GreatCut 4

Manual

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Copyright

GreatCut uses NLog

NLog is a free logging platform for .NET, Silverlight and Windows Phone with rich log routing and management capabilities. It makes it easy to produce and manage high-quality logs for your application regardless of its size or complexity.

GreatCut uses NLog

1 Preface

GreatCut 4™ is add-on software for cutting vinyl from CorelDRAW™, Illustrator, Freehand and AutoCAD. On account of their wide range of graphic possibilities these illustration programs are eminently suited to producing high-quality drawings that can easily be printed using powerful printer drivers.

For most professional requirements GreatCut 4 is the best choice, as it enhances your illustration program with high-end signmaking tools such as automatic print & cut with contour lines. This tool supports Accu Aligning System (AAS) with Puma III and Jaguar IV series.

Its sophisticated welding functions allow multi-colored cuttings. Its Inline/Outline tool outlines texts - both tools can only else be found in specialized cutting programs. So GreatCut 4 is the ideal plug-in for vinyl signage, screen printing and copy shops, which need to convert logos and all kinds of vector graphics into cutable data.

1.1 What GreatCut 4 Can Do?

- GreatCut 4 is able to work with GCC cutters and adapt to their particular features.
- GreatCut 4 automatically converts lines to cutable contours.
- Cutting by color and precise mounting using register marks
- Color welding: user-defined color overlaps and screen-printing overlaps with user-defined color sequence.
- Cutting preview of vinyl width and display of the amount of vinyl used.
- Positioning, resizing, duplicating, etc. of objects.
- GreatCut 4 evaluates the data produced by the host program and prepares it for cutting on GCC cutters
- GreatCut 4 can cut even extremely large drawings without any difficulty. You can resize and segment your drawings to any scale you wish, no matter what the size of the drawing in the host program.
- If the drawing is too wide for your cutter, it will be automatically sectioned, i.e. divided so that your cutter can cut it.
- You can set up default values for printing and speed for different materials. These values can be stored in a material database for reuse at any time.
- While your cutter is cutting, you can continue working with CorelDRAW or any other Windows program. The cutter works in the background.

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2 Quickstart and Installation

2.1 Quickstart

2.1.1 How to Install GreatCut?

2.1.1.1 Step 1: Connection

Cutter control via USB

Install cutter USB drivers, which were delivered by GCC. Please use the instructions given by cutter manual.

Cutter control via COM port (serial)

Make sure, that cutter and serial Windows port are configured **identically**.

You´ll find this port configuration in the system *Control Panel* under: *System/Hardware/Device Manager/Ports/Communications Port*. Select via double click the respective port (e. g. COM1) and activate *Port Settings.*

Default settings are: Bits per second: 9600 or 19200, Data bits: 8, Parity: None, Stop bits: 1, Flow control: Hardware

Check also Resources: COM 1: I/O Range 03F8 and IRQ 4 and COM 2: I/O Range 02F8 and IRQ 3 respectively

2.1.1.2 Step 2: Installation

Start the GreatCut 4 installation by double clicking greatcut.exe.

2.1.1 How to Install GreatCut?

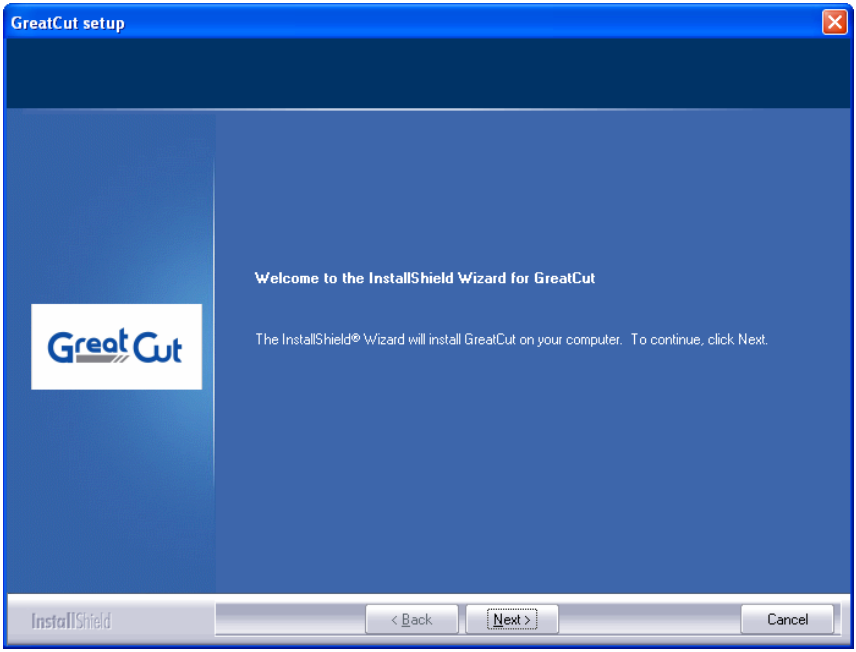


Fig. 2.1-1: GreatCut 4 setup

Note: Installation process is done again for each selected application.

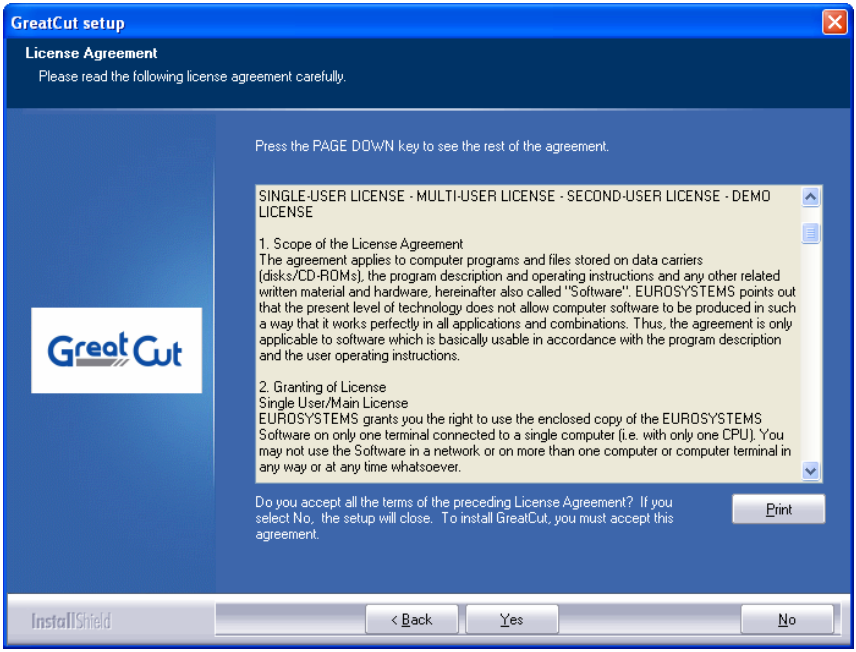


Fig. 2.1-2: Software License Agreement

In this dialog the installation folder for GreatCut 4 is chosen. By default the folder C:\Program Files\GCC\GreatCut 4 is suggested.

2.1.1 How to Install GreatCut?

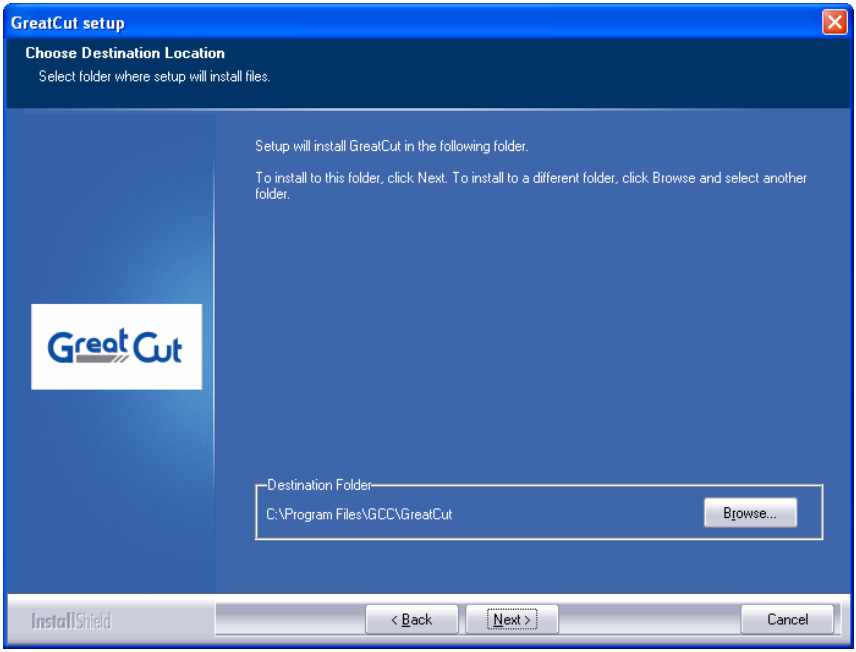


Fig. 2.1-3: Selection of destination folder

Hint: To install additional drivers select custom setup.

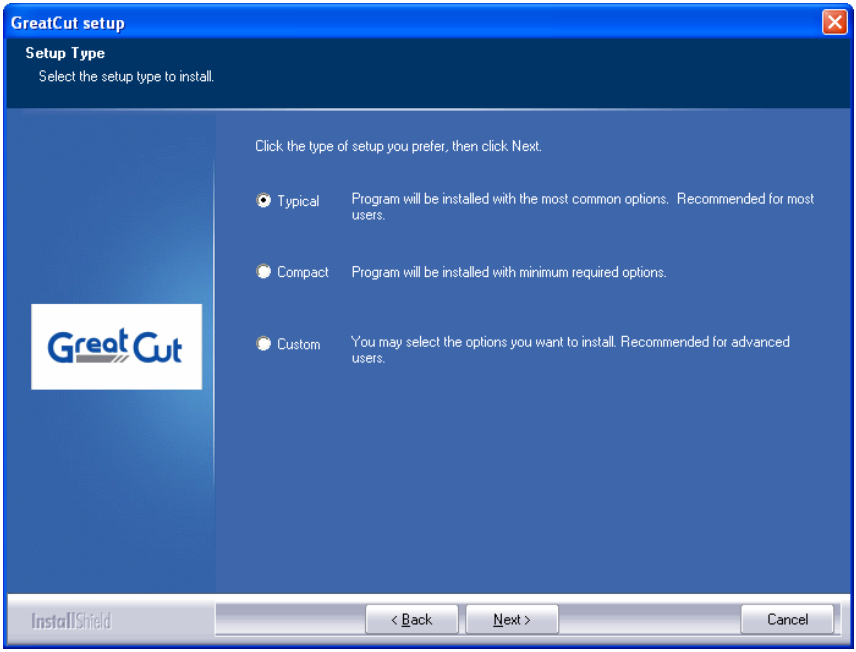


Fig. 2.1-4: Selection of setup type

Default program folder in the start menu is GCC\GreatCut 4.

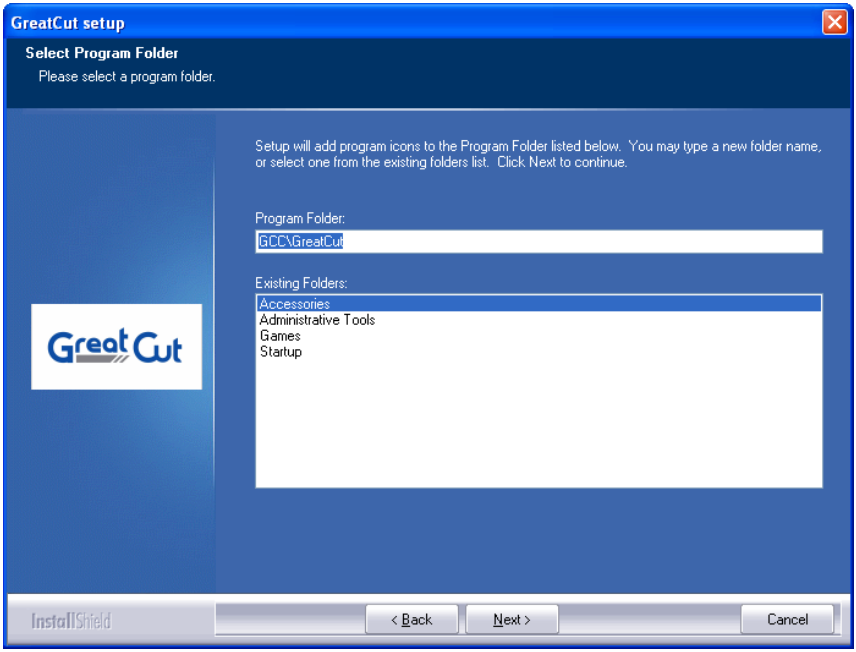


Fig. 2.1-5: Position in start menu

2.1.2 Enter License Data

You´ll find your personal serial number on the inner left hand side of your manual. Alternatively you´ll find your data on your invoice or you got it by email.

Important! All license data must be entered exactly how printed!

2.1.2.1 Use .ecfn file: Recommended, if license data was sent via email.

In the eMail with license data you´ll find an attached file with the extension .ecfn.

A double click on this file will license your software automatically!

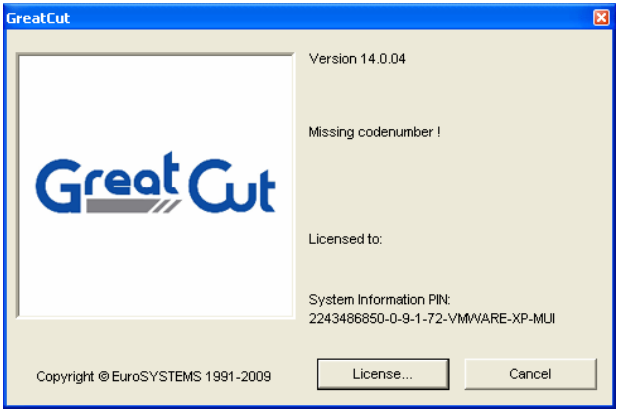


Fig. 2.1-6: Start window with invalid code

By clicking "*License...*" button following dialog is opened.

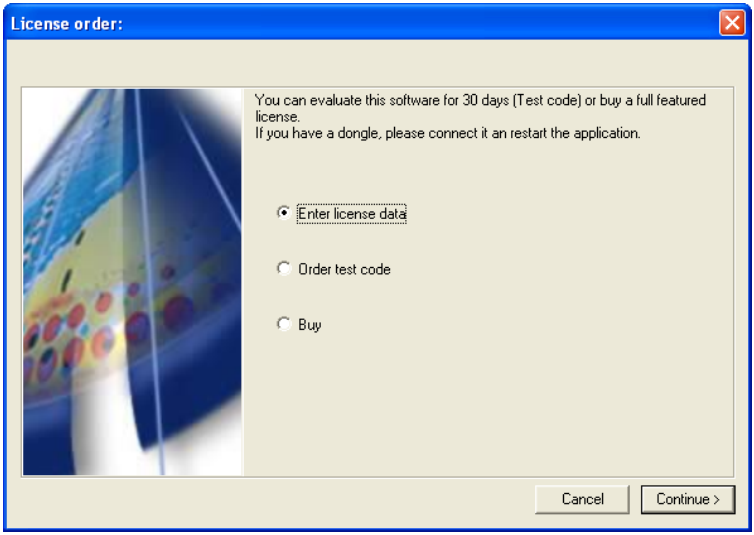


Fig. 2.1-7: Option for first installation of GreatCut 4

2.1.2 Enter License Data

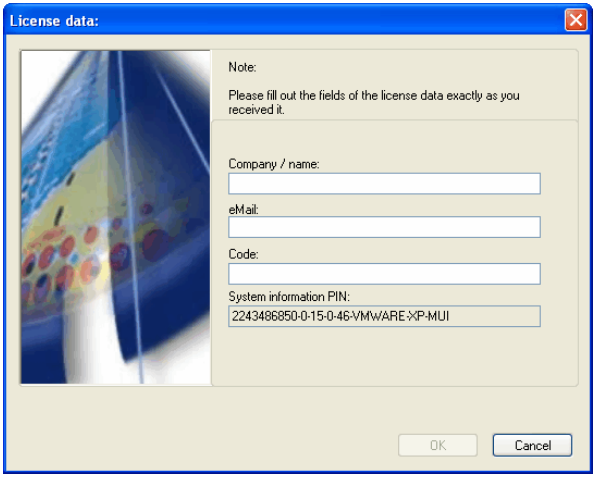


Fig. 2.1-8: These fields have to be filled with license data

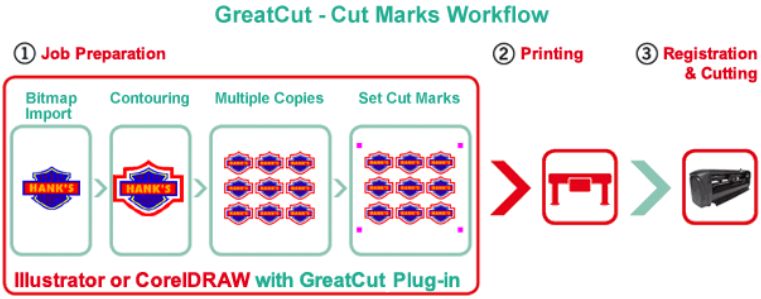
2.2 The Cut Marks Toolbar

All object functions of the Cut Marks Toolbar act directly on the host program's (CorelDRAW or Illustrator) objects. This extends host program's functionality with these tools so that the whole Print & Cut workflow can be prepared and given out with CorelDRAW or Illustrator. Of course, GreatCut 4 can be started without a host program. The described tools are also available in the standalone version.

Important note: The functionality described here is only possible with CorelDRAW X3-X8 & 2017-2020 and Illustrator CS3-CS6 & CC!

2.2.1 The Cut Marks Workflow

The following graphic illustrates the Print & Cut workflow (Cut Marks Workflow) inside the host program (CorelDRAW or Illustrator).



Starting point of the Cut Marks Workflow is a bitmap, which gets contoured as first step. In the second step multiple copies are generated. In the next step suitable register marks are placed around the copies.
This Job must be printed on a suitable printer and is finished with a cutting plotter (cutter) equipped with an optical sensor. The so called registration - Cut Marks recognition - corrects the prints deviations and the job is cutted. The results of this process are exactly cutted copies in any number and size.

2.2.2 The Cut Marks Toolbar in CorelDRAW X3-X8 and 2017-2020

Fig. 2.2-1: Toolbar in CorelDRAW X3-X8 and 2017-2020

The buttons were so arranged from left to right that the Cut Marks Workflow can be performed perfectly.

