should be appended to the group.

### 4.5.3 Apply Scale

Applies the ruler of the current group to the drawing.

### 4.5.4 Change Scale

Steps:

1. Select the reference point .
  2. Click an object of a group.
  3. Enter the new ruler.
- > The scale of the group is changed.

### 4.5.5 List

Displays a dialog with a list of all groups in the drawing.



#### 4.5.6 Select

Steps:

1. Enter a group number .  
-> The chosen group is selected.

#### 4.5.7 Ungroup

Steps:

1. Click an object of a group.  
-> The selected group is broken apart (Group = 0).

## 4.6 Symbol

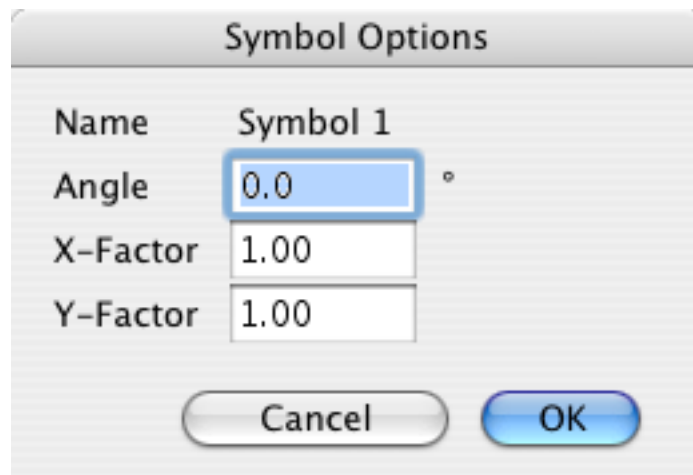


Symbol Menu

### 4.6.1 Change Attributes

Steps:

1. Click a symbol.
2. Displays a dialog for changing symbol attributes.



-> You can modify the angle and scaling factor of the symbol

### 4.6.2 Align

Steps:

1. Click a line.
  2. Click a symbol to align along the line.
  3. You define the rotation point in the symbol according to the selection mode.
  4. You define the orientation according to the selection mode.
  5. The symbol is aligned. You now have the possibility to rotate the symbol by 180°.
- > The symbol is aligned.

### 4.6.3 Insert

Steps:

1. Enter a symbol name. Typing a space brings up a selection dialog with all symbols listed.
  2. Select the insertion point.
  3. Enter the angle of rotation and the scale factor.
- > A new symbol is inserted into the drawing.

### 4.6.4 Insert and Explode

Steps:

1. Enter a symbol name. Typing a space brings up a selection dialog with all symbols listed.
  2. Select the insertion point.
  3. Enter the angle of rotation and the scale factor.
- > A new symbol is inserted into the drawing and exploded into its individual elements.

### 4.6.5 Explode

Steps:

1. Click a symbol.
- > The symbol is exploded into its individual elements.

### 4.6.6 Symbol from Group

Steps:

1. Click an object of a group or enter a group number.
  2. Select the grab point.
  3. Enter a new symbol name.
- > A new symbol is produced.

*Note:*

A symbol cannot contain other symbols.

### 4.6.7 Symbol from Area

Steps:

1. Draw a frame. All objects inside the frame are selected. Select/deselect additional objects.
  2. Select the grab point.
  3. Enter a new symbol name.
- > A new symbol is generated

*Note:*

A symbol cannot contain other symbols.

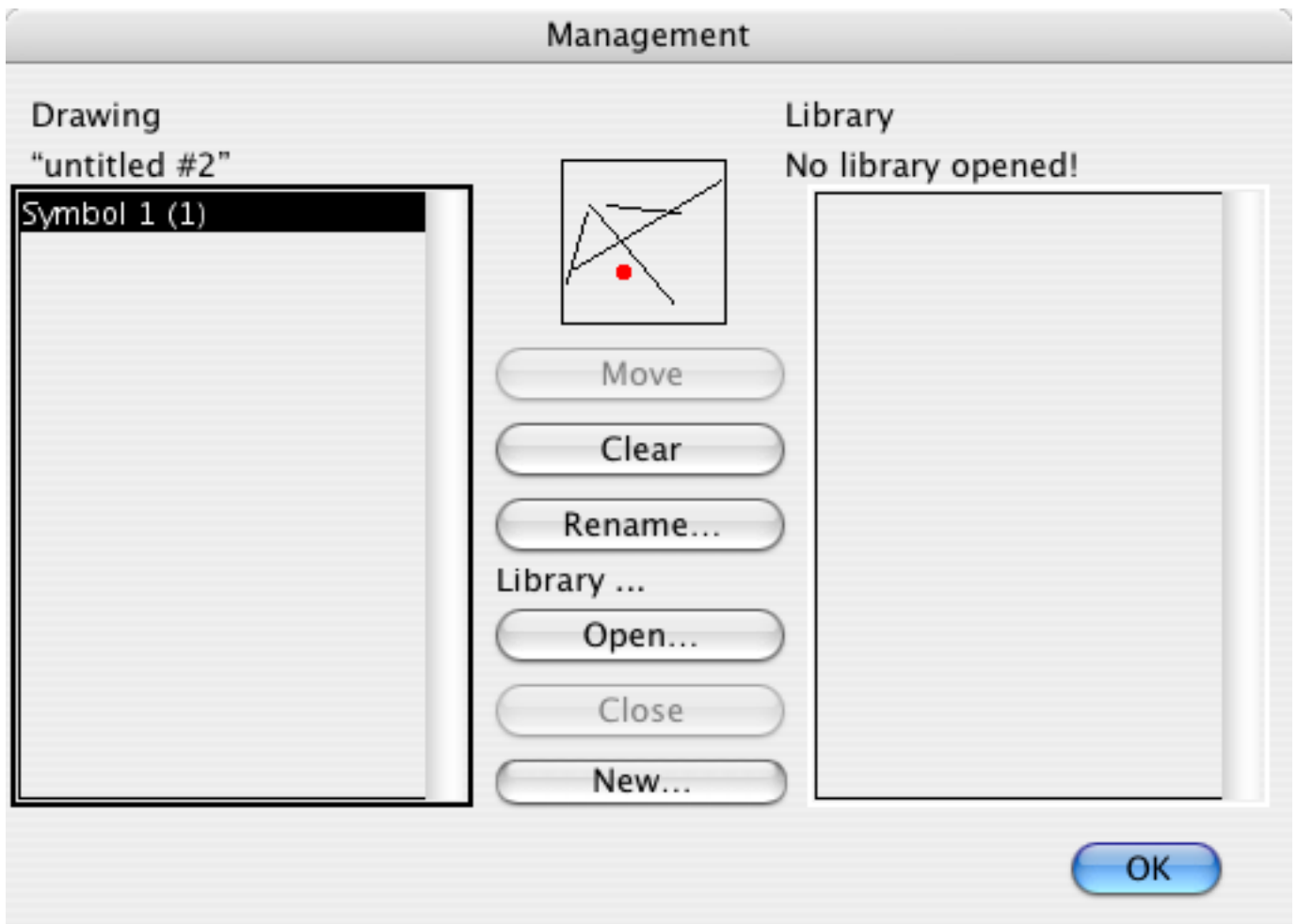
### 4.6.8 Management

*Registered Versions Only !*

Displays a dialog for symbol library. The following functions are available:

- Make a new symbol library
- Open a symbol library
- Clear symbols in the drawing and in an open library
- Copy symbols between the drawing and an open symbol library.





Dialog Library

In the left list are all symbols of the drawing and in the right part are all symbols of an external open library.

You can use libraries to exchange symbols between different drawings. There are three functions to handle libraries:

- Open...  
You open an existing library.
- Close  
You close the open library. This is required to open or create a library.
- New...  
You create a new library.

There are three functions to edit the symbols of the drawing:

- Move  
You move the selected symbols of the active list to the other list.
- Rename  
You rename all selected symbols of the active list.
- Clear  
You delete all selected symbols of the active list.

#### 4.6.9 List



Dialog Symbol List

Displays a dialog listing all the symbols in the drawing. The number of used symbols of one type is displayed in the brackets.

If you select a symbol, you can click *Select*, and the items are selected. This is good for helping you find a symbol.

*Export* creates a simple text file, which contains the names of all used symbols and their quantities.

*Delete unused* deletes all unused symbols from the list after a confirmation dialog.

#### 4.6.10 Edit

1. Click the symbol you want to edit, or enter the symbol name. Typing a space brings up a selection dialog with all symbols listed.
2. A new drawing window will be opened which contains the symbol elements. You can now edit the symbol normally. When you close the window you will be asked if you want to incorporate the symbol into the drawing.

*Note:*

When editing symbols, the group and layer functions are not available. The symbol contents are temporarily assigned to group 1 in order that edit/transformation operations can be applied to the whole symbol.

## 4.7 Options



Parameter menu

### 4.7.1 Drawing

Displays a dialog for defining your work page and units (e.g., mm/inch).

