



Excentro

Guilloche Design Generator for Macintosh

EXCENTRO WINDOWS REFERENCE

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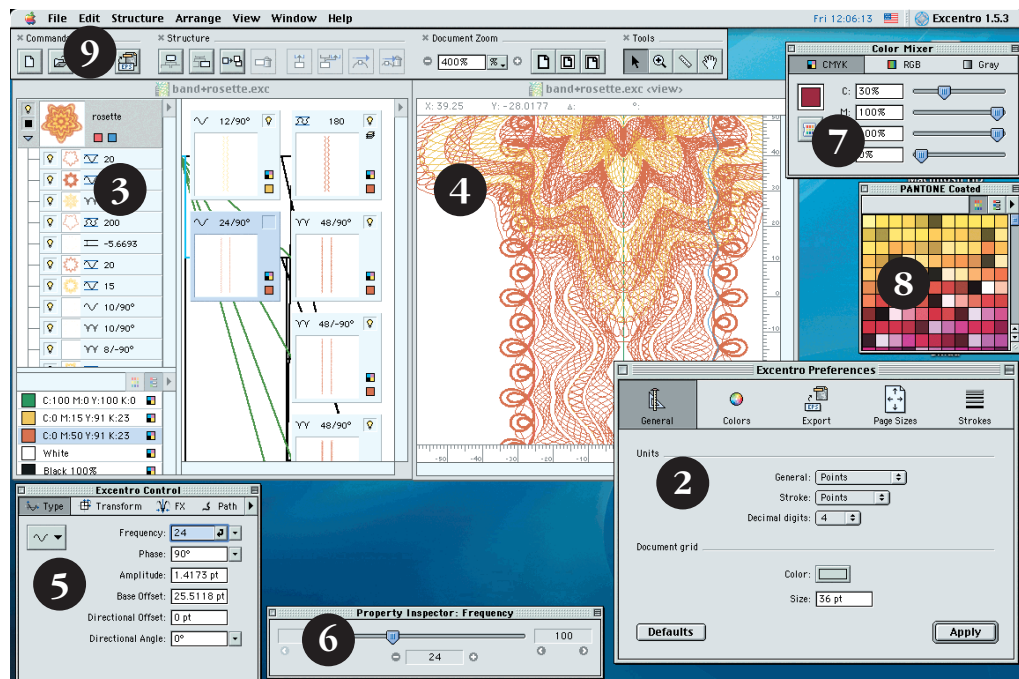
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ABOUT EXCENTRO WINDOWS REFERENCE

Excentro Windows Reference book provides complete reference of all windows and dialogs you have a chance to encounter while using *Excentro* application. It is devised to be used in conjunction with accompanying **Excentro Commands Reference**, **Excentro Objects Reference** and **Using Excentro** guides.

This book is not designed to be read from cover to cover, one chapter after another, though of course it could be read this way. We suggest you to use **Excentro Windows Reference** as reference (as its name implies): when you need to look up description of some window, dialog or fields and controls they contain, appropriate chapter of this book will give you all information you need. You are advised to read complete chapter with specific window or dialog description, because it can contain other information on same subject you will find useful.



*Most significant windows of Excentro application and their chapter numbers:
 2—Excentro Preferences dialog, 3—Main document window, 4—Document preview window, 5—Excentro Control inspector, 6—Property Inspector, 7—Color Mixer, 8—Swatch Palette window, 9—Toolbar*

Chapters of this book are organized in order of windows and dialogs importance:

Chapter 1 covers **Excentro Registration** dialog. This is not exactly the most important chapter of this book, we put it in front, because this dialog is the first window you will see when you start *Excentro* application for the first time.

Chapters 2, 3, 4, 5 and 6 are definitely ‘must read’ chapters they cover *Excentro* application preferences, document windows, **Excentro Control** inspector and **Property Inspector**. Please, try at least to leaf through these chapters and look at illustrations to get basic idea on purpose and usage of these windows.

Other chapters of this book are not that crucial for guilloche design creation in *Excentro*, their purpose can be guessed with common sense or they have analogues in other graphics design application. Last chapters cover minor dialogs and informational windows like **About Excentro** or **Clipboard**.

We cover both *Mac OS 9* and *Mac OS X* versions of *Excentro* windows. Whenever possible we use *Mac OS 9* versions of screenshots for illustrations. There are two main reasons for us to do it:

1. Most of those who use *Mac OS X* used *Mac OS 9* not so long before it, so they are also accustomed to older windows and menus look, unlike those who still use *Mac OS 9*. Those who can not use *Mac OS X* for some reasons can be easily confused by new *Aqua* appearance, so we minimized use of new windows and menus where we could.
2. Antialiased text and transparent windows with striped background are pretty cool features on computer screen. However older screenshots still look better when printed on paper and produce smaller size PDF format documents.

Type conventions used in this book are the same as in other guides and references for *Excentro* application:

Bold type style is used to expose titles of windows, dialogs, menu commands and other interface elements like controls and buttons. It also is used for titles of other chapters and books of *Excentro* guides.

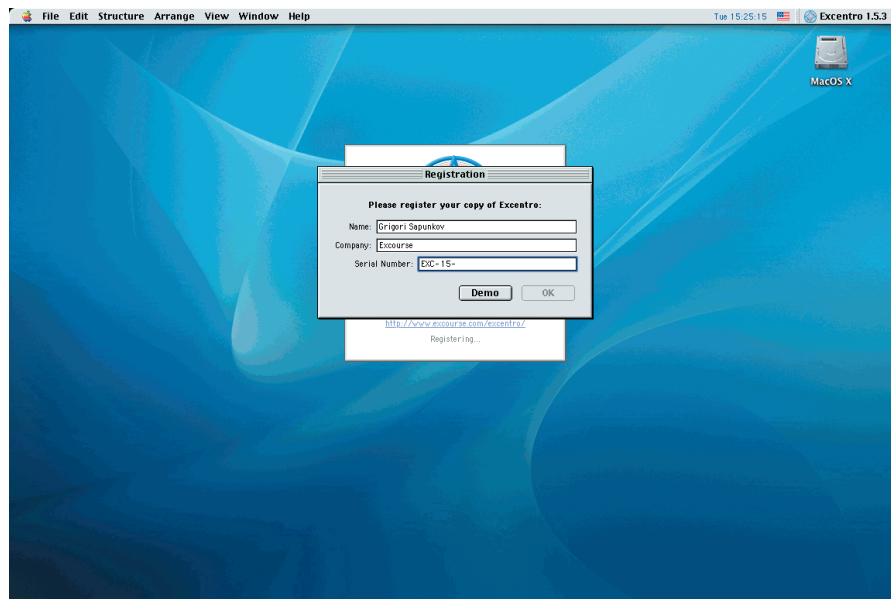
Italic type style is used for names of applications, software products and names of companies that produce them. Sometimes this style is used also to show sample numeric and string values you can enter in fields of dialogs.

We hope this would be enough to give description of *Excentro* windows and dialogs without using additional typefaces, styles and sizes.

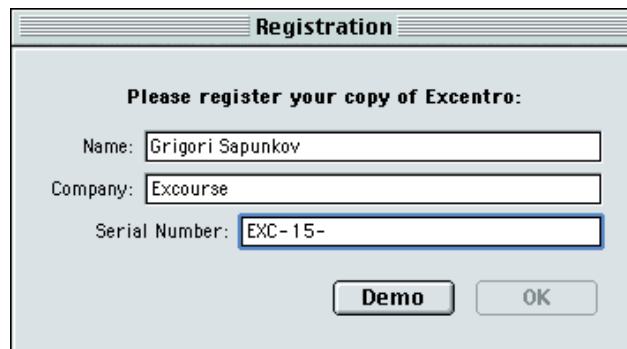
Sometimes you will encounter **Comments** at the end of sections and chapters. You can skip these, since they do not contain information of practical value. But you may find them interesting to look at if you have a spare minute.

CHAPTER 1: EXCENTRO REGISTRATION DIALOG

Registration dialog is the first dialog that welcomes you when you launch *Excentro* application for first time after installation.

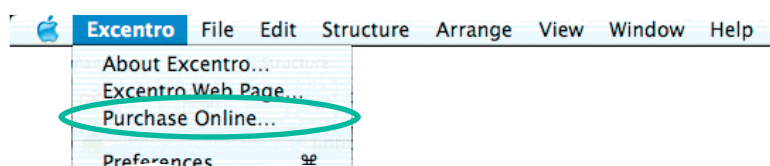


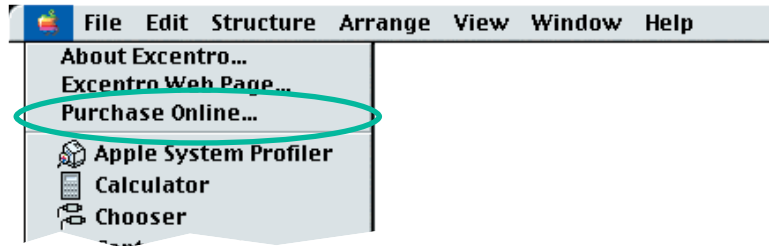
In this dialog you can either enter your personal information and valid serial number of your copy of *Excentro* to register it, or click **Demo** button to choose working with *Excentro* in demonstration mode.



Demonstration mode allows you to explore *Excentro* features and/or use it for occasional jobs, but it has a single feature limitation: you can not save documents in native *Excentro* format. All other features including export in *Adobe Illustrator* format work without limitations.

When *Excentro* runs in demonstration mode **Excentro** application menu (*Mac OS X*) or **Apple** menu (*Mac OS 9*) contain one additional command: **Purchase Online...** This command could be used to access online store where you can purchase full *Excentro* license with credit card. Your *Macintosh* should be connected to internet to access pages on World-Wide-Web.





After *Excentro* is purchased you will get your individual serial number you can enter in **Serial Number** field of **Registration** dialog. **OK** button will become active and you can click it to register your copy of *Excentro*.

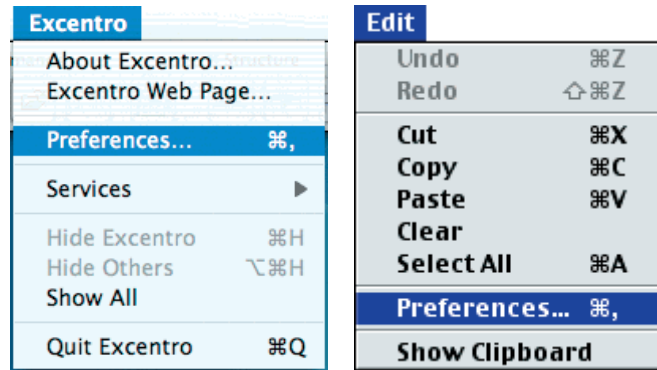
Registration dialog will not appear again on application start up after *Excentro* was registered with valid serial number. If you use *Excentro* in demonstration mode **Registration** dialog appears every time you restart the application.

Comments: *If you have problems with your serial number, for example: it no longer works after you upgraded Excentro to next version, please, contact Excourse to receive your new serial number or more details about the version upgrade. Excourse contact information could be found on first pages of this book or in read me file that comes with the version upgrade.*

CHAPTER 2: EXCENTRO PREFERENCES

Excentro Preferences dialog controls application-wide settings like measurement units or color space profiles, as well as application presets like common stroke weights or document page formats.

To configure **Excentro Preferences** choose **Preferences** command from **Excentro** application menu (*Mac OS X*) or **Edit** menu (*Mac OS 9*).

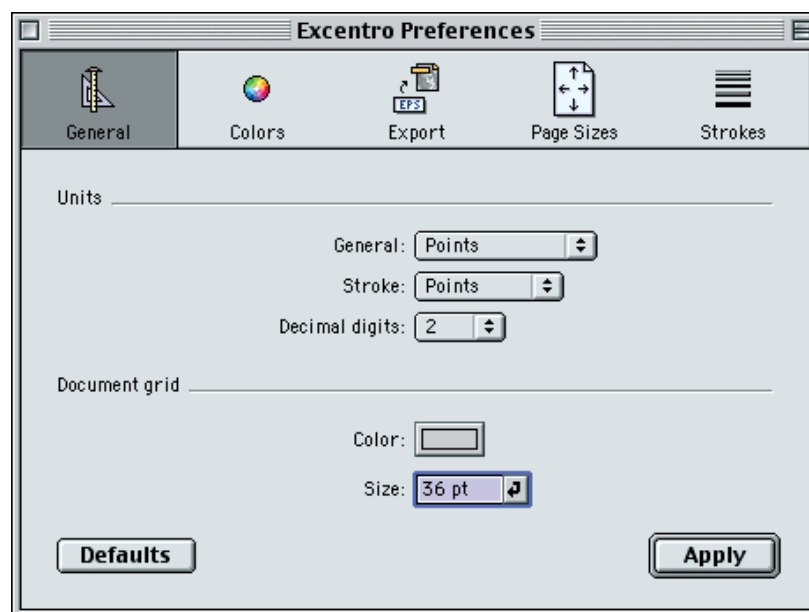


Excentro Preferences dialog consists of five panels: **General**, **Colors**, **Export**, **Page Sizes** and **Strokes**. You may switch between these panels by clicking icons in top part of the dialog. **General** panel is selected by default when **Excentro Preferences** dialog appears on screen in front of you for the first time.

Apply button saves the changes you made to fields and controls in all **Excentro Preferences** dialog panels (please, do not forget to press this button before closing the dialog!).

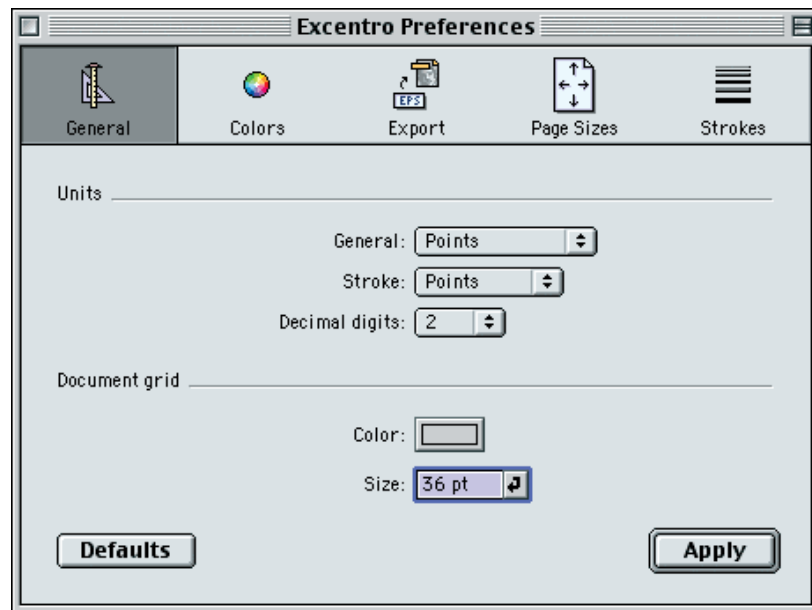
To close the dialog without saving the changes or after the changes are saved, just click close button in top left corner of the dialog window.

Defaults button restores standard values (so called 'factory presets') for fields and controls in all **Excentro Preferences** dialog panels. You may want to click this button if you would like to reset document page formats to standard set of ISO formats, for example.



GENERAL

If **General** panel is not on your screen, click **General** icon in top part of **Excentro Preferences** dialog.



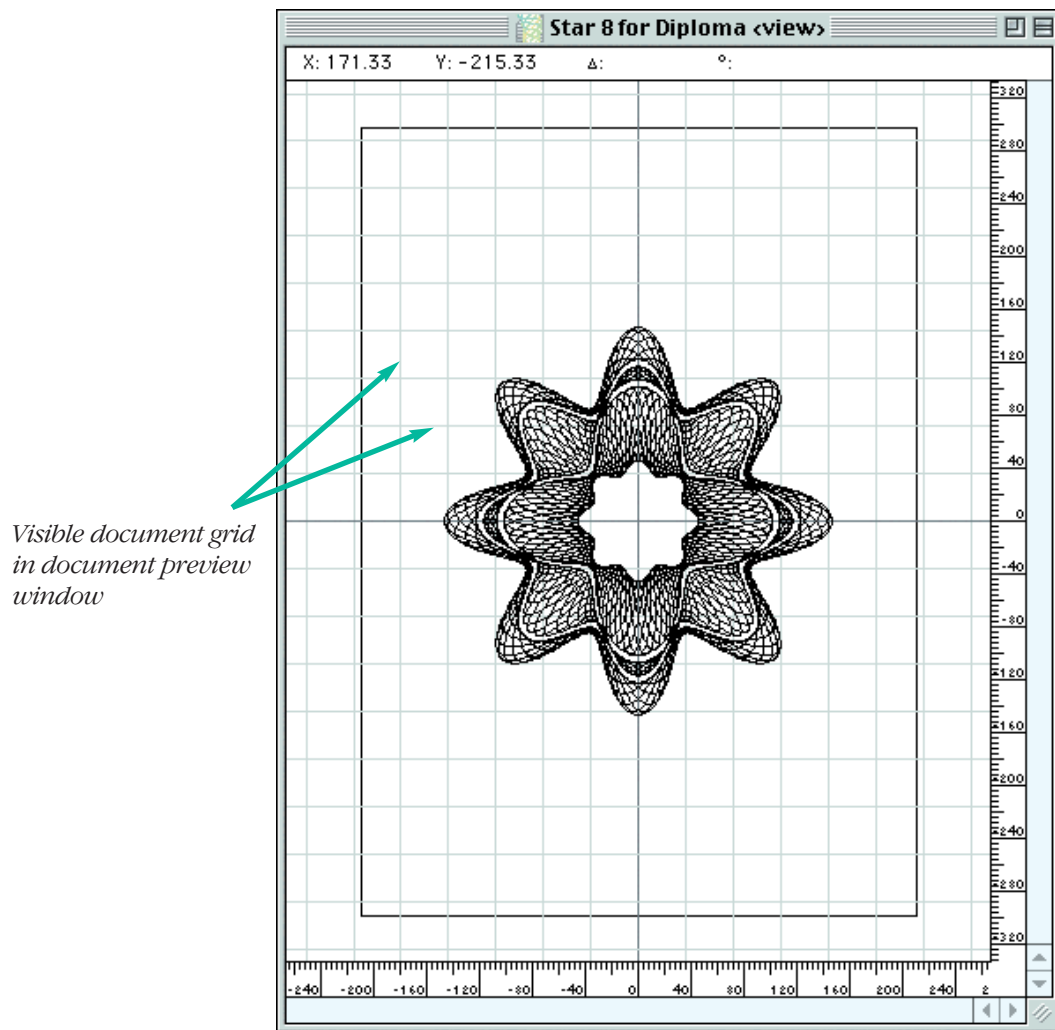
This panel is where you set up application-wide measurement units for all fields and values in windows, dialogs and controls, as well as grid settings for *Excentro* document preview windows.

General pop-up menu allows you to set up measurement units that will be used to display and change object attributes like dimensions and offsets. These are also measurement units for horizontal and vertical rulers in *Excentro* document preview windows. There are four possible choices: **Millimeters**, **Centimeters**, **Points** and **Inches**. Our suggestion is to use either **Points** or **Millimeters**, since these are more comfortable units while working with small objects and values.

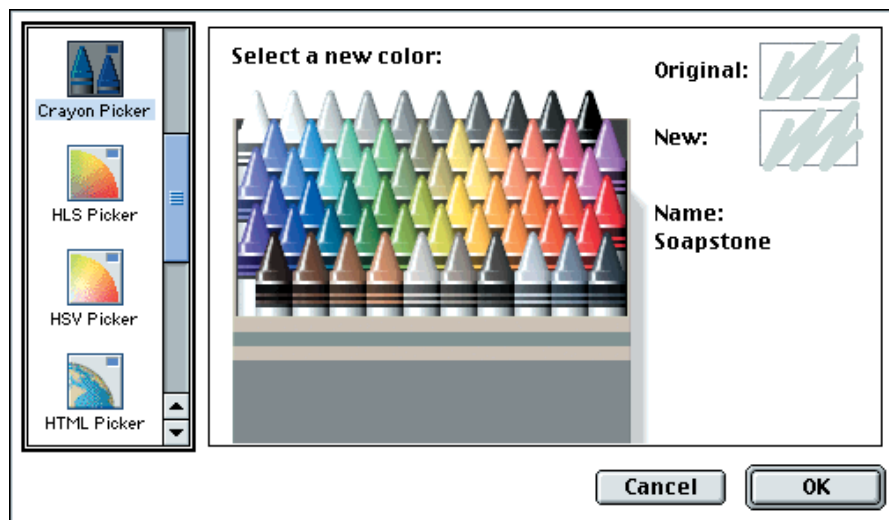
Stroke pop-up menu allows you to choose between **Points** and **Microns** as stroke weight units. 1 micron is about 0.0028 pt. Your country security printing regulations may refer to **microns** as standard measurement units for stroke weights and lines thickness specification. Otherwise, or if you are more comfortable while working with values in same measurement units as in standard illustration packages like *Adobe Illustrator* or *Macromedia FreeHand*, select **points** as measurement units in this pop-up menu.

Decimal digits pop-up menu specifies how many digits you would like to see after a decimal point in application dialogs and information fields. If you need extra precision for your design work (and you probably do) select **3** or **4**; or you may leave it at default value of **2** for convenience.

Document grid section allows to choose color and size for grid in document preview windows (see picture on next page). When grid is visible sizing and positioning of objects could be easier tasks to do. (To switch grid visibility, you can use **Show Grid** and **Hide Grid** commands from **View** menu.)

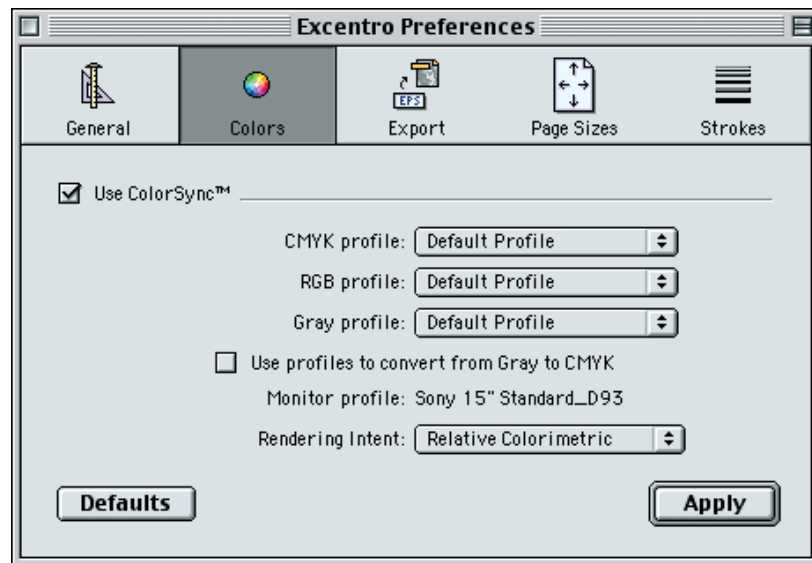


If you click **Color** button, standard Mac OS System color picker window will open up, where you can select color you like using color wheels, RGB and CMYK color sliders or crayon pickers.



COLORS

If **Colors** panel is not on your screen, click **Colors** icon in top part of **Excentro Preferences** dialog.



Excentro utilizes *Apple ColorSync™* technology to display proper object colors on screen and convert color values between different color spaces. This panel lets you set up ColorSync profiles for each color space you may want to use (like RGB or CMYK). If you have system ColorSync environment of your Macintosh properly set up you do not have to make any changes to default settings in this panel.

We will not cover topics like color management, profiles, rendering intents in this reference. If these conceptions are new to you, you should read some introductory material provided by Apple or appropriate sections in Adobe or Macromedia user guides.

Default Profile selection in **CMYK Profile**, **RGB Profile** and **Gray Profile** pop-up menus refers to color space profiles selected in Mac OS System ColorSync preferences.

The only color option in *Excentro*, that is different from standard ColorSync implementation in other graphic arts applications is **Use profiles to convert from Gray to CMYK** checkbox:

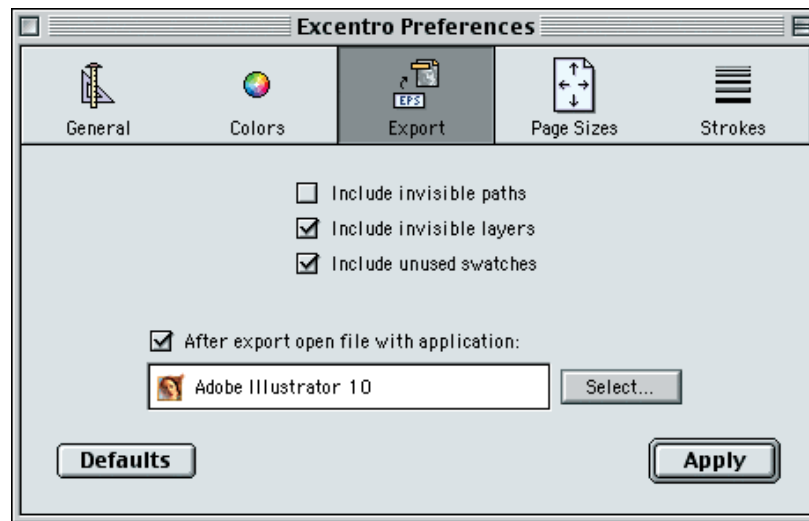
- When this checkbox is **off** and you will try to convert grayscale value to CMYK color space (using *Excentro Color Mixer Inspector* window), K component of new CMYK color will be set to same value as gray shade of grayscale color, while CMY components will remain at zero. For example: '50%' Gray value will be converted to 'C=0%, M=0%, Y=0%, K=50%' CMYK values.
- When this check box is **on** *Excentro* will use selected ColorSync profiles for grayscale to CMYK conversion and result will be more accurate for present devices but less obvious for human operator. For example: '50%' Gray value will be converted to something like 'C=50%, M=38%, Y=38%, K=4%' depending on profiles selected for CMYK and Grayscale color spaces in popup menus above.

Default value for **Use profiles to convert from Gray to CMYK** checkbox is **off**.

If you need, you can switch off color management completely with **Use ColorSync™** checkbox located in top part of the panel.

EXPORT

If **Export** panel is not on your screen, click **Export** icon in top part of **Excentro Preferences** dialog.



In this panel you can set up options that will be used to export documents in *Adobe Illustrator* file format at the final step of your Guilloche design creation process in *Excentro*.

When **Include invisible paths** checkbox is **off** only paths with **Visible** attribute (represented with 'light bulb' icon in *Excentro* main document windows) will be included in exported document. When this checkbox is **on** invisible paths will be exported too. These paths will have no stroke nor fill attributes. You can set these attributes later in *Adobe Illustrator* or use these paths as guides or clipping paths.

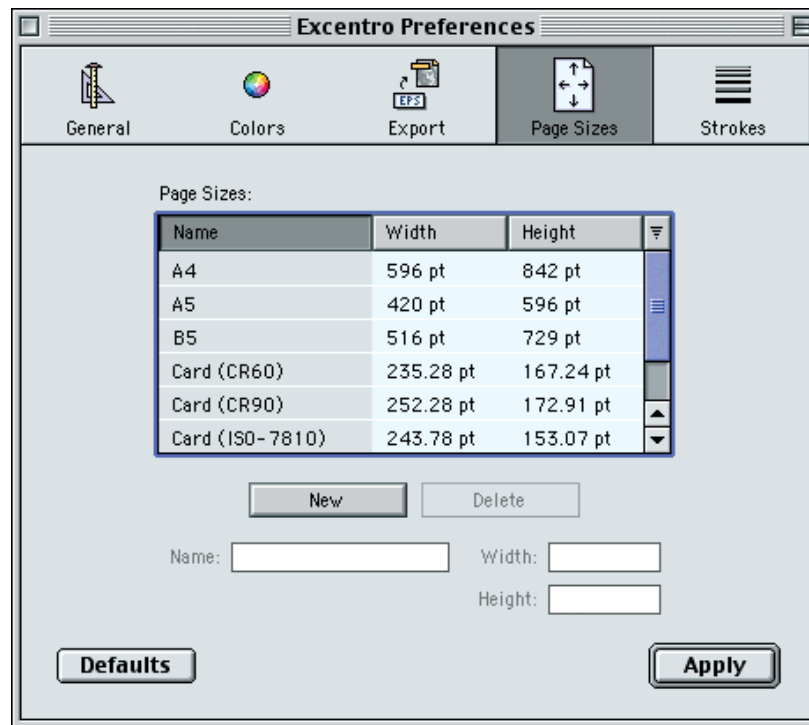
If **Include invisible layers** checkbox is **off** only layers with **Visible** attribute (the ones with 'light bulb' icon in *Excentro* document layers list) will be included in exported document. We provide this option for convenience, so you could export only needed, presently visible, layers without deleting invisible ones beforehand. When this checkbox is **on** invisible layers will be exported as similar invisible layers to *Adobe Illustrator* format as well.

When **Include unused swatches** checkbox is **off** only swatches used to colorize one or more paths with **Visible** attribute will be included. When this checkbox is **on** all swatches defined in *Excentro* document will be included in exported document. This option could be useful if later you would like to colorize other objects in *Adobe Illustrator* document with colors from defined in *Excentro* palette.

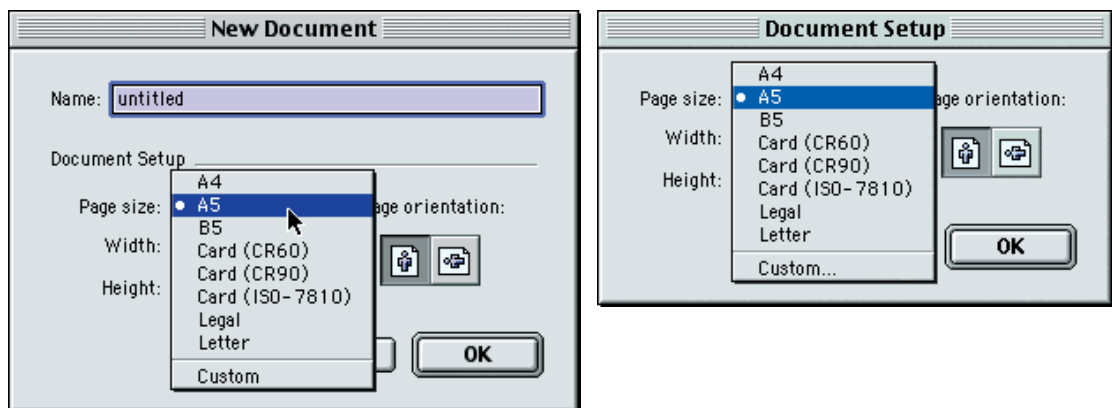
You can select a vector-based design application like *Adobe Illustrator* or *Macromedia FreeHand* to open exported file immediately after export procedure is complete. To activate this option you should switch on **After export open file with application** checkbox and select proper vector drawing application either with drag-and-drop action of application icon from *Finder* window to file well below the checkbox or using adjacent **Select...** button and standard Mac OS system **Choose Application** dialog box (that will appear after you click the button).

PAGE SIZES

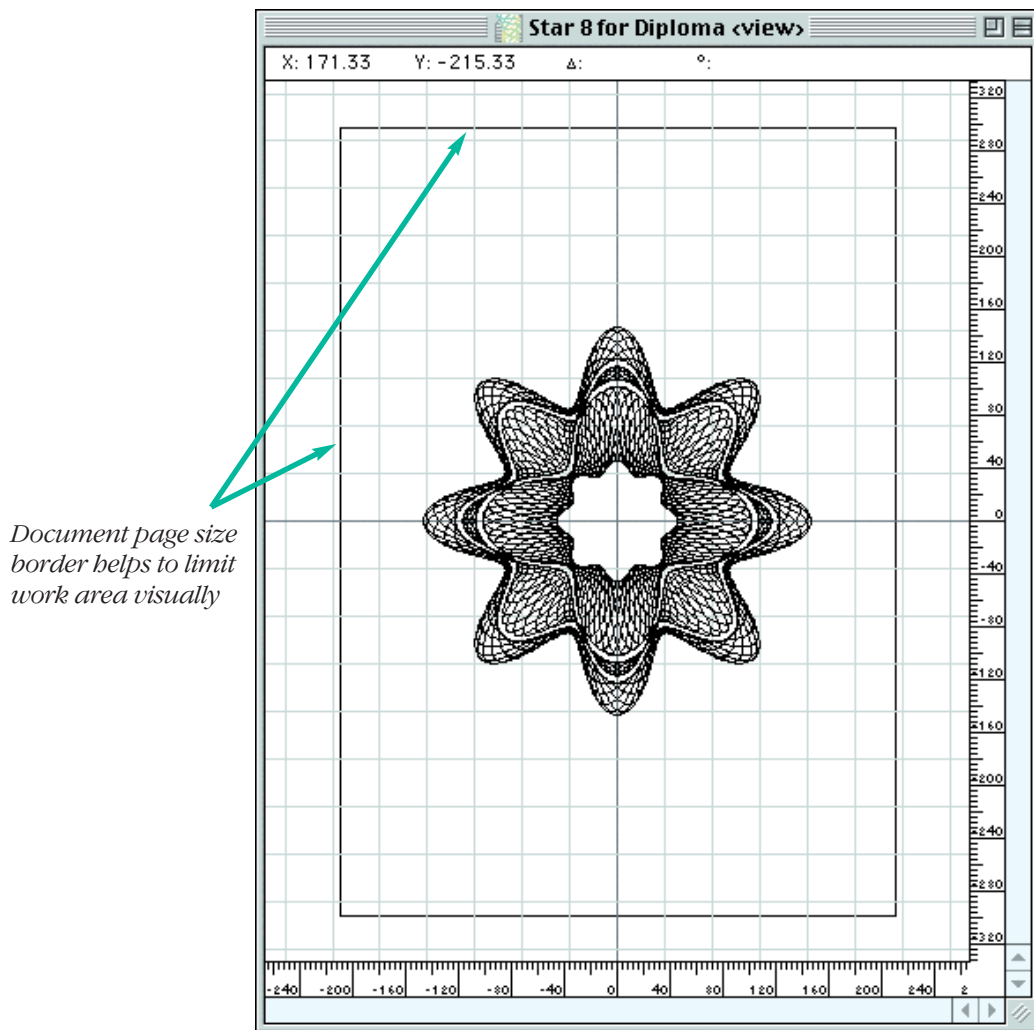
If **Page Sizes** panel is not on your screen, click **Page Sizes** icon in top part of **Excentro Preferences** dialog.



In this panel you can define set of page formats that will be used to size new or resize existing *Excentro* documents. This set of formats appears in **Page Size** popup menu in **New Document** window (when you select **New** command from **File** menu to create new document) or in **Document Setup** window (when you select **Document Setup** command from **File** menu to change size of current open document).



Document page size only helps to limit work area visually to simplify objects positioning and location (see picture on next page). You can always change page size of current open document with **Document Setup** command at any convenient time.



If jobs you are working on in *Excentro* come in few predefined sizes (e.g. series of certificates or plastic cards that differ from standard in size) you can edit formats list in **Page Sizes** panel of **Excentro Preferences** dialog to add formats you use often and remove ones you do not need. After that you will not have to enter manually your nonstandard document's width and height each time you create new documents, just select right predefined format from popup menu.

Default page sizes include set of popular ISO and US paper formats and plastic card formats.

To add new page format to the formats list click **New** button below the list, after that type **Name** of new format and enter **Width** and **Height** for this page format.

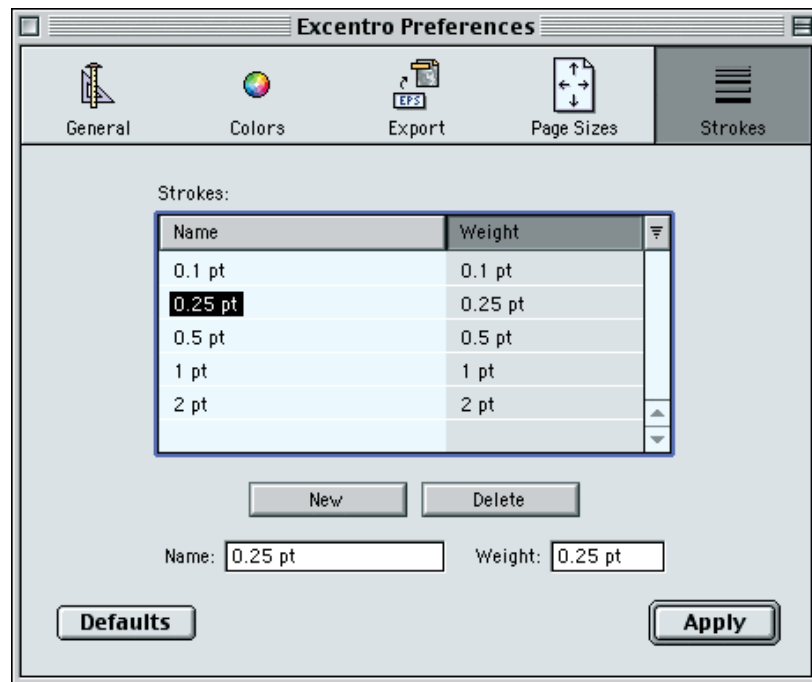
To remove existing page format from the list select it with mouse click, then click **Delete** button below the list.

List of page formats in **Page Size** popup menus in **New Document** and **Document Setup** windows will be sorted in the same way as items in page formats list in **Page Sizes** panel. You can sort items by **Name**, **Width** or **Height** attributes in ascending or descending order. To change sort order use title buttons of list columns.

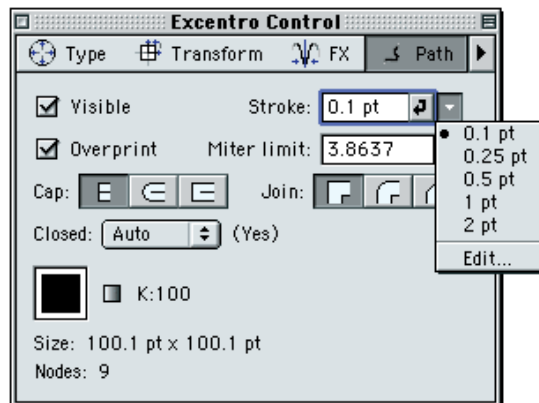
Do not forget to click **Apply** button before closing **Excentro Preferences** dialog, otherwise changes you made to page formats list (and other unsaved changes to settings in **Excentro Preferences** dialog) will not be saved.

STROKES

If **Strokes** panel is not on your screen, click **Strokes** icon in top part of **Excentro Preferences** dialog.



In this panel you can set up presets that will appear in **Stroke** popup menu of **Excentro Control** window. (This menu pops up when you click arrow-down button beside **Stroke** field in **Path** panel of **Excentro Control** window.)



Stroke presets are provided for convenience: in most cases your documents will have paths of only three or four different stroke weights (e.g. strokes of 0.25 pt are used for background paths, strokes of 0.4 pt and 1.0 pt for everything else). It will be easier to assign these values if you edit list in **Strokes** panel of **Excentro Preferences** dialog so that only these weights are left in the strokes list and popup menu of **Excentro Control**.

To add new stroke preset to the list click **New** button below the list, then type **Name** for new stroke and set its **Weight** attribute.

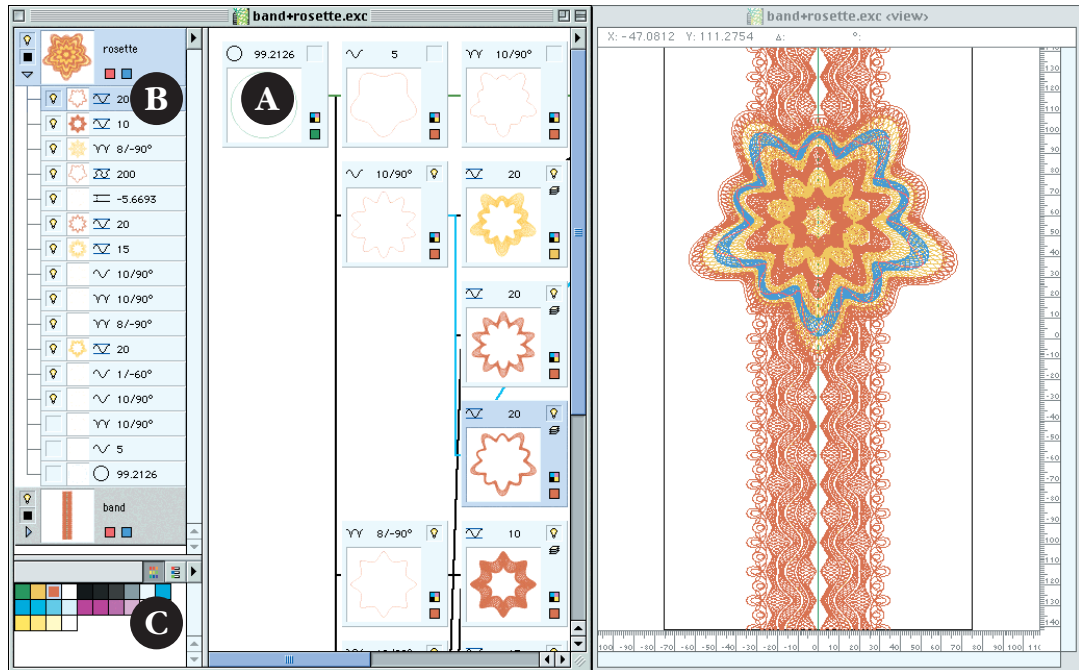
To remove stroke preset from the presets list select it with mouse click, then click **Delete** button below the list.

Presets in **Stroke** popup menu will be sorted in the same way as the sort order of items in the **Strokes** list. You can sort items by **Name** or **Weight** attribute in ascending or descending order by clicking appropriate column titles.

Do not forget to click **Apply** button before closing **Excentro Preferences** dialog, otherwise changes you made to stroke presets list (and other unsaved changes to settings in **Excentro Preferences** dialog) will not be saved.

CHAPTER 3: MAIN DOCUMENT WINDOW

Each *Excentro* document has two windows to display its contents: **main document window** that shows document structure, layers list and colors list and **document preview window** that shows graphics representation of guilloche design. **Main document window** is usually located in left half of the screen and its title is the same as the document name, **document preview window** is placed beside it in right part of the screen and has <view> suffix added to the document name in its title.



Unlike other graphics design applications *Excentro* does not allow direct manipulations with document content in preview window. This window just displays results of guilloche design creation and allows only objects selection by clicking paths that belong to them with mouse pointer. To manage all contents of *Excentro* document you should use **main document window** instead.

Main document window has three distinct parts:

A. Structure pane shows tree-like structure of guilloche objects that belong to single layer of the document. This pane is where you can create new objects, rearrange their positions in guilloche structure and change objects attributes.

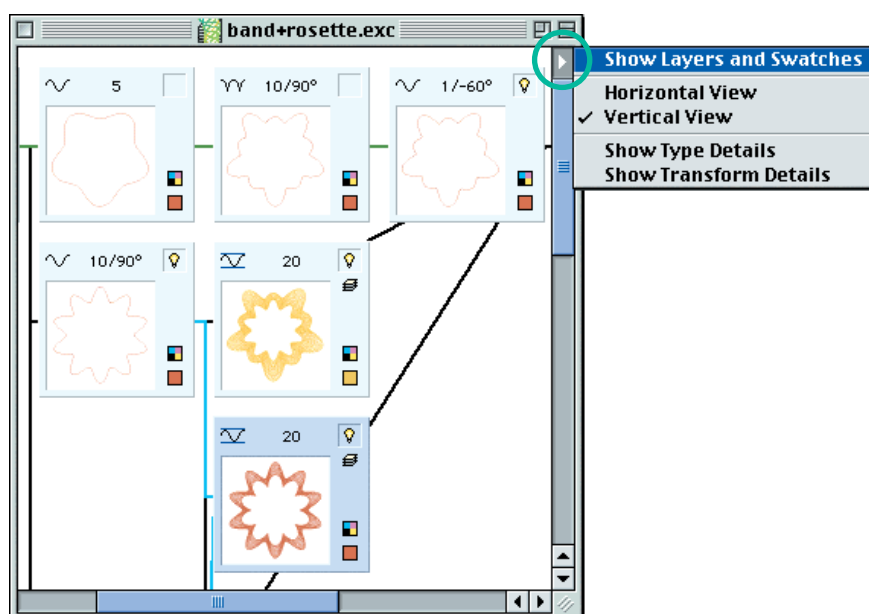
B. Layers list displays document layers with their properties and list of objects on each layer in front-to-back drawing order. This list is similar to that of **Layers** palette of *Adobe Illustrator* or **Layers** panel of *Macromedia FreeHand*.

C. Colors list manages colors set used to colorize guilloche paths in this document. As with layers list, this list is similar to that of **Swatches** palette of *Adobe Illustrator* or **Swatches** panel of *Macromedia FreeHand*.

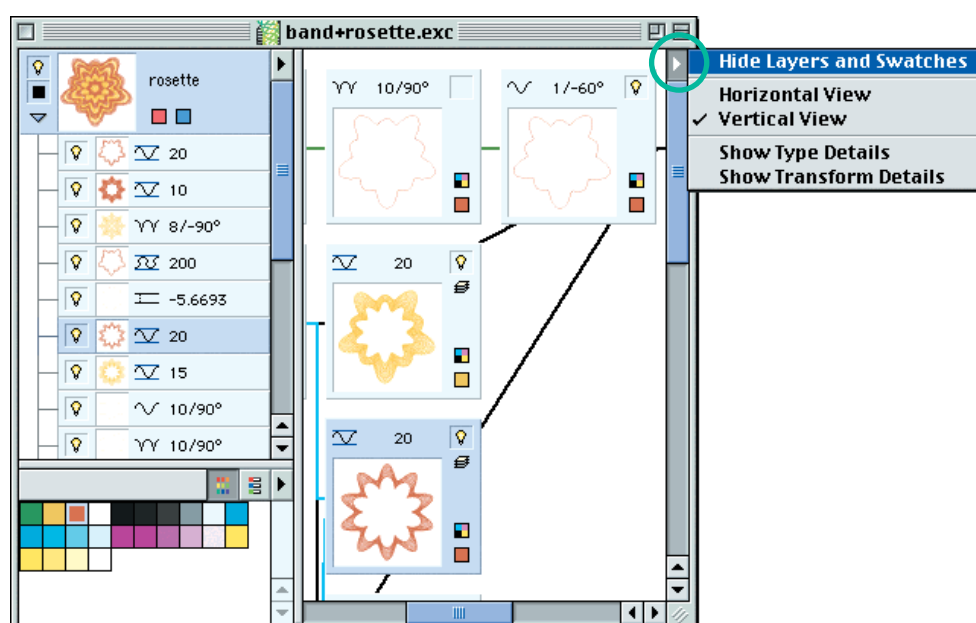
We decided not to use floating palettes to show document layers list or colors list, because, due to the fact that every *Excentro* document already has two windows to show its contents, that would make work with multiple documents too confusing. Having these lists shown in **main document window** can also simplify copying of layers and swatches between documents with drag-and-drop actions.

Layers list and colors list are located on resizable pane in left part of **main document window**. Initially, when you create new *Excentro* document, this pane is hidden. To make it visible or hide it again you can use **Show Layers and Swatches/Hide Layers and Swatches** command from **main document window** menu (button with triangle in top right corner of the window).

If resizable pane is hidden choosing **Show Layers and Swatches** command will make it visible:



When resizable pane is visible the title of this command changes to **Hide Layers and Swatches**. Choosing this command will hide layers list and colors list again.



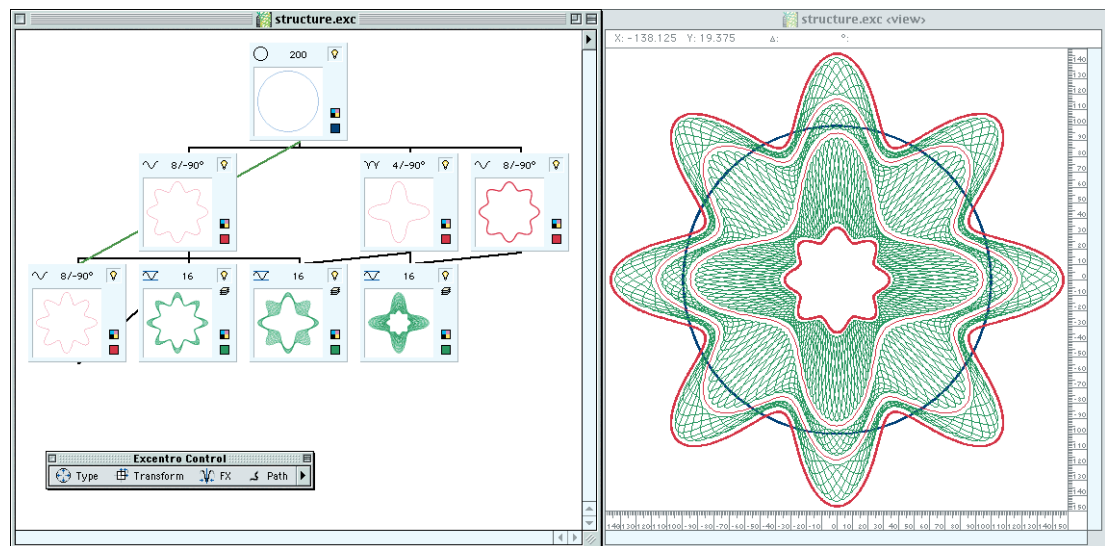
Next sections of this chapter provide detailed reference on every part of **main document window**.

A: STRUCTURE PANE

Structure pane of **main document window** shows tree-like structure of guilloche objects that belong to single layer of *Excentro* document. This tree-like structure represents creation process of guilloche design. For better understanding of this process you may want to see overview of *Excentro* mechanical model in **Chapter 2: Basic Conceptions of Using Excentro** guide. In this reference we will not venture into description of mechanical background.

The shape of guilloche design is defined by number of guilloche objects it consists of, their attributes and their place in structure tree. Root objects of the tree are called 'base' elements. Path of base element defines basic type of the design: it could be linear for bands and backgrounds or circular for rosettes. Other guilloche elements located on next levels of tree hierarchy may have one or two parent objects. As parent objects they can use either root objects or other objects on previous levels of hierarchy.

If the object has only one parent object it is regular 'element'. Regular elements represent modifications of their parent object path and could be regarded as skeleton bones that define shape of guilloche design. If the object has two parent objects it is 'content element'. Content elements fill space between two parent paths and could be regarded as flesh that adds texture and substance to guilloche design body.



Structure tree illustration: base element (shown with blue), regular elements (shown with red) and content elements (shown with green) of simple guilloche rosette.

Objects of structure tree are represented as a set of interconnected rectangles in structure pane of **main document window**. Connection lines between rectangles could be of two different kinds:

- **Black** connection lines show parent-to-children relationships. Regular elements have single black connection line to their parent object on previous level of hierarchy. Content elements have two black connection lines: first line to their parent object on previous levels of hierarchy and second line to their second parent object that could be in arbitrary location on this or another branch of the tree.

- **Green** connection lines are shown for objects that have other objects set as 'direction' elements. Paths of direction elements are used as guides for paths of these objects. See **Chapter 2: Basic Conceptions of Using Excentro** guide for mechanics details and explanations.

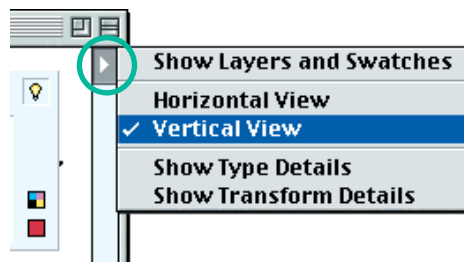
To manipulate objects of structure tree (to create new objects or change configuration of existing ones) you can use commands of **Structure** menu in *Excentro* menu bar and their shortcut buttons in **Toolbar** window. Some operations could be easier accomplished by drag-and-drop actions with rectangular representations of the objects.



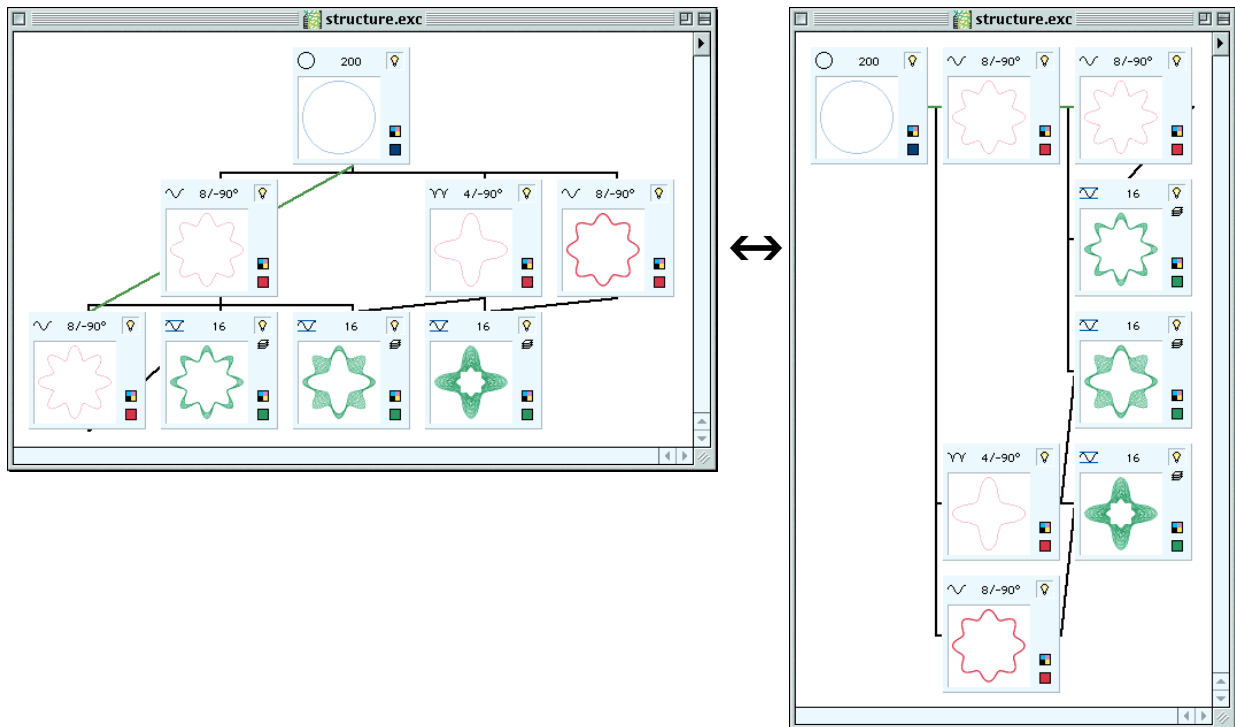
Attributes of individual objects are changed with **Excentro Control** inspector. You should select object you want to modify with mouse click on its rectangle in structure pane and its attributes will be set ready for modification in **Excentro Control**.

HORIZONTAL OR VERTICAL VIEW

Structure pane supports two view modes for guilloche tree structure: horizontal or vertical view. These view modes could be changed by choosing options from window menu of **main document window** (button with triangle in top right corner of the window). Check box appears beside the view mode title when it is active.



Different view modes of same tree structure are shown on following picture:

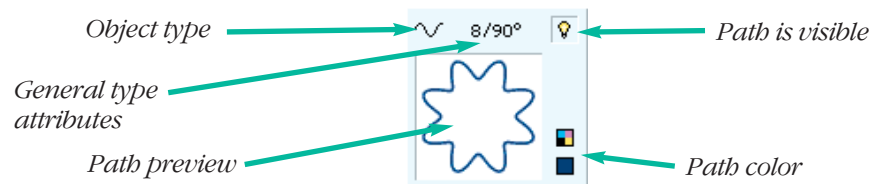


■ **Horizontal View** mode is more appropriate for novice users or for guilloche designs with ‘narrow’ structure tree. It shows structure tree in genuine ‘tree-like’ way with root objects at top, next levels of hierarchy below previous ones, children objects centered relative to their parent object.

