EuroVECTOR

EuroVECTOR V.2

Manual

EUROSYSTEMS SOFT- UND HARDWARE ENTWICKLUNG S. A. R. L.

Important Customer Information about EuroVECTOR

Please check the contents of your software package as soon as possible upon receiving it. Should any items be missing, immediately contact the dealer from whom you have purchased the software.

A complete package of **EuroVECTOR** should contain the following items:

- 1 program CD
- User manual
- Registration card

You will find your **personal code** (e.g. 1A1A-AAAA-2222-3333-B2B2-CDEF). This code number must be entered upon successful installation and initial startup of the software. Make sure you enter the number correctly, or you will not be able to start the program.

Dear Customer,

In an effort to help you solve any problems and answer your questions as quickly and efficiently as possible, we provide our ***Technical Support Line***. This is a toll-free number you can call if you have any technical questions about our products.

This service is available to you free of charge.

Mon. - Fri. from 9.00 am to 12.00 am

Horst Krämer Tel. ++49 6502 9288 11

You can find further useful information including tips and tricks on our web site:

http://www.eurosystems.lu

under the rubric ***Support/*FAQ.**

Our support staff have been instructed only to provide assistance to ***registered*** users.

When calling, faxing or e-mailing, please provide the following information:

- **Serial number** of your EUROSYSTEMS product
- Version number, i.e. EuroVECTOR
- Printout of your product's data
- (***Help*** / ***About...***)

Please understand that we can only answer enquiries addressed to this telephone number. Other telephone numbers are reserved for marketing, purchasing and sales.

In order to obtain the best possible technical support, we urge you to register your software. Immediately upon receipt of your registration card by fax or online, you will be entered in our Customer Support database.

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December 2003

About This Manual

You have acquired EuroVECTOR together with this manual. This version includes a large number of new functions which allow you to design and create top-class artwork more easily.

The first chapter **How to Install EuroVECTOR** explains how you install EuroVECTOR on your computer. Please follow the installation instructions closely, as you cannot work properly with EuroVECTOR unless installation has been correctly carried out.

The second chapter **How to Work with EuroVECTOR** is an introduction to its mode of operation.

The **Reference Section** in Chapter 3 explains all the menus and their items in chronological order.

You should refer to this section when you are not exactly sure about how a command works.

Hardware and Software Requirements

- The minimal requirement is a Pentium 300 with 128 MB of RAM.
- Windows 98SE or later version
- Video display running at 800 x 600 pixels with 16 colors

User Manual Format

To make this manual more easily readable, the same symbols and type styles are used throughout. The following is an explanatory chart designed to help you find and interpret these visual aids more easily.

Visual Aid Chart

Symbol / Type Style	Interpretation
Bold	Headings
Italic	*Notes*
Bold, *italic*	***Menus***, e.g.: ***File*** Menu
Bold, *italic*	Tools, boxes, options, commands, icons, e.g.: ***New*** command
CAPITALS	Keys, e.g. SHIFT
KEY1+KEY 2	The plus sign (+) between two keys means that you have to hold down the first key when you press the second key. Then you release both keys.
KEY1,KEY 2	A comma (,) between two keys means that you press the keys one after the other and release them.
	Shortcut

Table of Contents

Introduction

Along with this manual, you have received the latest version of EuroVECTOR. This Software gives you the capability to easily and accurately reproduce logos, symbols, and similar graphics. Depending on your application, you may choose to digitize or to vectorize the original graphic. To edit or manipulate the resulting file, a variety of tools are at your disposal.

Whether you are new to sign-making or consider yourself an expert, EuroVECTOR gives you all the tools you need for professional results.

You will soon realize just how powerful EuroVECTOR is, whether your application is display or vehicle graphics, signmaking or exhibit building. You may be involved in screen printing, vehicle lettering, or stencil cutting EuroVECTOR is equally capable of handling any of these tasks. And there are many more applications: e.g.

Before you begin working with EuroVECTOR Professional, you should be familiar with the basics of operating your PC and Microsoft Windows.

A detailed description of the required procedures can be found in your Microsoft Windows manual.

1. How to Install EuroVECTOR

Please follow these instructions carefully to ensure EuroVECTOR is correctly installed

EuroVECTOR V.2 comprises one CD.

Step 1: **Windows 98SE, ME, NT, 2000 & XP:**
Place the CD in the CD drive.
Select ***Execute*** in the ***Start*** menu if the automatic autostart do not start.

Type ***D:\setup*** or **c** ***:\setup*** in the *command line,* depending on the name of your CD–ROM drive.

After a short time a window entitled "*EuroVECTOR Setup*" appears.

Use the ***Continue*** button to proceed with the installation routine.

Licencing Agreement

"EUROSYSTEMS Licencing Agreement" Dialog Box

Once you have accepted the conditions of the EUROSYSTEMS licencing agreement, the actual installation starts.

Target Path

"Select Target Path" Dialog Box

In this dialog box you can select the directory in which EuroVECTOR is to be installed.
C:\Programfiles\EUROSYSTEMS\EuroVECTOR 2 is the default suggestion.
If you wish to install EuroVECTOR in another directory, please activate the ***Search*** button enter the desired target directory under ***Path*** and in the dialog box which appears.

Type of Setup

"Type of Setup" Dialog Box

There are three ways of installing EuroVECTOR.

1. Standard: EuroVECTOR is completely installed without the ***Engrave*** command (recommended).

2. Minimal: Only the essential functions of EuroVECTOR are installed.

3. User: EuroVECTOR is installed according to the user's specifications, i.e. the user can select the options they consider to be important (only for experienced users).

"Select Program Folder" Dialog Box

Here the EUROSYSTEMS/EuroVECTOR folder is the default suggestion. You can define a new program folder in the ***Program Folder*** command line.

After this you will be asked, if you want install an link on your desktop. Confirm this dialog and the prgramm files will be copied.

Dialog „InstallShield Wizard finished"

Activate the ***Start EuroVECTOR 2***–option and press the ***Completion***-Button the folllowing dialog will be opened.

Abb. 1: The EuroVECTOR *Start*-Dialog

Confirm the ***licence***-button the following dialog will be opened.

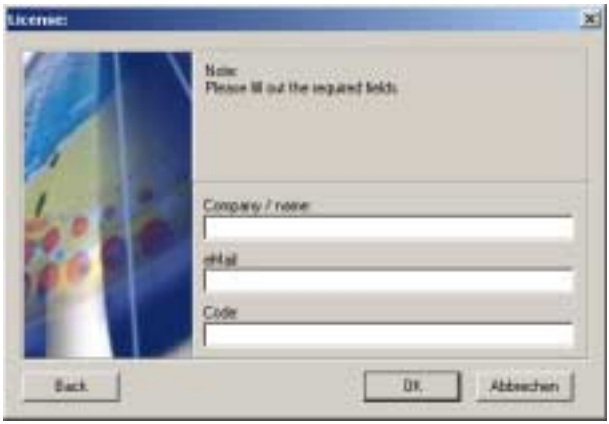


Fig. 1: Der EuroVECTOR *Lizenz*-Dialog

All input fileds must be filled out. The input data of the fields ***company*** and ***eMail*** you filled out the first time must be the same if you installed EuroVECTOR once more.

You ***personal codenummer*** you will find in your manual your invoice or your delivery note.

After you enter your personal code number EuroVECTOR will be started.

Close all application and restart your computer.

By double clicking the EuroVECTOR-Icon in the EUROSYSTEMS-Group you will start EuroVECTOR

EuroVECTOR works !

Construction of label:
1. Company Name
2. eMail-Adress
2. Serial Number

2. How to Work with EuroVECTOR V.2

In this chapter you will learn the basics of working with EuroVECTOR. You will be introduced to such items as the desktop, the tools, the text editor, data import and export, loading and saving jobs and also cutting.

2.1 Your Desktop with the EuroVECTOR Working Area

After EuroVECTOR has been started, the following window appears:

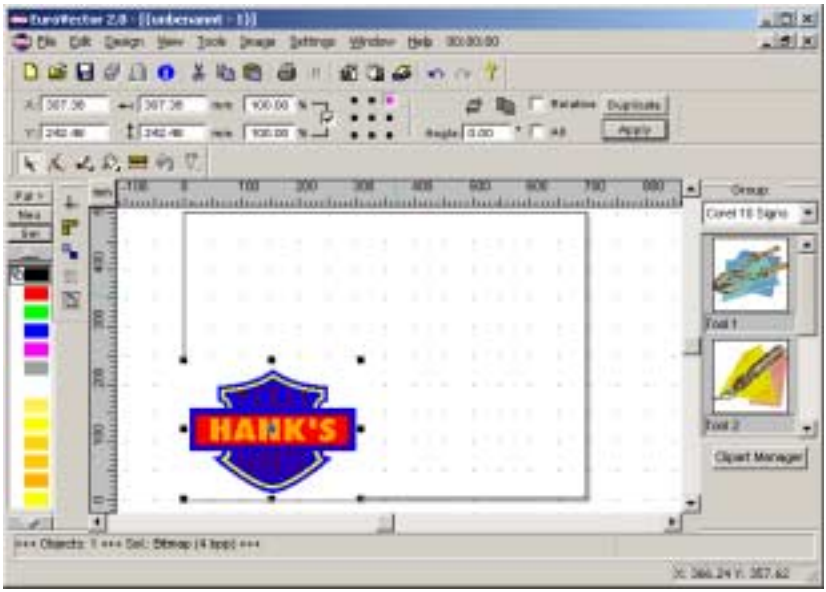


Fig. 2: The EuroVECTOR Desktop and Working Area

The ***Rulers*** can be positioned freely as you wish or completely turned off. The Color Layerbox can be positioned wherever you like on the working area. The default position is at the left edge of the working area.

The ***Units of Measurement*** (cm, mm, inch) can be changed by simply clicking a button. The button is located in the lower right corner where the horizontal and vertical scroll bars meet.

In the ***Status Bar*** there is extensive information about the objects to be found in your working area, such as wireframe, fill, dimensions, number, combination or grouping.

2.1.1 The EuroVECTOR Program Line

The various elements of the EuroVECTOR program line are described in the figure below.

Fig. 3: The EuroVECTOR Program Line

Underneath the program line is the menu line, whose various menu items are described in detail in ***Chapter 3, Reference Section.***

2.1.2 The EuroVECTOR *Standard* Toolbar

You can turn the ***Standard*** toolbar on and off via the ***Window*** menu or the shortcut CTRL+1.

Fig. 4: The EuroVECTOR *Standard* Toolbar

2.1.3 The EuroVECTOR *Setup* Toolbar

You can turn the ***Setup*** toolbar on and off via the ***Window*** menu or the shortcut CTRL+3.

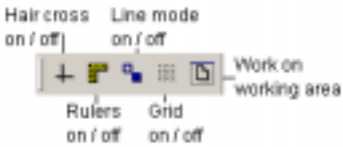


Fig. 5: The EuroVECTOR *Setup* Toolbar

2.1.4 The EuroVECTOR *Toolbox*

You can turn the ***Toolbox*** on and off via the ***Window*** menu or the shortcut CTRL+4.

Fig. 6: The EuroVECTOR *Toolbox*

2.1.5 The EuroVECTOR *Object Attributes* Toolbar

You can turn the ***Objects Attributes*** toolbar on and off via the ***Window*** menu or the shortcut CTRL+7.

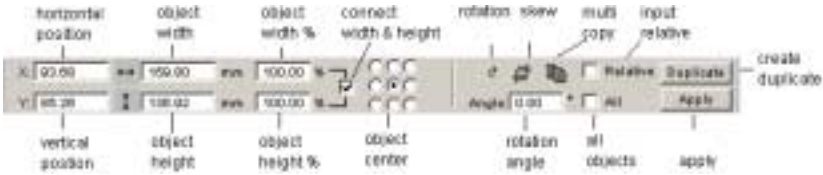


Fig. 7: The EuroVECTOR *Objects Attributes* toolbar

2.1.6 The EuroVECTOR Color Layerbox

The color layerbox can be used to color objects, define different vinyl colors, select objects of specific colors and block certain color lavers or make them invisible. You can turn the color layerbox on and off via the ***Window*** menu or the shortcut CTRL+2.

Fig. 8: The EuroVECTOR Color Layerbox

2.1.7 The EuroVECTOR Clipart Toolbar

The ***Clipart*** toolbar can be used to manage your clipart. In this way you can quickly and easily import clipart from any group of images to your EuroVECTOR working area and edit it.

You can turn the ***Clipart*** toolbar on and off via the ***Window*** menu or the shortcut C.

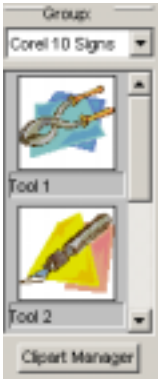


Fig. 9: The EuroVECTOR Clipart Toolbar

2.1.8 Explanation of Cursor Shapes in the Working Area

Cursor shape	Interpretation
	No object selected

Note: *Select objects by positioning the mouse cursor on the object and pressing the left mouse button.*

Cursor shape	Interpretation
	Move objects

Note: *This type of cursor is only active when the cursor is located in the interior of the object or in the area between the 8 black squares on the wireframe. The object must be selected.*

 Enlarge object vertically

 Enlarge object horizontally

 Enlarge object diagonally

Note: *The cursors for modifying the size of objects are only active when the cursor is located in the area between the 8 black squares on the wireframe of the object.*

You can switch to the ***Skew/Rotate*** mode by clicking once on the left mouse button with the cross cursor activated.

Cursor shape	**Interpretation**
	Object in ***Skew/Rotate*** mode
	Rotation of objects
	Skewing of objects

2.2 The EuroVECTOR Tools

The first time you start EuroVECTOR, you will find the toolbox in the upper left corner of your screen. It contains 7 icons.

Fig. 10: The *Toolbox* and its *Fly-Out* Menus

a. Fly-out menu for the ***Drawing Tools***
b. Fly-out menu for the ***Zoom Tools***
c. Fly-out menu for the ***Fill Tools***
d. Fly-out menu for the ***Pencil Tools***

Note: *The tools can be turned on and off via the* ***Window*** *menu/****Tools****.*

2.2.1 The *Arrow* Tool

Fig. 11: The *Arrow* Tool

The arrow tool, also known as the general work tool, is used to select, move, temporarily group (using the Frame box) and resize text or objects.

Select

Click on any point of the object and it is automatically selected, i.e. a frame defined by eight small squares appears around it. When working in the ***Edit Wireframe*** (F9) mode, you must click on the outline of the object to select it.

Note: *To select individual letters in a text string, the text must first be converted to a bitmap by using the* ***Text to Curves*** *command in the* ***Edit*** *menu. The selected letter(s) can then be detached from the string by pressing* SHIFT+L.

Resize

You can proportionally resize objects by grabbing one of the 4 handles or corner squares of the frame around the object. Double-clicking on one of these corner squares opens the ***Object Attributes***... dialog box in which you may enter specific values under ***Size.***
To resize an object non-proportionally, double-click on the squares located between the corner markers.
To resize by eye (proportionally or non-proportionally), simply click on the appropriate square and drag it until the desired size has been obtained.

2.2.2 The *Node Editing* Tool

The node or point editing tool lets you ***Move***, ***Add***, ***Join***, ***Break***, ***Align***,... nodes or points.

Fig. 12: The *Node Editing* Button

Click on the node-editing button (the cursor changes its shape) and subsequently on a point of the object or text string.

The text or object is now displayed as follows:

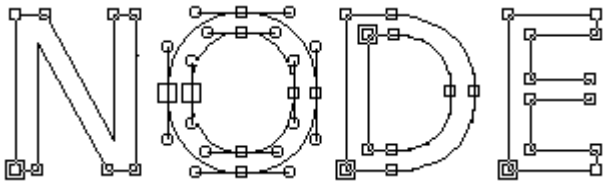


Fig. 13: An Object in the *Node-Editing* Mode

Tip: *By hitting the SPACE BAR on your keyboard, you can easily switch back and forth between the arrow tool and the node-editing tool.*

All corner points are displayed as squares, while all points on a curve are displayed as circles. The latter are in fact called tangential points.
The starting point of the object is displayed as a double square (a smaller square inside a larger one).

To select individual nodes or tangential points, simply click on them with the node-editing tool. To indicate selection, the points are bolded (filled in). It is thus easier to recognize selected nodes or tangents, which considerably facilitates node editing. You can click on the different points and move them by pressing down the left mouse button.
Moving a tangential point will reshape the corresponding curve.

Note: *To select multiple points, click on the first point, then hold down the SHIFT key while continuing to click on the other points. The same can be achieved by clicking a short distance away from the first point and dragging a frame around it and all other points you wish to select.*
Double-clicking on a node activates the ***Node Editing*** dialog box.

The node-editing dialog box can be pinned firmly on the EuroVECTOR working area using the  ***Pin*** icon When the ***Pin*** icon is activated the pin turns into the symbol  and the ***OK*** button becomes an ***Assign*** button.

Note: *When you have pinned the* ***Node Editing*** *and* ***Object Attributes...*** *boxes firmly to the working area, you can switch back and forth between the boxes by hitting the SPACE BAR.*

Fig. 14: *Node Editing* Dialog Box

Note: *To edit the nodes in a text string, you first have to transform the nodes to an image using the* ***Text to Curves*** *command, otherwise the text string will be displayed with dotted blue lines.*

You can recall the most frequently required node editing commands via the right mouse button.

The right mouse button commands change depending on whether one or more nodes are selected.

If two nodes are selected, the right mouse menu appears as follows:

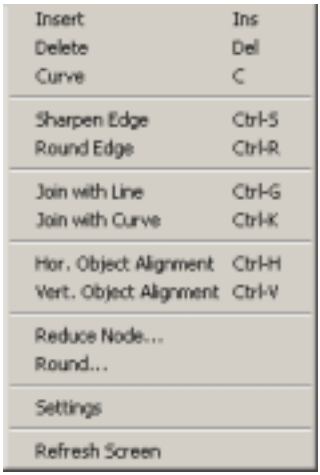


Fig. 15: The Right Mouse Menu With Two Nodes Selected

If only one node is selected, the following menu items are available:

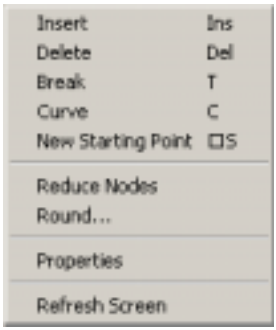


Fig. 16: The Right Mouse Menu With One Node Selected

Note: *You can select several nodes by holding down the* SHIFT *key and clicking on the nodes you wish to select one after another.*

Round Nodes (inside/outside)

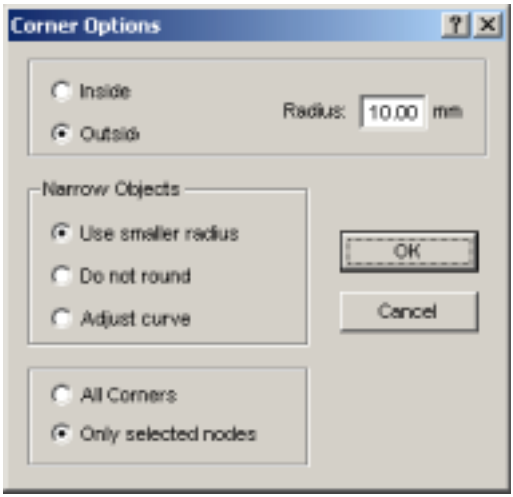


Fig. 17: Rounding Nodes

The following settings are available to you in the ***Round*** dialog:

Round outside corners

When this button is activated, the selected nodes/corners or the whole object will be rounded outside by the radius indicated, depending on which option is chosen.

Round inside corners

When this button is activated, the selected nodes/corners or the whole object will be rounded inside by the radius indicated, depending on which option is chosen.
The radius for rounding the nodes can be specified in the box on the right next to the button mentioned above.
The option ***For Narrow Objects*** is located below the ***Round*** button.
Two options are available to you.
If you select ***Use Small Radius,*** EuroVECTOR calculates the appropriate radius for rounding the nodes on this narrow object.

If you select ***Do not round***, the nodes on narrow objects are not rounded.

Reduce Nodes

When this command is activated, any redundant nodes will be removed, i.e. the nodes which do not affect the shape of the curve are removed.

Note: *The* ***Reduce*** *function always affects the* ***whole*** *object.*

Symmetric

This command is used to make the tangents of any point perfectly symmetric, i.e. the two tangents of any curve point will form a straight line **and** be of equal length. When moving such a node, the symmetry will not be affected in any way.


S

Cusp

The **Cusp** command cancels the symmetry of the tangents, thus allowing you to change them individually. The shape of the curve is not directly affected by the initial selection of this option.

Smooth


R

This option is used to smooth points in a curve or wherever a straight line turns into a curve. The tangents of these points are adjusted so that they form a straight line, thus creating a perfectly smooth curve or curve/straight-line transition for best possible output quality. The adjustment of the tangents is always kept to a minimum.
This feature is especially useful after moving a point on a curve. Because any move causes the tangents to lose their orientation to one another, the ***Smooth*** function must be used to readjust the tangents to form a straight line. Again, this is a very important editing feature in that it will determine the quality of your output when you send it to your plotter/cutter.