2.2.3 The File Menu Entries in Illustrator CS3-CS6 and CC

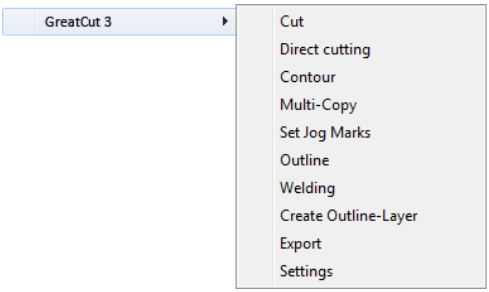


Fig. 2.2-2: Illustrator sub menu GreatCut 4

The menu entries are arranged from top to bottom in a way that the Cut Marks Workflow can be performed perfectly.

2.2.3.1 Buttons of the Cut Marks Toolbar

Important note: The following descriptions are valid also for Illustrator!

1 The *Create Contour* Button

Fig. 2.2-3: Create Contour Icon

please refer to 7.10: The *Contour (Line)* Function

2 The *Multi Copy* Button

Fig. 2.2-4: Multi Copy Icon

please refer to 6.4: The *Object Parameter* Toolbar

3 The *Set Jog Marks* Button

Fig. 2.2-5: Set Jog Marks Icon

4 The *Cut* Button

Fig. 2.2-6: Cut Icon

please refer to 3.8: Cutting - Milling - Creasing - Drawing …

5 The *Direct Cutting* Button

Fig. 2.2-7: Direct cutting Icon

Activating this button ensures that **no** window appears before the data output. The output data is sent directly to the connected device.

6 The *Export* Button

Fig. 2.2-8: Export Icon

Activating this button ensures that the selected data is exported into the specified folder (see ***Settings*** dialog).

Note: In CorelDRAW, the data are saved in the CMX file format, otherwise in PDF format.

7 The *Create Outline* Button

Fig. 2.2-9: Create Outline Icon

please refer to 7.2: The *Outline* Function

8 The *Create Outline Layer* Button

Fig. 2.2-10: Create Outline Layer Icon

After activating this button the object attribute is changed and a spot color for the selected contour, which was **not** generated with the GreatCut 4 button, is assigned.

9 The *Welding* Button

Fig. 2.2-11: Welding Icon

Activating this button welds the selected objects.

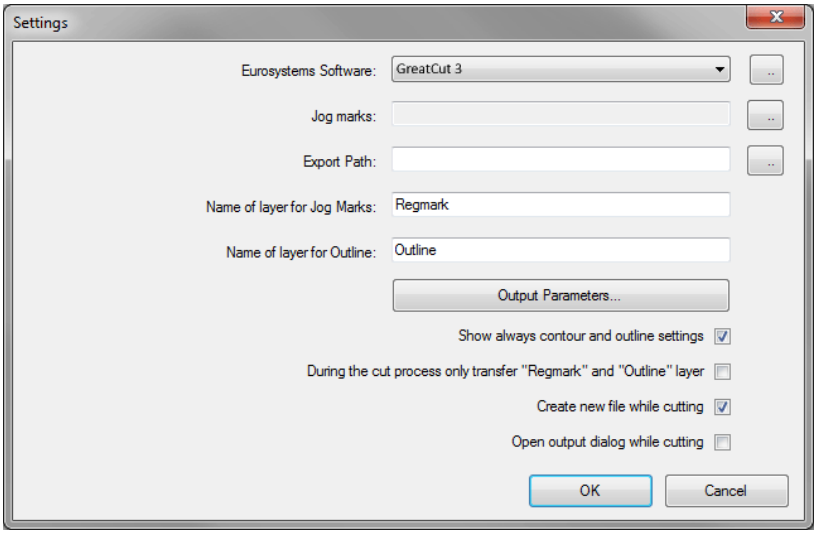
please refer to 7.7: The *Welding* Tool

10 The *Settings* Button


Fig. 2.2-12: Settings Icon

A click on the *Settings* Button opens the *Settings* window.

2.2.3.2 The *Settings* Dialog



***Eurosystems Software* Field**


Fig. 2.2-13: 2 Point Icon

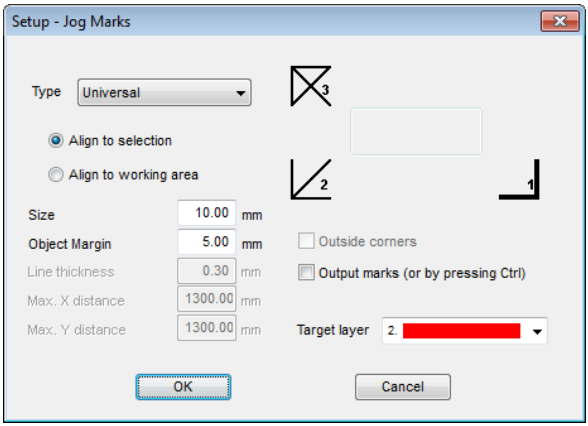
A click on the 2 point button enables the selected program and allows changing of *Settings* parameters.

***Jog Marks* Field**


Fig. 2.2-14: 2 Point Icon

A click on the 2 point button opens the *Setup - Jog Marks* dialog. It allows the selection of the appropriate cut marks for the plotter, in case your cutter has an optical sensor and its

driver supports this feature.



***Export* Field**

Fig. 2.2-15: 2 Point Icon

A click on the 2-point button opens the *Search folder* dialog. It allows the selection of the export folder where the exported file should be saved.

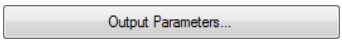
***Name of Layer for Jog Marks* Option**

This option enables the assignment of an individual layer name. Then this jog marks layer can be identified at any time and the jog marks can be selected. Preset is *Regmark.*

***Name of Layer for Outline* Option**

This option enables the assignment of an individual layer name. Then this outline layer can be identified at any time and the outline(s) can be selected. Preset is *Outline.*

The *Output Parameters…* Button



Activating the ***Output Parameters*** button opens the cutting dialog and allows you to set individual settings when cutting.

***Show Always Contour and Outline Settings* Option**

If this option is enabled then the dialogs which allow the parameter definition are always displayed, when the appropriate button was activated.

***During the Cut Process only Transfer 'Regmark' and 'Outline' layer* Option**

If this option is activated then only the objects are transferred to GreatCut 4 to which this two layers have been assigned: regardless of the current selection!

***Create New File While Cutting* Option**

If this option is enabled then after pressing the *Cut* button a new window in GreatCut 4 is opened and all or all selected objects are copied into the new window.

***Open Output Dialog While Cutting* Option**

If this option is activated then after pressing the *Cut* button the *Output* dialog is opened.

2.3 Autoexport - Scripts

Autoexport means that data from external programs (CorelDRAW, CorelDesigner, Illustrator, Freehand, Inkscape, InDesign or AutoCAD) are imported automatically into GreatCut - quasi at the push of a button. To do this the scripts are either integrated into the external program's menu structure or toolbar.

2.3.1 Corun Installer

With the Corun Installer you can install GreatCut the plugins. In the *Name* column all host programs are listed, in which the plug-ins can be implemented. In the *Plugin path* column is displayed in which the folder the plug-in files are located after installation. In the *Eurosystem software* list all programs are listed that have a plug-in functionality. Select the appropriate program from the list. Activating the *Install* button starts the process.

Note: The Corun Installer is required if the host application was installed BEFORE the EUROSYSTEMS program or if plugins must be re-installed.

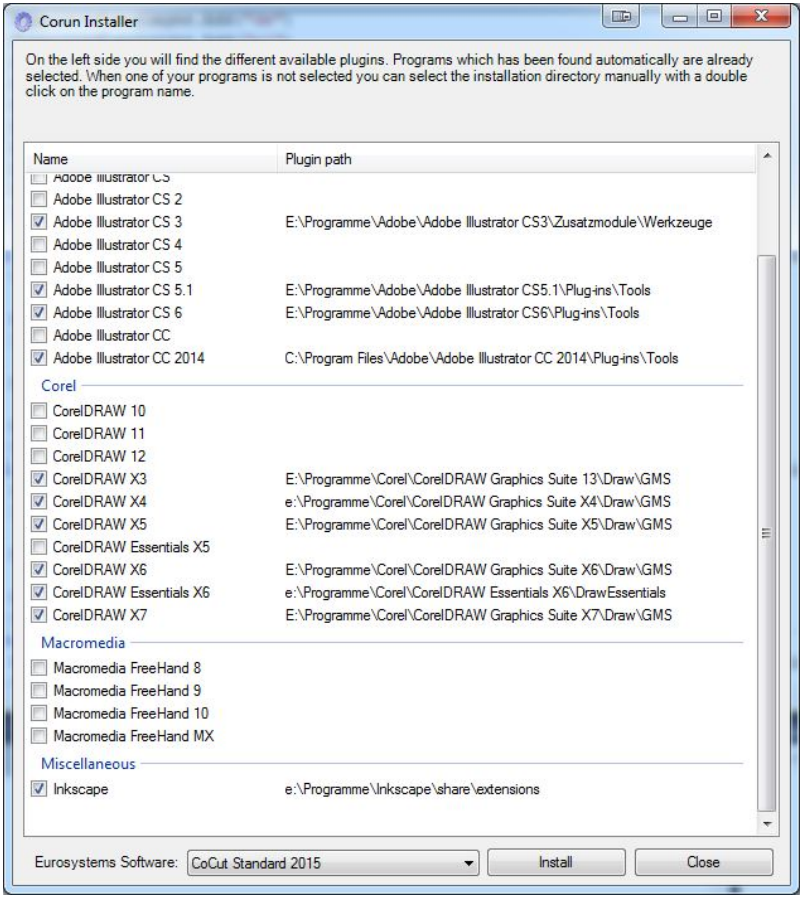


Fig. 2.3-1: Corun Installer dialog window with detected host programs and path indicators.

2.3.2 Insert GreatCut Icon in CorelDRAW Toolbar

2.3.2.1 CorelDRAW X3-X8 and 2017-2020

Indication: CorelDRAW must be installed with the option "Visual Basic for Application".

This option can be installed as follows:

2.3.2 Insert GreatCut Icon in CorelDRAW Toolbar

Insert CorelDRAW medium into the drive / start setup / select type of installation „***Custom setup***". If already a CorelDRAW-version is installed on your computer, first select „***user defined setup***" and then „***Custom setup***".

In the dialog that opens now, double click on main applications or one click on the ***Plus***-field. Here, double click on ***productivity support*** and activate the option „***Visual Basic for Application***". After the installation of GreatCut you have to link the GreatCut Script with the toolbar.

- Select the menu ***Tools / Customization***
- Select the option ***Workspace / Customization / Commands*** in the left option bar
- Right next to the option bar, click once on ***File*** and select ***Macros*** and drag ***Corun...*** or ***Cocut...*** to the toolbar of CorelDRAW.
- Activate the tab ***Appearance***. Here, press the ***Import***-button and select any symbol.
- Select the option ***Workspace/Customization/Command Bars*** in the left option bar .
- Change the name of the toolbar „***New ToolBar 1"*** to GreatCut.
- Click on OK.

If you now mark one or several objects and click on the thus created icon, the objects are passed on to GreatCut and can be plotted.

2.3.3 GreatCut Script in Adobe Illustrator 8-10, CS-CS6, CC

GreatCut is in the ***file*** menu underneath the menu item ***export***.

How does the transfer of data from Illustrator 8, 9, 10, CS, CS2, CS3, CS4, CS5, CS6, CC to GreatCut take place?

Start GreatCut from the ***file*** menu. If the objects are marked, only the marked objects are passed on to GreatCut. If also texts are passed on they will automatically be converted to curves.

Indication: If no objects are marked, GreatCut is not active!

Indication: Special process color fills are not passed on.

2.3.4 GreatCut Script in AutoCAD

2.3.4.1 Menu File for AutoCAD 2000(i), 2002-2021, 2002LT-2021LT

- In the menu ***Extras*** select the menu item ***adjust menus***.
  (*Indication: Alternatively you can also open the dialog via the command* ***_menuload***)
- In the dialog that now opens select the tab ***menu groups*** and press the ***browse*** button.

- The file selection dialog opens. Change the file ending to ***.mnu*** in this dialog.
- Select the file ***corun.mnu*** and close the dialog.
- Now press the ***Load*** button and confirm the inquiry dialog with ok.
- The GreatCut menu is now loaded.
- Now change the menu bar dialog in the upper tab. In the menu group select ***GreatCut Plot*** and insert it into the desired place in the AutoCAD menu.

2.3.4.2 Menu File for AutoCAD LT 98 And R14

- In the menu ***Extras*** select the menu item ***Adjust/Menus***.
- In the dialog that now opens press the ***browse*** button.
- The file selection dialog opens. Change the file ending to ***.mnu*** in this dialog.
- Select the file ***corun.mnu*** and close the dialog.
- Now press the ***Load*** button and confirm the inquiry dialog with ok.
- The GreatCut-menu is now loaded.
- Now change to the ***menu bar*** dialog in the upper tab. In the menu group select ***GreatCut Plot*** and insert it into the desired place in the AutoCAD menu.
- In the menu ***file*** select the menu item ***printer installation***.
- In the dialog that now opens press the ***open*** button and select the file ***cocutlt98.pc2 (LT98)*** respectively ***cocutr14pc2 (R14)***.
- Close the dialog.
- Start now the print-job by activating the menu item ***print*** in the ***file*** menu in order to do following settings: activate the button ***Plot in file***, set the ***scale factor*** to 1:1 and the ***unit*** to mm.

In the menu is now GreatCut entry and in the toolbars GreatCut toolbar was added.

Important: Be careful that at the first output the checkbox "plot to file" is activated. With this procedure, all graph elements are passed on. The change-pen commands are interpreted from the PLT file so that the 8 layers are separable. AutoCAD does not plot with Arcs, which means that all elements are resolved in lines and dots are interpreted as bores.

Indication: If DXF is used, you have to press twice the ENTER button after the selection of the object as the execution of the macro menu is aborted by the object selection. At the passing on via DXF the dimensions and texts are not passed on but it is possible to select and output them. The curves are not converted to lines but the Splines or Arcs in the DXF file are converted to Bezier curves. The layer amount is not limited to 8.

In the startup group of Windows a link to the program ***autoimp.exe*** is installed during the installation with which the passing on of files to GreatCut is realized. If autoimp.exe is started an ***icon*** is shown in the system tray (lower right corner of the screen). Double clicking on the icon ends the program.

Attention: If the icon is switched off the transfer to GreatCut does not work anymore!

Via ***Start*** / ***All Programs*** / ***Startup*** / ***Auto Import*** for GreatCut it can be started again.

Indication: During the installation you have to pay attention that GreatCut is always installed for the last used AutoCAD version if several AutoCAD versions are installed on your computer.

2.4 Selection of The Device Driver

Please, select first your output device from the list ***driver***. In the field ***name of device*** the identical name for the selected device that is shown in the cutting dialog appears. This name can be changed individually in this field. After the selection of the driver please select - in the area ***type of connection*** - the ***device type*** with which the device is connected to the computer.

Tip: If the driver you search for is not in the list you can try another driver from the same manufacturer.

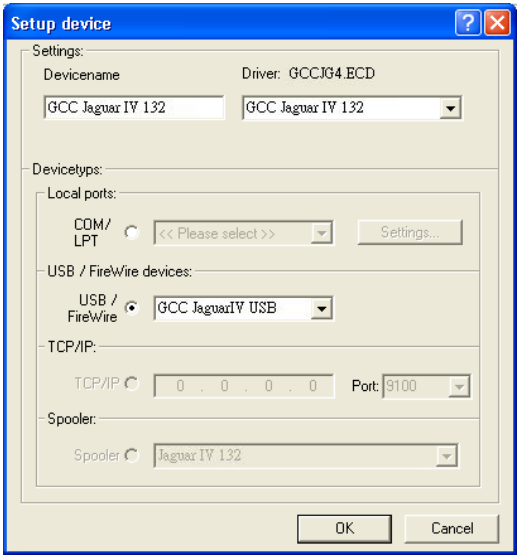


Fig. 2.4-1: Dialog for the selection of the device driver

Detailed information for the setting of the ***local interface*** is here: **please refer to 3.8: Cutting - Milling - Creasing - Drawing …**

3 How to work with GreatCut

3.1 Desktop and Working Sheet

3.1.1 I. Desktop

The so-called Desktop means the whole visible program window including **Toolbars, Working Sheet** and **Desktop** background.

Note: On the background can be placed any desired number of objects. The size of the background is limited only by the resources of your computer. Thus the layout can be done basically in 1:1 scale.

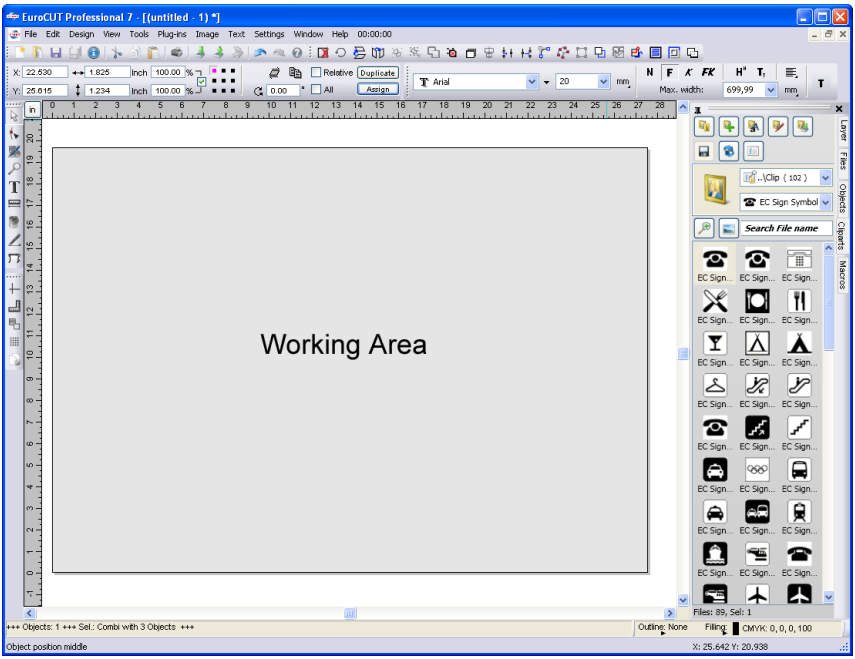


Fig. 3.1-1: Desktop with working sheet (here: gray), Background (here: white), Toolbars, Sidebar, Rulers, Statusbar

3.1.2 II. Working Area

The workspace is a subset of the GreatCut desktop. The workspace is usually in the format that will later be output on a machine. In addition to the known DIN formats, any formats can be applied, e.g. for different table sizes.

Note: The working area is used primarily for guidance. The format of the working area has no influence on the output on a connected device. The output preview window displays what is given out.
please refer to 3.8: Cutting - Milling - Creasing - Drawing ...