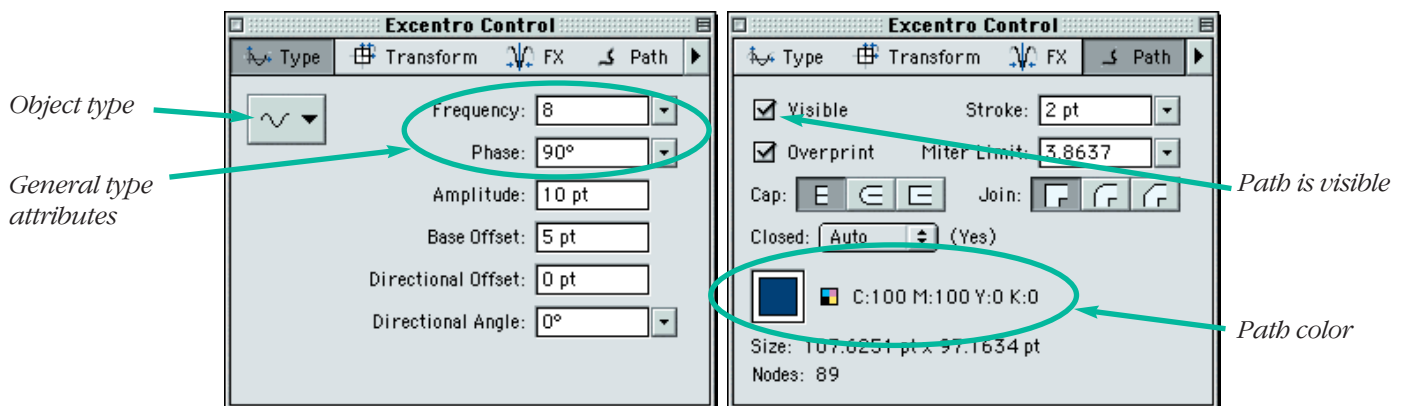
■ **Vertical View** mode shows root objects at left, levels oriented vertically, children objects top-aligned relative to their parent object. This mode is more convenient for experienced users who work with large designs. When document contains many objects that no longer fit in window size without scrolling, scrolling in vertical direction is more natural to perform. You also do not have to resize **main document window** and as a result overlap its companion document preview window to see all objects of ‘wide’ structure tree.

OBJECTS REPRESENTATION

Guilloche objects are shown in structure pane as small rectangles that show type and general attributes of the object.

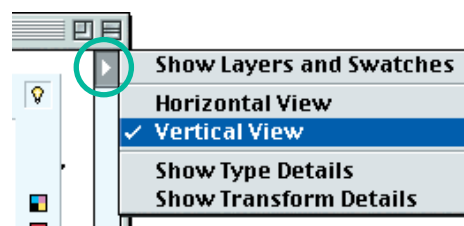


These are the same attributes as shown in window of **Excentro Control** inspector for that object, but displayed in one compact view



This rectangle also contains small preview of object path, so you could identify this object in document preview window easier.

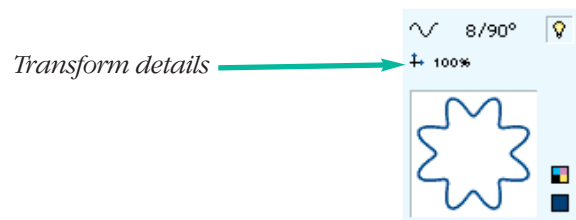
■ You can use two last options of window menu of **main document window** to switch on and off display of additional object attributes from **Type** and **Transform** panels of **Excentro Control** inspector:



◆ **Show Type Details** command switches on display of additional line with some object attributes from **Type** panel of **Excentro Control** inspector, after that the command title changes to **Hide Type Details** and choosing it again will restore original rectangle view.



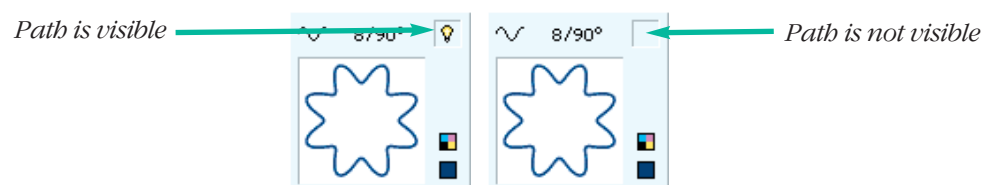
◆ **Show Transform Details** command switches on display of additional line with object attributes from **Transform** panel of **Excentro Control** inspector, after that the command title changes to **Hide Transform Details** and choosing it again will restore original rectangle view. Additional line with **Transform** details has small 'coordinates system' icon in front of it.



You can choose both **Show Type Details** and **Show Transform Details** options to display two additional lines in object rectangle.



■ 'Light bulb' icon in right top corner of the rectangle shows if path of the object is visible in document preview window and gets exported to *Adobe Illustrator* format.



You can click this icon to switch on or off object path visibility. It has same effect as clicking **Visible** checkbox in **Path** panel of **Excentro Control** inspector, but in this case you do not have to select the object first.

■ Color space icon and color patch in left bottom corner of object's rectangle display color attributes of the object set in color fields of **Path** panel of **Excentro Control** inspector. By color space icon you can tell if current object color is **RGB**, **CMYK** or **Grayscale** and if it is **Spot** or **Process** color. Spot colors have round icons, process colors have square icons:

CMYK Process Color	
CMYK Spot Color	
RGB Process Color	
RGB Spot Color	
Gray Color	

You can double-click color patch with mouse pointer to set the object color as current color of **Color Mixer** inspector.

■ Additional 'pile' icon is displayed in right top corner of object's rectangle if the object has Step & Repeat Set. This way you can identify objects with Step & Repeat Sets faster.

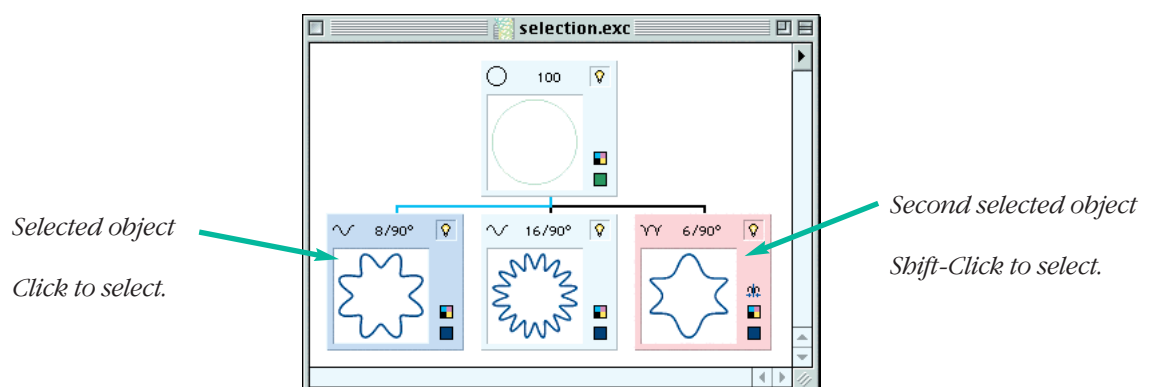


■ One more icon in right bottom corner helps to identify elements that has attributes like **Frequency Modulation** or **Symmetry** in **FX** panel of **Excentro Control** inspector:



OBJECTS SELECTION

Before you will be able to make any operations with guilloche object, you have to select this object first. To do so, click object's rectangle with mouse pointer. Selected object is shown with blue color in structure pane of **main document window**. Attributes of selected object are displayed and could be modified in **Excentro Control** inspector.

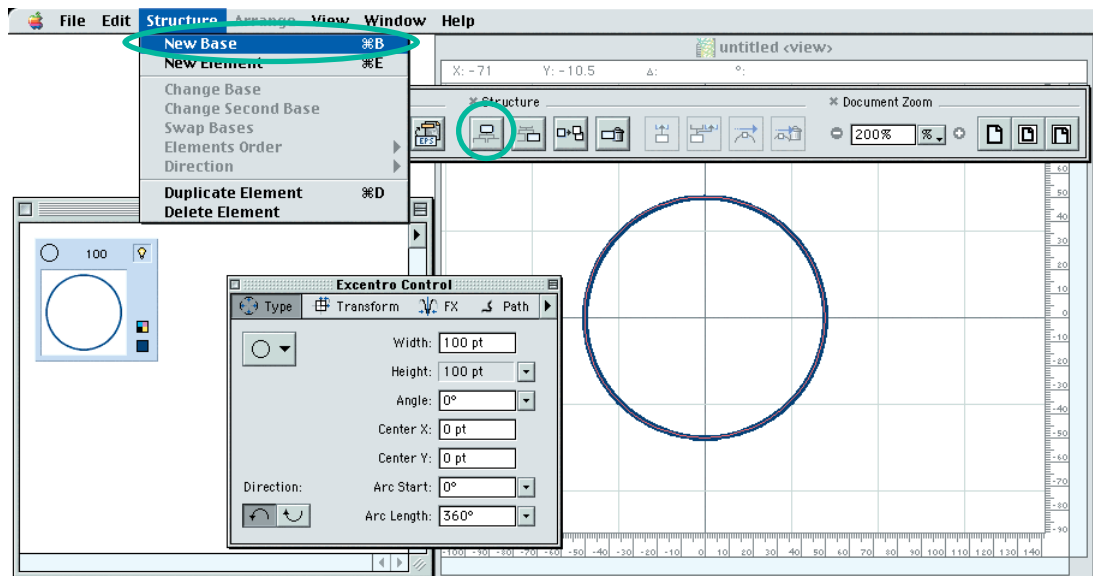


Some operations like creation of content elements or changing parent objects require you to select two guilloche objects at once. Click first object with mouse pointer, then press **Shift** key on keyboard and click second object. Second selected object will be shown with red color.

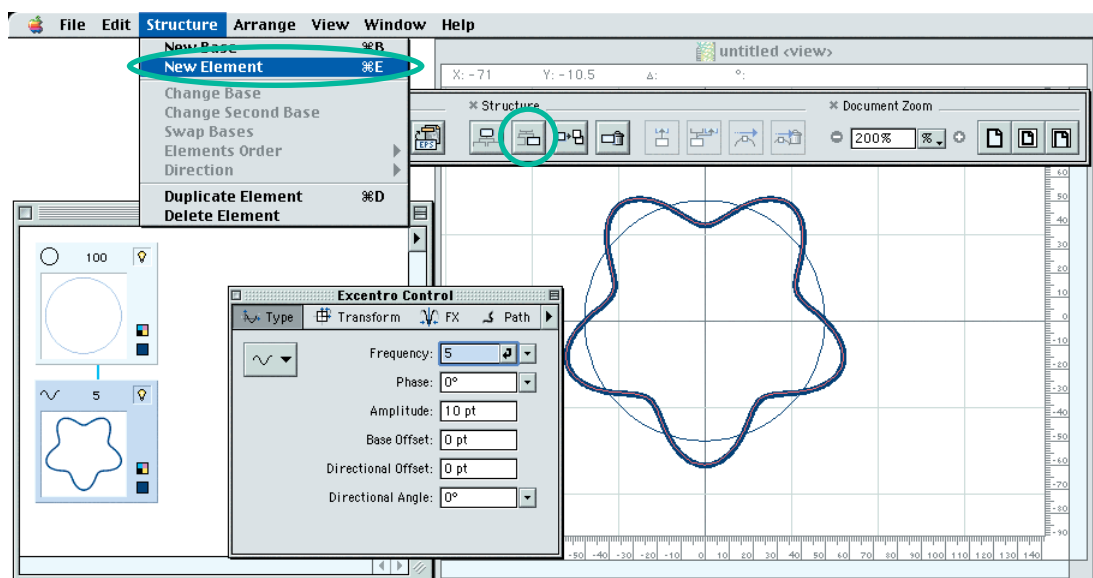
CREATING OBJECTS

To add new objects to document structure tree you can use either commands from **Structure** menu or shortcut buttons to these commands from *Excentro Toolbar*.

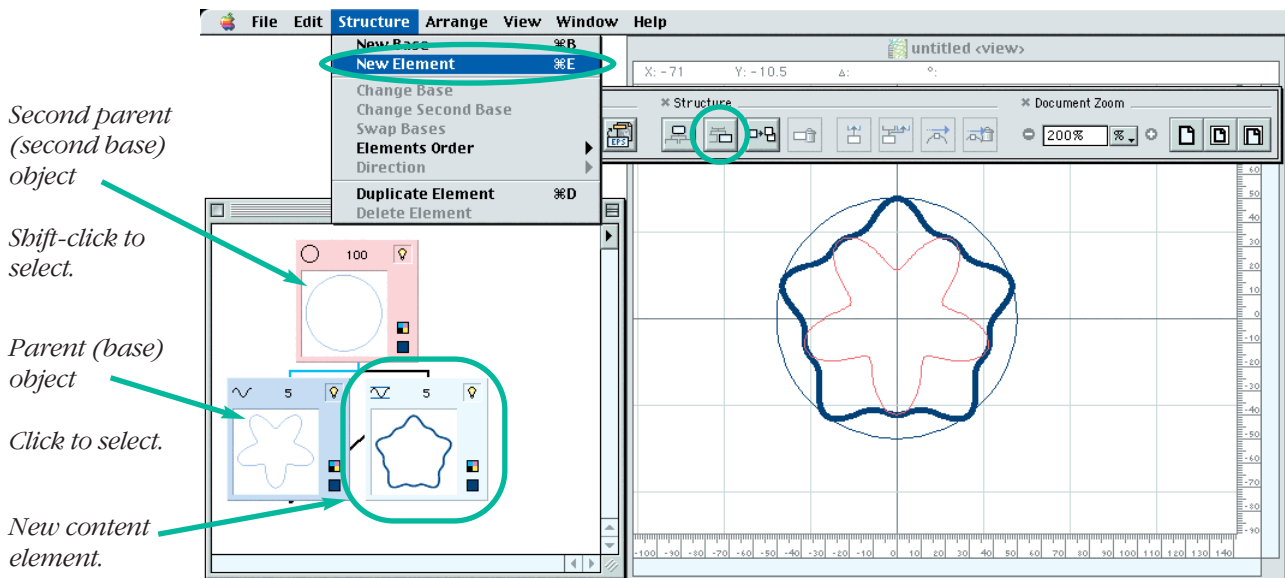
■ The first step of every guilloche design process is the creation of new root elements of structure tree. To create new root elements (these elements are called **bases** in *Excentro* terminology) you should use **New Base** command from **Structure** menu or its shortcut button in **Structure** section of **Toolbar**. After that new base element of **Ellipse** type will be created. You can change type of base element and modify its attributes in **Excentro Control** inspector.



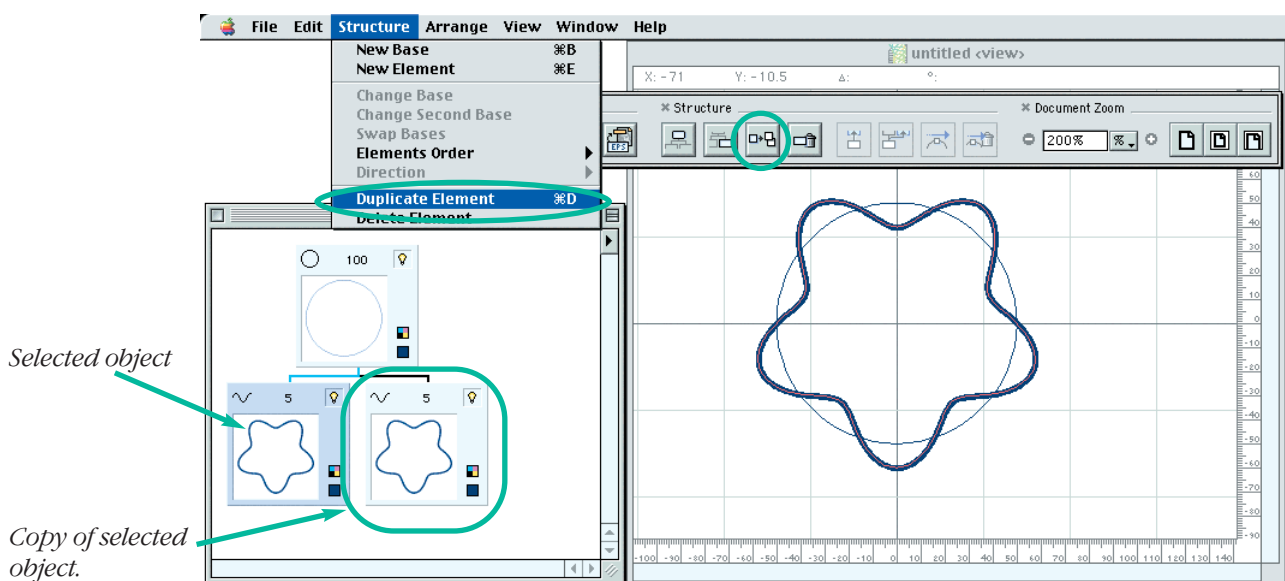
■ To create new regular element of structure tree you should select some existing object that will become parent element of new element with mouse click and then choose **New Element** command from **Structure** menu or its shortcut button in **Structure** section of **Toolbar**. New element of **Sine Wave** type will be created. You can change type of this new element or modify its attributes using panels of **Excentro Control** inspector.



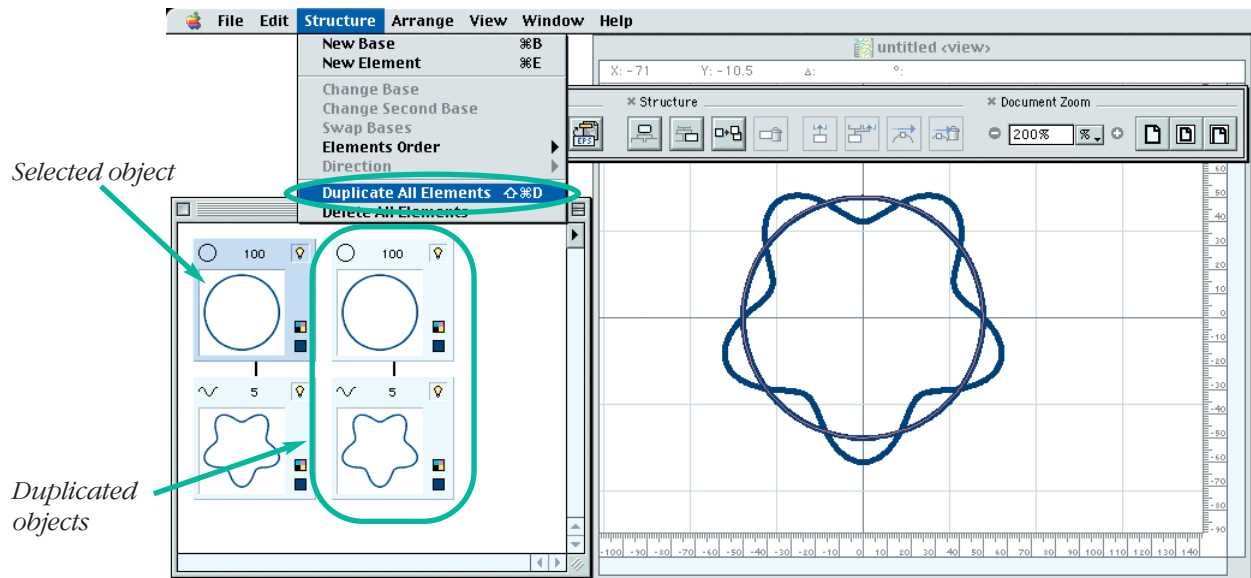
■ To create new content element you should select two existing objects of structure tree that will become parent elements of new element. First object should be selected with unmodified mouse click, the object will become parent element or **base** of new content element. Second object should be selected with **Shift** modifier key pressed on keyboard, this object will become second parent object or **second base** of new content element. After two objects are selected use **New Element** command from **Structure** menu or its shortcut button in **Structure** section of **Toolbar**. New content element of **Sine Wave** type will be created. You can change type of this new element or modify its attributes using panels of **Excentro Control** inspector.



■ You can create new objects by duplicating existing ones. To do so you should select the object you want to duplicate, then use **Duplicate Element** command from **Structure** menu or its shortcut button in **Structure** section of **Toolbar**. A copy of the object will be created and added to right end of same branch of structure tree. All attributes values, Step&Repeat sets and connections to parent elements and direction elements will be duplicated.

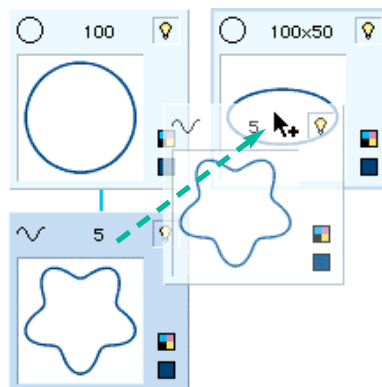


If selected element has child elements, these elements will not be duplicated by **Duplicate Element** command. If you want to duplicate child elements too (and all their child elements), you should press **Shift** modifier key: **Duplicate Element** command of **Structure** menu will change its title to **Duplicate All Elements** and choosing it will duplicate not only selected element but all its children elements too. All attributes values, Step&Repeat sets and connections to parent elements and direction elements will be duplicated.



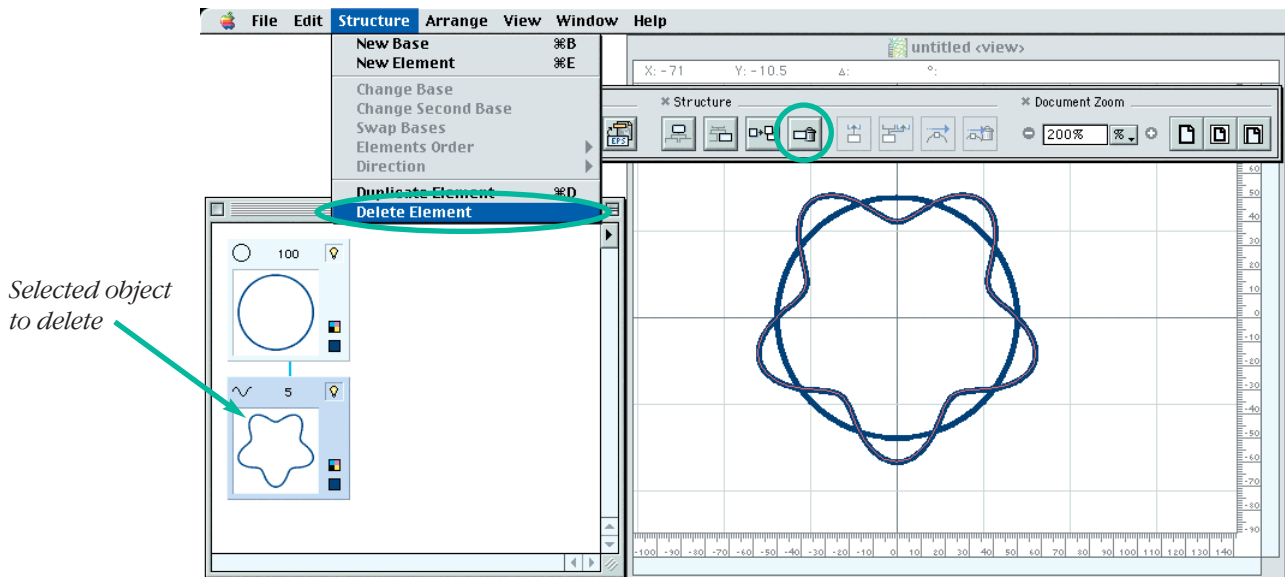
■ Another way to make a copy of existing object is to use standard copy commands from **Edit** menu. Select the object you want to make a copy of, then choose **Copy** or **Cut** command to place a copy of this object to *Excentro* clipboard. After that select another object you want to become parent element of new object and choose **Paste** command to create new object. If you are copying content element, select not one but two objects at once: one with plain mouse click, another with **Shift**-click.

■ There is a drag-and-drop action that could be used as a shortcut to copy-paste editing sequence mentioned above: select the object you want to make a copy of with mouse click in its rectangle in structure pane, then drag it with **Option** modifier key pressed on the keyboard to rectangle of another object you want to become a parent of newly created object. Mouse pointer will change its shape to 'copy cursor': an arrow with 'plus' ('+') sign below. Release mouse button and new copy of the object will be created.

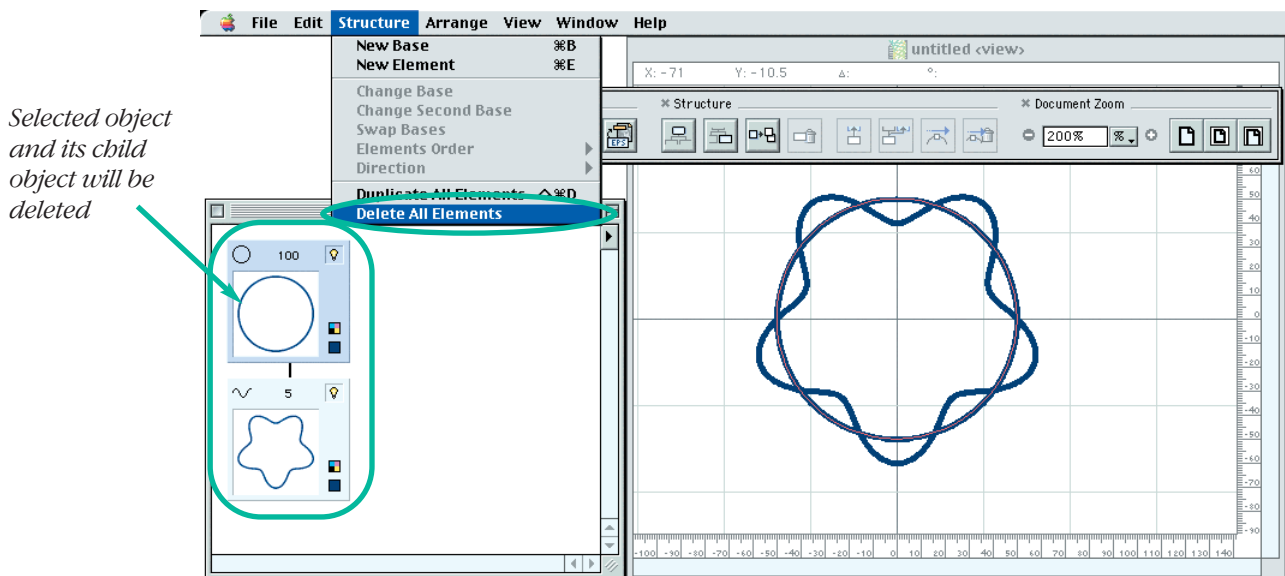


DELETING OBJECTS

■ To delete selected object of structure tree you can use **Delete Element** command from **Structure** menu or its shortcut button in **Structure** section of **Toolbar**.



■ If selected element has child elements, this object can not be deleted by **Delete Element** command. You can delete this element together with its child elements (and all their child elements) with **Delete All Elements** command, to use this command press **Shift** modifier key and **Delete Element** command will change its title to **Delete All Elements**.

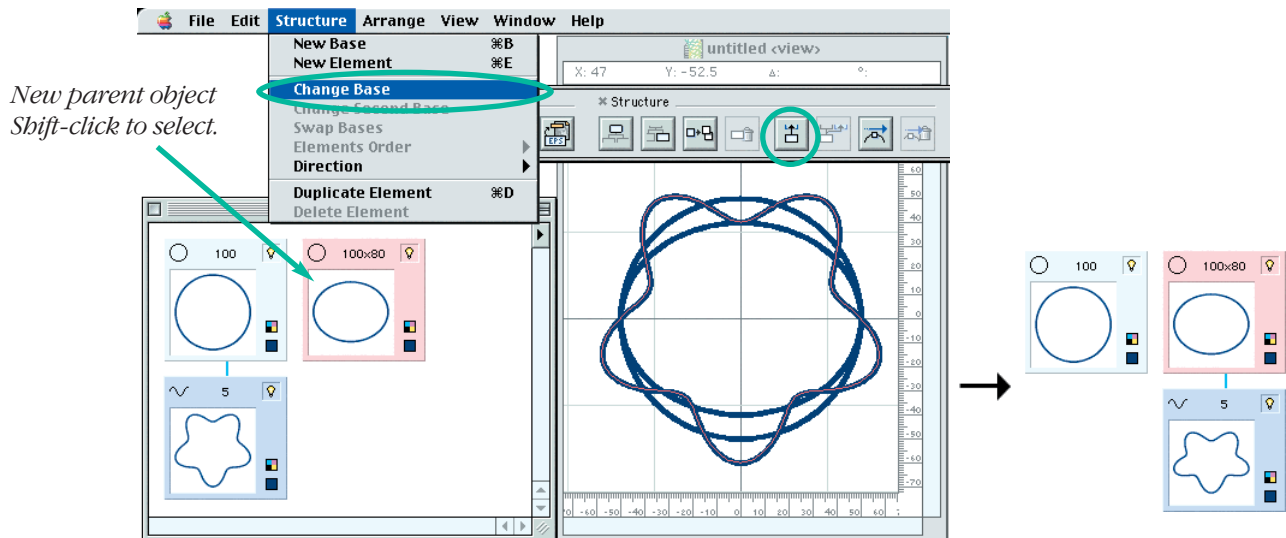


■ As another option you can use **Cut** and **Clear** commands from **Edit** menu to delete selected object. **Clear** command is identical to **Delete Element** command in effect. **Cut** command also places copy of deleted object to *Excentro* clipboard.

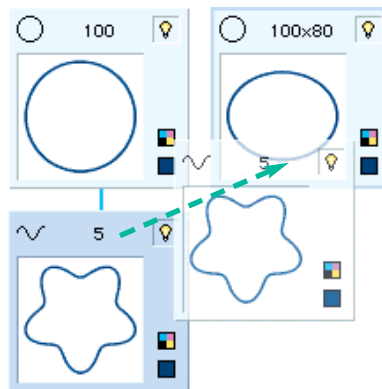
In all cases of objects deletion selected object (or its children in case of **Delete All Elements** command) must not have any other objects dependent on it. See **Chapter 3: Structure Menu** of **Excentro Commands Reference** for illustrations and more details.

CHANGING OBJECT BASES

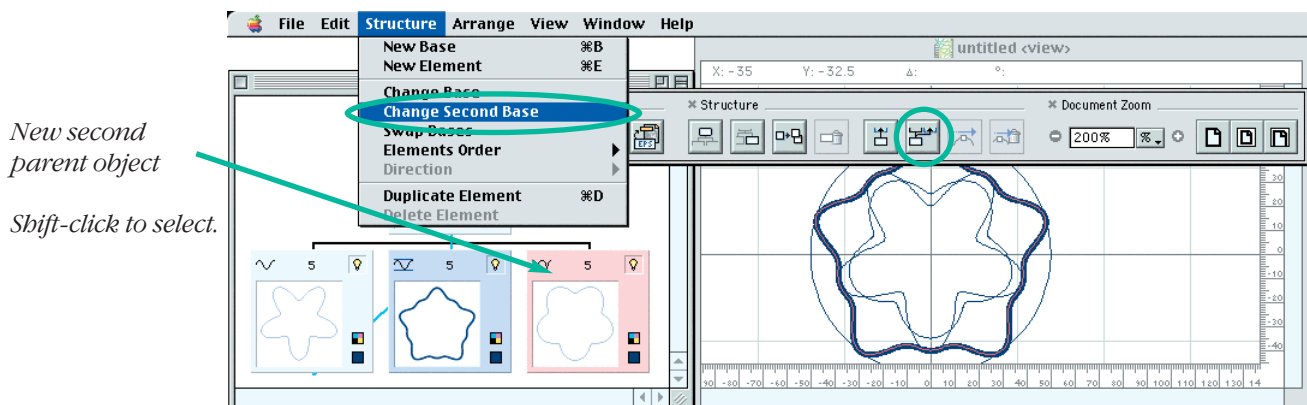
■ To change parent object of selected object you can select second object (that will become new parent object of selected one) with **Shift-click** then choose **Change Base** command from **Structure** menu or its shortcut button in **Toolbar**.



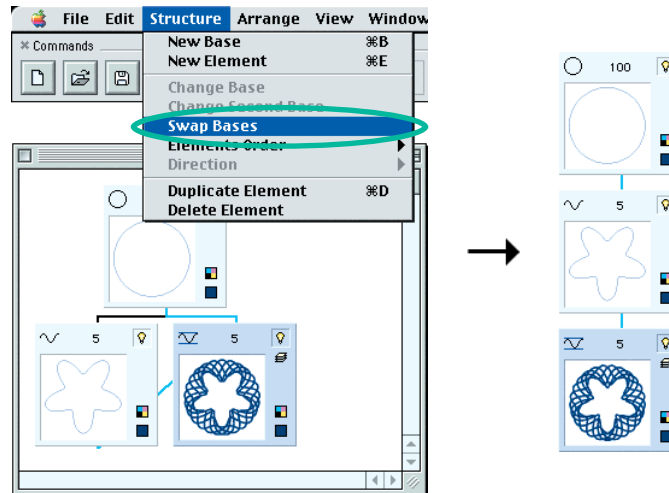
You can achieve same result with simple drag-and-drop action: drag selected object to rectangle that represents new parent object in structure pane and release mouse button.



■ Content elements have two bases (two parent elements). First base of content element could be changed just like base of regular element with **Change Base** command. To change second base of content element you can use similar procedure with **Change Second Base** command: select content element with mouse click, then select second object (that will become new second parent of content element) with **Shift-click** and choose **Change Second Base** command from **Structure** menu or its **Toolbar** button.

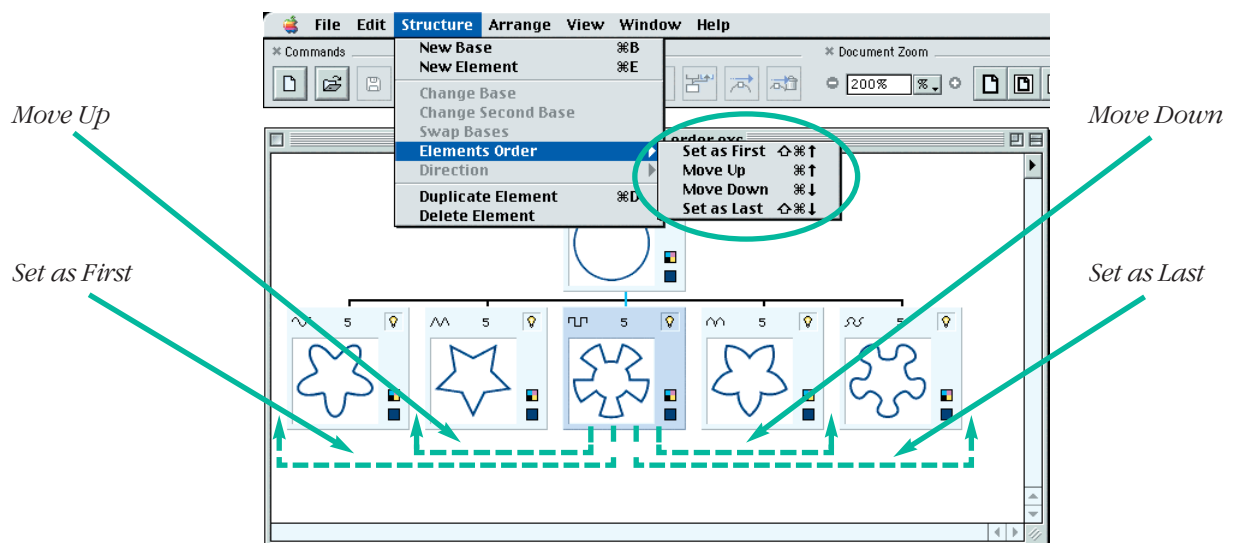


■ You can also exchange parent element (base) and second parent element (second base) of selected content element. Use **Swap Bases** command from **Structure** menu to do so. Structure tree will be updated to reflect the change.



CHANGING ELEMENTS ORDER

If an element have several child elements you can rearrange their positions on branch of structure tree using **Elements Order** submenu.



■ **Set as First** command sets selected element as first (leftmost) element of its parent.

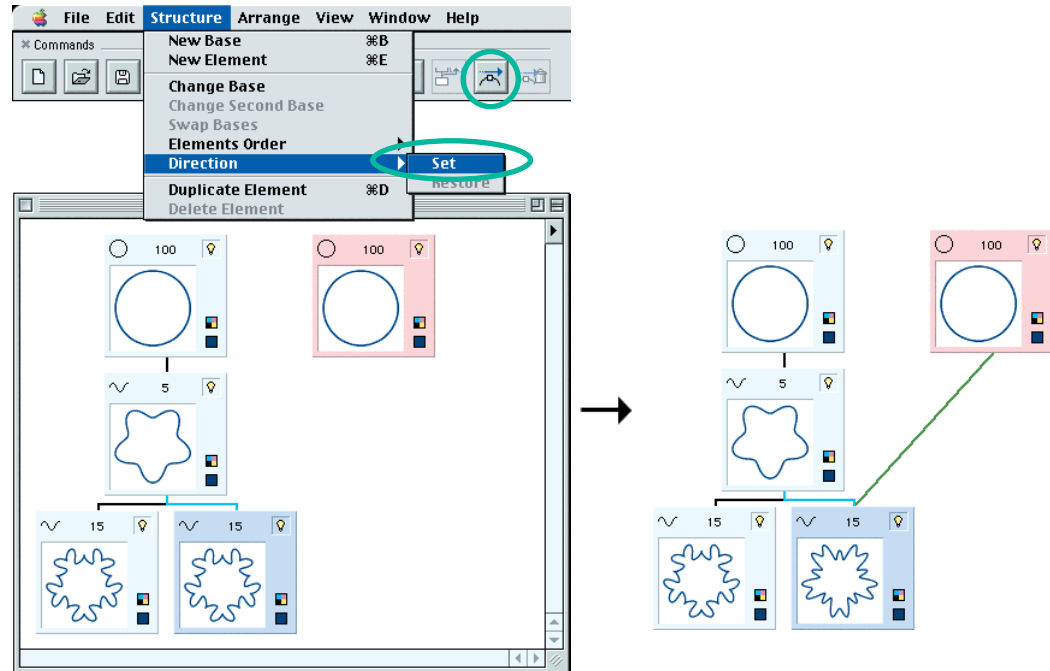
■ **Move Up** command moves selected element one position left, so it changes places with its left neighbor.

■ **Move Down** command moves selected element one position right, so it changes places with its right neighbor.

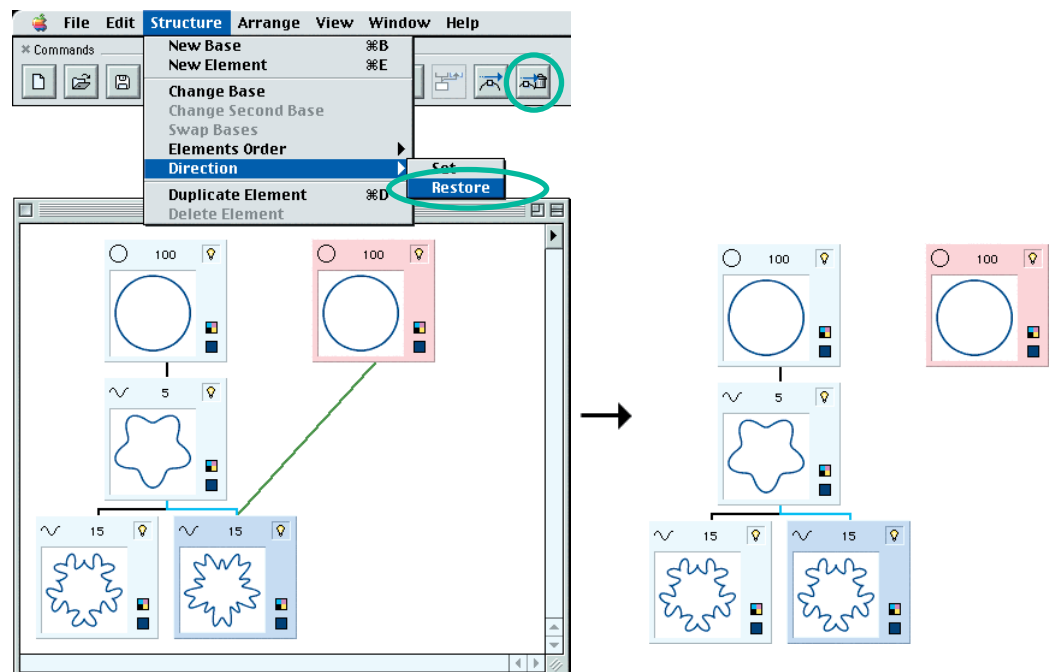
■ **Set as Last** command sets selected element as last (rightmost) element of its parent.

SETTING DIRECTION ELEMENTS

■ To appoint another element as **direction** element for selected one you can select this element with **Shift** modifier key pressed on keyboard and choose **Set** command of **Direction** submenu from **Structure** menu or click its shortcut button in **Structure** section of **Toolbar**. Green connection line will appear between these elements.



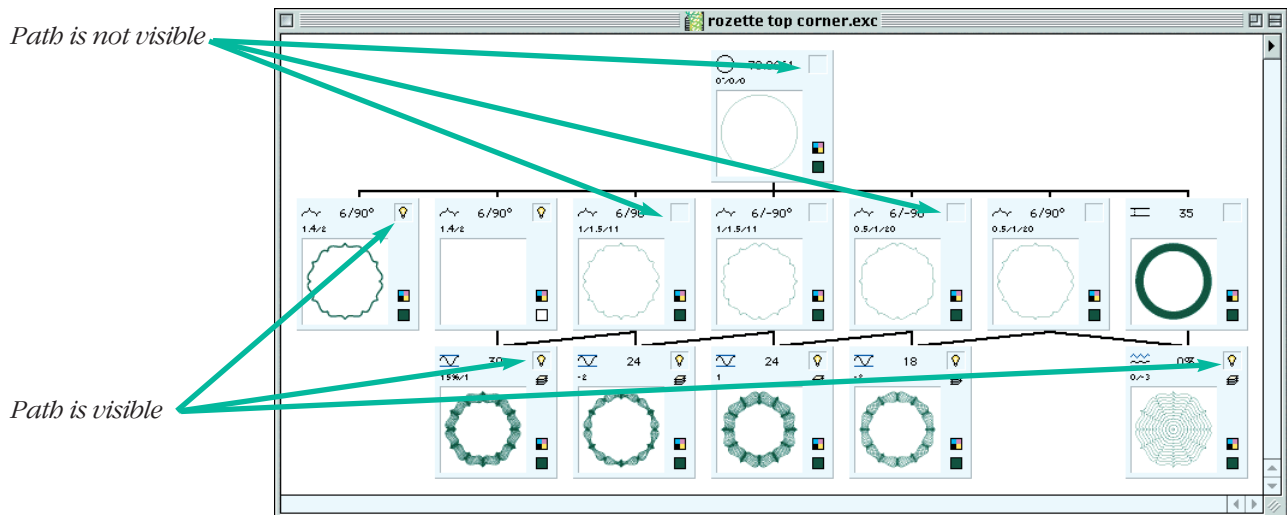
■ To restore object direction element to its base element use **Restore** command of **Direction** submenu from **Structure** menu or click its shortcut button in **Structure** section of **Toolbar**. Green connection line between two elements will disappear.



Paths of direction elements are used to guide paths of the objects they are assigned to. See **Chapter 2: Basic Conceptions of Using Excentro** guide for mechanics details and explanations and **Chapter 3: Structure Menu of Excentro Commands Reference** for illustrations and more details on commands of **Direction** submenu.

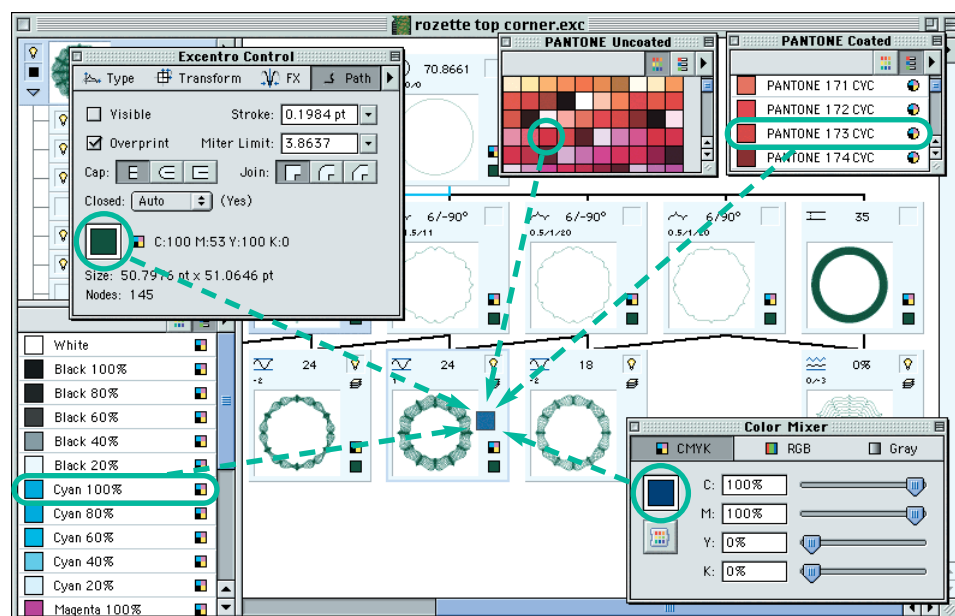
CHANGING OBJECT VISIBILITY

As was mentioned before 'light bulb' icon in right top corner of object's rectangle shows if path of the object is visible in document preview window and gets exported to *Adobe Illustrator* format. You can click this icon to switch on or off object path visibility. It has same effect as clicking **Visible** checkbox in **Path** panel of **Excentro Control** inspector, but in this case you do not have to select the object first.



SETTING OBJECT COLOR

The last but not the least in frequency of use action you can perform with objects in structure pane is setting objects color attribute. To do so, drag color patch from any appropriate source like color well of **Color Mixer**, list view or swatch view of swatch palette windows, color well of **Excentro Control** inspector or swatch list of *Excentro* document to rectangular representation of the object in structure pane. This action has same effect as dragging color patch to color well of **Excentro Control** inspector, but does not require to select the object first.

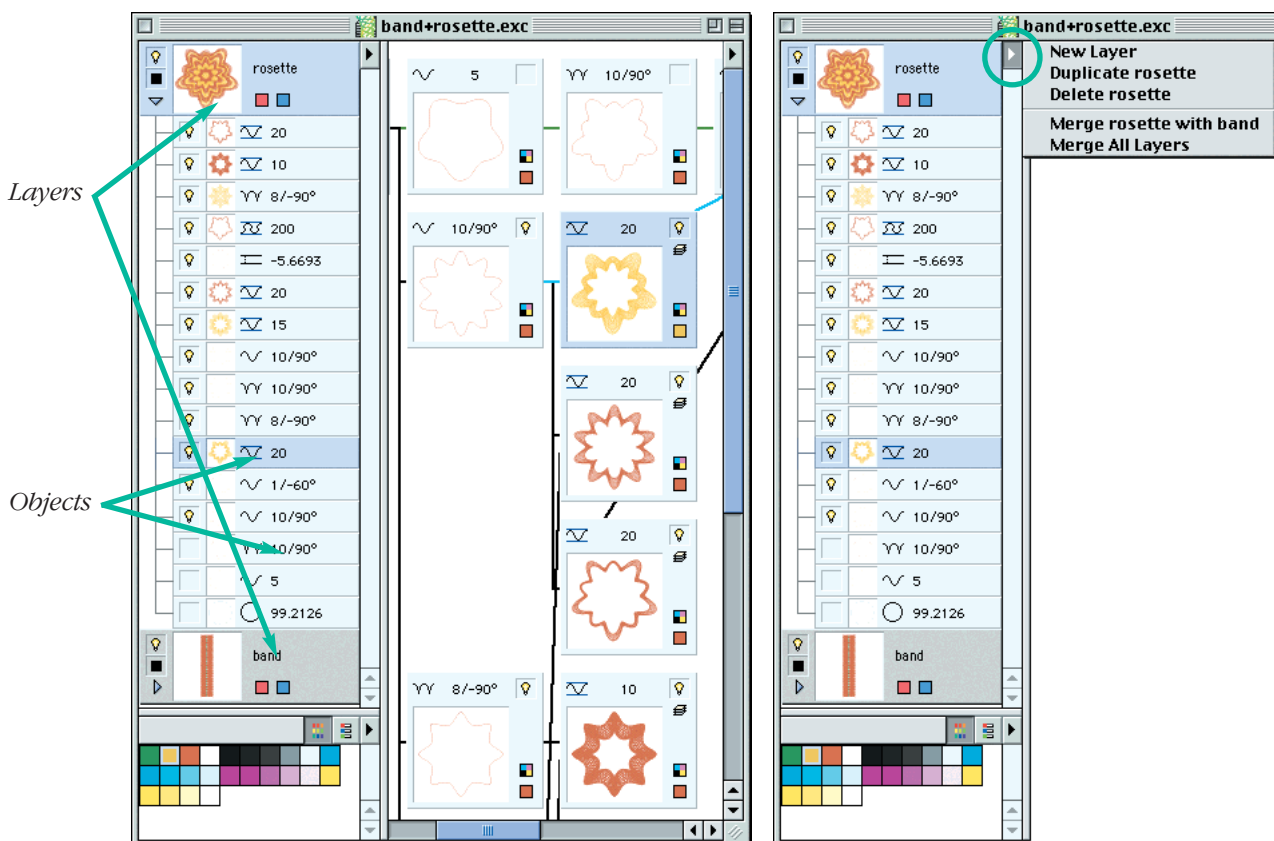


B: LAYERS LIST

Excentro documents may have several layers. Layers in *Excentro* serve same purpose as layers in *Adobe Illustrator*, *Macromedia FreeHand* or other graphics applications: they help you to split your guilloche design into several parts and work with each part independently. For example, you may have in single document one layer with guilloche background, another layer with borders, third layer with central rosette and few more layers with additional guilloche elements. While you work with any of these layers, only objects that belong to this layer are shown in structure pane of **main document window**. Objects on different layers are not shown in structure pane, visibility of paths of objects on other layers in document preview window can be switched off too, so they will not confuse you.

You can duplicate whole layer content, delete layer or copy layer from document to document with single simple actions. You may create several versions of your design elements on different layers of same document and decide which versions and layers you want to include in final export *Adobe Illustrator* format document right before export operation without deleting other layers beforehand. *Excentro* layers map directly to *Adobe Illustrator* layers when exported and have similar attributes.

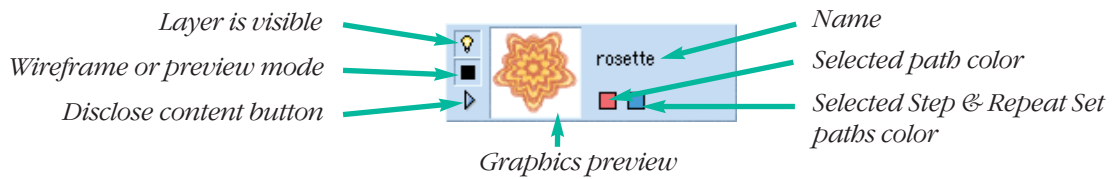
Excentro shows document layers in **layers list** of **main document window**. This window pane shows list of all document layers with their names and attributes. It also shows list of objects on every layer in front-to-back drawing order and allows you to change this order by dragging rectangle representations of the objects.



To manage document layers you can use commands of layers list menu (button with triangle in top right corner of layers list). These commands let you create new layers, merge, delete or duplicate existing ones.

LAYERS REPRESENTATION AND OPTIONS

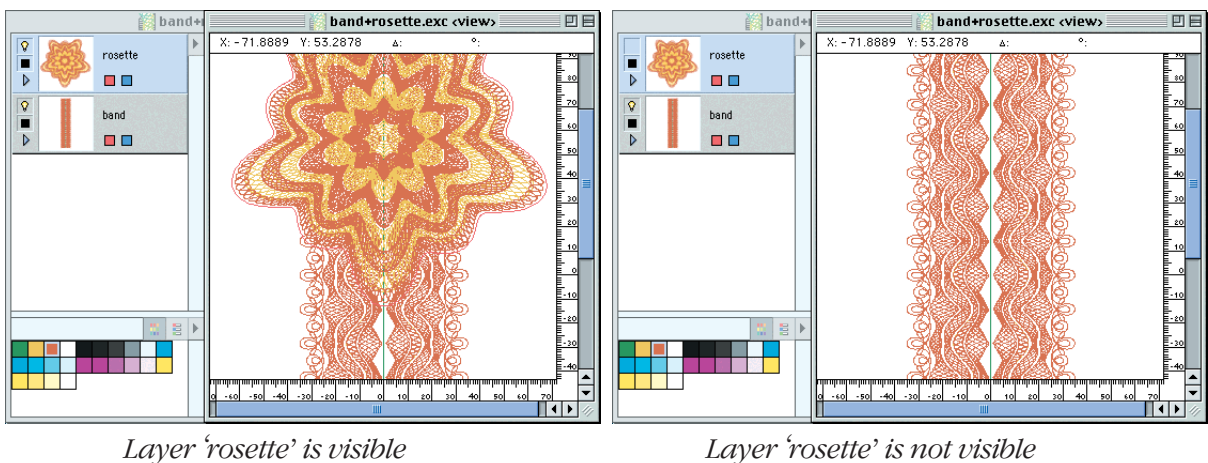
Document layers are shown as large rectangles in layers list. These rectangles show layer graphics preview, layer name and display options:



■ 'Light bulb' icon in right top corner of layer rectangle shows **visible** attribute of the layer. If 'light bulb' icon is displayed, then paths of objects on this layer are visible in document preview window, if 'light bulb' icon is not shown, then paths of objects on this layer are not visible.



You can click this icon to switch layer visibility on or off. For example, while working on guilloche design on one document layer you can switch visibility of all other layers off, so their paths will not intersect or overlap paths of objects you are changing at this moment in document preview window.

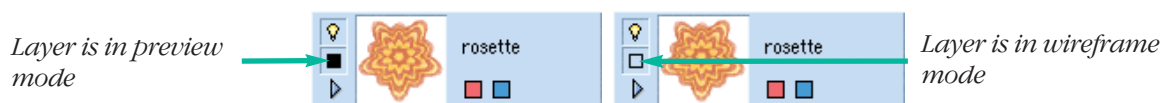


Layer 'rosette' is visible

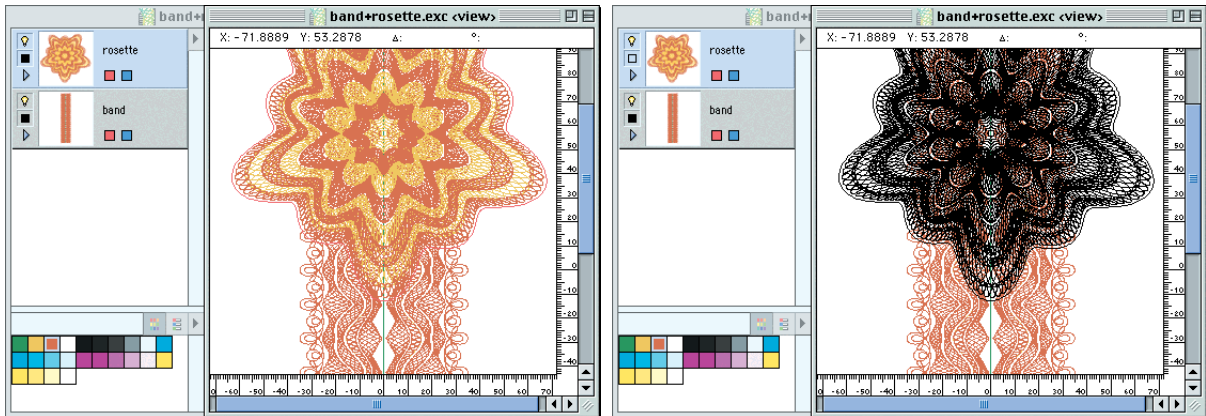
Layer 'rosette' is not visible

By default invisible layers are not included in exported document in *Adobe Illustrator* format. To override this behavior you can switch on **Include Invisible Layers** checkbox in **Export** panel of **Excentro Preferences** dialog. In this case invisible layers will be exported in *Adobe Illustrator* format and will become similar invisible layers in *Adobe Illustrator*.