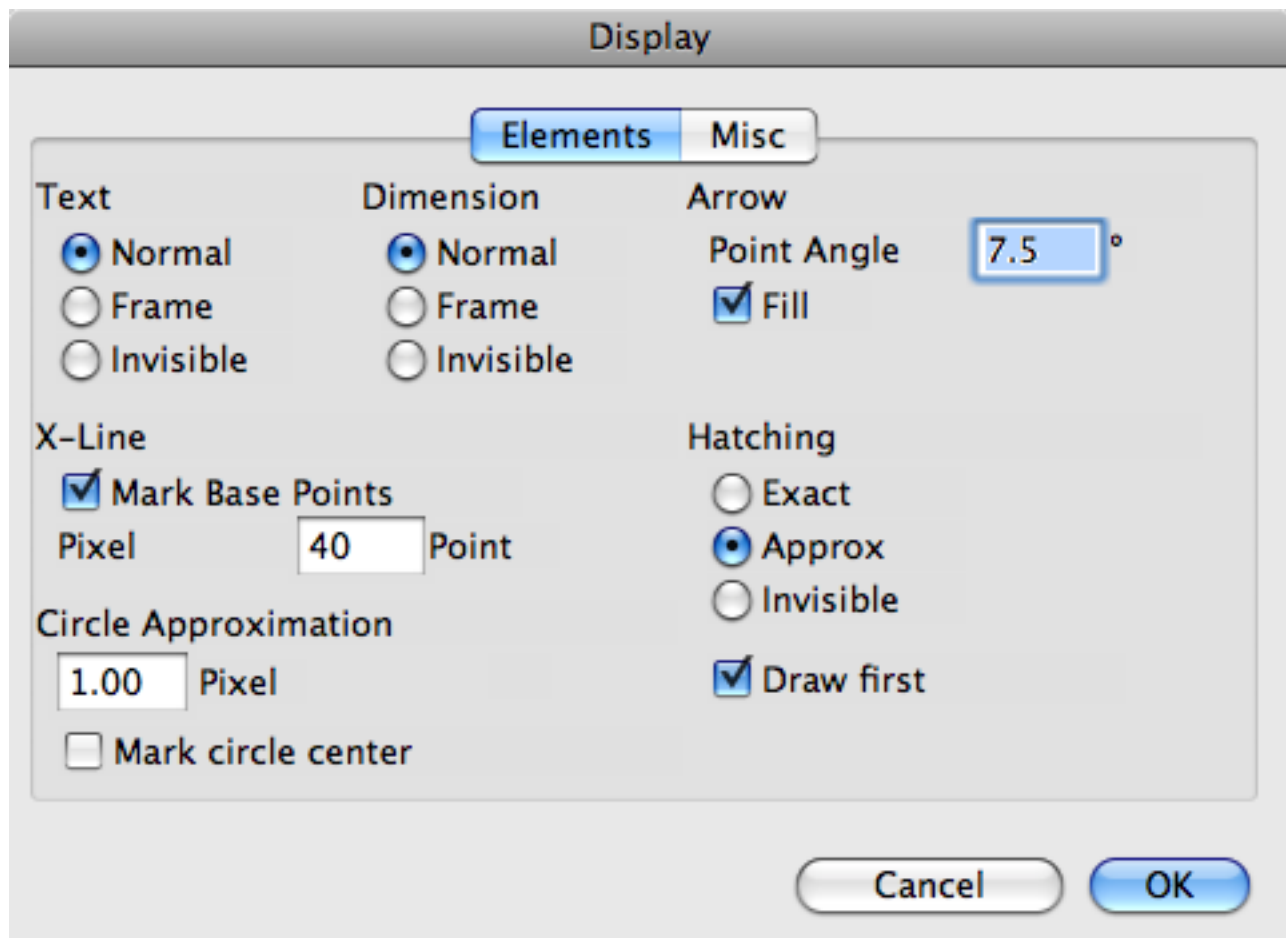
Dialog Drawing

The drawing options consists of four parts:

- *Paper Size*  
You select the paper size. CADintosh inserts the paper in layer 1023. You need the width and height for HPGL export.
- *Scaling of Layer 1023*  
This setting is used for the paper scale of layer 1023.
- *Unit of complete drawing*  
You set the basic unit of the complete drawing.
- *Unit of dialog edit fields*  
You select the unit of the input fields in dialogs. Available are *mm* or *inch*.

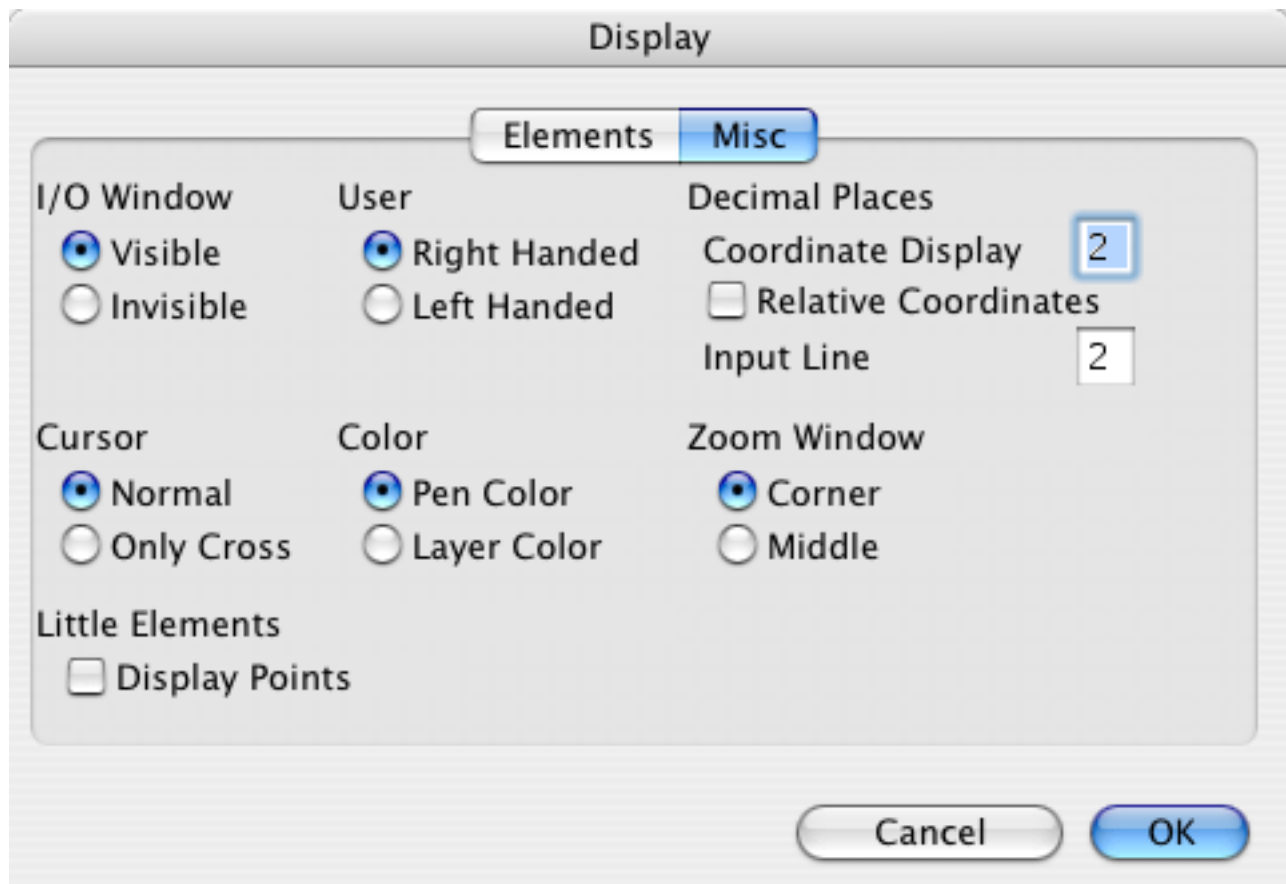
#### 4.7.2 Display

Displays a dialog for setting display preferences. You switch between *elements* and *misc.* with the tabs.



Dialog Display/Elements

You set the way in which all basic elements like text, dimensions etc are displayed. This doesn't change the elements!