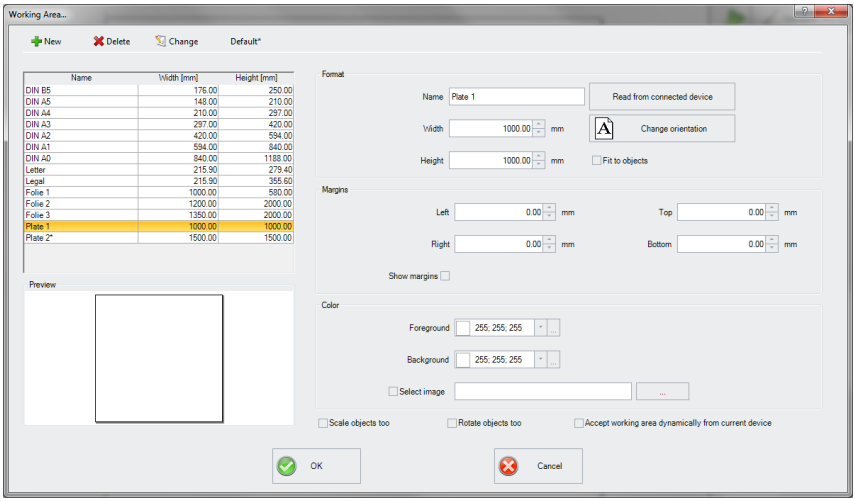


Fig. 3.1-2: The Working Area Dialog

3.1.2.1 The Buttons

The *New* Button

The ***New*** button creates a new format. The values for width and height of the selected line are transferred to the new row.

The *Delete* Button

The ***Delete*** button removes the marked row.

The *Change* Button

This button saves all changed parameters and options.

The *Default** Button

This button marks the name with a * (star). The star-marked format is used every time GreatCut is started.

The *Read from connected device* Button

By means of this button - if the read-out command of the driver is processed by the machine controller - the width value can be read from the connected device and inserted into the width field.

The *Change orientation* Button

This button changes the orientation of the working space from portrait to landscape and vice versa.

The *OK* Button

The OK button accepts the changed values and closes the dialog.

The *Cancel* Button

This button closes the dialog without saving any changes.

3.1.2.2 The Areas

The *Preview* Area

In this area, the worksheet, the desktop background, their colors, as well as the orientation are displayed proportionally reduced.

The *Format* Area

Name

The name of the format is entered in this field and the name of the selected one is displayed.

Width

In this field, the width of the format is determined.

Height

In this field, the height of the format is set.

The *Margins* Area

Left, Right, Top, Unten

These 4 fields define the distance of the borders from the edge of the working area.

Note: Negative values are also allowed.

The *Color* Area

Foreground

Here, the color of the worksheet can be defined as RGB value.

Background

Here the color of the background desktop can be defined as RGB value.

3.1.2.3 The Options

The *Fit to objects* Option

This option captures the objects outside the working sheet and extends the sheet by the amount necessary to accommodate all the objects on the working sheet.

The *Show margins* Option

This option displays the defined borders as dashed lines in front of the working sheet.

The *Select image* Option

This option displays the selected bitmap in the preview and later on the working sheet. The ... button opens the file dialog for selecting the desired bitmap.

The *Scale Objects too* Option

If the height or width of the working sheet is changed, all objects on the working sheet are reduced or enlarged by the same amount.

The *Rotate Objects too* Option

This option determines whether the objects on the working sheet and on the desktop background will also be rotated when the orientation is changed.

The *Accept working area dynamically from current device* Option

This option ensures that the width and height values of the working area are read from the connected device and used. For each device, a format is created with the name of the device in the list.

3.2 Job Preparation

3.2.1 Import

With this command the graphics that have *not* been saved in the GreatCut-job-format are transfered to the working surface.

The functionality of this dialog box corresponds to the ***open file*** command. Differences are only due to the possibility to change the size of the data to be imported by means of the parameter ***X-*** and ***Y-factor***. The desired file is chosen respectively specified via the ***name of file, type of file*** and ***directories*** (search in).

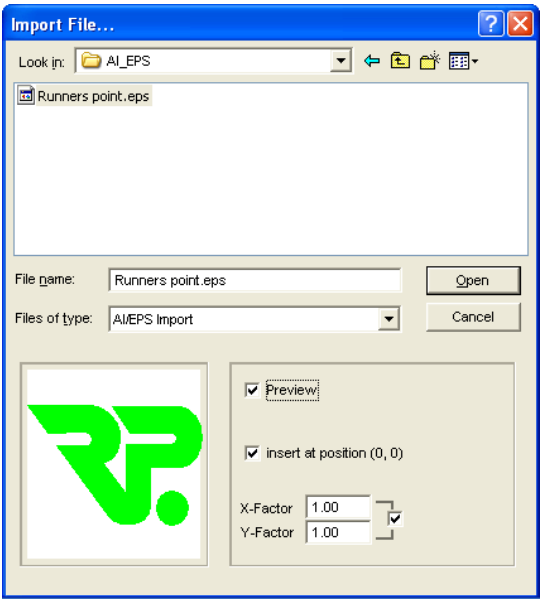


Fig. 3.2-1: Import window with preview

With the preview window in the import dialog all following **formats** can be displayed.

*.ai/eps, *.pcx, *.jtp, *.tif, *.bmp, *.wmf, *.emf, *.dxf, *.gif, *.hpgl, *.gtp, *.ik, *.svg

Indication: With text files (*.txt) the preview window is switched off.

3.2.1.1 Import Presettings

For many import operations, **constraints** can be defined to be taken into account **before**, **during** or **after** importing the data. Constraints can effect the DXF or HPGL import or all import operations.
Also for export constraints are definable in this window. Thus, a special option on job files can be activated, for example, the PDF export. The **constraints** are extensively recorded

in the following article. **please refer to 4.6.1.7: The *Import* Setup**

3.2.1.2 PDF Import

3.2.1.2.1 Additional Options

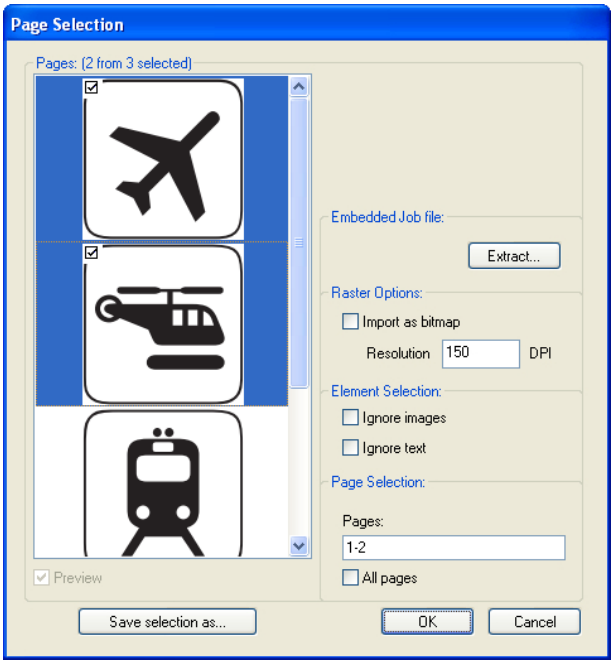


Fig. 3.2-2: Options concerning import of data

Integrated Job File

The ***Extract*** Button

Enabling the ***Extract*** ... button ensures, that the import function loads the integrated job file on the desktop, while extracting the PDF file.

Note: A prerequisite for this is that when you export the appropriate option in the preferences (see above) was made.

Raster Options

Import as Bitmap Option

If the ***Import as Bitmap*** option is enabled, then all vectors will be rastered into a bitmap before the import.

Resolution

The value in dpi

Element Selection

Ignore Images Option

If the ***Ignore Images*** option is enabled, then no images will be imported.

Ignore Text Option

If the ***Ignore Text*** option is enabled, then no texts will be imported.

Page Selection

In the **input field** the page number can be entered, which should be imported.

All Pages Option

If the ***All Pages*** option is enabled, then all pages of the document will be imported.

Search in

In the row ***Search in*** the path can be set that shall be searched.

File name

If the file name is know it can be entered into this field

Type of file

Here, you have to choose the format of the file to be imported in order to activate the corresponding import filter

Preview

The activation of this option draws a preview of the file content to the left preview window

Insert at Position (0,0)

This option inserts the objects at the 0 (zero) position of the GreatCut-working surface.

X Factor, Y Factor

With these two factors the data can be scaled (increased or decreased) during the import. The scale can be proportional or unproportional.

3.3 Tool Assignment Via Layer

Tools which are provided from an output device are pre-defined in the device driver. The tool selection is done with the output dialog of the ***Mode / Tool*** list field.

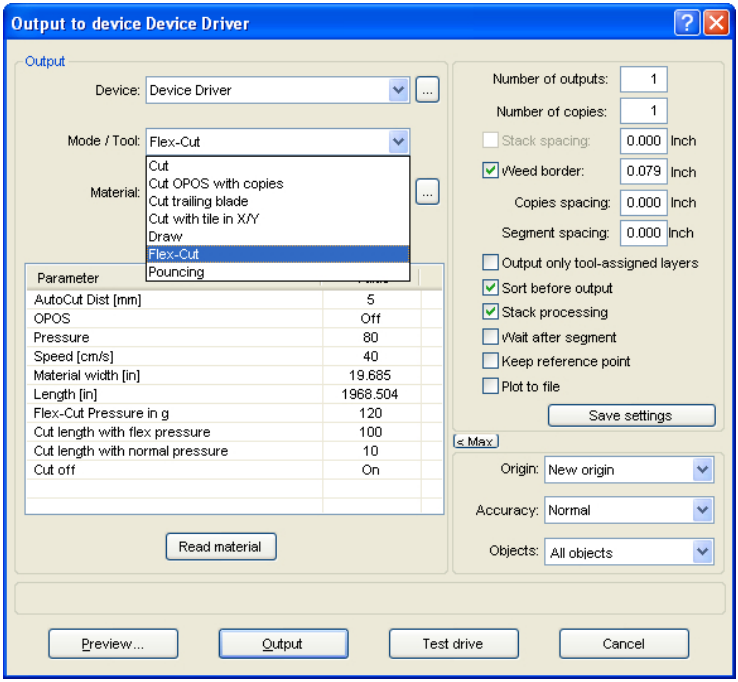


Fig. 3.3-1: Tools and toos parameter which were defined in the device driver

3.3.1 Define Layer Assignment

What tool is located in which layer - that is necessary to define the order of execution - will be assigned in the ***layer settings*** window. A click with the **right mouse button** on the to edit layer opens the **layer settings** window. Tool assignment is not possible here.

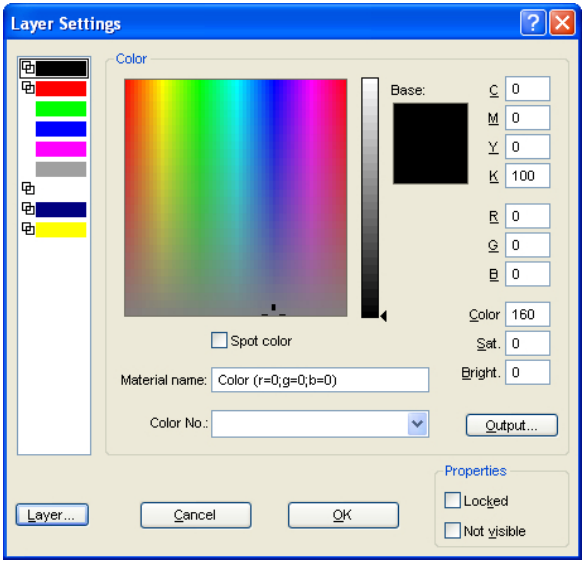
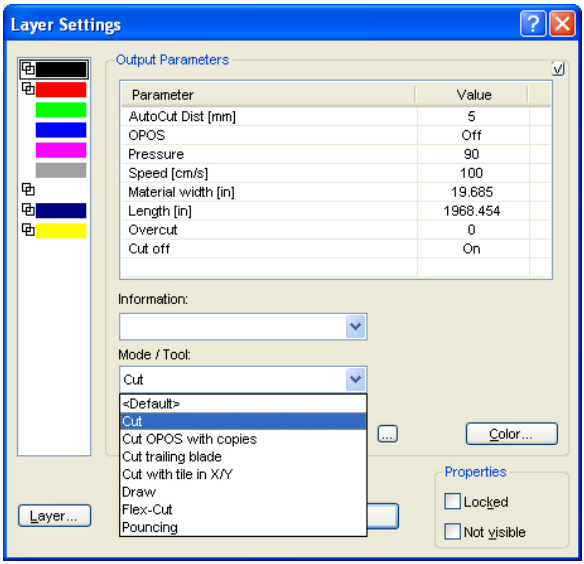


Fig. 3.3-2: Window before switching into the output view

3.3.1.1 The *Output* Button

If the ***Output*** button is enabled, the ***layer settings*** window switches in the following view:



3.3.1 Define Layer Assignment

Now, all from the respective driver provided tool modes are listed. When you select a tool, then the editable parameters and values appear in the list in the upper area of the ***output parameter*** window. Values can now be edited. A ***doubleclick*** in the desired field allows editing of its value. Repeat this operation for each layer and mode which is scheduled for output.

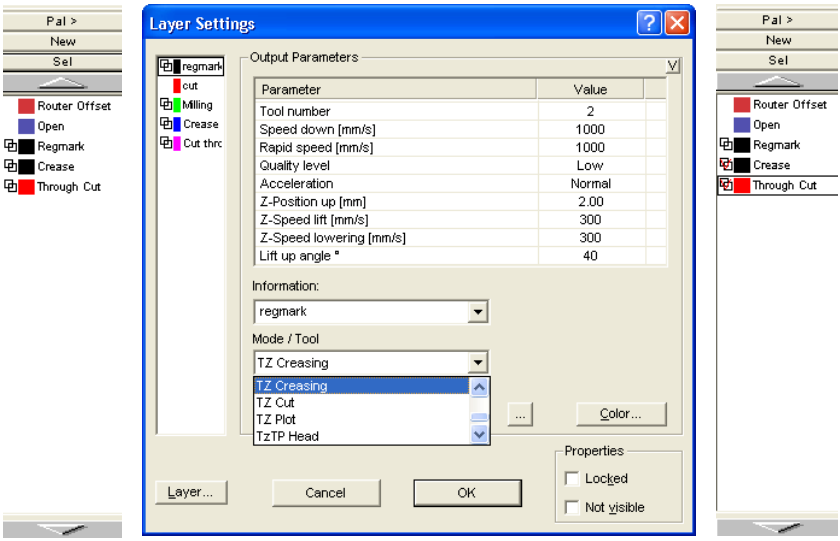


Fig. 3.3-3: Layer with tool nomination (left-hand) - tool assignment (Middle) - Layer with assigned tool (right-hand)

Note: When the red hook is visible, a tool assignment had been done. An additional control is possible via a tool tip in the layer box by placing the mouse cursor on the layer under investigation and is waiting for some time.

Depending on the output device, different tools and output modes are available. In the example below, for example, tools of a flatbed cutter are been used. Here it is important to determine the correct order in which the tools should work.

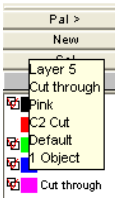


Fig. 3.3-4: Tool tip control for the "Cut Through Layer"

3.3.2 How the Tool Sequence Is Determined?

In principle, it should be noted that the processing of the **layer is done top down** and the logical sequence of different tools, is applied, so that for example, drawing is active ahead the cut tool. This sequence can be reordered individually.

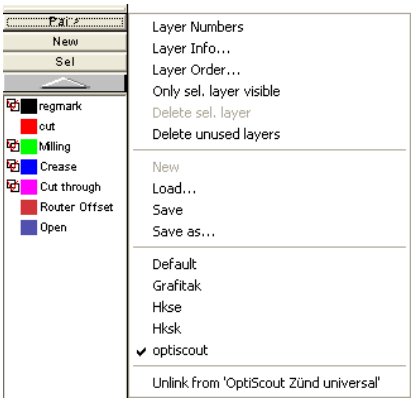


Fig. 3.3-5: Layer sequence which should be reordered

The change order function is enabled via the ***layer order*** menu item. In the ***move layer*** area you'll find the buttons to change the layer order.

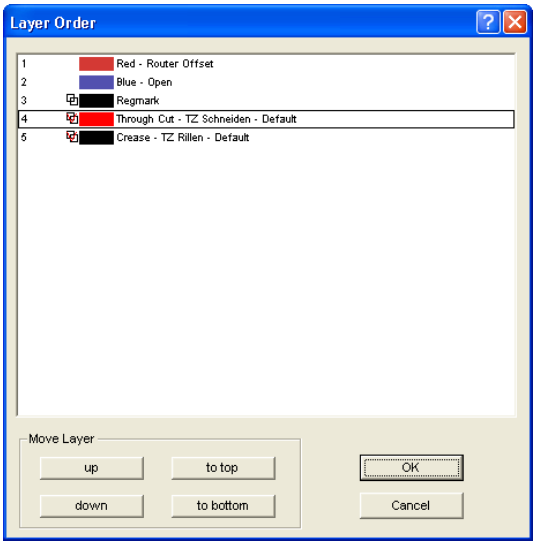


Fig. 3.3-6: Tool sequence reordered - Through Cut above Crease

Conclusion: The tool assignment allows first, the definition of tools, second, the parameters for each tool, third, the selection of the color (layer) in which the to be processed objects lie and in the fourth place, the sequence in which the operation should be processed. GreatCut 4 gives you the flexibility you need in dealing with different output scenarios and workflows.

3.4 The Output

3.4.1 Device Setting - Interface Setup (Local Device)

The GreatCut output

With this command you activate the module for *cutting, milling, creasing* and *drawing* of your data.

You activate this function via the button in the ***tools*** toolbar or via the ***file*** menu, menu entry ***output…*** **S**

Fig. 3.4-1: The output button

When *first* opening another dialog will be opened before in which the *driver of the device* as well as the *connection* has to be defined.

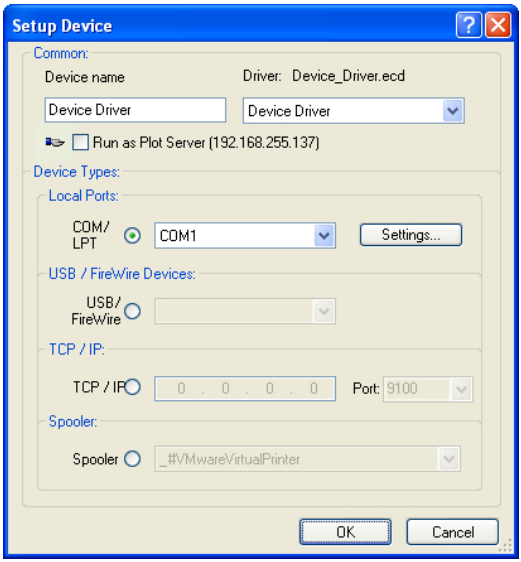


Fig. 3.4-2: Driver and selection of the connection

General

Under the part of the dialog named ***General*** you select the ***driver of the device***.