■ Square icon below 'light bulb' icon can be either 'black square' or 'empty square'. In first case this layer is in **preview** mode and paths of its objects are shown with realistic stroke weight and color in document preview window, in second case the layer is in **wireframe** mode and paths of objects on this layer are shown as skeleton 1 pixel black paths regardless of their actual stroke weight and color attributes.



You can click this icon to toggle preview and wireframe display modes of the layer. For example, when you are setting stroke weight and color attributes for objects on some layer of the document, you can choose to toggle all other layers to wireframe mode and get better illustration of what paths belong to that layer without hiding other layers completely.

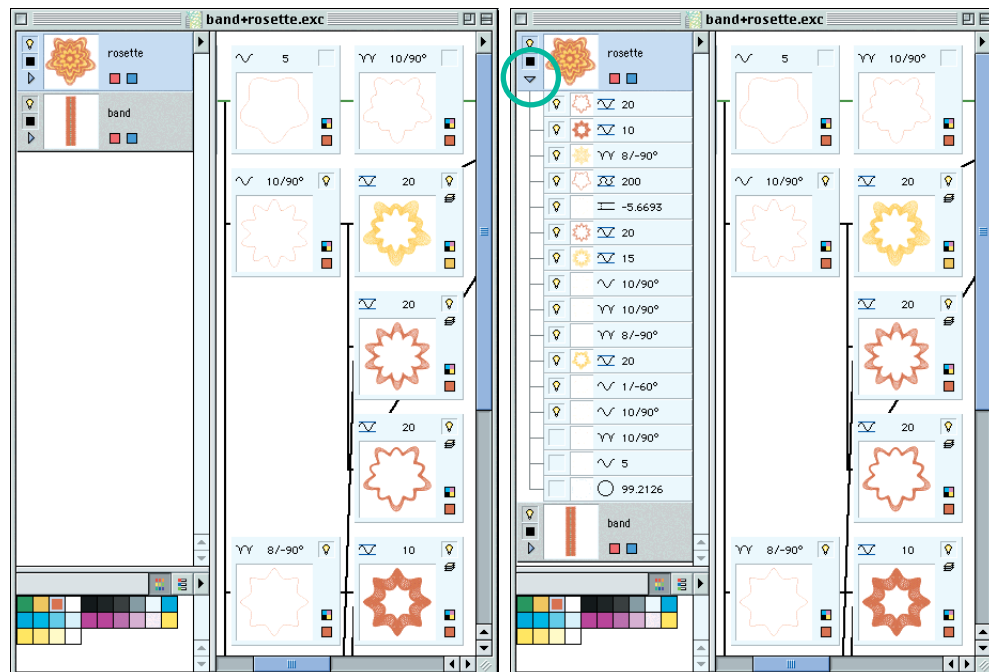


Both layers are in preview mode

Layer 'rosette' is in wireframe mode

Layers preview and wireframe display modes are used only when the document itself is in preview mode. When the document is in wireframe mode all paths on all of its layers are shown as 1 pixel black. Document wireframe or preview modes selection is controlled by **Wireframe/Preview** command from **View** menu of *Excentro* menu bar.

■ If you will click disclosure triangle button in left bottom corner of layer's rectangle, the layer will expand to show list of all objects it contains. The objects will be shown in front-to-back drawing order below their layer's rectangle in layers list.



Both layers are collapsed

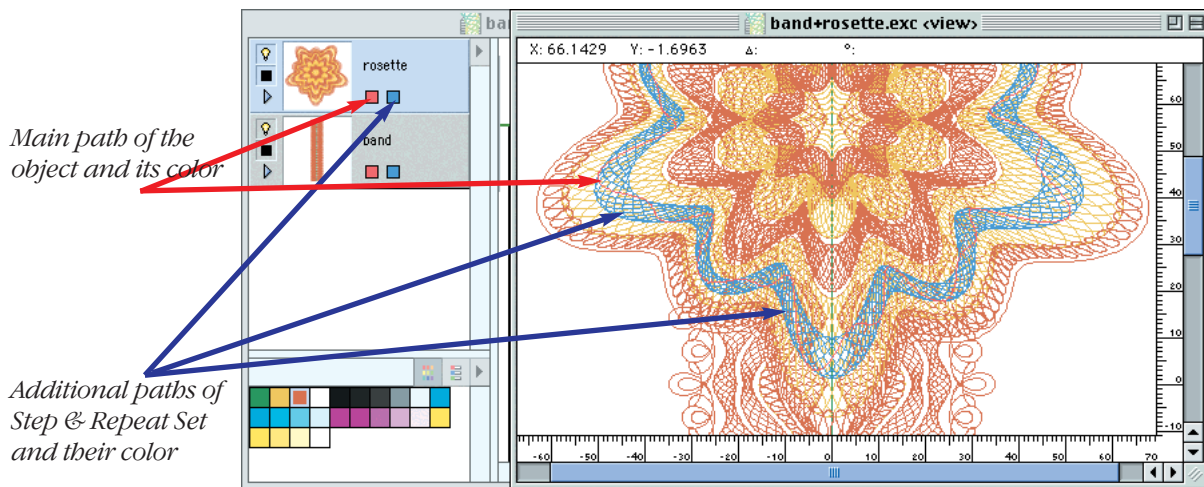
Layer 'rosette' is expanded

You can use object rectangles in the list to select objects in this layer, to change visibility attribute of their paths and to rearrange their drawing order. If you will click disclosure triangle button again content of this layer will become collapsed and its objects hidden.

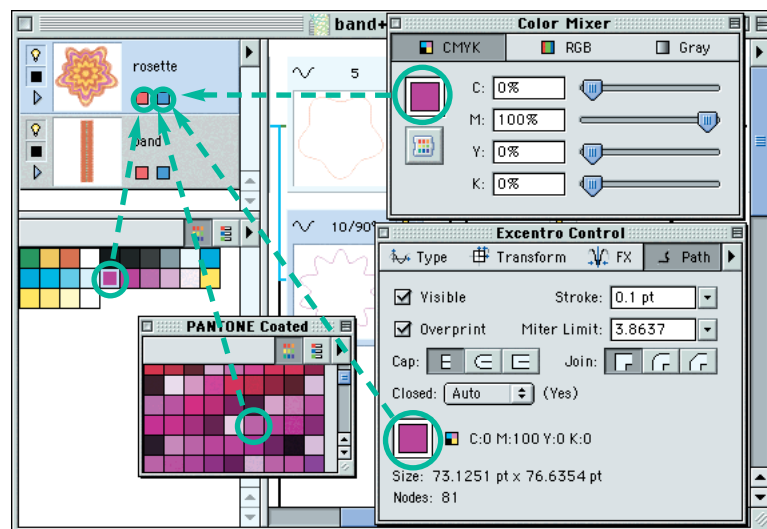
■ You can double-click string with name of the layer in layer's rectangle to edit it. When new layers are created *Excentro* by default names them in order of their creation as 'Layer 1', 'Layer 2', 'Layer 3', etc. You are not required to change these names, but assigning more meaningful names like 'Background' or 'Central rosette' can help you to identify proper layers more quickly in document layers list.



■ Two color patches in bottom part of layer's rectangle show colors used for paths selection in document preview window. Left patch shows color used to display main path of selected object, right patch is used to display additional paths that belong to Step & Repeat Sets (if selected object has any Step & Repeat Sets).



Each layer may have its own set of two colors used to show selected paths. To change these colors you can drag color patch from any color source: color well of **Color Mixer** inspector, color well of **Excentro Control** inspector, swatch palette window or document colors list to these patches in layer rectangle.



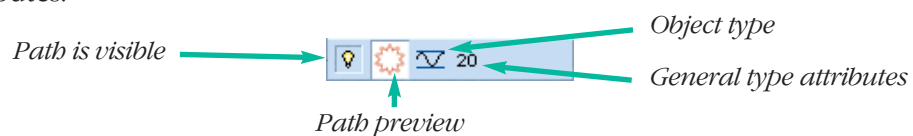
You can find setting different colors to different layers helpful if you would like to check visually if document selection belongs to this or that layer. You can set same color value to both colors used for paths selection. In this case main path and paths of Step & Repeat Sets will be displayed with same color in preview window.

Selection color used for main object path will be exported as selection color for that layer, when you export job in *Adobe Illustrator* format at the end of your work.

To set one of selection colors as current color of **Color Mixer** inspector you can double-click its color patch in layer's rectangle.

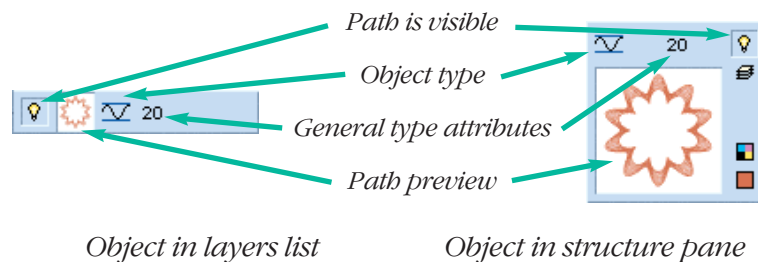
OBJECTS REPRESENTATION IN LAYERS LIST

When you expand layer's content by clicking disclosure triangle in left bottom corner of the layer's rectangle, list of guilloche objects on this layer becomes visible. Each guilloche object is represented by small rectangle that shows its path preview, object type and general attributes.



You can use object rectangles in the list to select objects in this layer, to change visibility and color attributes of their paths and to rearrange their drawing order.

Icons and attributes of objects rectangles are similar to those in objects rectangular representation in structure pane, but object's rectangle in layers list shows fewer fields to make this view more compact and suitable for list usage.



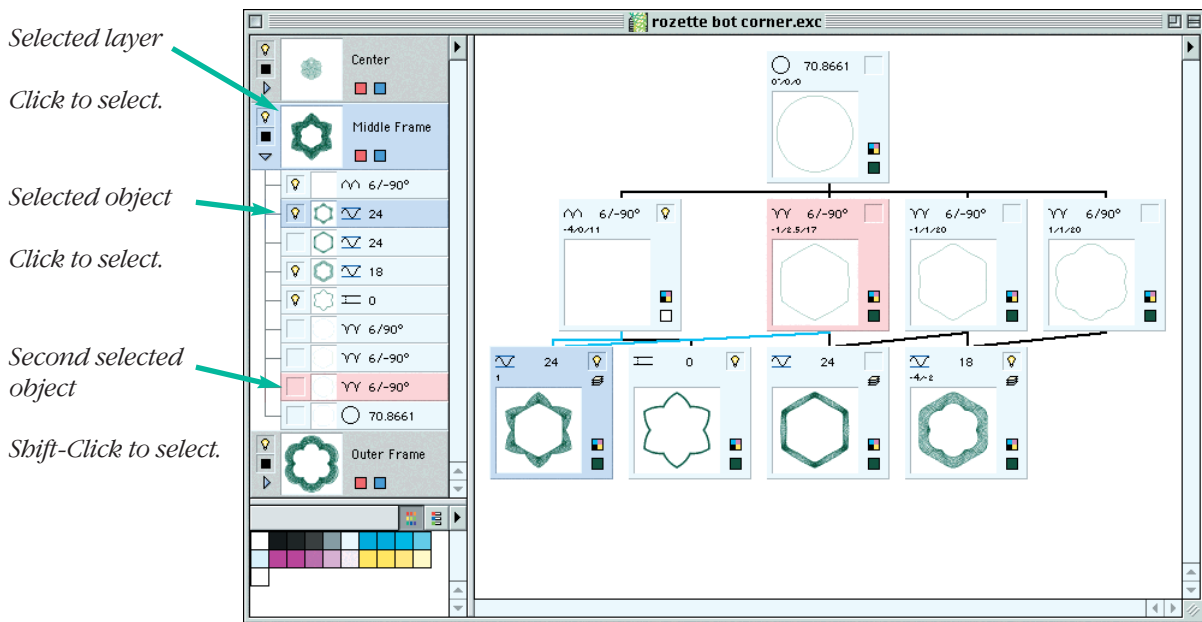
■ 'Light bulb' icon in right top corner of object rectangle is the only 'clickable' area. It shows if path of the object is visible in document preview window and gets exported to *Adobe Illustrator* format.



You can click this icon to switch on or off object path visibility. It has same effect as clicking similar icon in object's rectangle in structure pane or clicking **Visible** checkbox in **Path** panel of **Excentro Control** inspector.

LAYERS AND OBJECTS SELECTION

Selected layer in layers list has structure tree of its objects shown in structure pane of **main document window**, so you could work with it as described in previous section about structure pane. To select layer you want to work with click its rectangle in layers list. Selected layer rectangle is shown with blue color in layers list.

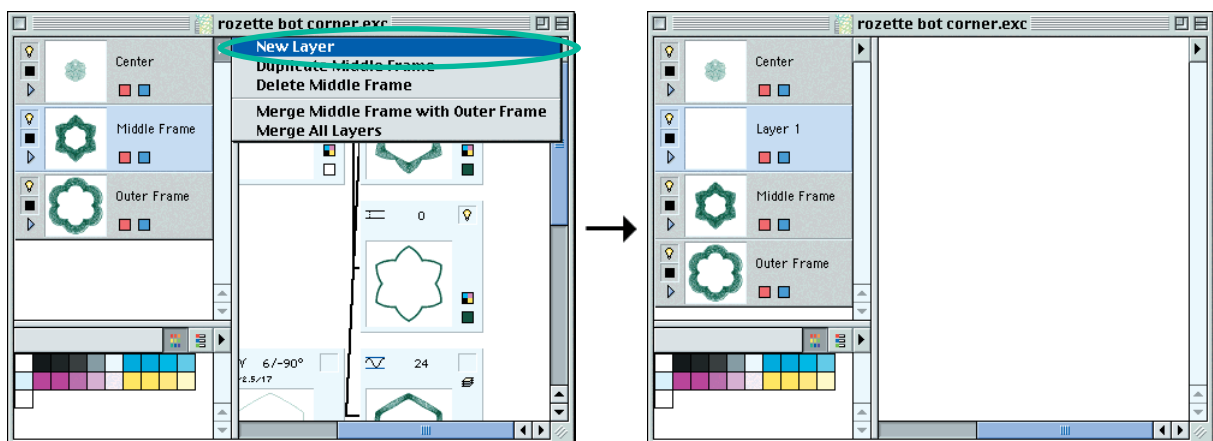


You can also use layers list to select guilloche objects in similar way like you would do it in structure pane. To select object click its rectangle with mouse pointer. To select second object for some operations like creation of content elements, press **Shift** key before clicking its rectangle with mouse. Selected object is shown with blue color in layers list, second selected object is shown with red color. Attributes of selected object are displayed and could be modified in **Excentro Control** inspector.

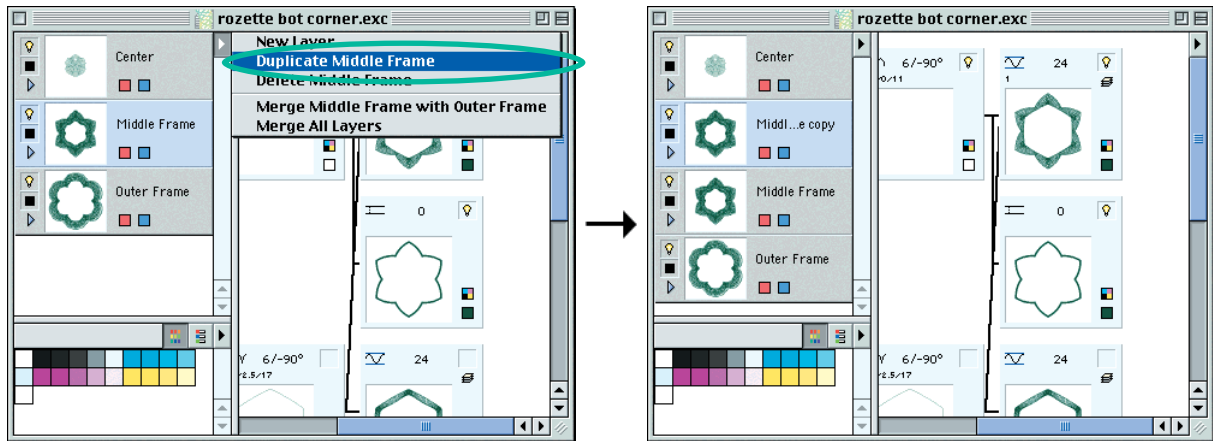
If you click object that belongs to layer that is not currently selected, layers selection will be changed as well and content of the layer shown in structure pane.

CREATING LAYERS

■ To add new layer to document choose **New Layer** command from layers list menu (button with triangle in top right corner of layers list). New layer will be inserted before currently selected one in layers list. It will become selected layer, but since it contains no objects structure pane will be clear. Now you can start adding guilloche objects to this layer using commands from **Structure** menu. *Excentro* automatically assigns names to new layers that reflect order of their creation: 'Layer 1', 'Layer 2', etc. You can change layer name to more convenient one by double-clicking name string in layer's rectangle.

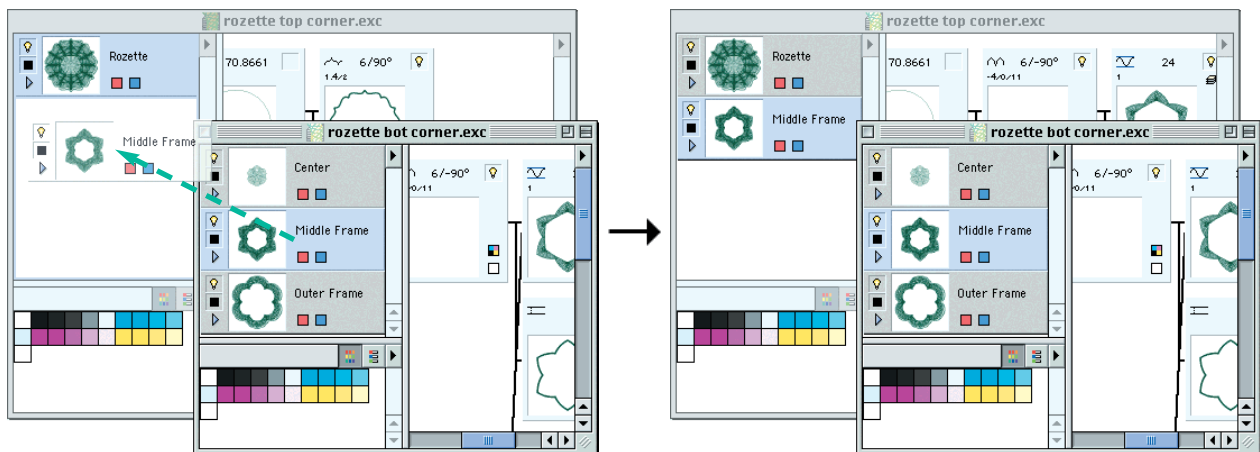


■ You can create new layers by duplicating existing layers in the list. To duplicate selected layer choose **Duplicate Layer** command from layers list menu. New copy of the layer will be inserted before selected layer in the list. This layer will have identical structure tree with all objects and attributes of selected layer duplicated. Newly created layer will be selected in the list after the operation. Name of the layer will have 'copy' word added to the name of original layer. You can change the layer name to more convenient one by double-clicking name string in layer's rectangle.



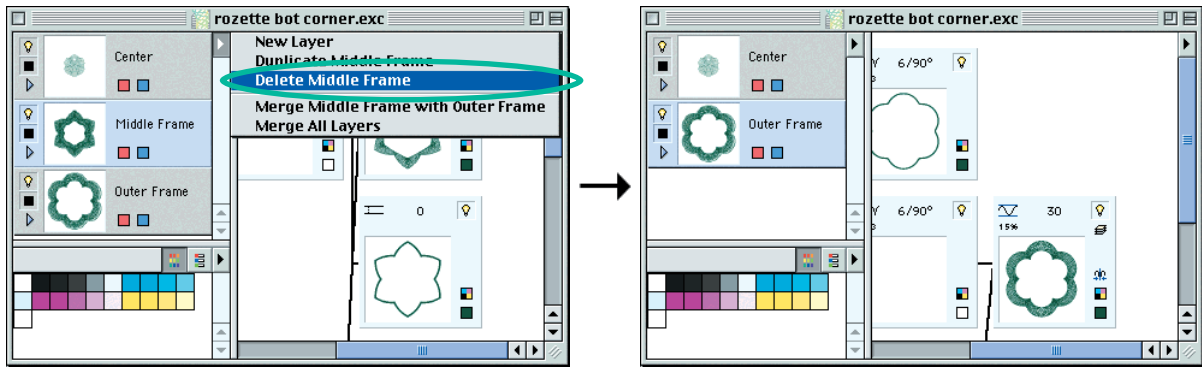
Title of **Duplicate Layer** command reflects selected layer name, so you can make another check that proper layer is selected before choosing this command.

■ You can also create new layers by copying them from another document. To do so, drag layer's rectangle from layers list of source document to layers list of destination document. Release mouse button and new copy of dragged layer with all objects and attributes will be created at destination.



DELETING LAYERS

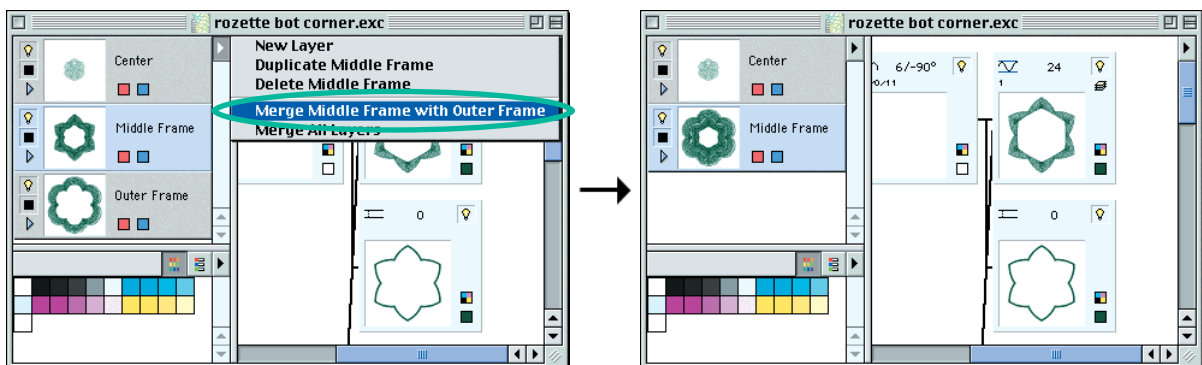
To delete selected layer from document choose **Delete Layer** command from layers list menu (button with triangle in top right corner of layers list). The layer and all objects it contains will be deleted (see picture on next page). Next layer in the list will be automatically selected after the operation. You can undo layers deletion later, if you change your mind or deleted wrong layer by mistake.



Title of **Delete Layer** command reflects selected layer name, so you can make another check that proper layer is selected before choosing this command.

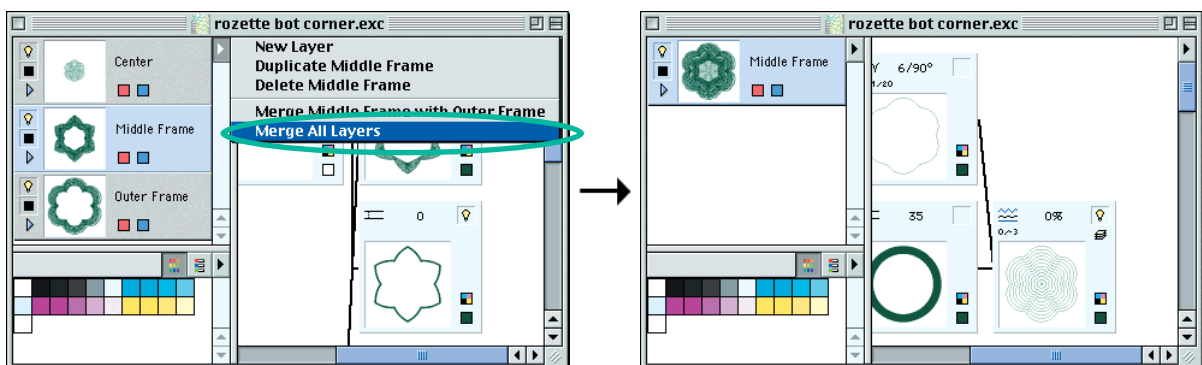
MERGING LAYERS

■ You can merge contents of selected layer and layer below it in layers list using **Merge Layers** command from layers list menu. Objects that belong to layer below selected one will be moved to selected layer and empty layer below will be removed from document. If there is no layer below the selected one, content of selected layer will be merged this command with content of the layer above.



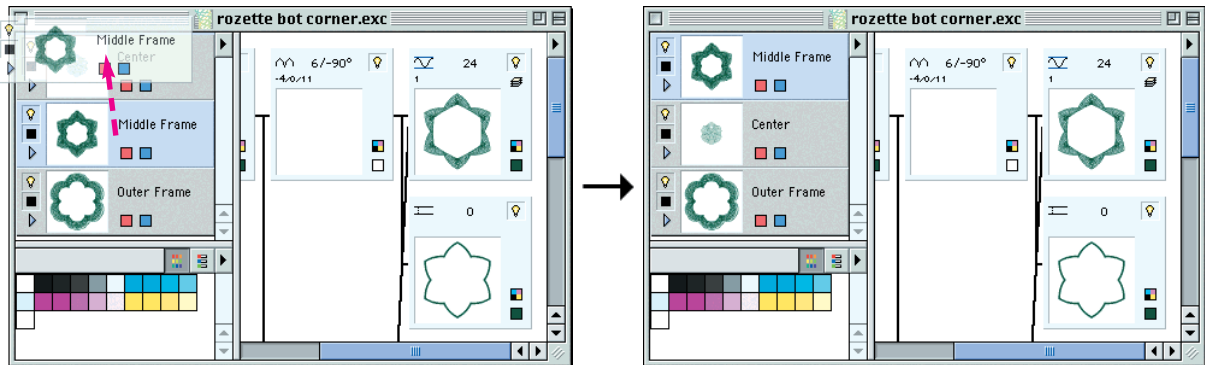
Title of **Merge Layers** command contains names of layers that will be merged, so you can make another check that proper layer is selected before choosing this command.

■ You can merge contents of all layers in document layers list using single **Merge All Layers** command from layers list menu. Objects that belong to other layers will be moved to selected layer and empty layers will be removed from document.

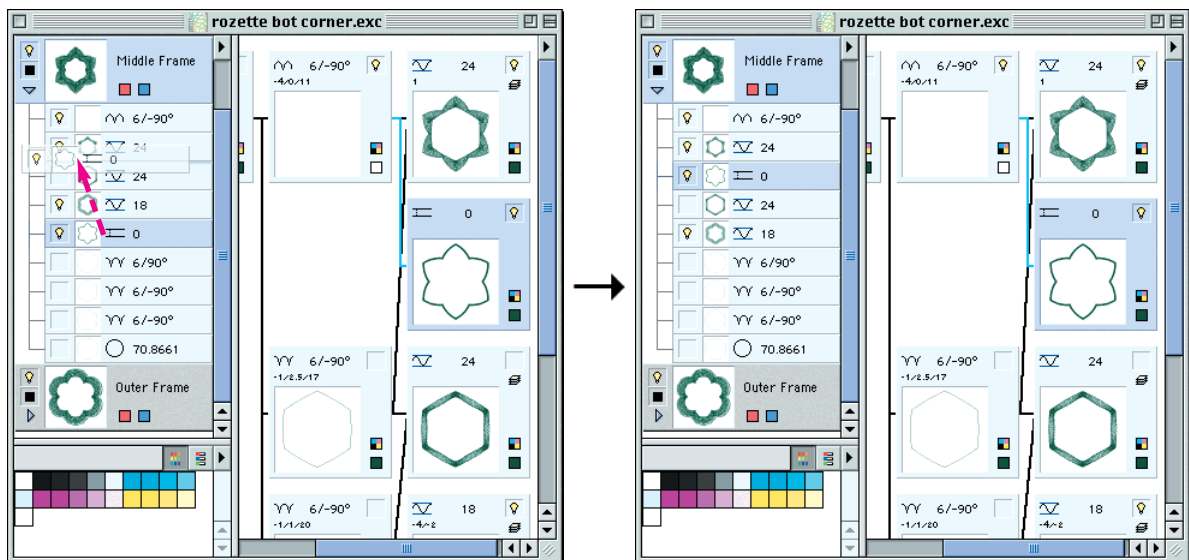


REARRANGING LAYERS AND OBJECTS ORDER

■ The order of layers in the lists corresponds to layers front-to-back drawing order: paths of objects that belong to layers at top appear above paths of objects that belong to layers below them. You can rearrange this order by dragging layers rectangles with mouse. Drag selected layer rectangle to desired position in the list, release mouse button and layers order will be updated accordingly as well as graphics in document preview window.



■ In similar way you can rearrange front-to-back drawing order of objects on each layer. Click disclosure triangle in left bottom corner of layer's rectangle to expand layer's content, then select object you want to change front-to back order for with mouse click and drag its rectangle to desired position in the list of this layer objects. Paths of objects located below selected object in layers list appear below its path in document preview window, paths of objects above selected object in layers list overlap its path in document preview window. You can not move object to another layer by dragging its rectangle in layers list.

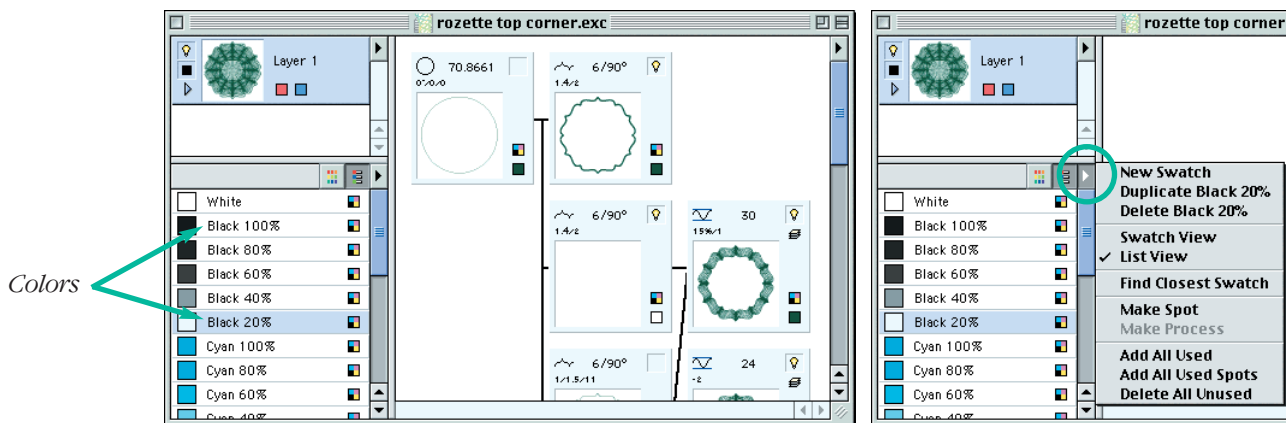


Another way to rearrange front-to-back drawing order for objects is to use commands in **Arrange** menu of *Excentro* menu bar. With these commands you can move object one position up (**Bring Forward**) or down (**Send Backward**) or straight to the top (**Bring to Front**) or bottom (**Send to Back**) of its layer objects list. See **Chapter 4: Arrange Menu of Excentro Commands Reference** for more details and illustrations.

C: COLORS LIST

Just like many others graphics design applications *Excentro* allows you to keep with document set of colors used to colorize paths of this document objects. This set of colors is displayed in colors list of **main document window**, it is saved with *Excentro* document and gets exported with final design to *Adobe Illustrator* format file to be displayed in **Swatches** palette of this application.

One of the reasons why managing document colors list is important is that guilloche designs are often printed with fixed number of spot colors. So you can choose these colors at the beginning of your work and later use only them for guilloche paths of your design. By modifying color values of any of these colors in the list you can quickly change color of all paths this list entry was used for.

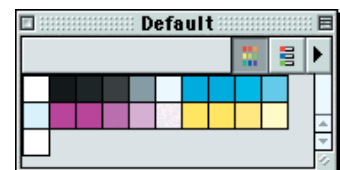


To manage document colors you can use commands of colors list menu (button with triangle in top right corner of colors list). These commands let you create new color entries, delete or duplicate existing ones, convert process colors to spot colors.

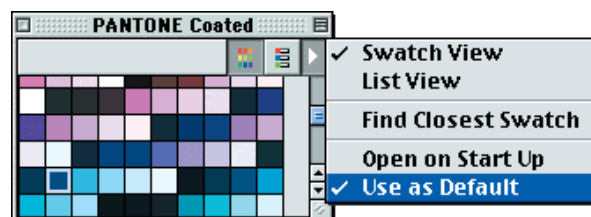
Initially, when you create new *Excentro* document, its colors list is not empty. It contains color entries from default swatch palette file. This could be:

- Swatch palette file named '**Default**' located in '**Swatch Palettes f**' folder that could be found in same folder as *Excentro* application. This is *Excentro* document that gets copied to this location when you install *Excentro* application. Later you can edit this file, so that it contains colors that you use most frequently in your designs.

Excentro 1.5.3	1.7 MB	Oct 29, 2003, 6:46 AM
Excentro Samples f	--	Dec 7, 1998, 11:17 PM
Excource Excentro Read Me	52 KB	Oct 29, 2003, 7:10 AM
Settings f	--	Nov 17, 2002, 1:28 AM
Swatch Palettes f	--	Today, 3:03 PM
Default	12 KB	Sep 9, 2002, 11:34 PM



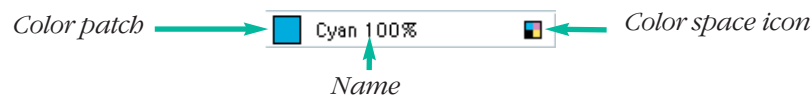
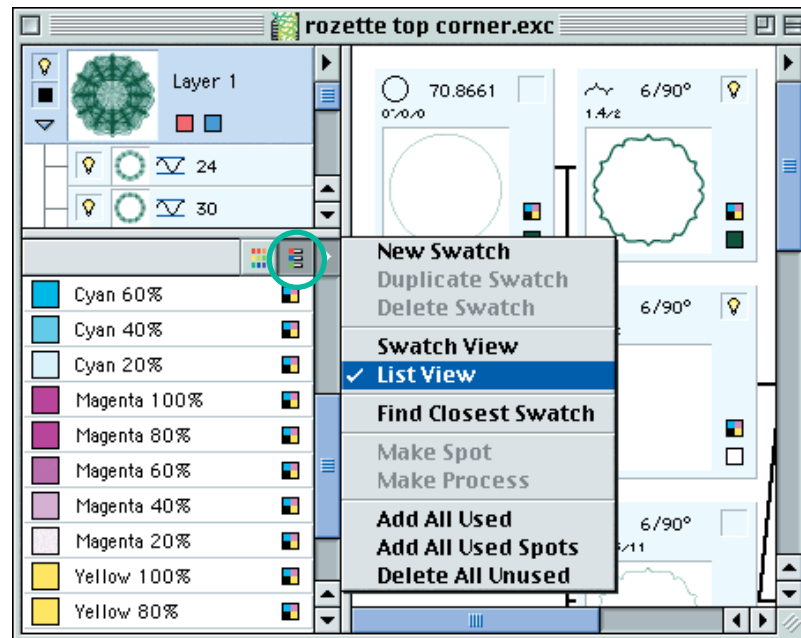
- Any other swatch palette file with **Use as Default** option checked in its window menu.



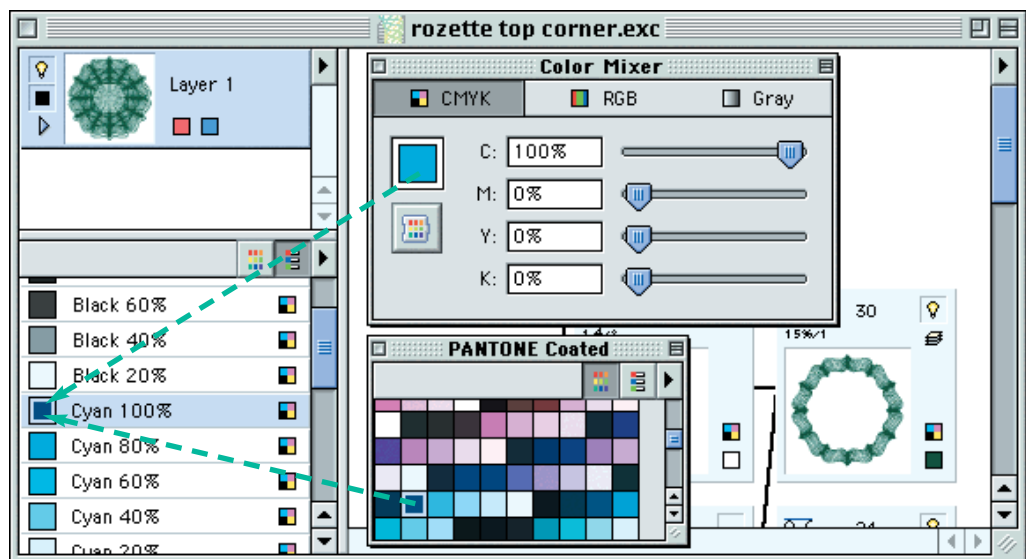
VIEW MODES

Document colors list may be presented in one of two view modes: **List View** or **Swatch View**. You can switch between these modes by clicking buttons in top part of colors list or by using colors list menu:

■ **List View** is the default view for colors list. This view mode shows color patch, color name, and color system icon that also helps to identify this list entry as spot or process color. Colors list entries are shown as rectangles in colors list.



◆ Small color patch rectangle gives you visual representation of color entry value. You can use this patch to change color value of this entry by dragging color patch from any area that could serve as color source: color well of **Color Mixer**, color well of **Excentro Control** inspector, list view or swatch view area of swatch palette window or colors list of another *Excentro* document to this small rectangle.



If name of the color entry was created automatically after adding this color from **Color Mixer** it will be changed together with its color value (if new name will be still a unique name in the colors list). All objects in *Excentro* document that were assigned this color value will have their color attributes updated to new one as well.

◆ You can double-click string with name of color entry to edit it. When new color entries are created by adding colors to the list from **Color Mixer**, *Excentro* by default creates their names from numeric attributes of the color, e.g. *C:0 M:79 Y:91 K:0* if color is in **CMYK** color space, *R:196 G:35 B:39* if color is in **RGB** color space, *K:63* if color is in **Grayscale** color space, or *42% PANTONE 101 CVC* if color is a tint percentage of **Spot Color**. You can edit these names to make them more meaningful for your work.

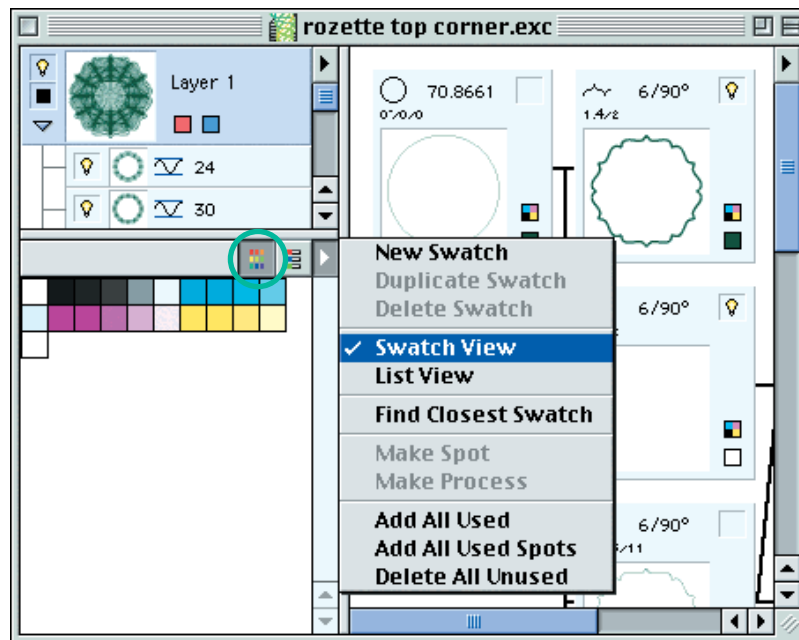
Double-click to edit



◆ Icons on right side of list entry rectangle show color space of the entry: **RGB**, **CMYK** or **Grayscale** and if it is **Spot** or **Process** color. Spot colors have round icons, process colors have square icons.

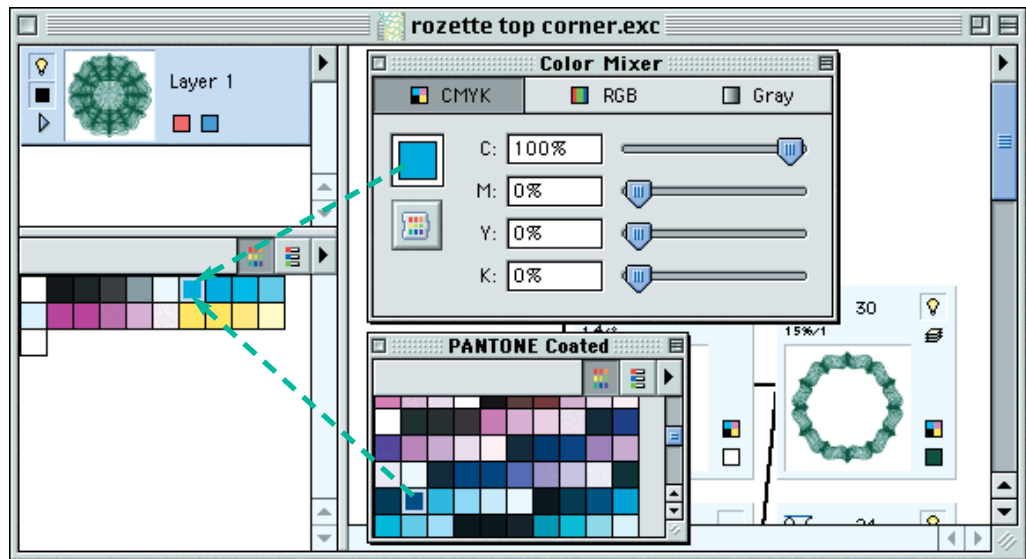
CMYK Process Color	
CMYK Spot Color	
RGB Process Color	
RGB Spot Color	
Gray Color	

■ **Swatch View**. This view mode shows only color patches of list entries that show visual representation of their color values. This mode gives you more compact view of colors list, that makes sense if your document has many entries in its color list.



As it is with **List View** mode, you can use color patches to change color value of list entry by dragging color patch from any area that could serve as color source: color well

of **Color Mixer**, color well of **Excentro Control** inspector, list view or swatch view area of swatch palette window or colors list of another *Excentro* document to this small rectangle.

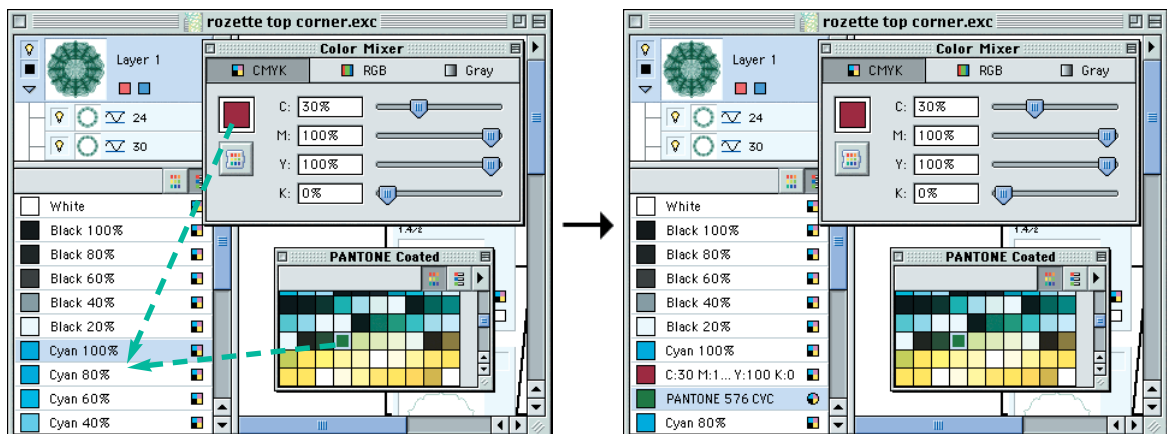


If name of the color entry was created automatically after adding this color from **Color Mixer** it will be changed together with its color value (if new name will be still a unique name in the colors list). All objects in *Excentro* document that were assigned this color value will have their color attributes updated as well.

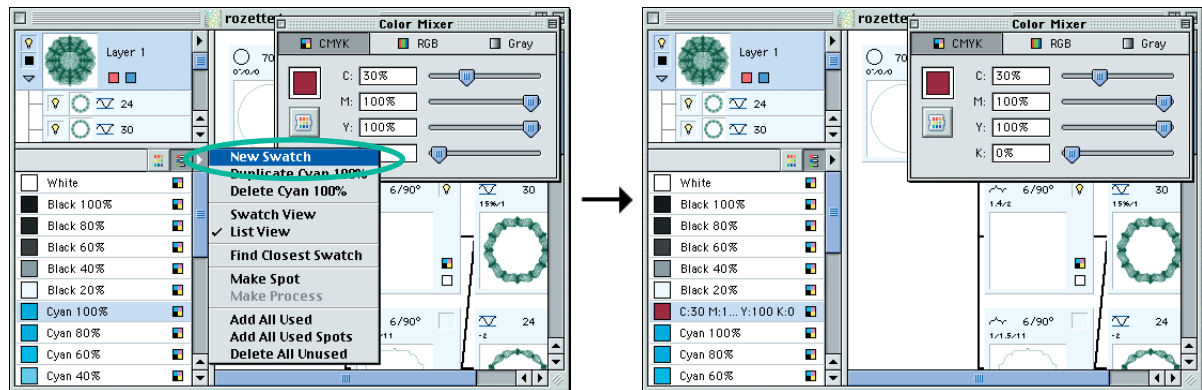
CREATING COLORS

You can add new color entries to document colors list in number of ways:

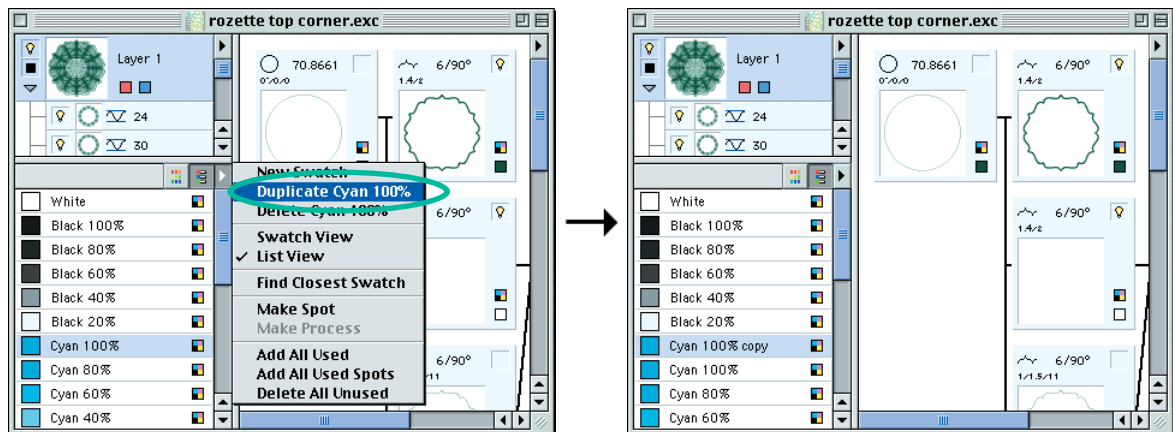
■ The most practical way to add new color entry is to drag color patch from any area that could serve as color source: color well of **Color Mixer**, color well of **Excentro Control** inspector, list view or swatch view area of swatch palette window or colors list of another *Excentro* document to colors list of **main document window**. Drop color patch in list area and new entry will be created at this location. Be careful not to drop color patch on color patch rectangle of existing colors list entry — this is the way to change color of this entry, not to create new one.



■ Another way to add to the list new entry with current **Color Mixer** color value is to use **New Swatch** command from colors list menu. New color entry will be created above current selection in the list. As was mentioned above, name for this entry will be created from numeric attributes of the color. You can edit the name to make it more meaningful for your work

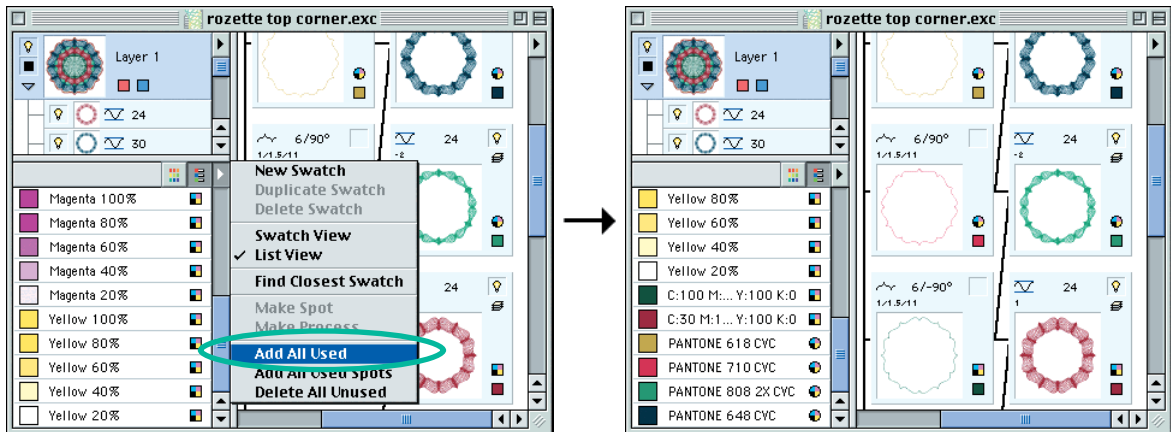


■ You can also create new entries in the list by duplicating existing ones. Select color list entry you want to duplicate with mouse click and choose **Duplicate Swatch** command from colors list menu. New entry will be inserted in the list above current selection. This entry will have same color value as selected entry. Word 'copy' will be added to its name, you can change the entry name to more convenient one by double-clicking name string in its rectangle.



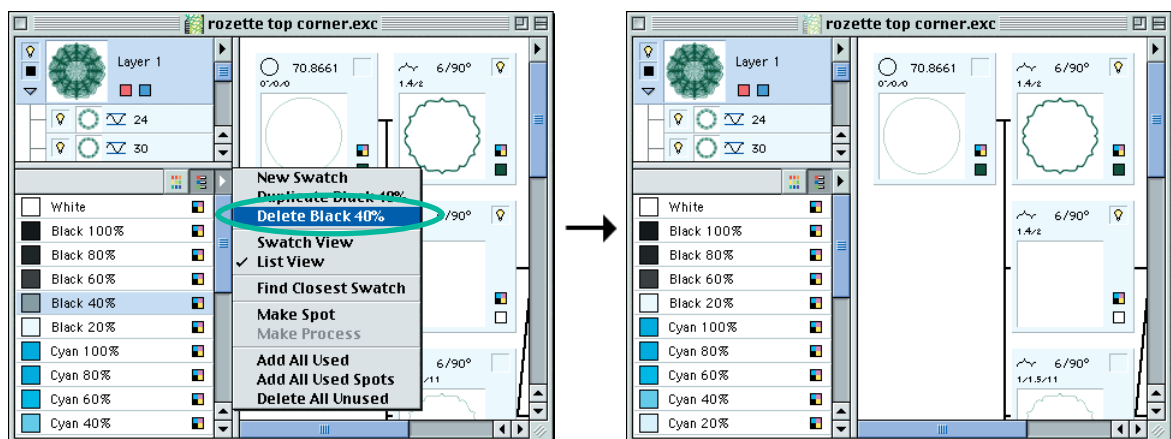
Title of **Duplicate Swatch** command shows name of selected colors list entry, so you could make another check that proper entry is selected before choosing this command.

■ If you assigned color attributes to objects by dragging color patches to objects representations in structure pane or layers list directly from color well of **Color Mixer** or swatch palette windows, or if you copied objects and layers from other documents with colors lists different from that of current document, you can later add all colors used to colorize objects paths in this document to colors list with help of **Add All Used** command from colors list menu. When you choose this command *Excentro* will compare color attributes of all objects in the document with entries in its colors list and if it will find any objects with color values missing from colors list it will add new entries to the list with these values. New entries will be added to the end of the colors list. **Add All Used Spots** command is special version of **Add All Used** command that works only with spot colors. It adds to document colors list missing spot color entries. If document has any objects that use process colors missing from colors list, these colors will not be added by this command.



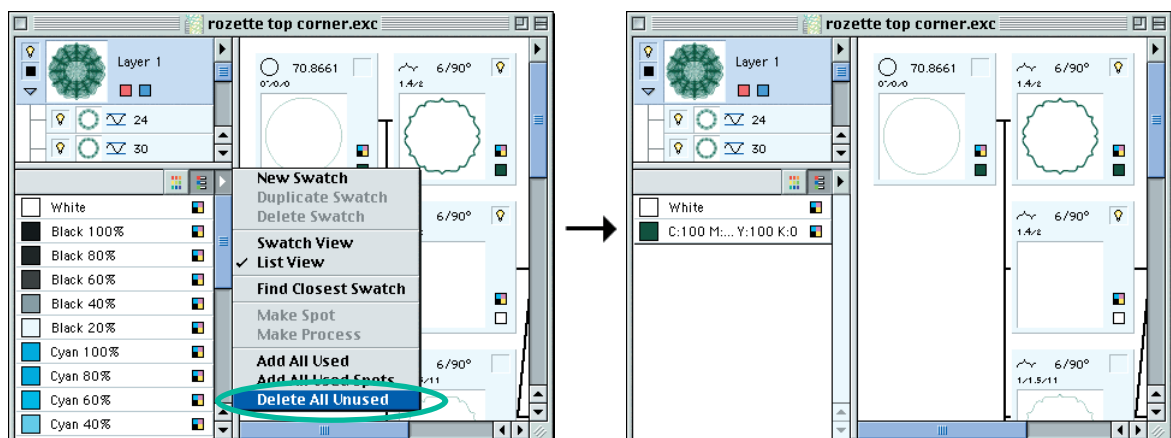
DELETING COLORS

■ To delete selected swatch from swatches list choose **Delete Swatch** command from swatches list menu (button with triangle in top right corner of the list). The swatch will be deleted.



Title of **Delete Swatch** command shows name of selected swatch, so you can make another check that proper swatch is selected before choosing this command.