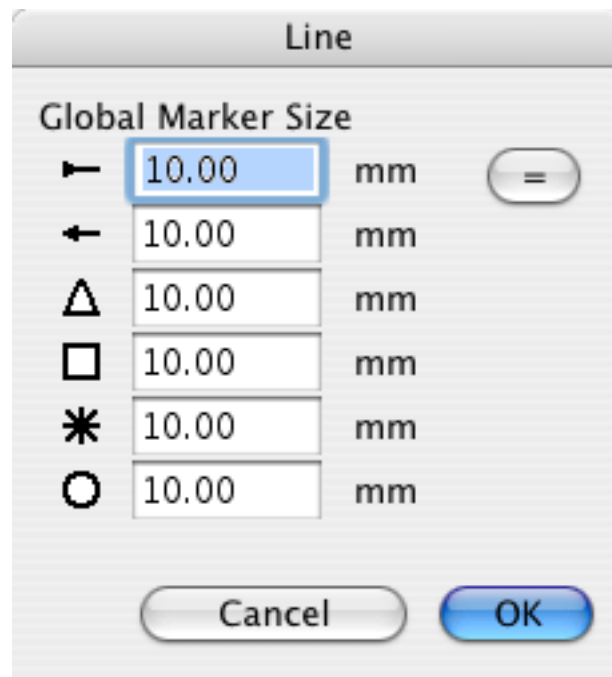
Dialog Display/Misc.

You set the options for other parts of the drawing:

- I/O-Window  
You enable or disable the frame of the I/O windows
- User  
You set the direction of the finger.
- Decimal Places  
You set the number of decimal places for coordinates and dialogs.
- Cursor  
Normal uses different cursors for the selection mode. Only Cross uses a simple cross for all modes.
- Color  
Pen Color uses the color of the pen for drawing. Layer Color uses the color of the layer for drawing.
- Zoom Window  
Sets whether you open a zoom window from the bottom left corner or the center.
- Little Elements  
You can disabled the drawing of elements wich are very small (less or queal 1 point). This improves the display speed a lot of.

#### 4.7.3 Line

Displays a dialog for setting the standard line attributes:

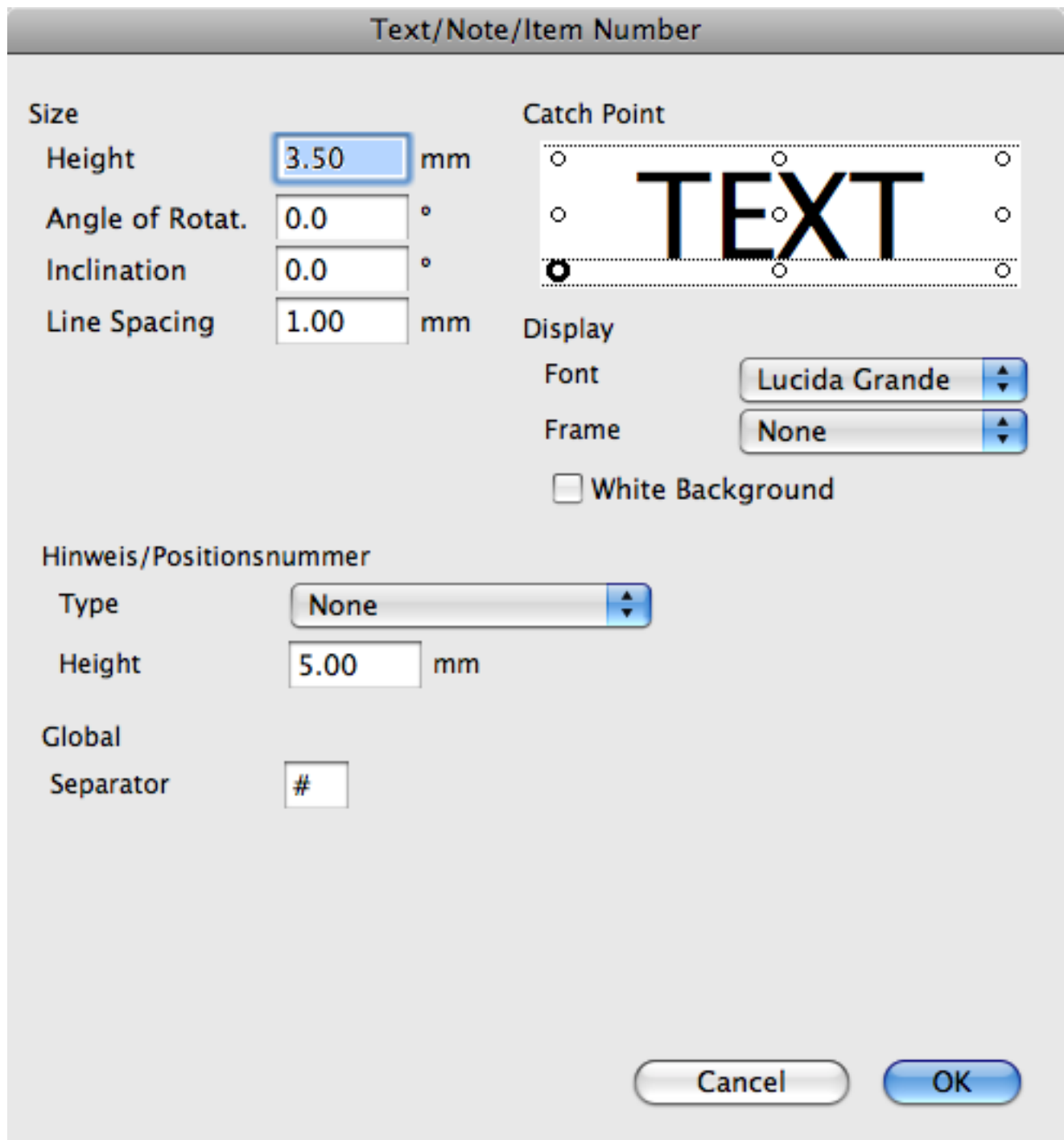


Dialog Line

This settings are global. They are used for the lines in the complete drawing.

#### 4.7.4 Text/Note/Item Number

Displays a dialog for setting the standard text attributes:



Dialog Text/Note/Item Number

This dialog contains the following parts:

- Size  
You set the height, width, angle of rotation, inclination and the line spacing for the text. Width is only used for the standard font.
- Display  
You select the font and the frame type. Also, you can enable a „White Background“. This option erases the area of text before drawing the text.
- Catch Point  
The catch point sets the alignment of the text.

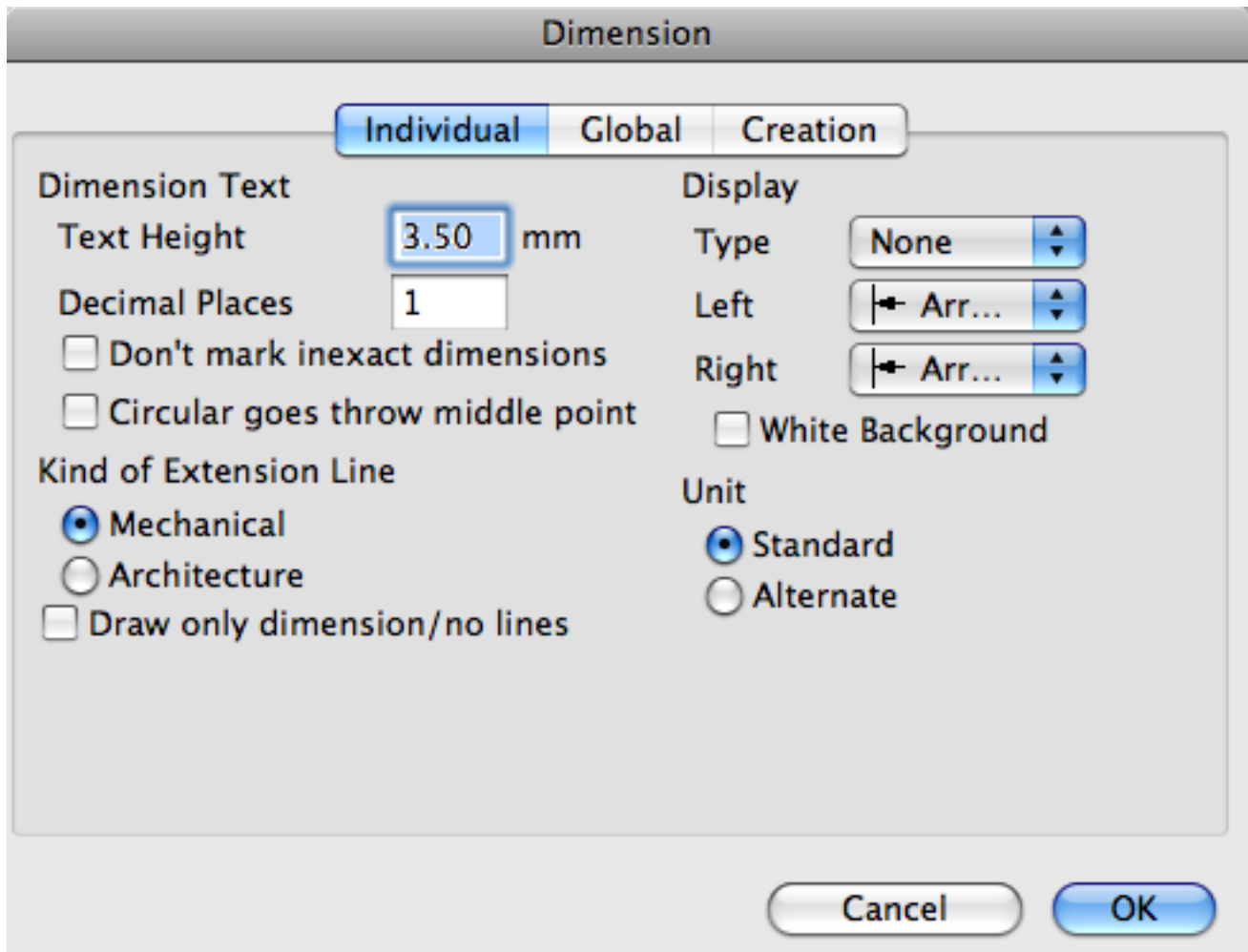


*Note:*

Text width can only be changed when “Standard” font is selected. “Standard” font is also necessary when plotting.