T

Y


P

Note: *The* ***Smooth*** *option is not available when there are straight lines on both sides of the selected points. When two tangential points of a curve are moved, they are no longer symmetrically aligned in relation to each other. The* ***Smooth*** *command transforms them into a straight line again.*


J


Ä

Origin

For routing applications it is important to be able to control the point at which the bit first plunges into the material.

This option allows you to change the starting point of a selected contour, which is of particular importance for routing and engraving applications. For this type of cutting, it is important to be able to control the point at which the bit first plunges into the material. To change the starting point of a contour, double-click on the new starting point you have selected. Choose ***Origin*** in the node editing panel, and the selected point is turned into the new starting point. As such, it is displayed as a double square.

Break

This command is used to break up or dissolve a single point into two separate points. Each of the new points will receive one of the tangents of the original point. When applied to a closed contour, this function will create two new points that become the starting points for two open contours.
Select the point you wish to break. Double-click on it to activate the node-editing panel. Click on ***Break***.

Join

This function, which joins two points, is used primarily to close open contours. The points to be joined must be located at the end of a segment or contour. With the node-editing tool, select the first point. Then hold down the SHIFT key and select the second point, i.e. the point you wish to join with the first. Selected nodes are displayed with a black fill and the status bar shows you how many objects have been selected. Finally click on the ***Join*** button.

Note: *There is another option available for closing contours: the* ***Frame*** *function. With the left mouse button held down, draw a line linking the selected points. It is only possible to join two selected points when they are both at the ends of an open contour.*

Delete

To remove or delete nodes from your contour, you have the following options:

-Select the point you wish to delete. Double-click on it and choose the ***Delete*** command in the node editing panel.
Or, more efficiently:

Select the point you wish to delete. Press the DELETE button on your keyboard.

When deleting an end-point of an open contour, the adjoining nodes will be connected with a curve, provided there was at least one curve on either side of the deleted point.


Ö/DEL

However, if there were no curves on either side of the deleted point (in other words, if you deleted a node on a straight line), the adjoining points will be connected with a straight line.

Add

This function is used to add additional points to a contour line. Use the node editing tool to double-click at the exact location on the line or curve where you wish to insert a point. Click on ***Add*** in the ***Node Editing*** panel that appears on the screen. A new point has now been added to your contour.

Curve

This command is used to convert straight lines into tangential curves. Use the node-editing tool to select the line you wish to convert and double-click on it. Choose the ***Curve*** command in the node-editing panel and the straight line will be converted into a curve.

Line


I/INS

This command is used to convert curves into straight lines. Use the node-editing tool to select the curve you wish to convert and double-click on it. Choose the ***Line*** command in the node editing panel and the curve will be converted into a straight line.
Note that all curve attributes will disappear when a curve is converted to a straight line.


K

This function is used to vertically or horizontally align nodes or points. You must select at least two points to perform this task. With the node-editing tool, select the first point. Then hold down the SHIFT key and select the second point, i.e. the point you wish to align with the first one.
Double-click on the reference point, i.e. the point with which you want the other selected point(s) to be aligned. Now select either the horizontal or vertical ***Align*** icon in the node-editing panel.


G

Align Corners

Aligning corners is a further possibility of aligning nodes or points. This function aligns nodes which are positioned almost vertically or horizontally in relation to the preceding and following nodes.

Aligning corners is a combination of horizontal and vertical alignment.
Right angles can be created very quickly using this method.

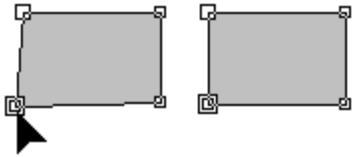


Fig. 18: Aligning Corners

Fig. 18 shows how ***Align Corners*** is performed. The original state of the rectangle can be seen in the illustration on the left. Select the lower left corner and open the ***Node*** menu by double-clicking on the corner. The corner point will be aligned horizontally **and** vertically with its adjacent points. This creates a right angle, as illustrated in the diagram on the right.

Direct Input of Coordinates for Node Positions

In the ***Position (mm)*** combobox you can position nodes by entering their X/Y coordinates. A distinction is made here between absolute and relative values.

Absolute Values

When absolute values are entered the value is assigned to the ***selected*** node.

Relative Values (with SHIFT key)

When relative values are entered, the selected node is moved in a horizontal or vertical direction by the amount specified in relation to the selected node, i.e. the coordinates entered are added to the original coordinates.

Procedure:
First enter the desired coordinates and then hold down the SHIFT key while you click the ***Move*** button.

Horizontal/Vertical Restraint in Moving Lines/Curves

Lines can be restrained vertically or horizontally by holding down the SHIFT key, i.e. it is only possible to move the line in one direction.

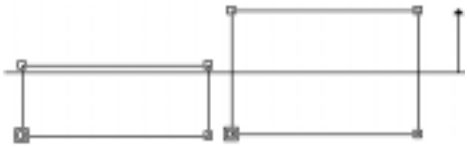


Fig. 19: Moving Lines

When lines are moved, the shape of the curve changes. The change in shape depends on the point chosen to carry out the action, as can be seen in Fig. 20.

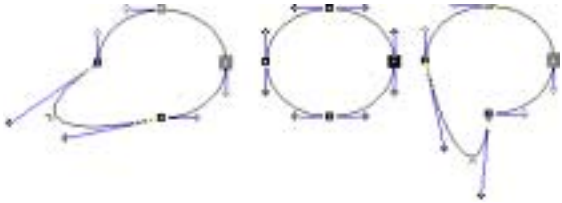


Fig. 20: Moving Curves

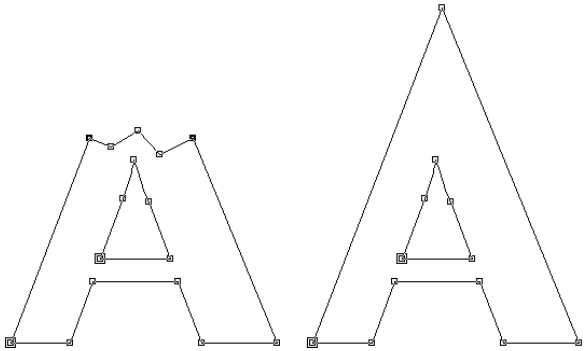
Keys for node editing are also available on the keyboard.

The node attribute ***smooth*** is automatically saved when the current and following node form a curve.

Note: *The magnifying glass function can also be used in the node editing mode.*

Align Corners

This command joins two nodes with two “smooth“ lines.
Any nodes situated between the two selected nodes will be deleted.



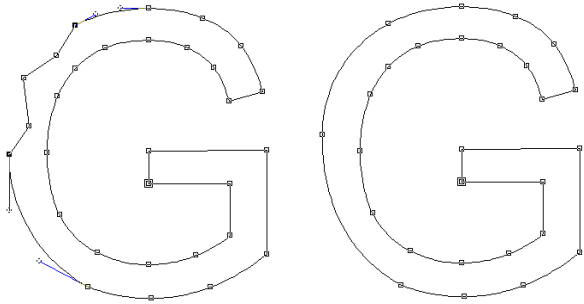
CTRL + S

Fig. 21: Example of Aligning Corners

This command joins two nodes with two “smooth“ curves. Any nodes situated between the two selected nodes will be deleted.

If one of the selected nodes is situated at a corner the original angle will be retained.

Round Corners



CTRL + G

Fig. 22: Example of Rounding Corners

It can be seen in the figure above that the left outside edge of the G needs modifying. To do this, select the nodes above and below the “fault“. If you activate the ***Round Corners*** command, the nodes situated between the selected nodes will be deleted and the two points joined with a curve.

You can see in the figure below that the selected points are situated on parallel lines. If this is the case, the selected nodes will be joined with a semi-circle. The nodes situated between the selected nodes are deleted.

Join With Straight Line

This command joins the two nodes selected with a straight line. Any nodes situated between the selected nodes are deleted.

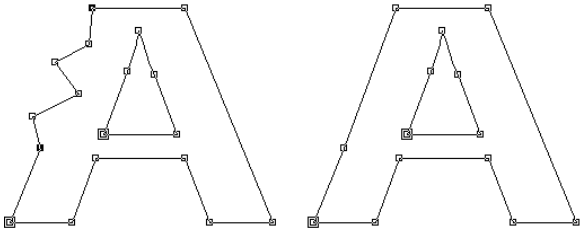


Fig. 23: Example of Joining Nodes with a Straight Line

Join With Curve

The two selected nodes are joined with a curve.
Any nodes situated between the selected nodes will be deleted.

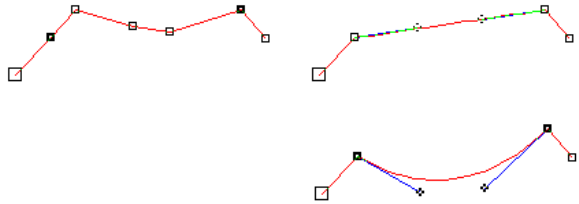


Fig. 24: Example of Joining Nodes with a Curve

Align Object Horizontally/Vertically

The object in which the nodes are selected is aligned either horizontally or vertically.

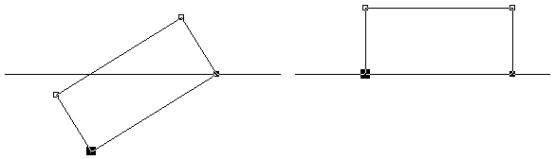


Fig. 25: Align Object Horizontally

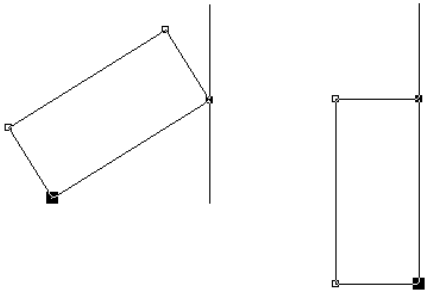


Fig. 26: Align Object Vertically

Reduce Nodes...

When you activate this command, the Reduce Nodes dialog box appears where you can make the following settings:

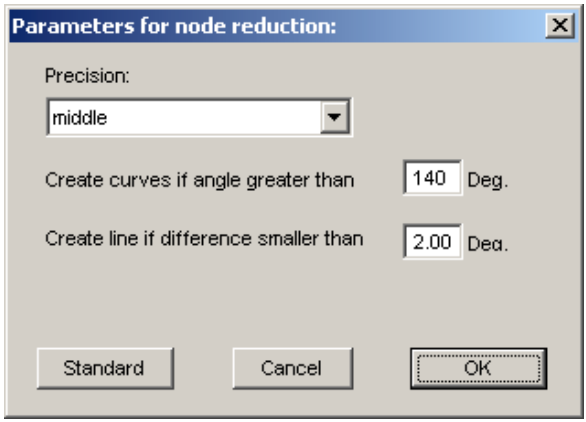


Fig. 27: Dialog Box for Setting the Accuracy of the Node Reduction

Accuracy

This value affects the conversion of lines to Bezier curves. The greater the deviation is the smaller the number of curve commands that will be needed to recreate the original arc of the curve.

Create Curves With Angle Larger Than – X - Degrees

If the angle of the lines at one of the nodes is smaller than this value, the arc of the curve will be interrupted at this node.

Create Straight Line With Deviation Smaller Than – X – Degrees

If a curve is created with an arc lying within the tolerance value, it will be converted to a straight line.

Node Selection

TAB	Select next node
TAB + SHIFT	Select next node additionally
BACK	Select previous node
BACK + SHIFT	Unselect most recently selected node

Interactive Rounding or Aligning of Corners

If you click on the arc of a curve with the CTRL key held down, a node will be inserted at this place. This node serves to select the position of the rounding. When the second node is selected, you can align, round or perform any other node-editing command you wish.

2.2.3 The *Zoom* Tool

This tool is used to ***zoom in*** and ***out*** on your desktop, working area or design.

Fig. 28: The *Zoom* Tool Icon

When you click on the ***Zoom*** icon, a flyout box appears containing five additional icons.

Fig. 29: Flyout with 5 *Zoom* Functions

The icon with the plus sign is used to enlarge a selected area of your desktop. Using the framing tool, draw a frame around the area you want to enlarge. You can repeat this procedure several times for further magnification.
An acoustic alert will warn you when you have reached the limit and no further magnification is possible.

Note: *You can also execute this command by pressing* F2 *and the* **+ (plus**) *key in the numeric keypad.*

The icon with minus sign is used to reduce the size of a selected area of your desktop or working area.

Note: *You can also execute this command by pressing* F3 *and the* **- (*minus*)** *key in the numeric keypad.*

The icon depicting a sheet of paper is used to view the working area in its entirety.
The icon depicting a monitor is used to display all objects on your working area.
EuroVECTOR will enlarge or reduce the objects to make just enough room for everything to fit on your screen.

The last icon depicting a magnifying glass is used to display all selected objects in the maximum possible size.

Note: *If you hold down the* ***SHIFT*** *key while executing this command, only the selected objects will be enlarged to their optimal size.*

2.2.4 The *Drawing* Tools

1. Rectangle
2. Ellipse
3. Line / Curve
4. Digitze mode
5. Freehand drawing
6. Symmetrical object

Fig. 30: The *Drawing* Tools

Note: *You will find a detailed of the drawing tools in the Reference Section.*

2.2.5 The *Measure* Tool

Fig. 31: The *Measure* Tool

The measuring tool is used to perform measurements (between any two points) in your design. As soon as you click on the ***Measure*** icon in your tool box, the cursor changes into a bull's eye. Move the center of the bull's eye to the first point, i.e. the point from which you intend to measure.

While holding down the left mouse button, drag the bull's eye to the second point, i.e. the end-point of the distance you are measuring. A guideline provides a visual connection between the two points.

Note: *If you hold down the **SHIFT** key during this procedure, the measuring can be limited in a horizontal or vertical direction. This makes it easier to measure straight lines accurately.*

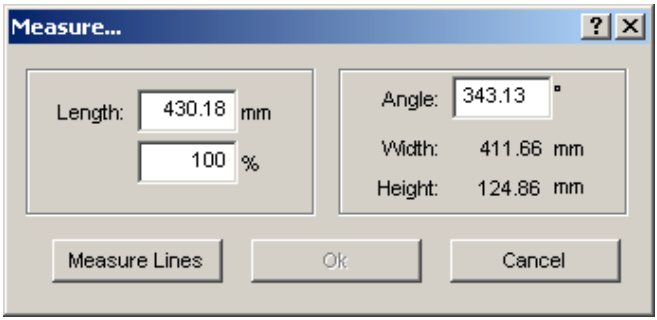


Fig. 32: The *Measure* Dialog Box

The ***Length*** box indicates the result of your measurement. To change this value, click on the text box and enter the new length.

You can also make changes to the ***Percentage*** box below.

The dialog box provides additional information such as the *Angle* of the line you measured, the ***Width*** of the object you measured and the ***Difference in Height*** between the first (beginning) and second (end) point.

2.2.6 The *Fill* Tool

This tool can be used to fill objects with fountains fills or bitmaps. Four icons are available here.

Fig. 33: The *Fill* Icons

 - creates fountain fills

 - adds bitmap fills

 - deletes all fills

 - assigns layer color as fill when the object has a fountain or bitmap fill

Delete Fills or Bitmap Fills

Fig. 34: The *Delete* Icon

If you click on this icon fills and bitmap fills will be deleted from all selected objects. Only the wireframes of the objects remain in the previously assigned color.

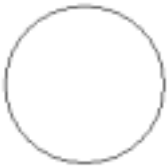
Example:

Original

black layer

Lettering with Fountain Fill

Lettering after clicking on the *Delete* button



Creating Fountain Fills

Fig. 35: The *Fountain Fill* Icon

If you click on this icon, the ***Fountain Fill*** dialog box opens, where the you can specify the appearance of the fountain fills of closed curves, text strings or combinations.

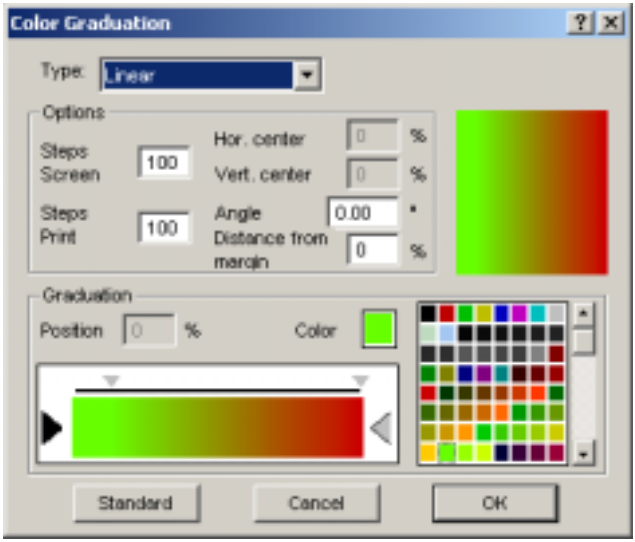


Fig. 36: The *Fountain Fill* Dialog Box

Customizing Fountain Fills

In the ***Type*** box you can select the type of fountain fill. You have a choice of ***Linear***, ***Radial***, ***Conical*** and ***Rectangular.*** The appearance of each type is shown in the preview in the top right of the dialog box.

In the ***Steps Screen*** box you can specify the number of fountain fill stripes to be displayed on the screen.

With ***Steps Printout*** you can specify the appropriate number of steps for printing out.

The ***Horizontal Center*** and ***Vertical Center*** allow you to fix the center point of the fountain fill.

Note: *These boxes are not active for the* ***Linear*** *type of fill.*

If you enter 0%, the center of the fill exactly coincides with that of the filled object. The center can be moved to the right or left by 100% of the object width or upwards or downwards by 100% of the object height.

The origin can also be set with the mouse. To do this, move the mouse cursor to the preview window and click with the left mouse button on the point you wish to set as origin.

The ***Angle*** box describes the position of the fountain fill stripes with ***linear, conical*** and ***square*** fills. When ***Linear*** is selected, you can also fix the angle of the fountain fill with the help of the preview window.

To do this, click on any point in the window. Keep the mouse button held down and move the mouse. A line with its starting point anchored down appears and follows the movements of the mouse. After you release the mouse button, the angles set by the line will be saved.

Note: *The size of the margin can only be changed with* ***linear*** *and* ***square*** *fills. The entered value - between 0% and 45% - specifies the position of the first and last colors in relation to the center of the fill..*

Setting the Beginning Color

The ***Fountain*** box allows you to determine the initial and final colors and also the positions and colors of any intermediate steps. The bar between the two triangles, the fountain fill bar, displays the fountain fill.
To determine the initial color, click on the left-hand triangle.
To change the color, there are two possibilities available.
If you double-click on the ***Color*** box on the left of the color palette, the ***Color Selection*** dialog box appears.

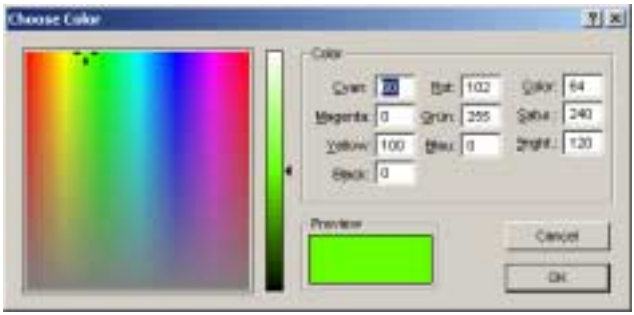


Fig. 37: The *Color Selection* Dialog Box

The starting color can be modified using this window.

In the color palette on the left side of the window there are 256 predefined colors available to you. You can select a color by simply clicking on the desired color with the left mouse button. Further colors can be made visible by using the scroll bar to the right of the color palette. You can select one of the colors for the fill by simple clicking on the appropriate field.

To modify a color, double-click on the field in question. Then the ***Color Selection*** dialog box described above appears so that you can perform the change..

You can select a new color from the color palette on the right of the ***Color Selection*** dialog box. If the color you want is not visible, use the scroll bar to make it appear. You can specify the color as starting color by simply clicking on the field in question.

If you double-click on the desired color box, this will reopen the ***Color Selection*** dialog box so that you can choose the color. The selected color is displayed in the ***Color*** box next to the palette.

Selecting the Target Color and Further Color Gradations

To specify the target or final color in the fill, first click on the triangle on the right side of the color gradation bar.
Now you can select a new color in the manner described above.

Further color gradations can be added by double-clicking on the bar above the gradation bar.
A small triangle showing the position of the color in the fill is displayed at the selected position. The exact position is entered as a percentage in the ***Position*** box.

The position can be modified by moving the triangle or entering the desired percentage in the ***Position*** box. To position the color as you wish, first select the triangle which points to the position in question. Then you can specify a new color in the ways described above.
If you wish to delete one color gradation in the fill, click on the triangle representing it. Then press the DEL key.
The triangle will disappear from the bar and the color is no longer included in the fill.

Note*: It is not possible to delete the starting and target colors in a fill.*

Creating Bitmap Fills

Fig. 38: The *Bitmap Fill* Icon

This command is used to open the ***Bitmap Fill*** dialog box, which allows you to fill your objects with bitmaps.