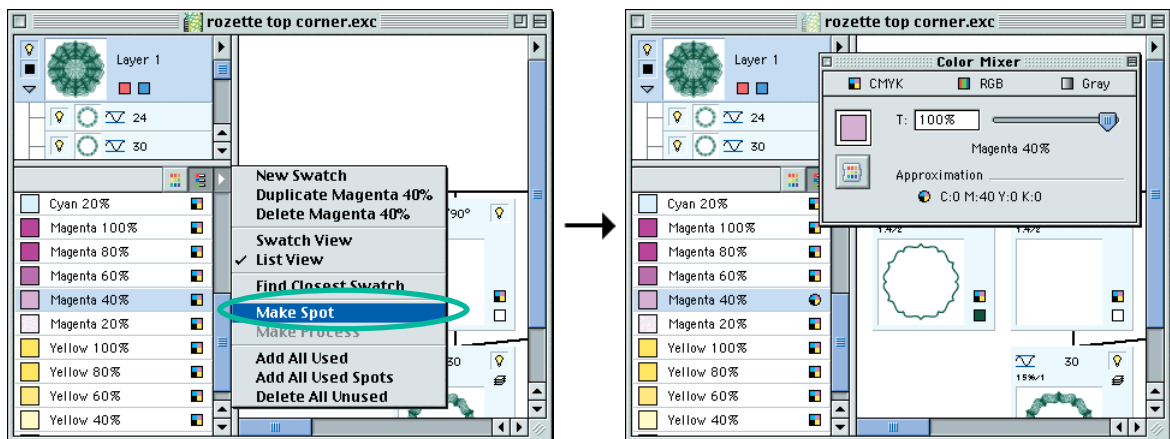
■ You can also clean up swatches list by deleting all swatches that are not used to colorize paths of objects in this document. Choose **Delete All Unused** command from swatches list menu and all unused swatches will be deleted.



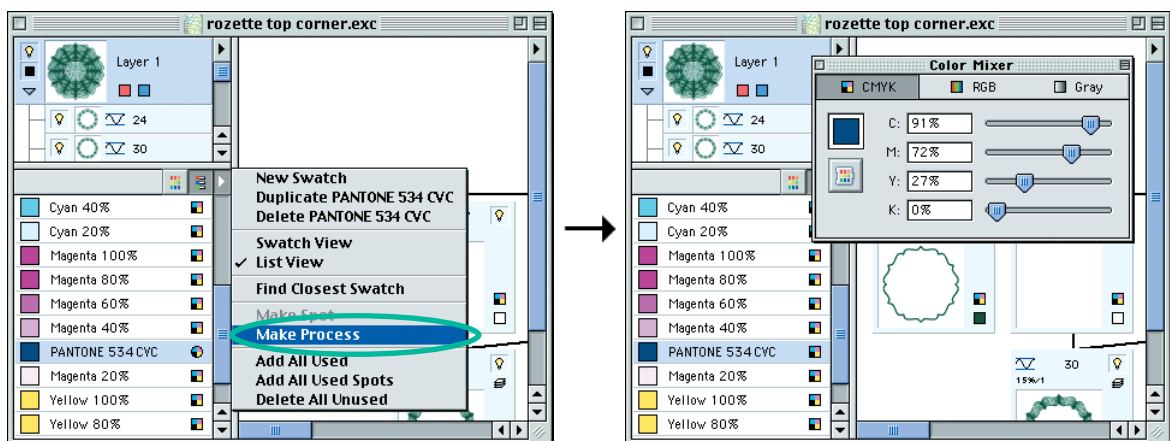
MAKING SPOT AND PROCESS COLORS

Colors list of **main document window** is the place where you can convert process colors to spot colors and back again. You can accomplish this task with **Make Spot** and **Make Process** commands from colors list menu.

■ To convert selected process color to spot color choose **Make Spot** command from colors list menu. Square color space icon (if colors list is in **List View** mode) will be replaced by round color space icon that identifies spot colors. If you double click selected color in the list after this operation **Color Mixer** will show this color as spot color with single **T** slider that allows you to set tint percentage of spot color.

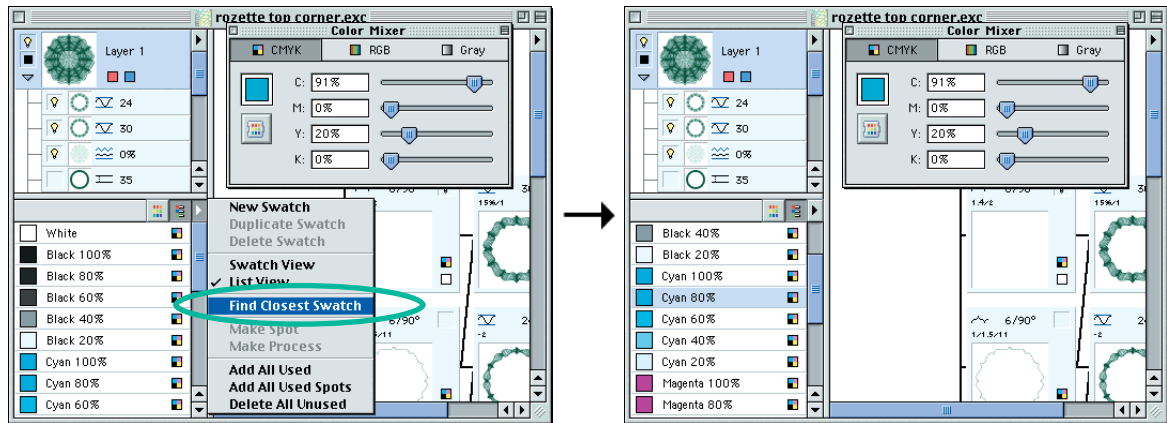


■ **Make Process** command is the opposite of **Make Spot** command. To convert selected spot color to process color you can choose **Make Process** command from colors list menu. Round color space icon (if colors list is in **List View** mode) will be replaced by square color space icon that represents spot colors. If you double click selected color in the list after this operation **Color Mixer** will show this color as a process color in appropriate color space panel (**CMYK**, **RGB** or **Grayscale**).



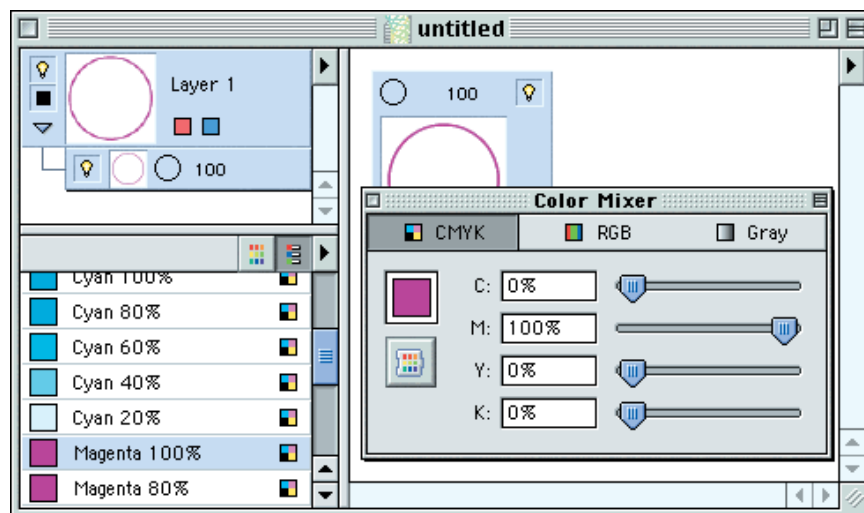
FIND CLOSEST SWATCH

You can use **Find Closest Swatch** command from colors list menu to select the color entry in the list with closest color values to current **Color Mixer** color. This command is available only when color management is switched on with **Use ColorSync™** checkbox in **Color** panel of **Excentro Preferences** dialog. Colors are compared using ΔE values of their coordinates in Lab color space. Results might differ depending on current *ColorSync* profiles preferences.



SETTING CURRENT COLOR MIXER COLOR

To inspect color values in document colors list before applying them to objects or to mix a tint of spot color you may want to set color of selected entry in the list as current color of **Color Mixer**. To do that you can either double click selected entry in the list or drag its color patch to color well of **Color Mixer** as shown by arrow on picture below.

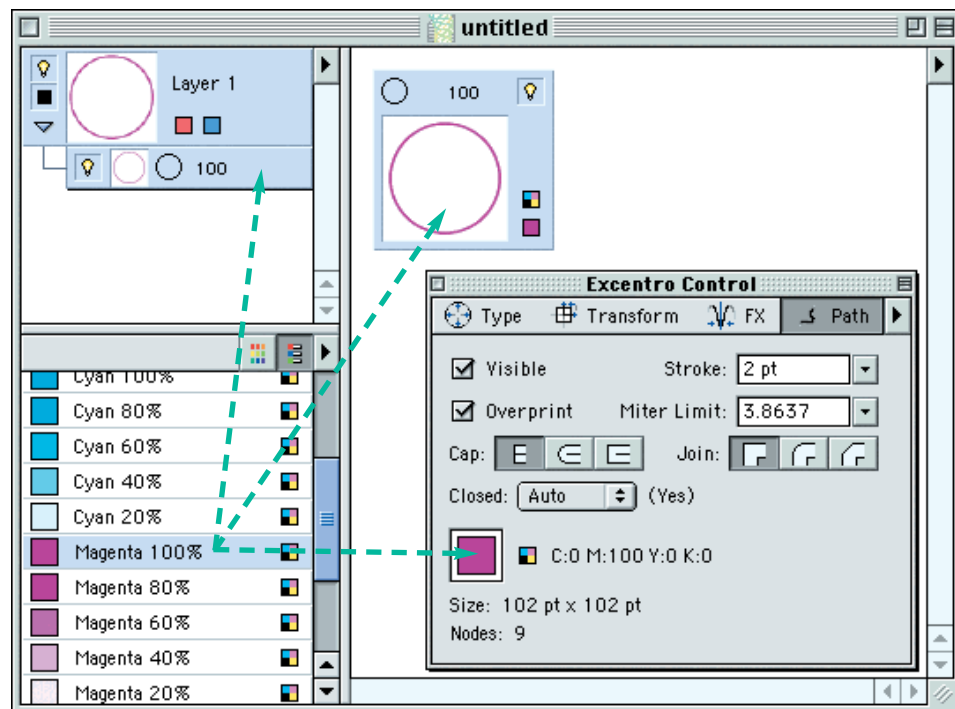


If **Color Mixer** window was closed before you double clicked a color entry in colors list, it will reappear on screen in the same location it was shown last time it was used. If **Color Mixer** window was collapsed to color space titles and icons bar it will be restored to normal size. Proper color space panel: **CMYK**, **RGB**, **Grayscale** or **Spot Color** will be selected to show color values.

APPLYING COLOR TO OBJECTS

Assignment of color attributes to objects in *Excentro* should be performed with explicit drag-and-drop actions. This way you do not have to disselect objects just to explore contents of colors lists or experiment with color sliders in **Color Mixer**. To apply color from colors list of **main document window** to object you can do one of the following:

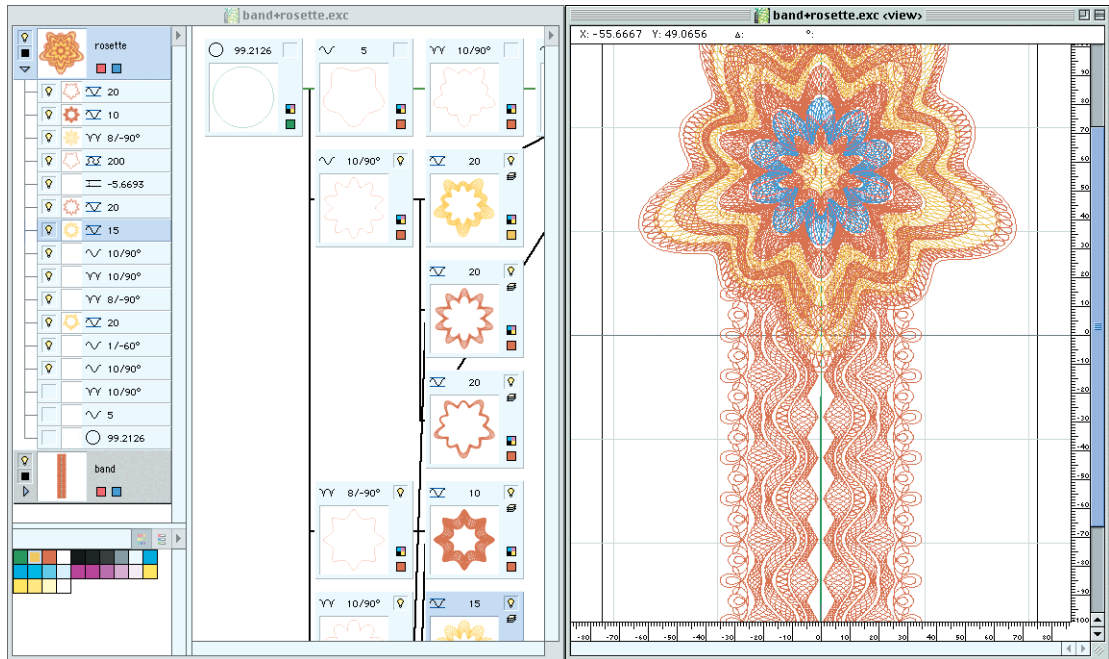
- Drag color patch from the colors list to rectangle that represents the object in structure pane or layers list. This way you can change color of objects without selecting them first. It could be more comfortable method if you want to set same color to more than one object without changing current selection.
- Select the object you want to change color of in **main document window** or preview document window, then open **Path** panel of **Excentro Control** inspector and drag color patch from the colors list to color well of **Excentro Control**.



Assignment of color with drag-and-drop actions is used not only for colors from the colors list of **main document window**, but also for colors from **Color Mixer** and **Swatch palette** windows. Just drop color patch you want on object in document window or color well in **Excentro Control** inspector to set this value to the object.

CHAPTER 4: DOCUMENT PREVIEW WINDOW

Each *Excentro* document has two windows to display its content: **main document window** that shows document structure, layers list and colors list and **document preview window** that shows graphics representation of guilloche design. **Document preview window** has <view> suffix added to document name in its title bar and is usually located in right part of the screen.



Graphics display in **document preview window** is similar to what you will see in vector drawing applications like *Adobe Illustrator* after finished guilloche will be exported with **Export** command from **File** menu. Like windows of *Adobe Illustrator* **document preview window** shows document graphics content and page size area, contains positioning grid and rulers, displays paths of current selected object and supports different preview modes like **Preview** or **Wireframe**.

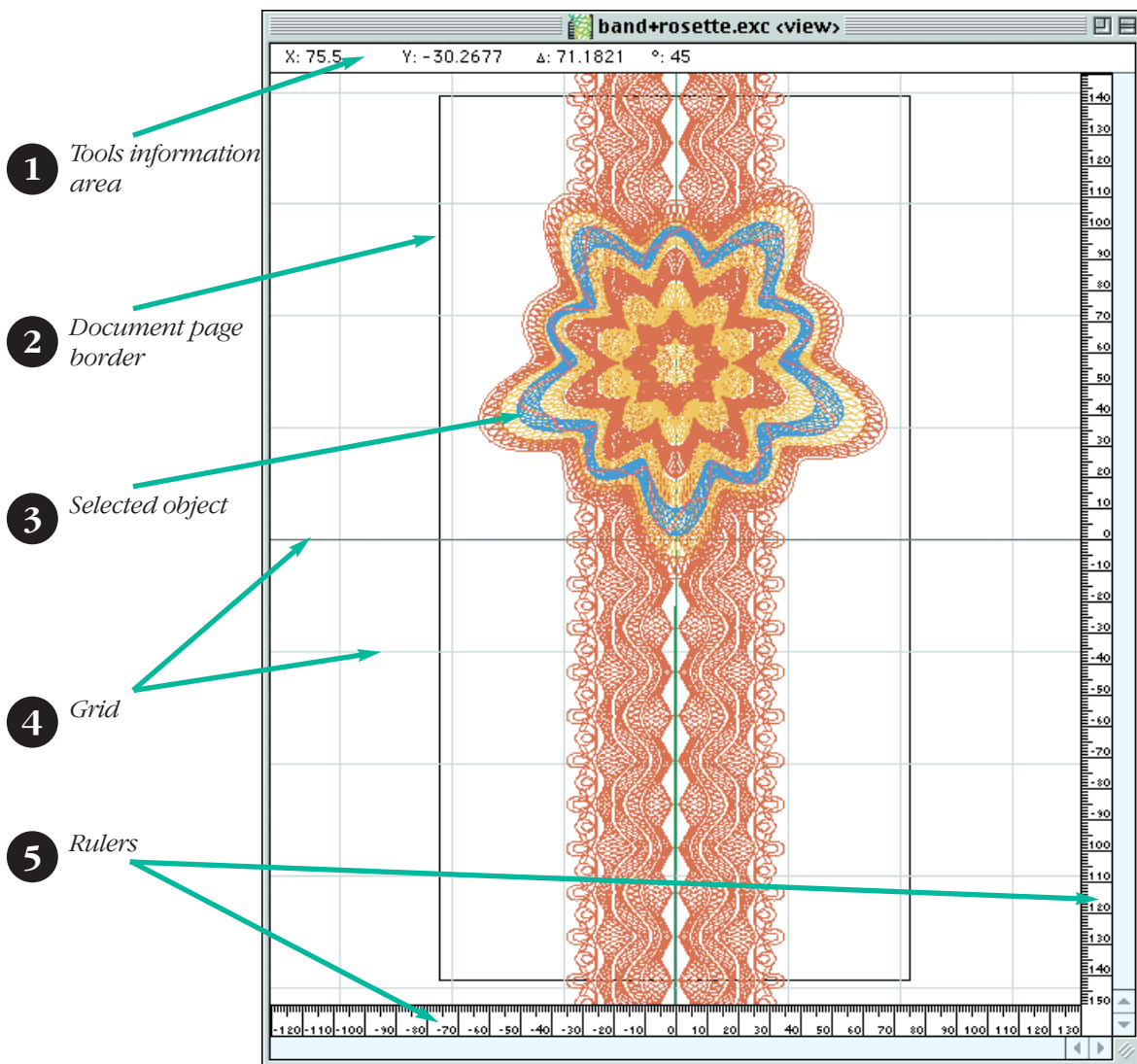
Unlike *Adobe Illustrator* and other vector drawing applications, *Excentro* does not allow direct manipulations with graphics in **document preview window** like moving spline control points with mouse pointer. To avoid loss of precision the only way to edit guilloche paths is through changing their objects attributes in numeric fields of **Excentro Control** inspector or controls and slider of **Property Inspector** window. Actions you can perform in **document preview window** are limited to scrolling, zooming and selecting.

Excentro menu bar has **View** menu that controls graphics magnification and view options of **document preview window**. To change magnification of guilloche graphics you can also use shortcut buttons in **Document Zoom** section of **Toolbar**. **Tools** section of **Toolbar** hosts four tools you can use to perform different actions in preview window: **Selection Tool**, **Zoom Tool**, **Measure Tool** and **Hand Tool**.

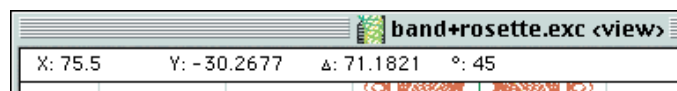


PREVIEW WINDOW CONTENTS

Document preview window displays document guilloche graphics and has several special areas that makes this display easier to read and use:



1. Tools information area is located in top part of **document preview window** below window's title bar. This narrow area contains single line with four informational fields: **X**, **Y**, **Δ** and **°**. You can look at these fields while you are positioning and sizing graphics objects to get more accurate results.

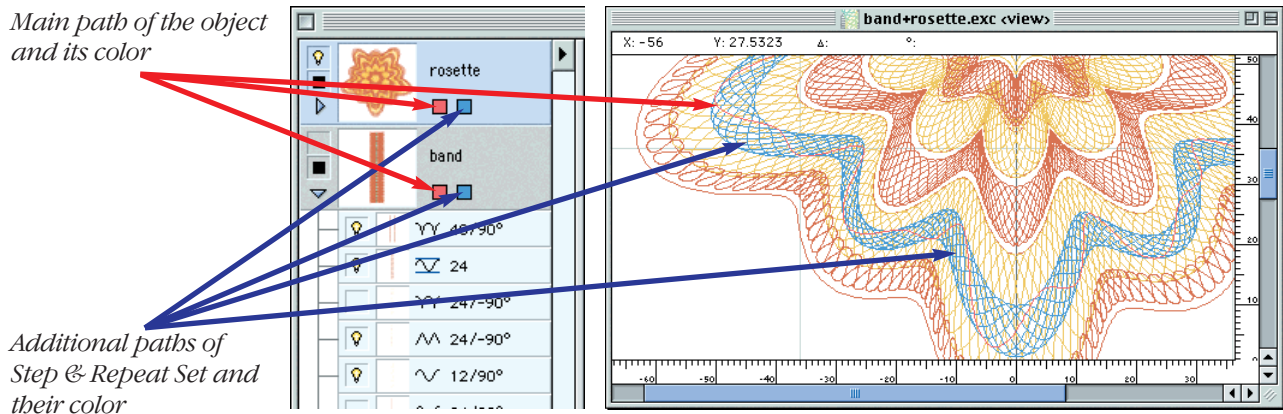


X and **Y** fields values change together with mouse pointer movements in **document preview window**. They show current mouse pointer position in coordinates system used for guilloche graphics preview.

Δ and **°** fields values are active only when you selected **Measure Tool** in **Toolbar**. These values show current distance and angle between starting point and end point of measuring line in coordinates system of guilloche graphics preview

2. Document page border is a thin rectangle that limits document page size area. You can define document page size when you create new *Excentro* document with **New** command from **File** menu or you can change it later with **Document Setup...** command from **File** menu. Document page size helps to visually limit work area for your design. It is used also with zoom commands **Fit Page** and **Fit Width** to calculate new magnification values.

3. Paths of selected object in *Excentro* document is shown with two special colors in **document preview window**. First color is used for main path of the object, second color shows additional paths that belong to Step & Repeat Sets (if selected object has any Step & Repeat Sets).



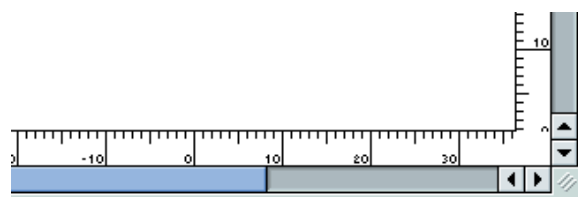
These colors are defined and can be changed in layers list of main document window. Each layer may have its own set of two colors used to show selected paths. You can find setting different colors to different layers helpful if you would like to check visually if document selection belongs to this or that layer.

You can set same color value to both colors used for paths selection. In this case main path and paths of Step & Repeat Sets will be displayed with same color in preview window.

Selection color used for main object path will be exported as selection color for that layer, when you export job in *Adobe Illustrator* format at the end of your work.

4. Grid is a set of vertical and horizontal lines with center in the center of coordinates system used for graphics preview. It is another element of **document preview window** that simplifies positioning and sizing of graphics objects. Grid size and color can be changed in **Document Grid** section of **General** panel in **Excentro Preferences** dialog. To change grid visibility you can use **Show Grid** and **Hide Grid** commands from **View** menu.

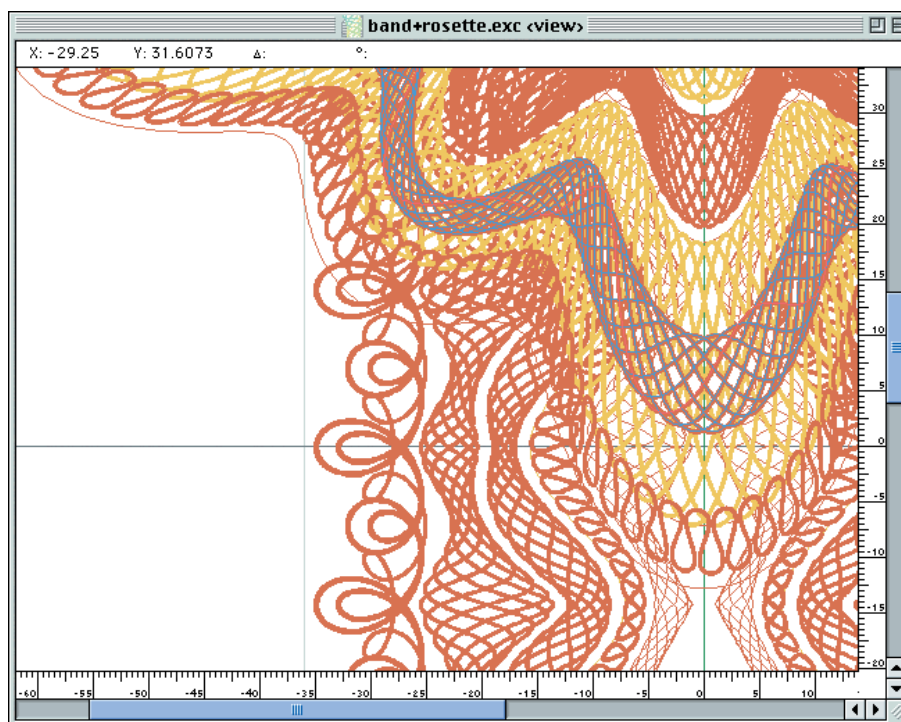
5. Excentro shows two **Rulers** in **document preview window**: horizontal ruler in bottom part of the window and vertical ruler in right part. As all other elements of **document preview window** rulers help to position and size graphics objects with more accuracy. Rulers use application-wide measurement units selected in **General** pop-up menu of **General** panel in **Excentro Preferences** dialog. 'Zero' rulers position corresponds to the center of coordinates system used for guilloche graphics preview.



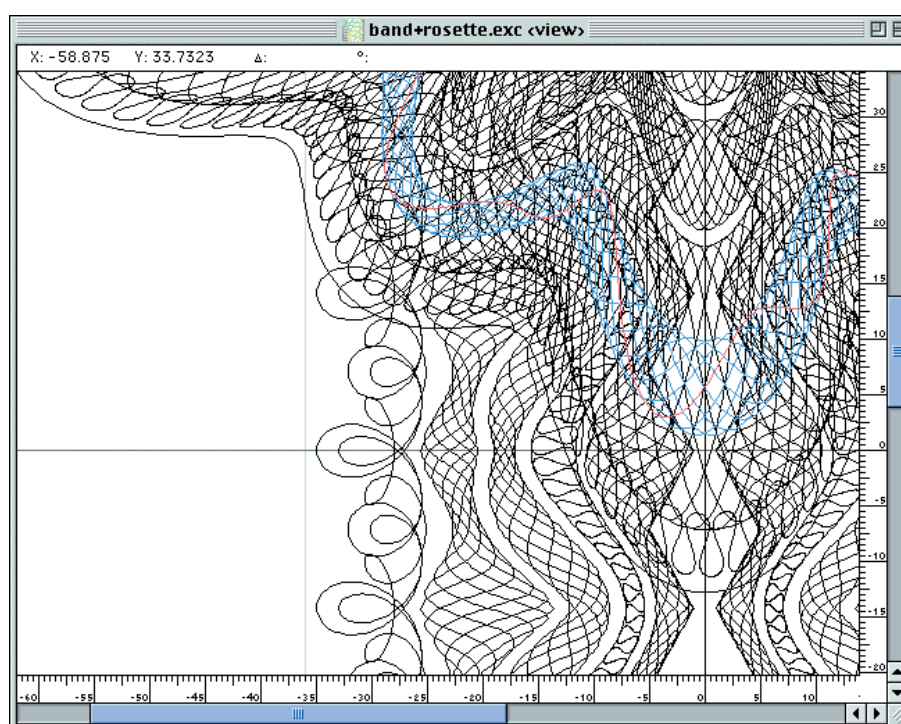
PREVIEW MODES

Document preview window can show guilloche graphics in one of two modes: **Wireframe** mode or **Preview** mode. You can toggle between these modes with **Wireframe/Preview** command of **View** menu.

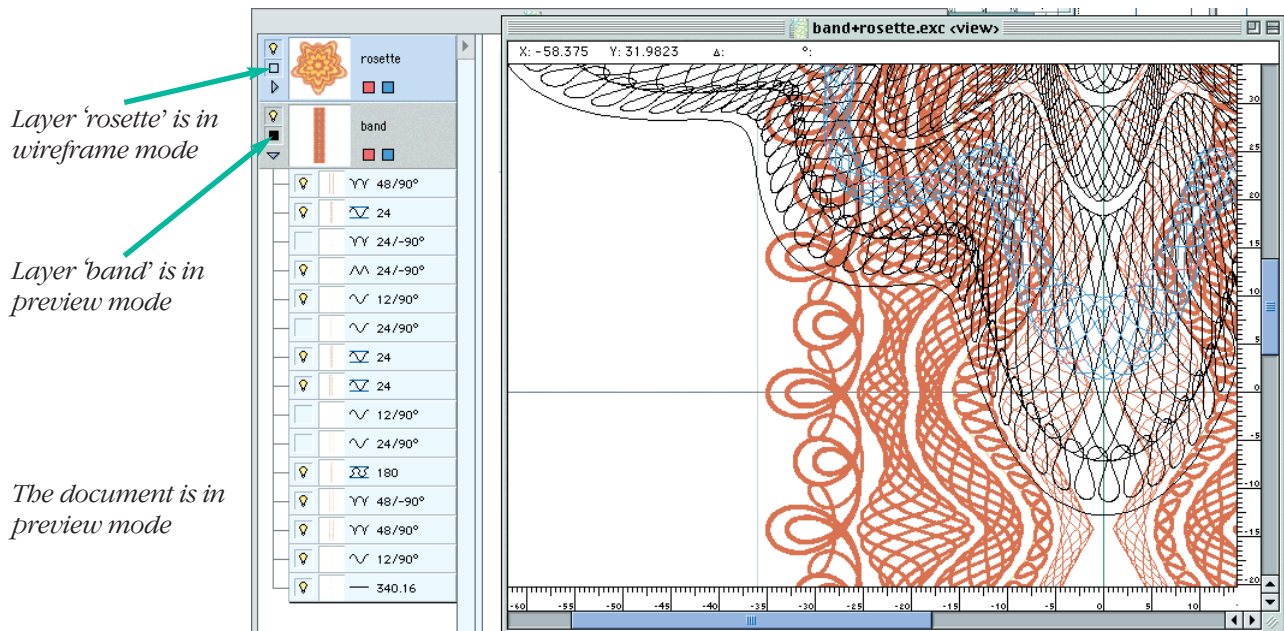
■ **Preview** mode shows realistic graphics preview with actual path colors and stroke weights at selected window magnification value.



■ **Wireframe** skeleton mode shows all visible graphics of the document as uniformly 1 pixel black paths.



■ Besides the document preview mode that you can control with commands from **View** menu, each layer of *Excentro* document may have its own preview mode that could be changed with mouse click on layer mode icon. Layers may also be in one of two modes: realistic preview mode that shows actual path colors and stroke weights (indicated with small black rectangle) or wireframe mode that shows skeleton 1 pixel black paths (indicated with small empty rectangle). Layers modes are used only when the document is in preview mode. When the document is in wireframe mode all paths are shown as 1 pixel black regardless of preview mode of the layer they belong to.

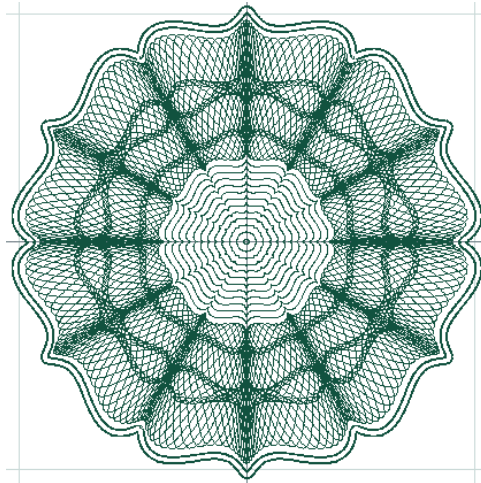


Comments: You can use preview and wireframe modes on different stages of guilloche design process: when you create basic guilloche geometry wireframe mode can give better illustration of paths shape and intersections, alternatively, when you specify colors and stroke thickness at final steps of guilloche creation, preview mode shows the actual picture. Wireframe mode is a faster mode, because it gives fewer graphics details, so if you are working on complex design you can switch to this mode to save some time on graphics updates in preview window.

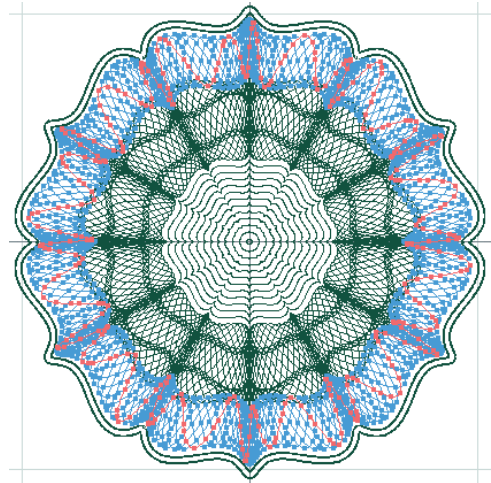
NODES PREVIEW

You can use **Show Nodes/Hide Nodes** command from **View** menu to turn on and off preview of 'path nodes' — small dots that show joints of spline segments guilloche path consists of. Visible nodes give you overview of vector paths as they will be exported in *Adobe Illustrator* format. Experienced user can use this preview to avoid occasional paths generation defects like loops or corners that sometimes can result from certain problematic object attributes combination.

If document and layer are in realistic preview mode (mode that shows colors and stroke weights of guilloche paths) you can see only nodes of paths that belong to selected object and its step & repeat set (see pictures on next page).

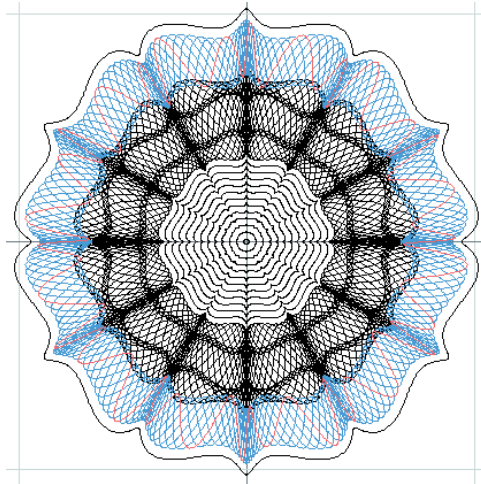


Guilloche graphics in preview mode

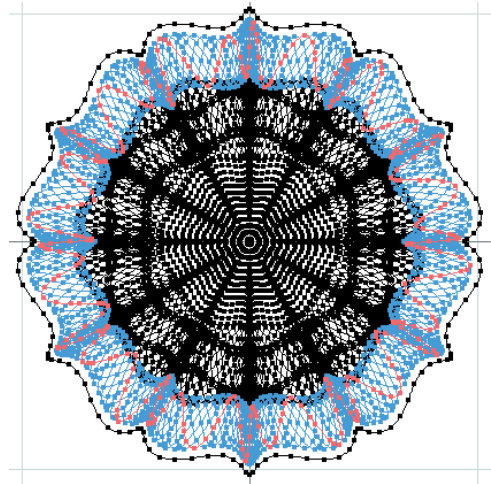


Same guilloche with visible nodes

When document or layer are in wireframe mode (mode that shows all paths as skeleton 1 pixel black graphics) nodes of all visible paths are shown at once.

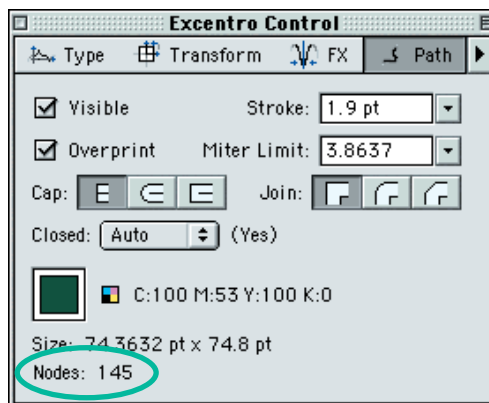


Guilloche graphics in wireframe mode



Same guilloche with visible nodes

Comments: Number of nodes the path of selected object consists of is shown in bottom area of **Path** panel of **Excentro Control** inspector. You can not manually specify this value or edit individual spline segments in Excentro. All guilloche paths creation issues are indirectly controlled by object attributes and its place in objects hierarchy. If you want, you can edit spline segments and nodes of the paths in any vector-based illustration design package later, after guilloche graphics is exported in Adobe Illustrator format.



ACTIONS IN PREVIEW WINDOW

■ **Objects selection.** One of primary tasks you can do in **document preview window** is document objects selection. Make sure that **Selection Tool** is the currently selected tool of **Toolbar**. If it is not, you can temporarily switch to **Selection Tool** by pressing down **Command** key.

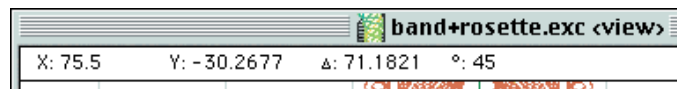


Cursor shape for **Selection Tool** is standard 'Arrow' cursor. To select object of *Excentro* document click with mouse pointer path that belongs to this object. The object will become selected and will be shown in **document preview window** with special selection colors. As was mentioned above *Excentro* uses two colors to show paths of selected objects: first color is used for main path of the object, second color shows additional paths that belong to Step & Repeat Sets (if selected object has any Step & Repeat Sets).

■ **Measurements.** To measure distance and angles between two points in **document preview window** you should select **Measure Tool** in **Toolbar**.



Cursor shape when **Measure Tool** is selected changes to standard 'Cross' cursor. Click first point and holding down mouse button drag cursor to second point you want to measure distance to. To lock measure directions to 45° angles (0°, 45°, 90°, 135°, ...) hold down **Shift** key. Measurement information is shown in **tools information area** in top part of **document preview window**.

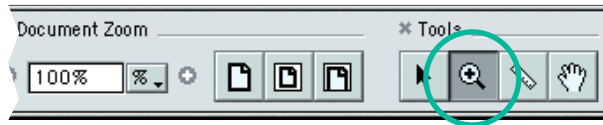


■ **Scrolling.** Scrolling contents of **document preview window** could be done in same way as in any other graphics application. You can do it with two windows scroll bars or with **Hand Tool**. If **Hand Tool** is not currently selected tool of **Toolbar** you can temporarily switch to it by pressing and holding down **Space** key.



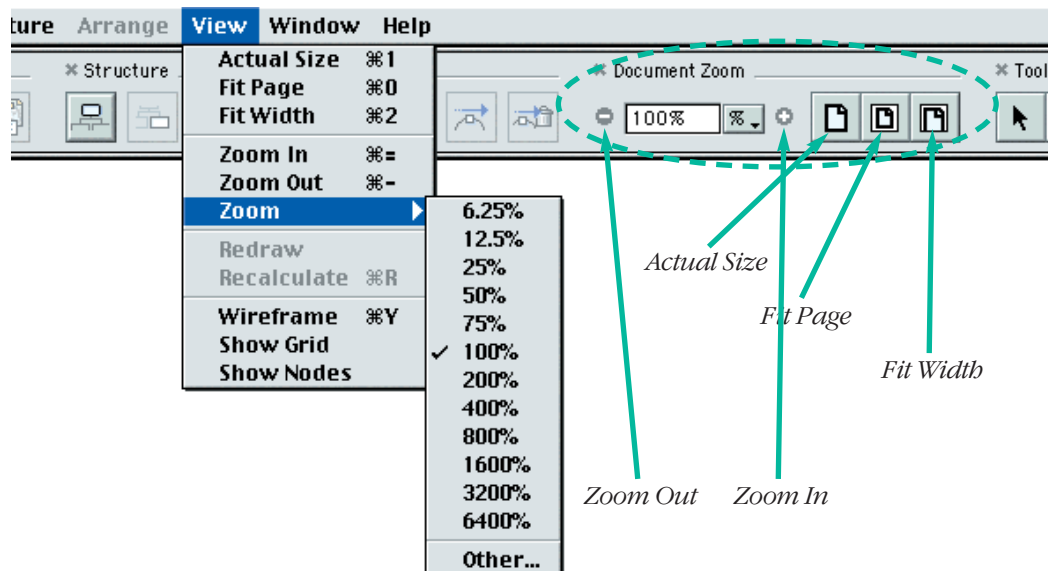
Cursor shape for **Hand Tool** is standard 'Hand' cursor. Press mouse button somewhere within **document preview window** and holding the button down drag mouse cursor in the direction you want window contents to be scrolled. Graphics content of the window will be updated as you drag to show newly exposed areas.

■ **Zoom.** To enlarge parts of **document preview window** you can use **Zoom Tool**. If it is not currently selected tool of **Toolbar**, you can temporarily switch to **Zoom Tool** by pressing down **Command-Space** key combination.



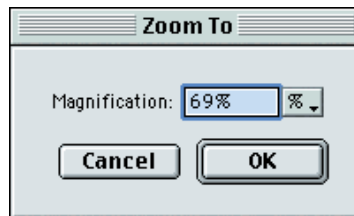
Cursor shape for **Zoom Tool** is standard 'Magnifier Lens' cursor. Press mouse button within **document preview window** and holding the button down drag mouse cursor to select area you want to see enlarged. Release mouse button when you are ready and magnification value of graphics preview will be changed. Pressing down **Option** key you may switch between **Zoom In** and **Zoom Out** actions.

Another way to zoom content of **document preview window** is to use first six items of **View** menu and their buttons shortcuts in **Document Zoom** section of **Toolbar**. **Document Zoom** section also shows current magnification value graphics is displayed at.



- **Actual Size** command sets magnification value of document preview window to 100%. This allows you to see graphics at its 'real size', not in zoomed in or zoomed out state.
- **Fit Page** command calculates and sets new magnification value so that whole page size of the document fits into preview window. You can use this command if you want see overview of all document graphics content quickly.
- **Fit Width** command has similar effect to **Fit Page** command but it uses only horizontal page size dimension (width of the document) to calculate and set new magnification value. When you choose this command, document preview will be scaled to fit width of the document into its preview window. After that you will be able to see whole document content using only vertical scroll actions.
- **Zoom In** command selects next magnification value from predefined magnification values list: 6.25%, 12.5%, 25%, 50%, 75%, 100%, 200%, 400%, 800%, 1600%, 3200%, 6400%.

- **Zoom Out** command has opposite effect to **Zoom In** command: it selects previous magnification value from same predefined magnification values list.
- **Zoom** submenu allows you to explicitly select magnification value for preview document window from the predefined list. Check mark will appear beside the value after you selected it from the submenu. You can also use pop-up menu in **Document Zoom** section of *Excentro Toolbar* with same values.
- Last **Other...** item of **Zoom** submenu calls up **Zoom To** dialog, where you can type new desired magnification value in **Magnification** field.



Document Zoom section of **Toolbar** have similar magnification value field that shows current magnification value and could be used instead of **Zoom To** dialog.

View Menu chapter of **Excentro Commands Reference** contains more information about these commands and other commands of **View** menu with better illustrations. Please, see it if you are interested in details.

OTHER OPTIONS

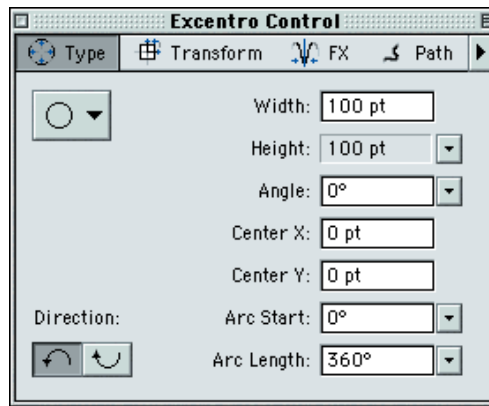
Let us mention two other options that you can find useful while working with document preview window. These descriptions are copied from **View Menu** chapter of **Excentro Commands Reference** and placed here so you will be able to find all information about **document preview window** in single chapter.

■ **Redraw** command of **View** menu redraws visible guilloche paths in document preview window. You can use this command if you believe that something is wrong with display of document graphics, for example, if your display card drivers do not work properly with present *Mac OS* version and you see unpleasant artifacts when you switch between windows and applications. Sometimes something like that could be noticed when you use applications in Classic mode under *Mac OS X* operation system — parts of the window that was overlapped by other windows remain white after you selected it. With **Redraw** command you can force redrawing of all visible area of preview document window.

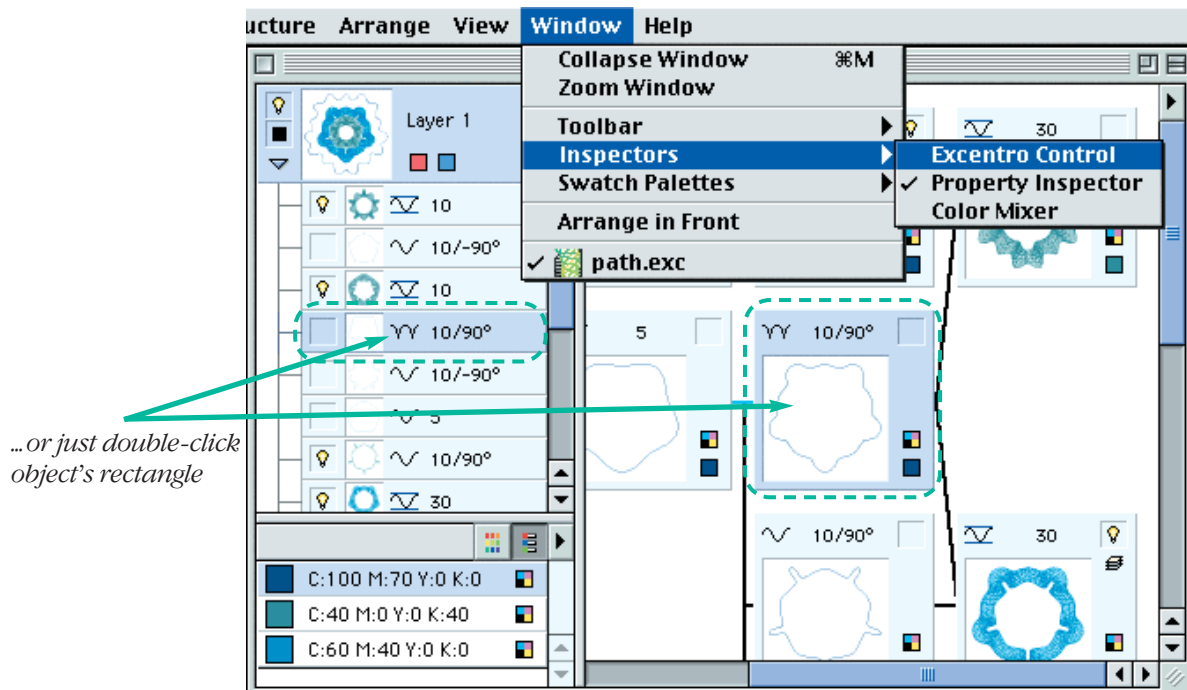
■ **Recalculate** command of **View** menu recalculates all guilloche paths of current document and draws visible paths to preview window as it calculates them (the process is similar to what happens when you open *Excentro* document for the first time and guilloche paths are created from document tree-like elements structure). You can use this commands if you believe that something is wrong with document graphics and you want to check if it was properly calculated.

CHAPTER 5: EXCENTRO CONTROL

Excentro Control is a ‘chief’ among *Excentro* inspectors. It is a core of application and focus of most user actions because it controls all attributes and properties of selected object in *Excentro* document window including graphic appearance attributes of its vector paths.



Excentro Control window floats above layer of *Excentro* document windows, just like **Toolbar** and other inspector windows. If it is not on the screen you can summon it with **Excentro Control** command from **Inspectors** submenu of **Window** menu or just by double-clicking with mouse rectangular representation of the object you want to edit attributes of in any pane of main document window.

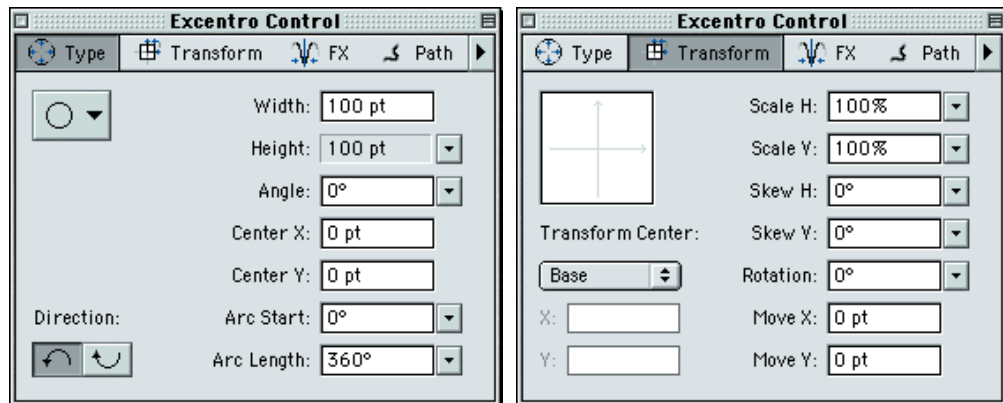


Check mark appears beside **Excentro Control** command in **Inspectors** submenu while **Excentro Control** window is on the screen. Selecting this command again will hide the inspector.

Excentro Control window has four panels that group objects attributes according to their purpose: **Type**, **Transform**, **FX** and **Path**. You can switch between these panels by clicking icons and titles in top part of the window.

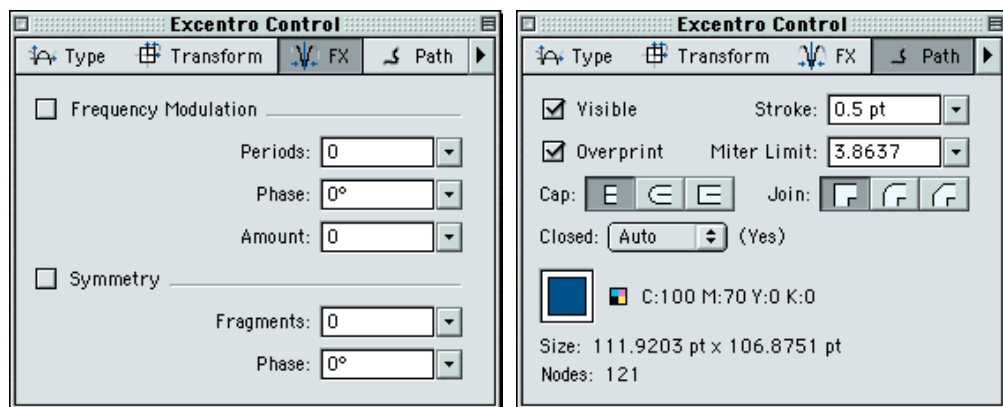
■ **Type** panel controls general attributes that define shape of guilloche object path.

■ **Transform** panel allows you to perform all sorts of geometric transformations with guilloche object path like scaling, skewing, rotating and moving



■ **FX** panel allows you to apply special effects like **Frequency Modulation** or **Symmetry** to guilloche objects of certain types.

■ **Path** panel sets graphic appearance attributes of guilloche object path like stroke weight, stroke color, types of end caps and joins of spline segment.

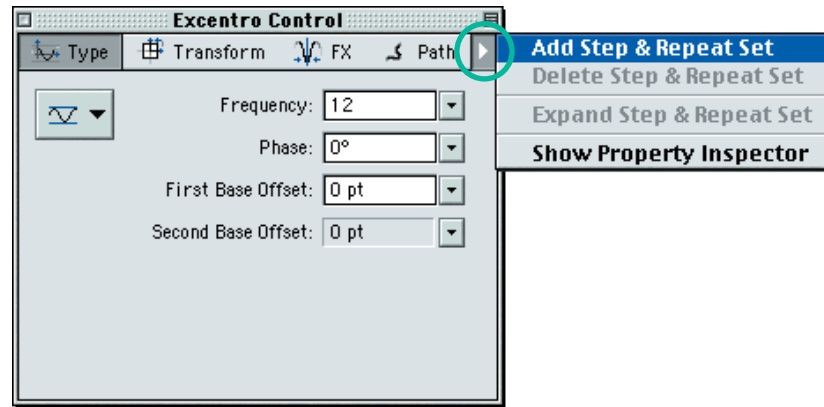


When none of these four panels is selected, **Excentro Control** window is 'collapsed' and panels content is hidden from view. This feature can be helpful to *Mac OS X* users who miss 'window shade' feature of *Mac OS 9*. To expand the window to normal size, select any panel by clicking its icon or title.

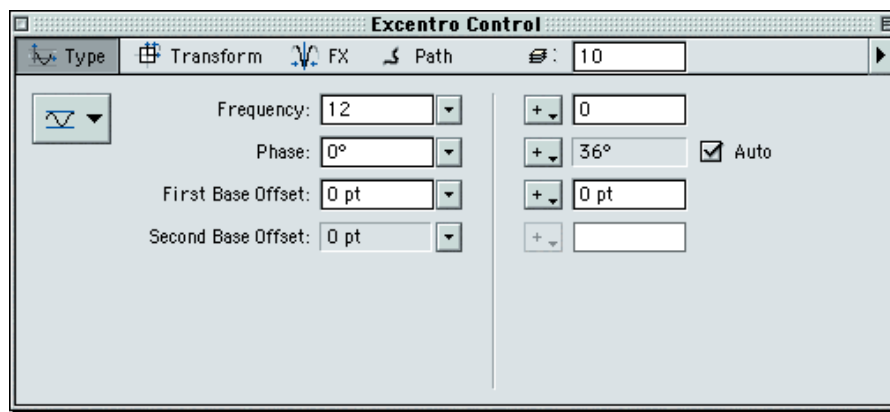


Length of **Excentro Control** window varies depending on if selected object has any Step & Repeat Sets. Step & Repeat Sets represent very important to *Excentro* ability to quickly create a set of additional paths by modifying one or more of object attributes. Attribute modifications are specified by **Increment** fields located beside attribute fields in expanded version of **Excentro Control** window.

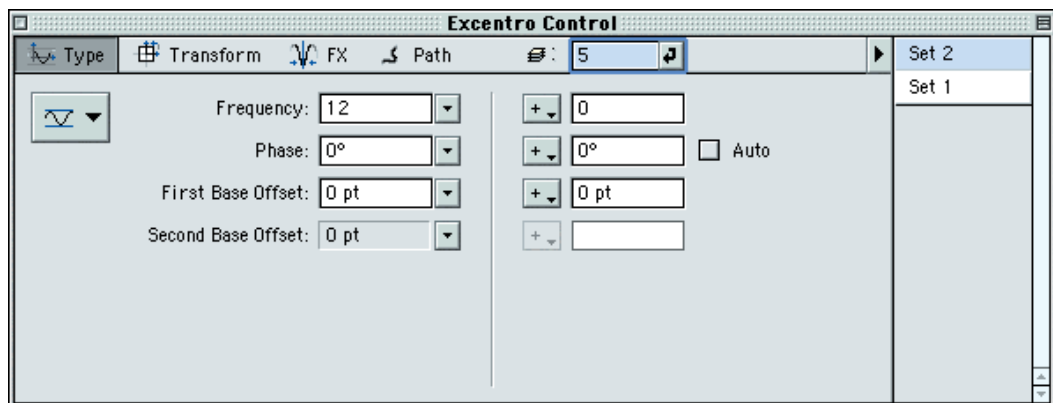
All manipulations with Step & Repeat Sets: addition and deleting set to the object are performed with commands from **Excentro Control** window menu (button with triangle in top right corner of the window):



After you add Step & Repeat Set to the object with **Add Step & Repeat Set** command, **Excentro Control** window will expand to show **Increment** fields of new Set.



Every *Excentro* object may have more than one Step & Repeat Set. When you will add second Step & Repeat Set, **Excentro Control** window will expand again to show list of Step & Repeat Sets. You can use this list to select different Step & Repeat Sets or change their order by dragging list items with mouse.