**4.7.5 Dimensions**

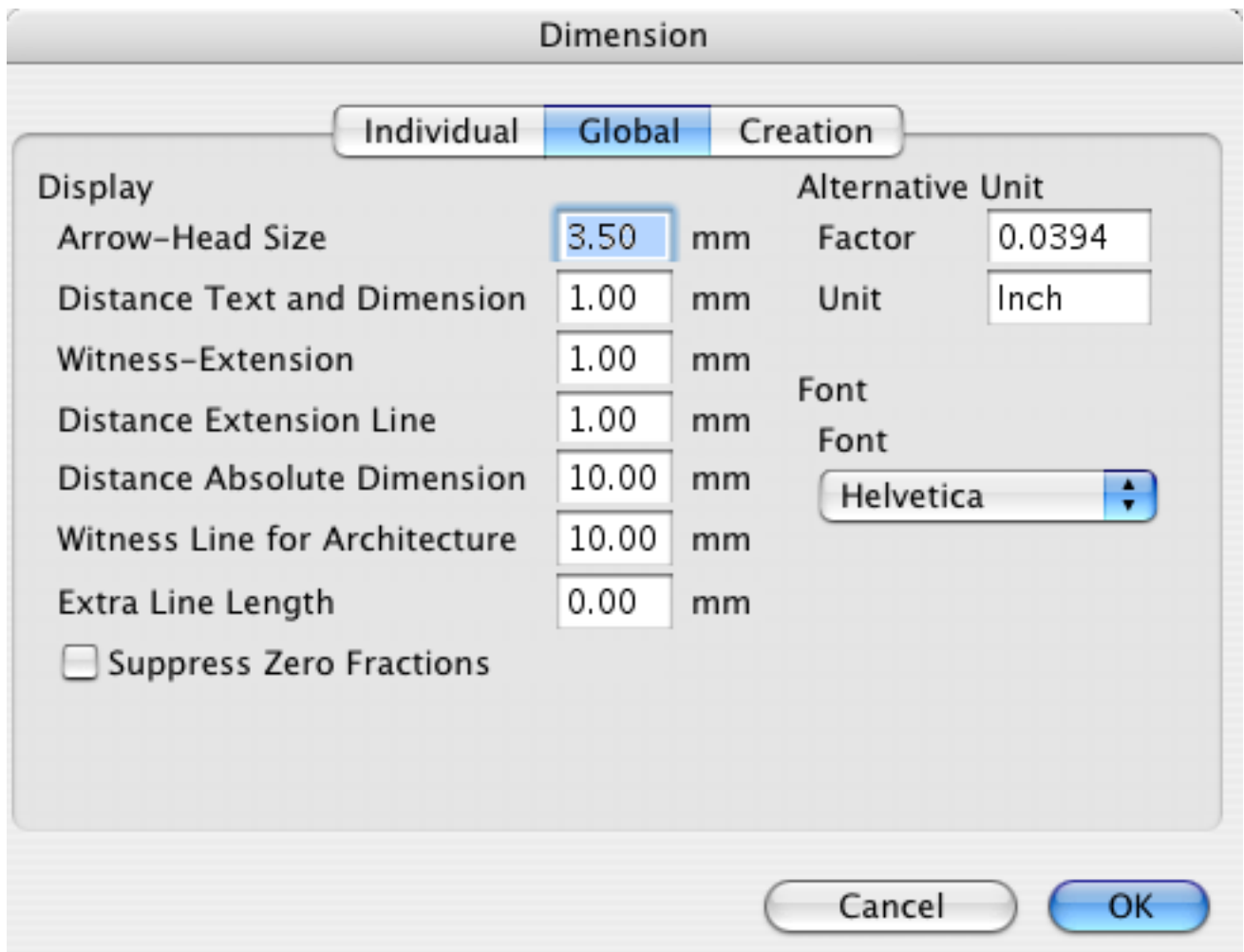
Displays a dialog for setting the standard dimension attributes. With the popup-menu choice “Dimension”, you select from the Individual, Global, and Generate areas.



Individual area Dialog

All dimensions have these individual settings:

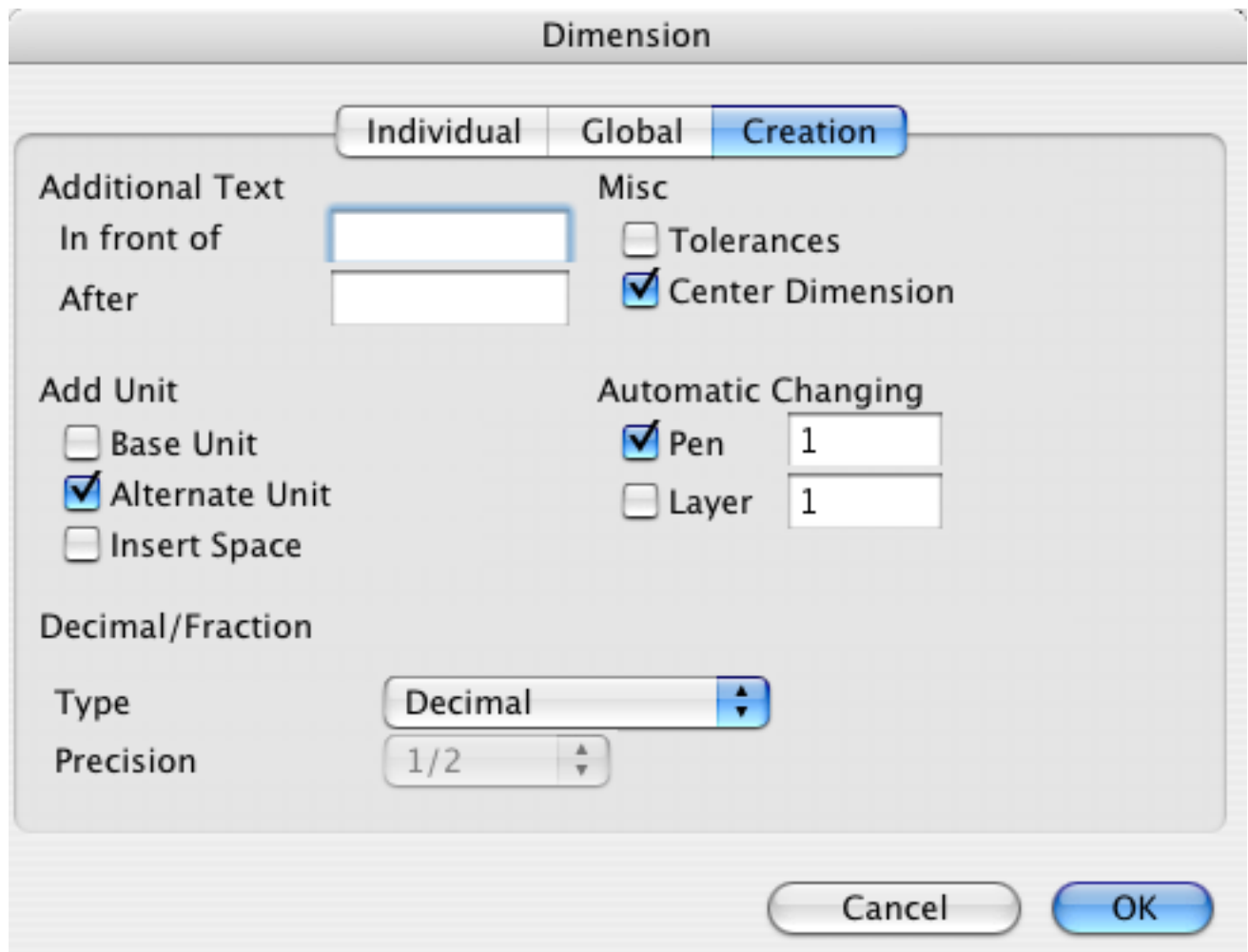
- Dimension Text  
Sets the height, width and decimal places of the dimension.
- Display  
Sets the drawing of the dimension.
- Kind of extension line  
Set the line type.
- Unit  
Sets the unit.