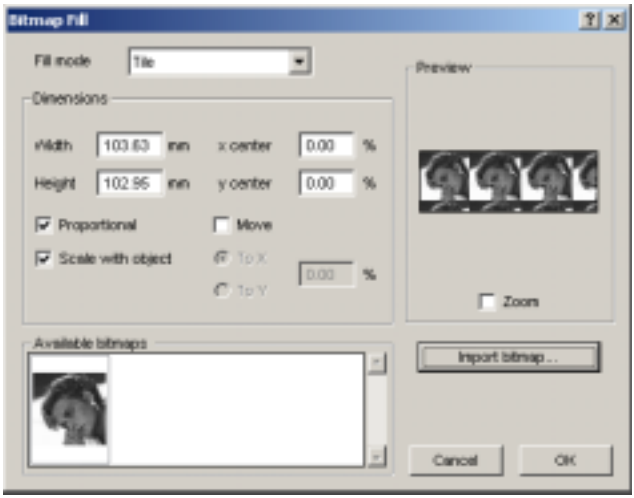


Fig. 39: The *Bitmap Fill* Dialog Box

Selecting a Bitmap Fill

First you must determine the bitmap to be used to fill the selected object. Three possibilities are available to you:

1. Scan in a New Bitmap Fill
Scan in the image to be used as a bitmap fill using the EuroVECTOR Twain interface (***Tools*** menu / ***Scan***).

Open the ***Bitmap Fill*** dialog box.

The selected bitmap will be displayed in the preview window and also appears in the box headed

Available Bitmaps.
Make your settings and click on ***OK*** to confirm.
If the result is not to your satisfaction, you have the possibility to "detach" the bitmap and restore the scanned in image to its original state.

To restore the original image, choose the menu item ***Detach Bitmap*** in the ***Edit*** menu.

2. Import New Bitmap Fill
To select a new bitmap as fill, click on ***Import Bitmap Fill***. A ***File Selection*** dialog box will appear, which allows you to look for and select the desired bitmap.
The selected bitmap will then be displayed in the preview window and also appears in the bar with the available bitmaps in the lower left of the dialog.

3. Add Used Bitmap Fill
If you wish to make use of a bitmap fill which has already been used, select the desired bitmap from the list of available bitmaps by simply clicking on it with the mouse.
To make bitmaps not displayed appear, you can use the scroll bar in the lower right part of the screen.

Choose the type of bitmap fill you want in the ***Fill Mode*** box. The possibilities are ***Tiling, Seamless Tiling***, ***Adapt*** and ***Object Size***.

Tiling

The ***Tiling*** command fills the object with tiles drawn next to each other horizontally and vertically from the selected bitmap fill.
The width and height of a single tile can be specified in the appropriate boxes in the measurements group.
Tick the ***Proportional*** box to ensure that, when either the height or width is modified, the other value is also adjusted proportionally to avoid the bitmap being distorted.

If you activate ***Scale with Object***, the dimensions of the tiles will be automatically adjusted in the case of a distortion.
Tiling normally starts in the upper left corner of the object. With the aid of the ***X Position*** and ***Y Position*** boxes you have the possibility of changing the starting point.

Enter a negative value between 0% and 100% to move the tile to the left or right.
If you enter a positive value between 0% and 100% the center of the first tile will be moved either to the right or downwards.

If you select ***Move,*** you can move the tiles within the rows. ***To X*** or ***To Y*** allows you to specify if you wish to move the tiles in a horizontal or vertical direction.

You can enter the size of the move in the box on the right as a percentage of either the tile width or height.

Seamless Tiling

Seamless Tiling is basically the same as ***Tiling***. The only difference is the way the tiles are represented.
With seamless tiling the squares are all drawn with exactly the same dimensions. This produces a more even picture especially with patterns.
The drawback of this method is that the position of the tiles can vary when the view is magnified.

Adapt

If you use the ***Adapt*** command the bitmap is only drawn once in the object. The preview window displays the exacts proportions of the bitmap and the object.

In the ***Width*** and ***Height*** boxes you can specify how large the bitmap fill is to be.
The bitmap position within the objects can be modified in two ways.

1. In the ***X Center*** and ***Y Center*** boxes you can determine how far the center of the bitmap is from the center of the object as a percentage.
2. You can also specify this position using the preview window. Click on the bitmap in the preview window and hold down the mouse button.
   You can then position the image by moving the mouse. When you release the mouse button, the image will remain in the selected position.

Object Size

This command adapts the bitmap exactly to the contours of the object. The width and height of the object are calculated so that the entire area of the object is filled.

2.2.7 The *Pencil Attributes* Tool

Fig. 40: The Pencil Attributes Toolbox

These tools provide objects with pencil attributes, create hairlines or delete pencil attributes.

Deleting Pencil Attributes

Fig. 41: The *Delete* Icon

Clicking on this icon deletes all pencil attributes.

Creating Hairlines

Fig. 42: The *Hairline* Icon

Clicking on this icon creates a hairline around selected objects. This hairline can be used for cutting the objects.

Note: *The thickness of this hairline is not variable and is always 0.1 mm (.0039 in).*

The Pencil Attributes Dialog Box

Fig. 43: The *Pencil Attributes* Icon

The ***Pencil Attributes*** dialog box can be used to create outlines of curves, combinations of objects or text strings.
Outline pencils can be used to draw object contours in the ***Full Surface*** or ***Preview*** mode.

Note: *The* ***Pencil Attributes*** *tool does not affect the representation of objects in the wireframe mode (F9). In this mode the contours of objects are drawn with a simple outline in the layer color.*

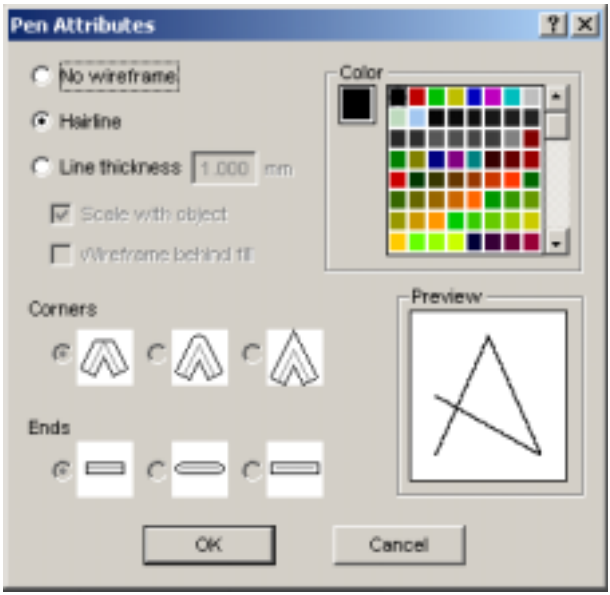


Fig. 44: The *Pencil Attributes* Dialog Box

If you select ***No Wireframe***, the contour of your object will not be emphasized.

If you choose the ***Full Surface*** or ***Preview*** mode, closed curves will be shown as surfaces without contour lines. Open curves will be shown as contours in the appropriate layer color, as in the ***Wireframe*** mode.

If you select ***Hairline,*** a thin line of uniform thickness will be drawn around your object. You can specify the color of the hairline in the ***Color*** box.

The color may be different from the layer color. It is thus possible to make a contrast between your objects and their fillings in the full surface mode as well.

Select ***Line Thickness*** in order to define the thickness of the hairline**.**

Here there are further settings available: ***Scale With Object*** will adjust the line thickness proportionally when your object is scaled or distorted. If you do not select this option, the thickness of the hairline remains unchanged.

You can select the ***Wireframe Behind Fill*** option to prevent the outline running into the fill. The contour will then be drawn prior to the fill so that only the part of the contour outside the fill is visible.
Furthermore, you have the possibility of defining the shape of the corners.
You can choose between cut-off, rounded and sharp corners. Icons show the shapes of the various corners, which are also displayed in the preview window.
Besides this, you can also determine the shape of the ends of open contours. They can be cut off, rounded or extended. For this, please see the appropriate displays.
The current pencil color is shown in the color box left of the palette and also in the preview window.
There are two ways of changing the pencil color:

1. To determine a new color for the pencil, double-click on the color box left of the palette. The following ***Color Selection*** dialog box will appear with the current of the pencil color settings:

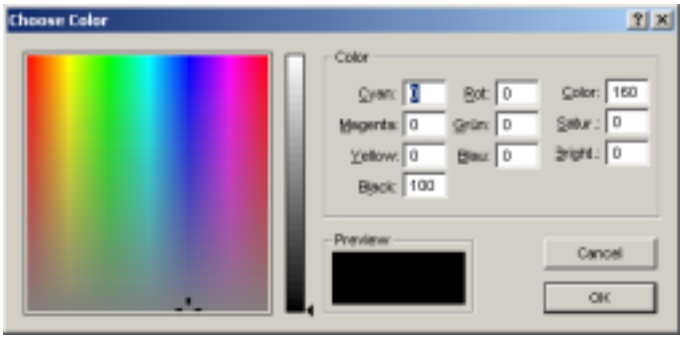


Fig. 45: The *Color Selection* Dialog Box

Once you have specified the pencil color, it will appear in the ***Pencil Attributes*** dialog box in the color field next to the color palette. The pencil color will also be shown in the preview window.

2. The palette offers you a choice of 256 predefined colors. You can select one of them by simple clicking with the mouse on the appropriate color box. You can use the scroll bar to the right of the color palette to make other colors visible. You can define a particular color as the pencil color by simply clicking on it with the mouse.
If you wish to modify the color, double-click on the appropriate color field. The ***Color Selection*** dialog box described above will appear so that you can make the modifications you desire.

2.2.8 The EuroVECTOR Color Layerbox

The color layerbox can be used to color objects, define different vinyl colors, select objects of specific colors and lock certain color lavers or make them invisible.

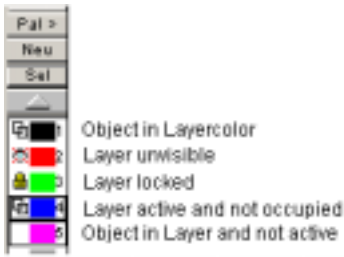


Fig. 46: The EuroVECTOR Color Layerbox

Layers 1 through 6 are predefined and cannot be changed. To make the color layerbox reappear either press CTRL+2 or select ***Show Layerbox*** in the ***Settings*** menu.

The layerbox can be moved at any time by clicking with the left mouse button on the gray bar above ***Pal >*** or on the small gray area underneath the last layer. The gray frame around the color layerbox becomes black and you can move the color layerbox to any position you wish on the EuroVECTOR desktop with the left mouse button held down.

If you click on the ***PAL*** button, a popup menu with the following items opens:

Layer Numbers

If you execute this command, all the layer numbers will be made invisible.

New

All color layers with a layer number higher than 6 will be deleted.You can use this command when you want to specify a new color palette individually.
You can choose layer colors by clicking once with the mouse cursor on the desired color and then on the ***OK*** button.

Load...

This command loads previously defined palettes.

Save

This command permits you to save a newly defined or modified default palette on your hard disk.

If this new or modified palette is saved as the default palette, this palette will be used ever time you start EuroVECTOR.

Save As...

This command permits you to give the palette a name.

Default

This command loads the palette supplied as the default for EuroVECTOR. It is a Mactac table of vinyl colors, which is defined as the default palette with the help of the range of colors.

Palette History

This tool makes it possible to load the last 4 color palettes without having to use the directory structure. The names of the last 4 color palettes worked with appear at the end of the color palette menu list. You can open the desired palette by clicking on it with the mouse cursor.

By clicking on the ***Sel*** icon you can simultaneously select all objects that were created in the selected color layer.

By clicking on the ***New*** icon and making appropriate selections in the ***Layer Setup*** dialog box, you can define new color layers.

Double-clicking on one of the layers/colors will assign the color to all previously selected objects.

A single click with the right mouse button on one of the color layers will open the ***Layer Setup*** dialog box.

You can also open this dialog box by using the shortcut L. Double-clicking with the left mouse button with the CTRL key held down provides the selected object with a wireframe in the color currently activated. When the ***Layer Setup*** dialog box is open, you can use the PAGE UP button to choose and install the next color upwards and the PAGE DOWN button for the next color downwards.
When the last color layer in the layerbox is active, a new layer can be added.

The *Layer Settings* Dialog Box

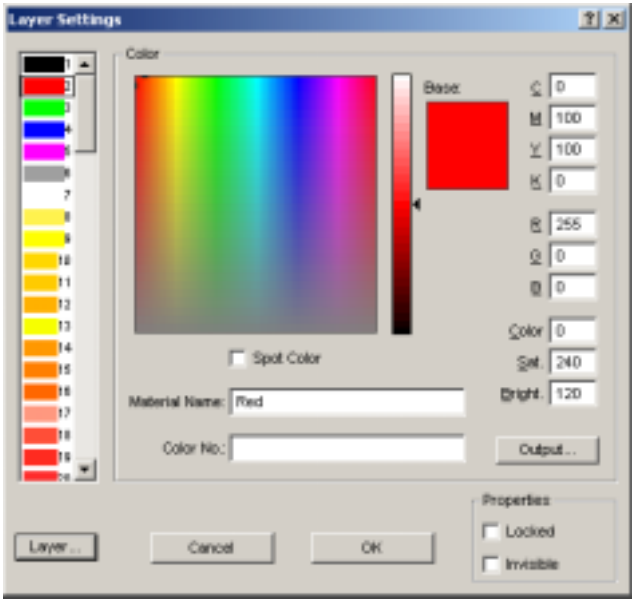


Fig. 47: The *Layer Settings* Dialog Box

In the ***Layer Settings*** dialog box there is a choice of 3 color models:

1. Cyan, Magenta, Yellow, Black
2. Red, Green, Blue
3. Color, Saturation, Brightness

Layer Attributes

Locked means that a particular color layer is no longer available for selection. A lock  in front of the layer color symbolizes this status.

Invisible makes selected objects disappear from the desktop. A crossed-out eye  in front of the color layer that has been defined as invisible symbolizes this status.

Note: All *attributes can be reversed at any time simply by using the right mouse button to click on the appropriate color layer, which activates the* ***Layer Setup*** *box in which you can make all necessary changes*

Layer Designationg

In the ***Material*** field you can, for instance, assign a specific type or manufacturer of vinyl to the color layer.

Under ***Color Number*** you may also enter the corresponding product number.

Note: *The advantage of using these fields is that you can assign a color layer to all the materials you carry in stock. The selections made during the design process will then be evident when the job goes to production. Palettes, i.e. specific sets of color layers, can be created and stored for each type of vinyl or other material.*

Shortcuts in Layer Editing

The following shortcuts are available for layer editing:

L opens the ***Layer Setup*** dialog box

Speed when scrolling in the color layer box:

 SHIFT	10 times
 CTRL	100 times
 SHIFT +CTRL	1000 times

Skipping in the Layerbox:

POS1	Skip to the first layer
ENDE	Skip to the last layer
PAGE up/down	Skip over 1/10 of the number of layers
Cursor up/down	Skip to next layer

Advantage of the Page up/down keys:
While the new layer is being chosen the ***Layer Settings*** *dialog box remains open and the appropriate numbers can be entered directly.*

CTRL+Double-click	Assigns a selected object an outline in the currently active color.

Move Single Color Layers

1. Position mouse cursor on desired layer
2. Press left mouse button and keep itheld down
3. Move the layer to the desired position
4. Press right mouse button once
5. The color layer is in the new position

2.2.9 The *Print* Command

Fig. 48: The *Print* Icon

The various functions of the EuroVECTOR ***Print*** dialog box are explained in detail in the following section.

Open the EuroVECTOR ***Print*** dialog box by selecting ***Print*** in the ***File*** menu, using the shortcut CTRL+P on the keyboard or clicking on the  icon in the toolbox.

The following window opens:

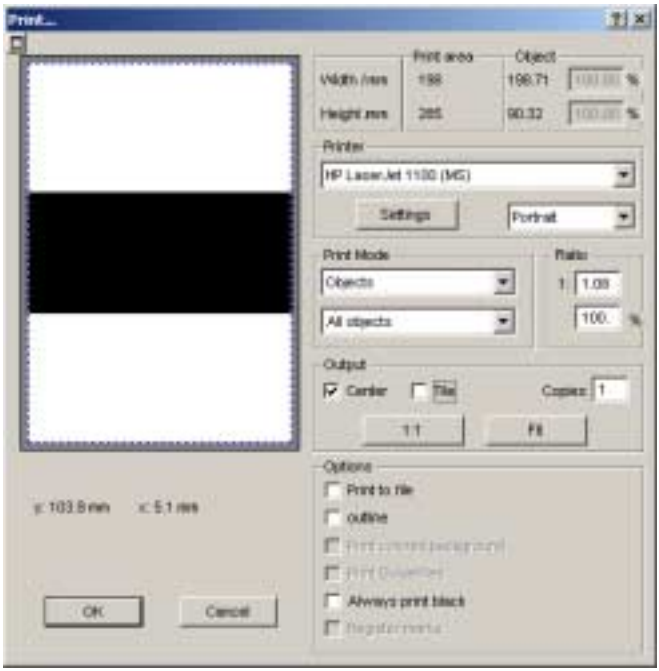


Fig. 49: The EuroVECTOR *Print* Dialog Box

In the lower right part of the dialog box you will find the ***Tiling*** option and the ***Adapt*** button.

The appearance of the ***Print*** dialog box changes depending on which button you have activated.

When the ***Print*** dialog box is called up, the ***Adapt*** button is automatically activated, because objects or graphics cannot be printed in formats exceeding the maximum output size of the printer being used.

The *Adapt* Command

The ***Adapt*** command lets you specify the printable area. The values for the printable area are shown in the ***Printing Area*** box located in the upper right part of the ***Print*** dialog box.

The Preview Window in the *Adapt* Mode

This window allows you to recheck your job before it is printed. The edges of the window are magnetic, that means that when an object nears the edge of the page it sticks to the edge of the window. The ***Snap to Edge*** command allows you to position your objects quickly in the corners or at the edges of pages.

Tip: *If you want to turn off the* ***Snap to Edge*** *command, hold down the* ***SHIFT*** *key while positioning your objects.*

The coordinates appearing below the preview window show the position of the upper left corner of the first object in the working area.

Mouse Functions in the Preview Window (*Adapt* Mode)

Clicking once with the ***right*** mouse button enlarges the preview window to its ***maximal*** size.

The size of the display depends on the selected screen resolution. (800*600, 1024*768,...).
If you click again with the ***right*** mouse button the original state is restored.

If you hold down the ***left*** mouse button, a dotted black frame appears around the objects to be printed.
This frame always encompasses all objects located on the working area and corresponds to the printing area.

Printing Area and Object

The items ***Printing Area*** and ***Object*** are located in the upper right area of the ***Print*** dialog box.

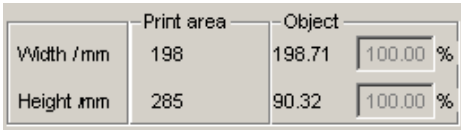


Fig. 50: Printing Area and Object

Printing Area

This box shows the height and width of the specified printing area.

Object

This box displays the object(s) to be printed with its/their heights and widths.

Note: *The boxes for the percentual enlargement of objects are not active in the* ***Adapt*** *mode.*

Beneath the ***Object*** field, on the right side of the ***Print*** dialog box, you will see the ***Printer*** field.

Printer

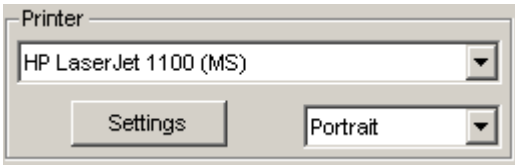


Fig. 51: Choice of Printerl

If you open the combobox in the upper part of the dialog box, you will obtain a list of all the printers installed on your system. Select the printer you wish to use.
To make further settings for the printout, click on the ***Setup*** button.
The dialog box which appears is the same as the menu item ***Properties*** in the ***Printer File*** menu.

Note: *The* ***Print*** *dialog box opened by clicking the* ***Setup*** *button depends on the printer driver loaded and for this reason is not explained in greater detail here.*
You can specify the ***Page Format*** (upright/oblong) in the field to the right of the ***Setup*** button.

What is to be printed ?

In the field headed ***Print Mode*** there are two comboboxes which you can use to determine what is to be printed.
In the first box you can choose between ***Objects*** and ***Objects with Worksheet***.

Objects

All objects in the working area will be printed.

Objects with Worksheet

All objects and also the worksheet (black frame) will be printed. The company name, the dimensions of the working area and the proportional size of the printout will also be printed automatically below the black frame.

Job Info

If you perform this command, the information entered in the Job Info will be printed and also a reduced version of all objects in the lower right part of the sheet.

The following settings are available in the second box: ***All Objects***, ***Selected Objects***, ***Print Color Separations*** (print in layer sequence), ***Print Single Layers*** (colors).

All Objects

All objects in the working area will be printed.

Selected Objects

Only selected objects on the working area will be printed.

Printing Color-Separations

All objects of one color will be printed in the sequence shown. The color bar (layer order) in the second box contains all the colors (layers) which have been used in the working area.
The colors will later be printed in this sequence. The darkest color is always printed first.

Print Single Colors (Layers)

The colors listed in the second box are those which have been used for the objects in the working area. If, for example, there is only a black and a red object in the working area, there will be a choice of only two color bars (layers) available.

Proportion

You can enter the proportion in which the printout should be made in one of two boxes, either as a figure or a percentage. The boxes are linked, i.e. if you enter a figure, the equivalent percentage will automatically appear in the box and vice versa.