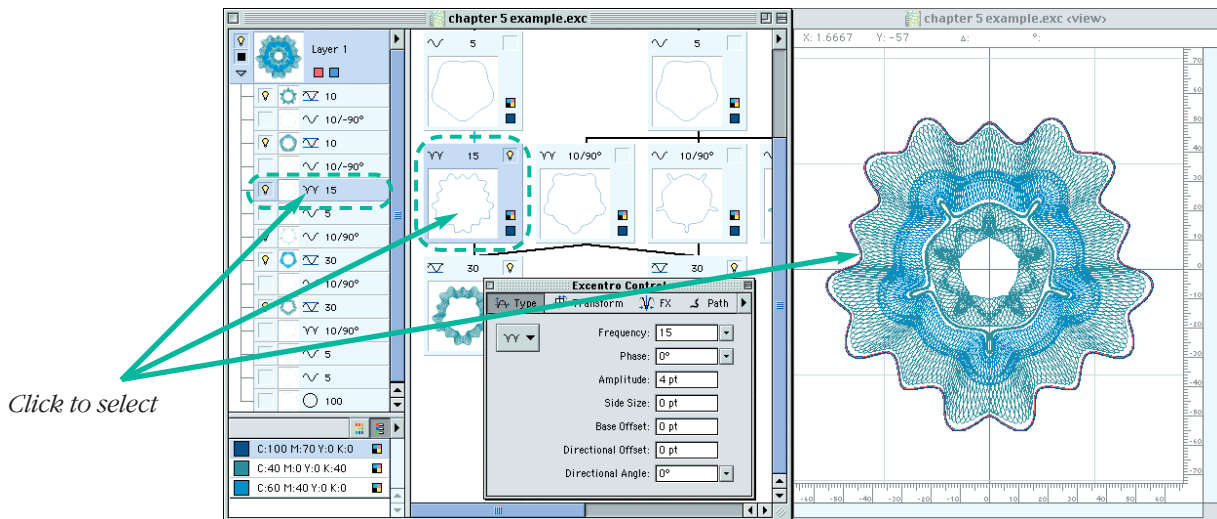


If later you will choose to delete Step & Repeat Sets, **Excentro Control** window will shrink back again to its original size.

After this short introduction let us proceed to more detailed description of **Excentro Control** window, all its panels and controls with illustrated descriptions of tasks you can perform with them.

OBJECT SELECTION

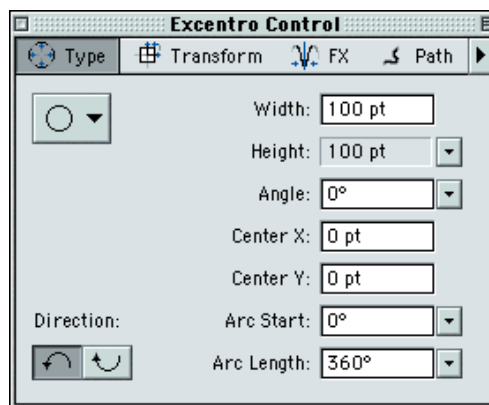
Excentro Control window shows attributes of selected object in *Excentro* document. That means that before you will be able to change object attributes with **Excentro Control** you should select this object with mouse click using one of two document windows. If **Excentro Control** window was hidden you can use double-click instead of single mouse click to select the object and bring **Excentro Control** window to screen in one action.



When you create new object with **New Base** or **New Element** commands from **Structure** menu, new object is automatically becomes selected object in the document and its attributes are shown in **Excentro Control** window ready to be changed.

TYPE

You can switch to **Type** panel by clicking **Type** icon or title in top part of **Excentro Control** window.

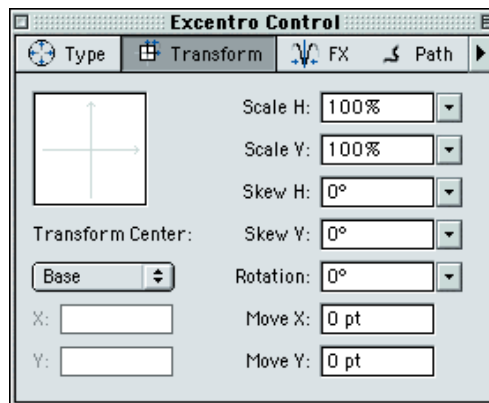


*Type panel for 'base' object of **Ellipse** type.*

This panel controls general attributes that define shape of the path for selected object. This panel appearance and number of fields are specific to objects of certain type and change when you select different type from **Type** pop-up menu in top left corner of the panel. For this reason, we will not cover all fields and controls of **Type** panel in **Excentro Windows Reference** book. Please, see **Excentro Objects Reference** for detailed description of all *Excentro* object types and their specific attributes in **Type** panel.

TRANSFORM

You can switch to **Transform** panel by clicking **Transform** icon or title in top part of **Excentro Control** window.

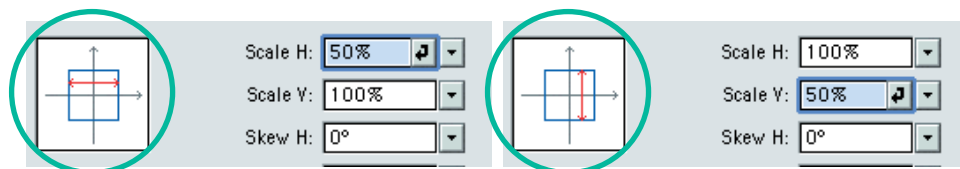


This panel allows you to perform all sorts of geometric transformations to shape of path that belongs to selected object like scaling, skewing, rotating or moving. Fields of this panel are similar to that of **Transform** palette of *Adobe Illustrator* or **Transform** panel of *Macromedia Freehand*. But you should keep in mind that transformations in *Excentro* are **attributes** of the objects, not just occasional **actions** that modify vector path. That means that there is always initial shape of object path in *Excentro*, the shape that is uniquely defined by attributes in **Type** panel of **Excentro Control** window and place of the object in guilloche structure tree. You can distort this initial shape by specifying different values in fields of **Transform** panel, but you can always quickly restore the original shape by changing these values back to zero (or 100% in case of **Scale** fields).

Let us note the order in which *Excentro* applies different transformation attributes to object path. Because you will get different results if application would scale object shape in horizontal direction and after that rotate it by 45°, or if it would rotate object shape by 45° first and then scale it in horizontal direction. To get always predictable results, remember that the order of transformations in *Excentro* is the same as order of attributes in **Transform** panel of **Excentro Control** window. That is:

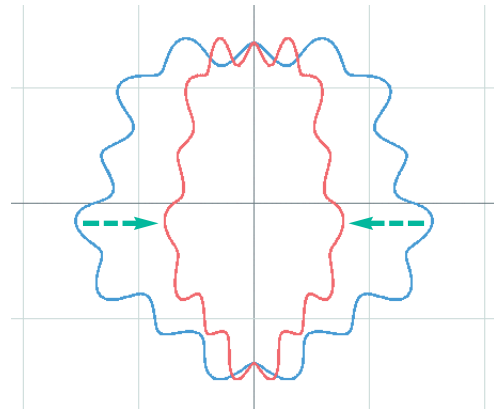
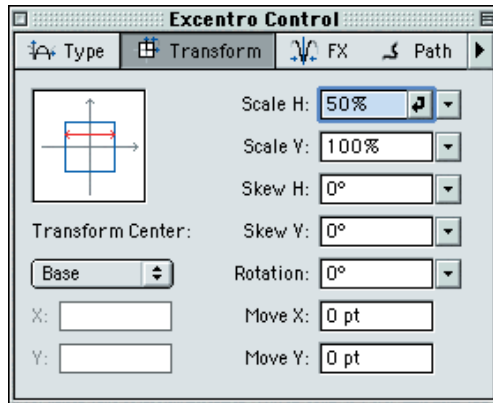
1. scaling
2. skewing
3. rotating
4. moving

Fields and controls of **Transform** panel:

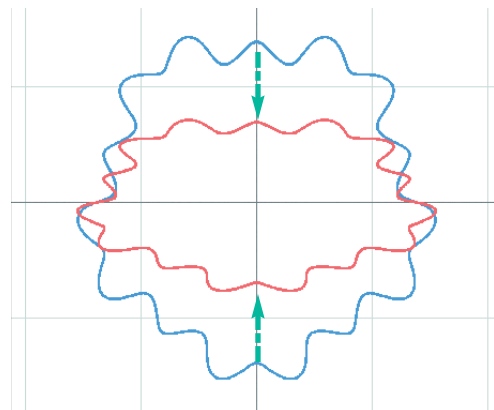
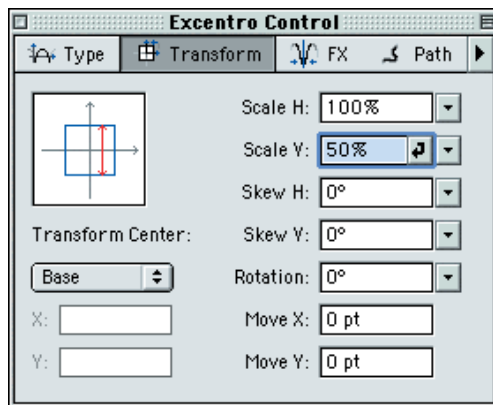


■ **Picture** in top left corner of **Transform** panel provides small illustration of function for selected attribute field. This picture changes as you move cursor through different fields of **Transform** panel. You can not click, drag or do anything with this field. It is there for your information only.

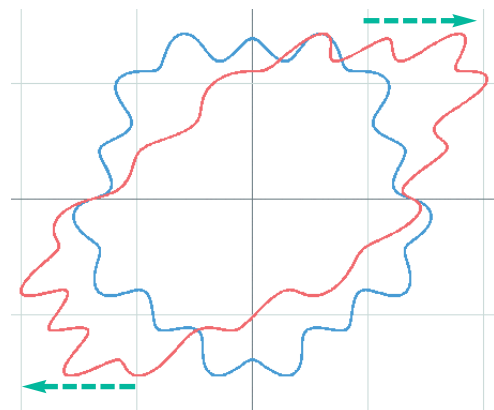
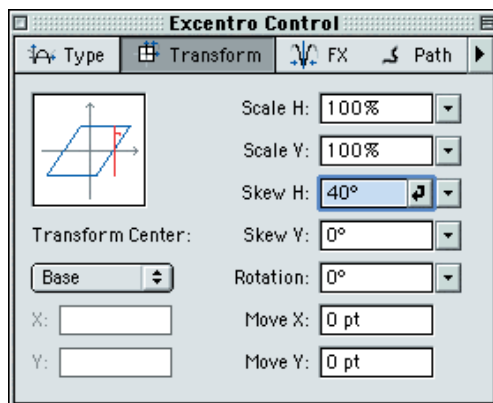
■ **Scale H** field allows you to apply horizontal scale transformation to path of selected object. Value of 100% means 'no transformation'. Values greater than 100% will enlarge the object path in horizontal direction, values less than 100% will reduce it. Negative values will reflect (flip) the path horizontally. Stroke weight of the path will not be scaled with horizontal scale transformation.



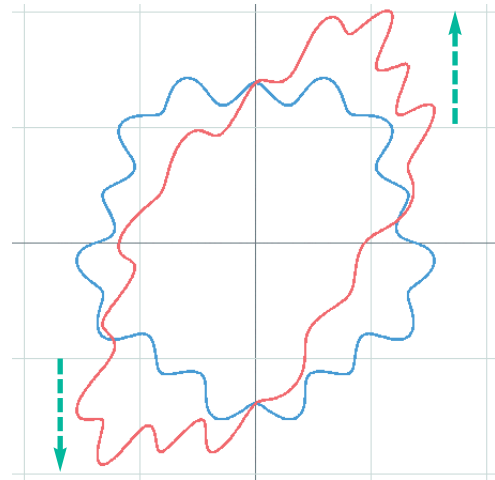
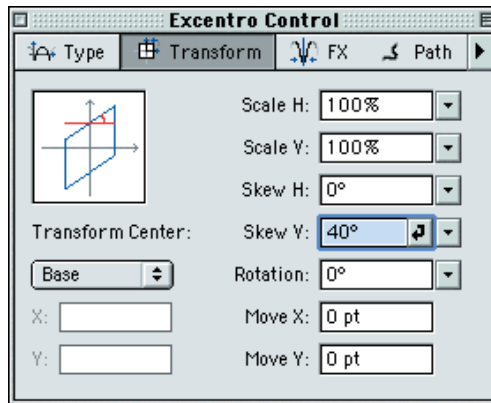
■ **Scale V** field allows you to apply vertical scale transformation to path of selected object. Value of 100% means 'no transformation'. Values greater than 100% will enlarge the object path in vertical direction, values less than 100% will reduce it. Negative values will reflect (flip) the path vertically. Stroke weight of the path will not be scaled with vertical scale transformation.



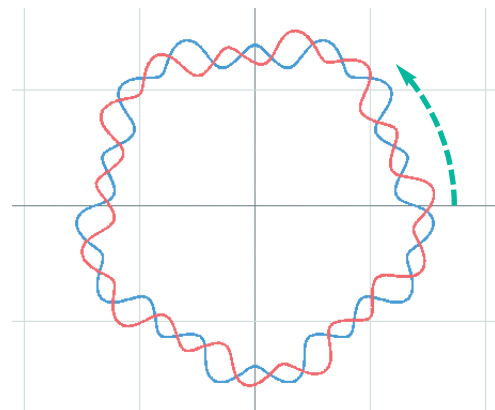
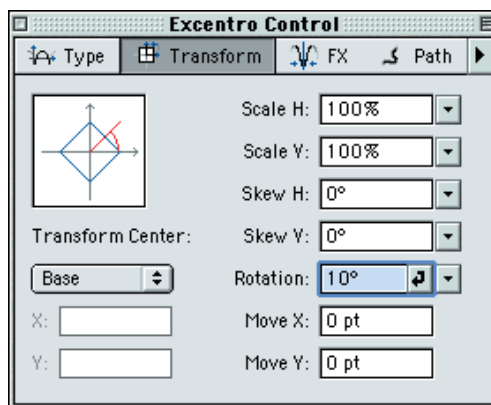
■ **Skew H** field allows you to skew shape of selected object in horizontal direction. Positive angles perform skewing to the right, negative angles perform skewing to the left.



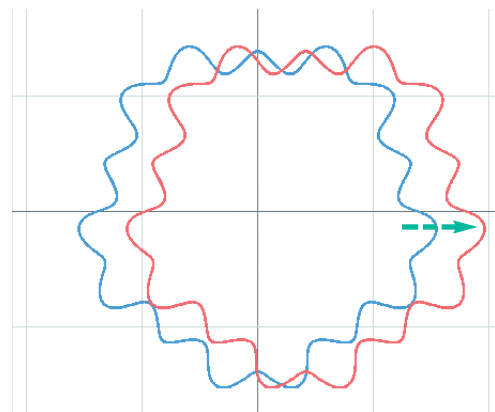
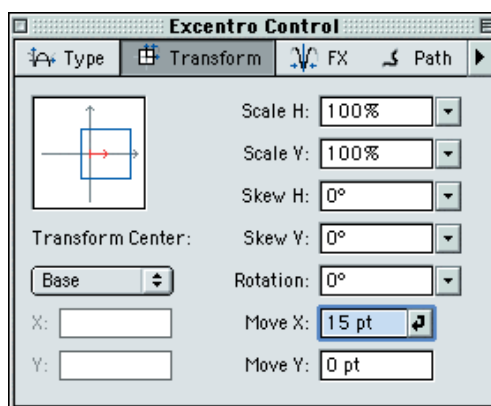
■ **Skew V** field allows you to skew shape of selected object in vertical direction. Positive angles correspond to skewing up, negative angles correspond to skewing down.



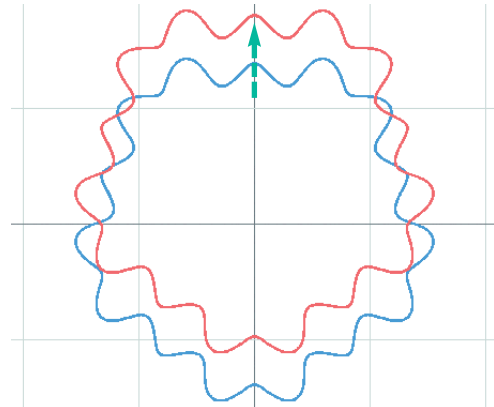
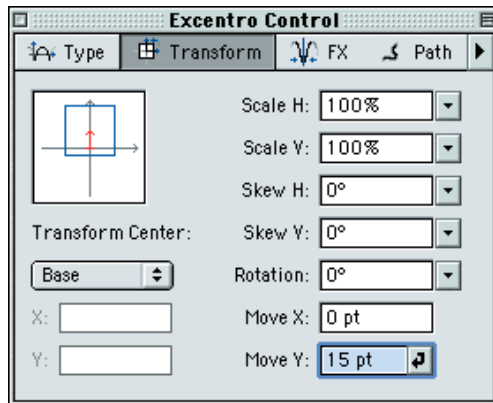
■ **Rotation** field allows you to rotate path of selected object around **Transform Center** point (see below). Positive angles rotate path in counterclockwise direction, negative angles rotate path clockwise.



■ **Move X** field allows you to move path of selected object in horizontal direction. Positive values move path to the right, negative values move path to the left. The value in this field is shown in application-wide measurement units that could be configured in **General** panel of **Excentro Preferences** dialog.



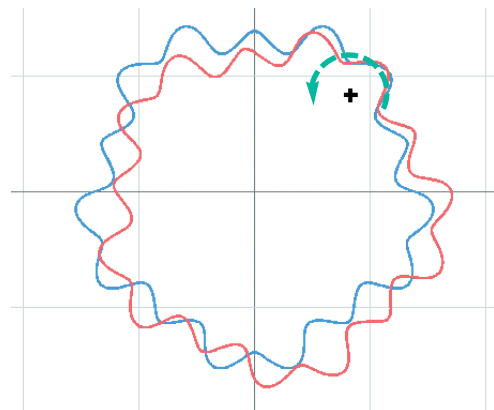
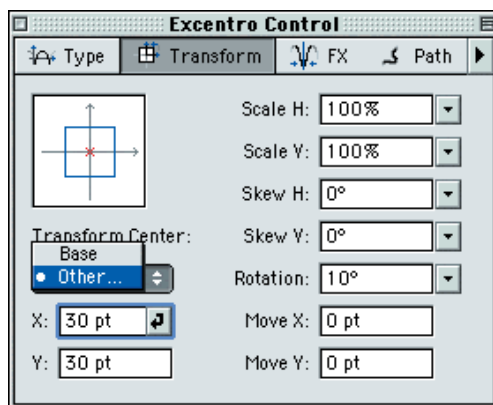
■ **Move Y** field allows you to move path of selected object in vertical direction. Positive values move path up, negative values move path down. The value in this field is shown in application-wide measurement units.



■ Scaling, skewing and rotating transformations (that is all transformations, except for moving) are performed in relation to a special point called **Transform Center**:

◆ By default this point is set by parent object of selected object, this way paths of child objects are transformed together with path of their parent. In this case **Base** is selected option in **Transform Center** pop-up menu.

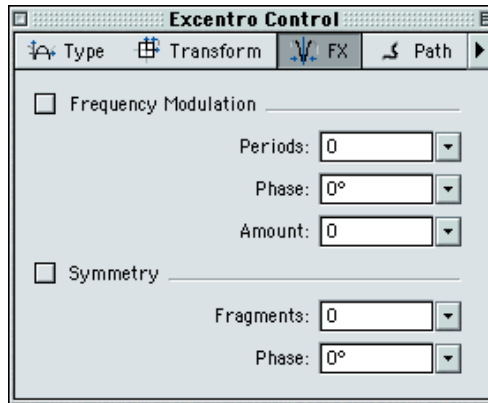
◆ You can change this behavior and explicitly set coordinates of other point to be used as **Transform Center**. To do so, select **Other...** option in **Transform Center** pop-up menu and enter coordinates of desired point in **X** and **Y** fields (these fields will become active). Coordinates are set in application-wide measurement units that could be configured in **General** panel of **Excentro Preferences** dialog. Picture below illustrates this option: same 10° rotating transformation as illustrated on previous page now is performed relative to point with explicitly set coordinates: X=30pt, Y=30pt.



Comments: *Transform Center* point for transformations with **Base** option is initially determined as center point of path that belongs to 'base' element of guilloche structure (root object of structure tree) unless 'base' element is of **Line** type which has some additional options. Objects on next levels of structure tree can modify this point either by explicitly specifying other point with **Other...** option from **Transform Center** pop-up menu or by offsetting this initial **Transform Center** point by moving transformations with **Move X** and **Move Y** attributes. Child elements of these objects will use this new modified **Transform Center** for their transformations with **Base** option.

FX

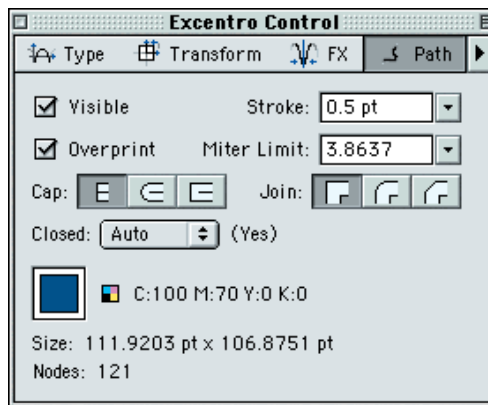
You can switch to **FX** panel by clicking **FX** icon or title in top part of **Excentro Control** window.



This panel allows you to apply special effects like **Frequency Modulation** or **Symmetry** to guilloche objects of certain types. These effects together with objects they can be applied to are illustrated and discussed in **Excentro Objects Reference** book.

PATH

You can switch to **Path** panel by clicking **Path** icon or title in top part of **Excentro Control** window.

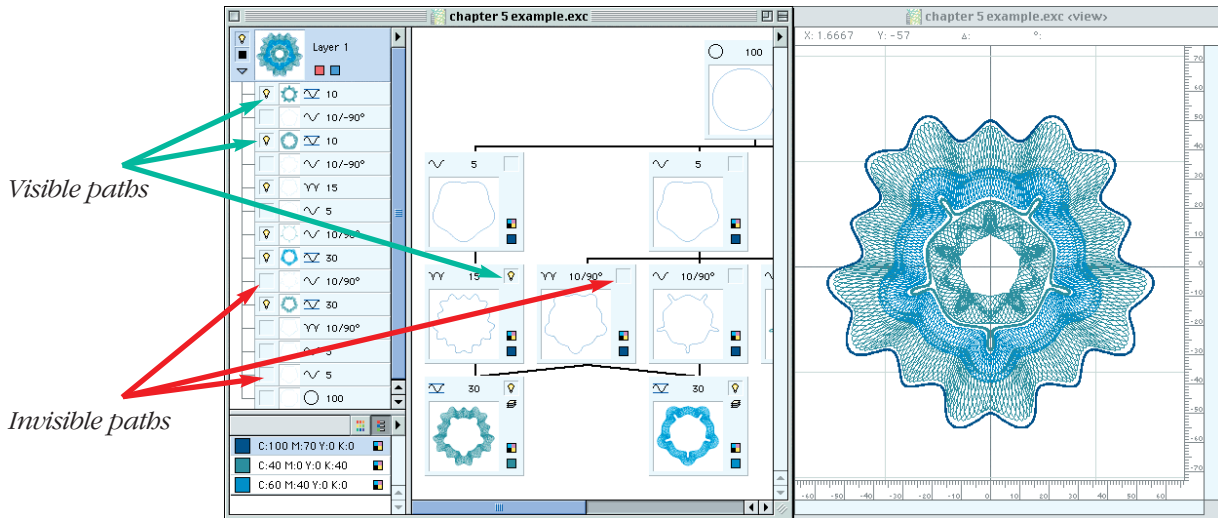


This panel allows you to set appearance attributes to guilloche path of selected object. Unlike other panels of **Excentro Control** that control shape of the path through set of object attributes and properties, this panel changes graphic appearance attributes of this path like stroke weight, stroke color, end caps and joins types. **Path** panel attributes are similar to that of **Stroke** and **Attributes** palettes of *Adobe Illustrator* and have even more similarities to **Stroke** and **Object** inspectors of *Macromedia Freehand*.

■ **Visible** checkbox allows you to make path of selected object visible or invisible.

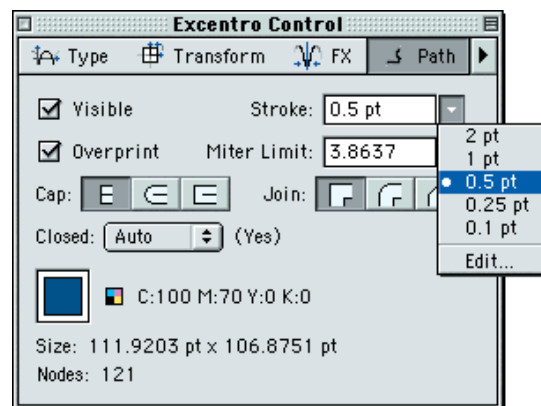
When this checkbox is 'on' the path is visible in document preview window and 'light bulb' icon appears in right top corner of its rectangular representation in panes of main document window. When checkbox is 'off' the path is not visible and 'light bulb' icon disappears.

You can click 'light bulb' icon in structure pane or layers list of main document window as another way to toggle visible attribute of the object. This way you can make object path visible or invisible without selecting this object first.



By default invisible paths are not included when you export your design to *Adobe Illustrator* format. To override this behavior you can switch on **Include Invisible Paths** checkbox in **Export** panel of **Excentro Preferences** dialog. In this case invisible paths will be exported too, but they will not have stroke or fill attributes. You can set these attributes later in *Adobe Illustrator* or use these paths as guides or clipping paths.

■ **Stroke** field allows you to specify stroke weight ('line width') attribute of the path. This field shows value in stroke measurement units that could be configured in **General** panel of **Excentro Preferences** dialog. In **Stroke** panel of **Excentro Preferences** dialog you can set up list of stroke weight presets that will appear in **Stroke** pop-up menu (arrow-down button beside **Stroke** field). These preset values are provided for convenience: in most cases your documents will have paths of only three or four different stroke weights (e.g. strokes of 0.25 pt are used for background paths, strokes of 0.5 pt and 1.0 pt for everything else). It is faster to assign these values using pop-up menu selection than by keyboard typing. Last **Edit...** item of **Stroke** pop-up menu brings to screen **Stroke** panel of **Excentro Preferences** dialog where you can edit list of these presets.

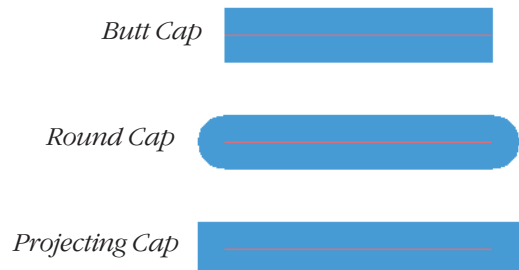
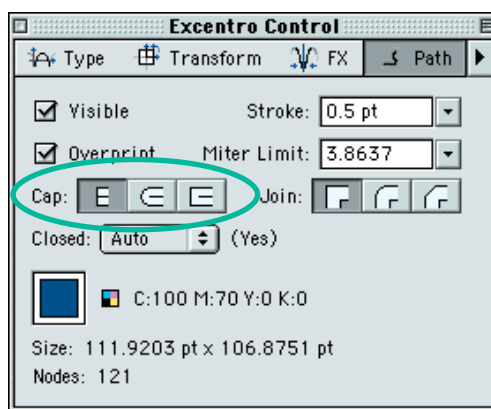


■ **Overprint** checkbox allows you to switch 'on' and 'off' overprint attribute for the path of selected object. If overprint is 'off' area covered by the path including intersections with underlying paths will be erased ('knocked out') on separations different from

path's color (when output device will be producing color separations). If overprint is 'on', covered area will not be erased and printing device will print continuous path stroke over any background that might be under it. By default overprint attribute is 'on' in *Excentro*, because guilloche paths are very fine, they are usually printed with spot colors and may have many intersections. All these can cause registration problems at print time that could be avoided by switching overprint attribute 'on'.

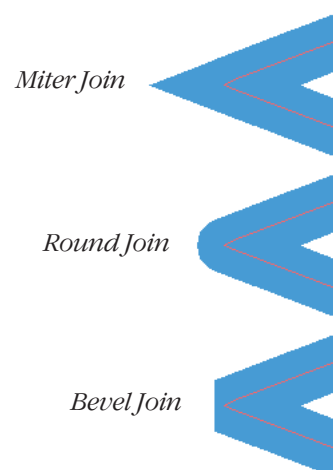
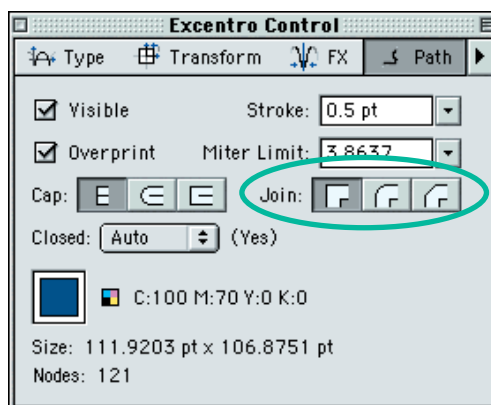
■ **Cap** selectors allows you to choose type of end cap to be drawn at the end of open paths. These three end cap types are same as in any vector drawing application:

- ◆ **But Cap.** The stroke is squared at the endpoint with no projection beyond it.
- ◆ **Round Cap.** A semicircle is drawn at the endpoint with diameter equal to stroke weight of the path.
- ◆ **Projecting Cap.** Square stroke continues beyond the endpoint for a distance equal to half of stroke weight of the path.



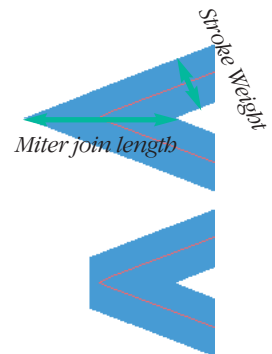
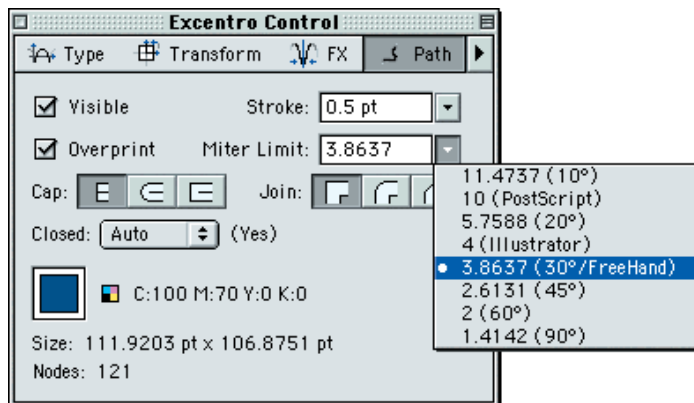
■ **Join** selectors allows you to choose type of spline segments joins. These three join types are same as in any vector drawing application:

- ◆ **Miter Join.** Outer edges of spline segments are extended until they meet. If the angle is sharper than value controlled by **Miter Limit** attribute (see below) than join of **Bevel Join** type is used instead.
- ◆ **Round Join.** A circular arc with diameter equal to stroke weight of the path is drawn at the point where spline segments meet.
- ◆ **Bevel Join.** Ends of spline segments are connected by line segment and filled.



■ **Miter Limit** field allows you to specify ratio of miter join length to stroke weight at which spline segments joins of **Miter Join** type will be replaced by joins of **Bevel Join** type. This value should be between 1 (this is the value when all **Miter Joins** are replaced by **Bevel Joins**) and 500. **Miter Limit** field has pop-up menu beside it with common ratio presets:

- ◆ **11.4737 (10°)**. At this value *Excentro* switches from **Miter Join** to **Bevel Join** if spline segments meet at angle sharper than 10°. You probably should not set **Miter Limit** value greater than that.
- ◆ **10 (PostScript)**. At this value *Excentro* switches from **Miter Join** to **Bevel Join** if miter join length is 10 times longer than stroke weight. This is default value used by many *PostScript* RIPs.
- ◆ **5.7588 (20°)**. At this value *Excentro* switches from **Miter Join** to **Bevel Join** if spline segments meet at angle sharper than 20°.
- ◆ **4 (Illustrator)**. At this value *Excentro* switches from **Miter Join** to **Bevel Join** if miter join length is 4 times longer than stroke weight. This is default value used by *Adobe Illustrator* application.
- ◆ **3.8637 (30°/FreeHand)**. At this value *Excentro* switches from **Miter Join** to **Bevel Join** if spline segments meet at angle sharper than 30°. This is default value used by *Macromedia FreeHand* application.
- ◆ **2.6131 (45°)**. At this value *Excentro* switches from **Miter Join** to **Bevel Join** if spline segments meet at angle sharper than 45°.
- ◆ **2 (60°)**. At this value *Excentro* switches from **Miter Join** to **Bevel Join** if spline segments meet at angle sharper than 60°.
- ◆ **1.4142 (90°)**. At this value *Excentro* switches from **Miter Join** to **Bevel Join** if spline segments meet at any sharp angle, that is if angle is sharper than right angle of 90°.

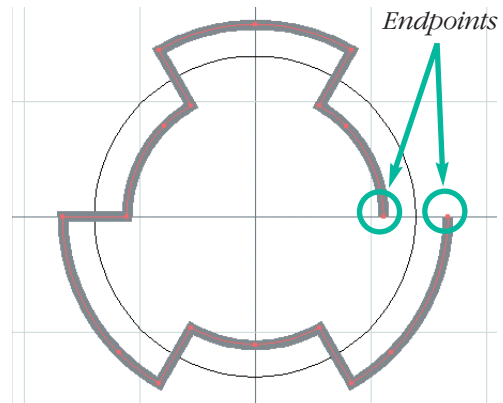
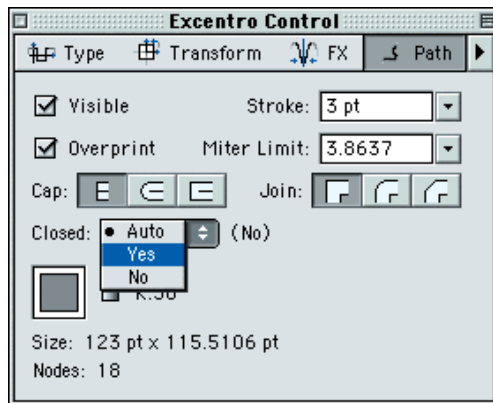


■ **Closed** pop-up menu lets you to force closing of open paths by adding missing spline segments. This menu has three options: **Auto**, **Yes**, **No**.

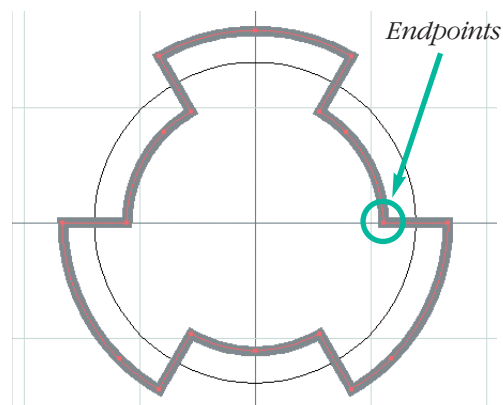
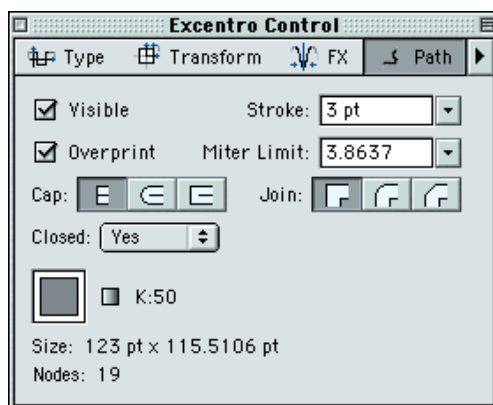
Auto is the default option. In this case *Excentro* automatically closes all paths if their endpoints meet and do not close paths when endpoints are located at some distance one from another. Information string beside the pop-up menu informs you about the result: **(Yes)** (path was closed) or **(No)** (path is open). In most cases this is sufficient for to get good results.

Sometimes object attributes combinations may result in not coinciding beginning and ending points of guilloche path and, if **Auto** option is active, this path will remain open while by design intents it should be closed. In such cases you can use **Yes** option of **Closed** pop-up menu to add extra spline segment and force closing of the path.

Let us look at some typical example. We have the object of **Notch** type with **Ellipse** object as its parent. beginning and ending points of **Notch** object do not coincide so, if we use **Auto** option from **Closed** pop-up menu, we will get an open path, while we want it to be closed when it is exported to *Adobe Illustrator* format.



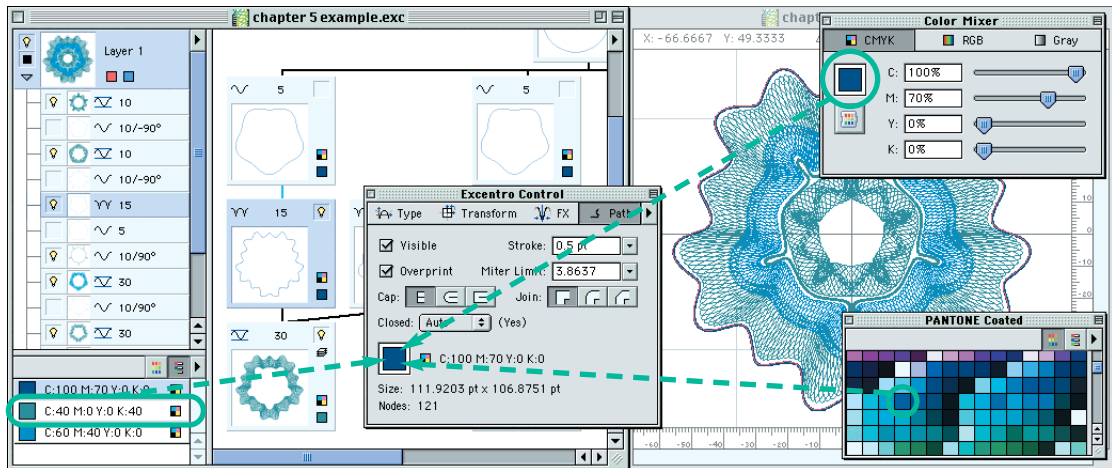
After we will choose **Yes** option from **Closed** pop-up menu additional spline segment will appear between endpoints and the path will become closed. You may see that number of **Nodes** (see description of this informational field below) increased from 18 to 19. This happens because *Excentro* explicitly adds spline segment with new ending point that coincides with beginning point of the path. We do it to avoid occasional problem that may result from differences in handling of paths closed by simply specifying **closed** attribute in some vector design applications.



If for some reason you want to avoid path closing by default **Auto** option, you may use **No** option from **Closed** pop-up menu to explicitly clear **closed** attribute and path will be exported as open.

■ There are two color fields in **Path** panel of **Excentro Control** window: **Color Well** and color information field beside it.

Color Well is typically used to set color attribute of selected object by dragging color patch to it either from **Color Well** of **Color Mixer** inspector or from colors list of swatch palette window or from colors list of main document window.

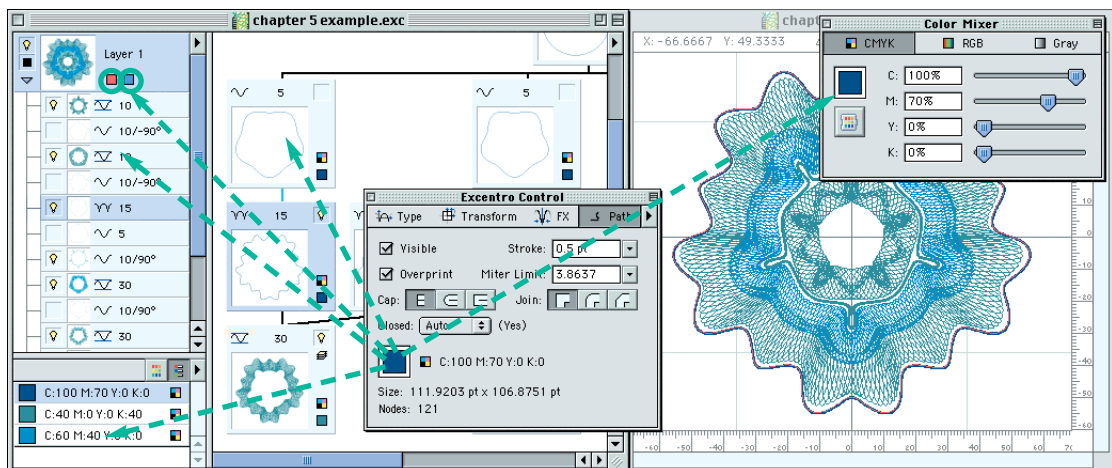


*Dragging color patches to **Color Well** of **Excentro Control** to set object's color.*

You can also use drag-and-drop actions in another direction and drag color patch from **Color Well** of **Excentro Control**. This way you can:

- ◆ Set same color to other objects by dragging color patch to rectangular representations of guilloche objects in structure pane or layers list of main document window.
- ◆ Add new color to document colors list or change color attributes of existing color in this list by dragging color patch to colors list of main document window.
- ◆ Drag color patch to color patches of some layer rectangle in layers list to set this color as selection color for this layer.
- ◆ Set current object color as current color of **Color Mixer** inspector by dragging patch from **Color Well** of **Excentro Control** to **Color Well** of **Color Mixer** inspector.

There is a simpler way to set current color attribute of selected object as current color of **Color Mixer**: just double-click **Color Well** of **Excentro Control** window with mouse pointer.



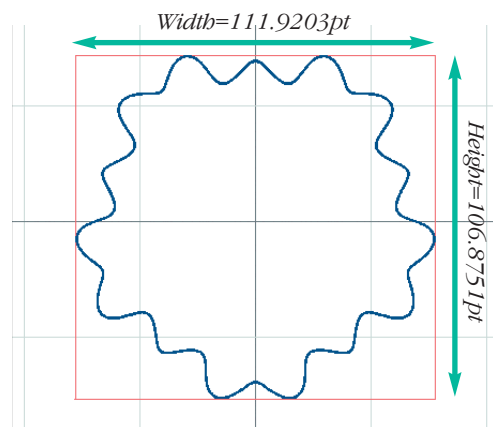
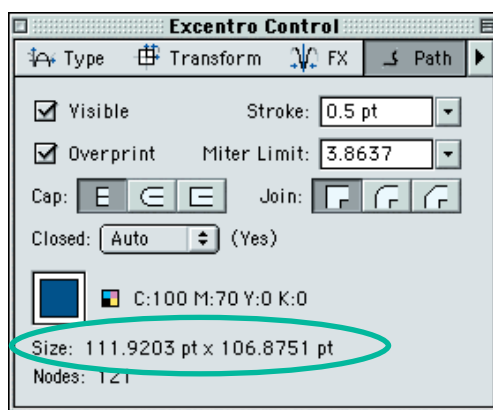
*Dragging color patches from **Color Well** of **Excentro Control**.*

Informational field beside **Color Well** shows color system icon and component values string for current object color. Component values are separated with comma. For example, for **CMYK** colors this string looks like: **C:100 M:70 Y:0 K:0**, for **RGB** colors — **R:255**

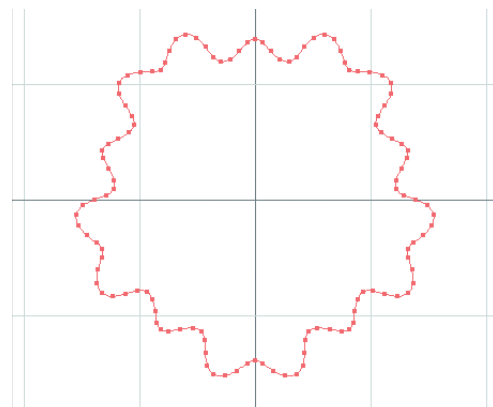
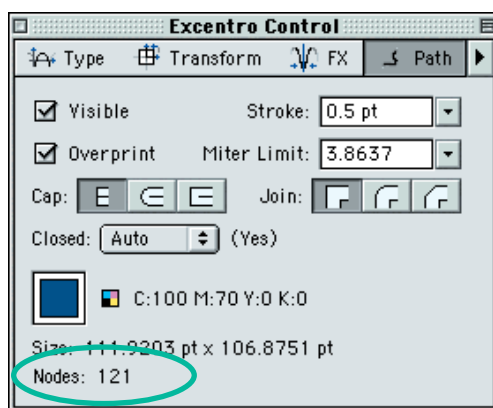
G:75 B:0, for **Gray** colors — *K:100*. For **Spot** colors the string shows color name and tint value: *T:100 PANTONE 315 CVC*. By color space icon you can tell if current object color is **RGB**, **CMYK** or **Grayscale** and if it is **Spot** or **Process** color. Spot colors have round icons, process colors have square icons:

CMYK Process Color	
CMYK Spot Color	
RGB Process Color	
RGB Spot Color	
Gray Color	

■ **Size** field of **Path** panel is the informational field that shows size of path's bounding box — the rectangle that completely encloses the path. First number corresponds to width of the rectangle, second number corresponds to height of the rectangle. You can use this information to improve precision of your guilloche work. Please, note that rectangle size counts stroke weight attribute of the path and includes area of end caps and spline joins. The value is shown in application-wide measurement units.



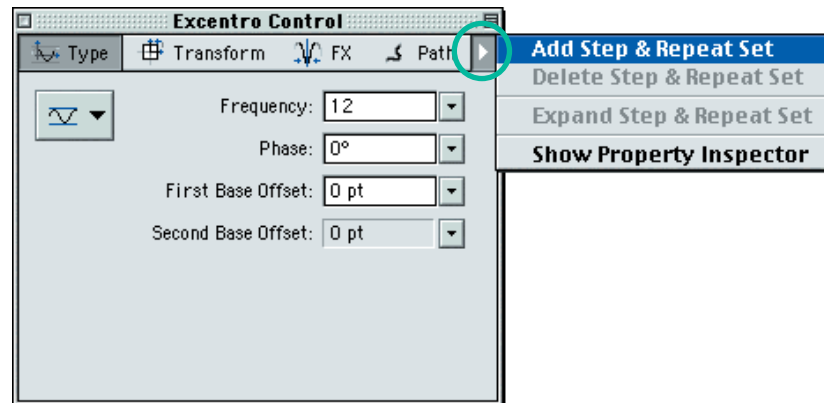
■ **Nodes** field at the bottom of the panel shows number of path nodes — joints of spline segments of the path. It is the informational field only and can not be changed manually. It can help experienced user to reduce or to increase number of path nodes using other attributes of *Excentro* object to avoid occasional paths generation defects like loops or sharp corners. You can manually edit nodes and spline segments later in any vector based application after final design is exported in *Adobe Illustrator* format. Path nodes are visible in document preview window if **Show Nodes** option is turned on in **View** menu.



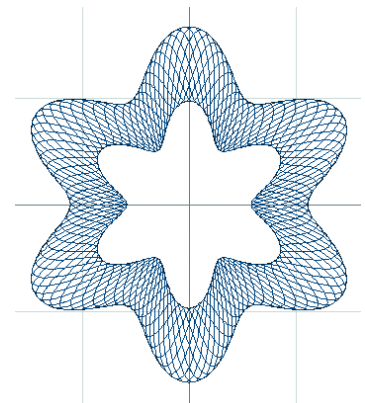
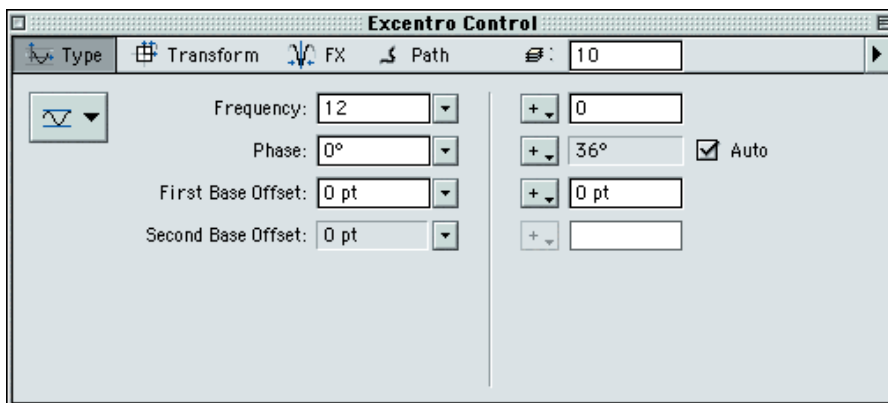
MANAGING STEP & REPEAT SETS

As was mentioned in introduction to this chapter, *Excentro* has powerful ability to create a set of additional object paths by modifying one or more attributes of the object. This functionality is called 'Step & Repeat Sets'. Any attributes in numeric fields of **Excentro Control** window can be modified by Step & Repeat Sets. The number of Step & Repeat Sets single guilloche object can have can also be more than one (in fact, it is unlimited). This gives you very large area for experiments with different shapes and effects, though it requires some knowledge and experience.

To create and delete Step & Repeat Sets you should use commands from **Excentro Control** window menu (button with triangle in top right corner of the window).

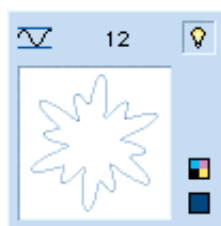


■ **Add Step & Repeat Set** command creates new Step & Repeat Set. After this command is chosen **Excentro Control** window will expand to accommodate fields of new Step & Repeat Set.



*Example of simple Step & Repeat Set with **Phase** attribute modification of content element.*

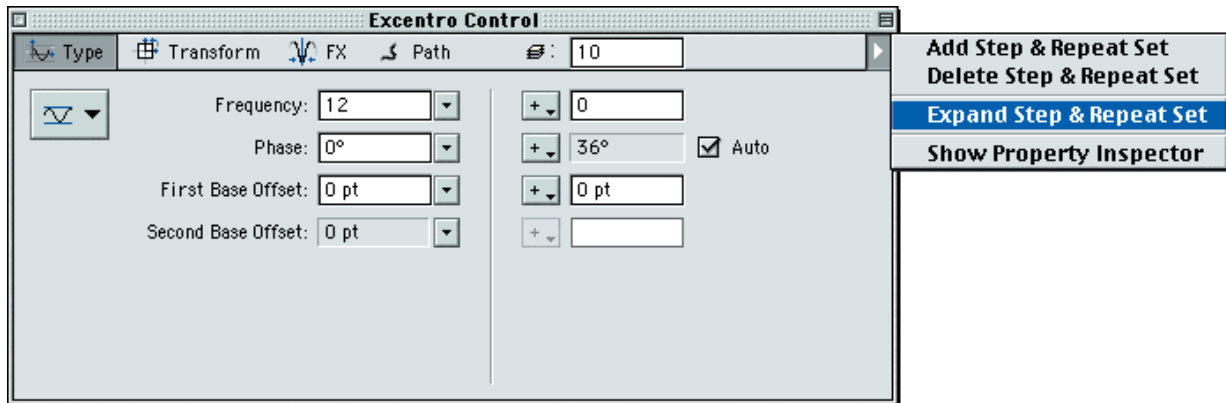
Objects with Step & Repeat Sets have small 'plie' icons in right top corner of their rectangle representations in structure pane of main document window. This helps you to identify objects with Step & Repeat Sets quickly.



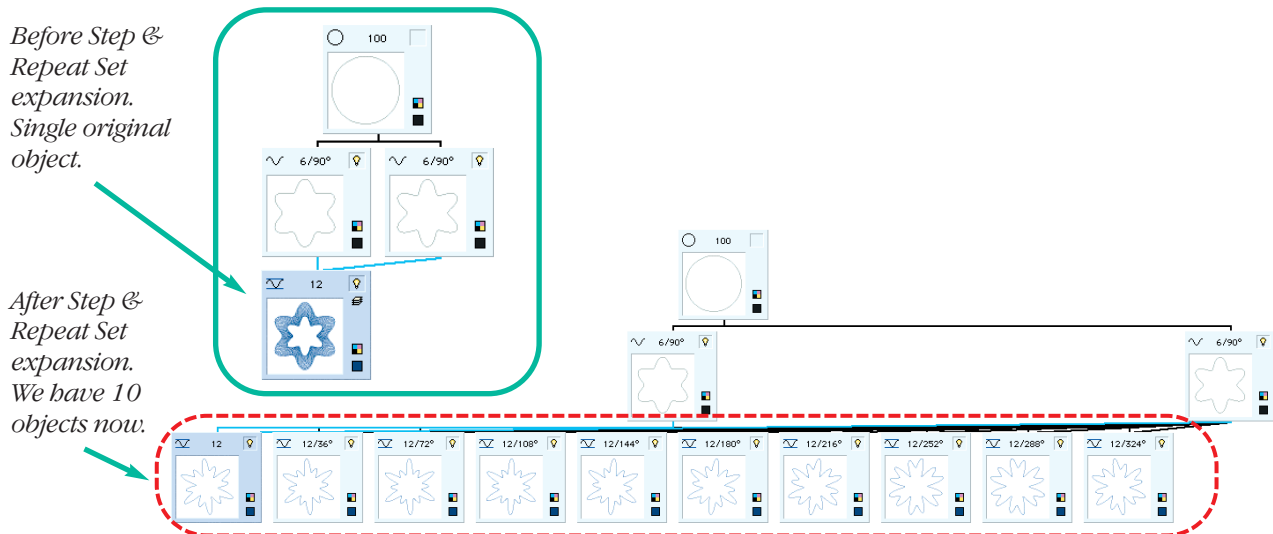
'Plie' icon

Object's rectangle before and after Step & Repeat Set was added.

- You can choose to expand Step & Repeat Set with **Expand Step & Repeat Set** command.



After this command is chosen, new copies of guilloche object will be created. The number of copies is defined by value in **Number of Steps** field of Step & Repeat Set. Each copy will have different values of attributes that were modified by increments of original Step & Repeat Set. New attribute values will be calculated in a way that paths of all new objects will be same as additional paths of Step & Repeat Set. That is: the attribute value of new object is set to the attribute value of original object plus modifications required by next step of Step & Repeat Set. Step & Repeat Set of original object will be deleted after its expansion.

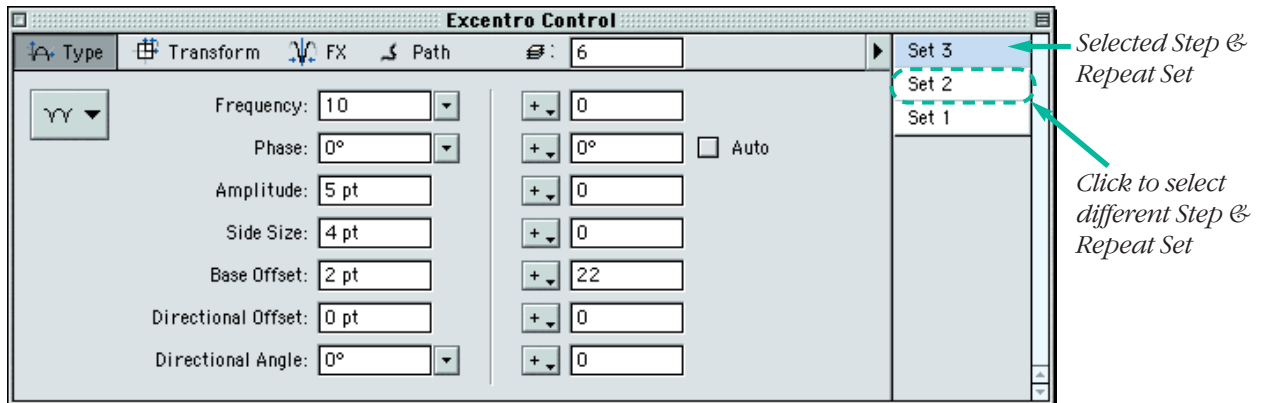


There is no much reason to expand Step & Repeat Sets and create many copies of the object. Step & repeat functionality of *Excentro* was originally designed specifically to avoid creation of copies of same object just to make additional paths with slightly modified attributes. Anyway, Step & Repeat Sets expansion command is here if you will need to use it.