Global area

You set the global dimension display settings:

- Display  
Set the sizes of all parts of the dimension lines.
- Alternate Unit  
Sets the name and factor of the alternate unit.
- Font  
Sets the font of all dimensions.



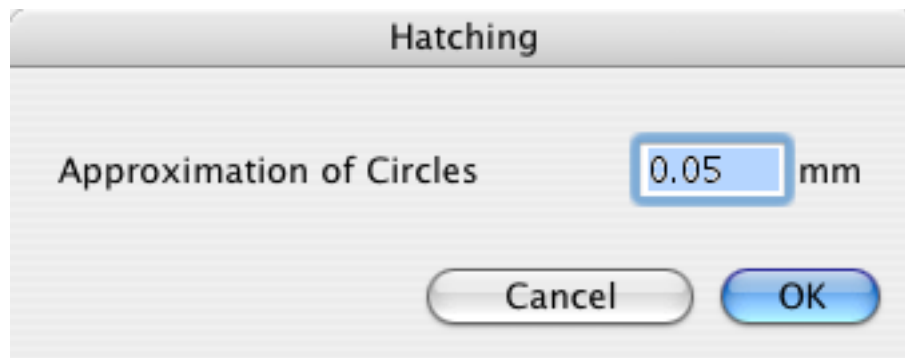
Generate area

This setting sets the way in which dimensions are created.

- **Additional Text**  
This text is inserted before or after the dimension text.
- **Add Unit**  
Sets which unit should be shown.
- **Misc**  
Tolerances asks for the tolerances before each dimension is created. Center dimensions centers the dimension text on the dimension line.
- **Automatic Changing**  
This options allows you to move a new dimension automatic to a special layer or a pen.
- **Decimal/Fraction**  
You switch between decimal and fraction display of imperial dimensions.

#### 4.7.6 Hatching

Displays a dialog for setting the overhang of hatching. This only makes a difference if the object has arcs in it.



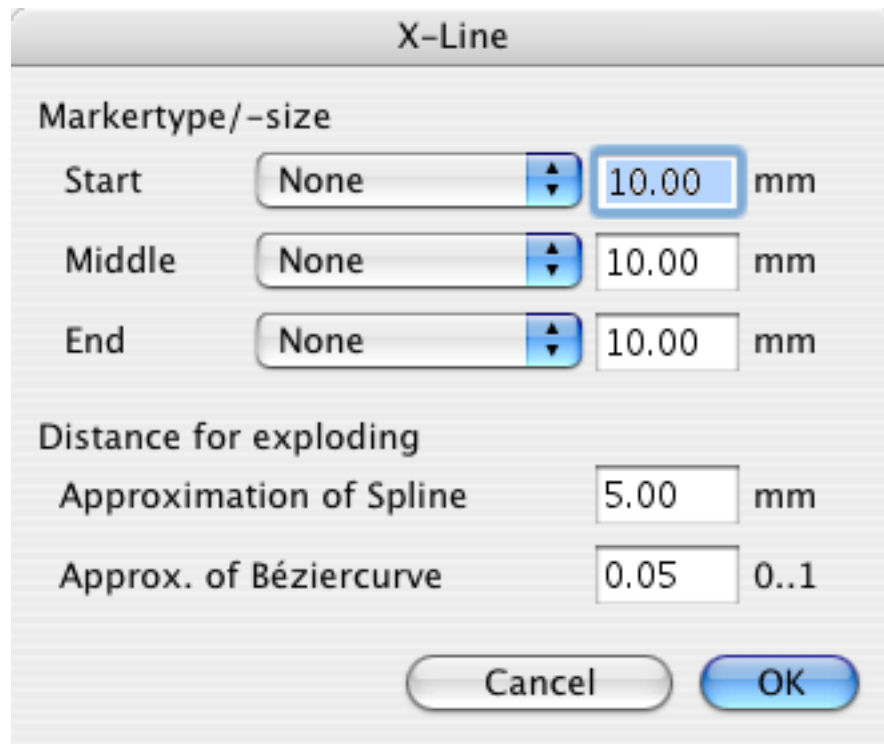
Dialog Hatching

*Note*

The *Approximation of Circles* sets the distance between arcs and chord.

**4.7.7 X-Line**

Displays a dialog for setting the standard X- line attributes:



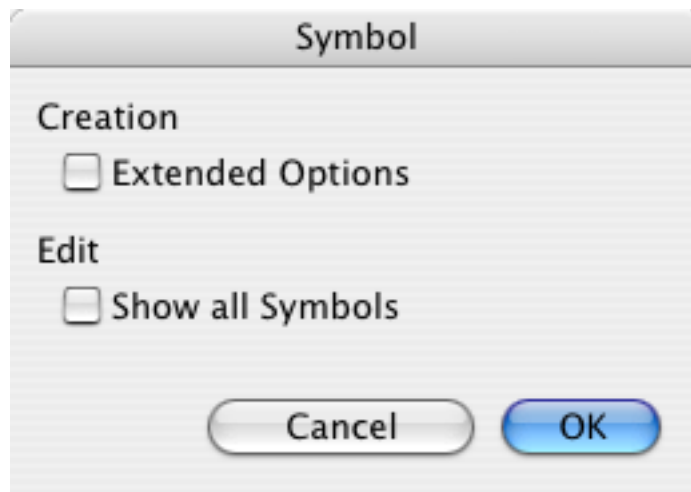
Dialog X Line

This options set the settings of x-lines:

- Marker type/size  
Sets the Marker type/size This option affects every x-line independently.
- Distance for exploding  
Sets the number of lines into which a x-line will be exploded.

**4.7.8 Symbol**

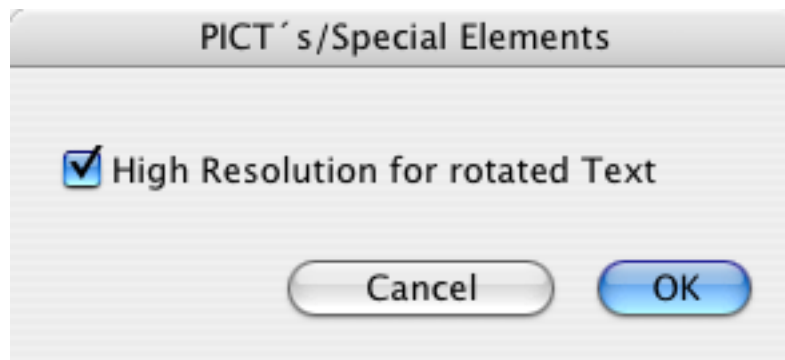
You set the options for symbols.



Dialog Symbol

- **Creation**  
CADintosh will ask you for an angle and a factor when inserting symbols if you check this box.
- **Edit**  
Enable this option to use all symbols of a drawing during editing of one symbol. This may slow down the editing on slow machines.

#### 4.7.9 PICTs/Special Elements

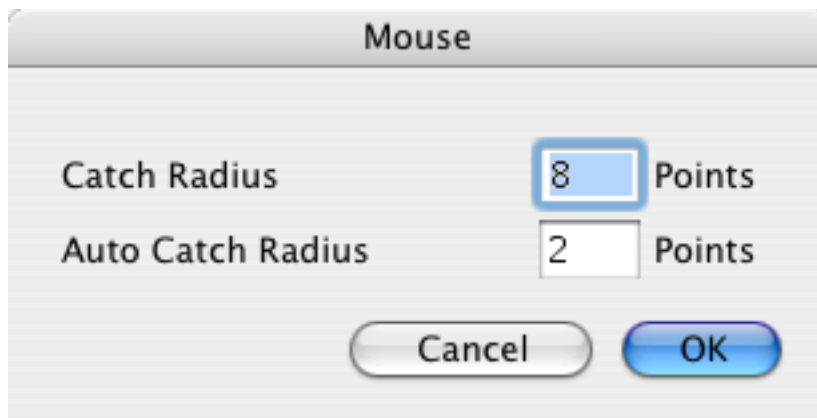


Dialog PICTs/Special Elements

- **High Resolution for rotated Text**  
Enable this option for a good display on the screen and printing on QuickDraw printers.