Examples of proportional entries in figures with the corresponding percentages:

Proportion	1 : 1	100.00 %
Proportion	1 : 2	50.00 %
Proportion	1 : 3	33.33 %
Proportion	1 : 4	25.00 %

Center

If this option is activated, all objects on the working area will be centered.

Tiling

If this option is selected, the ***Print*** dialog box appears in the ***Tiling*** mode.

Number of Copies

In this box you can specify the number (max. 9999) of copies to be printed.
The ***Adjust*** and ***Tiling*** buttons permit you to switch to and fro between these two modes.

1:1

When this button is activated, all objects in your working area will be displayed in their original size.

Adjust

When this button is activated, the objects in the working area are reduced so that they can be shown in their entirety in the preview window.

Print Colored Worksheet

If you choose this option, your worksheet will be printed with the specified background color.

Print Guidelines

If the job contains guidelines, these will also be printed.

Always Print Black

This option will automatically be activated when ***All Objects*** is selected in the first box and ***Print Color Separations*** (in layer sequence) or ***Print Single Colors*** (single layers) is selected in the second box.
If you want to print the objects in the working area in color, the command must be deactivated.

Register/Crop Marks

This option will automatically be activated when ***All Objects*** is selected in the first box and ***Print Color Separations*** (in layer sequence) or ***Print Single Colors*** (single layers) is selected in the second box
If you do not want the register/crop marks to be printed, the ***Register/Crop Marks*** button must be deactivated beforehand.
The following table shows all possible combinations for comboboxes 1 and 2 and the possible choice of settings in the ***Adapt*** mode.

Possible combinations for Ccomboboxes 1 and 2 in the *Adjust* - Mode:

Combobox 1	Combobox 2	settings: X (active), — (not active)							
		number of copies	adjust/ tile	ratio	center output	print guidelines	print colored background	always print Mask	setting-marks
Objects	all objects	X	X	X	X	—	—	—	—
	selected objects	X	X	X	X	—	—	—	—
	color separated printing	X	X	X	X	—	—	X	X
	print single layers layers	X	X	X	X	—	—	X	X
objects with worksheet	all objects	X	—	X	X	X	X	—	—
	selected objects	X	—	X	X	X	X	—	—
Job - Info	all objects	X	—	—	—	—	—	—	—

Fig. 52: Possible Settings in the *Adapt* Mode

Buttons in the *Print* Dialog Box

The *OK* Button

If you click on this button, the settings made will be transmitted to the printer.

The *Cancel* Button

You can use this button to exit the ***Print*** dialog box.

The Tiling Mode

If you switch from the ***Adjust*** mode to the ***Tiling*** mode, the following preview window appears:

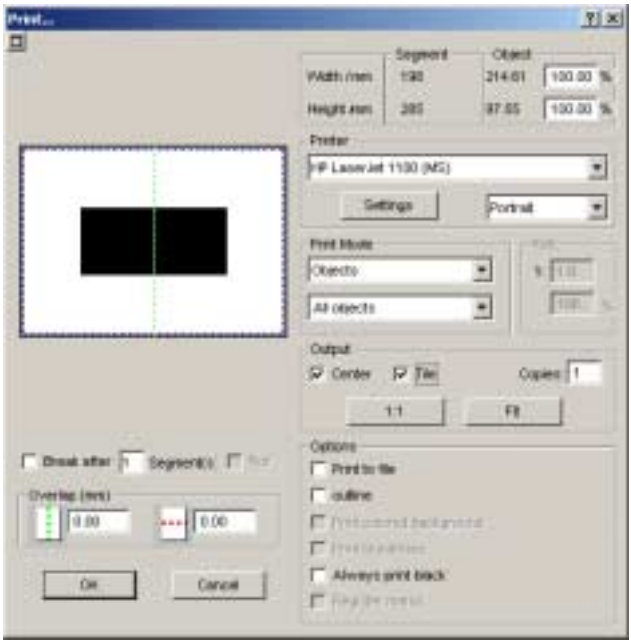


Fig. 53: The Preview Window in the *Tiling* Mode

In the ***Tiling*** mode all tiles are displayed.

A tile is the part of an object which can be printed or cut on the plotter being addressed.

Break After indicates after which tile (enter the number of the tile) the plot should be stopped. You can enter the desired horizontal/vertical intersection of the objects to be printed in the boxes under ***Overlap***.

If you print using ***Roll,*** complete stretches can be printed without any spaces between the single tiles.
You can only stop the printing of a complete stretch and not of the individual tiles.

Entering an intersection in the printing direction does not have any effect on this operation, as can also be seen from the display of the tile size.

Note: *After tiling, the dialog box will not automatically be closed, as it is useful to be able to compare the preview directly with plot. This also allows you reprint a particular tile immediately.*

Mouse Commands in the Preview Window (*Tiling* Mode)

You can enlarge the tiling view to the size of the screen by clicking once with the right mouse button on the tile preview window. A second click with the right mouse button will restore the original state.
Double-clicking with the left mouse button on a tile deactivates the tile, i.e. it is not printed.
If you double-click with the left mouse button while holding down the CTRL key, the tiling will be inverted, i.e. the tiles which were previously deactivated will be activated (printed) and the tiles which were activated will be deactivated (not printed).

The objects can be moved within the preview window using the mouse. The ***Snap to Edge*** function activates you to position your objects easily at the edge of the window. You can turn off the ***Snap to Edge*** function by pressing the SHIFT key.

Example of Printing in the Tiling Mode

In the following example, the various functions, shortcuts, etc. in the ***Tiling*** mode are explained again in detail.

The ***Tiling*** mode offers you the possibility of printing in any size, i.e. any artwork, regardless of its size, can be printed out on the printer connected to your system.
To print your artwork, you do ***not*** require a printer for printing A2, A1, A0 or even large formats.

How is this done?

The artwork to be printed is divided into as many sections (tiles) as necessary to be able to print it on the printer connected to your system.
The number of tiles necessary depends on the size of the artwork to be printed and the output format (A3, A2, etc.) which has been specified.
You can determine the output format using the ***Setup*** button in the EuroVECTOR ***Print*** dialog box. The format depends on the printer which is connected to your system.

Load any artwork you like to EuroVECTOR and open the ***Print*** dialog box, either by clicking ***Print*** in the ***File*** menu, by pressing CTRL+P on the keyboard or by using the button in the toolbox.

The EuroVECTOR ***Print*** dialog box will be opened in the ***Adapt*** mode. Activate the **Tiling** mode by clicking the appropriate button.

The ***Print*** dialog box appears as follows:

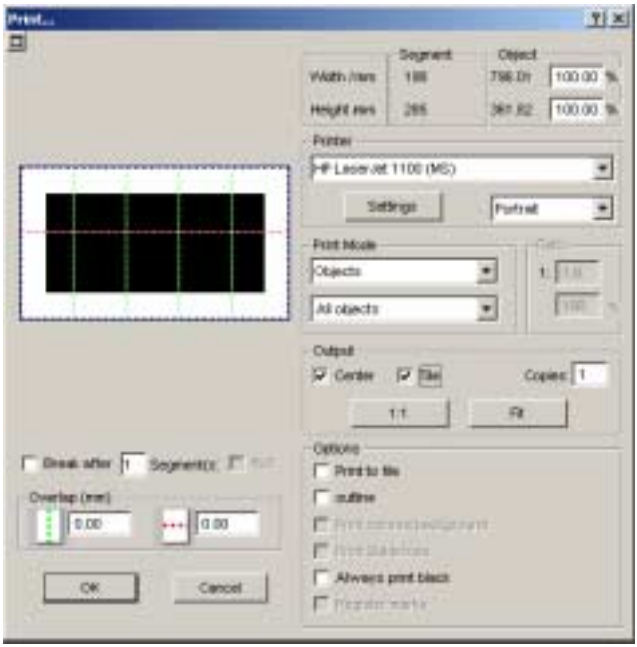


Fig. 54: The *Print* Dialog Box in the *Tiling* Mode

In the upper right corner of the dialog box you will see two fields, ***Tiling*** and ***Object***. The ***Tiling*** field corresponds to the ***Printing Area*** box in the ***Adapt*** mode. The other fields in the right half of the ***Print*** dialog box behave in the same manner as in the ***Adapt*** mode.

In Fig. 55 you can see the preview window in the ***Tiling*** mode.

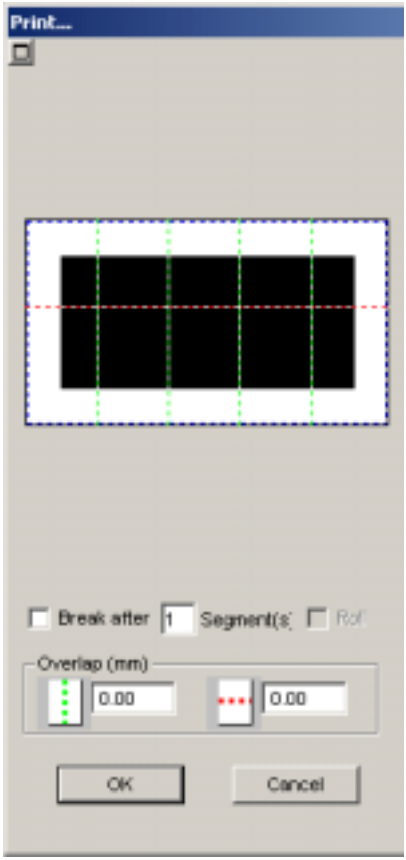


Fig. 55: The Preview Window in the *Tiling* Mode

The preview window in the ***Tiling*** mode shows all the tiles which are required to print out the entire artwork.
Eight pages, for instance, are required to print out the artwork in the example.
A change in output format always necessitates an adjustment in the number of tiles.
Beneath the preview window you will find the fields ***Break After***, ***Tiling*** and ***Roll***.

Vertical and Horizontal Overlap

The number of tiles increases depending on the number of vertical or horizontal overlaps which you have specified. The following example illustrates this:

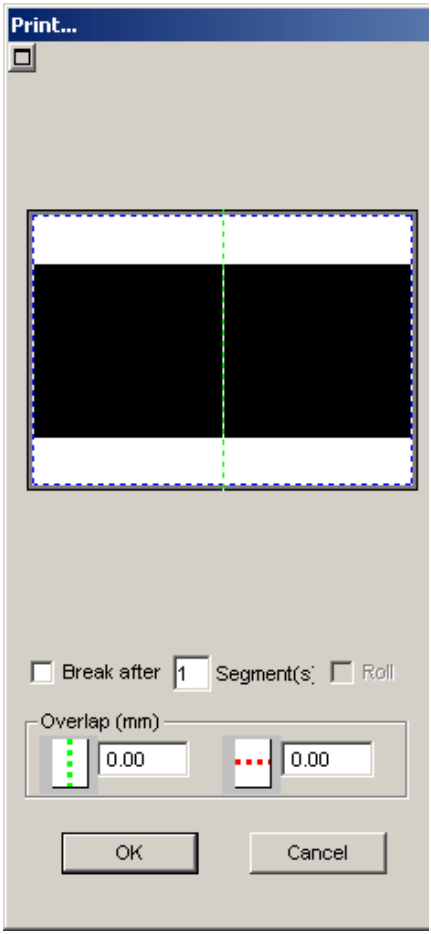


Fig. 56: Two Tiles Without Overlap

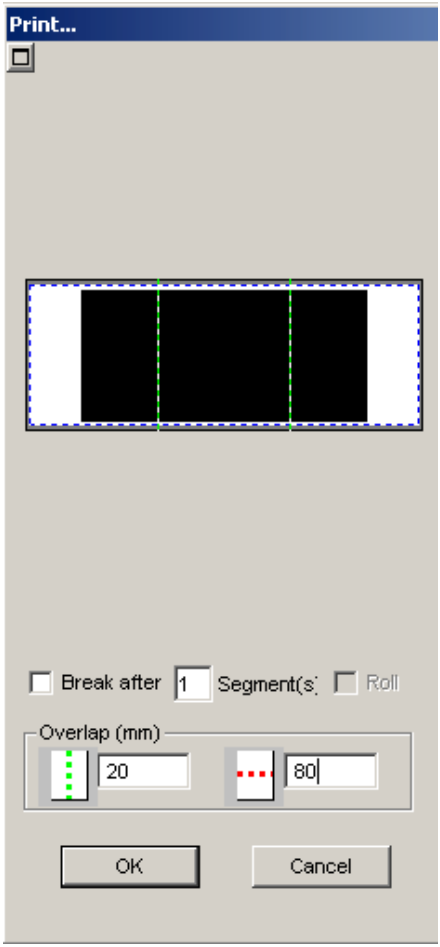


Fig. 57: 3 Tiles With Overlap

Fig. 57 shows that the number of tiles increases when you use an overlap.

Activated and Deactivated Tiles

An ***active*** tile means a tile which is ***not*** marked with an ***X,*** whereas deactivated tiles are always marked with an ***X***.

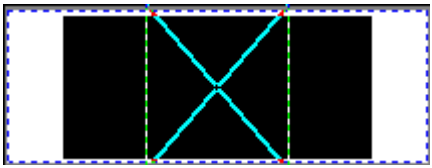


Fig. 58: Deactivated Tile

Tiles can be deactivated or activated by double-clicking on them with the left mouse button, i.e. a tile is deactivated with a double click. A further double click will reactivate it.

You can see from Fig. 58 that tile number 2 is marked with an ***X.*** This tile has been deactivated and will not be printed.
In the ***Tiling*** mode you have a further possibility besides activating or deactivating single tiles.

If you hold down the CTRL key while double-clicking on the desired tile with the left mouse button, all tiles, except the one On which the mouse cursor is positioned, will be deactivated.

Fig. 59 and Fig. 60 illustrate this.

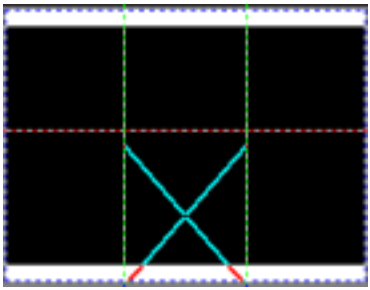


Fig. 59: Six Tiles Active (Mouse Cursor is on Tile 4)

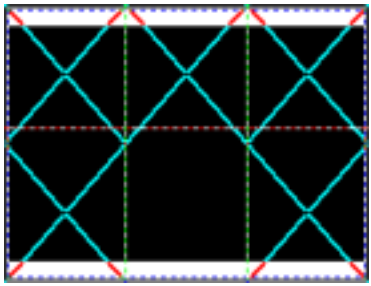


Fig. 60: Tiles 1, 2, 3, 5, & 6 Deactivated, Tile 4 Activated

Advantage **of deactivating tiles:**

When your objects are arranged, tiles without objects (empty tiles) may be created, which would result in a blank page being printed.

Other Important Functions

Important commands which need to be accessed quickly can be added as icons in the area near the ***Object Attributes*** toolbar.

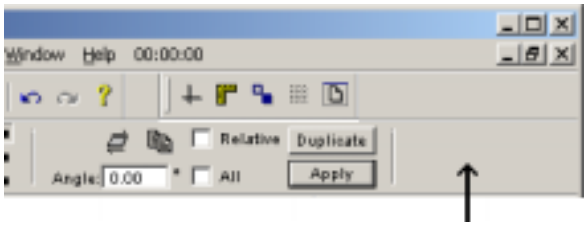


Fig. 61: Area for Adding Important *Function* Icons

If you position the mouse cursor in this area and click once with the right mouse button the following dialog box opens:

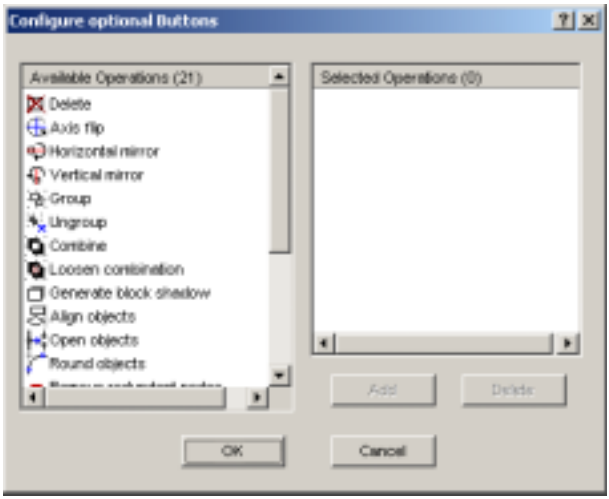


Fig. 62: Dialog Box for Adding Other *Function* Icons

The ***Available Operations*** are located on the left. The ***Selected Operations*** are shown on the right. If you are in the left part of the dialog box and an operation is active (blue background), you can add this operation. If you are in the right part of the dialog box and an operation is active (blue background) you can delete it.

2.2.10 The *Align* Tool

Fig. 63: The *Align* Icon

This command aligns two or more selected objects to each other or to the working area.

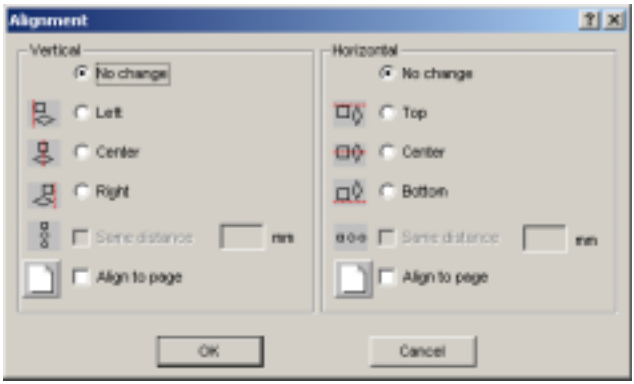


Fig. 64: The *Align* Dialog Box

Objects can be aligned either horizontally or vertically. It is also possible to center the objects or to align selected objects with an equal distance between them.

2.2.11 The *Rotate Axis* Command

Fig. 65: The *Rotate Axis* Icon

This command is used to rotate objects by 90°.
You need this option regularly if you want to adjust your objects quickly to the running direction of the vinyl without performing the rotate command.

Note: *The* A *key also performs this operation*

2.2.12 The *Contour Line...* Tool

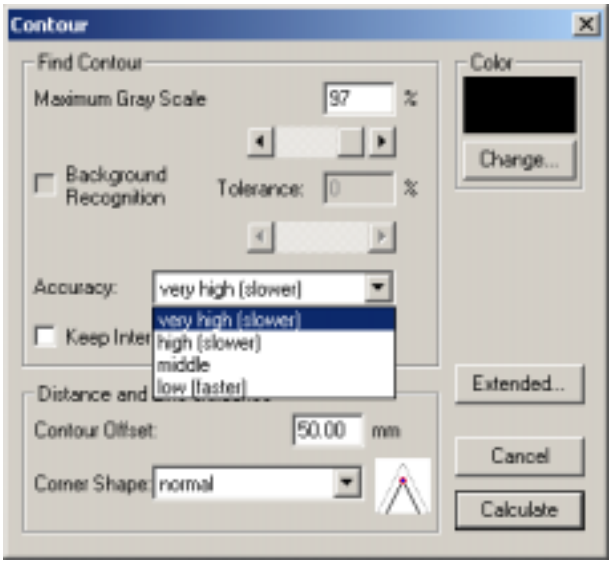


Fig. 66: The *Contour Line* Dialog Box

This command provides a number of selected objects with an outline.
Unlike the ***Outline*** command, this tool can also be used to provide bitmaps with outlines. Instead of individual objects being outlined, if possible an outline is created to encompass all the selected objects. Therefore the function is particularly useful for creating cutting lines for stickers. The objects for the sticker can be put together as you wish.
The outline is then created at whatever distance you wish from the objects. It can later be used for cutting out the printed sticker.

First select the objects you wish to frame. Then click on ***Contour Line...*** in the ***Tools*** menu.

The following dialog box appears where you can make the settings:

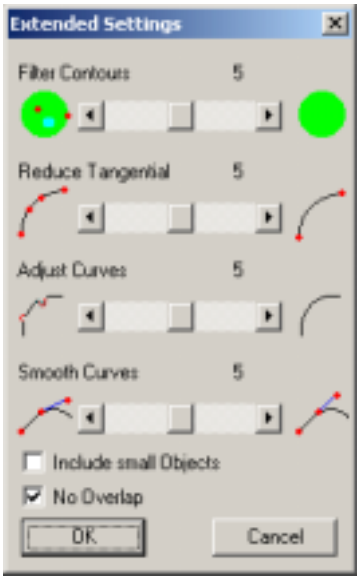


Fig. 67: Extended Settings

The fields in the ***Create Contour*** part of the dialog box allow you to influence the calculation of the contour line. In principle, any objects which are not white are included in the contour calculation.
Therefore the background of the artwork to be outlined should ideally be white. Bitmaps, in particular, often contain light-gray patches which may arise during scanning.
With the aid of the field ***Maximal Gray Value*** you can determine that gray patches above the specified intensity should not be framed.

You can enter values between 50% and 99% or set them with the filter. 50% represents a relatively dark gray and 99% is almost white.
You can choose between three options in the ***Accuracy*** box. Low accuracy works the most quickly. If you are not satisfied with the result with the low setting, choose the middle or high setting. In the latter cases it will take longer to calculate the contour line.

Note: *If you only select one bitmap, the* ***Accuracy*** *box cannot be activated.*

If you check the ***Retain Inner Parts*** box, any inner parts which may be created will not be deleted. This gives you the possibility to cut out parts of the graph by covering it with light-colored "plasters".