In the right list all device ***drivers*** are listed that are available in GreatCut. In the left list an individual name for the driver can be distributed. This name will be used in the output dialogs of GreatCut.

Enable as server

Requirements are at least 2 licenses of GreatCut.

If the option ***enable as server*** is activated the output device will be marked as ***plot server*** and can be used by another ***Plot Manager*** for the output.

The characteristic features of an output device are that a driver for the processing of the data has to be distributed to this output device. On the computer on which the Plot Manager is running the job data for the output are transformed into device data by means of a driver. The output of the device data can be done in several ways:

Types of connection

Local interfaces

Local interfaces are the interfaces (COM1, COM2, ..., LPT1, LPT2, ...) that are directly on your computer.

The activation of the ***settings*** button opens a dialog for the configuration of the interface. These settings that are done here apply for the whole system.

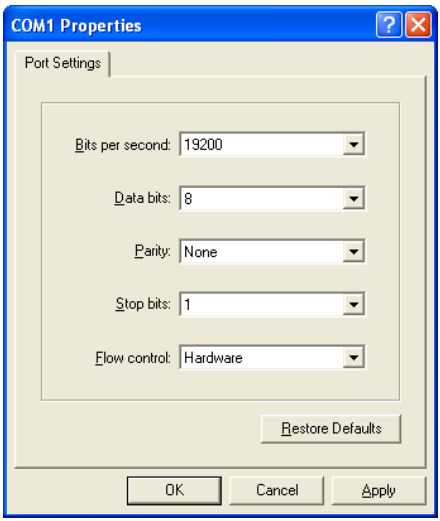


Fig. 3.4-3: Dialog for the setting of the interface parameters

Indication: When steering serially you have to pay attention that all settings on the side of the computer as well as on the side of the output device correspond. Otherwise there is no or faulty communication between them.
USB / Firewire Devices

Here, all momentarily connected ***USB / Firewire devices*** are listed.

TCP / IP

Here, you have to enter the TCP / IP address and the port number to which shall be output.

Spooler

Here, you can select a Windows printer driver.

When opening the ***output*** dialog again it will be opened *directly* with the previously set device driver.

3.4.2 Device Setting (Network Device)

When selecting the menu item ***create network device ...*** following dialog will be opened:

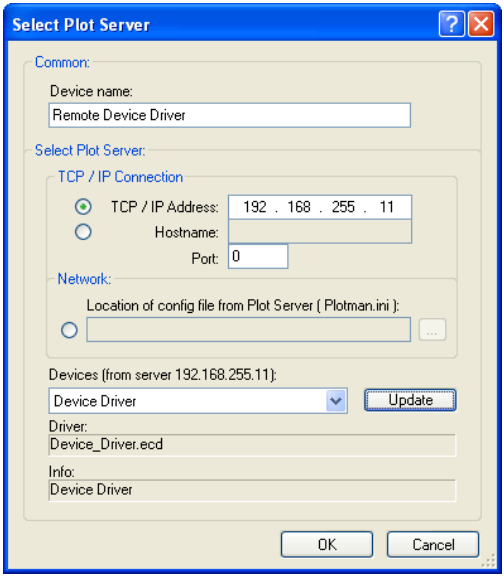


Fig. 3.4-4: Dialog for the configuration of a plot server

A ***network device*** enables the output of GreatCut jobs on a Plot Manager that runs on *another* computer. Contrary to a "normal device" the data are not locally transformed into device data but transferred unchanged to the plot server for the further processing.

Device name

In the entry line enter the name of the device.

Server selection

In the area named ***server selection*** enter the ***TCP/IP address*** if you use a TCP / IP connection or the ***name of the computer*** that is used.

Network

If a connection shall be done via a ***network*** the configuration file of the plot server, the ***plotman.ini***, must be selected.

Devices (of server)

If the ***actualize*** button is pressed the ***devices*** of the server are read.

Indication: The device of the server can only be read if the server was selected as only then, the devices of the server are available.

Driver

In the field ***driver*** the device driver is entered that the server uses for *this* device.

Indication: This driver must also be created locally, which means as local device.

3.4.3 Start Output from the GreatCut Working Surface

The output is started using the plotter icon  .

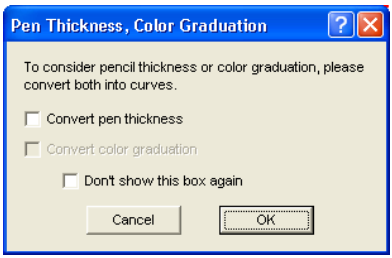


Fig. 3.4-5: Pre-processing line weight and color gradient

If a GreatCut job contains objects with the attributes ***pen thickness*** and/or ***color graduation*** a preceding dialog appears. The object attributes can be transformed into

vectors so that they are taken into consideration at the output. After clicking on the ***OK*** button the object attributes are transformed into curves.

3.4.3.1 Output to Device

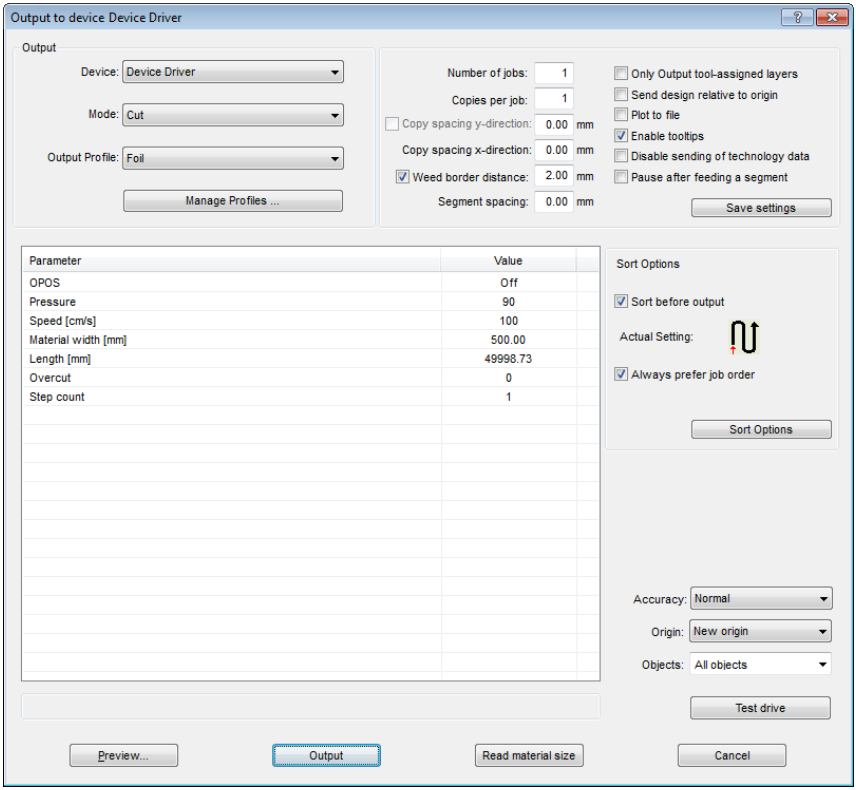


Fig. 3.4-6: Output dialog

Output

In the area named ***output*** of the ***output to device*** dialog you can control most of the parameters that are directly or indirectly in contact with the output device.

Device

In the ***device*** field the previously defined output device is shown.

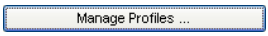
Mode

In the ***mode*** field the required output mode is preset.

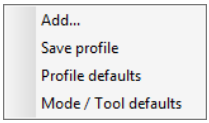
Output Profile

In the field ***output profile*** the required profile with individual settings and values is selected.

Manage Profiles Button

Clicking on the 

button opens the following popup menu:



Add

Activating the ***Add*** menu item writes a new data record into the profile database.

Save Profile

Selecting the menu item ***Save profile*** the prior to this edited and changed values are written into the profile database.

Profile Defaults

Activating the menu item ***Profile defaults*** resets all **Values** to the default value. The profile values are reread.

Mode / Tool Defaults

Activating the menu item ***Mode / Tool defaults*** resets all **Parameters** to the **internal driver values**.

Number of Jobs

The value in the field ***number of jobs*** repeats the last output *without* the reading of the video marks with identical output parameters such as scaling, etc. Only layers with tools are given out. This variant protects against the fact that layers are output with no tool assignment. This means that there is no error output due to the use of the last active tool.

Copies per Job

In the field ***copies per job*** you define how often the *selected* objects shall be cut. After the cutting this value is automatically reset to 1.

Copy Spacing Y-Direction

The value in the field ***Copy spacing y-direction*** defines if the copies shall be stacked vertically and which space has to be kept between the copies. Pre-condition for the activation of this option is that the selected object can be cut more than one time on top of each other!

Indication: In the preview the first object is shown „normally“. Each further object of the stack is shown dashed in blue.

Copy Spacing X-Direction

The value in the field ***Copy spacing x-direction*** defines the space between the copies that were entered in the field ***Copies per job***.

Weed Border Distance

With the option ***Weed border distance*** it is defined if and with which space a rectangle is cut around the plot that facilitates the weeding of the foil. In the ***output preview*** the frame - if activated - is shown *dashed in blue*.

Segment Spacing

The ***segment spacing*** defines the horizontal space between the single segments. Segments always occur if the job has to be sectioned which means divided.

Only Output Tool-Assigned Layers

By activating this option, only objects from a layer with an assigned tool are transferred to the **Plot-Manager**.

Send Design Relative to Origin

Via this option the zero point (0/0) of the cutter can be moved. If this option is **not** active GreatCut selects automatically the physical zero point as starting point for the cutting.

If the ***Send design relative to origin*** option is active the physical zero point is moved relatively to the offset coordinate of the reference point. The coordinates of the reference point corresponds to the position of the down left corner of the object to be cut on the GreatCut working surface.

Plot to File

If the option ***plot to file*** is active all output data are directed to a file you have named and written onto the hard drive.

Enable Tool Tips

If this option is enabled, explanatory texts regarding parameters, values or options are displayed, if the mouse cursor is located directly above.

Pause after Feeding a Segment

Sectioning / Segmentation: If a job is too big for the output GreatCut separates the job automatically in so many parts **(segments)** that are necessary for the complete output of the job.

If the option ***Pause after feeding a segment*** is active the output is interrupted after each segment and the material can be re-adjusted if necessary.

Save Settings Button

By activating the ***Save settings*** button all values that have previously been entered in the ***output*** dialog are stored and assigned to the currently active output device.

3.4.3.2 Sort Options

Sort before Output

If the option ***Sort before output*** is activated all objects in the working surface are sorted 1. in *head direction* and 2. in *transport direction*.

Actual Setting


Fig. 3.4-7: Main direction icon

The icon shows which **main direction** is selected in the ***output to device*** dialog.

Always Prefer Job Order

This option ensures, that the sorting that was made before, is not changed through an alternative sortation.

The Sort Options Button

The ***sort options*** button opens the ***output settings*** dialog.

please refer to 7.5.4.1: The *Sort Settings* Tab

Accuracy

The ***Accuracy*** field offers the following settings: ***very low, low, normal***, ***high*** and ***very high***. As default, the value ***normal*** is set.

The accuracy defines of how many vector parts an object should consist. This is only relevant with objects whose size range in ten thousands of a millimeter. Other object sizes are calculated *automatically* by GreatCut.

Feed / Origin

Depending on the selected driver the field name is either ***feed*** or ***origin.***

Friction Feed Cutter

With ***origin*** the options are ***new origin*** or ***don't set.*** If the option ***new origin*** is selected the device goes into X-direction at a fix set value behind the last cut object and this position is then the new origin. If ***don't set*** is activated the physical zero point is the new origin after the output.

Flatbed Cutter

With ***feed*** the options are ***feed*** or ***no feed.*** If the option ***feed*** is activated the material feed is carried out with the sectioning and with the output from the roll if the flatbed cutter has an automatic material feed.

Objects

The field ***Objects*** allows the selection of the objects to be output. Besides the modes ***all objects*** and ***selected objects*** GreatCut also allows the cutting of ***color sequences*** or of ***single color layers***. The two last named are explained more in detail in the chapter „***color separation when cutting***".

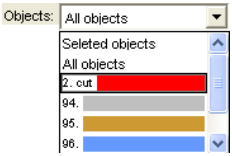


Fig. 3.4-8: List field objects with selection modes.

3.4.3.3 *Parameter* / *Value* Table

The table ***Parameter*** / ***Value*** allows the access to the parameters of device and driver. The area is divided in ***parameter*** and ***value***. The width of the display can be changed by moving the vertical line between the areas with the mouse. Whenever **Edit…** is displayed in the ***value*** column a double-click opens the corresponding window for the setup of a ***group of parameters***.

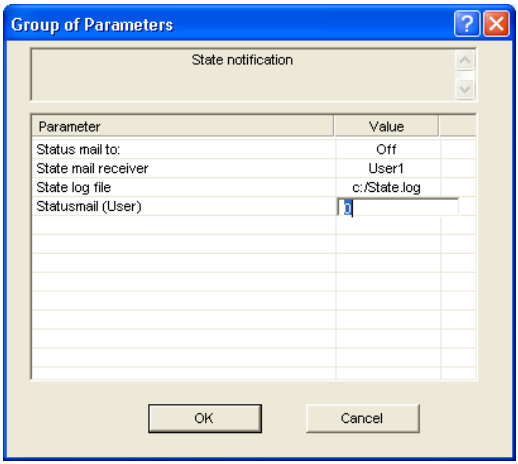


Fig. 3.4-9: Example for an opened parameter group

Info Line

In the ***Info Line*** information relating to the output process is displayed additionally, e. g. "Job will be sectioned".

Test Drive

If the ***test drive*** button is activated the connected device drives along the ***weeding frame*** with the tool head lifted. This also happens if the option ***weeding frame*** is not active.

Preview or **Direct Output**

The ***Preview*** button opens the ***output*** preview. **Direct output** suppresses the **preview** window. After pressing the output button, the plotter commands are transferred to the plotter together with the data.

Output

The ***Output*** button transfers the data directly to the ***Plot Manager*** and to the connected device.

Read Material Size

The ***Read material size*** button delivers back to all connected devices the height of the area to be plotted if an accordant command is intended in the firmware for the device. Devices that do not offer this option no value respective zero is delivered back.

3.4.3.4 Color Separation when Cutting

Each layer color used in the draft appears again in the ***objects*** list with the number that clearly defines each layer color. In addition, in this list field *two horizontal color bars* appear. After having transferred the data of a color layer, in the info area of the Windows status bar the ***Plot Manager*** icon ( ) appears.

Double clicking on this icon activates the Plot Manager ***job control***. If the mouse cursor is positioned on the icon and the right mouse button is pressed, a pop up menu appears in which the **Plot Manager** can be closed or the program ***version*** can be shown. In the ***layer selection*** the color layers that have not been processed yet occur in the order in which they had been selected. The order in the stack can be changed at any time.

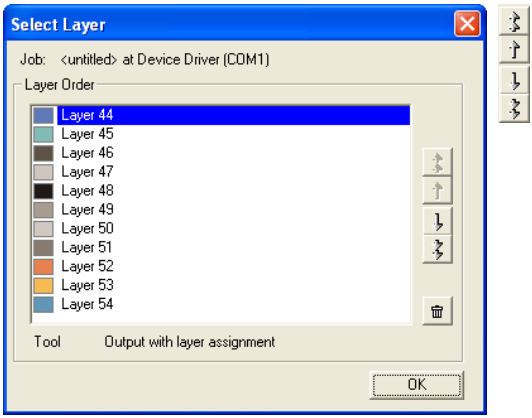


Fig. 3.4-10: Definition of the order in which the single layers shall be processed by up / down buttons

The order is defined via the ***up / down*** buttons. Layer colors that are not necessary are deleted from the list with the button.

Tip: For the color separated cutting use the register marks from the draw tool. Register marks are cut at the same place on the foil independently from the used color.

3.5 Export

If you want to use a job-file also in other programs the data must be made available in another format than the GreatCut-job-format. This process is called ***„export"***

Indication: Exporting is done with the highest quality and lowest compression.

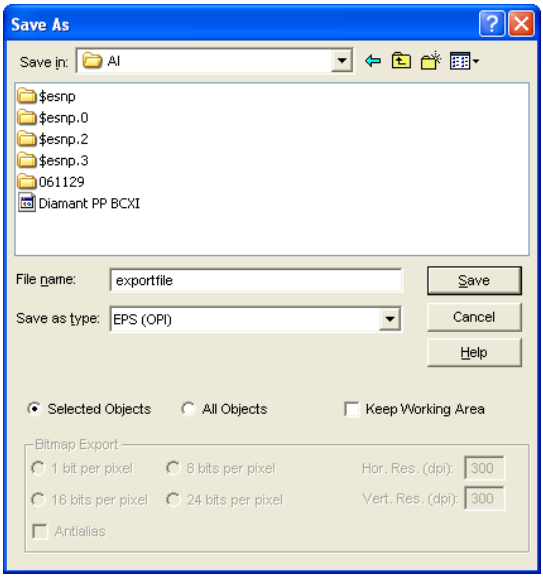


Fig. 3.5-1: GreatCut Export window with file selection

Save

With the icons next to the ***Save-field*** you choose the path in which the export-file shall be saved.

File name

In this field you enter the name of the export-file.

Type of file

Here, you select in which other format the data on the desktop is to be written.

Following export-filters are available in GreatCut: *.eps (opi), *.cmx (Corel6-X6), *.plt (HPGL), *: jpg, .pcx, *.tif, *.bmp.

Indication: If objects are selected only those are exported, otherwise all of them.

Selected objects

If this option is activated only the marked objects are written in the export-file.

All objects

If this option is activated all objects are written in the export-file.

Maintain worksheet

With this option the contour of the worksheet is written as object in the export-file.

Bitmap-Export

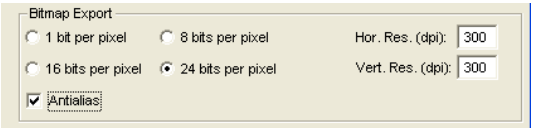


Fig. 3.5-2: Shade and resolution at Bitmap-export

Shade

The number in front of „Bit per pixel" indicates the exponent of the shade.

Example: 8 bits per pixel = 2^8 = 256 colors

Resolution

This value defines the amount of pixels per inch. The higher the value the finer becomes the resolution. The value dpi 300 for example is sufficient for the offset printing.