#### 4.7.10 Mouse

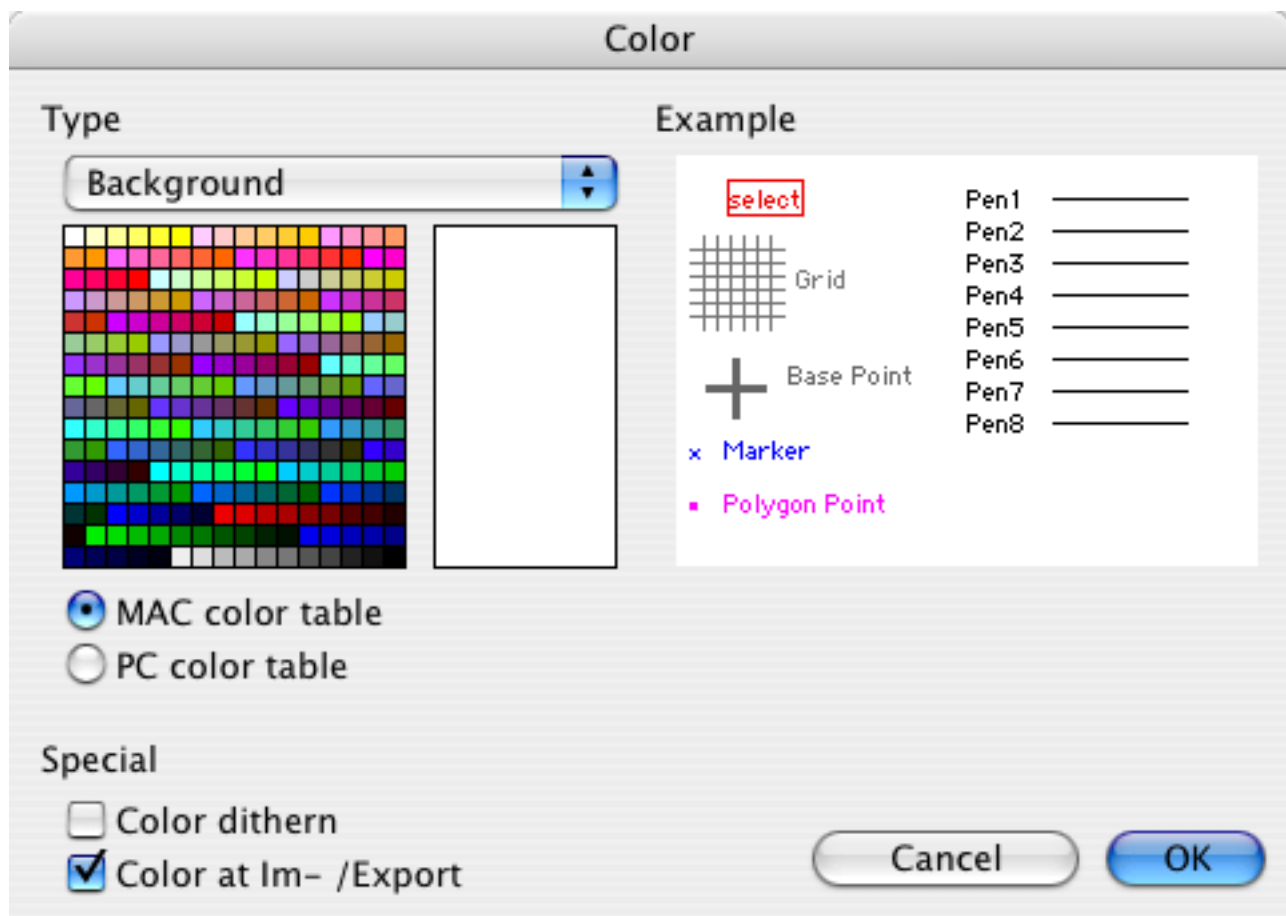
Displays a dialog for setting the selection area of the mouse (i.e., how near an object you must click to select it).



Dialog Mouse

#### 4.7.11 Color

Displays a dialog for setting color preferences.



Dialog Color

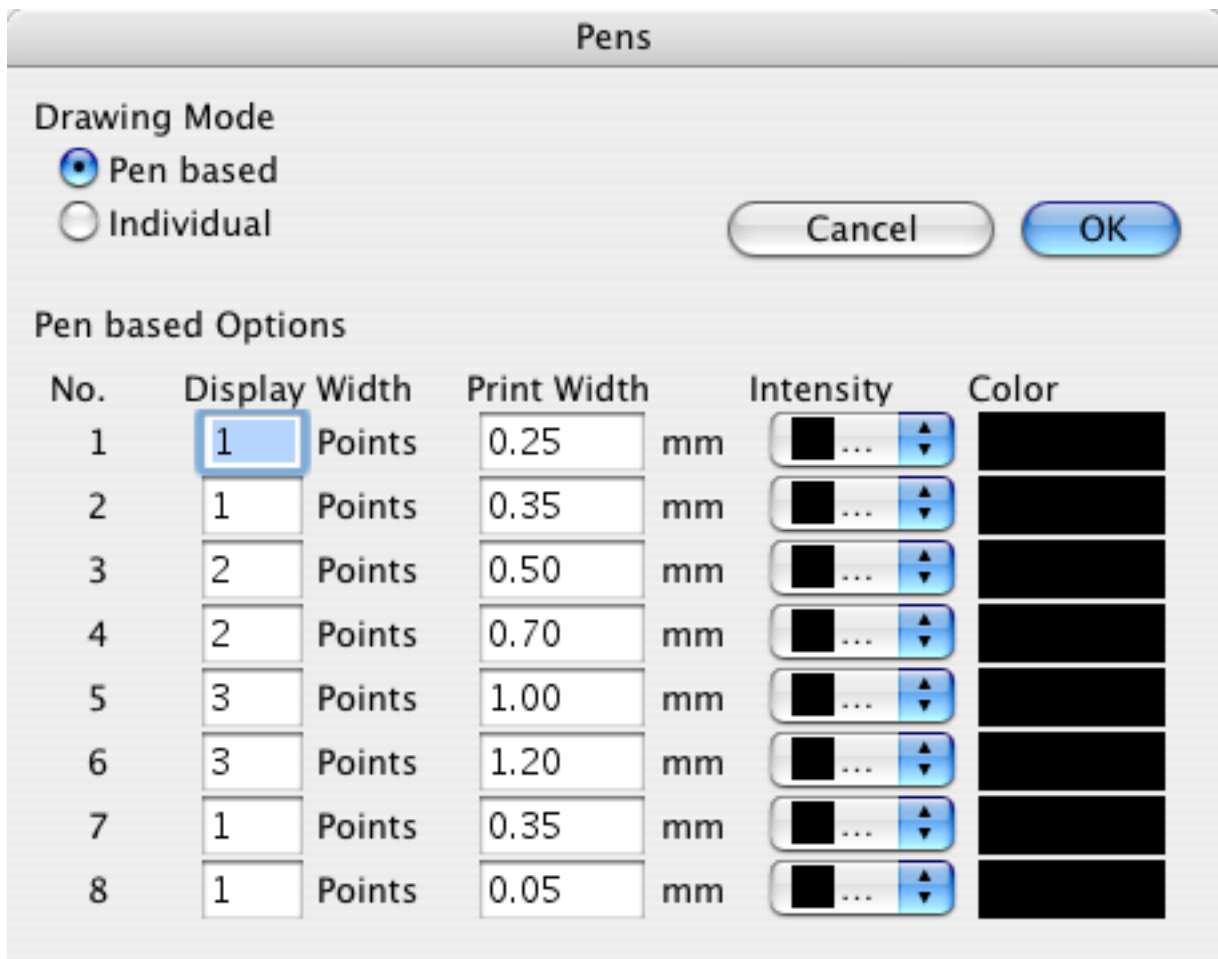
You select a part with the popup menu. After this you can chose a color.

*Note:*

This function is only available on color Macintoshes.

#### 4.7.12 Pens

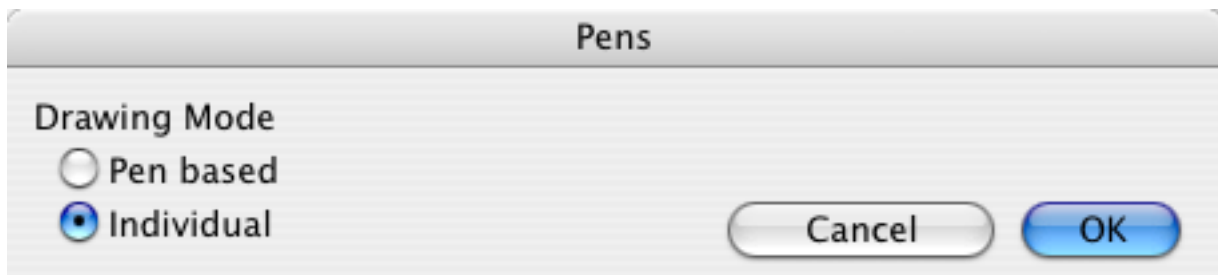
Displays a dialog for setting pen widths both for display and printing.



Dialog Pens mode Pen based

The output width for the printer is in *mm* (absolute), and the display width is in *pixels* (monitor points). The entries have no effect on plotting.