This is illustrated below:

Fig. 68: Retain Inner Parts

On the left you can see the two objects in their original state. A small white circle is superimposed on the black circle. On the right the circle is displayed with the outline which has been created. As the ***Retain Interior Parts*** field was activated, the inner circle was also retained when the outline was created. If this field had not been activated, only the exterior outline would have been created.

Note: *The default is that the* ***Retain Inner Parts*** *command is not active.*

The lower part of the ***Contour Line*** dialog box, ***Offset and Line Drawing*** allows you to determine the appearance of the contour lines.

With ***Offset*** you can specify the distance of the contour line from the image. If you enter the value "0", a contour line will be created directly adjoining the edge of the selected objects. If you enter a value smaller than 0 the contour line intrudes on the objects to be outlined.

In the ***Corner Shape*** field you can determine the appearance of the corners of the contour line.

If you choose the ***Normal*** option, the mathematically exact point will be calculated on the contour. This means that the contour line can be considerably lengthened at pointed corners, which often leads to unsightly results.

In such cases you can achieve more satisfactory results by choosing the ***Cut Off*** and ***Round*** options.

The ***Cut Off*** option shortens the contour by the specified amount and cuts off the corner with a straight line.

The ***Round*** option changes the corner into a rounded curve. If you activate the ***Enhanced...*** button, an additional dialog will appear in which you can make the exact settings for the design of the corner.

Note*: The default settings in the* ***Enhanced Settings*** *dialog box should only be altered in exceptional cases!*

2.2.13 Scanning and Vectorizing

Fig. 69: The *Vectorizing* Button

With these two powerful EuroVECTOR functions, you can convert scanned images (bitmaps) into vectorized contours that can be cut by your plotter.

The optics of the scanner register individual points or pixels in the image. There are two ways of transferring this data to EuroVECTOR.

The simplest way is through the TWAIN interface. TWAIN is a software product used for image data transfer between different programs. It is usually supplied along with your scanner.

If you do not have access to TWAIN, the only other way to import the scanned data is through standard EuroVECTOR import procedures, e.g. using BMP, PCX or TIF files.

When there is a bitmap in the EuroVECTOR working area and it is selected, the ***Vectorize*** command is activated and the following dialog box appears:

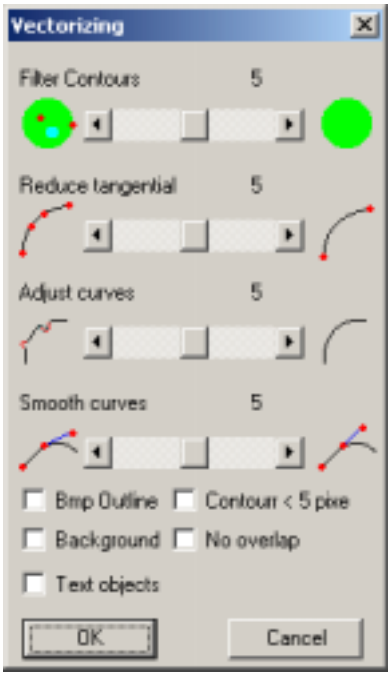


Fig. 70: The *Vectorize* Dialog Box

To optimize the vectorizing process, four different types of filters are available:

Filter 1:
Filter Contours reduces major noise (garbage) by ignoring contours consisting of less than five pixels.

Filter 2:
Reduce Tangential Points reduces the number of points or nodes on a curve. The higher the degree of reduction, i.e. the fewer the nodes that are retained, the further the scanned curves will deviate from the original. On the other hand, fewer nodes means less clean-up. Therefore, a moderate amount of reduction generally constitutes a workable compromise.

Filter 3:
Adjust Curves considers the overall direction of straight lines and curves and eliminates stray horizontal and vertical lines that appear to have no effect on them. Thus, points or nodes within the selected tolerances are ignored during the vectorizing process.

Filter 4:
Smooth Curves aligns the tangents of curve points. The higher the degree of adjustment, the more the curves are smoothed. Smooth curves with perfectly aligned tangents have the advantage of producing very clean cuts.
However, excessive smoothing can once again cause too much deviation from the original. Therefore, a moderate value is preferable.

With the ***BMP Outline*** option in the vectorizing dialog box you can choose to have the original bitmap contour reproduced as outline, i.e. not filled. The BMP outline will appear as a somewhat jagged line in your working area, along with the vectorized contour. A gray color layer added at the end of the color layer list is automatically assigned to this BMP outline. If you wish to assign a different color, select the gray layer (R 128, G 128, B 128) and activate the ***Sel*** icon in the color layer box. Double-click on the color layer of your choice to assign it to the BMP outline. The BMP outline facilitates clean-up of the vectorized contour considerably without affecting its final quality in any way.

If you check the ***Contours < 5 Pixel*** option, closed contours will be created for objects consisting of fewer than 5 pixels.

With the ***Background*** option you can also vectorize objects which are of the same color as the background of your image. The ***Without Intersection*** option allows you to eliminate automatically any intersections which may appear within the vectorized objects.

The ***Text strings*** option makes it possible to achieve better vectorizing results.

Working with Color Bitmaps

The functions described above apply to the vectorization of both black and white and color bitmaps.

When scanning bitmaps with a color depth of 24 bits (approximately 16 million colors), you must reduce the number of colors to 16, prior to vectorization.
Since each color will have to be assigned a layer and corresponding vinyl color, only relatively limited color bitmaps can be processed effectively.

It is only possible to convert bitmap colors to vinyl colors when the number of colors is reduced.

The following ***Color Assignment*** dialog box is used to convert bitmap colors to vinyl colors. It is not active the first time you start EuroVECTOR. If you wish it to be opened before the ***Vectorize*** dialog box, you must check the ***With Color Assignment*** command in the ***Tools*** menu.

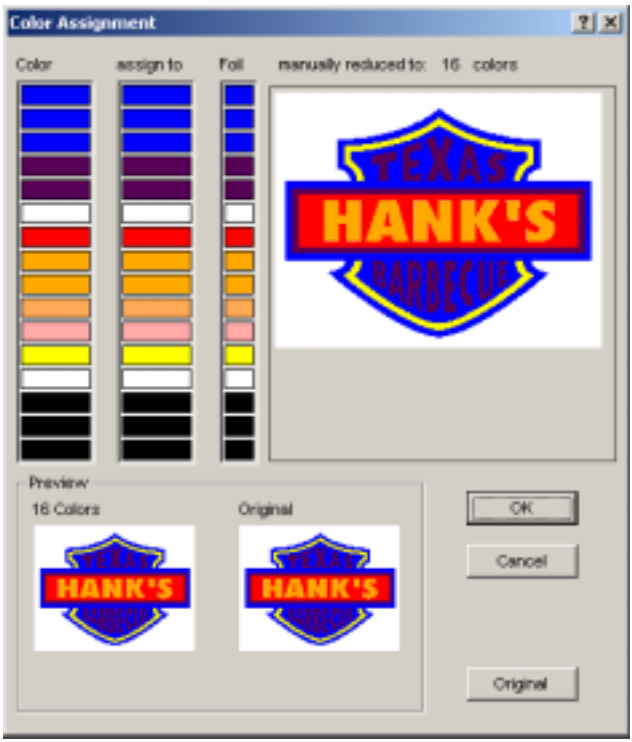


Fig. 71: Color-Assign Bitmap Colors to Vinyl Colors

In the preview window titled ***Original,*** the scanned 24-bit color bitmap is displayed.
In the preview window titled ***16 colors*** you can see the limited color bitmap. Being able to compare both images will help you decide which one to use for vectorizing.

Note: *Clicking on* ***Cancel*** *selects the original rather than the reduced bitmap for vectorizing.*

The larger window titled ***Manually Reduced to***: displays the image in equivalent vinyl colors.

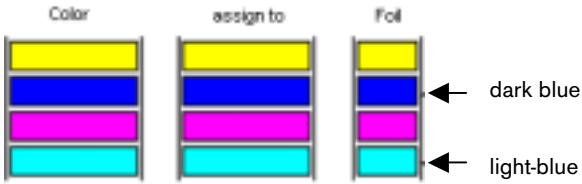
This gives you a chance to preview the vectorized image the way it will look once it is cut out of vinyl.
The column of colors under the heading ***Color*** is used to combine similar colors or hues.
Select a color by clicking on it once; holding down the SHIFT key will allow you to select additional colors.
Deactivate colors by simply clicking on them once again.

The ***Assignment*** column shows the vinyl colors representing combined original colors and hues.

What is color assignment?

The figure below shows a bitmap with 16 colors/vinyl colors.
But in practice nobody will want to mount 16 vinyl colors.
Therefore similar colors are combined, thus reducing the number of colors/vinyl colors.

Example:



In the figure above the shades of blue are to be combined. To do this, select the dark blue and light blue boxes in the column entitled ***Color*** by clicking with the left mouse button.

Note: *You can select further colors with the left mouse button. You can unselect the selected colors with the right mouse button. Selected area are shown with a black frame.*

Now select the shade of blue for your vinyl in the column entitled ***Assign To*** by clicking on the left mouse button.

You will see that the light blue bar in the colum entitled ***Vinyl*** has changed to dark blue.

You proceed in exactly the same way with the other shades of color which you would like to merge.

The dialog box for making the vectorizing settings now opens. Confirm the settings made by clicking on OK.

Note: *When the* ***With Color Assignment*** *command is turned off, the colors can be reduced later via the color layer box.*
Ist der Menüpunkt ***Mit Farbzuordnung***

Important Information on Scanning

1. Optimal scanning results are achieved by using the highest possible *optical resolution* on your scanner.
   Most flat-bed scanners offer a resolution of 300 to 600 dpi. Please consult your scanner manual for exact specifications.

2. Use the highest-quality original possible; if necessary, make a reduced (smaller) photocopy to give you better edge quality and, ultimately, better vectorization.

3. The determining factor in the time required for vectorization is the amount of data, which is proportional to the size of the bitmap. Therefore, a small original will work much better.

4. Please make sure you place the original in your scanner at a ***right angle***. Even small deviations can distort the image and reduce the quality of the scan, thus increasing the amount of clean-up or editing work.

Note*: You can make small corrections in the rotation angle with the rotation feature in EuroVECTOR. The smallest possible unit for rotation is 0.1mm (.0039 in). Another option is to use the measuring tool. Measure the rotation angle and change its value to 0 (zero) in order to reposition the image horizontally.*

To cut bitmaps out of vinyl, it is not necessary for you to have color scanning capabilities. Black-and-white scans produce equally good results and are much easier to work with because they contain far fewer data.

2.1.14 The EuroVECTOR *Objects Attributes* Toolbar

The *Objects Attributes* toolbar can be turned on and off via the *Menu* window/ *Object Attributes* or simply pressing G on the keyboard.

Fig. 72: EuroVECTOR Objects Attributes Toolbar

In this dialog box you can change the parameters for the ***size*** or ***position*** and the ***skew*** or ***rotation*** of objects. It also allows you to enter the number of copies for ***duplicating*** objects in x/y direction and the x/y offsets.

Thus, the ***Object Attributes*** toolbar combines some of the most frequently used functions in one window, which considerably facilitates editing. In the X and Y boxes you can enter relative and absolute X and Y coordinates.

Absolute and Relative Position

The absolute position means the actual position of the X and Y coordinates of the reference point of an object.

Reference Point

When the object is selected, the reference points are represented as black squares. These squares correspond to the circles in the ***Object Attributes*** toolbar.

Note: *The center of the selected object is not marked as a point of reference.*

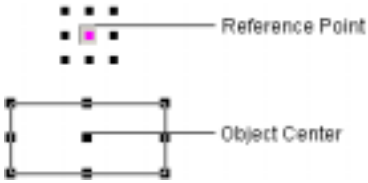


Fig. 73: Object Center and Reference Point

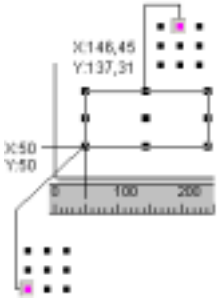


Fig. 74: Example of Relative Coordinates

If the ***Relative Position*** option is chosen, the circles are shown, which means that they are no longer active. You should set the required point of reference for repositioning the circles before activating them.

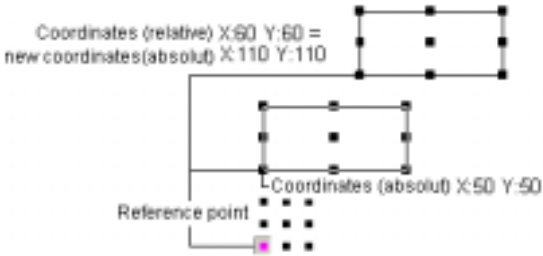


Fig. 75: Example of Absolute Coordinates

In the example X and Y values of 50mm (1.96 ins) were entered for the absolute coordinates.

An offset of 60mm (2.36 ins) was chosen for X and Y as relative coordinates to this point, i.e. the point of reference was moved by 60mm (2.36 ins) horizontally and vertically.
This gives a new absolute value of 110mm (4.33 ins) for the X and Y coordinates.
In the Object Height and Object Width boxes you can enter the height and width of one or all selected objects as figures or percentages.

If you perform the ***All Objects*** command, the values entered affect all objects.

The two boxes are linked together, i.e. if the width is modified, the height will also be modified by the value entered.

If the length / width link is deactivated the ***Height*** and ***Width*** boxes can be modified independently of each other.

Fig. 76: Length/Width Link Deactivated

The *Skew/Rotate* Tool in the *Object Attributes* Toolbar

Fig. 77: The *Skew/Rotate* Tool

A click with the left mouse button on the ***Skew*** button opens the following dialog box:

Fig. 78: The *Skew* Dialog Box

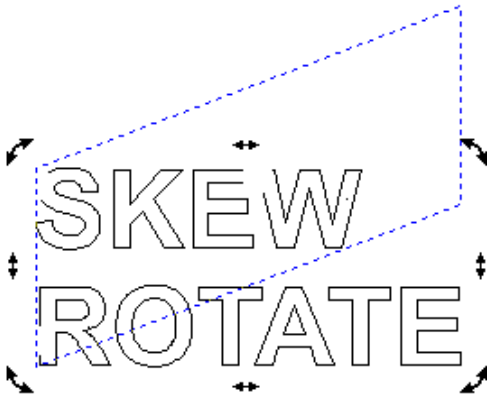


Fig. 79: Objects in the *Skew/Rotate* Mode

You can rotate your object by moving your mouse cursor to the round arrows at the corners of the object and keeping it held down.
When the object has been rotated, its position will be shown by a dotted blue line. You can see the exact amount of the rotation in the status bar on the bottom left of the screen near the mouse coordinates.

A positive value rotates objects clockwise, a negative value counterclockwise.

If you click on one the straight double arrows while holding down the left mouse button, your object is skewed to the left and right and upwards and downwards. The sides you click on will be moved, whereas the ones opposite remain the same.

If you execute the ***Relative Angle*** command, the relative angle will be shown when the object is rotated or skewed.

The *Multi-Copy* Tool in the *Object Attributes* Toolbar

Fig. 80: The *Multi-Copy* Icon

A click with the left mouse button on the ***Multi-Copy*** icon opens the following dialog box:

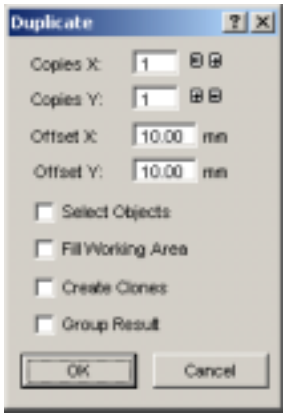


Fig. 81: The *Duplicate* Dialog Box

Number X

You can enter the number of duplicates in a horizontal direction in this box. The arrows to the right of the box indicate the direction (right/left) in which the objects are to duplicated.

Number Y

You can enter the number of duplicates in a vertical direction in this box. The arrows to the right of the box indicate the direction (upward/downward) in which the objects are to be duplicated.

X Offset

You can enter the distance you wish to have between the duplicates in a horizontal direction in this box.

Y Offset
You can enter the distance you wish to have between the duplicates in a vertical direction in this box.

If you execute the ***Select Objects*** command, all your objects will be automatically selected after they have been duplicated.

If you execute the ***Fill Worksheet*** command, the specified working area will be automatically filled with the previously selected objects.

The ***Create Clone*** tool can be used to save storage space, i.e. when an object is cloned, only the data of the original is saved but not the data of the clone.
If the original object is modified, i.e. provided with pencil attributes such as fountain fills, the changes will automatically apply to all clones of the original object.

Note: *Artwork files cannot be cloned.*

Example:
A customer has given you an order to produce 100 of the same sticker, with 5 stickers twice the size of the other 90.
You load the vector template for the job to select the template and click on the  (Multi-Copy) button.
Execute the ***Create Clone*** command In the ***Duplicate*** dialog box and enter the desired number of clones and the horizontal and vertical offsets.

The clones will be created when you click on the ***OK*** button.
Clones are represented with dotted blue lines in EuroVECTOR.
Now select the five clones which are to be cut twice the size and drag them to the desired size. Once you have modified the clones, the objects will appear in their original color again.

Note: *If you modify the size of a clone, it will become an original again.*

If you execute the ***Group Result*** command, the objects filling the worksheet or the clones created will be grouped according to the sequence in which they were created.

2.2 Importing

With this command you can load graphics which are in a format other than the EuroVECTOR job format to your working area.

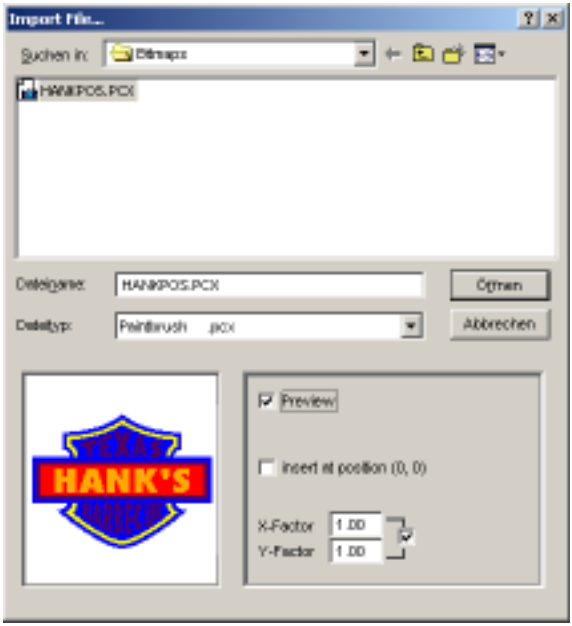


Fig. 82: The *Import* Dialog Box with Preview Window

In the ***Search In*** box you can enter the path to be searched. The first time the dialog box opens the button is not active. It does not become active until the path to be searched is changed. When you click of this button, the program goes to the next higher path.

Clicking the button allows you to go to the next lower path.

If you click on the button, a new directory is created in the currently active one.

By clicking on the button you can specify with what information and how files are to be displayed.

The following import filters are available to you in EuroVECTOR:

CMX Import

You can import CMX files to EuroVECTOR with the Windows Explorer or via Windows 95 using drag & drop.

Drag & drop is also possible with EPS and bitmap files.

Note: *Before you can import files to EuroVECTOR using drag & drop, you have to enter the import paths under* ***Import*** *in the* ***Basic Settings*** *menu and also select the required filter in* ***Preferred Import Filter****.*

Procedure:
For drag & drop arrange the program windows (e.g. CorelDRAW and EuroVECTOR) on your screen so that they are either adjacent to or below one another.
If you click on the task bar with the right mouse button a menu is opened showing you various arrangements of windows.
Select the object(s) you wish to import to EuroVECTOR and drag it (them) to the EuroVECTOR desktop.

It is also possible to import CMX files using the EuroVECTOR ***Import*** Dialog box.

Objects can also be imported from CorelDRAW 6, 7, 8, 9, 10 & 11 to EuroVECTOR via the clipboard.
You can select single objects from CorelDRAW and import them to EuroVECTOR using drag & drop.

Note: *If you wish to import objects containing text strings, make sure that you convert the text strings to curves before importing them. The objects will not be imported if you fail to do this.*

2.3 Exporting

This command allows you to use jobs created in EuroVECTOR in other programs. In order to do this, you must first save them in a format other the EuroVECTOR job format. The jobs will be exported with the highest quality and the lowest compression possible.

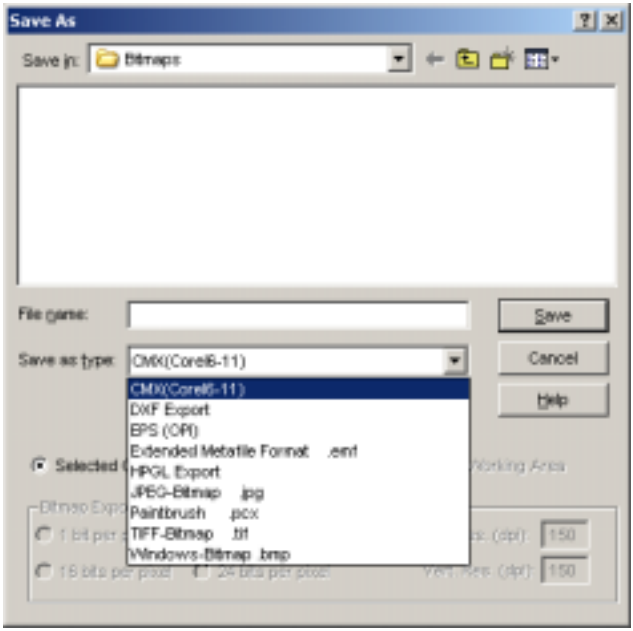


Fig. 83: The EuroVECTOR *Export* Dialog Box

Under Save you can specify the path to be searched.
In the ***Search In*** box you can enter the path to be searched. The first time the dialog box opens the button is not active. It does not become active until the path to be searched is changed. When you click of this button, the program goes to the next higher path.