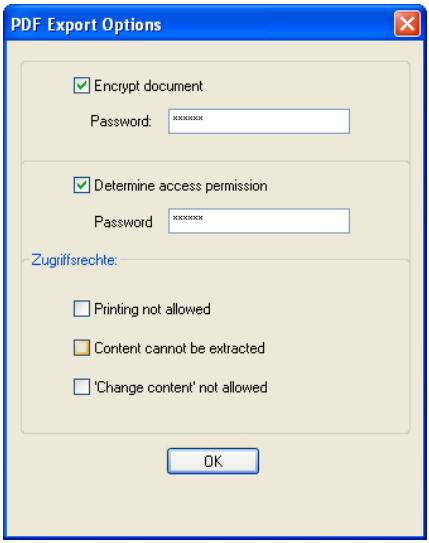
Indication: Higher values are often not suggestive as the size of the file increases with higher dpi.

Antialias

The export of a bitmap can also be done with antialiasing short: Antialias, which is a **jaggies smoothing** or **edge smoothing**.

3.5.1 PDF Export

3.5.1.1 Additional Options



3.5.1.2 *Encrypt Document* Option

Enabling the ***Encrypt Document*** option allows input of an individual password.

Password

In the **input field** any password for the document can be filed.

Note: Please make sure that a secure password is used. It should be at least 8 characters long and made of numbers, letters, capital letters and special characters.

3.5.1.3 *Set Access Rights* Option

Enabling ***Set Access Rights*** option allows you to enter an individual password.

Password

In the **input field** any password for the following access rights of the document can be filed.

Note: Please make sure that a secure password is used. It should be at least 8 characters long and made of numbers, letters, capital letters and special characters.

PS: The GreatCut PDF export includes a double-stage password protection. The

first stage refers to the entire document and the second stage to a specific access rights of the document.

3.5.1.4 Access Rights

***Printing not allowed* Option**

When this option is enabled, printing of the document - **without knowing the password** - is not possible.

***Content cannot be extracted* Option**

When this option is enabled, extracting of contents - **without knowing the password** - is not possible.

***Do not allow "Change Contents"* Option**

When this option is enabled, editing of contents - **without knowing the password** - is not possible.

3.6 Excursion: Contour vs Outline vs Contour Line

Often, there is confusion among GreatCut 4 users, because the differences between this terms are not clear and there can be seen no difference on the GreatCut working sheet, if the so-called full surface mode is enabled. Not until then the so-called contour mode - switch on or off using F9 key - differences can be seen. Obviously completely different functions are meant.

In the following the terms are examined for their similarities and differences.

3.6.1 1. Contour

Definition:

Contour is a property, an attribute of a vector object or a type face, comparable with a color fill. Color and width can be defined individually.This contour is given out on a laser or ink jet printer. The tool for the definition of a contour is the pen  .

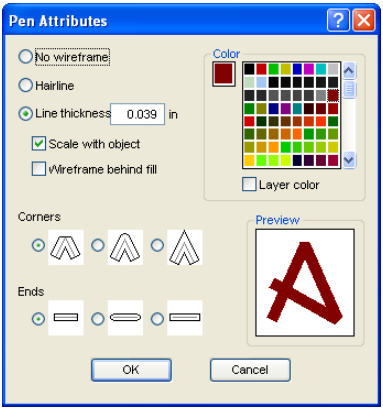


Fig. 3.6-1: Pen attributes dialog

Fig. 3.6-2: Full surface mode

Fig. 3.6-3: Contour mode

Attention: A contour is not! given out on a cutter, unless the "Convert contours" function was executed before data transfer to the output module.

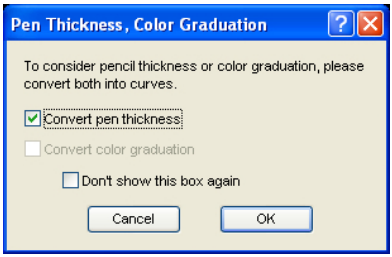


Fig. 3.6-4: Dialog for conversion of contours into cuttable objects

If the option *Convert contours* is enabled, a vector combination in the thickness of the contour is generated. This combination is put in a layer with the same color.

Additionally the following dialog appears with a pre-selection of the correct welding method (here: Weld by Color).

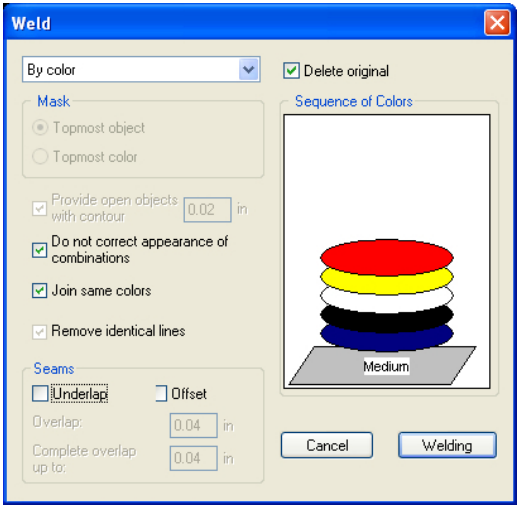


Fig. 3.6-5: Welding dialog with presetting "by color"

Tip: For testing can be switched into the contour mode in order to control which objects will be given out.

3.6.2 2. Outline

Definition

Outline is a vector contour around another vector object oder a type face. In differenc to the term *contour* the generated contour is a real vector which can be outputted. Another difference is, that interior parts are contoured as well with a so-called *Inline*. Example: Letters like a, e where the interior parts are also contoured (see fig. below)

Note: The Outline function is linked with the welding function, so that if contours are overlapping each other, an error-free output to vinyl gets possible.

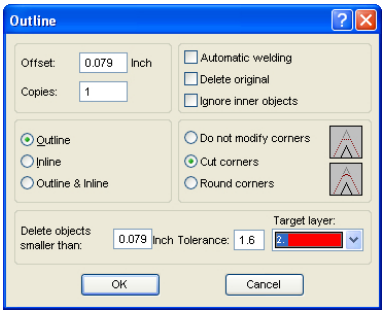


Fig. 3.6-6: Outline dialog

Fig. 3.6-7: Full surface mode

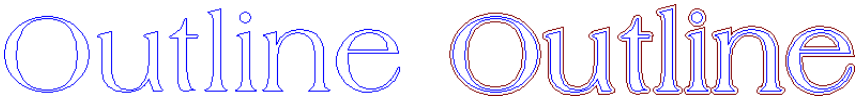


Fig. 3.6-8: Contour mode

3.6.3 3. Contour Line

Definition

By a contour line is often referred in connection with the term: "print & cut". In "Print & Cut" bitmaps mostly logos - graphics without vectors - are contoured with a vector line, in order to produce decals, label, sticker on a cutter with OPOS sensor. The contour line is the line that is cut around each sticker. It is like the pen contour an outline around the entire object.

Note: In this case the thickness of an object cannot be defined; as default a so-called hairline (0.01 mm) is generated.

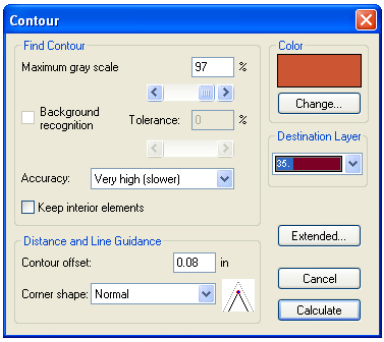


Fig. 3.6-9: Contour line dialog

Fig. 3.6-10: Full surface mode

Fig. 3.6-11: Contour mode

Conclusion: The above examples should made clear that it is important to keep apart the notions. Although, there cannot be seen any difference on the scree when in the full surface mode, different tools and functions are involved. This example also shows how flexible the tools of GreatCut 4 are.

3.7 Excursus: Welding of Vector Objects

3.7.1 A Selection of the Most Important Welding Sub Types

The ***welding*** function merges two or more vector objects together to a combination. Depending on number and shape of the selected objects, you can select between the following options: ***Manually***, ***Automatically***, ***Trim*** (which cuts objects with lines or curves), ***Open trimming***, ***Fill***, ***By color***, ***Full surface*** or ***Screen printing***.

3.7.1.1 Automatically

Automatically calculates the common areas of the objects. All overlapping pieces are merged with each other; transparent interiors are taken into account.

The option ***Automatically*** is especially appropriate for the welding of serifs of scripts. The serif of the preceding letter often overlaps with the following letter itself or its serif. Without welding the material would be cut at this intersections. The automatic welding eleminates this overlap and serves to a cuttable transient of the serifs.

Note: Please note that by this option objects with different color are welded to one! combination object. Should the object colors taken into account, then choose either one of the options: By color, full surface, or screen printing.

Tip: If after the automatic welding some parts are missing, then you should reduce the character spacing in your text editor by 100% to 99%. As a result, identically on top of each other lying node points get moved in a way, that they can recognized as separate nodes and then the welding function runs correctly.

3.7.1.2 By Color

By color removes all areas, which are masked from overlying colors. It does not matter, how much objects or colors you select. If open objects are also selected, they can be closed or be provided with a line width.

3.7.1.3 Full Surface

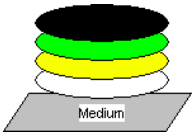
The option ***Full Surface*** underfills objects in one color, whose areas cover the areas of another. The partially covered objects are handled in a way, that the overlying ones cover the underlapped totally.

Tip: The most common application is the window lettering. Here, the option 'by Color' is often too difficult to handle. At 2 or 3 foil colors, you should take the full surface option, in which the individual foil colors are glued one above the other.

3.7.1.4 Screen Printing

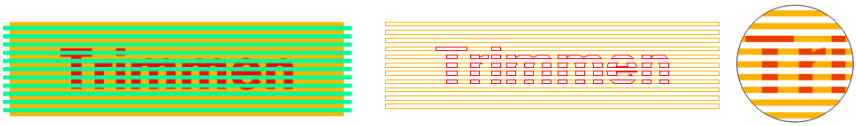
The welding option ***screen printing*** is particulary powerful tool for screen printers. First of all it eleminates overlaps of the color layers. Afterwards the colors are stacked in the color sequence. Finally, a bridge (an outflow wedge) gets inserted as an overlap.

3.7.1.5 The Color Stack of Screen Printing



Changing the color stack: In screen printing the sequence of printing colors is from light to dark. Lighter colors are printed before darker colors. With a mouse click a color layer can be picked up and moved to the desired position. The color stack shows the location of the individual layers above the medium. The output sequence takes, the changings of the color stack, into account.

3.7.1.6 Trim



Trim means, that you can cut closed objects with lines or curve objects and the resulting subobjects are then closed again automatically. Depending on the request, you can put one or more objects - like a "knife" - on the objects which should be dissipated. If you use

more "knives", this objects must lie in the same layer or must be combined. With the help of the ***trim*** function the underlying objects are dissected along the "knives". Also, a dissection in multiple tiles is easily achievable, because the knives may overlap. The resulting subpieces are then sorted according to their location and condensed to particulary groups.

3.8 Cutting - Milling - Creasing - Drawing …

3.8.1 The Output Preview

The ***output preview*** is automatically started if you press the ***preview*** button in the ***output*** dialog.

Closing the ***output*** preview and returning to the working surface of GreatCut 

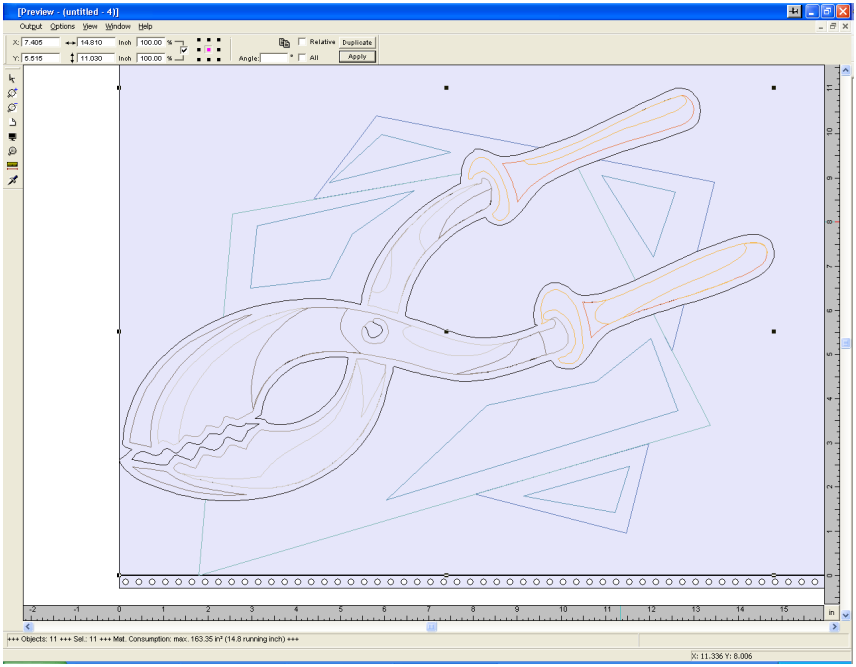


Fig. 3.8-1: Output preview with toolbars, status line and output objects

In the status line of the cutting preview the following information is shown: ***contour***, ***filling***, ***width*** and ***height***, ***group*** or ***combination***, the ***max. foil consumption*** in square meters and running meter (rnm) as well as selected ***object features***. If the ***output*** menu is activated the data are transferred to the output device.

Indication: If the job to be cut is left, underneath or above the material- or table preview and the output -menu is activated you will automatically be reminded that the objects to be cut are out of range of the output.

Detailed description:
please refer to 6.7: The *Preview Tools* Toolbar
please refer to 6.8: The *Preview Object Parameters* Toolbar

3.8.1.1 Material optimization

The material consumption can be reduced by using the module ***Box nesting***. The **Box nesting** ensures that all objects are arranged in such a way that they take up as little space as possible during output. Rotating or not rotating objects ensures that material consumption can be reduced.

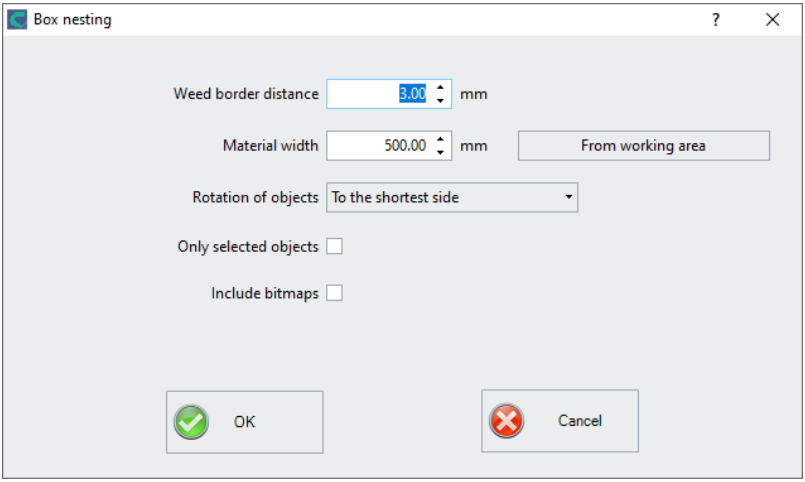


Fig. 3.8-2: Parameter dialog for the material optimization

Indication: Groups and combinations are each regarded as an optimization object. If this is not desired the grouping must be interrupted and the combination cancelled.

Following options are available:

Weed border distance

In this field the desired distance between the optimization objects, the so called ***weed border distance*** can be set.

Material width

This value determines to which maximum material width the optimization should be applied. If the working area is to be used, just click on the ***From working area*** **button** to enter the corresponding width value.

Rotation of objects

none

With this option, no objects are rotated; they are only optimized for the **weed boarder distance**.

to the shortest side

All objects are rotated so that the shortest side is downwards.

as required

During the optimization all objects are rotated so that they can be arranged saving the most space.

Only selected objects

Only the selected objects are considered. With this option you can for example optimize according to layers (colors).

Include bitmaps

If this option is activated, bitmaps and groups that contain bitmaps are also optimized.

3.8.1.2 Weeding lines

Weeding lines serve for the better procession of large jobs. Material length or width of several meters are difficult to handle, therefore, you can insert weeding lines during the foil cutting that divide the job into smaller parts that are more easy to handle.

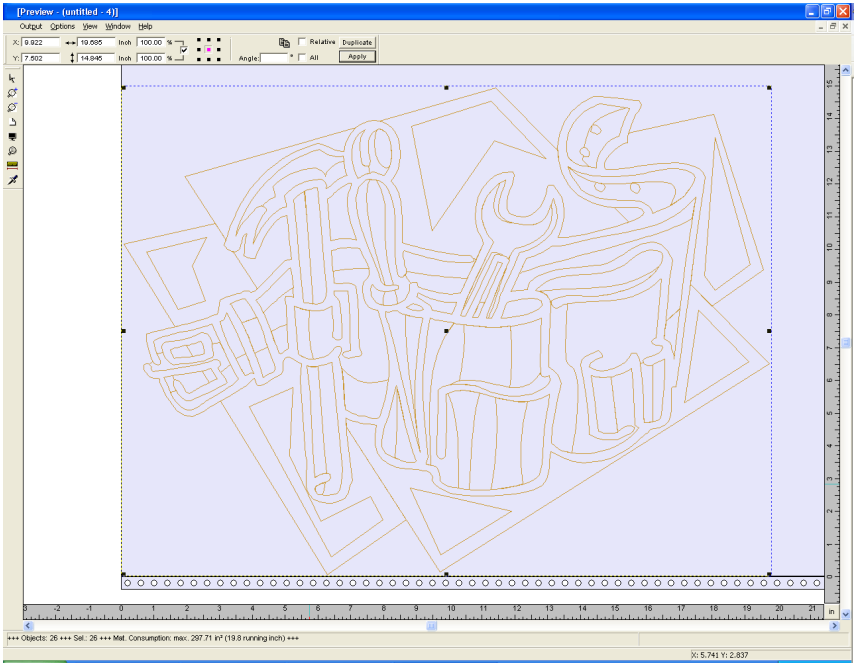


Fig. 3.8-3: Output job with weeding frame (dashed in blue) without weeding lines

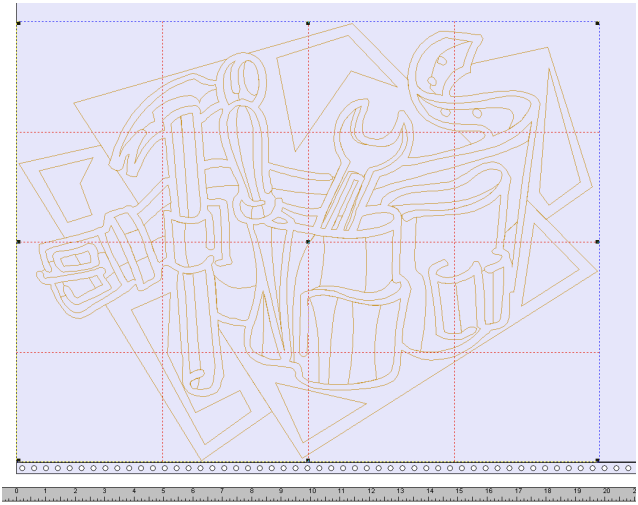


Fig. 3.8-4: Example with 3 horizontal and 3 vertical weeding lines (dashed in red)

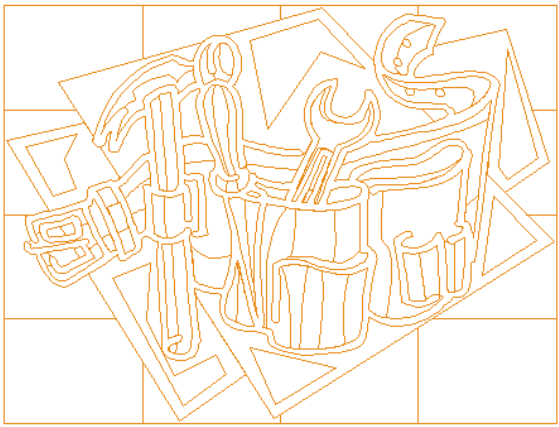


Fig. 3.8-5: Result of the output with weeding lines - objects not! cut

In the ***output preview*** there are 3 possibilities to insert horizontal and vertical weeding lines.