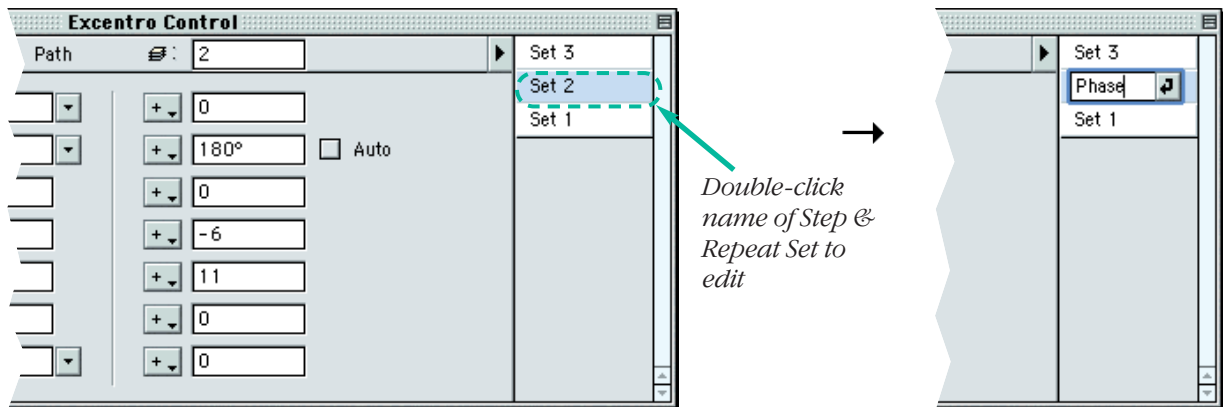
- You can delete Step & Repeat Set without expansion. Just use **Delete Step & Repeat Set** command to do so. **Excentro Control** window will shrink back again to its original size after Step & Repeat Set is deleted.

- If you will add more than one Step & Repeat Set to selected object **Excentro Control** window will expand again to show list of Step & Repeat Sets. You can use this list to do one of three following tasks:

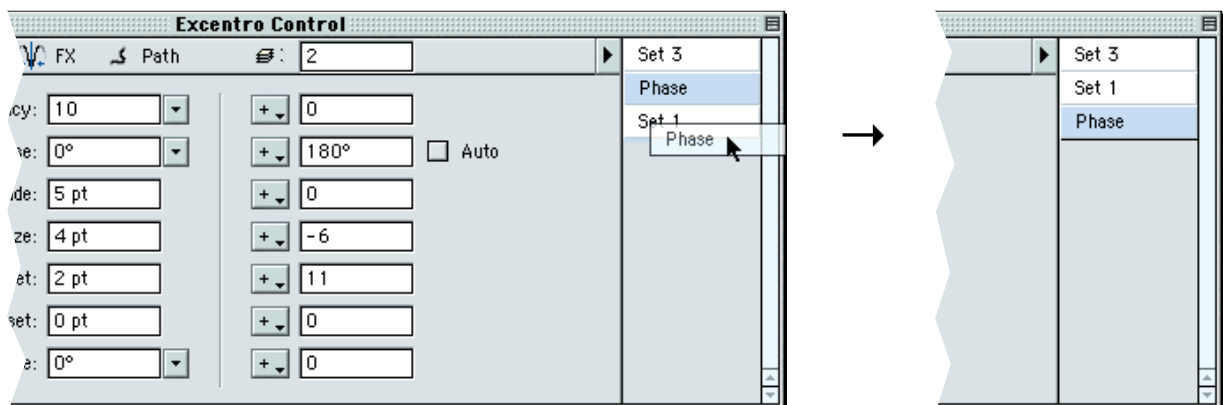
- ◆ Select different Step & Repeat Set, so its attributes and parameters will be shown in fields of expanded **Excentro Control** window. Just click name of the set in the list with mouse pointer, to select it.



- ◆ Rename sets so they will become easier to identify. Double-click name of Step & Repeat Set to make it editable and type new name.

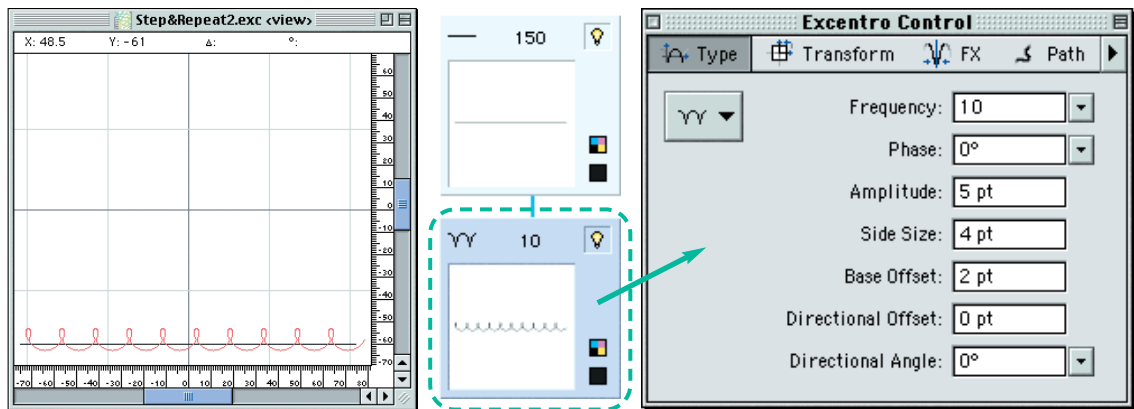


- ◆ Change sets order in the list. Click Step & Repeat Set item to select it, then, holding mouse button pressed, drag the item to new position in the list, release mouse button.

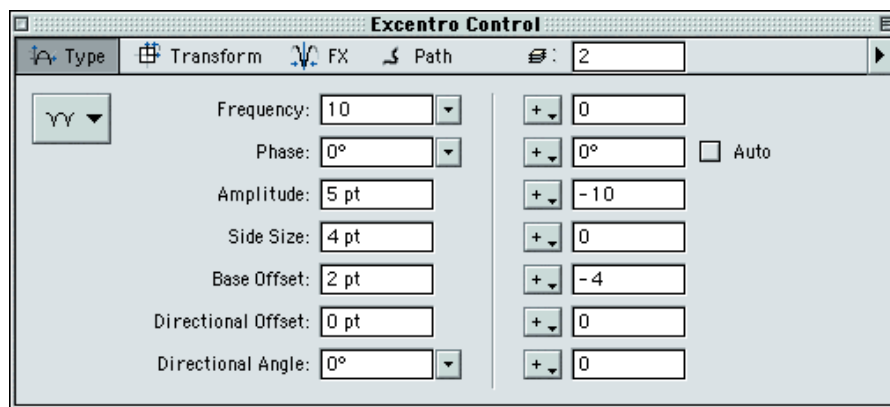


To illustrate situation when creation of more than one Step & Repeat Set can benefit guilloche design creation let us provide an example of simple regular background design created with only two structure tree objects and three Step & Repeat Sets.

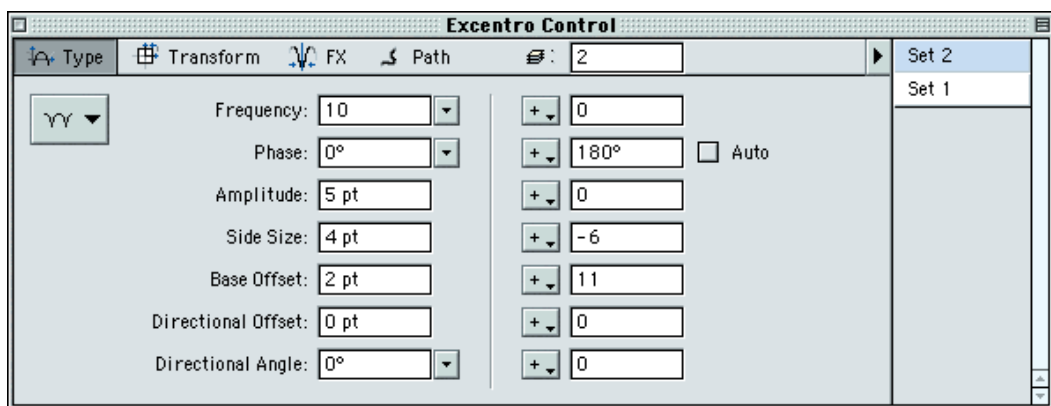
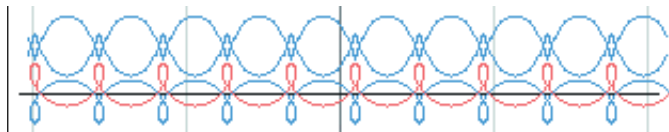
1. We are creating regular linear background, so let us start with **Line** base object and single child element of **Cycloid** type:



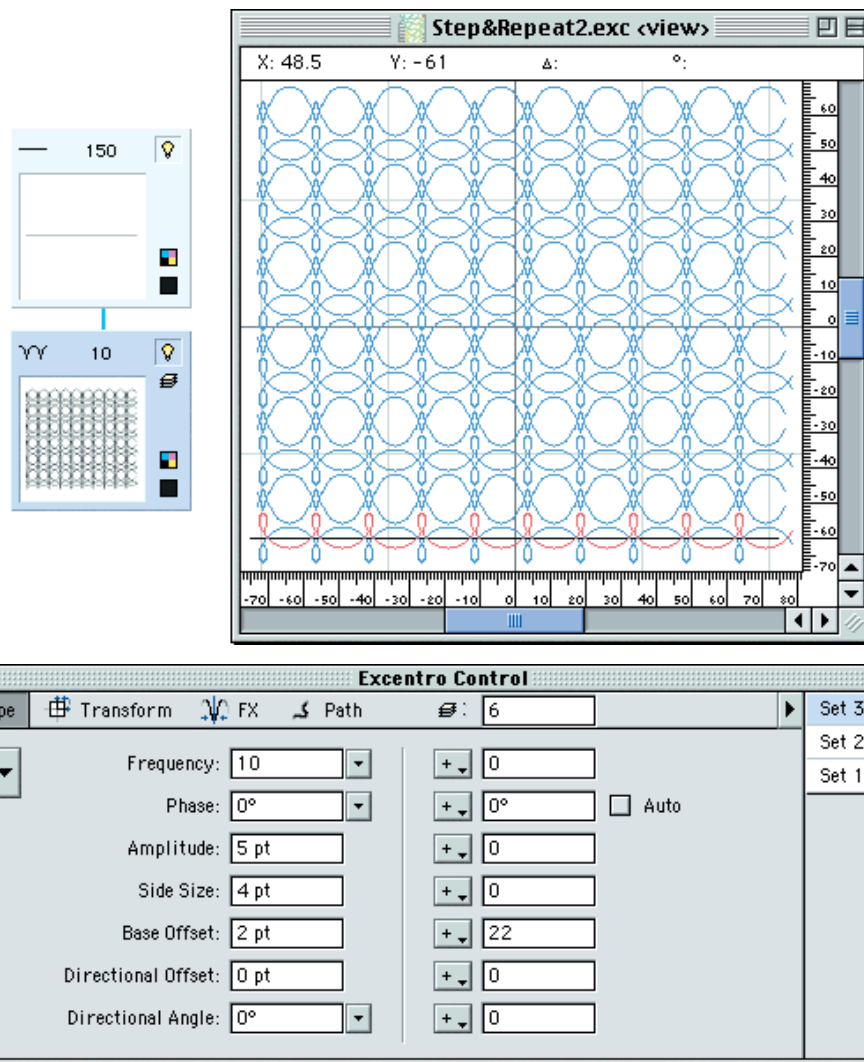
2. First Step & Repeat Set that we will add to element of **Cycloid** type will reflect its path relative to line of its parent object by modifying **Amplitude** and **Base Offset** attributes. We will get pattern of two intersecting cycloids.



3. Second Step & Repeat Set will modify **Phase**, **Side Size** and **Base Offset** attributes of two cycloid paths, so that we will make another pair of intersecting paths with slightly different cycloid shape positioned above the first pair.



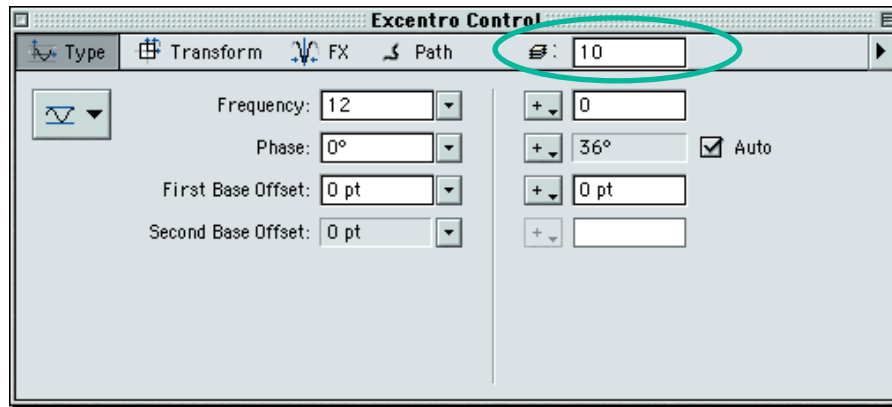
4. Final third Step & Repeat Set will modify only **Base Offset** attribute of **Cycloid** object to repeat four existing paths six times more and to complete creation of this simple background.



Example above shows how you can use step & repeat functionality of *Excentro* to make the background of 24 paths. There are other ways to make identically looking background in *Excentro* including the one with creation of 24 **Cycloid** objects each with individual attributes and none Step & Repeat Sets. However, using multiple Step & Repeat Sets that all belong to single object allows you later to modify all paths of the background as whole by editing attribute values of just one **Cycloid** object instead of selecting several objects one after one and reapplying same attribute modification to all of them.

STEP & REPEAT SET FIELDS

■ Expanded version of **Excentro Control** window for objects with Step & Repeat Sets has one additional numeric field in top part of the window, where icons and titles of the panels as well as window menu triangle button are located. This field has same 'pile' icon beside it that is used to identify objects with Step & Repeat Sets:

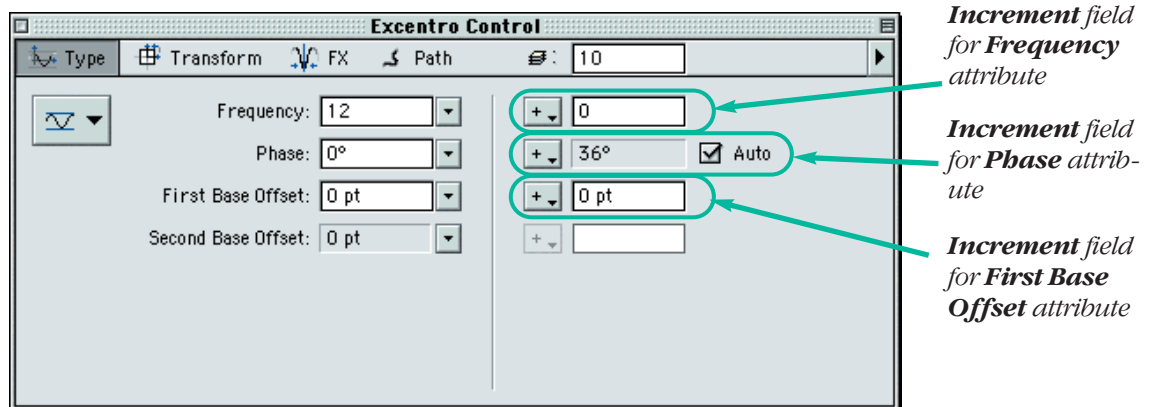


This is **Number of Steps** field. For objects with only one Step & Repeat Set, value in this field is the same as total number of object paths: main path of the object plus additional paths of Step & Repeat Set. (For objects with more than one Step & Repeat Set total number of object paths is calculated by multiplying **Number of Steps** values of all its sets). This value can be treated as 'the number of objects that paths of this object with Step & Repeat Set can replace'. It defines the number of times that set modifications are applied to the object attributes to create additional paths:

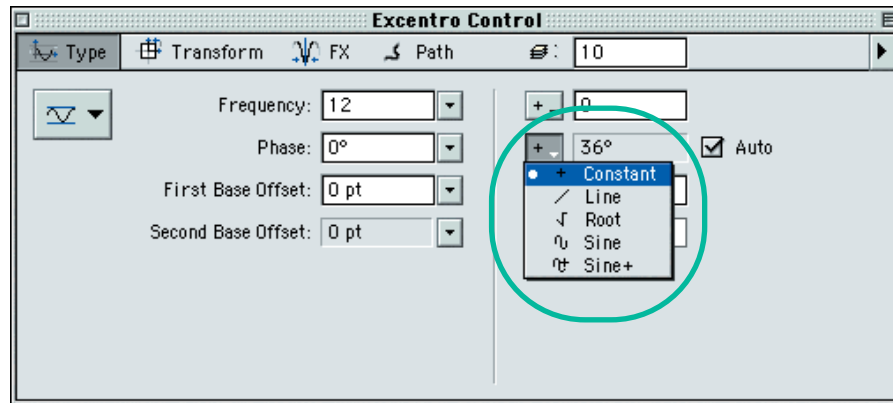
- ◆ If the value of **Number of Steps** field is '1', then Step & Repeat Set does not produce any additional paths for this object. Guilloche paths of the object with Step & Repeat Sets whose **Number of Steps** values equal to '1' are identical to the paths of the object without any Step & Repeat Sets.
- ◆ If the value of **Number of Steps** field is greater than '1', then additional paths are created and number of them is equal to this value minus 1. The first additional path is produced by applying set modifications to object attributes once, the last additional path is produced by applying set modifications to object attributes '**Number of Steps** - 1' times.

Example: If **Number of Steps** value is equal to '2', then only one additional path will be created; if **Number of Steps** value is equal to '10', then nine additional paths will be created, if increment values of the set are like on picture above, then first path will be produced with **Phase** attribute value equal to '36°', last — '324°' (thus main and additional paths of the object will cover whole 360° interval of **Phase** attribute).

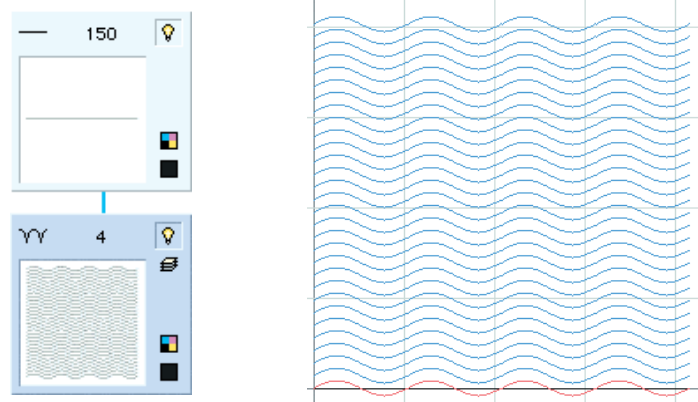
■ Attribute modifications of Step & Repeat Set are specified by **Increment** fields located beside fields of object attributes they modify.



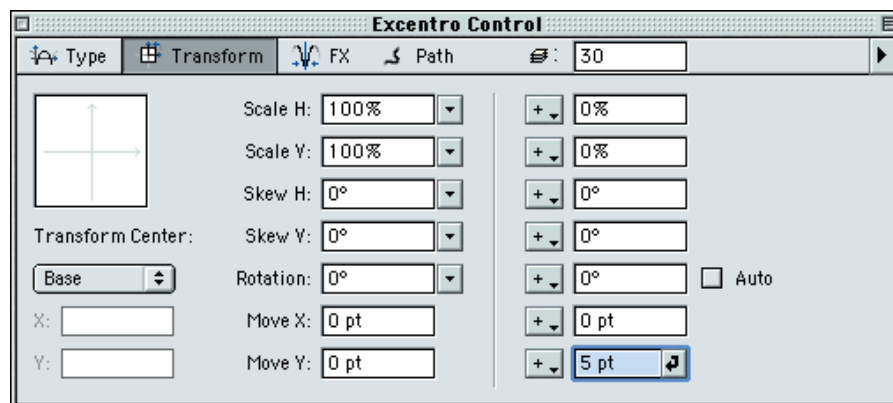
Type of **Increment** field is controlled by pop-up menu beside it. This menu contains five different options: **Constant**, **Line**, **Root**, **Sine** and **Sine+**:



To illustrate these types of **Increment** we will construct an example of very simple background that has two elements: base object of **Line** type and child element of **Cycloid** type.

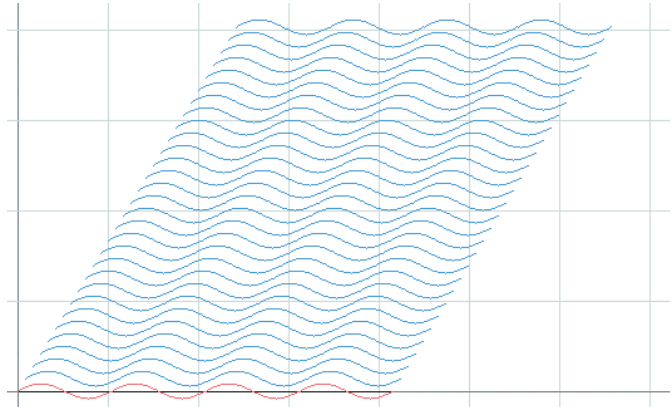
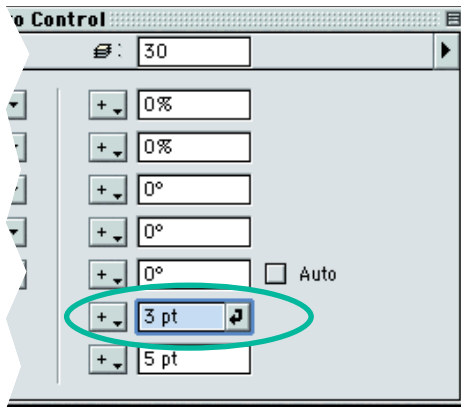


Cycloid object has Step & Repeat Set with **Number of Steps** value set to '30' that amounts to 30 object paths — one main path and 29 additional ones produced by this Step & Repeat Set (see **Number of Steps** field description above). Step & Repeat Set initially has only **Move Y** attribute **Increment** of **Constant** type with non-zero value of '5pt'. This **Increment** offsets each next path by 5 points up relative to previous one. We will not modify this value in foregoing discussion — it is just there to make illustrations more instructive, instead we will assign different values to **Move X** attribute **Increment** and look at the changes on our background.

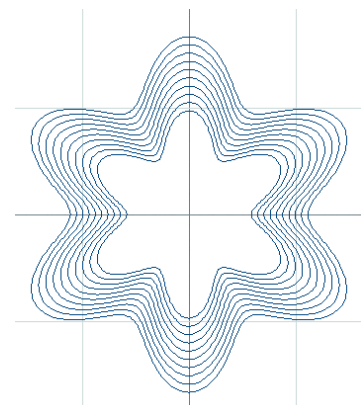
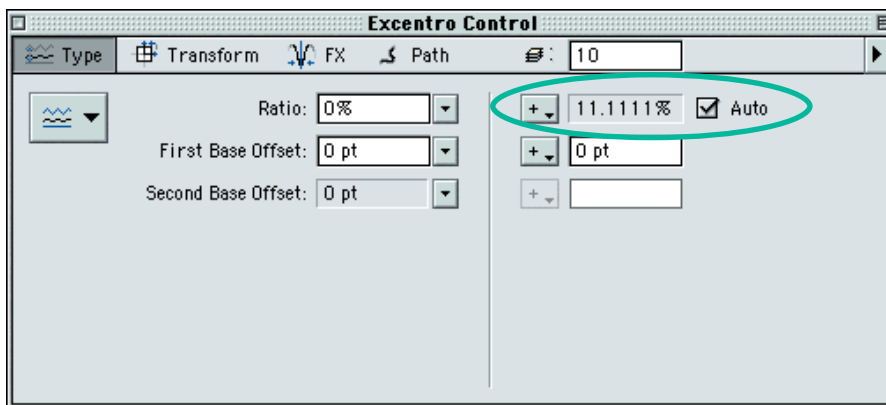
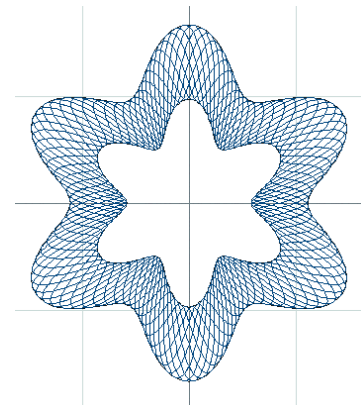
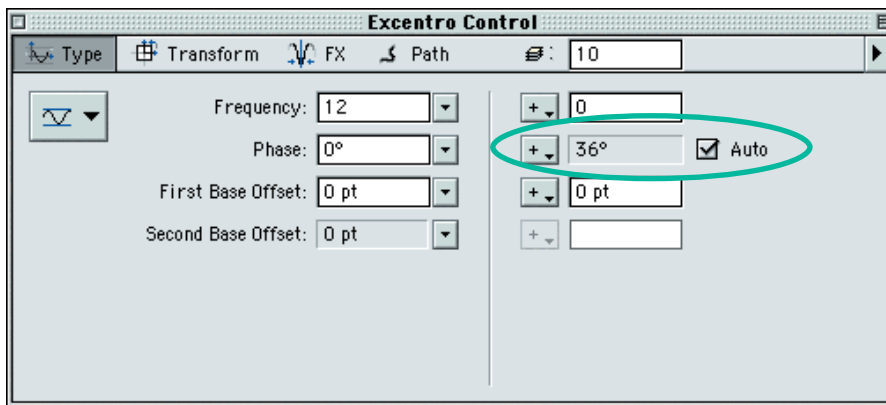


■ **Constant** type of **Increment** is the simplest and the most common one. This **Increment** is defined only by one numeric value. At each step of Step & Repeat Set this value gets added to attribute value accumulated on previous steps.

Example: If we will assign **Constant** type **Increment** with '3pt' value to **Move X** attribute, 30 paths of our background example will have horizontal offsets with following values: 0pt, 3pt, 6pt, 9pt, 12pt,... 87pt.



Some attributes with values in degrees (°) and percents (%) have **Auto** checkbox beside their **Increment** fields of **Constant** type. If this checkbox is 'on' the value of **Increment** is calculated automatically by dividing whole range of 360° or 100% by number of paths that is required to uniformly cover this interval and can not be modified. This simplifies setting of Step & Repeat Sets for objects whose paths should be evenly distributed through whole available range of attribute values (e.g. space between paths of parent objects for content elements on picture below).



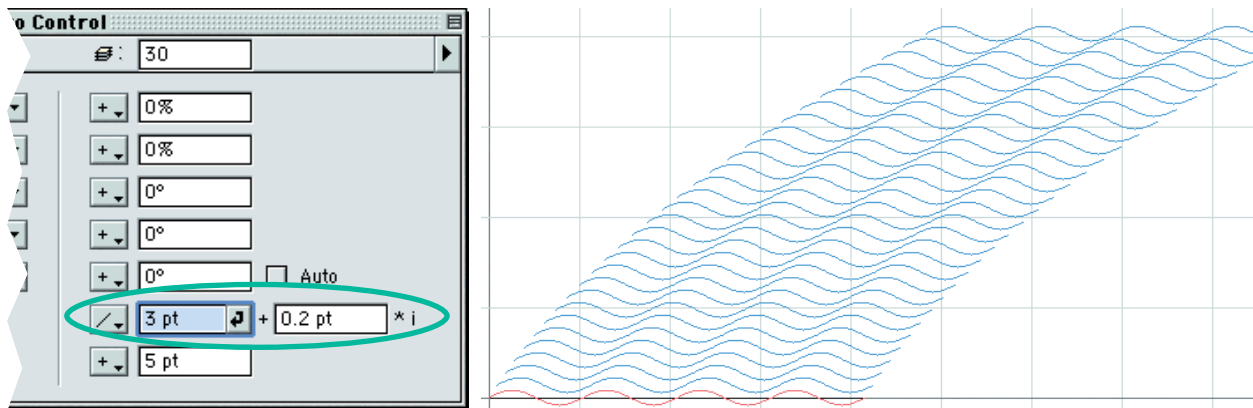
*Paths of content elements produced with **Auto** option.*

■ **Line** type of **Increment** is defined by two numeric values. These values are used to calculate the final increment value that gets added to attribute value accumulated on previous steps of Step & Repeat Set. The final increment value is calculated using formula:

$$\text{increment} = \text{value1} + \text{value2} \cdot \text{number_of_step}$$

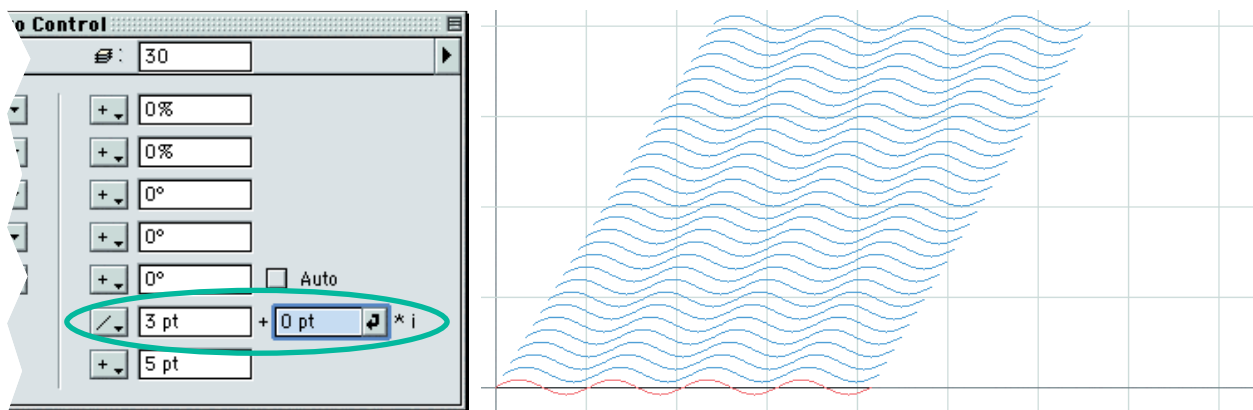
Where *number_of_step* is the number of each step in the Step & Repeat Set, with value 0 (zero) corresponding to main path of the object.

Example: If we will assign **Line** type **Increment** with '3pt' and '0.2pt' values to **Move X** attribute, 30 paths of our background example will have horizontal off-sets with following values: 0pt, 3.2pt, 6.6pt, 10.2pt, 14pt,... 165.2pt, 174pt.



If second value of **Line** type **Increment** is zero, then it is identical in behavior to **Constant** type **Increment** with value set to the first value of **Line** type **Increment**.

Next example illustrate the case, you can compare it with picture on previous page: 30 paths of our background example have horizontal offsets: 0pt, 3pt, 6pt, 9pt, 12pt,... 87pt



■ **Root** type of **Increment** is defined by three numeric values. These values are used to calculate the final increment value that gets added to attribute value of the object. The final increment value is calculated using formula:

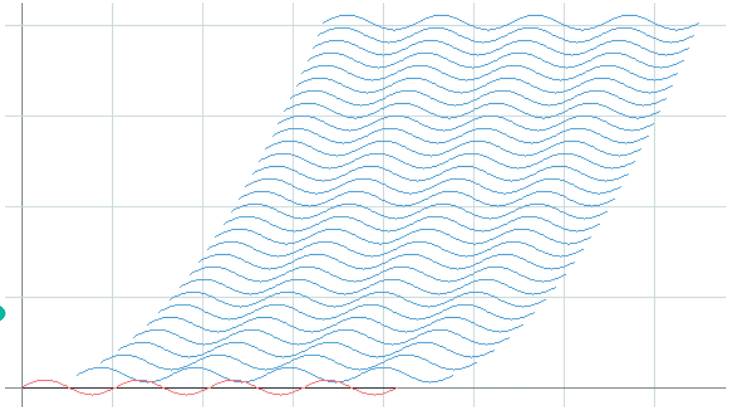
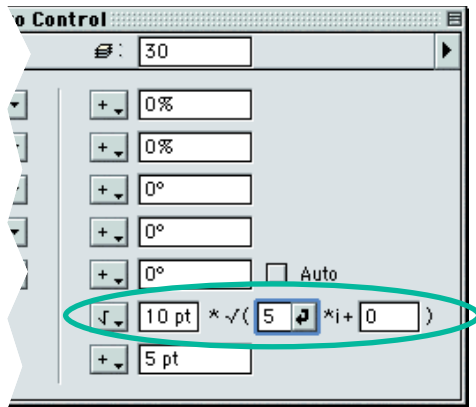
$$\text{increment} = \text{value1} \cdot \sqrt{(\text{value2} \cdot \text{number_of_step} + \text{value3})}$$

Where *number_of_step* is the number of each step in the Step & Repeat Set, with value 0 (zero) corresponding to main path of the object.

The main difference from two previously described **Increment** types is that attribute value of the object **is not** accumulated on previous steps of Step & Repeat Set. No mat-

ter what pervious increment values were, attribute value of the object on every step of the Set is calculated as sum of initial value from attribute field of **Excentro Control** window and increment value calculated using formula above.

Example: If we will assign **Root** type **Increment** with '10pt', '5' and '0' values to **Move X** attribute, 30 paths of our background example will have horizontal off-sets with following values: 0pt, 22.36pt, 31.62pt, 38.73pt, 44.72pt,... 120.42pt.



■ **Sine** type of **Increment** is also defined by three numeric values. These values are used to calculate the final increment value that gets added to attribute value of the object. The final increment value is calculated using formula:

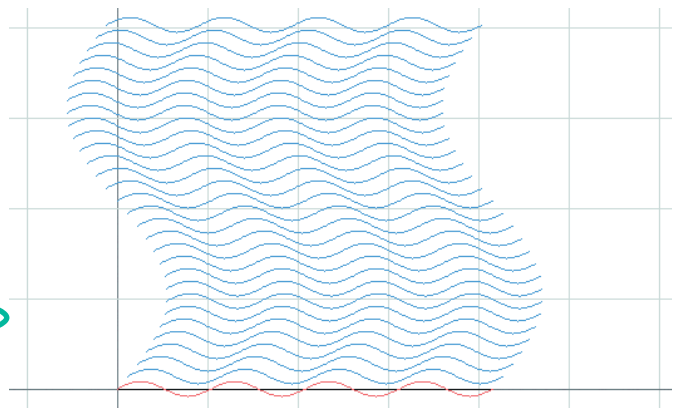
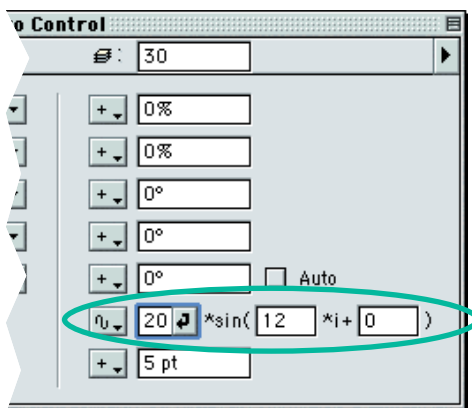
$$\text{increment} = \text{value1} \cdot \sin(\text{value2} \cdot \text{number_of_step} + \text{value3})$$

Where *number_of_step* is the number of each step in the Step & Repeat Set, with value 0 (zero) corresponding to main path of the object.

Argument of *sin()* function (the value in brackets in formula above) is expressed in degrees (°). To cover whole 360° range of *sin()* arguments by paths of Step & Repeat Set, *value2* should be calculated as ratio of 360° and **Number of Steps** value for this Set.

Just like with **Root** type **Increment** attribute value of the object **is not** accumulated on previous steps of Step & Repeat Set. No matter what pervious increment values were, attribute value of the object on every step of the Set is calculated as sum of initial value from attribute field of **Excentro Control** window and increment value calculated using formula above.

Example: If we will assign **Sine** type **Increment** with '20pt', '12' and '0°' values to **Move X** attribute, 30 paths of our background example will have horizontal offsets with following values: 0pt, 4.16pt, 8.13pt, 11.76pt, 14.86pt,... -4.16pt.



■ **Sine+** type of **Increment** is similar to **Sine** type **Increment**. It is defined also by three numeric values. These values are used to calculate the final increment value using same formula:

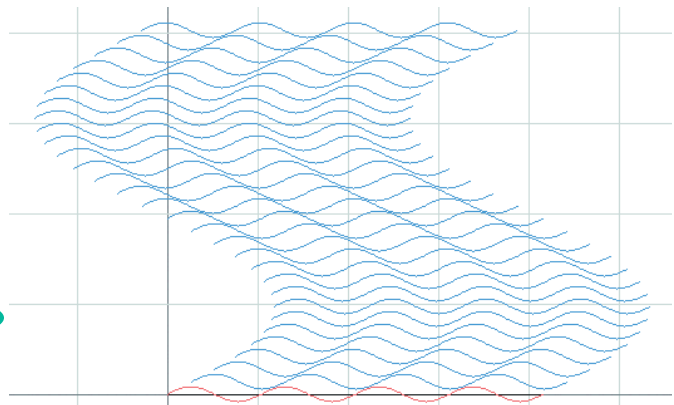
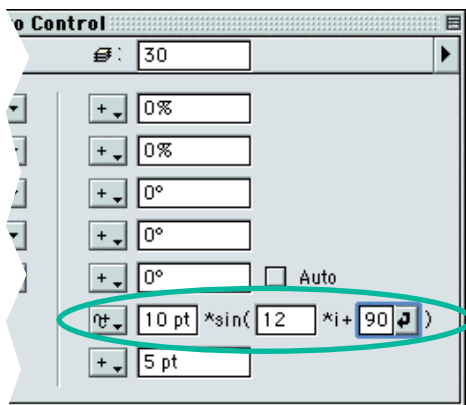
$$\text{increment} = \text{value1} \cdot \sin(\text{value2} \cdot \text{number_of_step} + \text{value3})$$

Where *number_of_step* is the number of each step in the Step & Repeat Set, with value 0 (zero) corresponding to main path of the object.

But unlike **Sine** type **Increment** attribute value of the object **is** accumulated on previous steps of Step & Repeat Set. That is: attribute value for any given step is a sum of initial value from attribute field of **Excentro Control** window and increment values (calculated using formula above) of all previous steps of Step & Repeat Set.

Argument of *sin()* function (the value in brackets in formula above) is expressed in degrees (°). To cover whole 360° range of *sin()* arguments by paths of Step & Repeat Set, *value2* should be calculated as ratio of 360° and **Number of Steps** value for this Set. Since attribute value is accumulated using both negative and positive increment values if we want to get truly periodic look of Step & Repeat Set we should start with maximum *sin()* value, that could be reached by setting *value3* to 90° (*sin(90°)=1*).

Example: If we will assign **Sine+** type **Increment** with '10pt', '12' and '90°' values to **Move X** attribute, 30 paths of our background example will have horizontal offsets with following values: 0pt, 9.78pt, 18.92pt, 27pt, 33.7pt,... -10pt.

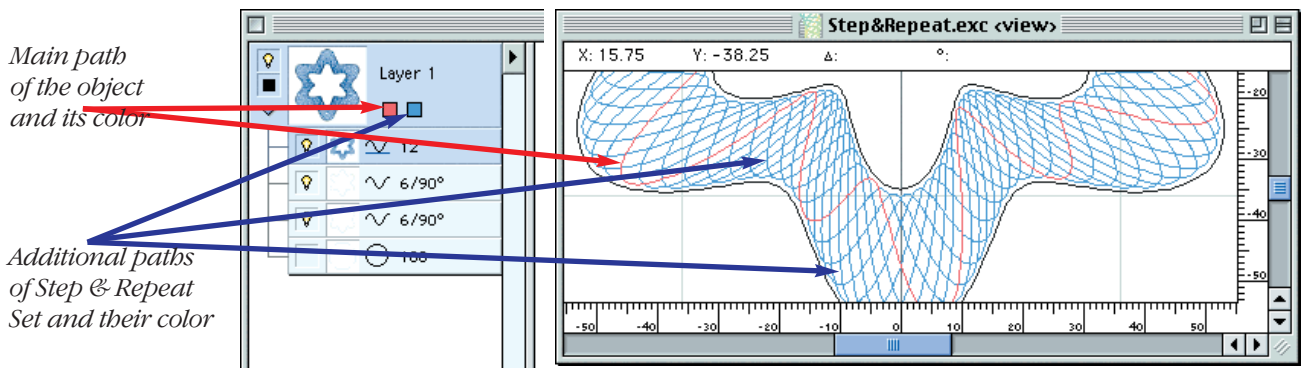


ADDITIONAL NOTES ON STEP & REPEAT SETS

Information in this section does not directly relate to **Excentro Control** inspector, we decided to put it here to make Step & Repeat Sets coverage in this chapter more complete in case you will look for details here.

■ **Selection colors.** *Excentro* uses two special colors to show paths of selected object in document preview window. First color is used for main path of the object, second color shows additional paths that belong to Step & Repeat Sets.

These colors are defined and can be changed in layers list of main document window. To change selection color you can drag color patch, for example, from **Color Well** of **Color Mixer** inspector to one of two small color patches in rectangle that represents the layer in layers list. Left color patch in layer rectangle corresponds to selection color of main path. Right color patch corresponds to selection color for additional paths of Step & Repeat Sets.

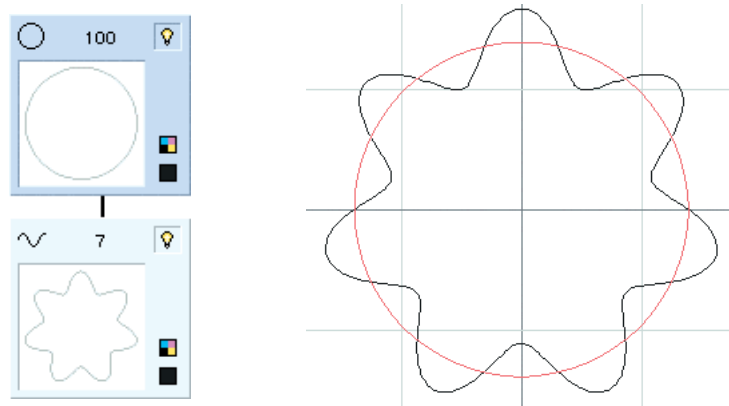


Each layer may have its own set of two colors used to show selected paths. You can find setting different colors to different layers helpful if you would like to check visually if document selection belongs to this or that layer. You can set same color value to both colors used for paths selection. In this case main path and paths of Step & Repeat Sets will be displayed with same color in preview window.

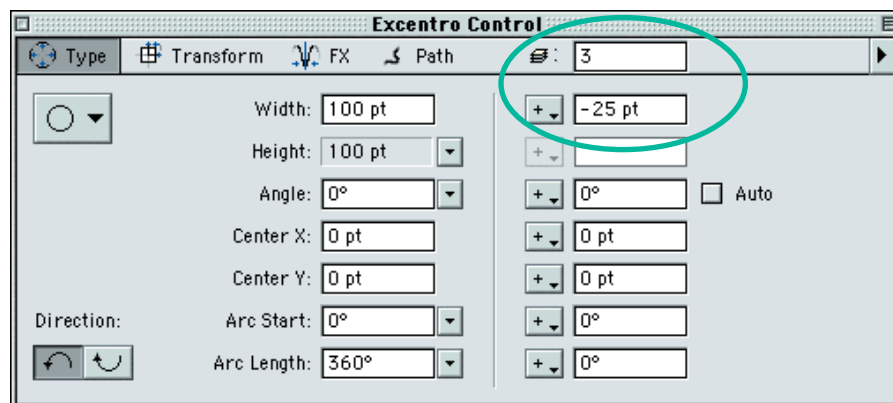
Selection color used for main object path will be exported as selection color for that layer, when you export job in *Adobe Illustrator* format at the end of your work.

■ **Step & Repeat Sets and child elements.** Since paths of child elements 'are based on path of their parent object', Step & Repeat Set added to parent object will not only produce additional paths for this object but it will create additional paths for all its child elements as well. To illustrate this behavior let us consider following example.

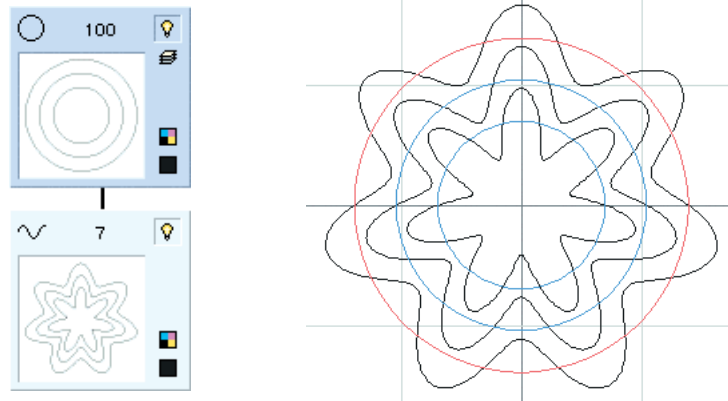
1. Let us create base object of **Ellipse** type with single child object of **Sine Wave** type — usual case at the beginning of guilloche design process.



2. Now we will add Step & Repeat Set to **Ellipse** base with **Number of Steps** value '3' and **Width** attribute **Increment of Constant** type '-25pt'.



3. After Step & Repeat Set is added to the base you can see that two additional ellipse paths are produced for this object. These paths have **Width** attribute of '75pt' and '25pt' respectively. But, please, note two additional paths produced for **Sine Wave** child object as well. These paths have same attributes of **Sine Wave** object like **Frequency**, **Phase** and **Amplitude** and they behave as if each of them was based on new additional paths of the base object produced by Step & Repeat Set modification.



Only direct child objects (and direct child objects of these child objects) will have additional paths after Step & Repeat Set is added to their parent. Step & Repeat Set will not create additional paths for objects which use the object with this Set as 'second base' or 'direction' element or modify these objects paths in any other way.

SHOW PROPERTY INSPECTOR

On the closing page of this chapter let us mention the last command of **Excentro Control** window menu — **Show Property Inspector** command.

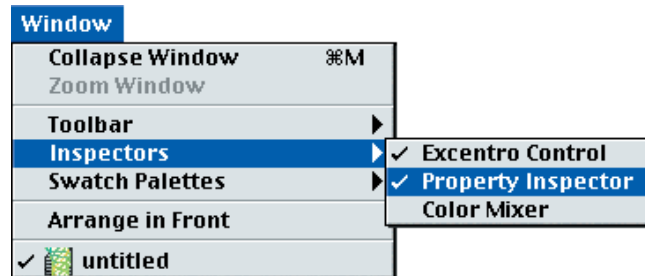


Show Property Inspector command brings to screen another inspector window of *Excentro* application called **Property Inspector**. This inspector is a companion to **Excentro Control** inspector. It helps you to change value of active attribute field in **Excentro Control** window dynamically using slider control and increment/decrement buttons.

Next **Chapter 6: Property Inspector** provides more information on **Property Inspector** window controls and usage.

CHAPTER 6: PROPERTY INSPECTOR

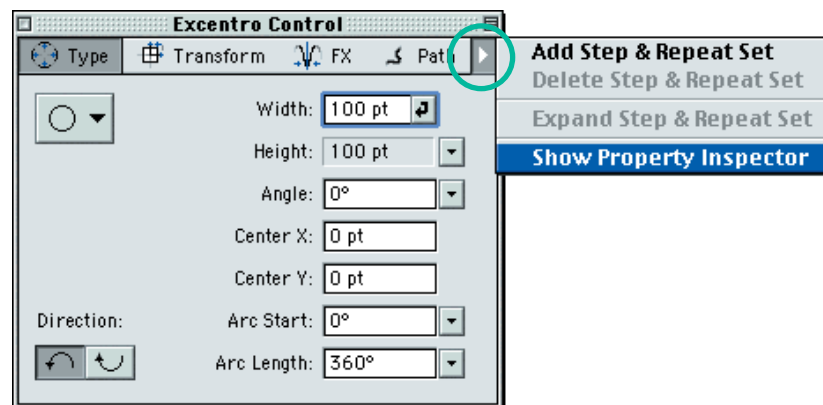
Property Inspector is one of *Excentro* inspectors (as its name suggests). Like other inspector windows and **Toolbar** it floats above document windows layer and can be brought to screen with command from **Inspectors** submenu of **Window** menu.



Check mark appears beside **Property Inspector** command in **Inspectors** submenu when **Property Inspector** window is on the screen. Choosing this command second time will hide the inspector.



Property Inspector is a companion to **Excentro Control** inspector. It helps to change attribute values gradually by small increments after specifying them roughly in **Excentro Control**. Due to this close relationship **Property Inspector** can also be summoned to screen with **Show Property Inspector** command from window menu of **Excentro Control** (button with triangle in top right corner of the window):



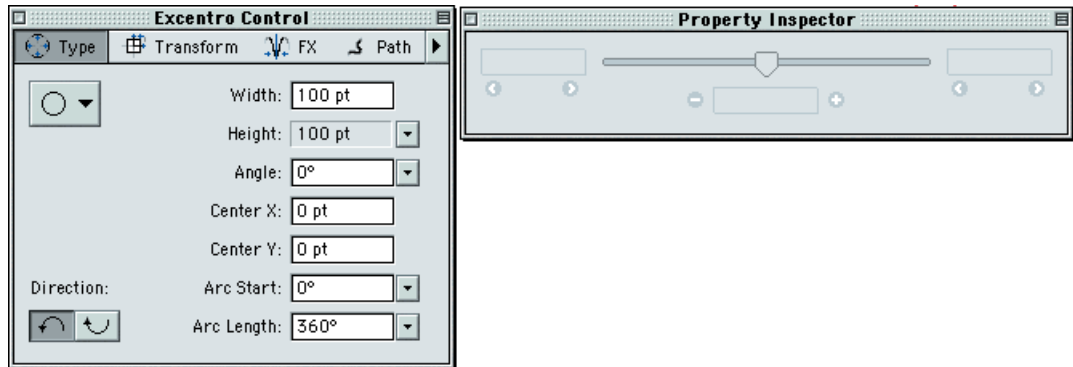
Property Inspector allows you to experiment with attribute values and see how these values transform shape of your guilloche design. In **Excentro Control** window you can set attribute values of selected object using numeric fields or pop-up menus with presets. **Property Inspector** adds slider and increment/decrement buttons. With these controls you can change attribute value dynamically with graphics path preview of selected object changed in real time or explore small variations of current attribute value.

We could add slider and increment/decrement buttons beside every field of **Excentro Control**, but decided against this idea. Considering number of fields and attributes of **Excentro Control** that would make this window too big too be usable. Instead we placed these controls in single **Property Inspector** window. This approach helps us to minimize screen usage and allows to create more flexible controls versions.

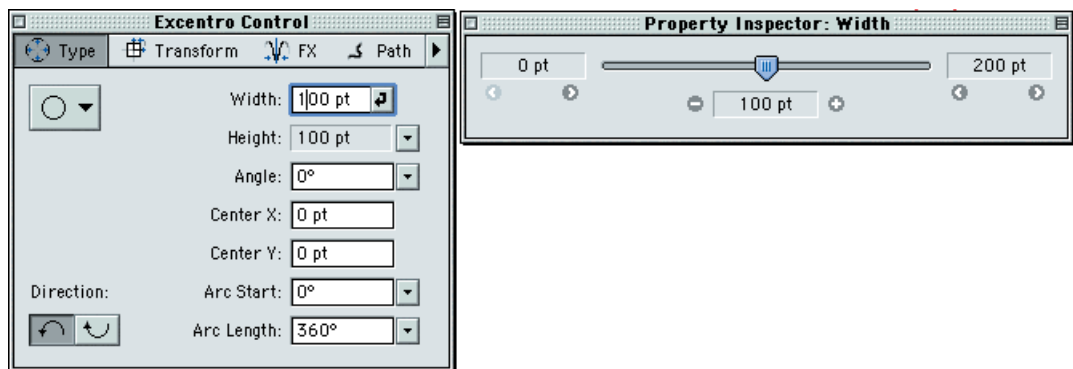
PROPERTY INSPECTOR WINDOW

With **Property Inspector** you can edit only one attribute of selected object in *Excentro* document at time. This attribute is the currently active field of **Excentro Control** window (the one with blinking text caret that accepts keyboard input). To edit another attribute with **Property Inspector** just click with mouse pointer different field of **Excentro Control** to activate it.

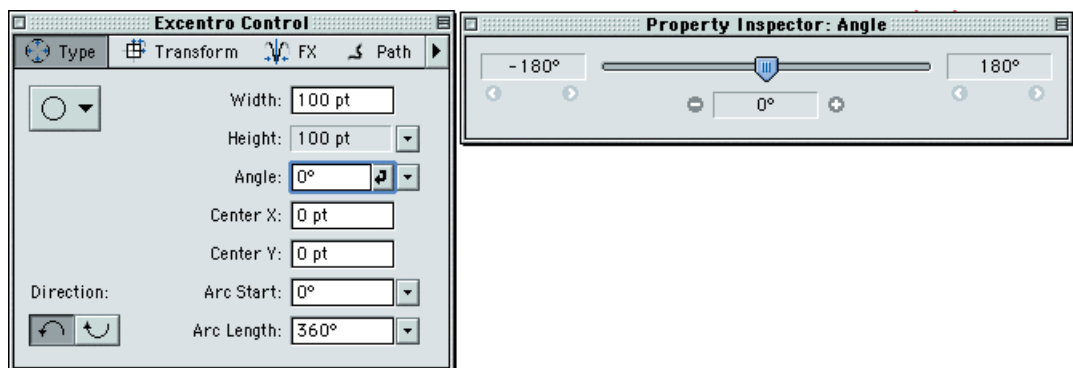
Title of **Property Inspector** window reflects the name of the active attribute it edits:



*No attributes of **Excentro Control** are active. **Property Inspector** window title is set to default **Property Inspector***



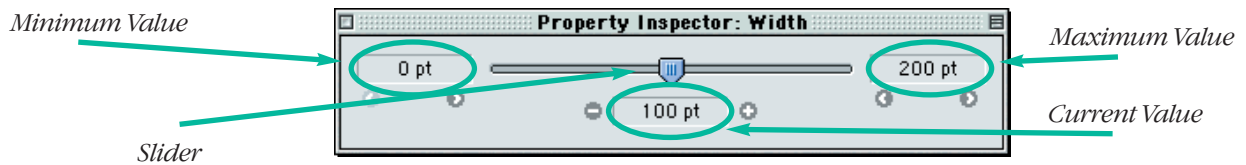
Width** is active attribute of **Excentro Control**. **Property Inspector** window title is set to **Property Inspector: Width



Angle** is active attribute of **Excentro Control**. **Property Inspector** window title is set to **Property Inspector: Angle

PROPERTY INSPECTOR CONTROLS

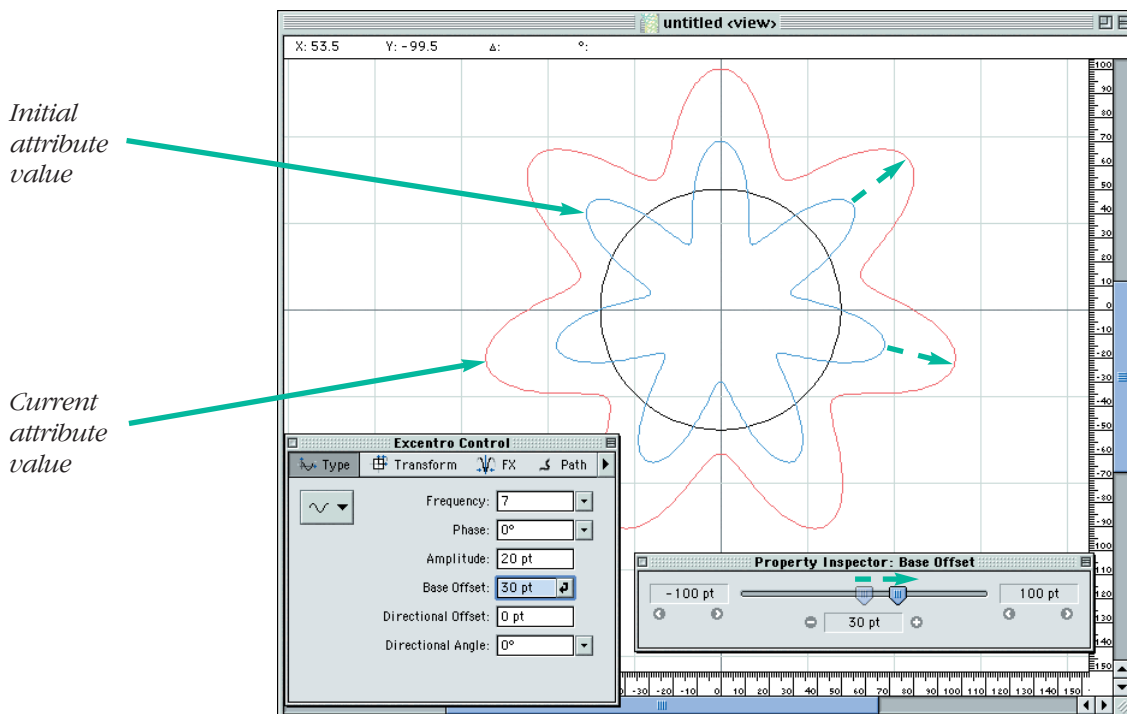
The text field at the bottom of **Property Inspector** window is **Current Value** field. It shows current value of the attribute **Property Inspector** is used to change. It is the same value as that of active field in **Excentro Control**. You can not directly enter new value in **Current Value** field. If you want to set this value by typing, you should use text field in **Excentro Control** window instead.