When Drawing Mode “Individual” is selected the dialog changes to this :

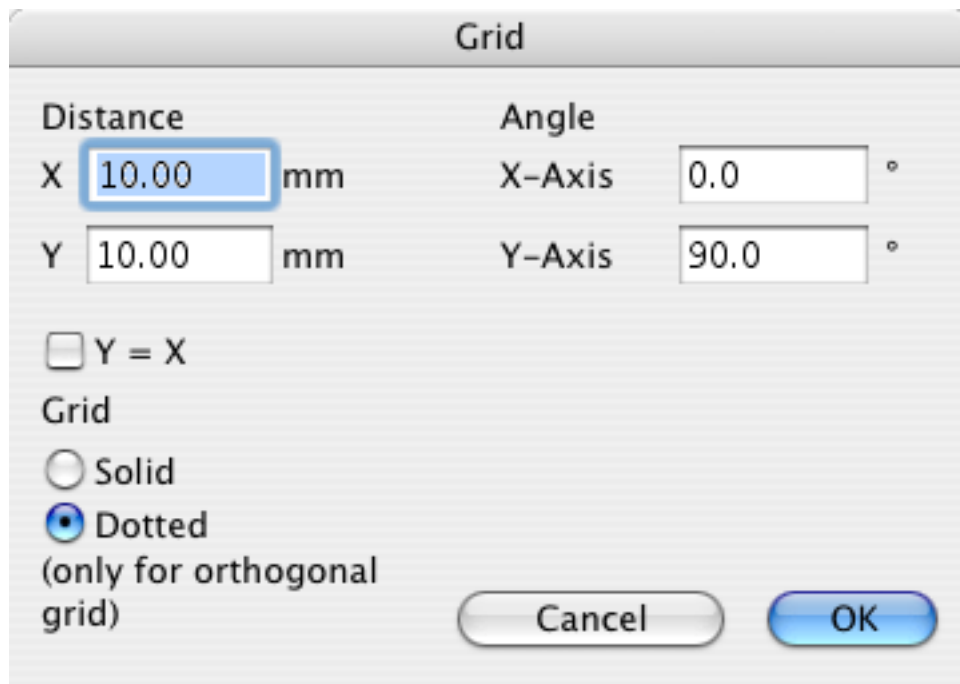


Dialog Pens mode Individual

All line characteristics are now determined individually, not by the pen type.

#### 4.7.13 Grid(-attributes)

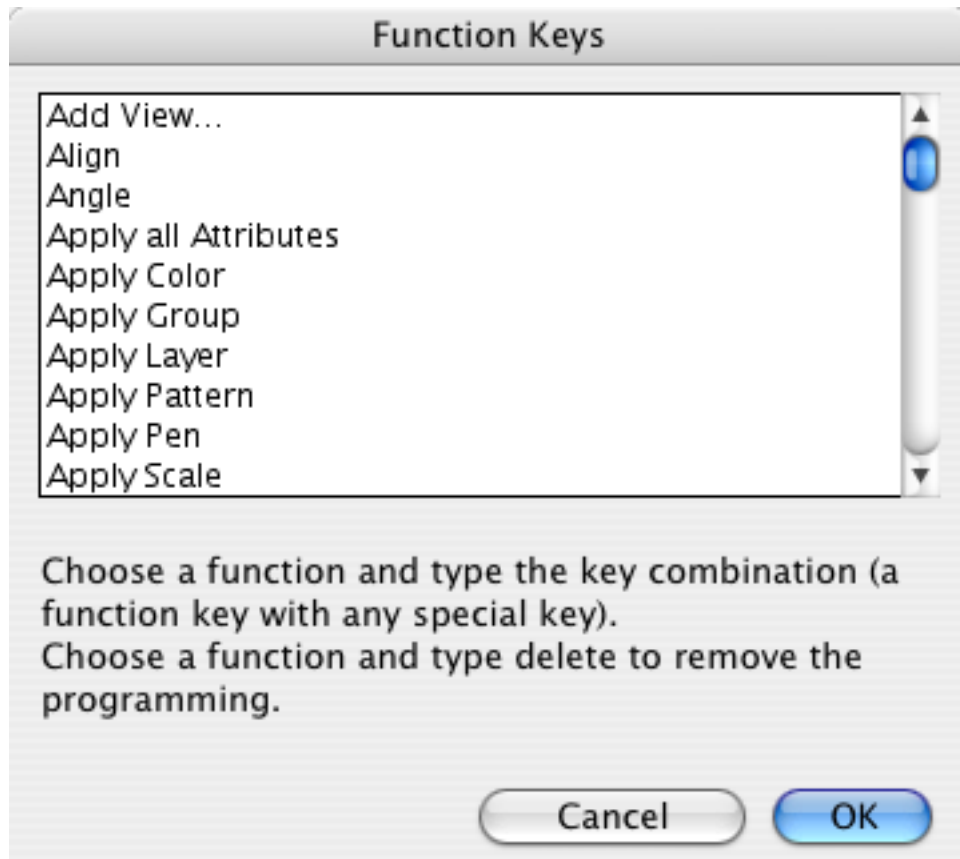
Displays a dialog for setting the X and Y values of grid width and grid angle. You also set whether the grid is a full line or a dotted line. The dotted line display is generally best for monochrome systems since the grid is usually too prominent with a full line.



Dialog Grid

#### 4.7.14 Function Keys

You get a dialog to program the function keys.



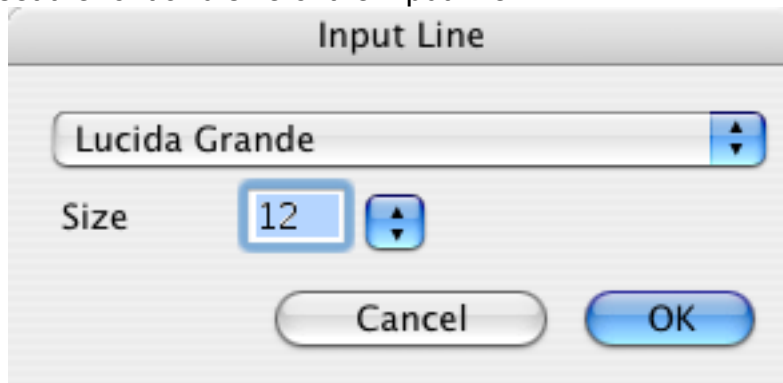
Function Keys Dialog

Choose a function and type the key combination (a function key with any special keys).  
Choose a function and type delete to remove the programming.



#### 4.7.15 Input Line

You get a dialog to set the font and size of the input line.



Dialog Input Line

#### 4.7.16 Snap to Grid

Turns grid snapping and display on and off.

*Note:*

If the distance between grid lines is under five pixels, it won't be displayed anymore.

#### 4.7.17 Undo and Redo

Toggles Undo and Redo on and off.

*Note:*

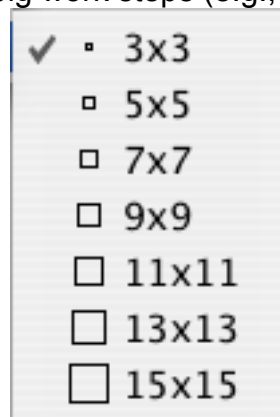
Turning these off can save time for big work steps (e.g., Moving large drawing parts).

#### 4.7.18 Eraser

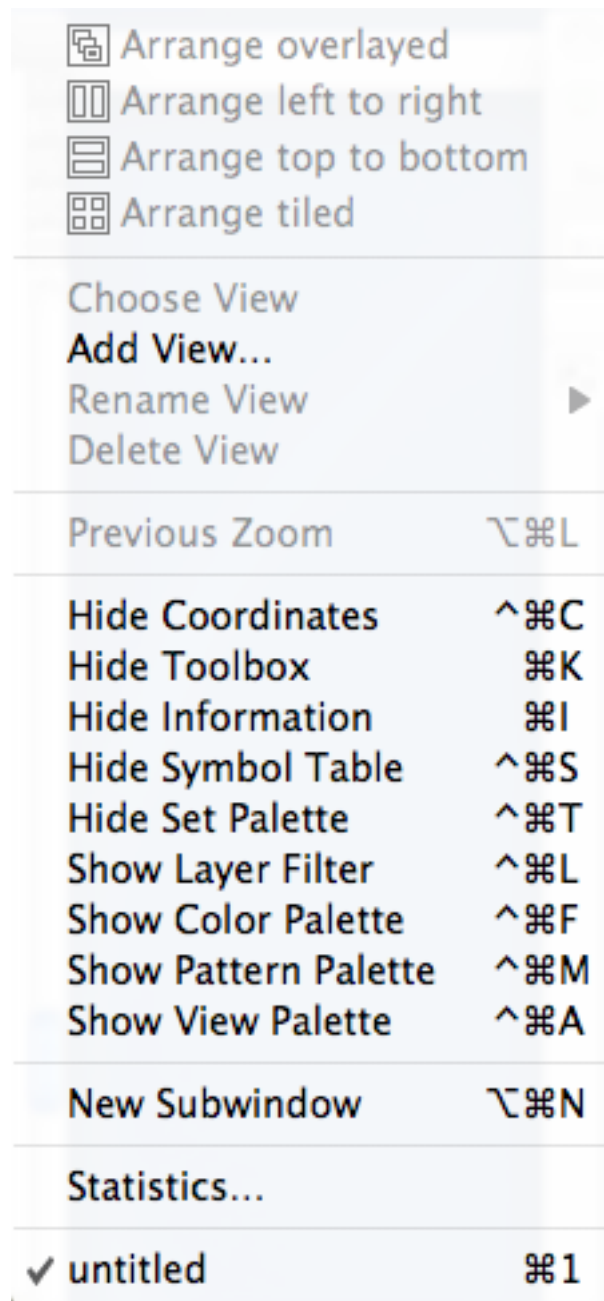
Toggles Undo and Redo on and off.