Indication: Weeding lines can only be inserted if the option weeding frame has been activated in the output dialog.

1. Manually

Position the mouse cursor on the weeding frame *dashed in blue* around the objects. The mouse cursor changes into a double-headed arrow. Now draw a horizontal or vertical weeding line to the position where it should be segmented. Repeat the process until all necessary weeding lines are inserted.

2. Via the menu *options*

Open the menu ***options*** and activate the menu item ***horizontal weeding line*** or ***vertical weeding line***.

The first weeding line is inserted in the middle of the objects to be cut. The second call up of the function bisects the two halves in two more halves and so on.

3. Via the shortcuts h or v

An „**h**" or „**v**" directly entered via the keyboard generates the respective weeding lines - as described in 2.

Tip: Single objects can be provided additionally with a separate weeding frame via the right mouse menu.

3.8.1.3 Job Sectioning

Sectioning is the division of a job in so many parts (sections) that are necessary for the complete output of the job.

If the job to be output is bigger than the set or the available output width (***output*** dialog, field ***width of material***) of the output device in the information area of the ***output*** dialog the indication „***job will be sectioned***" is shown.

Indication: The terms sectioning and segmentation are used as synonyms.

The activation of the ***output*** menu then opens the following dialog **before** the transfer to the device:

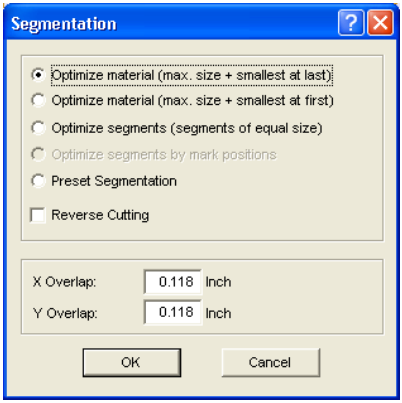


Fig. 3.8-6: Sectioning dialog with overlapping of 3 mm

Optimize material (max. size + smallest at last)

Optimize … smallest at last) causes GreatCut to create segments in the maximum permitted size. The size of the last segment usually differs from the others

Optimize material (max. size + smallest at first)

Only active with flatbed cutters. If the last segment was also cut as last the plate could not be processed until the end. Therefore, the remainder is cut as first so that the plate lies on the table until the end.

Segment optimization (segments of equal size)

If the option **segment optimization** is activated always segments *of the same size* are created.

Optimize segments by mark posiions

This option is activated as default with GreatCut if ***video markers*** exist in the Job. The above dialog is skipped and the preview of the dynamic segments is shown. The reason of this optimization is that always at least 3 video markers are necessary. Depending on the location of the video markers GreatCut "searches" up to 30% next to the segment line if there is a video marker. If yes, the respective segment is adjusted ***dynamically***.

Preset segmentation

The last used setting is automatically saved. When loading the job again this sectioning can be accessed.

Reverse cutting

The option ***reverse cutting*** indicates that the objects are cut as „negative“ for example for the use as template for the screen printing.

X-overlap and Y-overlap

Segmentation with overlapping - In the fields ***X- and Y-Overlap*** you can define how much the segments shall overlap. The vectors are enlarged accordingly at the cutting points.

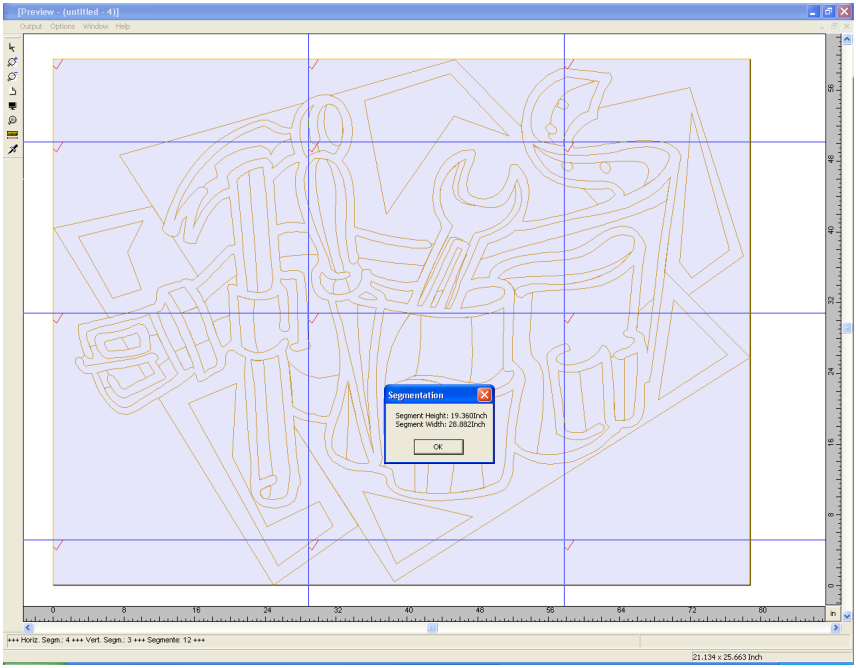


Fig. 3.8-7: Foil optimization in the sectioning preview with 8 segments and information on segment sizes

Selection and deselection of the segments

Selection and deselection of the segments is done by clicking into the segment. The red checkmark ✓ indicates which segment is active and being output.

Changing the suggested sectioning

You can change the sectioning by clicking on the blue section lines and move them to the desired position with the mouse. If necessary GreatCut inserts automatically new sections.

In the status line of the segmentation preview the size of the job to be cut in X- and Y-direction and the number of segments are shown.

3.9 Printing

Fig. 3.9-1: The print button in the standard toolbar

3.9.1 Without RIP Software

The following chapters explain in detail the single functions of the GreatCut print dialog.

Open the GreatCut ***print…*** dialog by selecting the menu item ***print*** in the ***file*** menu, via the keyboard hotkey CTRL+P or by pressing the  button in the toolbox.

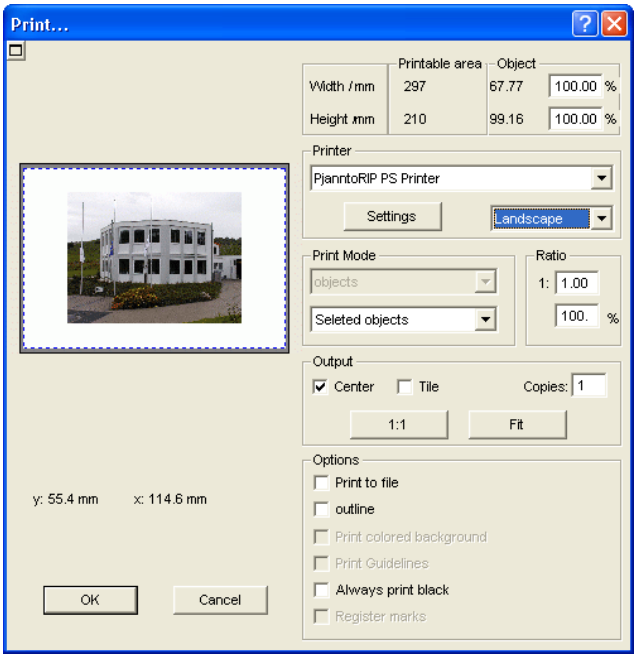


Fig. 3.9-2: The print dialog

In the down right part of the dialog you find the option **tile** and the ***adapt*** button and the ***1:1*** button under *output*. Depending on which option you have activated the appearance of the preview of the ***print -***dialog changes.

Indication: If the print -dialog is opened the adapt button is automatically active because we do not assume formats that exceed the maximum output-size of the device to be accessed as standard for the printing of objects or graphics.

The adapt mode

The ***adapt***-mode corresponds to the printable area. The values for the printable area are shown in the field ***print area*** which is in the upper right part of the print dialog.

The preview window in the *adapt* mode

The preview window offers the possibility to check your job before printing. The edges of the window are *magnetic* which means that if an object is approaching the edge of the sheet the object stays at the edge of the window. Thus, a faster positioning of the objects in the corners or at the edges of the sheets is obtained.

Tip: If the magnetization of the edges shall be switched off, keep the SHIFT button pressed while positioning your objects.

The ***x- and y-coordinates*** that are shown underneath the preview window express the location of the left upper edge of the object on the working surface.

Mouse-functions in the preview window (*adapt*-mode)

Clicking once with the *right* mouse button or activating the ***preview*** button increases the preview window to the maximum size of display.

Fig. 3.9-3: The print preview button

Fig. 3.9-4: Print preview in the complete picture mode

Indication: The size of display depends on the set screen resolution (800*600, 1024*768, ...). Clicking again with the right mouse button resets the original status.

Indication: If the left mouse button is pressed and kept pressed, a dashed black frame appears around the objects to be printed. This frame covers all objects that are on the working surface and corresponds to the printing area.

Printable area and object

The fields ***Printable area*** and ***object*** are in the upper right part of the ***print*** dialog.

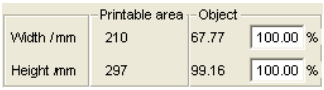


Fig. 3.9-5: Section field printing area and object

Printable area

In this field, the specified printing area with height and width values is shown.

Object

In this field the object/s to be printed with height and width values is/are are shown.

Indication: The fields for the percental enlargement of the objects are not active in the adapt-mode.

One field below on the right side of the ***print*** dialog is the field ***printer.***

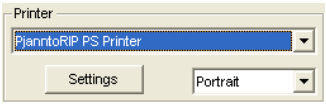


Fig. 3.9-6: Printer selection and Setup

If you open the list you will get a list of all printers that are installed on your system. Select the printer that you want to use. In order to do more settings for the printing activate the *setup* button. The dialog that now opens corresponds to the menu item properties of the respective printer file menu.

Indication: The print dialog that is opened by pressing the setup button depends on the loaded printer driver and is therefore not further explained.

Right next to the ***setup***-button the orientation of the sheet (portrait / landscape) can be set.

What is printed?

In the area named print mode are two combo-boxes in which you can define what shall be printed. In the first list you can choose between the options ***objects***, ***objects with worksheet, job-info*** and ***job-calculation***.

Objects

All objects on the worksheet are printed.

Objects with worksheet

All objects and the worksheet (black frame) are printed. Underneath the black frame the company´s name, the dimensions of the working surface and the proportion in which it shell be output are also automatically printed.

Job-info

If this option is activated all information that have been entered in the ***job-info*** are output as well as all objects in the below right area of the sheet are printed downsized.

Job-calculation

If this option is activated the information that have been entered in the ***job-calculation*** are output.

The following setting- possibilities are available in the second list: ***all objects***, ***selected objects***, ***color separated printing*** (printing in the order of the layer), ***printing of single layer*** (colors).

All objects

All objects that are on the working surface are printed.

Selected objects

Only objects are printed that have been marked on the working surface.

Color separated printing

All objects of one color are printed in the order previously set. The color bar (layer-order) in the second list contains all colors (layers) that have been used on the working surface and corresponds to the later printing order.

Indication: The printing is always started with the darkest color.

Printing of single colors (layer)

All colors listed in the second list correspond to those that have been used for the objects on the working surface. If there is for example only one black and one red object only two color bars (layers) are offered as selection.

Ratio

Here, you have the possibility to enter the printing proportion as numeric or percentage values.

Indication: Both fields are coequal which means that if a numeric value is entered the corresponding percentage value is entered automatically in the dedicated field and vice versa.

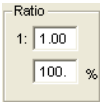


Fig. 3.9-7: Field for the entry of the size proportion

Examples for the indications of proportion with the corresponding percentages:

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

Centered

If this option is activated all objects on the working surface are centered.

Tiling

If this option is chosen the ***print -***dialog appears in the ***tile*** mode.

Number of copies

In this field the number (max. 9999) of the exemplars to be printed can be defined. The buttons ***adapt*** and **tile** enable switching between the two modi with the same name.

1:1

If this button is activated all objects on the working surface are displayed in their *original size* in the preview window and output.

Adapt

If this button is activated all objects on the working surface are downsized so that they can be shown completely in the preview window.

Options

Output to file - Print to file

If this option activated, print data is redirected to a file.

Contour mode

With this option activated all objects are printed like shown in contour mode - without filling.

Also print colored worksheet

When selecting this option the background color defined for the working surface is also printed.

Print subsidiary lines

If the job to be printed contains subsidiary lines they are also printed.

Always print black

This option becomes automatically active if in the first list ***all objects*** and in the second list ***color separated printing*** (after the layer order) or ***print single colors*** (after single layers) was selected.

Indication: If you want to print the objects on the working surface in color the option always print black must be deactivated.

Register-/ Jog-Marks

This option becomes automatically active if in the first list ***all objects*** and in the second list ***color separated printing*** (after layer order) or ***print single colors*** (after single layers) was selected.

Indication: If you do not want to also print register and jog marks this option must be deactivated.

3.9.1.1 The Tile Mode

If you switch from the ***adapt mode*** to the ***tile mode*** the preview window appears as follows:

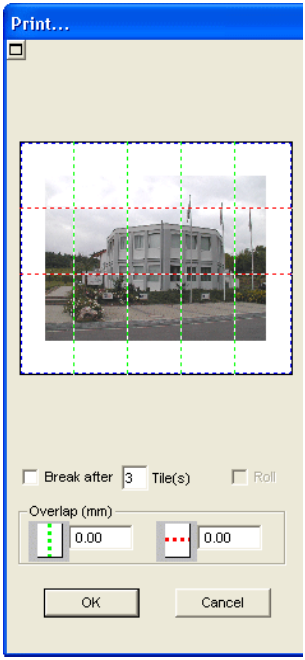


Fig. 3.9-8: The preview window in tile-mode

In the ***tile*** mode all tiles are shown. A tile is that part of the object that can be output on the device to be accessed.

The option ***pause after*** indicates after which tile (enter amount of tile) the output shall be interrupted. The fields ***overlapping (mm)*** serve for the entry of the desired *horizontal* and *vertical overlapping* of the objects to be printed.

When printing to roll (option ***Roll***), whole lanes can be printed without having spaces between the single tiles.

Indication: Only the print of a whole lane can be interrupted and not the printing of a single tile. The entry of an overlapping in feed direction (print direction) has no influence on the roll which can also be seen at the display of the size of the tile.

After the tiling the dialog is not closed automatically as it is an advantage to directly compare the print and the preview. In addition, thus you can directly repeat the print of a specific tile.

Mouse function in the preview window (*tile* mode)

One click with the right mouse button on the tile preview increases the tile display. This can also be done by clicking on the -button in the upper left area of the window. Clicking once again with the right mouse button resets the original status.

If you *double click* with the left mouse button on a tile this one will be deactivated which means it will not be printed.

Double clicking with the left mouse button while pressing the SHIFT button leads to the inversion of the tiles which means that the tiles that have been deactivated before become now active (printed) and the tiles that have been active become deactivated (not printed).

The objects within the preview window can be shifted by means of the mouse. The window edges are magnetic which means that when the object is approaching the edge of the sheet the object remains clinged. When pressing the SHIFT button the magnetization is released.

Example for the printing in the *tile* mode

The following example explains the single functions, shortcuts,... in the ***tile*** mode in detail.

The ***tile*** mode offers the possibility to print in any size which means each graphic, independent of the size can be printed on the connected output device. For the print of your graphic you *do not* need a printer with which DIN A2-, A1-, A0- or even large size can be output.

How?

The graphic to be printed is divided in so many segments (tiles) that are necessary to be able to output the graphic on the connected output device. The amount of necessary tiles depends on the size of the graphic to be output and the pre-defined output format (DIN A3, A2, ...). The setting of the output format is done via the ***set*** button GreatCut ***print*** dialog and depends on the connected output device.

Load any graphic in GreatCut and open the ***print*** dialog, either via the ***file*** menu by selecting the menu item ***print...,*** via the keyboard with the key combination CTRL+P or via the button in the ***standard*** toolbar.

The GreatCut ***print*** dialog is opened in the ***adapt*** mode. Activate the ***tile*** mode by activating the thus named button.

The ***print*** dialog appears as follows:

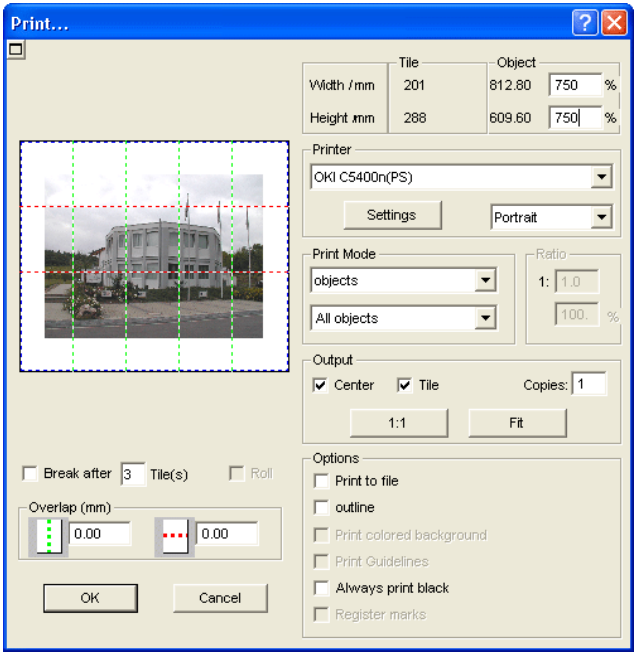


Fig. 3.9-9: The print dialog in the tile mode

In the upper right corner of the dialog you find the two fields ***tile*** and ***object***.