Clicking the button allows you to go to the next lower path.

If you click on the button, a new directory is created in the currently active one.

By clicking on the  button you can specify with what information and how files are to be displayed.
The following import filters are available to you in EuroVECTOR:

HPGL export format exports the file in the standard HPGL format.

If you select one of the four bitmap export filters, the ***Export*** dialog box will be enhanced with the ***Color Depth*** and ***Color Resolution*** fields. The original default settings for these fields are: 8 bits per pixel and 150 dpi (dots per inch).

Color Depth

The choice of possibilities in these field depends on the export filter you are using.
The following table shows you the color depths available for each filter:

	bits per pixel				
	1	**8**	**16**	**24**	**all**
TIFF bitmap	–	–	–	–	X
JPEG bitmap	–	X	X	–	–
Windows bitmap	X	X		X	–
Paintbrush	–	–	–	–	X

Fig. 84: Settings for Bitmap Export

Note: *When you import a picture, you can see the size of the uncompressed bitmap in the* ***Bitmap*** *menu,* ***Bitmap Attributes****. If the storage space required for the uncompressed bitmap is higher than the free space on your hard drive, a message to that effect will automatically appear.*
The type of bitmap (e.g. grayscale bitmap) and its color resolution are displayed in the status line.

EPS Export with OPI Links

This export variant has the advantage that your image file is stored separately and not together with the EPS file in one file. If you use an image several times, it will be physically created only ***once,*** which means a saving of storage space.

Note: *If you select certain objects, only they will be exported, otherwise all.*

2.4 Loading Jobs

To open files select ***Open*** in the ***File*** menu.

The following dialog box appears:

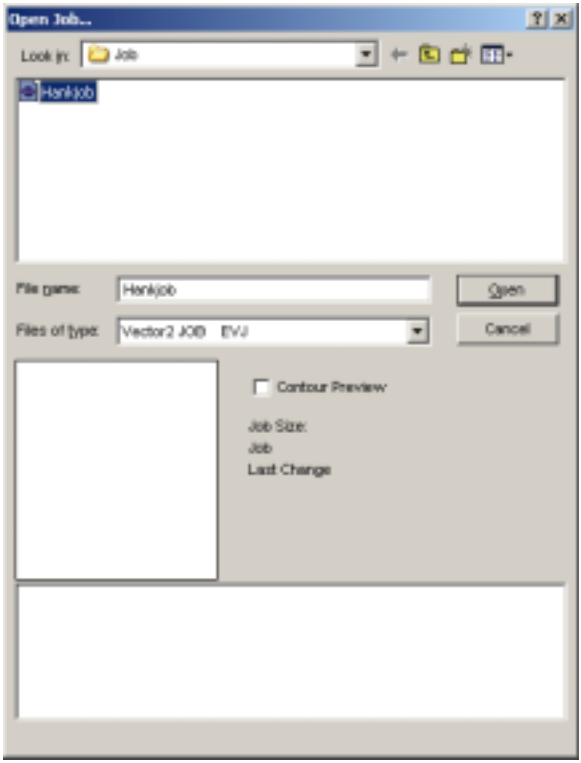


Fig. 85: The *Open Job...* Dialog Box

Under ***Search In*** you can specify the path to be searched.

The first time you open this dialog box the  button is not active. It does not becomes active until the path to be searched is changed. You can go to the next higher path by clicking this button.
By clicking the  button you can go the next lower path.

If you click on the  button a new directory will be created in the currently active one.
By clicking on the  button you can specify with what information and how files are to be displayed.

The file/job you are working on is displayed in the ***File Name*** box. The list above shows all files in the EuroVECTOR job format which are stored in the selected directory.

The information entered in the Job Info about jobs is displayed in the lower part of the dialog box.
The amount of this information depends on the information entered in the Job Info.

The job can be displayed in the Wireframe or Full Surface modes. If the job contains images (JPG, PCX, ...), the preview can of course not be switched to the Wireframe mode.

The job size, format and date of the last change are shown to the right of the preview window.

A selected file can be deleted directly with the DEL key after you have been asked if you really wish to do this.

2.5 Save Jobs

This command is used to save the job you have been working on. If you have previously saved the job, the file name and directory under which it was saved will be maintained. The previous version is overwritten and will no longer be available.

If you have created a new job that has not yet been saved, the ***Job Info*** dialog box will automatically open and then the ***Save Job As..*** dialog box.

Note: *You should also select the* ***Save As...*** *command when you want to save the current job in your network. You should enter the appropriate network drive under drives.*

The **Save Job...** command opens the following dialog box:

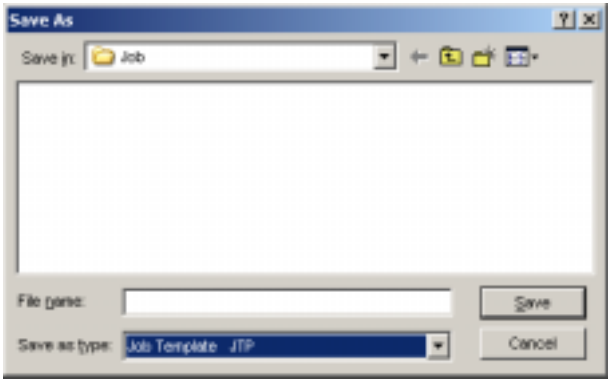


Fig. 86: The *Save Job...* Dialog Box

Under ***Save*** you can select the directory where the job is to be saved.

The first time this dialog box opens the button is not yet active. It only becomes active when the path to be searched is changed. You can go to the next higher path by clicking this button.
By clicking button you can go the next lower path.
When you click on the button, a new directory will be created in the one currently active.

By clicking on the  button you can specify with what information and how files are to be displayed.

The name of the job is indicated under ***File Name***. All the files in the EuroVECTOR job format that are stored in the selected directory appear in the list above.

The ***File Type*** is preset to EuroVECTOR job in this dialog box.
Jobs can be saved in EuroVECTOR 4, 5 or 6 format.
Jobs can be saved as copy masters with the file format ***Template*** (ending with JTP).

The file format ***Reference Job*** (ending with ***JRF***) saves the job file with the driver used to cut it.

A selected file can be deleted directly with the DEL key after you have been asked if you really wish to do this.

2.6 The Job Info

You can open the ***Job Info*** in three different ways:

1. Via the ***Editing*** menu / ***Job Info***.
2. Automatically when you save a new job.
1. Via ***Job Info*** in the right mouse button menu.

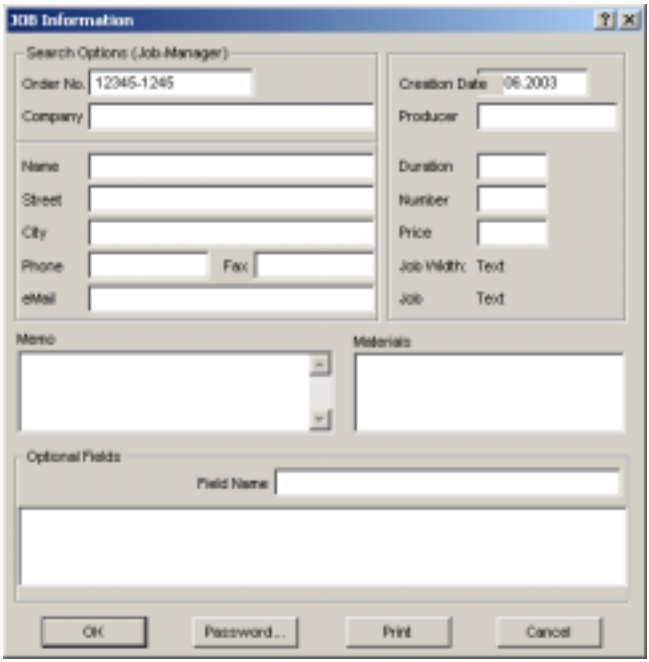


Fig. 87: The *Job Info* Dialog Box

The ***Job Info*** dialog box gives you the possibility of entering relevant information on each file. You can print out this information and use it for invoicing or as a note accompanying the job.

When the job info is printed, the complete path in which it is filed will be printed as well.

In addition to customer-related information such as ***Order No.,*** ***Company Address***, etc. you can also enter data regarding the type of ***Material*** used, ***Duration*** of production, ***Number*** of jobs cut or printed and the ***Price***.

In the ***Memo*** section you can record any other useful comments.

Using the ***Settings*** menu/***Job Info*** you can enlarge the ***Job Info*** by adding any number of boxes.

Note: *Information regarding* ***Materials*** *used will only be recorded automatically if during the design process you were using color layers/palettes that had been defined in the* ***Layer Setup*** *dialog box.*
You can find further information about this in the section Layer Setup Dialog Box, page 82 *ff..*

Tip: *The TAB key is the quickest way to switch between the various boxes.*

2.7 RCS ONLINE

Access to RCS ONLINE

Via Internet:

For this you need acess to the internet, e.g. via T-Online or an internet provider.

Advantages of access via the internet:

You only have to pay the charges to your internet provider (usually local charges). If you already have access to the internet, no configuration is necessary to connect to us.

Open your www browser and type our address:

http://www.eurosystems.lu

http://www.cocut.com

3. Reference Section

Menu items in chronological order:

3.1 The *File* Menu

The *New...* Command

 CTRL+N

This command opens a new job file.

The *Last Version* Command

When a job is loaded a backup copy named AUTOSAVE.BAK will be created in the EuroVECTOR directory. This command allows you to retrieve the version of the job that existed before loading.

The *Open...* Command

This command loads files stored on your hard disk or a diskette in the EuroVECTOR job format to your current screen/desktop.You can now edit these files as you wish. You can also delete jobs after you have been asked if you really wish to do this.

 CTRL+L

The *Save* Command

This command saves your current job. If you have already saved this job, the given file name and directory will be maintained. The old version of the job will be overwritten.

 CTRL+S

If you have created a new job that hasn't been saved, the program automatically goes to ***Save As...*** when you click on ***Save*** in the ***File*** Menu.

First the ***Job Info*** dialog box opens where you can enter further information about the job. After that, the actual dialog box for saving the job will open and you will be required to specify the file name and directory.

The *Save As...* Command


SHIFT+ CTRL+S

With this command you can save a new file under the name you select in the target directory you desire. You can also use this command to change the file name and / or the directory of already existing files.
For example, you may want to save a job composed of parts of an already existing job without losing the old version. Then choose the ***Save As***... command and you can save the new file under a different name in a new directory.
You can also use the ***Save As***... command when you want to save the current file on a diskette or CD.

The *Save All* Command

This command saves all jobs open in EuroVECTOR. If there is a newly created job among them, you can save it under a file name of your choice in a selected directory.

The *Online Service...* Command

This command connects you directly to the support page of EUROSYSTEMS S.à.r.l. and the General Distributor RCS Systemsteuerungen GmbH.

Note: *If you have not installed a browser, a text file will be displayed, informing you what to do so that you can make use of the advantages of the online service.*

After registering with EUROSYSTEMS-ONLINE you have these additional facilities:

- You can make use of our file service.
- If you are registered, you have the possibility of importing the latest service releases or demo versions of our software products free of charge.
- It is not necessary to state your address every time you order from our online shop.
- Specialist traders and distributors have access to the Business Center.

When you would like to download data subject to a charge, you must have a credit on your account with RCS-ONLINE.

You can find further detailed information about RCS-ONLINE under www.eurosystems.lu.

The *Import* Command

CTRL+I

With this command you can import artwork which is not saved in the EuroVECTOR JOB format

The *Export* Command

CTRL+E

If you want to use a job in another graphics programm you must convert it to a different format for export.

The *Print* Command

CTRL+P

With this command, you send the job you are working on to the default printer in any size you require (tiling).
module.

The *Scan...* Command

S

This is the command you use to activate your scanner via the TWAIN Interface program. Provided your scanner comes equipped with this type of interface, you can address your scanner and control the scanning functions directly through this command. Please check with the scanner manufacturer to find out whether such an interface is available for your particular model. If it is not available, you can insert a command for your particular scanner software in the menu structure via the ***Tools*** menu / ***Insert Program.***

The *Select Scanner...* Command

This command allows you to select your scanner.

The *Exit* Command

CTRL + Q

With this command you close EuroVECTOR and return to the Windows environment. If you have not yet saved the EuroVECTOR job you were
working on, you will be prompted to do so now.

The *Job History*

This option makes it easier for you to load the last four jobs without having to use the directory structure.
The four jobs last worked on appear at the end of the list in the ***File*** menu. Click with the mouse cursor on the name of the desired job.
The selected file will then be loaded to your working area.

3.2 The *Editing* Menu

The *Undo* Command

F5

This command makes it possible for you to undo or reverse the last few editing procedures you have completed. The standard or default setting allows for the last five steps to be reversed. You can increase this number in the ***Setup*** menu under S***ettings/Diverse/Number of Reversible Steps.*** The default value is designed for a computer with 8 megabytes of RAM. Only if your computer is equipped with more RAM do we advise an increase in the number or reversible steps. The maximum permitted is 100.

Note: *This setting can only be changed for a new file (**File** menu, **New**)!*

The *Redo* Command

F6

This command is the opposite of ***Undo.***
It restores the editing functions you have previously chosen to undo.

The *Cutting* Command

CTRL+X

With this command you can remove objects from your working area and temporarily store them on your computer's clipboard. This is a very convenient way to insert an object in a different position, in a different file or even in a different program.

Note: *The clipboard has only a limited capacity. If there is not enough storage space for the artwork or objects, use the **Export** command to move your data.*

The *Copy* Command

CTRL+C

With this command you can store items on the clipboard without having them removed from your working area.

The *Paste* Command

CTRL+V

With this command you retrieve items from the clipboard and insert them into your job. When you activate this command, the cursor turns into a right angle containing the word ***Insert.***

Point the tip of the right angle at the exact location where you would like to insert the object and press the left mouse button to execute the ***Paste*** command.
Note: *Only bitmaps with a color depth of max. 8 bits per pixel can be read back via the Windows clipboard.*

The *Paste Contents*... Command

This command lets you import images to EuroVECTOR via the clipboard.

Note: *This menu item is not active when objects are copied in EuroVECTOR.*

The *Select All* Command

With this command you can simultaneously select all objects in your current job, i.e. all objects *inside* as well as *outside* your working area. The selected objects can then be grouped, combined or moved.

 **CTRL+A**

The *Job Info...* Command

The ***Job Info*** command allows you to record additional information relating to each job. The information can be printed out and used for invoicing etc.

Besides information such as ***Order No.*** and ***Company Address,*** the ***Job Info*** gives details of the material used. You can use the ***Memo*** field to record other information in note form.

 **CTRL+2**

The *Color Layer Box* Command...

This command opens the ***Layer Settings*** dialog box which allows you to color objects, specify vinyl colors, select objects of the same vinyl color, make layers invisible, lock layers, etc.

3.3 The *Design* Menu

The *Rotate Axis* Command

This command is used to rotate objects by 90°.
You need this option regularly if you want to adjust your objects quickly to the running direction of the vinyl without performing the ***Rotate*** command.

Note: *The A key also performs this operation..*

The *Horizontal (X) Mirror* Command

This command mirrors a selected object on an imaginary horizontal axis through its center point. If you select several objects, they will be mirrored around an imaginary horizontal axis located in the middle of the selection box indicated by the eight black squares. If you have not selected any objects, your entire design (all objects) will be mirrored horizontally.

The *Vertical (Y) Mirror* Command

This command mirrors a selected object on an imaginary horizontal axis through its center point. If you select several objects, they will be mirrored around an imaginary horizontal axis located in the middle of the selection box indicated by the eight black squares. If you have not selected any objects, your entire design (all objects) will be mirrored horizontally.

The *Delete* Command

On your keyboard you will find a key labeled DEL or delete. The DELETE key is used to permanently remove selected objects from your design. The objects that you want to remove have to be selected first.

The *Duplicate* Command

Click with your left mouse button on the ***Duplicate*** command or execute it via the CTRL+D shortcut. The previously selected object or objects will now be duplicated. The duplicated objects are positioned according to the values entered in the ***Setup*** dialog box accessible from the ***Settings/Diverse*** menu.

Note: *You can also duplicate objects in your design simply by using your mouse. Select the object(s) first. Drag the object(s) to the location where you would like to have it/them duplicated.*

Without releasing the mouse button, click once with the other mouse button and the selected object will be automatically duplicated.

The C*lone* Command

You must select the object to be cloned first. Then click on the ***Clone*** command with the left mouse button.

When you clone an object, you create a copy linked to the object. Any changes made to the original object will automatically be made to the clone as well.

If the size or shape of the clone is changed it becomes an original object again.

The *Group* Command


CTRL+G

With this command you can group several objects so they can be selected and manipulated as a single object. This is particularly useful when you are trying to move several objects at once without changing their positions relative to each other. Be sure to select the objects first, then activate the ***Group*** command and move this newly formed group of objects to the desired location. It is now no longer possible to manipulate the objects within the group individually.
If you need to do so, please see the ***Ungroup*** command described below.

Note: *It is not possible to edit grouped objects with the node-editing tool. Before editing you must ungroup the objects. The grouped objects are shown with a dotted blue line to distinguish them from the ungrouped objects.*

The *Ungroup* Command


CTRL+B

This command is used to reverse the ***Group*** command, i.e. it separates objects that were previously grouped. The objects can now be selected and manipulated as individual objects.

The *Combine* Command


SHIFT+K

Similar to the ***Group*** command, the ***Combine*** command also converts several individual objects into one single object.
The main difference is that with the ***Combine*** command EuroVECTOR ceases to regard these objects as a group of individual objects with their own set of attributes, such as color layers, etc..

Consider the following example:
You have created two squares with different color layers, one somewhat smaller than the other. Now you place the smaller square in the center of the larger one. Select both objects and execute the ***Combine*** command. The two squares are combined into a single object with only one color layer (the one assigned to the larger square). The larger square is recognized as the outer contour, while the smaller square inside forms the inner contour of the new object. The space between the two contours is filled with the color selected from the layer box. A hole the size of the smaller square remains in the center.

The *Break Apart* Command


SHIFT+L

With this command you undo the ***Combine*** command described above, i.e. the objects that were previously combined can once again be selected and manipulated as individual objects.

The *Fill* Tool

This command assigns fills to vector objects and text strings.

The *Without* Command

This commands deletes all fills or fill bitmaps from the selected object. Only the wireframes of the objects remains in the previously assigned layer color.

The *Fountain Fill...* Command

This command opens a dialog box where you can specify the appearance of fountain fills, closed curves, text strings or combinations.

The *Bitmap...* Command

If you click this button a dialog box opens for filling objects with bitmaps.
A large number of commands are available for editing bitmap fills.

The *Layer Color...* Command

This command deletes all fills of the selected object and shows it in the layer color in which it was created.

The *Edit Wireframe* Command

This command allows to give objects pencil attributes, create hairlines and delete pencil attributes.

The *Without* Command

This command deletes all pencil attributes of the selected object and shows it in the layer color in which it was created.

The *Hairline* Command

This command assigns the selected a hairline in the currently active layer color.

The *Pencil Attributes* Tool

The ***Pencil Attributes*** dialog box allows you to design the outlining pencil for curves, combinations or text strings.
Outlining pencils are used to draw the object outline in the ***Full Surface*** or ***Preview*** modes.

Note: *The pencil attributes do not affect the representation of the object in the wireframe mode (F9). Here the contours of the objects are drawn with simple outlines in the layer color.*

The *Mask Bitmap* Command

This command fills an object or a combination with an underlying bitmap.
First move the object to the required location above the bitmap. Then select the bitmap and the object to be filled and click ***Mask Bitmap.***

The *Perspective* Command

This command is used to create special visual effects. Different perspectives can be created based on one or two points. With single-point perspectives, a three-dimensional effect is created by shortening the object. This makes the shorter side appear to be in the background. By shortening two sides, the objects can be further distorted.

New Perspective

Once you have activated the ***Perspective*** command, the selected object is given a frame with handles for you to manipulate. Select any one of these handles (this will make the marker appear black to indicate selection) and drag it to the desired location to change the perspective.

As long as the ***Perspective*** option is active, the objects selected for this editing function will appear with a dotted blue outline. Other functions, such as ***Envelope***, cannot be activated as long as your objects are in the ***Perspective*** mode.

To see whether the new perspective you have created is satisfactory, use the ***Lock Perspective*** command described below. All objects are now released from the perspective mode and can be further edited as desired.

Note: *By pressing the SPACE BAR once or with the node-editing tool, the perspective can be further modified. However, once you have activated the* ***Lock Perspective*** *command, this is no longer possible.*

Lock Perspective

Once you decide that the perspective you have chosen is acceptable, activate this command to continue editing the objects in the ***Perspective*** group.