‘+’ and ‘-’ buttons beside **Current Value** field are **Increment** and **Decrement** buttons. They are used to change current attribute value by small amounts. **Increment** button adds small value to current attribute value, **Decrement** button subtracts small value from current value. The value of increment and decrement depends on type of the attribute and current interval of **Slider** control in top part of **Property Inspector** window.

The interval of **Slider** control is defined by **Minimum Value** and **Maximum Value** fields located beside it. You can make this interval larger or smaller with ‘<’ and ‘>’ buttons below these fields. These buttons can increase or decrease the interval by half of current interval size.

While you drag **Slider** control you will see as value in **Current Value** field and corresponding active field of **Excentro Control** changes together with current **Slider** position. Graphics path preview of selected object in document preview window is changed too according to new attribute value.



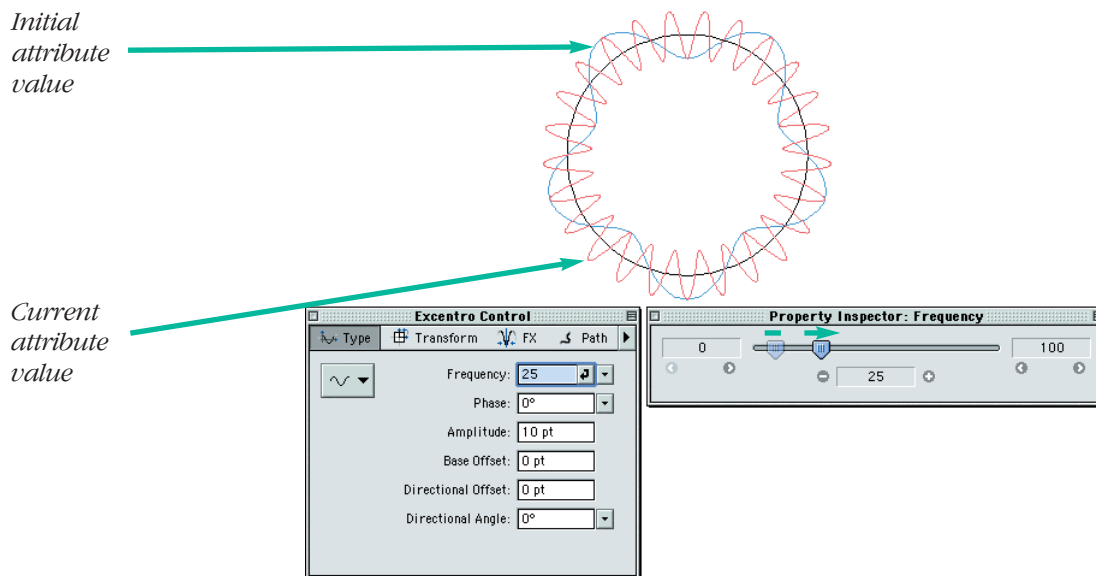
Excentro uses two special colors to show paths of selected object in document preview window. First color is used for main path of the object, second color shows additional paths that belong to Step & Repeat Sets (if selected object has any Step & Repeat Sets).

While you drag the slider, only main path of the object changes in real time. Paths of Step & Repeat Sets will be updated later as soon as you release mouse button after drag. This helps to make attribute changes more clearly visible when your guilloche design becomes very complex with many intersecting paths. Main path of the object, that corresponds to initial attribute value, is shown with second color during the drag (same color that is used to show Step & Repeat Sets).

PROPERTY INSPECTOR USAGE

In this section we will show how behavior of controls in **Property Inspector** window changes according to type of attribute its is used to edit. Let us consider most common example: the element of **Sine Wave** type in document structure tree:

■ **Integer values.** **Frequency** attribute of **Sine Wave** element is of integer type with acceptable values from 0 to infinity. You can type rational values like: '3.5' or '4.1' too, but in most cases the does not make any sense. When you activate this field in **Excentro Control** window, **Property Inspector** controls are set as shown on picture below: **Minimum Value** is set to '0' and its '<' button becomes inactive because negative frequencies just does not make a lot of sense. **Maximum Value** field is set to '100' because you probably will not need higher values for your guilloche design.



If initial value in **Excentro Control** was higher than '100' from the start, then **Minimum Value** and **Maximum Value** fields will be set to '*initial value* - 100' and '*initial value* + 100' instead of '0' and '100'.

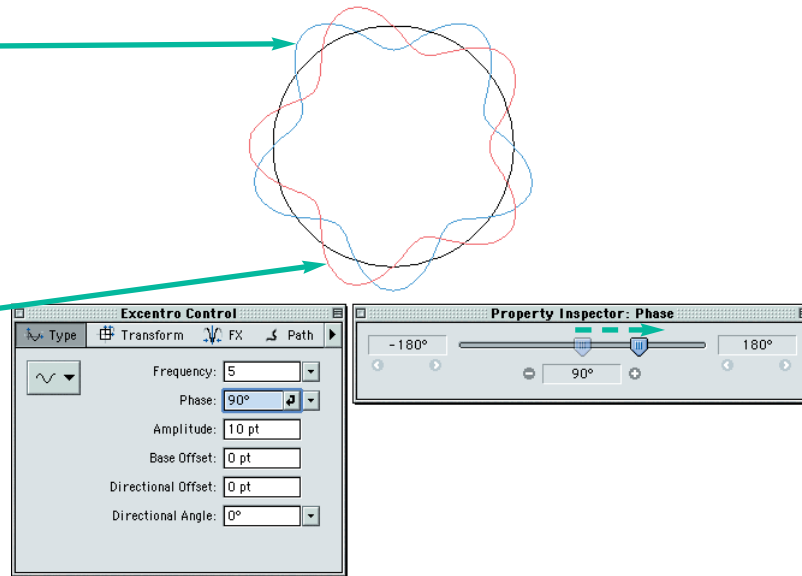
When you click **Increment** and **Decrement** buttons beside **Current Value** field current value will be changed by ± 1 .

■ **Angle values.** **Phase** attribute of **Sine Wave** element is of angle type. It is measured in degrees (°) and can have values from '-180°' to '+180°' (whole 360° period). You can type larger or smaller values like: '270°' or '450°' too, but they will be reduced to '-90°' and '90°' accordingly. When you activate this field in **Excentro Control** window, **Property Inspector** controls are set as shown on picture on next page: **Minimum**

Value is set to -180° , **Maximum Value** is set to $+180^\circ$ and '<', '>' buttons are deactivated because interval of **Slider** control can cover whole 360° range of acceptable values.

Initial
attribute
value

Current
attribute
value



Increment and **Decrement** buttons beside **Current Value** field will change current value by $\pm 2.5^\circ$ (it is a length of **Slider** control divided by 360).

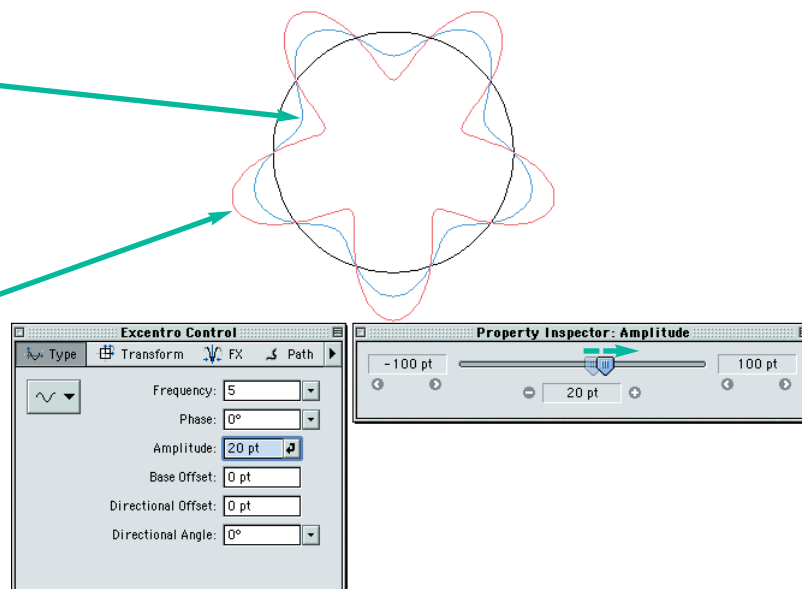
For some attributes of angle type, for example: **Arc Start** and **Arc Length** of **Circle** base element, acceptable range is not -180° to $+180^\circ$, but 0° to 360° because it seems to be more logical.

For **Skew** angles in **Transform** panel of **Excentro Control** range is shorter: -90° to $+90^\circ$, and increment for **Increment** and **Decrement** buttons is smaller: $\pm 1^\circ$.

■ **Rational values.** **Amplitude** attribute of **Sine Wave** element is of rational type with values measured in application-wide measurement units selected in **General** panel of **Excentro Preferences** dialog. It could be points ('pt'), millimeters ('mm'), centimeters ('cm') or inches ('in'). These values do not have limitations of acceptable range.

Initial
attribute
value

Current
attribute
value



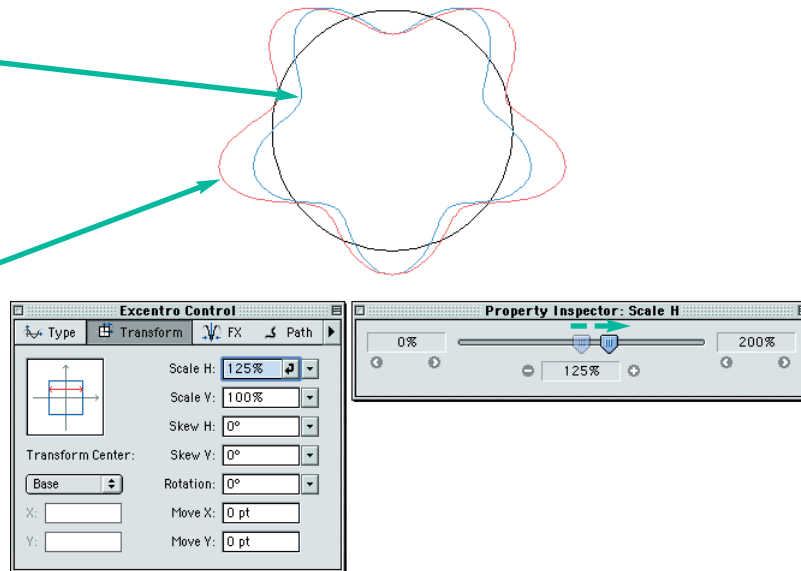
When you activate this field in **Excentro Control** window, **Minimum Value** of **Slider** control interval will be set to ' -100 units', **Maximum Value** will be set to ' $+100$ units'. If current value is higher than ' $+100$ units' or smaller than ' -100 units', **Slider** control interval will be centered to allow 100 units to its **Minimum Value** and 100 units to its **Maximum Value**. You can always change these values with '<', '>' buttons below them.

When you click **Increment** and **Decrement** buttons beside **Current Value** field current value will be changed by ± 1 unit.

Same is right about attributes of **percentage type** with values measured in positive and negative percents '%' like **Scale** values in **Transform** panel of **Excentro Control**.

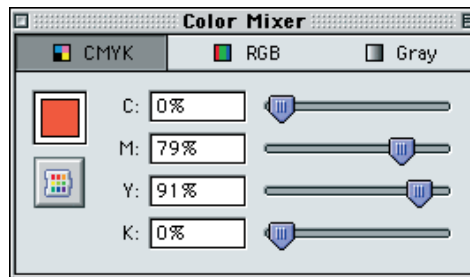
*Initial
attribute
value*

*Current
attribute
value*

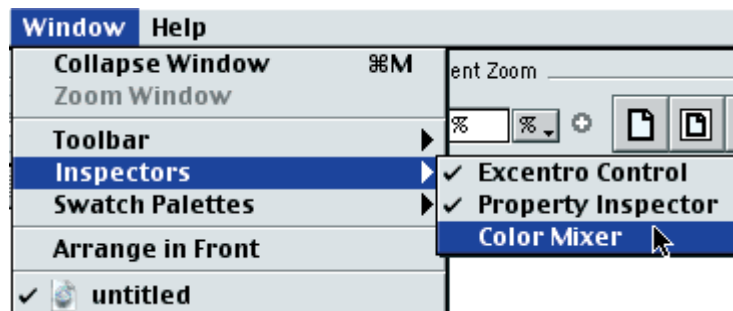


CHAPTER 7: COLOR MIXER

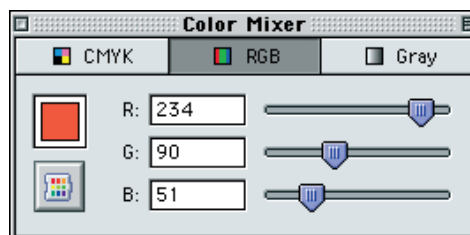
Like many other graphics design applications *Excentro* has a special utility window that allows user to change object's color attributes using numeric fields or sliders. In *Excentro* this window is called **Color Mixer**. It also can be used to convert color values between different color spaces.



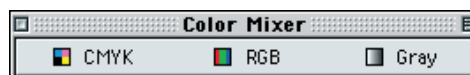
Color Mixer window floats above *Excentro* document windows, just like **Toolbar** and other **Inspector** windows. If it is not on the screen you can summon it with **Color Mixer** command from **Inspectors** submenu of **Window** menu or by double-clicking color value you want to edit.



The look of **Color Mixer** window changes according to the color space of current color. To convert color values into different color space (CMYK, RGB or Grayscale) you can click appropriate color space title in top part of **Color Mixer** window. Color conversion will be performed according to ColorSync profile settings configured in **Color** panel of **Excentro Preferences** dialog.

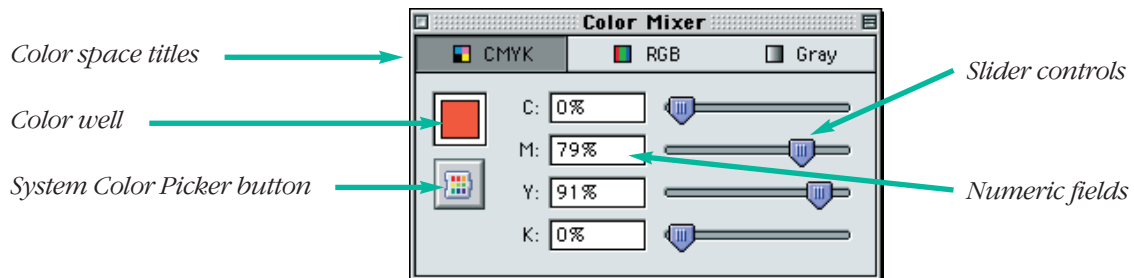


You may want to 'collapse' **Color Mixer** window by clicking title of selected color space again. This way you can minimize **Color Mixer** screen usage when you do not need it without closing the window completely. **Color Mixer** window will shrink to hide panel content with values and sliders. This feature was designed for Mac OS X users who miss 'window shade' feature similar to that of Mac OS 9. To expand the window to normal size, click title of color space you want to see.



FIELDS AND CONTROLS

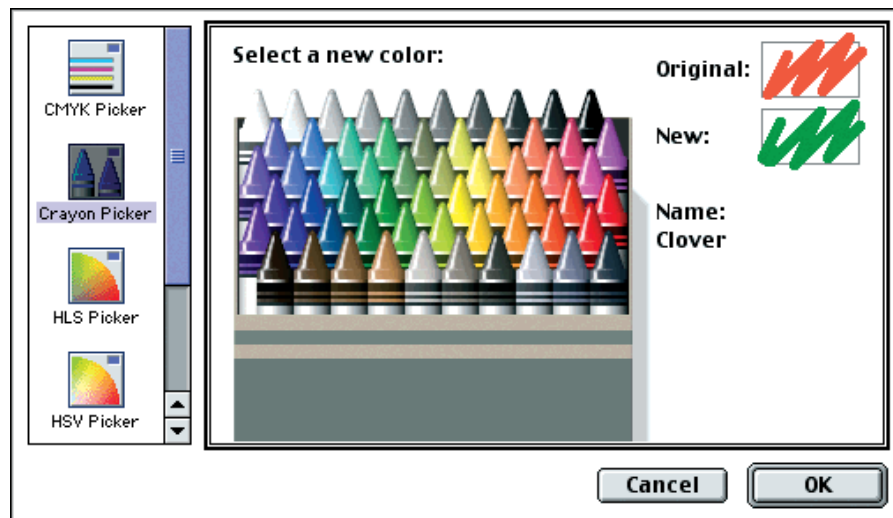
Color Mixer window has two distinct parts. Top part contains color space icons and titles that are used to switch between different color space panels. Central window part shows color panel content with set of fields and controls. Number of fields and controls differs depending on panel type (CMYK, RGB, Grayscale or Spot Color) but they all serve same purpose: give user ability to change color value with numeric fields or slider controls.



Other controls in **Color Mixer** window has following functions:

■ **Color well** control gives visual illustration of current color values and serves as source and target location for drag-and-drop actions. To set current **Color Mixer** color with drag-and-drop you can drag color patch from swatch palette window or colors list of *Excentro* document window and drop it to **color well**. To apply **Color Mixer** color to object you can drag color from **color well** and drop it over object representation in layers list or structure pane of document window.

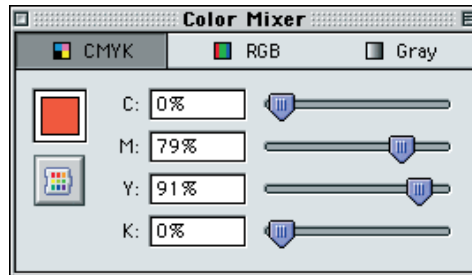
■ **System Color Picker** button could be used to set current **Color Mixer** color with standard *Mac OS* system **Color Picker**. When you click this button, standard **Color Picker** dialog will open up, where you can select color you like using any of available color pickers:



When you finished with color selection in system **Color Picker** click **OK** button and new color will appear in **Color Mixer** converted to previously selected color space. Conversion is performed according to ColorSync profile settings configured in **Color** panel of **Excentro Preferences** dialog.

There are four different color space panels: **CMYK**, **RGB**, **Grayscale** and **Spot Color**. These panels have following fields and controls:

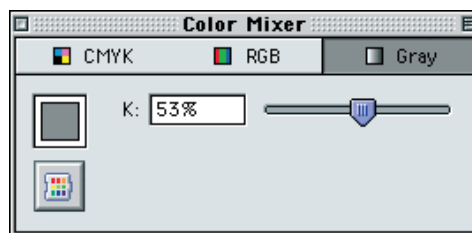
■ **CMYK panel** has four color value numeric fields and sliders accompanying them: C (Cyan), M (Magenta), Y (Yellow) and K (Black). These values are directly related to C, M, Y, K subtractive color space attributes and specify values as percentage 0% – 100%. Value $CMYK = (0\%, 0\%, 0\%, 0\%)$ corresponds to white (no color), value $CMYK = (100\%, 100\%, 100\%, 100\%)$ is the darkest 'maximum all colors' position.



■ **RGB panel** has three numeric fields and accompanying sliders: R (Red), G (Green) and B (Blue). These values correspond to R, G, B additive color space attributes and specify values in 0 – 255 range. Value $RGB = (0, 0, 0)$ is the darkest 'black' color, $RGB = (255, 255, 255)$ is lightest 'white' color. (Relations to real visual black and white colors is controlled by RGB color space and monitor profiles defined in **Excentro Preferences** dialog.)

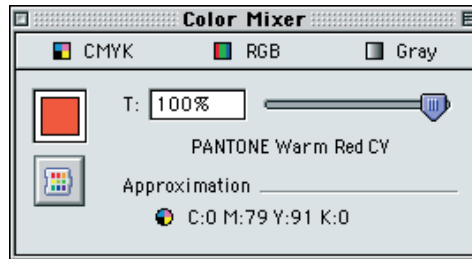


■ **Grayscale panel** has just one numeric field and slider: K (Black). This value shows gray tint of Black color and specifies value as percentage 0% – 100%. 0% corresponds to white (no color) and 100% to black.



Please, note that **Color** panel of **Excentro Preferences** dialog has special **Use profiles to convert from Gray to CMYK** checkbox. When this checkbox is **off**, switching from Grayscale to CMYK color space will set K component of CMYK color to same value as K percentage of Gray tint, the rest of CMY components will be set to 0%. When the checkbox is **on**, conversion will be performed through ColorSync technology and will depend on profiles selected for CMYK and Grayscale color spaces. In most cases all four of CMYK components will get some non-zero values.

■ **Spot Color panel** has single numeric field and slider: T (Tint). This value shows tint of current spot color as percentage 0% – 100%. 0% corresponds to no color and 100% to maximum color shade. Information fields below the slider show spot color name and process approximation either in CMYK or RGB values, depending on type of the spot color.



You can use **Color Mixer** to convert spot color tint to process (CMYK, RGB or Gray) color space. To convert process color in CMYK, RGB or Gray color space to spot color you should use colors list of **main document window**.

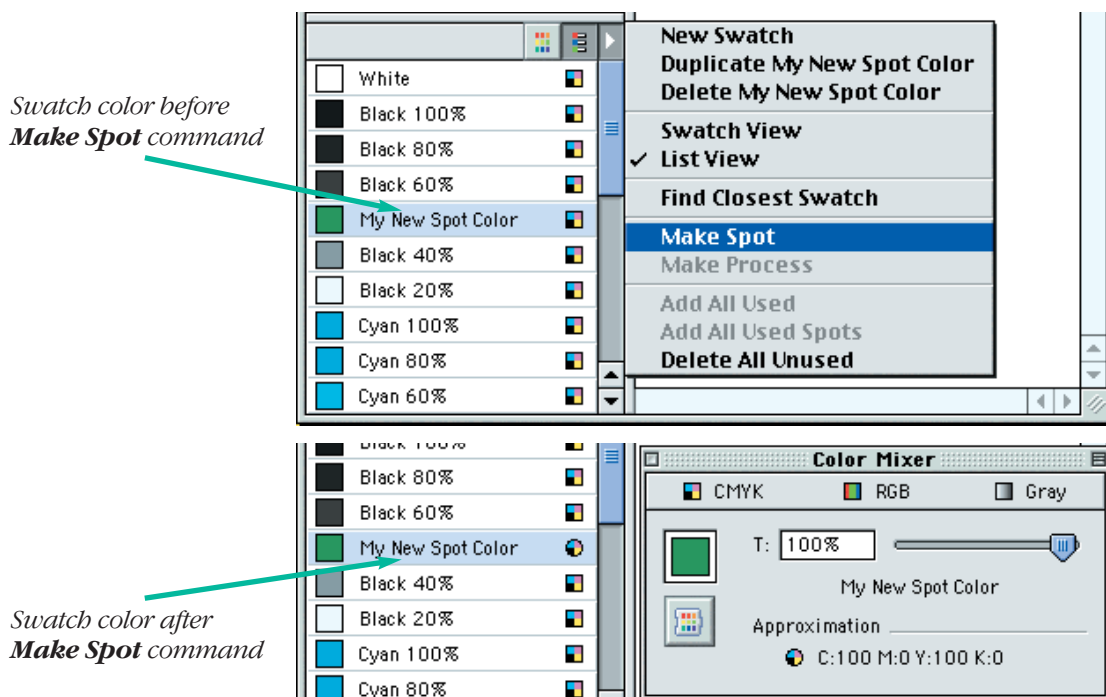
Creating spot colors: (Though description of this procedure should belong to **Colors List** part of **Chapter3: Main Document Window** chapter of this reference book, let us repeat it here in case you will search later for spot color creation subject on same pages where spot color editing with **Color Mixer** was described.) Creation of spot colors in *Excentro* could be performed in four easy steps:

Step 1. First, you should mix visual color representation in **Color Mixer**.

Step 2. Next, you drag the color patch from color well of **Color Mixer** to colors list of *Excentro* **main document window** to add new swatch to the list.

Step 3. After that you can edit new swatch name to whatever you like, if needed.

Step 4. Final step is to use **Make Spot** command from document colors list menu to convert process color of selected swatch to spot color.



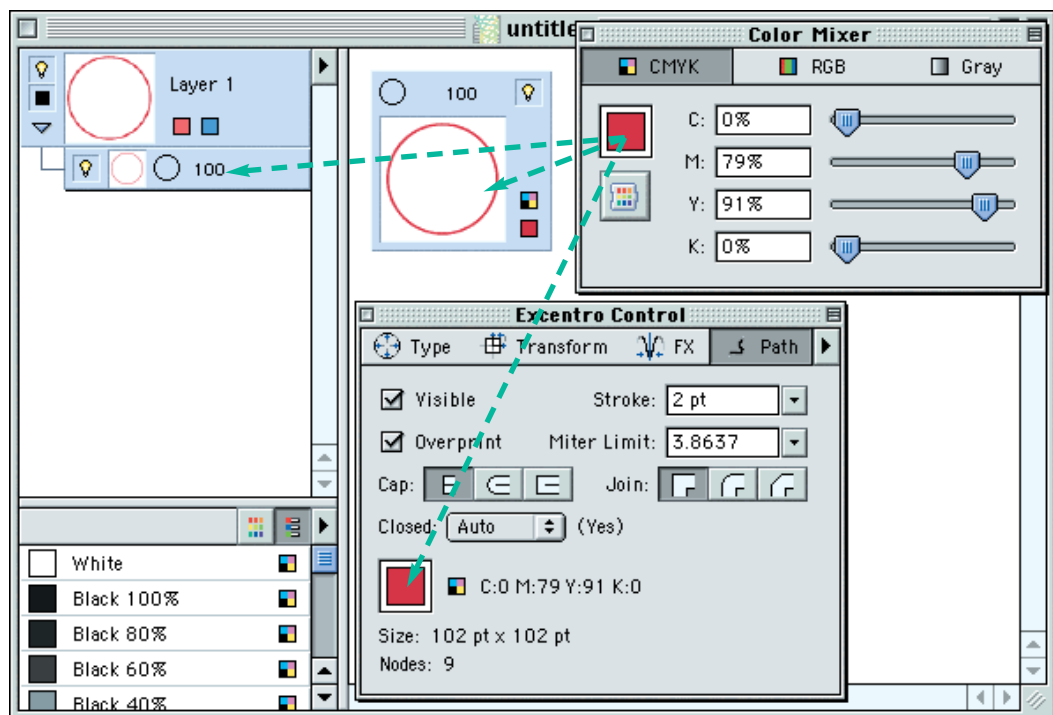
APPLYING COLOR TO OBJECTS

Color Mixer behavior in *Excentro* is similar to inspector window of same name in *Macromedia FreeHand* application. Unlike **Color** palette of *Adobe Illustrator*, **Color Mixer** is not directly connected to selected objects in document window. This way you do not have to dissect current object just to experiment with sliders and new color values.

To avoid occasional mistakes with color assignment most of actions that change objects color in *Excentro* should be performed with explicit drag-and-drop actions.

To apply current **Color Mixer** color to object you can do one of following:

- drag color patch from color well of **Color Mixer** to rectangle that represents the object in structure pane or layers list of **main document window**. This way you can change color of objects without selecting them in document windows first. It could be more comfortable method if you want to set same color to more than one object in document without changing current selection.
- select the object you want to change color of in **main document window** or **preview document window**, then open **Path** panel of **Excentro Control** window and drag color patch from color well of **Color Mixer** to color well of **Excentro Control** window. This method allows you to change color of the object after selecting its paths in document preview window without a need to search for the object representation in structure pane or layers list of main document window.

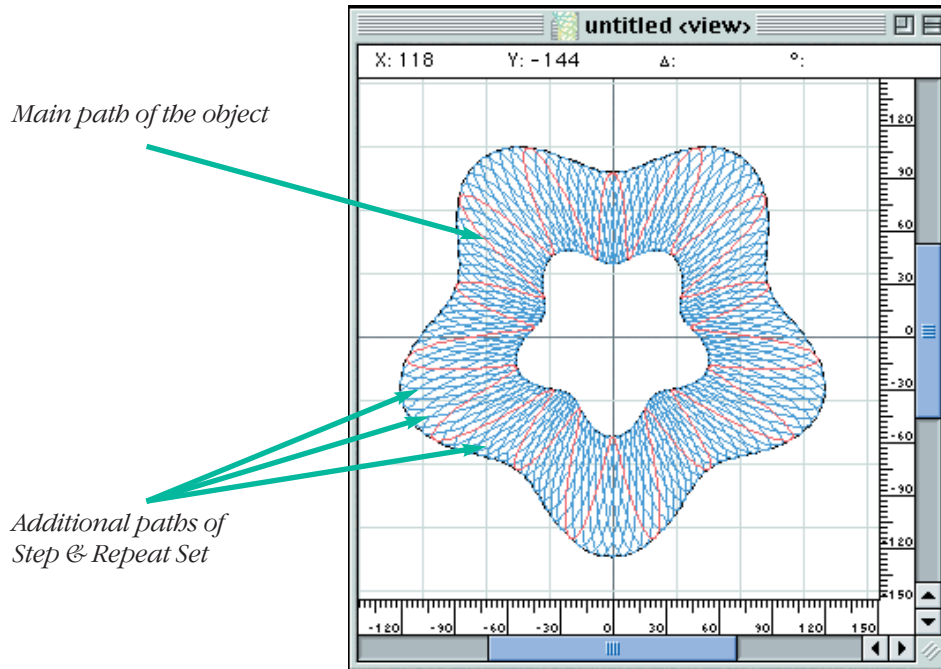


As with any other user actions that change *Excentro* objects and their properties, color changes can be undone and reapplied back with **Undo** and **Redo** commands from **Edit** menu at any later time.

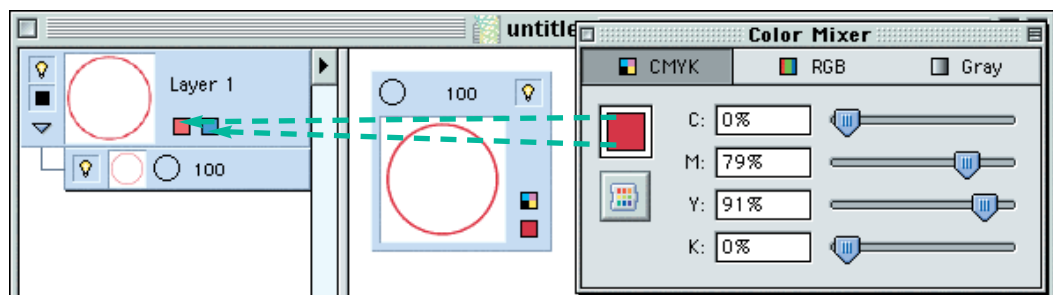
Assignment of color to document objects with drag-and-drop actions is used not only for colors from **Color Mixer**, but for colors from swatch palettes and document colors lists as well. Just drop color patch you want on object in document window or color well in **Excentro Control** inspector.

CHANGING PATHS SELECTION COLORS FOR LAYERS

Document preview windows of *Excentro* use two different special colors to display paths that belong to selected object of document. First color is used for main object path, second color shows additional paths that belong to Step & Repeat Sets of selected object, if selected object has any Step & Repeat Sets.



To change colors used for selected paths display, you can use drag-and-drop action similar to object color assignment discussed in section above. First, mix color you like in **Color Mixer** window, then drag color patch from color well to small color patches in rectangle that represents the layer in layers list of **main document window**. Left color patch in layer rectangle corresponds to selection color of main path. Right color patch corresponds to selection color for additional paths of Step & Repeat Sets.



Each layer may have its own set of two colors used to show selected paths. You can find this option helpful if you would like to check visually if document selection belongs to this or that layer.

You can set same color value to both colors used for paths selection. In this case main path and paths of Step & Repeat Sets will be displayed with same color in preview window.

Selection color used for main object path will be exported as selection color for that layer, when you export job in *Adobe Illustrator* format.

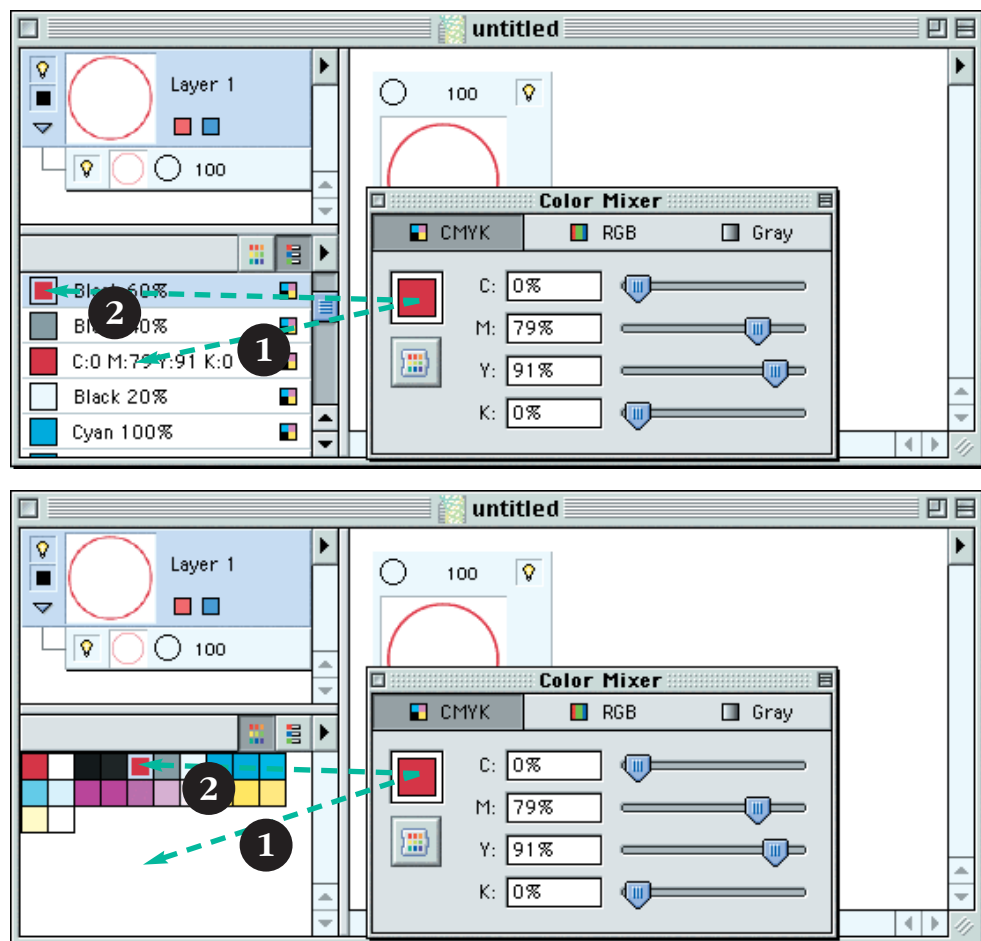
ADDING AND CHANGING ENTRIES IN DOCUMENT COLORS LIST

Another usage for drag-and-drop actions with color from **Color Mixer** is to add new swatches to document colors list or to change color value of existing swatches in the list.

1. (*Arrows number 1 on pictures below*) To add new swatch to colors list of **main document window** drag color patch from color well of **Color Mixer** to any place in the colors list in **List View** mode except for small color patch rectangles that show color representation of color swatches. If document colors list switched to **Swatch View** mode drop color patch to empty white area below the last swatch rectangle.

New color swatch will be added to the list with color value equal to current **Color Mixer** color dropped to the list. Name of new swatch will be created from its numeric color attributes, e.g. *C:0 M:79 Y:91 K:0* if color is in CMYK color space (see picture below), or *R:196 G:35 B:39* if color is in RGB color space, or *K:63* if color is in Grayscale color space, or *42% PANTONE 101 CVC* if color is a tint percentage of spot color. You can edit swatch name later to make it more meaningful for your work: double-click name of swatch in the list and type new one.

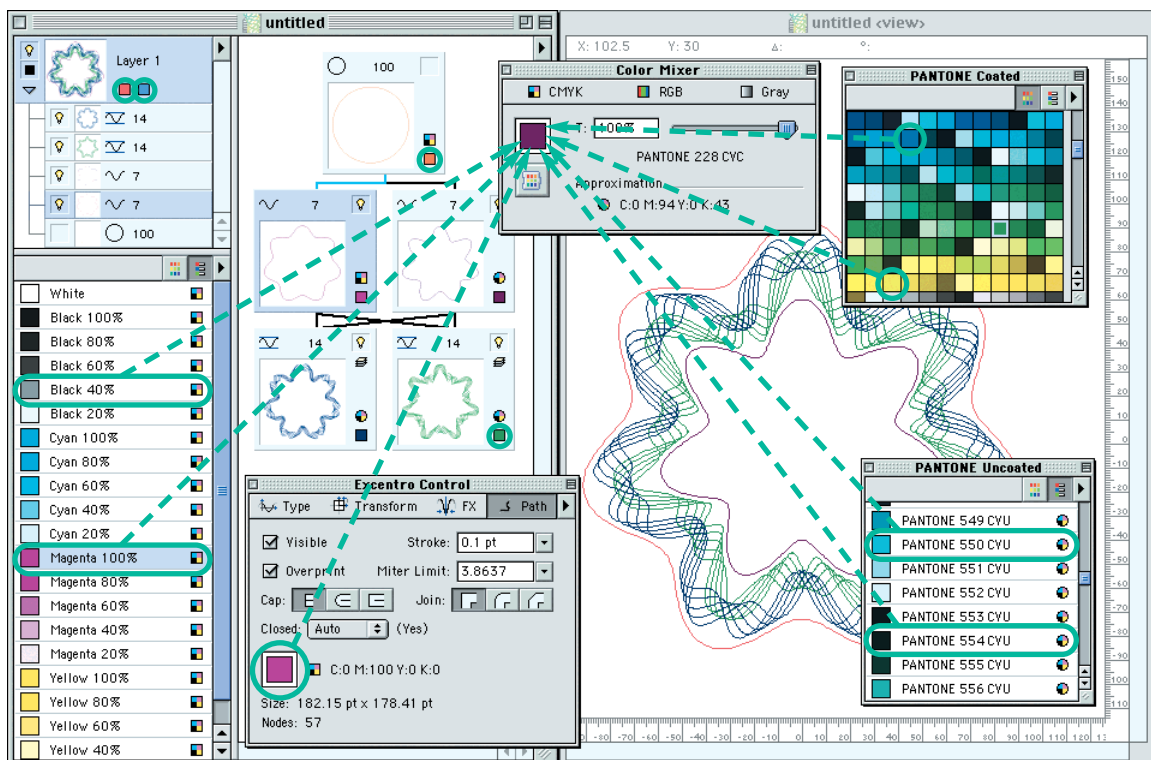
2. (*Arrows number 2 on pictures below*) To change color value of existing swatch in colors list of document window drag color patch from color well of **Color Mixer** to small color patch rectangle that shows color representation of the swatch you want to change. All objects in *Excentro* document that were assigned this swatch color will have their color value updated to new one as well. If name of the swatch was created automatically as described above it will be changed to new name created from updated color values (if new name will be a unique name in the colors list).



SETTING CURRENT COLOR MIXER COLOR

When you want to modify color of the object in *Excentro* document or convert current object color to different color space you will have to set **Color Mixer** color to existing color value first. To do so you can use either double click or drag-and-drop action:

- double click color setting works with any color patch from *Excentro* document window, color well of **Excentro Control** inspector or color patches from swatch palettes. Circles and ellipses on picture below show areas you can double click to set **Color Mixer** color to their value. If **Color Mixer** window was closed before you double click a color patch, it will reappear on screen in same location it was shown last time it was used. If **Color Mixer** window was collapsed it will be restored to its normal size. Proper color space panel will be selected to show new color values.



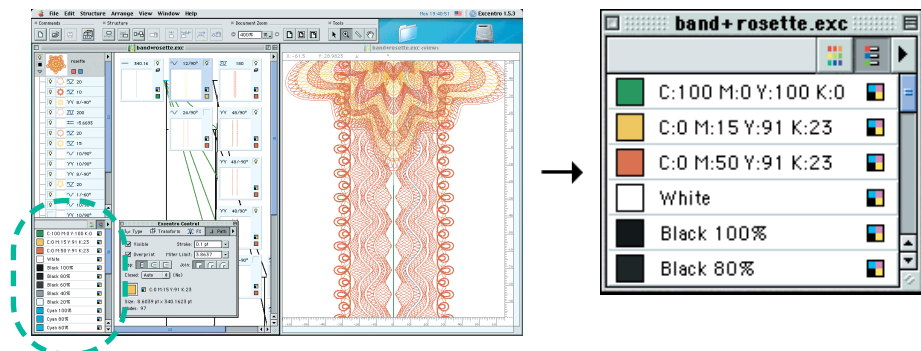
- drag-and-drop color setting could be used with following objects and controls of *Excentro* user interface: color well of **Excentro Control** inspector, items of document colors list or swatch palettes (see dotted arrows on picture above). Just drag color patch from these areas and drop it to color well of **Color Mixer** window. Proper color space panel will be selected to show new color values. You can use double click color setting on same areas as was described above with same results. Drag-and-drop method of color setting is preserved to make usage of drag-and-drop actions for color operations more consistent.

CHAPTER 8: SWATCH PALETTES

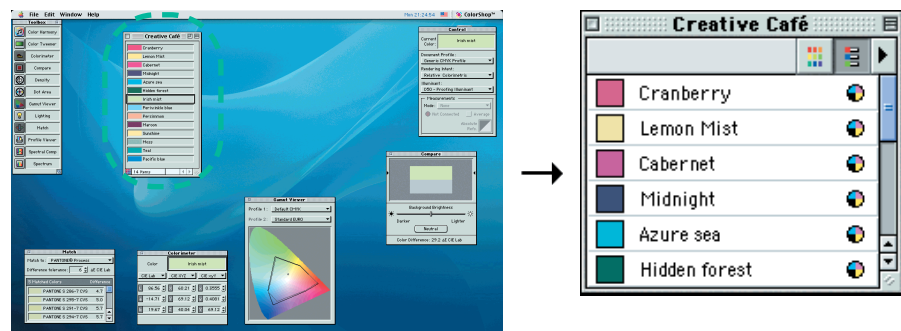
Like many graphic arts applications and software tools *Excentro* has special utility windows to manage predefined sets of colors. These windows and color sets they show are called 'swatch palettes'. You can use swatch palettes to colorize objects in *Excentro* documents or add colors to colors lists of *Excentro* documents using colors from industry standard libraries like PANTONE® or from your own custom lists created with color measurement devices like spectrophotometers.

Excentro allows you to use three types of files as swatch palettes:

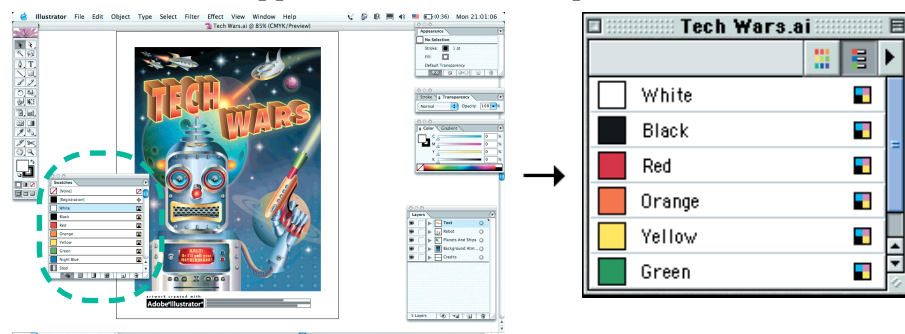
- *Excentro* document files. In this case the colors list of the document is shown in **Swatch Palette** window in more compact and convenient way, than in **main document window**. **Swatch Palette** windows also have read-only attribute, so you can avoid occasional unwanted changes of color values.



- Color libraries in EPS format, like once created with spectrophotometers and special software like *X-Rite ColorShop*. You can also use just any EPS format files with spot colors exported from graphics editing software applications.



- *Adobe Illustrator* files and color libraries saved in *Adobe Illustrator* EPS format (not in *Adobe Illustrator* PDF format, if you are using *Adobe Illustrator* version 9 and higher be sure to resave files in format compatible with version 8 and earlier). In this case **Swatch Palette** window will show swatch list of *Adobe Illustrator* document, similar to its appearance in **Swatches** palette of *Adobe Illustrator*.



MANAGING SWATCH PALETTES

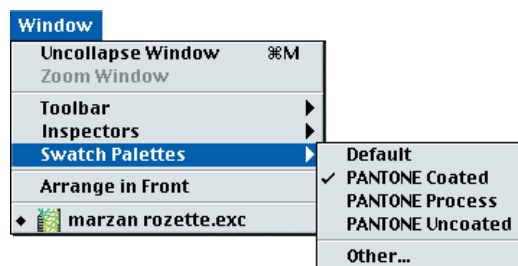
There is a special location where you can store frequently used swatch palette files: **'Swatch Palettes.f'** folder that could be found in same folder as *Excentro* application. Files found in this folder are automatically inspected at application start up and if they belong to one of three file types mentioned above, they are added to the list in **Swatch Palettes** submenu of **Window** menu.

Excentro 1.5.3	1.7 MB	Oct 29, 2003, 6:46 AM
▶ Excentro Samples.f	--	Dec 7, 1998, 11:17 PM
Excourse Excentro Read Me	52 KB	Oct 29, 2003, 7:10 AM
▶ Settings.f	--	Nov 17, 2002, 1:28 AM
▼ Swatch Palettes.f	--	Today, 3:03 PM
Default	12 KB	Sep 9, 2002, 11:34 PM
PANTONE Coated	136 KB	Jul 20, 1998, 10:01 AM
PANTONE Process	300 KB	Feb 14, 1997, 12:24 PM
PANTONE Uncoated	136 KB	Jul 20, 1998, 10:01 AM

*Three standard color libraries of Adobe Illustrator 8 added to 'Swatch Palettes.f' folder. They and 'Default' Excentro palette of will be listed in **Swatch Palettes** submenu.*

When you install *Excentro* application for the first time **'Swatch Palettes.f'** folder contains just one file named **'Default'**. This is *Excentro* document with default colors list that gets automatically added to any new created document. Later, you can edit colors in this document or specify another file to be used in its place (by checking **Use as Default** option in window menu of desired **Swatch Palette** window).

You can open any of swatch palette files in **'Swatch Palettes.f'** folder by choosing its name from **Swatch Palettes** submenu of **Window** menu. Check mark symbol will appear in the submenu beside opened file name. Choosing this file again from the submenu will not close the open palette window, like it happens with inspector windows, but will bring this window in front of you. After you add new files to **'Swatch Palettes.f'** folder, please, restart *Excentro* application to see them listed in **Swatch Palettes** submenu.

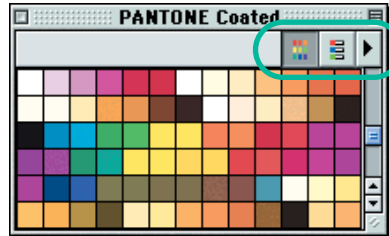


Other... command of **Swatch Palettes** submenu allows you to open swatch palette files found in other folders on your hard disks or network. When you choose this command standard file navigation dialog will appear where you can select proper file:

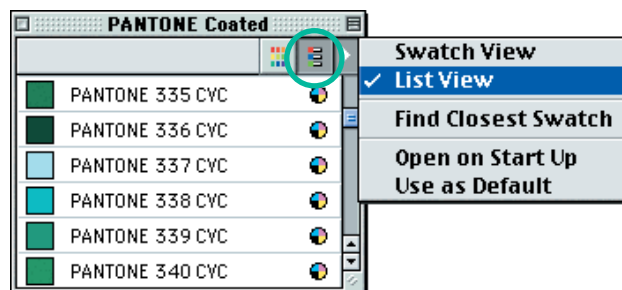


VIEW MODES

Swatch Palettes windows float above *Excentro* document windows just like inspectors and **Toolbar**. These windows can show swatch palette colors in one of two modes: **List View** and **Swatch View**. You can switch between these modes by clicking buttons in top part of **Swatch Palette** window or by using palette window menu (button with triangle in top right corner of the window).



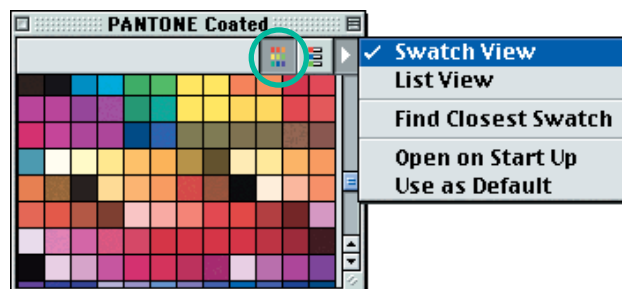
■ **List View** is the default view for swatch palette. This view mode shows color patch, swatch name, color system and if this color is a spot or process color. This mode could be used to identify swatches by name.



Icons on right side of list entry show color space of the swatches: **RGB**, **CMYK** or **Grayscale** and if it is **Spot** or **Process** swatch. Spot swatches have round icons, process swatches have square icons beside their names:

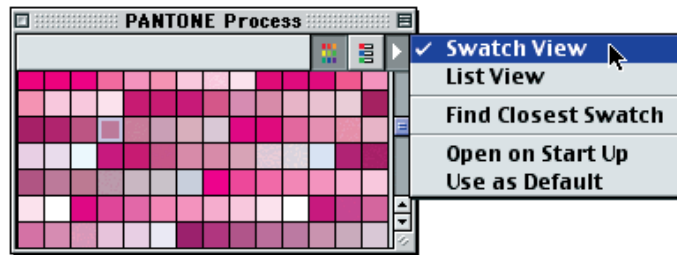
CMYK Process Color	
CMYK Spot Color	
RGB Process Color	
RGB Spot Color	
Gray Color	

■ **Swatch View**. This view mode shows only color patch of the swatches. This mode gives you more compact view of the palette.



SWATCH PALETTE WINDOW MENU

Swatch Palette windows in *Excentro* have additional options accessible through their window menu (button with triangle in top right corner of the window):

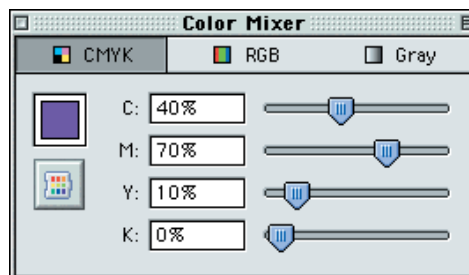


Swatch View. When you select this option swatch palette view mode will be switched to **Swatch View** (see section above). Check mark appears beside this item when **Swatch View** view mode is chosen.

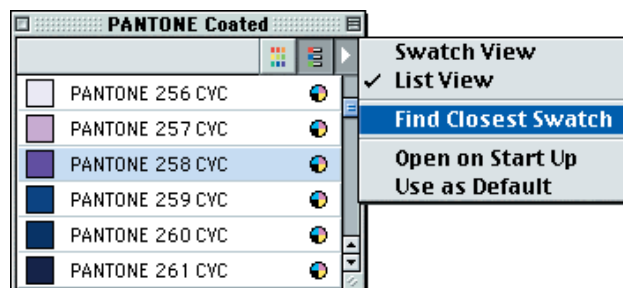
List View. When you select this option swatch palette view mode will be switched to **List View** (see section above). Check mark appears beside this item when **List View** view mode is chosen.

Find Closest Swatch command lets you select swatch in this palette with closest color values to current **Color Mixer** color. You can use this command to find closest PANTONE® or other color library approximation to color you mixed using CMYK or RGB sliders. Use two following steps:

1. Compose color you want in **Color Mixer** inspector window using sliders and other controls.



2. Choose **Find Closest Swatch** command from window menu of **Swatch Palette** window. Colors list in palette window will be compared and swatch with closest color values to current **Color Mixer** color will be selected.



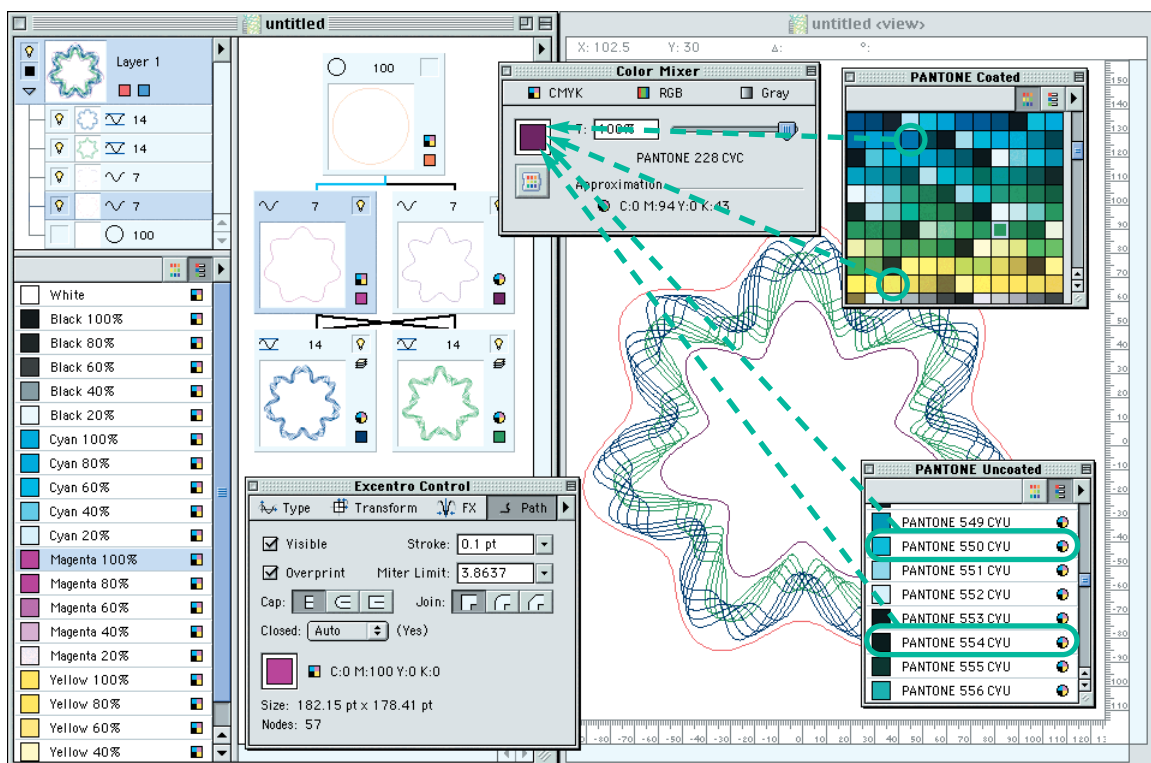
This command is available only when color management is switched on with **Use ColorSync™** checkbox in **Color** panel of **Excentro Preferences** dialog. Colors are compared using ΔE values of their coordinates in Lab color space. Results might differ depending on current *ColorSync* profiles selection.