The field ***tile*** corresponds to the field ***print area*** in the ***adapt*** mode. The other fields in the right part of the print dialog are the same as in the ***adapt*** mode.

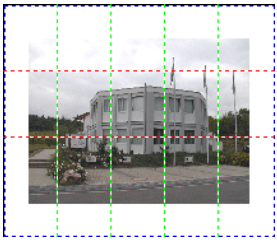


Fig. 3.9-10: Preview with settings in the tile mode

Activated and deactivated tiles

An active tile is a tile that is **not** marked with a red „**X**”. Deactivated tiles on the other hand are marked with a red „**X**”.

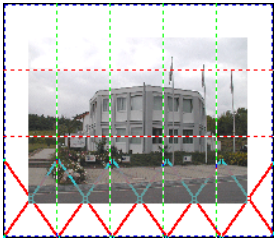


Fig. 3.9-11: Bottom row: Tiles deactivated

The deactivation or activation of a tile is done by **double clicking** with the left mouse button which means when double clicking on an active tile it becomes deactivated. Another double click on the same tile activates it again.

In the previous figure you can see that the lower row of tiles is marked with a red „**X**". These tiles were deactivated and will not be printed.

In the ***tile*** mode you do not only have the possibility to activate / deactivate single tiles.

Tip: Keep the CTRL button pressed while double clicking with the left mouse button on the desired tile and all tiles where the mouse cursor is are deactivated.

3.9.2 With Pjannto RIP software

Fig. 3.9-12: The Pjannto RIP button in the s*tandard toolbar*

Indication: Pjannto RIP is a professional PostScript-RIP that is not a part of GreatCut. If a license was purchased from Pjannto RIP and the software is installed on the same computer the Pjannto RIP button is automatically embedded in the standard toolbar of GreatCut and the file menu enlarged with the entry Pjannto RIP... .

4 Reference Part

The menu items in chronological order:

4.1 The *File Menu*

4.1.1 The *New…* Command

With the ***New*** command a new job is opened.

 **CTRL+N**

4.1.2 The *Open…* Command

With this command the files that were stored on your hard drive or another data carrier in the GreatCut JOB file format are brought onto the current screen / desktop. You can further edit this file. Jobs can be deleted after a safety query.

 **CTRL+L**

4.1.3 The *Save C*ommand

With this command you save the current job. If the respective job has already been stored before, the given file name and the directory are kept. The older version of the job is overwritten so that the old version can not be restored any more.
If you have created a new job that has not been saved before, the program, if you have clicked the ***save*** command in the ***file*** menu, goes automatically to the command ***save as…*** .
First, the ***job info*** dialog is opened where you can enter more information about the job. Then, the real dialog for saving your job is opened and you are asked to enter the file name and select the directory.

 **CTRL+S**

4.1.4 The *Save as…* Command

With this command you save a new job under a file name chosen by you in a directory to be selected. This command is also for changing the file name and / or directory of already existing files. If for example you want to save a job that is build up on an older one without losing the old version then you select the command ***save as ...*** and you can save the new job under another name in a new directory if you wish to.

 **SHIFT+ CTRL+S**

The command ***save as...*** is also to be selected if you want to save the current job onto another data carrier. To do so, select the appropriate disk drive.

4.1.5 The S*end by Email…* Command

This command opens the standard email client and links the current job as attachment to the email. The job must be saved before.

4.1.6 The *Import…* Command

With this command files are imported into GreatCut. Known file formats are shown in a list.

 **CTRL+I**

4.1.7 The *Export…* Command

If you want to use a job also in another program the job file must be converted into a suitable format which means exported.

 **CTRL+E**

4.1.8 The *Send to RIP…* Command

With this command the PostScript RIP is started, if it was installed and activated (licensed) before.

Note: This menu entry is only visible, if an EUROSYSTEMS RIP had been installed and activated (licensed) before. Then the RIP-Setup in GreatCut 4 must be processed: ***please refer to 4.6.1.3: The RIP… Setup***

4.1.9 The *Print…* Command

With this command you print the current file in any size (tiles) on the standard printer.

 **CTRL+P**

4.1.10 The *Output…* Command

With this command you call the output module (Plot Manager) for cutting, drawing or milling.

 **S**

4.1.11 The *Quit* Command

With this you terminate GreatCut and return to the Windows desktop. If you have not saved the job that is currently being edited, you will be asked if you want to do so.

 **CTRL+Q**

4.1.12 The *Job History*

The ***Job History*** function facilitates the loading of the 4 last jobs without having to pass via the directory tree. At the end of the menu list of the ***file*** menu the names of the 4 last edited jobs appear. Click with the mouse button on the desired job name. Then, the selected file will be loaded on the

working surface.

4.2 The *Edit* Menu

4.2.1 The *Undo* Command

 **F5**

With this command it is possible to undo the last done operations and functions. The default setting is 5 steps. This default value can be changed via the ***settings*** menu, menu entry ***standard settings*** / ***miscellaneous*** and here ***undo levels***. The maximum value is 100 steps.

Indication: This setting can only be changed with a new file (file menu, menu item new)!

4.2.2 The *Undo Stack…* Command

 **SHIFT+F5**

This command opens a window with the last used commands. Most intermediate states are previewed. By clicking on the respective command this state is restored.

Note: This menu entry is only displayed, if restorable commands are used.

4.2.3 The *Redo* Command

 **F6**

This command is the reverse command to undo. It restores the status that was there **before** the undoing.

4.2.4 The *Redo Stack…* Command

 **SHIFT+F6**

This command opens a window with the last commands, which were made undone. Most intermediate states are previewed. By clicking on the respective command this state is restored.

Note: This menu entry is only displayed, when commands were undone.

4.2.5 The *Cut* Command

 **CTRL+X**

With this command objects are copied to the Windows clipboard and deleted from the working surface. Via the clipboard objects can be inserted at another place or in another program.

Indication: For the transport of your data you can also use the export command. This is always necessary if your data shall be transferred to another computer.

4.2.6 The *Copy* Command

With this command marked objects are copied to the clipboard without deleting them from the working surface. **CTRL+C**

4.2.7 The *Paste* Command

This command inserts graphics and objects from the clipboard to your job. The mouse cursor changes to a right angle in which *insert* is written. **CTRL+V**

Now point the tip of the right angle to the point on your working surface where the graphic or the object shall be inserted.

4.2.8 The *Paste Special...* Command

Via this menu item "pictures" can be imported from the clipboard to GreatCut.

Indication: If in GreatCut objects are copied this menu item is not active.

4.2.9 The *Select All* Command

With this command all objects of the active job which means all objects on the working surface and also outside the working surface are marked. The selected objects can then be grouped, combined or moved. **CTRL+A**

4.2.10 The *Reverse Selection* Command

With this command all non-selected objects are selected. Already selected objects will be unselected. **SHIFT+E**

4.2.11 The *Job Info…* Command

With the job info you have the possibility to save additional information with every job. You can print this information and use them for invoicing or as accompanying working sheet.

Next to this information as for example ***order number*** and ***company address*** the job-info also gives information about the used material. In the ***memo***-field additional comments in note form can be stored.

4.2.12 The *Color Layer…* Command

This command starts the ***layer settings*** dialog in which objects are colored, foil colors are defined, device tools are assigned, objects of the same color are selected and layers can be made invisible or blocked. **L**

4.2.13 The *Multi Copy…* Command

This command serves the generation of any number of object copies (duplicates) on the working sheet. Number, Offset and more can be set in a dialog.

Detailed description: **please refer to 6.4: The *Object Parameter* Toolbar**

4.3 The *Design* Menu

4.3.1 The *Rotate Axis C*ommand


A

This command rotates the marked objects at 90° counter-clockwise. This option is always necessary if you want to adjust your objects fast to the rolling direction of the foil without having to go via the ***rotate*** function.

4.3.2 The *Rotate Axis With Page* Command


SHIFT+A

This command rotates the marked objects with page at 90° counter-clockwise.

4.3.3 The *Horizontal Mirror* Command


X

The selected object is mirrored at its horizontal through its center point. If several objects are marked, the center point of the virtual checkbox whose edge is limited by the 8 black dots with the corresponding horizontal is taken as axis of reflection. If no objects are marked all objects are mirrored.

4.3.4 The *Vertical Mirror* Command


Y

The selected object is mirrored at the vertical through its center point. If several objects are selected the center point of the checkbox with its corresponding vertical is used as axis of reflection. If no objects are marked all objects are mirrored.

4.3.5 The *Delete* Command


Del

Pressing the DEL key executes the ***delete*** command. In order to delete particular objects from your graphic they must be marked.

4.3.6 The *Mirror on the X Axis* Command


SHIFT+ X

All selected objects will be mirrored at the ***visible X-coordinate axis***.

4.3.7 The *Mirror on the Y Axis* Command


SHIFT+Y

All selected objects will be mirrored at the ***visible Y-coordinate axis***.

4.3.8 The *Duplicate* Command


CTRL+D

In order to use this command the object to be duplicated must be marked before. Now click with your left mouse button on the ***duplicate*** command or activate it via the hotkey. The marked objects are now doubled.

The positioning is done according to the values that you have entered in the ***settings*** menu, menu item ***standard settings / miscellaneous***.

Indication: You can also duplicate an object by first marking it, moving it with the left mouse button kept pressed and then press the right mouse button once at the position where the duplicate shall be created. The displacing values are entered automatically with this procedure.

4.3.9 The *Clone* Command

If you clone an object you create a copy linked to the object. Modifications at the original (the initial object) are automatically done at the clone (the copy).

If a clone is modified in its size or form, an other "original" is created.

4.3.10 The *Group* Command


CTRL+G

This command allows combining several objects to a group in order to edit them together. This can be wise if for example you want to move several objects without changing their position to each other. To do this, first mark all objects that you want to move together, select the ***group*** command and then move the newly created group to the desired place. Now, it is not possible any more to change the single objects that form the group independently from each other.

In order to make this possible again the grouping must be broken with the ***break group*** command.

Indication: Grouped objects cannot be treated with the node editing tool. The grouping must be broken before. In order to differentiate between the grouped and ungrouped objects they are shown dashed in blue.

4.3.11 The *Break Group* Command


CTRL+B

This command is used to divide a group of objects again into single object. Each object can then be edited individually.

4.3.12 The *Combine* Command

SHIFT+K

This command combines like the grouping several objects to one. The difference to the ***group*** command is that the selected objects are not regarded as single isolated objects lying next to another anymore.

Let us explain this fact with an example.

You have created two squares with different sizes, the smaller one lying completely within the bigger one. In order to obtain that in the

full-color-mode the area of the smaller square is transparent you combine the two squares after having marked them before. The size of the bigger square is now interpreted as outer edge and the smaller one as inner edge. The area between the two edges is filled with the color selected in the layer box. In the middle, a hole with the size of the smaller square remains.

4.3.13 The *Break Combination* Command

With this command you cancel a combination. Now, the program treats the combination objects as single objects again.  **SHIFT+L**

4.3.14 The *Fill* Function

With this function vector objects and text blocks can be filled.

None
All fillings respective filling bitmaps of the marked object are removed. Only the contour of the objects remains in the previously defined layer color.

The ***Color graduation…*** command
This command opens a dialog with which the appearance of the color gradient fillings of closed curves, text objects or combinations can be defined.

The ***Bitmap…*** command
Pressing this button opens a dialog with which objects can be filled with bitmaps.
For editing the filling bitmaps several functions are available.

The ***Layer color…*** command
This command removes all fillings and shows the object in the layer color in which it was created.

The ***Transparency…*** command
This instruction allows the setting of the transparency from 0 to 100% using either the slider or entering an integer percent value.

4.3.15 The *Contour* Function

Via this function objects can be provided with pen attributes (width of pen, color,...), hairlines can be created and pen attributes removed.

The ***none*** command
This command removes all pen attributes of the marked object and shows it in the color in which it was created.

The ***hairline*** command
This command allocates a hairline to the marked object in the momentarily active layer color.

The ***attributes…*** function
Via the pen attribute dialog the contour pen of curves, combinations or text objects can be designed. Contour pens are shown while drawing the object contour in the full face mode.

The ***layer color*** command

This command assigns selected ***layer color*** to object contour.

Indication: The pen attributes have no influence on the display of the objects in the contour mode (F9). Here, the contours of the objects are drawn with a simple contour line in the layer color.

4.3.16 The *Draw* Command

In this menu the tools with which you can create graphic objects are summarized. All tools can be activated via the toolbox or the menu item draw in the ***object*** menu.

4.3.16.1 Rectangle

You have switched to the rectangle-mode and move the mouse cursor on the desktop to any corner of the desired rectangle.
Press the left mouse button and keep it pressed while moving the mouse cursor to the diagonally opposite corner. If you let got the mouse button the rectangle appears.

Indication: If you keep pressed the SHIFT key while drawing a rectangle the first selected point is the center point of the rectangle. If you keep pressed the CTRL key while drawing the rectangle the movement of the mouse automatically draws a square. Pressing simultaneously the SHIFT and CTRL kex draws a centered square. For drawing the object the status of the keys (pressed or not pressed) is important when letting go the mouse button.

4.3.16.2 Circle

With this command you activate the mode for drawing the ellipses and circles. In this mode you open up a box in which the ellipse is adapted. So, first select a corner point of the box to be opened up with the mouse.

Indication: The first drawn point is no point of the ellipse. Only if you press the SHIFT key the starting point becomes the center point of the ellipse.
Pressing the CTRL key only allows the drawing of a circle. Pressing simultaneously both keys results in the drawing of a centered circle.

4.3.16.3 Line - 4 Modes

4.3.16.3.1 The *Line* Mode

This command activates the mode for the drawing of lines. The mouse cursor has now the shape of a cross with a line shown on the down right.

For the drawing of lines two modes are available:

1. "Closed" Lines
You can create closed lines by keeping pressed the left mouse button when drawing the line. You terminate a line by letting go the left mouse button.
If the mouse cursor is beyond an ending point of a line it will be highlighted and the mouse cursor changes its form. If you click now once with the left mouse button on this point, this point will be initialized.
Now you can continue to draw with one of the following four modi: ***draw, curve, digi mode, freehand.***

2. "Open" Lines
You can create open lines by clicking once with the left mouse button before drawing. Then, you create the line according to your wishes. If you now click once again with the left mouse button the subline is finished and a new one can be attached. This mode is terminated by *double-clicking* with the left mouse button.

Indication: If you keep pressed the SHIFT key while moving the mouse cursor the drawing of the straight line is limited horizontally and vertically. If while drawing you keep pressed the CTRL key the angle of the drawn straight line is limited to 15° steps. The straight line now moves at 15°, 30°, 45°, ... to the edges of your working surface.

4.3.16.3.2 The *Circular Arc* Mode

You activate the circular arc mode by pressing the right mouse button in the line mode and select there the respective menu item.
When drawing in the circular measure after placing the second curve point the curve calculated from the first, second and current cursor point is drawn. One click with the left mouse button places the curve.
If the mouse cursor is above an endpoint of a circular arc it will be highlighted and the mouse cursor changes its form. If you click now once with the left mouse button on this point, this point will be initialized.
Now you can continue to draw with one of the following four modi: ***draw, curve, digi-mode, freehand.***

4.3.16.3.3 The *Digitize* Mode

With this command you activate the mode for post-digitizing bitmap templates.
Switching between the modi **line, curves, digi-mode or freehand** via the

right mouse menu, the arrow keys of your keyboard or the toolbox facilitates the post-processing enormously.

Assignment of the arrow keys:

Left --> **Line** mode
Right --> **Circular Arc** mode
Up --> **Freehand** mode
Down --> **Digitize** mode

If open objects have been drawn they can be closed via the right mouse menu and there the menu item ***close. Indication: with this option all marked objects can be closed independent of the distance between the starting point of the first drawn and the endpoint of the last drawn object.***

Another possibility to close open objects that have been drawn is the following:

Draw an open object. Move the endpoint of the last drawn object with the mouse near the starting point of the first drawn object. You can see that the mouse cursor changed its appearance. If you let got the mouse at that point the object will be closed.
If the mouse cursor is above an endpoint of a digi-curve/line it will be highlighted and the mouse cursor changes its form. If you click now once with the left mouse button on this point, this point will be initialized.
Now you can continue to draw with one of the following four modi: ***draw, curve, digi mode, freehand***.

4.3.16.3.4 The *Freehand* Mode

With this command you activate the mode for the drawing of arbitrary lines, curves or objects. Keep pressed the left mouse button and create the object of your choice. Let go the left mouse button to terminate the object. If the mouse cursor is above an endpoint of a digi-curve/line it will be highlighted and the mouse cursor changes its form. If you click now once with the left mouse button on this point, this point will be initialized.
Now you can continue to draw with one of the following four modi: ***draw, curve, digi-mode, freehand.***

4.3.16.4 Register Mark

With this option you can place register marks as administer help in your graphic. This function enables the accurate mounting of the color separated cutting job. To do so, activate this command and click the register marks to the desired positions. Register marks are cut along layer neutral (color neutral).

If open objects where drawn, they can be closed via right mouse button with menu item ***Close***.

4.3.17 The *Align…* Command

 **R**

With this function marked objects are aligned. You can align the objects horizontally or vertically. The objects are arranged in that way that they are either centered or aligned at the desired side.
In addition, the objects can be aligned with the same distance so that a steady appearance is obtained. It is also possible to center all objects horizontally or vertically on the working surface.

Indication: This option can only be activated if you have marked at least 2 objects.

4.3.18 The *Sort With Simulation…* Command

 **CTRL+F10**

This command opens the object sort function with which the output order and direction of rotation of the objects can be defined. The sort can be done dependent or independent of layers. Also, the preferential direction of the sort can be defined.
In a preview the output of the object is simulated graphically; here, the traverse path of the tool head can be sketched. The simulation can be repeated unlimited without changing the original objects.

4.3.19 The *Sort Manually…* Command

 **CTRL+F11**

This command enables a manual object sortation. For every single output object the order and direction of rotation can be defined. This can be done for every layer. In the preview window the objects are clicked to the desired order with the mouse cursor. Alternatively, the objects can also be sorted by clicking in the object list. The sorted objects are shown dashed in blue.

4.3.20 The *Clockwise C*ommand

 **>**

This command sets the direction of rotation of the marked objects to clockwise.

Indication: This function is only relevant in connection with a connected milling or engraving device.

4.3.21 The *Counterclockwise* Command

 **<**

This command sets the direction of rotation of the marked objects to counter-clockwise.

Indication: This command is like the previous only relevant in combination with milling applications.