Cancel Perspective

This command restores the objects to their original perspective, i.e. to the state prior to your changing the perspective or to the most recently locked perspective. You may also use the ***Undo*** command to reverse a perspective.

The *Envelope* Command

With this command you can also create some very interesting effects. By changing the shape of an envelope that surrounds previously selected objects, you simultaneously distort its contents, no matter whether they are text or graphics or a combination of both. It is easiest to imagine the envelope and its contents as a rubbery mass, capable of distortion in any possible direction. There are four available envelope options. The first three (straight line, arc, curve) are basic options that can be applied to one or more of your object(s). The distortion created by these options remains regular. The fourth option gives you complete freedom to distort the envelope to any shape imaginable.

Note: *By pressing the SHIFT key, you can select several handles and them move them simultaneously.*

The same can be achieved with the ***Framing*** function,, i.e. by pulling a frame around the handles you wish to select.

Selected handles or markers turn black to distinguish them from non-selected handles.

New Envelope

With this option you can assign selected objects an additional envelope, which offers even greater creative possibilities.

Lock Envelope

Select this option when you are satisfied with the shape of the envelope and would like to continue editing the objects it contains.

Cancel Envelope

This command restores the objects to their original state, i.e. prior to your adding and distorting an envelope or to the most recently locked envelope. You may also use ***Undo*** to reverse the ***Envelope*** command.

The Drawing Tools

When you select this function, a flyout menu appears which combines all basic EuroVECTOR tools for designing graphics. All the tools can be activated via the toolbox or in the ***Design*** menu, ***Drawing Tools.***

The *Line* Mode

The ***Line*** command activates the mode for drawing straight lines. The cursor takes on the shape of a cross-hair with a vector beside it.

There are two possibilities for drawing lines:

1. "Closed" lines
You can create *closed* lines by holding down the left mouse button while drawing. You end the line by releasing the left mouse button.
When the mouse cursor is located above the end of a line, this point is emphasized and the mouse cursor changes shape. The point is initialized if you click once on it with the left mouse button. You can continue drawing in one of the following four modes: ***Draw, Arc, Digi, Freehand***.

2. "Open" lines
You can create open lines by clicking once on the left mouse button before drawing the lines. After that, you can draw the line as you wish. If you click again on the left mouse button, this part

line is ended and a new one can be drawn. You exit this mode by double-clicking on the left mouse button.
When the mouse cursor is located above the end of a line, this point is emphasized and the mouse cursor changes shape. The point is initialized if you click once on it with the left mouse button. You can continue drawing in one of the following four modes: ***Draw, Arc, Digi, Freehand.***

Note: *EuroVECTOR provides the following two design aids for drawing straight lines. By pressing the SHIFT key while moving from the starting point to the end point of your line, you can draw lines that are either perfectly horizontal or vertical, depending on the direction in which you are moving. If you press the CTRL key while drawing the line, the angle of the line is limited to 15 ° increments to the border of your working area, i.e. to 15 °, 30 °, 45 °, etc.*

The *Arc* Mode

You activate the ***Arc*** mode by clicking on the right mouse key in the ***Line*** mode and selecting the ***Arc*** command.
When drawing an arc, after you have fixed the second point of the curve, the curve will be drawn through the first, second and current cursor points. A click on the left mouse button creates the arc.

When the mouse cursor is located above the end of an arc, this point is emphasized and the mouse cursor changes shape. The point is initialized if you click once on it with the left mouse button. You can continue drawing in one of the following four modes: ***Draw, Arc, Digi, Freehand.***

The *Rectangle* Mode

This command is used to activate the rectangle-drawing mode. You may also select this mode by clicking on the ***Pencil*** icon in your tool box and choosing the ***Rectangle*** icon in the flyout box. Once you have selected it, move your cursor (which has taken on the shape of a cross-hair with a small rectangle beside it) to any of the corners of the rectangle you intend to draw.

Press your left mouse button, and continue to hold it down. Draw a rectangle by moving the cursor to the diagonally opposed corner. Once you release the mouse button, the rectangle is drawn for you.

Note: *EuroVECTOR provides the following design aids for drawing rectangles. By pressing the SHIFT key while drawing the rectangle, the selected point of origin of your rectangle will actually be its center point.*
If you press the CTRL key while drawing the rectangle, EuroVECTOR will draw a perfect ***square.*** *If you press both the SHIFT and the CTRL key simultaneously while drawing the rectangle, EuroVECTOR will draw a square that is perfectly centered.*
The status of these keys (pressed or unpressed) while releasing the left mouse button determines how the square will be drawn.

The *Circle* Mode

This command is used to activate the ***Circle*** and ***Ellipse*** modes. You may also select this mode by clicking on the ***Pencil*** icon in your tool box and choosing the circle icon in the flyout box.
In this mode you pull up a box into which the ellipse is fitted. Thus, first click with the mouse on one corner of the box.

Note*: The starting point on which you click to begin the drawing procedure is not on the ellipse but constitutes the corner point of an imaginary box containing the circle or ellipse. By pressing the SHIFT key while dragging the circle or ellipse, the selected point of origin will actually be the center point of the circle/ellipse. If you press the CTRL key while opening the box, EuroVECTOR will draw a circle. If you press both the SHIFT and the CTRL keys simultaneously while dragging the circle/ellipse, EuroVECTOR will draw a circle that is perfectly centered.*

The Digitizing Mode

This command activates the mode for digitizing bitmaps.
The processing of your bitmaps will be considerably easier if you simply switch between the ***Line, Arc, Digi*** or ***Freehand*** modes by clicking on the right mouse button, pressing the arrow keys on your keyboard or via the toolbox.

Arrow key functions:	left	→ ***Line*** mode
	right	→ ***Arc*** mode
	up	→ ***Freehand*** mode
	down	→ ***Digitizing*** mode

If you have drawn open contours, you can close them by clicking on the right mouse button and selecting ***Close.***

Note: *Using this method, you can close all objects drawn regardless of the distance between the starting point of the object first drawn and the end point of the object last drawn.*
Another possibility of closing open contours you have drawn is as follows:

Draw an open object. Using the mouse, move the end point of the object last drawn near to the starting point of the object first drawn.

You will see that the mouse cursor has changed its shape, If you release the mouse at this point, the contour will be closed.

When the mouse cursor is located above the end of a digi curve/line, this point is emphasized and the mouse cursor changes shape. The point is initialized if you click once on it with the left mouse button. . You can continue drawing in one of the following four modes: ***Draw, Arc, Digi, Freehand.***

The Freehand Drawing Mode

This command activates the mode for drawing lines, curves or objects in any way you wish.

Hold down the mouse button and create the object of your choice. Release the mouse button when the object is finished. When the mouse cursor is located above the end of a digi curve/line, this point is emphasized and the mouse cursor changes shape.
The point is initialized if you click once on it with the left mouse button. You can continue drawing in one of the following four modes: ***Draw***, ***Arc***, ***Digi***, ***Freehand***.

Geometric Shapes...

With this command you can activate the mode for drawing polygons and other geometric shapes such as stars.

The *Align* Command

With this command you can align two or more selected objects. They can be aligned horizontally or vertically. The objects can be centered or aligned on a particular side, at the top or at the bottom. If you choose to center them, they can be centered both horizontally and vertically. You can also have the objects arranged at equal distances from each other..

Note: *You must select a minimum of two objects to be able to activate this command.*

Clockwise Rotation of Objects

This command is used to have the rotation for selected objects set clockwise.

Note: *This option is applicable only in conjunction with the EuroENGRAVE routing/engraving module.*

Counterclockwise Rotation of Objects

This command is used to have the rotation for selected objects set counterclockwise.

Note: *This option is applicable only in conjunction with the EuroENGRAVE routing/engraving module.*

The *Close Contour* Command

This command is used to close the contour of a selected object. The status line at the bottom of your working area indicates whether or not your design contains an *open contour*. (If it does, the object with the open contour will actually be counted as two!) Activate the ***Close Contour*** command to close the object and make it one.

The *Open Contour* Command

This command is used to open a closed contour of a selected object.

The *Round Corners* Command

With this command you can round off corners, both inside and outside, either for the selected nodes or entire selected objects. It is particularly useful for rounding lettering.

The *Delete Redundant Nodes* Command

This commands eliminates nodes which are lying directly on top of one another on an object. Nodes located between the ends of straight lines will be automatically deleted.

The *Add to Clipart Group* Command

This command adds a selected object to the clipart group which is currently active. The background appears in gray if no object is selected.

The *Object Attributes* Command

This command opens a dialog box displaying the attributes of ***one*** selected object. If more than one object is selected, the coordinates of the bounding box of these objects and its center are shown. The number of objects is shown as the title of the dialog box.

3.4 The View Menu

The *Zoom In* Command

 + / F2

This command, used to magnify all or parts of your design, can also be activated by clicking on the ***Zoom*** icon in the tool box and then selecting the icon with the magnifying glass and the plus sign in the flyout box. Once you have activated this command, the cursor turns into the shape of a magnifying glass containing a plus sign. Using your left mouse button, you can select the area in your design you wish to magnify by dragging a box around it. Once you release the mouse button, EuroVECTOR zooms in on the selected area and redraws it.

Note: *The zoom-in procedure can be repeated several times for further magnification until EuroVECTOR issues an audible alert that indicates the maximum magnification level has been reached.*

The *Zoom Out* Command

 - / F3

This command reduces the size of your working area step by step.

 B

The *Full Page* Command

This command is used to display the working area in its entirety.

The *Show All* Command

 F4

With this command, also accessible from the tool box, i.e. the icon depicting a monitor in the ***Zoom*** flyout box, you can have EuroVECTOR display all objects in your working area.

This means that the objects will be enlarged or reduced just enough to display everything on your screen.

Note: *Holding the SHIFT key down while activating this command will provide a full-screen display of a previously selected object or objects.*

 SHIFT+F4

The *Show Selected Objects* Command

With this command you can have EuroVECTOR display only ***selected objects*** in your working area. You can also activate this command by pressing SHIFT+F4.

The *To Front* Command

CTRL+O

When you are working with several color layers, you can use this and the following commands to change their sequence.
With the ***To Front*** command the selected object/color layer is moved to the very front or top.

The *To Back* Command

CTRL+O

With this command the selected object/color layer is moved to the very back or bottom.

The *Forward One* Command

Pg Up

With this command the selected object/color layer is moved to the next higher color layer.

The *Back One* Command

Pg Dn

With this command the selected object/color layer is moved to the next lower color layer.

The *Reverse Order* Command

U

With this command the sequence of objects/color layers is reversed. Whatever was on top is moved to the bottom, and vice versa. All objects or color layers in between are reversed as well.

The *Always in Front* Command

CTRL+Y

With this command the EuroVECTOR window remains permanently in the front.

The *Refresh Screen* Command

This command tells EuroVECTOR to redraw all objects currently displayed in your working area. This will eliminate any debris, such as excess points or lines left over from previous editing procedures.

CTRl+W

3.5 The *Tools Menu*

The *Vectorizing ...* Function

 V

This command give you access to EuroVECTOR's integrated vectorizing software, which converts scanned bitmaps into Bezier curves.

Note: *Bitmaps cannot be cut with a plotter since these images merely consist of dot patterns recognized by the scanner. Such pixel graphics must first be converted to vector graphics for output to a cutter.*

The *Revectorizing* Option

 SHIFT+V

This option considerably speeds up the vectorizing process. It is very useful for determining the best parameters for vectorizing. When repeating the vectorization, an internally created bitmap is used rather than the original bitmap in your working area.

Note: *If you have saved any changes to the original bitmap in your working area, you will have to use the* ***Vectorizing*** *rather than the* ***Revectorizing*** *command.*

The *With Color Assignment* Command

This menu item can be turned on and off at will. As a default it is turned off.

The *Contour Line...* Tool

 K

This command provides a number of selected objects with an outline.
Unlike the ***Outline*** command, this tool can also be used to provide bitmaps with outlines. Instead of individual objects being outlined, if possible an outline is created to encompass all the selected objects. Therefore the function is particularly useful for creating cutting lines for stickers. The objects for the sticker can be put together as you wish. The outline is then created at whatever distance you wish from the objects. It can later be used for cutting out the printed sticker.

The *Clipart Manager* Command

 SHIFT+C

This command launches the clipart manager. Use your left mouse button to click on the ***Group:*** field or on the button at the end of the text field to activate the list of all available categories.

Select one of them. If you wish to add one or several objects to this group, select them in your working area, then click on the ***Add*** icon. Repeat this procedure until you have filled the category with all the desired symbols.

Note: *If you click on a piece of clipart with the right mouse button, a dialog box will be opened in which you can enter clipart signatures. The maximum text length is 20 characters.*

There are two possibilities for importing clipart into your working area:

1. Position your cursor on the piece of clipart you wish to import. A black frame is drawn around a piece of clipart which has been selected. If you double-click with the left mouse button, the piece of clipart art will be imported to EuroVECTOR and positioned so that the lower left corner of the job is located on the point of origin (0/0) in your working area.

2. ***Drag & drop***: Position your cursor on the piece of clipart you wish to import. A black frame is drawn around a piece of clipart which has been selected. Press the left mouse button and keep it held down so that you can drag the selected piece of clipart directly to EuroVECTOR.

You can delete clipart which you no longer require from the clipart manager by clicking the ***Delete*** button.
If you want to create a new clipart group, enter the group name in the New Name box.

The ***Create Group*** button creates a group of this name.

EuroVECTOR jobs can be saved as symbol files under the group name thus defined. The group can be filled with the ***Add*** button in the Clipart Manager.

The Import Group button allows you to import groups of clipart. The file ending is *.cla. Groups can be deleted or renamed using the other two buttons.

The ***Back*** button closes the Clipart Manager.

The *Add Program ...*Command

With this command you can insert a different program (unrelated to EuroVECTOR) into the EuroVECTOR menu structure. This keeps the user from having to exit EuroVECTOR to launch other programs and also from going through the Windows program manager to do so.

The *Edit Program List*...Command

With this command you can edit insertions you have made in the EuroVECTOR menu structure.

Note: *This command only applies to menu items related to other programs added in by the user (See* ***Insert Program*** *... command above.)*

The *Measuring* Tool

The measuring tool is used to perform measurements (between any two points) in your design. As soon as you click on the ***Measure*** icon in your tool box, the cursor changes into a bull's eye. Move the center of the bull's eye to the first point, i.e. the point from which you intend to measure.
While holding down the left mouse button, drag the bull's eye to the second point, i.e. the end-point of the distance you are measuring. A guideline provides a visual connection between the two points.
If you hold down the SHIFT key during this procedure, the measuring can be limited in a horizontal or vertical direction. This makes it easier to measure straight lines accurately.

Note: All *objects are resized proportionally. When bitmaps are rotated, the bitmaps are also enlarged but not the objects shown in the bitmaps.*

3.6 The *Image* Menu

The ***Image*** menu contains a number of functions used for editing images and photographs.

The *Reduce Colors ...*Command

Fig. 88: Dialog Box for Color Reduction Settings

This option is used to reduce the number of colors in a scanned image which may contain thousands or even millions of colors. The number of colors can be set from 1 bit (2 colors) up to 24 bits (16.7 million colors [Targa-Format]).

The amount of data associated with such great color depth is considerable and requires a powerful computer system for processing. In most cases, we therefore recommend reducing the number of colors for a more efficient use of your computer. In addition, if you intend to cut the image from vinyl, only a relatively limited number of colors is even feasible.

The color reduction can be done incrementally down to one bit per pixel (for black and white). Dithering is optional.

Dithering refers to a process in which adjoining pixels of different colors are colored slightly differently to simulate a third color. With dithering, a color monitor can produce the effect of more than 256 colors.

Note: *If you intend to vectorize the image later on, do not select the dithering option since this will negatively affect the quality of vectorization.*

The *Posterize...* Command

With this command you can reduce the number of colors per color layer. The number of permissible colors per layer is 2 to 64.

The *Grayscale*... Command

Select this command to convert a color image to grayscale with a maximum of 256 levels.

The *Invert...* Command

With this command you can convert a positive scanned image to a negative and vice versa. The color value for each pixel is replaced by its opposite value in a color scale, e.g. 0 becomes 255, 50 becomes 205.

The *Contrast*...Command

This command is used to adjust the contrast in the scanned image. The contrast between the lighter, darker or intermediate areas can be made more pronounced or softened.

The *Blend* Command

Nice effects can be obtained with this command. You cannot perform this command unless two images are selected in your working area.
The two images are merged. The best effects are obtained when, for example, a fountain fill running from light to dark in a matching color is integrated into a company logo in a contrasting color.

The *Contrast*...Command

This command is used to adjust the contrast in the scanned image. The contrast between the lighter, darker or intermediate areas can be made more pronounced or softened.

The *Brightness...* Command

This command governs the brightness of the entire scanned image. Brightness consists of the intensity of light which is reflected or absorbed by the image.

The *Saturation*... Command

With this command you can adjust the intensity of your colors or hues.

The *Sharpness*... Command

This function enhances the sharpness of pixels in bitmaps by first localizing the edges of pixels and then setting the degree of tolerance for the background pixels via the filters (values between -100 % and +100 % are possible).

Result: *The contrast of the edges (adjacent pixels) is enhanced.*

The *Gamma Correction...* Command

Gamma correction is a method of adjusting color gradation, taking account of how the eye perceives a color when the adjoining area is of a different color.
Gamma correction primarily affects color hues in the center of the spectrum.
Gamma values between 0.01 and 4.99 can be set using a filter.

Result: *By adjusting the gamma value, you can achieve a greater contrast between details in drawings.*

The *Relief...*Command

With this filter, you can create a relief or three-dimensional effect in your image. This means that certain areas will appear raised while others are lowered. This effect can be altered by selecting different origins.

The *Convert to Bitmap* Command

With this command you can convert all selected objects to a bitmap with user-definable resolution and color depth.

The *Cut Section* Command

This command is very useful for vectorizing single sections of your graphics. You are working on a bitmap and only want to use the lettering for further editing. Place an object, e.g. a circle or a rectangle (any shape is possible) over the part of the bitmap which you need.

Select both objects, perform the ***Cut Section*** command and drag the object you need to the desired position in your working area.
The object is now available for you to continue working on it.

The *Properties*...Command

This command lets you increase the number of pixels in an image. Increasing the number of pixels results in the image increasing in size accordingly.
The resolution is indicated in DPI (dots per inch).
This menu item also provides additional information about the bitmap. The ***Storage Space*** required by the bitmap in the working storage and the ***Color Depth*** used are shown.

Transparent Display of Images in Wireframe Mode

In the *Wireframe Mode* you have two options for displaying your images: transparent or full surface. Select *Properties* in the *Image* menu.

The following dialog box is opened:

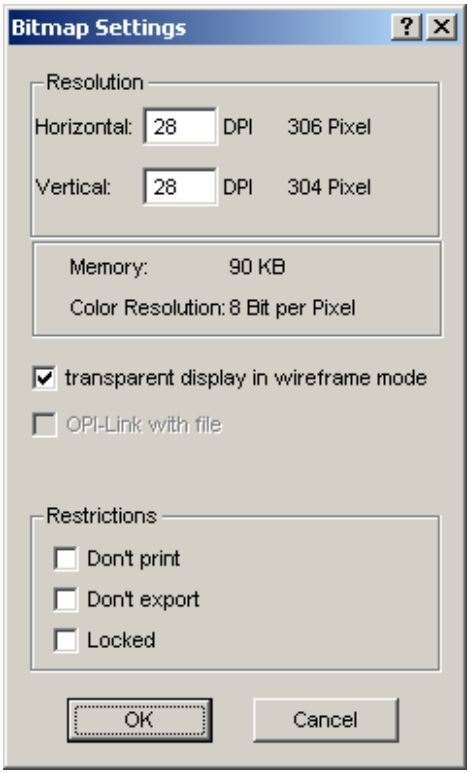


Fig. 89: Dialog Box for Setting Bitmap Properties

You will see the option ***Transparent Display in Wireframe Mode*** in the lower part of the dialog box. This is the default option which is normally turned on.

Advantage: Bitmaps can be positioned exactly in the wireframe mode (see example below).

Wireframe mode
transparent display
not active

Wireframe mode
transparent display
active

Fig. 90: Example of Transparent Display

You can see on the left side of the example in the above illustration that the images lying beneath the bitmap cannot be seen or can only partly be seen.

On the other hand, all the objects on the left side can be seen and can therefore be positioned well.

3.8 The *Settings* Menu

The ***Settings*** menu is used to select basic setups for default values for working with EuroVECTOR. There is a dialog box available to the user for each basic setting (e.g. Diverse, Job Info).

The *Basic Settings* ... Option

Diverse...

You have a choice of the following default settings:

 **STRG+J**

Duplicated Values

X Offset
You can enter the distance you wish to have between the horizontal duplicates in this box.
Y Offset
You can enter the distance you wish to have between the vertical duplicates in this box.

Move Objects
Increments in X Direction
With this entry you can determine the incremental distance a selected object moves vertically when you press the arrow keys on your keyboard.