Open on Start Up. Swatch palette windows with this option switched on will be opened automatically next time you start *Excentro*.

Use as Default. There could be only one palette with this option checked. This palette will be used as initial colors list for new *Excentro* documents. When you install *Excentro* for the first time swatch palette named 'Default' in 'Swatch Palettes' folder, located in same folder as *Excentro* application, will be used as initial colors list. Later you can either open this document file in *Excentro*, like standard *Excentro* document with **Open** command from **File** menu, and modify its colors list of **main document window** or you can appoint another swatch palette to serve as initial colors list for all new documents by checking its **Use as Default** option.

SETTING CURRENT COLOR MIXER COLOR WITH SWATCH PALETTE

One of primary tasks you will want to accomplish with colors from swatch palettes is to set current **Color Mixer** color. You may want to do so to inspect colors before applying them to objects in *Excentro* documents or to mix a shade of swatch palette's spot color value, for example. To set current **Color Mixer** color you can either double click swatch patch in swatch palette list view or swatch view area or drag-and-drop color patch to color well of **Color Mixer** window as shown by arrows on picture below.

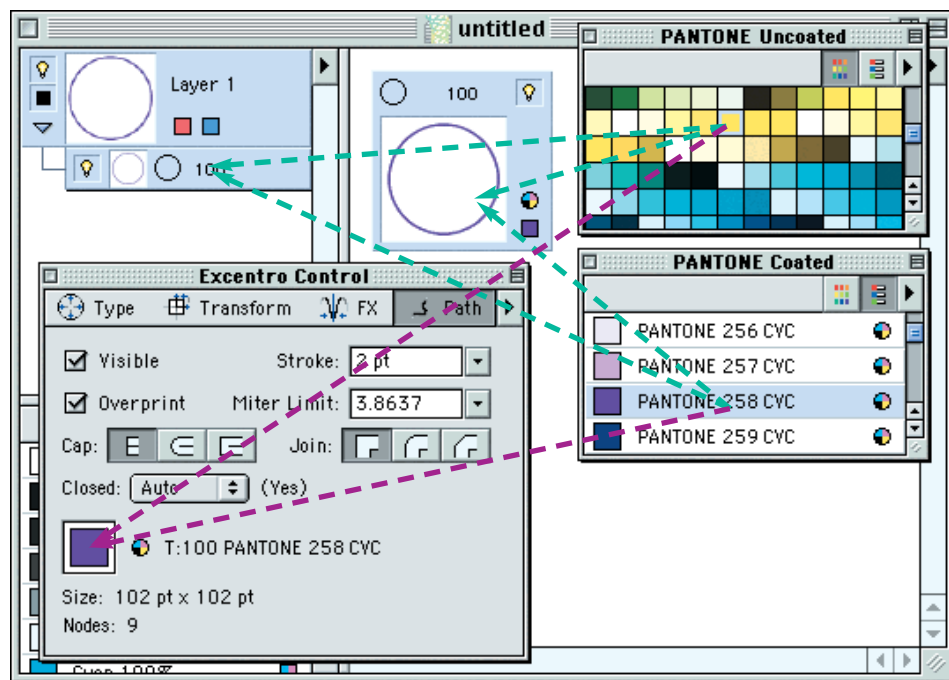


If **Color Mixer** window was closed before you double clicked a color patch, it will reappear on screen in the same location it was shown last time it was used. If **Color Mixer** window was collapsed to its title bar or color space titles and icons bar it will be restored to normal size. Proper color space panel: **CMYK**, **RGB**, **Grayscale** or **Spot Color** will be selected to show new color values from swatch palette.

APPLYING SWATCH COLOR TO OBJECTS

You can set color of object in *Excentro* document directly from **Swatch Palette** window without setting this color as current color of **Color Mixer** first. Most of actions that change objects color in *Excentro* should be performed with explicit drag-and-drop actions. To apply color from **Swatch Palette** window to object in *Excentro* document you can do one of the following:

- Drag color patch from **Swatch Palette** window list view or swatch view area to rectangle that represents the object in structure pane or layers list of **main document window** (this drag action is shown with green arrows on picture below). This way you can change color of objects without selecting them in document windows first. It could be more comfortable method if you want to set same color to more than one object in document without changing current selection.
- Select the object you want to change color of in **main document window** or **document preview window**, then open **Path** panel of **Excentro Control** window and drag color patch from **Swatch Palette** window list view or swatch view area to color well of **Excentro Control** window (this drag option is shown with purple arrows on picture below). This method allows you to change color of the object after selecting its paths in **document preview window** without a need to search for the object rectangle representation in structure pane or layers list of **main document window**.

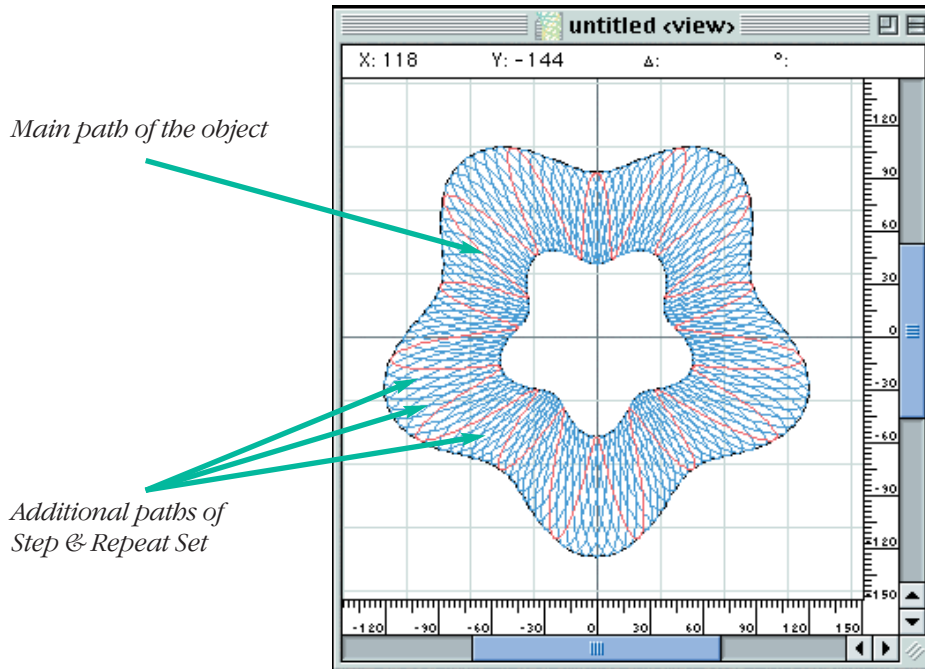


As with any other user actions that change *Excentro* objects and their properties, color changes can be undone and reapplied back with **Undo** and **Redo** commands from **Edit** menu at any later time.

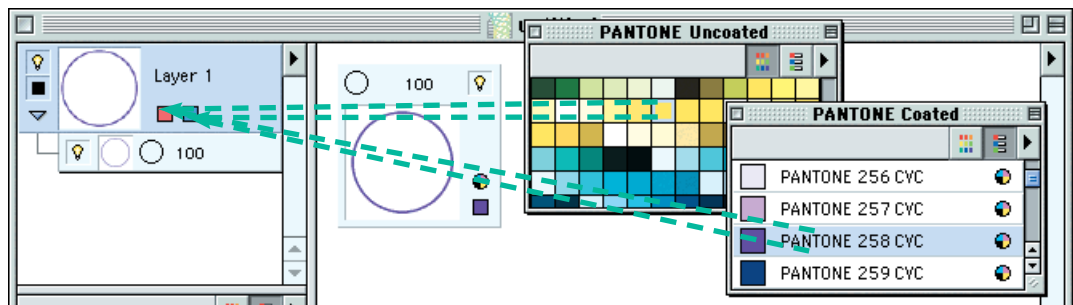
Assignment of color to document objects with drag-and-drop actions is used not only for colors from **Swatch palette** windows, but also for colors from **Color Mixer** and document colors lists. Just drop color patch you want on object in document window or color well in **Excentro Control** inspector to set its value to the object.

CHANGING PATHS SELECTION COLORS FOR LAYERS

Document preview windows in *Excentro* use two different colors to display paths that belong to selected object of the document. First color is used for main object path, second color shows additional paths that belong to Step & Repeat Sets of selected object (if selected object has any Step & Repeat Sets).



To change colors used for selected paths display, you can use drag-and-drop action similar to object color assignment discussed in section above. Drag color patch from **Swatch Palette** window list view or swatch view area to small color patches in rectangle that represents the layer in layers list of document window. Right color patch in layer rectangle corresponds to selection color of main path. Left color patch corresponds to selection color for additional paths of Step & Repeat Sets.



Each layer may have its own set of two colors used to show selected paths. You can find setting different colors to different layers helpful if you would like to check visually if document selection belongs to this or that layer.

You can set same color value to both colors used for paths selection. In this case main path and paths of Step & Repeat Sets will be displayed with same color in preview window.

Selection color used for main object path will be exported as selection color for that layer, when you export job in *Adobe Illustrator* format at the end of your work process.

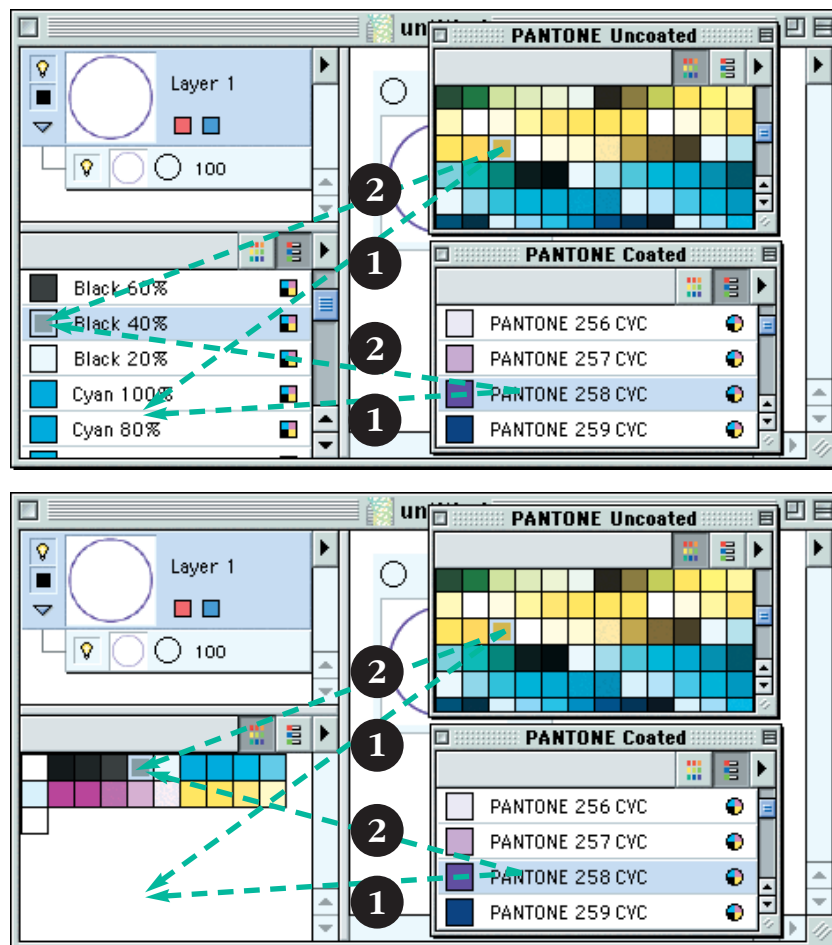
ADDING AND CHANGING ENTRIES IN DOCUMENT COLORS LIST

Another usage for drag-and-drop actions with color patches from **Swatch Palette** window list view or swatch view area is to add new swatches to document colors list or to change color value of existing swatches in the list.

1. (Arrows number **1** on pictures below) To add new swatch to colors list of **main document window** drag color patch from **Swatch Palette** window list view or swatch view area to any place in the document colors list in **List View** mode except for small color patch rectangles that show color representation of color swatches. If document colors list switched to **Swatch View** mode drop color patch to empty white area below the last swatch rectangle.

New color swatch will be added to the list with same color value and name as that of the swatch you dragged from **Swatch Palette** window. You can edit swatch name later if you like: double-click name of swatch in the list and type new name.

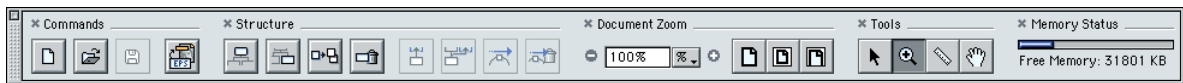
2. (Arrows number **2** on pictures below) To change color value of existing swatch in colors list of document window drag color patch from **Swatch Palette** window list view or swatch view area to small color patch rectangle that shows color representation of the swatch you want to change. All objects in *Excentro* document that were assigned this swatch color will have their color value updated to new one as well. If name of the swatch was created automatically after adding this swatch from **Color Mixer** window it will be changed to the name of the swatch you dragged from **Swatch Palette** window (if this name will be a unique name in the colors list).



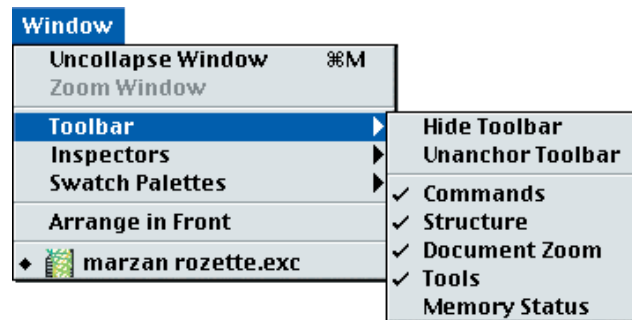
CHAPTER 9: TOOLBAR

Toolbar is a special utility window that hosts buttons with shortcuts to most frequently used commands of *Excentro* menus and selector buttons for tools to be used in preview windows of *Excentro* documents. **Toolbar** window floats above layer of *Excentro* document windows like inspectors and other utility windows do, but has additional ‘anchoring’ option: it can be either ‘anchored’ — ‘glued’ to top left corner of computer screen, or ‘unanchored’ — moved to arbitrary location like other utility windows.

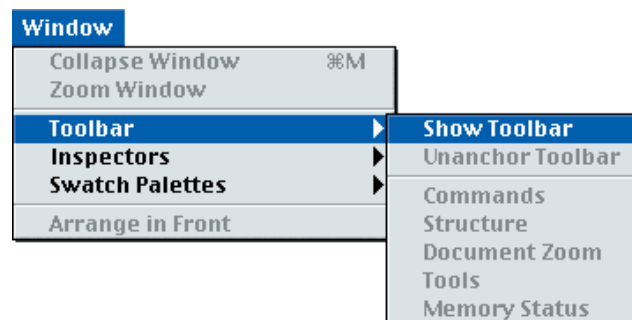
Buttons and controls of **Toolbar** are grouped into five sections based on their functionality: **Commands**, **Structure**, **Document Zoom**, **Tools** and **Memory Status**. Last section **Memory Status** is visible only under *Mac OS 9* operating system, because *Mac OS X* system architecture does not have application memory limitations of its earlier predecessors.



Toolbar submenu of **Window** menu allows you to configure **Toolbar** appearance and visibility to your personal preferences.



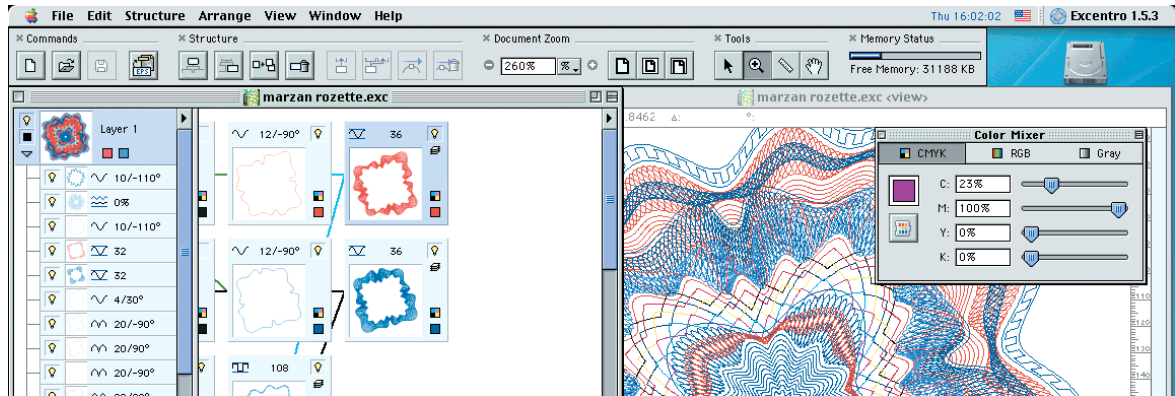
To bring **Toolbar** window to screen, if it is hidden, you can use **Show Toolbar** command from the submenu. This is the only active command of **Toolbar** submenu when **Toolbar** window is hidden.



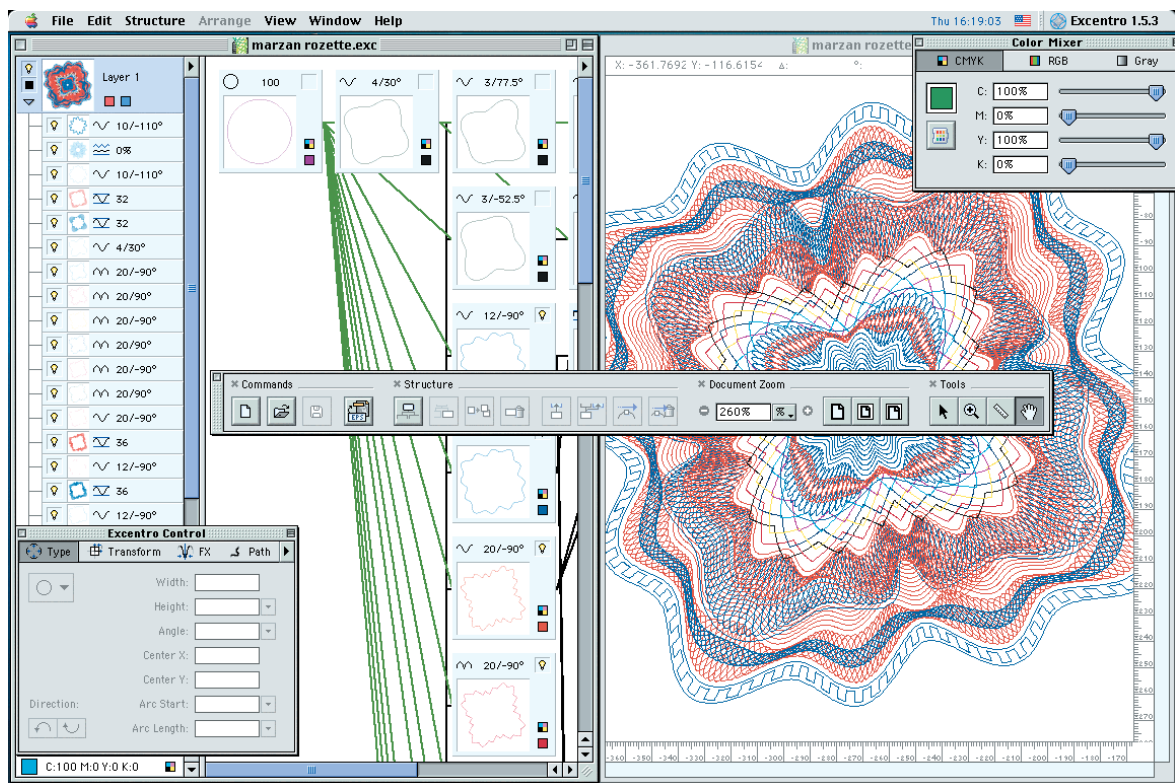
When **Toolbar** window is visible **Show Toolbar** command title changes to **Hide Toolbar** and choosing it again will hide **Toolbar**. You may want to hide **Toolbar** if you need few additional pixels of computer screen to position document windows and do not want **Toolbar** to float around like inspector windows. In this case you will have to explicitly use menu commands instead of their toolbar buttons.

TOOLBAR SCREEN LOCATION

While **Toolbar** window is anchored it is 'glued' to top left corner of computer screen, just below the menu bar. You can not move it from this location or position document and utility windows so that they overlap the area occupied by **Toolbar** window. This is default option for **Toolbar** because it makes it more convenient to use.



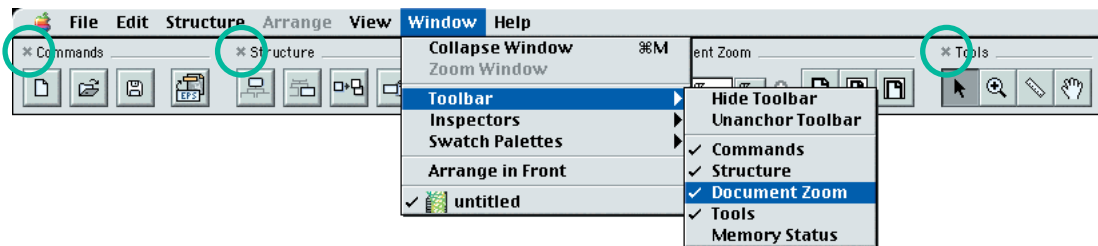
When **Toolbar** window is unanchored it floats above document windows layer just like inspectors and other utility windows. This way you can free few pixels in top left corner without hiding **Toolbar** window from view. But it also makes it more difficult to click **Toolbar** buttons with mouse pointer.



To anchor **Toolbar** window use **Anchor Toolbar** command from **Toolbar** submenu of **Window** menu. This command title reflects state of **Toolbar** window and when **Toolbar** is anchored its title changes to **Unanchor Toolbar**. Choosing this command in this state will unanchor **Toolbar** window.

TOOLBAR SECTIONS

Toolbar has five sections that group buttons and controls according to their functions. You can use **Toolbar** submenu to show or hide any of these sections. When you choose section title from the submenu, **Toolbar** window size changes to accommodate buttons of this section and they become visible. If you choose this section title again, it disappears and **Toolbar** window size shrinks back. You can also hide unwanted **Toolbar** sections with small 'x' buttons on left of the section name in **Toolbar** window (shown with green circles on picture below). Check mark symbol beside section title in **Toolbar** submenu indicates visible sections.



Rest of this chapter provides short reference of all sections of *Excentro* **Toolbar** and their buttons. We will not give you detailed description of every button and its associated command in *Excentro* menu bar, because this would make this chapter the largest one in *Excentro* reference books and it will be very difficult to read. If you need more information about these **Toolbar** buttons and menu commands, please, see appropriate chapters of **Excentro Commands Reference** for usage details and illustrations.

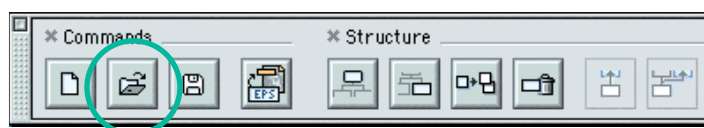
COMMANDS SECTION

Commands is the first **Toolbar** section. It contains four buttons with shortcuts to most frequently used commands of **File** menu. They help you to create new documents, locate and open existing documents, save changes and export guilloche designs to *Adobe Illustrator* format with single button click. Please, see **Chapter 1: File Menu** of **Excentro Commands Reference** for details and illustrations on these commands.

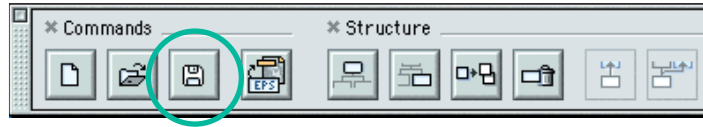
■ **New button.** This button serves as shortcut to **New...** command (**Cmd-N**) from **File** menu that creates new *Excentro* documents. You can click this button if you want to create completely new guilloche design not based on any existing document or stationary template.



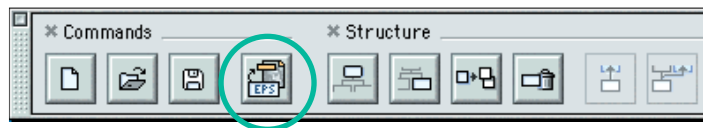
■ **Open button.** This button serves as shortcut to **Open...** command (**Cmd-O**) from **File** menu that opens files of *Excentro* documents earlier saved to disk or creates new documents from stationary templates.



■ **Save button.** This button serves as shortcut to **Save** command (**Cmd-S**) from **File** menu that can be used to save to disk changes you made to *Excentro* document. If the document was never saved before and does not have accompanying file on disk, standard *Mac OS Save* dialog will appear in front of you, where you can enter file name and browse disk for appropriate place to save it to.



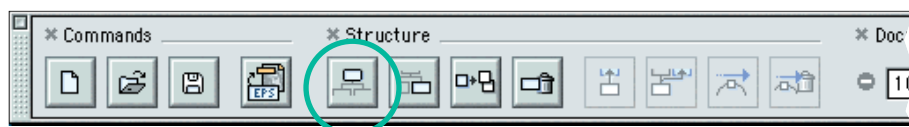
■ **Export button.** This button serves as shortcut to **Export...** command (**Cmd-P**) from **File** menu that can be used at the final steps of your guilloche creation process in *Excentro* to save ready designs in *Adobe Illustrator* file format.



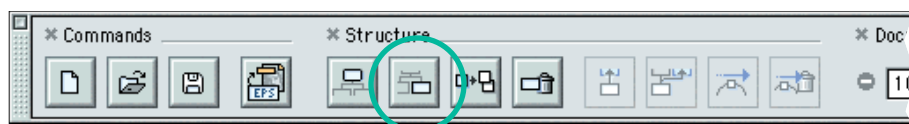
STRUCTURE SECTION

Structure is the second **Toolbar** section. It contains shortcuts to commands of **Structure** menu. With these buttons you can do all guilloche construction operations without ever going to **Structure** menu. Buttons icons also give you additional visual feedback as to what this button and its associated command action does, that helps you to choose proper action faster. Please, see **Chapter 3: Structure Menu** of **Excentro Commands Reference** for details and illustrations on these commands.

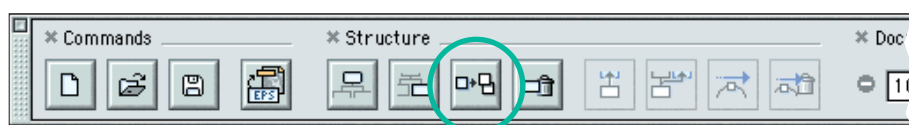
■ **New Base button.** This button serves as shortcut to **New Base** command (**Cmd-B**) from **Structure** menu that creates new root 'base' elements of guilloche structure tree.



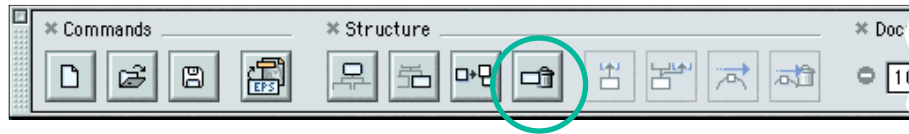
■ **New Element button.** This button serves as shortcut to **New Element** command (**Cmd-E**) from **Structure** menu that can be used to create all other elements of guilloche structure except root 'base' elements.



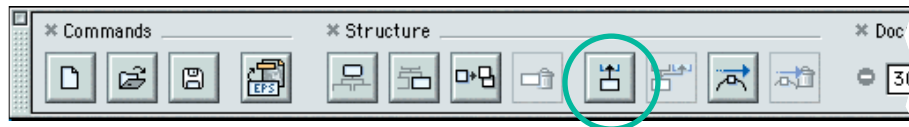
■ **Duplicate button.** This button serves as shortcut to **Duplicate Element** command (**Cmd-D**) from **Structure** menu that allows you to create an exact copy of selected element in structure pane of main document window.



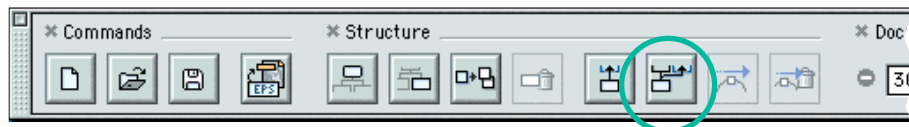
■ **Delete button.** This button serves as shortcut to **Delete Element** command from **Structure** menu that deletes selected element in structure pane of main document window.



■ **Change Base button.** This button serves as shortcut to **Change Base** command from **Structure** menu that allows you to change parent element of selected element in structure pane of main document window.



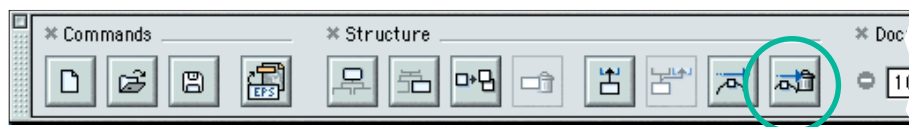
■ **Change Second Base button.** This button serves as shortcut to **Change Second Base** command from **Structure** menu that changes second parent element (or 'second base') of content element.



■ **Set Direction button.** This button serves as shortcut to **Set** command of **Direction** submenu in **Structure** menu that allows you to set another element as direction element of selected element.



■ **Restore Direction button.** This button serves as shortcut to **Restore** command of **Direction** submenu in **Structure** menu that restores direction element of selected element to its parent element.



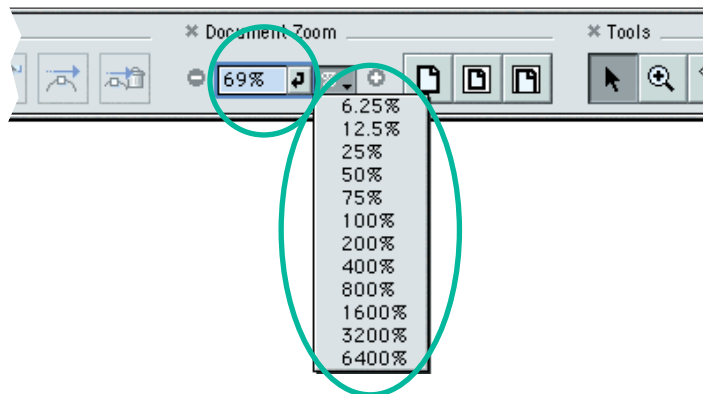
DOCUMENT ZOOM SECTION

Document Zoom section has shortcuts to zoom commands from **View** menu. These commands help you to set magnification for graphics in preview document window. Numeric magnification field also informs you about current magnification value that preview window of selected document has. Please, see **Chapter 5: View Menu** of **Excentro Commands Reference** for details and illustrations on these commands.

■ **Zoom Out button.** This button serves as shortcut to **Zoom Out** command (**Cmd--**) from **View** menu that selects previous magnification value from predefined magnification values list: 6.25%, 12.5%, 25%, 50%, 75%, 100%, 200%, 400%, 800%, 1600%, 3200%, 6400%.



■ **Magnification field.** This field shows you magnification value of current preview document window and lets you to change this value directly by typing new value from keyboard. Pop-up menu beside this field allows you to explicitly select magnification value for preview document window from predefined list.



■ **Zoom In button.** This button serves as shortcut to **Zoom In** command (**Cmd=**) from **View** menu that selects next magnification value from predefined magnification values list: 6.25%, 12.5%, 25%, 50%, 75%, 100%, 200%, 400%, 800%, 1600%, 3200%, 6400%.



■ **Actual Size button.** This button serves as shortcut to **Actual Size** command (**Cmd-1**) from **View** menu that sets magnification value of current document preview window to 100%. This allows you to see graphics at its 'real size', not in zoomed in or zoomed out state. After that this button appears in selected (pressed) state, until you set other magnification value.



■ **Fit Page button.** This button serves as shortcut to **Fit Page** command (**Cmd-0**) from **View** menu that calculates and sets new magnification value so that whole page size of the document fits into preview window. You can use this command if you want see overview of all document graphics content quickly. After that this button appears in selected (pressed) state, until magnification value or window size will be changed.



■ **Fit Width button.** This button serves as shortcut to **Fit Width** command (**Cmd-2**) from **View** menu that uses horizontal page size dimension (width of the document) to calculate and set new magnification value. When you choose this command, document preview will be scaled to fit width of the document into preview window. After that you will be able to see whole document content using only vertical scroll actions. This button will appear in selected (pressed) state, until magnification value or window size will be changed.



TOOLS SECTION

Tools section allows you to select current tool to be used on graphics in preview document window. After new tool is selected mouse cursor in preview window changes accordingly. Please, see **Chapter 4: Document Preview Window** of this reference for more details and illustrations.

■ **Selection Tool.** You can use this tool to select object of *Excentro* document by clicking with mouse pointer path that belongs to this object. Cursor shape for **Selection Tool** is standard 'Arrow' cursor. If it is not currently selected tool of **Toolbar**, you can temporarily switch to **Selection Tool** by pressing down **Command** key.



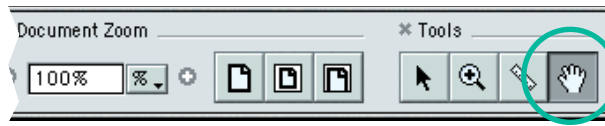
■ **Zoom Tool.** You can use this tool to enlarge parts of document preview window. Cursor shape for **Zoom Tool** is standard 'Magnifier Lens' cursor. Press mouse button within document preview window and holding the button down drag mouse cursor to select area you want to see enlarged. Release mouse button when you are ready and magnification value of graphics preview will be changed. Pressing down **Option** key you may switch between **Zoom In** and **Zoom Out** actions. If it is not currently selected tool of **Toolbar**, you can temporarily switch to **Zoom Tool** by pressing down **Command-Space** key combination.



■ **Measure Tool.** You can use this tool to measure distance and angle between two points in document preview window. Cursor shape when **Measure Tool** is selected changes to standard 'Cross' cursor. Click first point and holding down mouse button drag cursor to second point you want to measure distance to. To lock measure directions to 45° angles (0°, 45°, 90°, 135°, ...) hold down **Shift** key. Measurement information is shown in **tools information area** in top part of document preview window.



■ **Hand Tool.** You can use this tool to scroll content of document preview window in arbitrary direction. Cursor shape for **Hand Tool** is standard 'Hand' cursor. If **Hand Tool** is not currently selected tool of **Tools** section you can temporarily switch to it by pressing and holding down **Space** key.



MEMORY STATUS SECTION

Memory Status is the last section of **Toolbar** window. It informs you about current *Excentro* application memory usage, so you could avoid low memory situations before they arise and take appropriate actions: you can close some windows or zap document undo lists (see **Zap Document Undos** command description in **Chapter 2: Edit Menu** of **Excentro Commands Reference**).



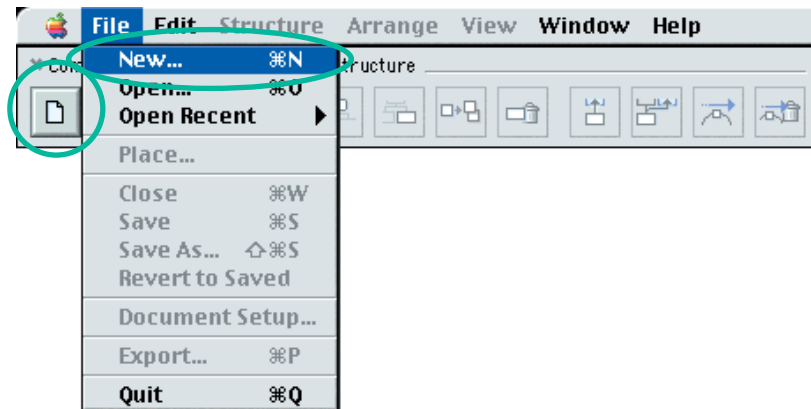
Memory Status section is not used or visible under *Mac OS X* operating system because application memory handled differently under this more advanced operating system and frequent low memory situations are unlikely to happen.

CHAPTER 10: OTHER DIALOGS

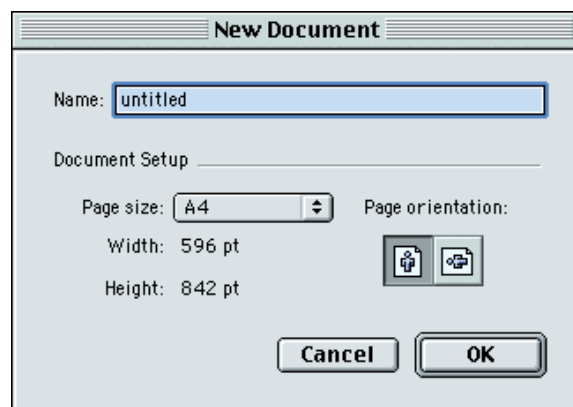
In this chapter of **Excentro Windows Reference** we provide detailed descriptions of *Excentro* application modal dialogs. These dialogs are brought to screen as a part of action sequence originated by some menu command and require user attention and input before you can proceed further. Short descriptions of these dialogs could be found in **Excentro Commands Reference** book in sections that cover appropriate menu commands. This chapter gives you more detailed reference of the dialogs in case you have questions about purpose of their controls and buttons or wonder what different options might be.

NEW DOCUMENT DIALOG

You will see **New Document** dialog after you choose **New...** command (**Cmd-N**) from **File** menu to create new *Excentro* document or use **Toolbar** shortcut button to this command.

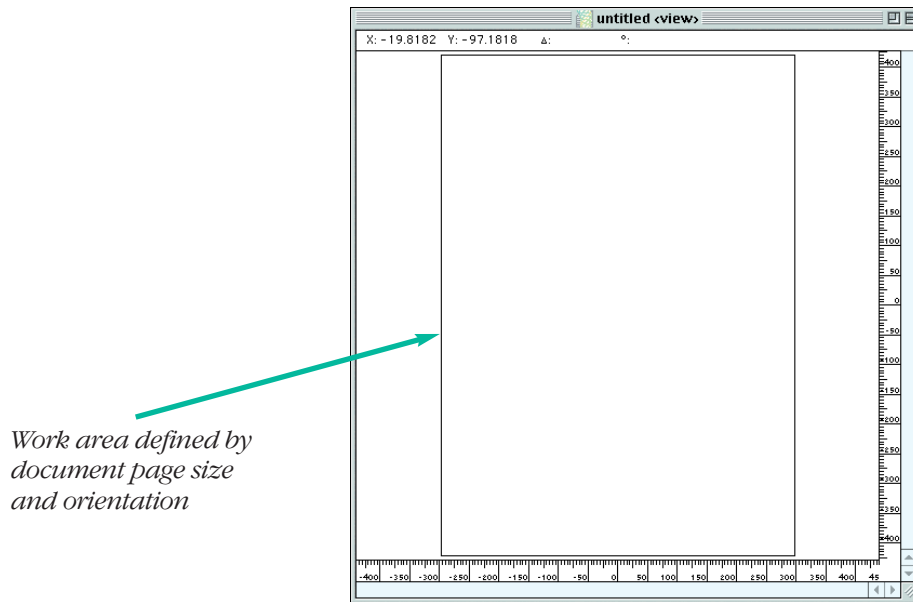


In this dialog you can type new document name in top **Name** field, select appropriate page format and page orientation in lower **Document Setup** section.

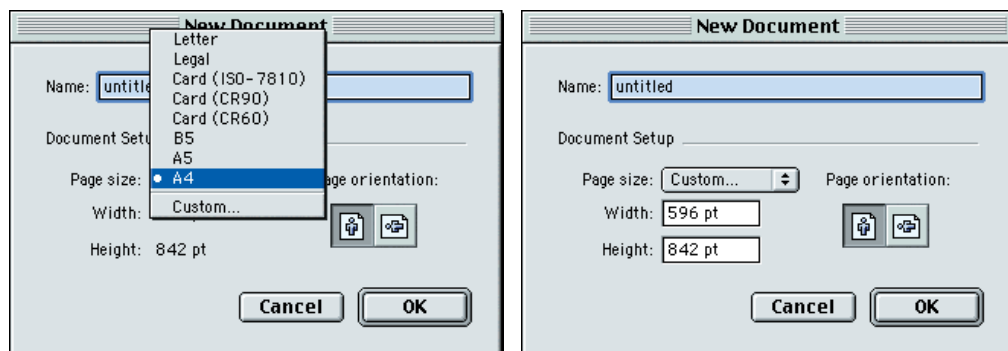


Document **Name** could be any string up to 255 characters long that will help you to correctly identify this document later. This name will be shown in document windows and it will appear in standard *Mac OS* **Save** dialog when you will try to save this document to file on hard disk later. By default new document name is '**untitled**'. If there is already exists opened *Excentro* document with '**untitled**' name, numeric index will be added to this string: '**untitled 2**', '**untitled 3**', etc.

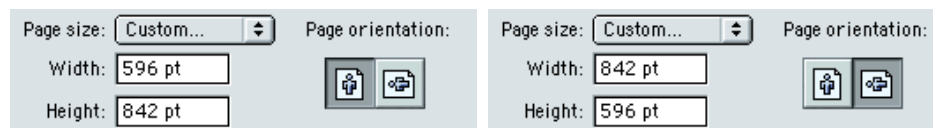
In **Document Setup** section you can define work area for new guilloche design. Document page size and orientation help to visually limit work area in document pre-view window, so sizing and positioning of objects and paths will be easier tasks to do. Work area is shown as thin black rectangle (see picture below). You can change it later with **Document Setup** command.



To set new document page size you can use one of predefined formats in **Page size** pop-up menu. List of predefined formats in **Page size** pop-up menu can be changed in **Page Size** panel of **Excentro Preferences** dialog. You can also select **Custom** format item from the pop-up menu and type new page size using numeric **Width** and **Height** fields. (These fields will become active after **Custom** format item is chosen.)



Page Orientation buttons allow you to set **Portrait** or **Landscape** orientation for your new document. **Width** and **Height** fields will swap their values as you toggle between orientation options.



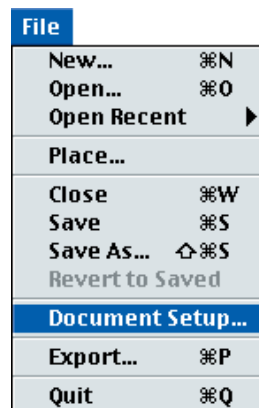
Portrait orientation is selected.

Landscape orientation is selected.

When you finished with **New Document** dialog click **OK** button and new *Excentro* document will appear in front of you. To cancel new document creation click **Cancel** button.

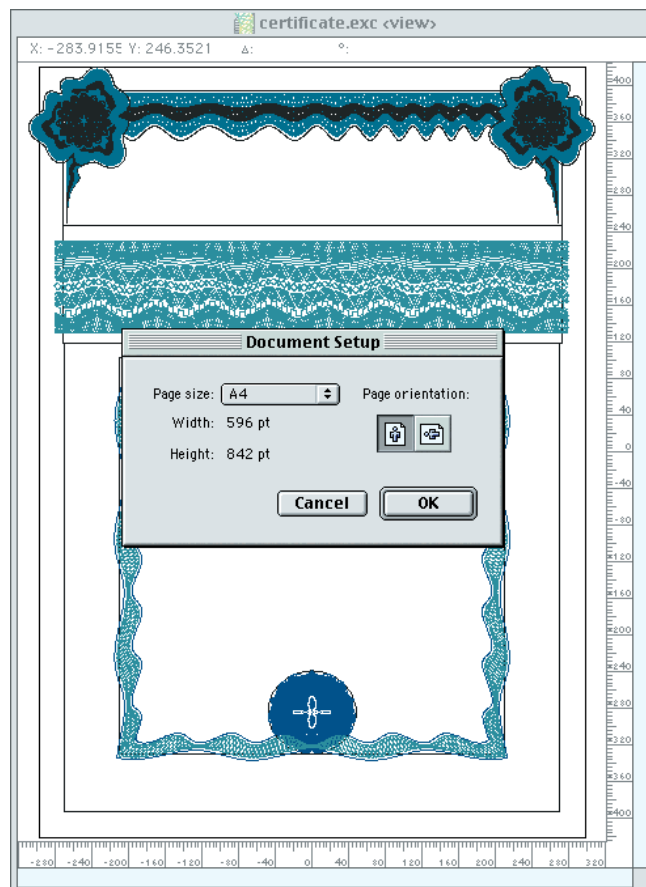
DOCUMENT SETUP DIALOG

Document Setup dialog appears after you choose **Document Setup...** command from File menu.

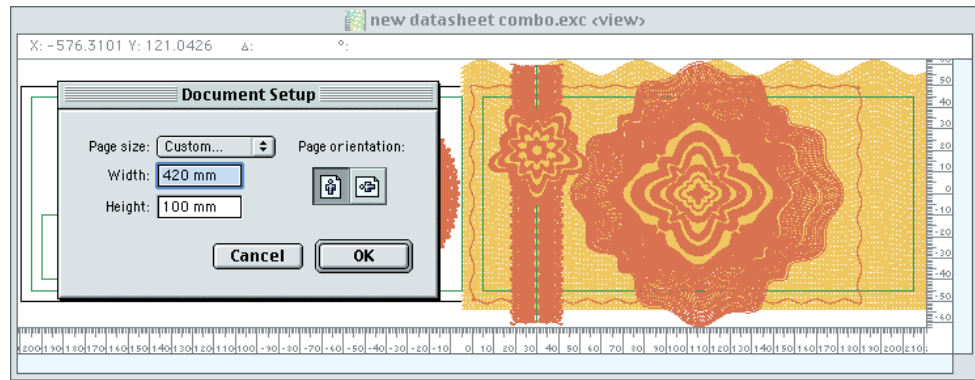


This dialog helps you to change document work area originally defined with **New Document** dialog (see previous section). You can do this at any convenient time if document resizing is needed.

You can select one of predefined formats from **Page size** pop-up menu. List of predefined formats can be edited in **Page Size** panel of **Excentro Preferences** dialog. You can also select **Custom** item from pop-up menu and type new page size using numeric **Width** and **Height** fields.



Document setup for standard A4 certificate.



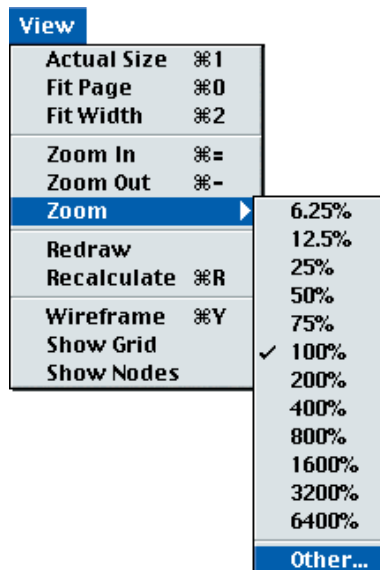
Document setup for custom page design.

You can make a choice between **Portrait** or **Landscape** orientation for your document: **Width** and **Height** fields swap their values when you change document orientation.

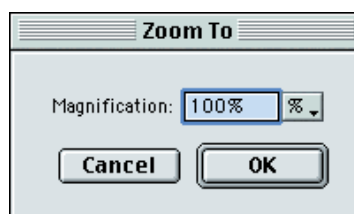
When you finished with **Document Setup** dialog click **OK** button and *Excentro* document will be resized to new values. You can also click **Cancel** button to return to previous document work area size.

ZOOM TO DIALOG

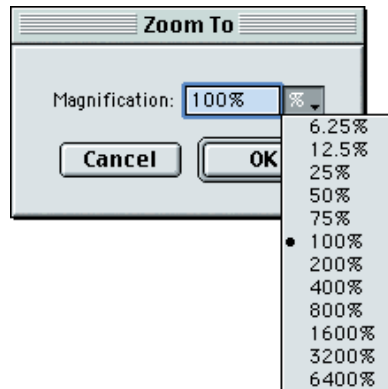
Zoom To dialog appears when you choose **Other...** item in **Zoom** submenu of **View** menu.



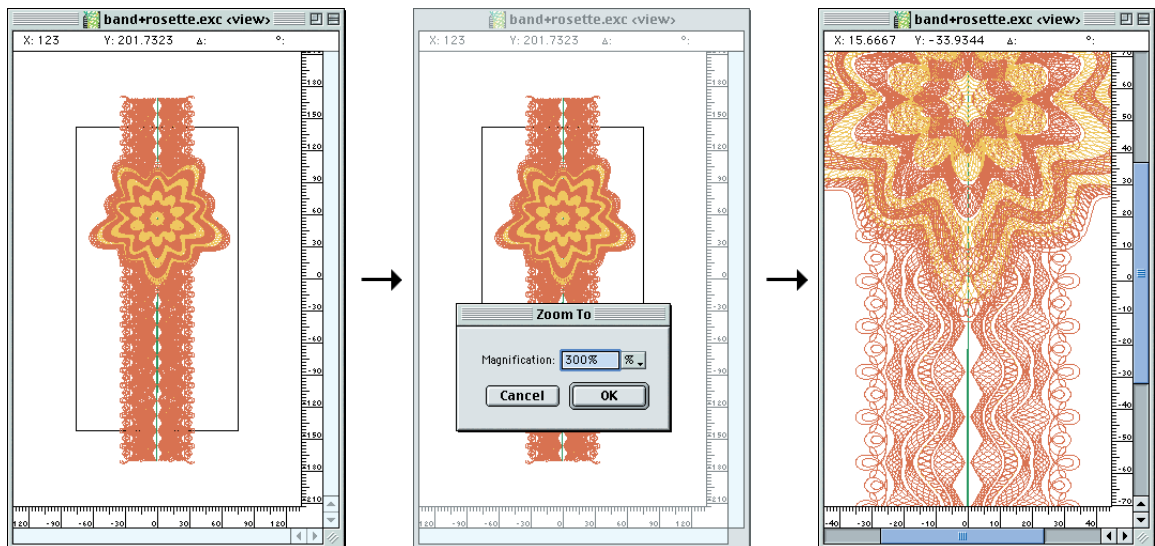
In this dialog you can type new magnification value for preview window of current *Excentro* document, instead of selecting one of predefined values with other items of **Zoom** submenu or using **Zoom In** and **Zoom Out** commands.



You can also select one of predefined values from pop-up menu beside **Magnification** text field. These are the same predefined values as in **Zoom** submenu, so it is not required to use **Other...** command and **Zoom To** dialog just to select one of these.

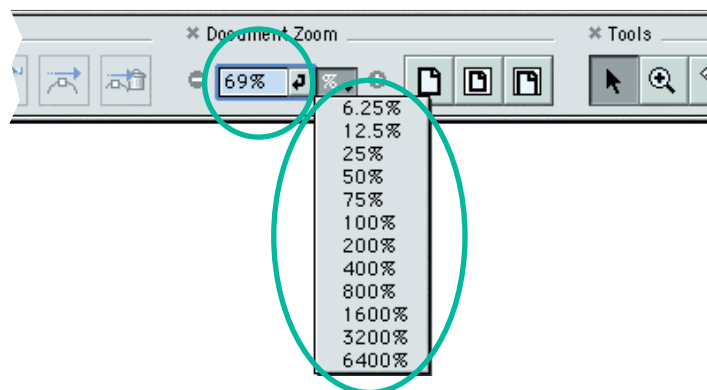


After you finished with magnification value selection in **Zoom To** dialog, you can click **OK** button to apply new value or **Cancel** button to close dialog and return to previous value.



*Example of **Zoom To** dialog usage. Magnification value of document preview window is changed from 100% to 300%.*

Toolbar has similar magnification value field and pop-up menu with predefined values that could be used instead of items in **Zoom** submenu or **Zoom To** dialog.



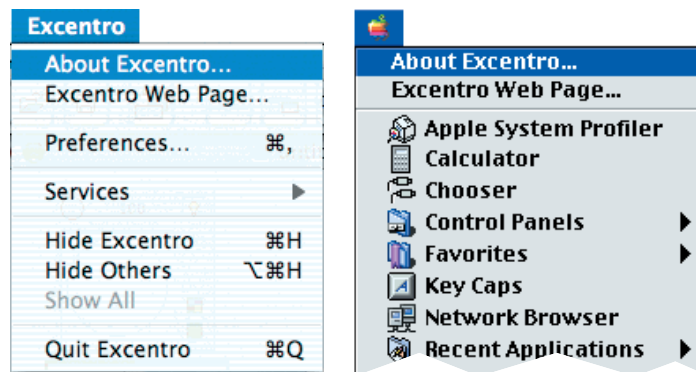
CHAPTER 11: OTHER WINDOWS

This final chapter of **Excentro Windows Reference** covers two least interesting windows of *Excentro* application: **About Excentro** window and **Clipboard** window. Every *Mac OS* application have similar windows, so you, probably, will never look into this chapter to find any new information. We provide description of these windows 'just in case', to make this reference book more complete.

Both **About Excentro** window and **Clipboard** window serve informational function without much practical use: **About Excentro** window shows information about your copy of *Excentro* application and **Clipboard** window displays content of application clipboard buffer.

ABOUT EXCENTRO WINDOW

About Excentro window could be summoned to screen with **About Excentro...** command. This command is located under **Apple** menu, if *Excentro* runs under *Mac OS 9* or **Excentro Application** menu under *Mac OS X*.



About Excentro window shows string with version number for your copy of *Excentro* and scrolling string with copyright information and credits.



This window also shows string with internet address of *Excentro* page at *Excourse* web site. If you click this line with mouse pointer your web browser will be opened and the page will be loaded automatically (your *Macintosh* should be connected to internet to access pages on World-Wide-Web)

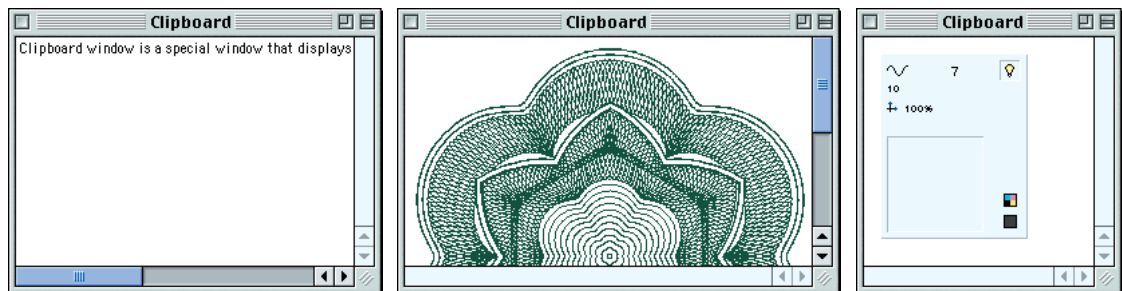
CLIPBOARD WINDOW

Clipboard window could be made visible with **Show Clipboard** command from **Edit** menu:

- If **Clipboard** window was closed or hidden before choosing **Show Clipboard** command, it will appear on screen.
- If **Clipboard** window was visible, but overlapped by other windows or minimized, **Show Clipboard** command will bring it in front of you.



Clipboard window displays Clipboard buffer content: text, graphics or *Excentro* object that was cut or copied to it with **Cut** and **Copy** commands from **Edit** menu. You can use this window to check if Clipboard has right object before pasting it back to document with **Paste** command. You can not do anything with this window except looking at its content and closing it afterwards.



Clipboard window with three different content types: text, graphics and Excentro object.