*Note:*

Turning these off can save time for big work steps (e.g., Moving large drawing parts).



## 4.8 Window



Window menu

### 4.8.1 Arrange

You arrange the windows following to the symbols.

### 4.8.2 Choose View

Displays a sub-menu with all defined views. Selecting a view brings you to it.

### 4.8.3 Add View

Displays a dialog for entering a name for the current view of the drawing. This name will be added to the view list.

### 4.8.4 Rename View

Displays a dialog for renaming the current view.

#### 4.8.5 Clear View

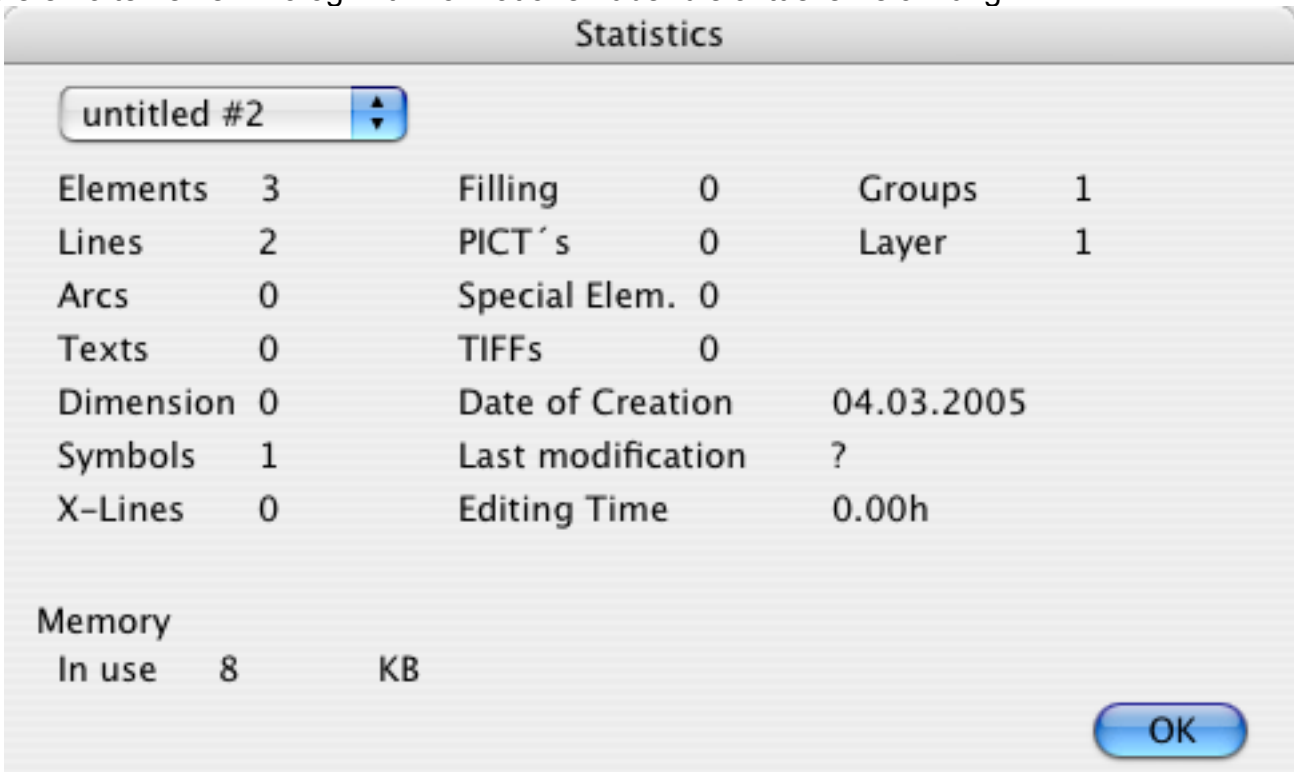
Displays a sub-menu with all defined views. The selected view will be deleted, after you verify this with 'OK'.

#### 4.8.6 Previous Zoom

The previously selected zoom display will be re-displayed.

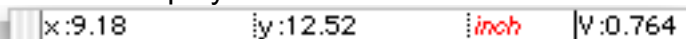
#### 4.8.7 Statistik

Sie erhalten einen Dialog mit Informationen über die aktuelle Zeichnung.



#### 4.8.8 Show/Hide Coordinates

Shows or hides the coordinate display.



**Functions** in the coordinate display:

1. Click in the value display:  
-> Select the reference point for the drawing.
2. Click in the unit's display:  
-> Changes the display units between standard and alternate units.
3. Click in the display scale factor box  
-> Changes the display scale factor.

#### 4.8.9 Show/Hide Toolbox

Toggles the toolbox display on and off. All standard functions can be carried out with the toolbox. (see chapter 6.1.3, 6.1.4)

#### 4.8.10 Show/Hide Info Window

Toggles the info window display on and off. All work steps are logged in the info window.

#### 4.8.11 Show/Hide Symbol Table

Toggles the Symbol table display on and off. In symbol table all symbols of the drawing are displayed at a smaller scale. You may insert a symbol into the drawing by simply clicking it in the table . A double click lets you edit the symbol.

#### **4.8.12 Show/Hide Set Table**

Toggles the set table on and off. In the set table you may save several sets (pens, layers etc.), You activate them by clicking on them.

#### **4.8.13 Show/Hide Layer Filter Box**

Toggles the layer filter window display on and off. In this window predefined layer filters can be activated by clicking on them.

#### **4.8.14 Show/Hide Color Table**

Toggles the color table window display on and off. In the color table you choose the color of the pen. This option only works in individual mode (-> pens).

#### **4.8.15 Show/Hide Pattern Table**

Toggles the pattern table window display on and off. In the pattern table you choose the pattern of the pen . This option only works in individual mode (-> pens).

#### **4.8.16 Statistics**

Displays a dialog with information about the drawing.

#### **4.8.17 List of Windows**


Displays a list of all open drawings. Selecting a drawing activates it.

## 5 Keyboard


This chapter describes the special and function keys.

### 5.1 Special Keys

#### 5.1.1 Shift Key

Activates the panning-function when the cursor is in the drawing. By pressing the mouse button, you can move the entire visible section of the drawing around. The cursor changes its appearance while both buttons are pressed () to make the function more recognizable.

#### 5.1.2 Option Key

Activates the Zoom function (only when the cursor is in the drawing area). Hold the mouse button down and draw a window for the area to be zoomed. The cursor changes its appearance while both buttons are pressed () to make the function more recognizable.

#### 5.1.3 Control Key

Brings up the context menu for easy selection of the help or a function.



## 6 Appendix

### 6.1 File Icons

CADintosh uses different icons for different file types:

CADintosh



Drawing



Formula



Variables



Icon Library



## 7 Glossary

### **Selective Filter**

The selective filter allows you to select all objects of a specific type. Text, for example, can be selected from amidst a clutter of lines.

*Note:*

Functions, which work on only a certain object type, don't need the selective filter, e.g., "Edit Text" selects only text.

### **Select Mode**

There are three different selection modes. These are Freehand, Grid, Intersect and Middle/End. The selection mode Middle/End is used, for example, when you want to draw a perpendicular line on the end of a line. The closest object to the cursor is the first object to be selected (ÆMouse).

### **Group**

With a group, several objects can be bound into a single unit. This is particularly useful, for example, for applying the same function to multiple objects simultaneously. A group number can be 0-32000, where 0 indicates 'no group'.

### **Layer**

Layers are single, transparent levels (0-1023) which lie atop one another, and can be toggled on/off singly or in groups. You can, for example, put all your text on a separate layer to help in printing your drawing with and without text.

### **Scale**

Every object in a drawing contains a scale. Only objects with the same scale can be trimmed or measured.

Use: Display scale 1:5, Object 10:1, this prevents two objects from two different views being measured together

### **Pen**

There are eight pens corresponding to the HPGL standards. These pens can be assigned different colors (monitor) and widths (monitor and printer).

### **Style**

Five drawing styles are supported. These are: full line, dotted line (3 types), and zigzag line (only for lines).

### **Endless Line**

Lines can be endless on either side, or have a start and an endpoint. An endless line, however, retains its original start and endpoints, which allows the "endlessness" to be turned on and off. Endless lines are often advantageous at the beginning of your .drawing.

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