Increments in Y Direction
With this entry you can determine the incremental distance a selected object moves vertically when you press the arrow keys on your keyboard. If you later decide that you want to move objects in smaller increments than you have indicated here, you have the possibility of reducing the increments as follows:

Note: *Pressing the* SHIFT *key while using the arrow keys reduces the increments to one tenth of the original value. Pressing* SHIFT + CTRL *while using the arrow keys reduces the increments to one hundredth of the original value.*

Autosave Interval

Under ***Autosave Interval*** you can specify how frequently (in minutes) you want EuroVECTOR to automatically save the curent job or file on your hard disk. The ***Save*** file is always located in the main directory of EuroVECTOR. Its name is ***autosave.job***.

Number of Reversible Steps
This entry concerns the ***Undo*** command discussed earlier in the ***Edit*** Menu.

No Undo/Redo for Bitmaps Exceeding ...
For bitmaps exceeding the value entered in this field the ***Undo/Redo*** functions are automatically turned off, i.e. any changes made to these bitmaps using the ***Image*** menu cannot be reversed.

The reason for this is that the time required for bitmaps above a certain size is too long, as a copy of the original has to be made for every undo or redo step.

The value entered in this field should be between 5% and 10% of the RAM capacity.
The advantage of this function is that you save time.
Delete Undos Before Printing
This command deletes all undos made to date.

Export via Clipboard
When exporting via the clipboard, you can automatically specify if objects exceeding 600 * 600mm (about 24 x 24 ins) are to be scaled.

Job Info

In addition to the fields available in ***Job Info***, this dialog box allows you to generate other user-defined fields, which will be displayed in the loading and deleting dialog boxes when they contain information.

If you click the ***Automatic Job Info Enquiry*** button, you will be automatically asked if you wish to enter job information when saving a new job.

Mouse

This is where you can assign a specific command to your right mouse button, which will then be activated with a single click. Display the list of available functions by clicking on the arrow next to the list box. Double-click on the command you wish to assign.

Node Selection Delay.
With entries for X and Y, you can specify the number of increments an object will move when you drag it with your mouse.

The default value is 100 and the given unit of measurement is one thousandth.

The higher the amount is, the longer it takes for the object to follow the mouse cursor. Accidentally moving the objects is thus ruled out.

Note: if you are not used to working with a mouse, it may be better to select a high value.

Fill Lines

When you add a fill line via the right mouse menu, the object contour will be opened and the fill line added at the point where you click with the mouse.

Note: *This command is only available in the node editing mode.*

Filter

This dialog box allows you to define the search paths for importing and the file names for importing files automatically.

Autoimport works as follows:

When EuroVECTOR is loaded and an EPS file is saved in one of the search paths indicated under the defined name (EuroVECTOR), EuroVECTOR is automatically started and the file will be loaded directly to your working area.

There is an automatic feature called CoRUN for importing data from CorelDRAW 3-11. You can find further information about CoRUN autoexport at the beginning of this manual

Preferred filters:
The following choice of filters is available:

*.EPS	AI Illustrator, EPS incl. *.EPS
*.AI	AI Illustrator, EPS, AI Postscript
*.BMP	EuroPhotoCUT, Windows bitmap
*.PCX	EuroPhotoCUT, Paintbrush bitmap

Note: *The settings must be made in the* ***Preferred Import Filter*** *boxes before files can be imported to EuroVECTOR with drag & drop.*

Turn Off Preview For...
Here you can make settings for the bitmap or EPS file preview in the ***Import*** dialog box.
If, for example, you enter an amount of 2MB in the ***Bitmaps Larger Than...*** box, the preview for bitmaps larger than 2MB will be automatically turned off.

If you want to have the imported file displayed, you have to activate the ***Preview*** box below the preview window. The default value for this option is 1MB.

Values for the EPS file preview in the Import dialog box can be entered in the ***EPS Files Larger Than...*** box. 0.1 MB is the default amount here.

Geometric Shapes

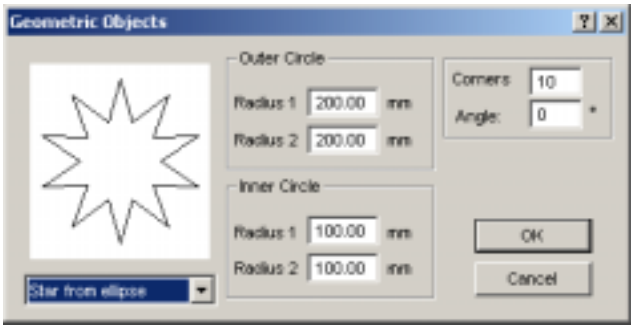
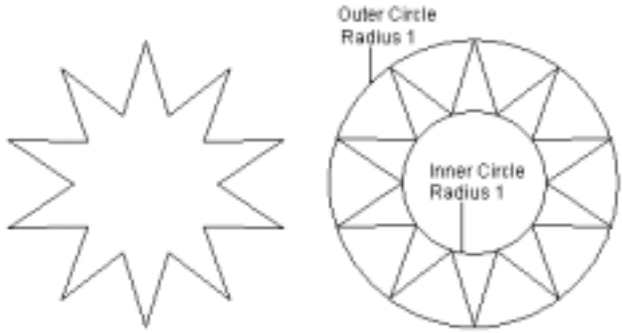


Fig. 91: Settings for Geometric Shapes

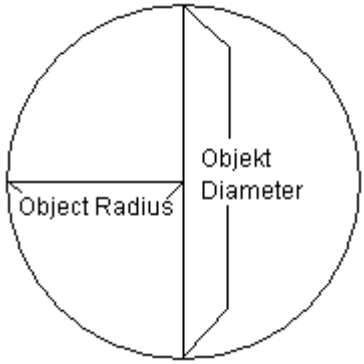
With this command you can activate the mode for drawing polygons and other geometric shapes such as stars and ellipses.

Example 1: Create Star From Circle

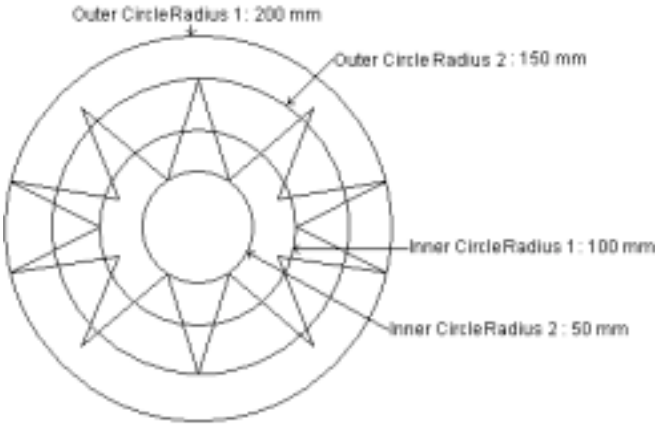


In the example above you can see the star that has been created on the left. The radius of the outer and inner circle can be seen on the right. A radius of 1 of 100 for the outer circle and 1 of 50 for the inner circle were entered in the dialog box. The radius is half the diameter of a circle.

Example: Radius / Diameter



Example 2: Create Star From Ellipse



All four radiuses are used for ellipses, as the ellipse is not a regular circle. The four radiuses are shown as circles in the example above.

The *Color Palette* Command

This command allows you to create, load or save new color palettes.

New

This command deletes all color layers with a layer number higher than 6.You should use this command when you want to create a new color palette.
You can select the layer color by simply clicking on the desired color with the left mouse button and then clicking the ***OK*** button.

Load...

This command is used to load previously created palettes.

Save

Use this command to save a newly created or modified default palette on your hard disk.

If the new or modified palette is saved as the default palette, it will be used whenever EuroVECTOR is restarted.

Save as...

Use this command to enter the name of a new palette.

Default

This command loads the color palette which comes with EuroVECTOR as the default palette. It is made up of Mactac vinyl colors which have been specified as the default palette with the aid of the color fan.

Palette History

This function facilitates the loading of the last four color palettes without having to go indirectly through the list of directories. The names of the color palettes most recently worked with appear at the end of the list in the ***Color Palette*** menu. To open the palette, click with the mouse on the name of the desired palette.

The *Control Panel...* Command

This command activates the ***Control Panel*** option box of your ***main*** Windows group, located in the ***Windows program manager***. You need this command to modify the system parameters of Windows, which is usually necessary for configuring the serial interface when installing a printer or plotter.

Working Area

This is where you can redefine the size of your working area. Besides various standard settings, you can specify up to 10 user-defined sizes.
This is a useful function for users of routing and engraving machines, as they no longer need to redefine the working area each time.
The color of the working area can be defined by the user, thus guaranteeing better layout control on the screen.

Note: *Double-clicking on the shading of the working area (to the right or along the bottom) also activates this dialog box.*

The *Object Attributes* Toolbar

This item opens a dialog box in which you can add optional buttos to the Object Attributes toolbar. This toolbar is empty the first time you start EuroVECTOR.

The *Rulers...* Tool

 **SHIFT+I**

In this dialog box you can define the location of the rulers. If you find you are running out of space in your working area, you may choose not to have the rulers displayed at all.
With a metric ruler every fourth increment is shown as a longer line and with a ruler in inches every second and fourth increment.

The *Unit of Measurement* Command

This command is used to change the unit of measurement (mm, cm or inch). This can also be done by clicking the button located at the point where the horizontal and vertical scroll bars meet.

The *Grid* Tool

 **CTRL+R**

In the ***Grid Settings*** dialog box you can choose between guidelines or grid points. This function can be very useful for positioning objects in the working area.
Both the grid spacing and the offset in X/Y direction can be defined by the user. The default reference point is 0/0 in the lower left corner of the working area. For additional help when positioning objects, select the ***Snap to Grid*** function.

Screen Colors

This menu item refers to the display of colors on your monitor, which depends on the graphics card in your computer and the resolution selected in the monitor driver.

Note: *These selections in no way affect output quality.*

Spot Colors

If your hardware has this capability, *256 spot colors* (rather than process colors) are used for the screen colors.

256 Color Dithering

With this type of display, *256 process colors* are used.

Windows Dithering

If you do not have a VGA monitor with 256-color display, only this option may be selected. The color display will then consist of *16 process colors.*

Redrawing graphics in your working area (i.e. ***Refresh Screen***) takes up the least amount of time in this mode.

The *Edit Wireframe* Mode

 **F9**

In this mode, only the contours or outlines of the objects in your design are displayed.

Note: *If the layer color is white, the outlines are displayed as dotted gray lines.*

The *Interrupt Display* Command

 **F7**

This option, which is particularly helpful when you are working with complex designs, allows you to interrupt the redrawing of the screen at any point in order to select another menu item or tool. It is not necessary to wait until the screen has been redesigned.
It is important to note that text strings may appear in simplified form as crossed rectangles. This operation is extremely rapid. Otherwise the blocks behave in the same way as text strings.

The *Undo/Redo* Command

 **SHIFT+F7**

This command activates and deactivates the ***Undo/Redo*** command.

One advantage of deactivating this command is that node editing is faster in the case of large or numerous objects.
When there are several editing steps, the trial phase (original state → editing → temporary final state) can be reversed as follows:

1. Deactivate Undo/Redo
2. Edit objects
3. Activate Undo/Redo

You can restore the state prior to step 1 by clicking the *Undo* command in the *Edit* menu.

The *Cross-Hair* Command

CTRL+F7

When you have activated this option, the cursor becomes a cross-hair (an intersecting vertical and horizontal line) that covers your entire working area. As soon as you go beyond the working area, e.g. to select a tool, the cursor reverts back to the arrow shape.

The *Snap to Guideline* Command

H

This option is designed to help you precisely position objects on any guidelines you may have placed in your design. In this mode, objects will gravitate towards the nearest guideline.

The *Guidelines Setup* Command

P

This command is used to place dotted blue guidelines anywhere in your design to facilitate the design, positioning, and alignment of objects. These lines are design aids only and will not show up anywhere in your output.

Note: *Activating the* ***Snap To Guideline*** *command (see above) will cause the guidelines to* ***attract*** *objects placed near them, which makes it even easier to precisely position objects in your design.*

CTRL+H

The *Lock Guidelines* Command

With this command you can lock your guidelines so that they can no longer be selected, moved, or deleted.
To unlock them, you must first click on this command again.

SHIFT+H

The *Show Guidelines* Command

With this command you can make the guidelines invisible. To make them visible, click on this command again.

The *Select Language...*Command

If you activate this command, a dialog box for selecting the language opens.

3.9 The Window Menu

The *New Window* Command

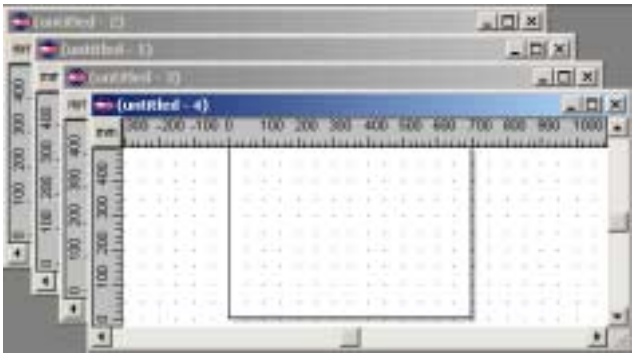
This command opens a new EuroVECTOR window.

The *Horizontal Tiling* Command

If you perform this command, all the windows are displayed as follows:

The *Overlapping* Command

If you perform this command, all the windows are displayed as follows:



The *Close* Command

This command closes the currently active window after asking if you really wish to do this.

The *Close All* Command

This command closes all open windows after asking if you really wish to do this.

The *Default* Command

 CTRL+1

This command activates the EuroVECTOR default toolbar.

Color Layerbox Command

 CTRL+2

This command activates or disables the EuroVECTOR ***Color Layerbox***.

The *Setup* Command

 CTRL+3

This command turns the ***Setup*** toolbar on your desktop on and off.

The *Tools* Command

 CTRL+4

This command furns the ***EuroVECTOR*** toolbar on and off***.***

The *Node Editing* Command

 CTRL+6

This command turns the Node Editing toolbar on your desktop on and off.

The *Object Attributes* Command

 CTRL+7

This command turns the EuroVECTOR ***Object Attributes*** toolbar on and off.

The *Object Info Status Bar* Command

 CTRL+8

This command turns the EuroVECTOR ***Object Info*** status bar on and off***.***

The *Element Info Status Bar* Command

 CTRL+9

This command turns the EuroVECTOR ***Element Info*** status bar on and off.

The *Clipart* Command

 C

This command turns the ***Clipart*** toolbar on your desktop on and off.

The *Job History* Command

All the active jobs are listed in this part of the window. If more than 9 jobs are open, they are shown under the menu item ***Further Windows***.

3.10 The Help Menu

About...

Clicking on ***About...*** will activate an information panel containing pertinent information on EuroVECTOR, such as the serial number, version number, free disk space, the processor and coprocessor.
In the lower right part of the dialog box there is a scroll window listing all program files in the version you are using. You can print this list by pressing the ***Print*** button.

Note: *It will help our support staff to rapidly eliminate any problems you may encounter with your EuroVECTOR version if you give them this list.*

Help...

 **F1**

This command launches the EuroVECTOR online help.

Info...

 **F10**

This window contains information on the objects in your working area, such as total number of objects, number of objects selected, text strings, data blocks and bitmaps.

Online Support

In RCS-ONLINE you will find useful tips and tricks about EURO-SYSTEMS products and also questions frequently asked about software and various cutting plotters. To enable us to eliminate problems as rapidly and efficiently as possible, we would ask you to immediately fill out the fields in the form under ***Software Registration*** if you are not registered with us.

In RCS ONLINE you will find useful tips and tricks about EUROSYSTEMS products and also questions frequently asked about software and various cutting plotters. To enable us to eliminate problems as rapidly and efficiently as possible, we would ask you to immediately fill out the fields in the form under ***Software Registration*** if you are not registered with us.

3.11 The Right Mouse Button Commands

The functions of the right mouse button make working with EuroVECTOR much easier and faster.
The following basic menu items are available to you:

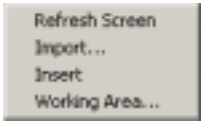


Fig. 92: The Object-Sensitive Menu (no object in working area)

When there are several objects in the EuroVECTOR working area, the menu appears as follows:

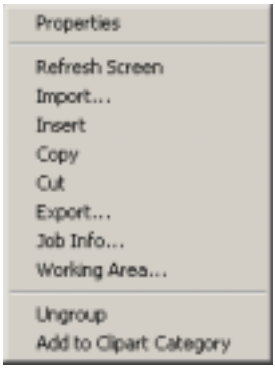


Fig. 93: The Object-Sensitive Menu (at least one object in working area)

Glossary

Terms printed in ***italics*** refer to additional glossary entries

Additive Color System — System based on mixing the additive colors of the luminous spectral colors red, green and blue (RGB), e.g. in color TVs or color monitors.

Application Tape — Tape used to transfer cut and ***weeded*** vinyl graphics to a substrate. The tape's adhesion must be sufficient to hold even the tiniest letters while releasing them easily upon application.

Ascender — The part of a lower-case letter (e.g. b) that extends above the main body of the letter.

Baseline — Imaginary line on which all characters are placed in a line of text regardless of point size (with the exception of ***descenders***).

Bit Depth — Mathematically possible number of colors for a given number of bits, e.g.: 1-bit color depth = 2^1 = 2 possible colors (black/white) 8-bit color depth = 2^8 = 256 possible colors/graytones 24-bit color depth = 2^{24} = 16.8 m possible colors

Byte — Smallest addressable unit in the computer memory, consisting of 8 bits.

Calibration — Adjustment of printer, screen or adjustment to desired values

Clipboard — An area in your computer's memory used for temporary storage of data that was cut or

	copied. This data can be pasted from the clipboard into any file. This feature thus provides an easy way to transfer data from one program to another.
CMYC	Cyan, magenta, yellow, contrast (black). Standard colors for four-color printing.
CMYC Color Area	Total amount of all colors represented by the CMYC colors used for printing.
Color Depth	The number of possible color tones that can be recognized by a scanner or reproduced on a color monitor.
Contrast	Difference between light and dark parts of an image.
Descender	The part of a lower-case letter (e.g. g) that extends below the main body of the letter.
Desktop	Space surrounding the ***working area*** on the computer screen, containing a variety of tools.
Digitize	To put an original image into digital form, either by entering points or lines through a digitizing table, or by using a scanner.
Download	To retrieve programs or data via modem from an electronic mailbox and load them into your computer.
EPS, EPSF	Acronym for Encapsulated Postscript Format. File format in which text and image data are stored in postscript format.

	This format includes text and raster data as well as bitmaps for displaying it on screen.
Group	Combining a number of objects in a group. Once objects are grouped, the positions of the objects relative to each other remain unchanged.
Gamma Correction	Method of adjusting color graduation taking into account how colors are perceived by the human eye when there are two adjoining areas of different colors.
Group	Combining a number of objects in a group. Once objects are grouped, the positions of the objects relative to each other remain unchanged.
Guidelines	Lines used as visual aids for positioning objects in the working area. Guidelines are onbly visible on the screen and are never plotted/cut or printed out.
Halftone Image	Designates an image that contains various shades of gray or of color. The shades between pure white and pure black are called halftones.
Insertion Point	Designates the blinking vertical line in a text box that can be edited.
Justification	The alignment of a text string in the working area, either along the left margin, right margin, or centered between the margins.

	In addition, EuroVECTOR offers the following options: ***block*** or ***forced block*** and adjustment of ***cap height***.
Laminate	Cover with transparent plastic film.
Overfill	A narrow overlapping area at the edges of areas of color which are positioned over each other. This ensures that there are no streaks at the boundaries. The overlap can be created by using an overfill or an underfill.
Point	Unit of measure equal to approximately 1/72 of an inch used to measure printing type. Included in the measurement are ***ascenders*** and ***descenders*** as well as a certain space above and below the character.
Process Colors	Scale of colors for four-color printing with cyan, yellow, magenta and black (key); it is possible to print any color by mixing these colors.
Resolution	The amount of detail in an image as measured in dots or pixels per unit (e.g. **d**ots **p**er **i**nch or dpi). Laser printers generally have a resolution of 300 to 600 dpi.
Scanning Resolution	Resolution for scanning analog images. Formula: Resolution (in dpi) = printing length (L/cm) x 2 (quality factor) x enlargement factor x 2.54 (for converting mm to in).
Streaks	Cracks at the boundaries of overlapping or adjoining areas of color or vinyl.

	They are especially detrimental in screen-printing or printing.
Upload	To send files and programs via a modem from your computer into an electronic mailbox system.
Vinyl	Generally, two types of vinyl are available, ***calendared*** and ***cast***. Cast vinyl is not stretched during the production process and is therefore less prone to shrinkage. Cast vinyl is generally more costly than calendared vinyl which tends to have less durability and a greater tendency to shrink. Vinyl materials used for cutting generally consist of three layers: 1. Liner (the bottom layer) 2. Adhesive layer in between the liner and the vinyl 3. Vinyl material
Weeding	The act of removing excess vinyl around cut graphics.
X Height	The height (measured from the *baseline*) of a lower-case “x”, i.e. any lower-case letter without *ascender*, in a particular font.

Index

Imprint

Production information:

This manual was produced with Word 2000 on a Pentium 700.

Fonts used:

AcciusT

German version:
Georg Wagner, Peter Bettendorf
RCS Systemsteuerungen GmbH

English translation:
Hilary Teske

English version:
Georg Wagner, Peter Bettendorf
RCS Systemsteuerungen GmbH

December 2003