4.3.22 The *Close Contour* Command

With this command open objects can be closed. You can see in the status line if an object represents an open track or not. To close it you mark the object and use that command.


SHIFT+S

4.3.23 The *Open Contour* Command

With this command closed objects can be opened.


SHIFT+O

Indication: The menu item open contour corresponds to the separate function in the node tool.

4.3.24 The *Round Corners…* Command

The ***round corners*** command rounds down nodal points with a freely defined radius.
The rounding can be done inwards or outwards. The rounding can also affect the whole object or just single nodes.


SHIFT+ CTRL+R

Indication: This function can also be used for the rounding of font characters.

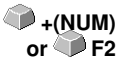
4.3.25 The *Weeding Border* Command

This command generates a so-called weeding border or frame around one or more selected objects. A weeding border facilitates weeding of the vinyl from the carrier.

4.4 The *View* Menu

4.4.1 The *Zoom In* Command

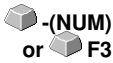
If you select this function the mouse cursor changes into a lens with a plus inside. You can now select an area that shall be zoomed by keeping pressed the left mouse button. The selected area will then be shown increased to the maximum in the program window.



Indication: A beep of the computer loudspeaker informs you that the maximum zoom is reached.

4.4.2 The *Zoom Out* Command

This function decreases the working surface gradually. If it had been zoomed repeatedly before, the single zoom steps are carried out backwards.



4.4.3 The *Full Page* Command

Select the function so that the whole available working surface is shown.

4.4.4 The *Show All* Command

This function changes the display of the vector drawing in this way that all objects can be seen in the program window. The section is chosen in that way that it is the biggest possible display of the graphic showing all objects.

Indication: If you keep pressed the SHIFT key while doing this command only the marked objects are zoomed to maximum.

4.4.5 The *Show Selected Objects* Command

If this command is activated only the objects marked on the working surface are displayed as big as possible.

4.4.6 The *To Front* Command

If you have arranged several objects on top of each other the following commands enable you to modify the location of the objects to each other. With the ***to front*** command the marked object is set on the top place above the others.

4.4.7 The *To Back* Command

With this command you set the marked object underneath respective behind all other objects. **CTRL+U**

4.4.8 The *Forward One* Command

This command sets the marked objects further front in the display. **PgUp**

4.4.9 The *Back One* Command

With this command you set the marked object further down and thus further back in the display. **PgDn**

4.4.10 The *Reverse Order* Command

The order of the objects in the stack is reversed. What was lying on top then lies at the bottom and vice versa. This also applies for all objects in-between. **U**

4.4.11 The *Change Order* Command

With this command you can change the order of the objects in the display interactively by clicking the object contours one after another in the desired order. **SHIFT+R**

Note: If all contours are to be taken into account, the grouping of the objects must be broken or the combination of the objects must be broken as well.

4.4.12 The *Contour View* Command

This command switches the display of the working surface to the contour mode which means that only the contours of the objects are shown. **F9**

4.4.13 The *Enhanced View* Command

With this command you can obtain the best possible display of the objects (smoothened contours). **SHIFT+F9**

Indication: It slows down the speed of processing and should therefore only be used for the last check or presentation.

4.4.14 The *Always on top* Command

The GreatCut window remains always in the foreground.  **CTRL+Y**

Indication: This menu item is only active if the GreatCut window is in the window mode.

4.4.15 The *Refresh Screen* Command

With this function the content of the visible window is build up again without changing the size or the selected section.  **CTRL+W**

Indication: Use this command if objects on the screen are visible that cannot be accessed by the arrow tool or if display errors of another kind occur.

4.5 The *Tools* Menu

4.5.1 The *Contour Line…* Function

 **K**

With the ***contour line*** function the outer edge of arbitrary many objects is calculated and provided with a contour. Contrary to the outline with this tool also bitmaps can be contoured. In addition, not every single object is contoured but it is tried to find only one contour that comprises all selected objects. Therefore, this function is especially suitable for the creation of intersection lines around labels. The objects of the label can be arranged arbitrarily. Afterwards, with the tool described here the contour of the label in the desired distance is calculated. The thus created contour can be used later for cutting the printed label.

Detailed: please refer to 3.6: Excursion: Contour vs Outline vs Contour Line

4.5.2 The *PhotoCut…* Function

The function creates vectors from bitmaps. PhotoCut calculates from Windows Bitmap files (*.BMP, *.PCX, *.TIF) grids or patterns that can be output with a cutting plotter or a similar device. The picture is divided into logical pixels and the average gray value calculated for each of these logical pixels. So, a picture is created that has less pixels than the original. Out of this picture horizontal or vertical stripes, circles, squares, ... are created whose width is proportional to the gray value at the respective position.

please refer to 7.13: The *PhotoCUT* Function

4.5.3 The *Set Jog Marks* Command

 **SHIFT+J**

This command automatically sets jog marks around the selected objects. Type, size and position relative to the selected objects are pre-set in ***settings / standard settings / register / jog marks*** menu.

Indication: The markers do not lie in a layer, are always displayed in black, keep their scaling and size and are grouped when being created.

please refer to 4.6.1.4: The *Register / Crop Marks…* Setup

4.5.4 The *Search / Replace Video Marks* Command

With this command *circle objects* in an import file - with an in the Register-/Jog Marks menu entry defined size - are searched and replaced by video marks.

Note: This option can also be set as a standard via the Settings / Standard Settings / Import menu entry.

4.5.5 The *Measure* Command

 **M**

With the function measure an arbitrary track can be measured, scaled, rotated and dimensioned. If you have activated this command the mouse cursor changes into a reticle. It is then set at the starting point of the track to be measured and the mouse button pressed and kept pressed. Then, the mouse cursor is moved to the end of the track to be measured and the left mouse button let go. With the SHIFT key pressed you only measure horizontal and vertical distances. Now, the result of the measurement is shown in a dialog field and can be modified.

Indication: The modification of the size is applied proportionally to all selected objects. When rotating bitmaps the area of the bitmap increases but not the objects displayed in the bitmap.

4.5.6 The *Box Nesting…* Function

This optimization takes care that all objects are arranged in a way that they take the least space on the output. By rotation or no rotation of objects it is taken care of that the waste of material can be reduced.

please refer to 3.8.1.1: Material optimization

4.5.7 The *Outline…* Function

 **O**

This function creates a contour with a distance around a vector object to be freely selected and is mostly used for contouring text objects. The color of the target layer can be pre-selected. ***Inline****,* the reverse function creates a contour lying inwards. ***„Outline & Inline"*** combined creates a closed contour in the pre-selected strength.

Indication: Contrary to the contour with combined objects simultaneously an inner contour is created. This function is not to be confused with a contour pen that only is a drawing attribute and no vector object.

4.5.8 The *Welding* Command

 **W**

The merge functions ***manually, automatically, trimming, open trimming, fill, by color, full area*** and ***screen printing*** take care that overlaying object parts what would cut the foil are eliminated and connected.

please refer to 7.7: The *Welding* Tool

4.6 The *Settings* Menu

4.6.1 The *Standard Settings* Menu

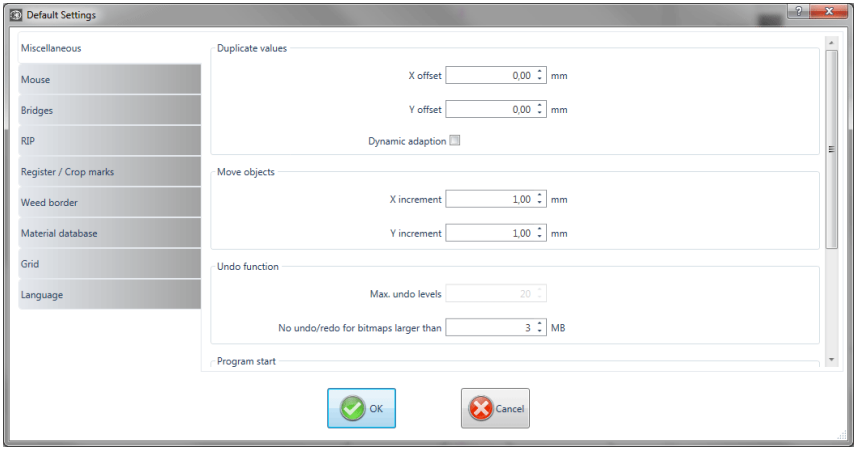


Fig. 4.6-1: Default Settings dialog - here: Miscellaneous tab is active

4.6.1.1 The *Miscellaneous...* Setup

CTRL+J

4.6.1.1.1 Duplicate values

- X offset

Indicates the value that remains between the original and the duplicate (in X-orientation) after the creation of a duplicate.

- Y offset

Indicates the value that remains between the original and the duplicate (in Y-orientation) after the creation of a duplicate.

- ***Dynamic adaptation*** **Option**

This option takes care of the switching on or off of a function that automatically enters and uses the duplication values as X- or Y- orientation when duplicating with the right mouse button.

4.6.1.1.2 Move objects

- X increment

Indicates the value how much the marked objects are moved or displaced when pressing the arrow keys on the keyboard.

- Y increment

Indicates the value in Y-orientation how much the marked objects are moved or displaced when pressing the arrow keys on the keyboard.

Indication: If you keep pressed the SHIFT key during the movement, the value of the displacement is reduced to a tenth part. If you keep pressed the SHIFT + CTRL key the displacement is a hundredth of the set step size.

4.6.1.1.3 Undo function

- Max. undo levels

Refers to the undo function in the ***edit*** menu.

Indication: This option can only be set if no job is loaded.

- No undo / redo for bitmaps larger than ... MB

For bitmaps that are bigger than the value set in this field the undo/redo-function is automatically **switched off** which means that the operations on this bitmap cannot be made undone.

Advantage: saving of time.

Reason: The expenditure of time (computational expenditure) for bitmaps from a specific size onwards becomes too big as for every undo / redo step a copy of the original (initial state) must be created.
The value that is entered in this field should be between 5-10% of the RAM available in the computer.

4.6.1.1.4 Program start

- Info window

When the program is started, an information window is displayed in front of the workspace, which informs about news, updates, etc., if there is a connection to the Internet.

The 3 options are: **Display always, Do not show again, Only display when new.**

Recommendation: With „Only display when new" you do not miss any important information regarding GreatCut.

4.6.1.2 The *Mouse…* Setup

4.6.1.2.1 Mouse action

- <Ctrl> + right mouse button assigned with:

Here, you can define the assignment of the right mouse button. To do this, open the selection list and select the command that shall be carried out when clicking once with the right mouse button.

- Click Delay

This option increases the accuracy when selecting objects. The default value is 100; the unit is millisecond. The higher this selected value the longer it takes until the object follows the mouse cursor. An accidental displacement of the objects is thus decreased.

Note: Users that are not so sure with the handling of the mouse should increase this value.

- Scroll window automatically Option

This option is switched on by default and takes care that whenever an object is moved above the edge of the working surface with the mouse, the working surface automatically is moved, scrolled.

4.6.1.2.2 Mouse Wheel

These options ease the navigation on the GreatCut desktop with computer mice, which are equipped with a mid-wheel button.

- <Shift> toggles these modes

Two modes are possible: **Zoom** or **Vert. Scroll**.

Zoom

This option - starting from the cursor position - increases or decreases the working area when turning the mouse wheel: according to the direction of rotation.

Scroll vert.(ical)

This option - starting from the cursor position - moves the working area horizontally (Wheel + CTRL key) or vertically when turning the mouse wheel. According to the direction of rotation the movement is done to the left, top or bottom or to the right, top or bottom.

- Resolution

The sensitivity of the wheel can be adapted to individual requirements. The range is from 1 (coarse) to 10 (fine).

4.6.1.3 The *RIP...* Setup

Standard RIP

As an extension to GreatCut 4, 1 RIP is provided by default: **EuroVPM**

EuroVPM

This option must be enabled from the EuroVPM licensee. Using the ... button, goes to the folder containing the EuroVPM.exe.

4.6.1.4 The *Register / Crop Marks...* Setup

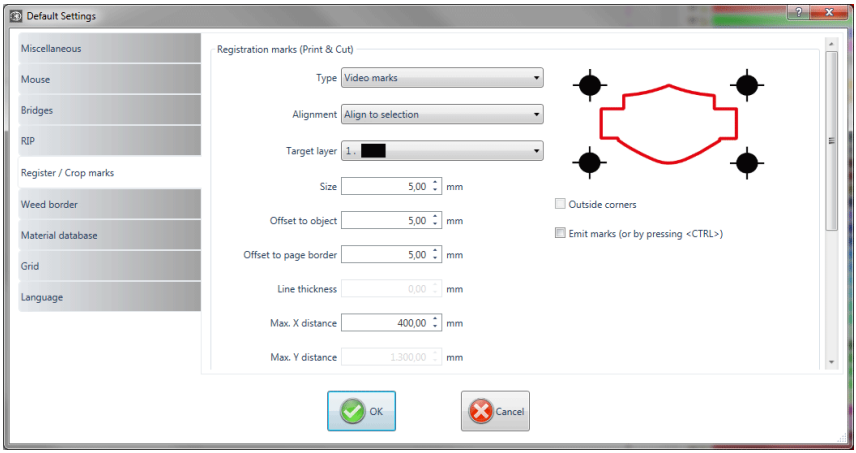


Fig. 4.6-2: Default Settings dialog: here: Register / Crop marks tab active

4.6.1.4.1 Registration marks (Print & Cut)

Fig. 4.6-3: Different register marks depending on the manufacturer

- Type

The ***Type*** list field is used to select for which manufacturer or for which device register marks are to be generated.

Note: Only the options supported by the selected device are active!

- Alignment

Align to selection

If the ***Align to selection*** option is activated, the register marks are aligned relative to the selected objects.

Align to page margin

If the ***Align to page margin*** option is activated, the register marks are aligned relative to the border(working surface).

- Target layer

The ***Target layer*** determines in which layers the register marks are placed.

Note: This also indirectly determines with which tool the register marks are edited, if a tool assignment has been made via the layer.

- Outside corners

The ***Outside corners*** option determines whether or not the outside lying corners are taken from the object to calculate the distance.

- Emit marks (or by pressing <Ctrl>)

The ***Emit marks*** option determines whether the register marks should be taken into account when outputting the data, that is, print, cut or mill.

If, in the output dialog, the CTRL key is pressed before clicking the ***preview*** key or the ***output*** key, the register marks will be given out as well.

- Size

This option determines the size of the register marks.

Note: Maximum and minimum size are dependent on the device manufacturer.

- Offset to object

The ***Distance to object*** option determines how close the register marks are to be positioned in relation to the objects.

- Distance to page border

The ***Distance to page border*** option determines how close the register marks should be positioned to the edge of the page.

- Line thickness

The ***Line thickness*** option specifies the width of the lines of the register marks.

Note: Maximum and minimum line thickness which can be used depends on the cutting system.

- Max X distance

The ***Max X distance*** option determines how far the maximum distance of the register marks in the X axis should be related to the objects.

- Max Y distance

The ***Max Y distance*** option determines how far the maximum distance of the register marks in the y axis should be related to the objects.

4.6.1.4.2 Alignment marks

With this function you can place alignment marks as a weeding help in your graphics. This function makes it easy to accurately fit color-cut cutting jobs.

Practice

Click on the ***Alignment mark*** icon in the **drawing** toolbar and set the marks on the desired positions.

By default, the GreatCut alignment mark consists of a square with two diagonally extending lines inside the square, which resemble a cross. The result is 4 triangles, which can be used to precisely apply two films of different colors.

Note: Alignment marks are cut-layer-neutrally, provided there are cut objects in the layer.

- Size

In the ***Size field*** the desired size of the alignment mark is defined.

- Cut without cross Option

If this option is activated, only the square is used as an alignment mark. The diagonal lines inside the square are suppressed. This option is used when only 2-colored signs are to be processed.

4.6.1.4.3 Crop marks

Crop marks are markers used when printing. They are located outside the print space. They show where exactly the sheet has to be cut. The crop marks are located at the corners of the sheet.

- Size

Here is set the size of the crop marks.

- Offset to object

Here, the distance between the crop marks and the objects is determined.

- Line thickness

Here, the thickness of the crop lines is determined.

4.6.1.5 The *Weed Border* Setup

This command creates a frame around one or more selected objects. An additional frame facilitates the release of the cut objects from the carrier material (Weeding).

4.6.1.5.1 Manual Weed Border

Manual, because by selection is determined, around which which objects a frame is placed.

- Uniformly Page Distance

Here, a **uniform** distance from all 4 object sides to the weed border is established.

- Different Page Distance

Here, a **non-uniform** distance from all 4 object sides to the weed border is established.

- One Frame For Each Used Layer

In each layer in which objects are located, a weed border around all objects therein is placed.

4.6.1.6 The *Output Devices…* Setup

This category of the basic settings allows the definition of important parameters for the output on the output device. The default settings correlate with the information in the output dialog before the output of the job data to the connected device.

Current output device

All currently connected output devices can be selected in this window. The **driver** name, **file** name, and the **port** interface are displayed. **Mode** and **material** from the material database can be determined.

The **…** button enables the creation, modification and deletion of the settings.

Port

Indicates with which computer interface the output device is connected.

Default Settings

Keep reference point

This option takes care that no new origin is set after the output of a job. The next output is done at the same coordinates as the previous.

Stack processing

This option enables an uninterruptible output without an interaction of the Plot Manager.

Wait after segment

Waiting after segment indicates if the cutter shall remain at this position after the output of a cut segment. This option is typically needed with flatbed devices without integrated automatic foil transportation.

Segment thus indicates the maximum addressable area that can be processed in one piece.

After the segment the foil is forwarded by hand to the correct position.

Sort before output

Sort means that all inner objects are processed before the outer objects and that a sortation is done in x-axis-orientation. This switch takes care that the foil is moved as little as possible in order to maintain the repeat accuracy as high as possible. This option is especially necessary with cutters with friction roll drive or when milling.
The output speed is slightly reduced with this setting.

Plot to file

This option does not lead the output of the data to the connected device but opens a dialog in which the path and the name of an output file can be given that will be saved to the hard disk.

Read out automatically

This option can be activated if a device is connected and "online" and a read out command for this device exists in the driver.

Output only tool-assigned layers

This option takes care that only objects are output where a tool assignment to a layer was done.

please refer to 3.3: Tool Assignment Via Layer

Weeding border

This option defines if and with which distance a weeding frame is cut around the output objects. This option facilitates the weeding of foil.

Overlap

It defines the overlapping of two segments. This value takes for example care of the compensation for the shrinking that occurs with foils.

Copy spacing

Copy distance defines the distance of copies on the output medium.

Segment spacing

Segment distance defines the distance between single segments of a job.

Stack spacing

Stack distance defines if copies shall be stacked vertically. Requirement for the activation of this option is that the selected object can be output more than once on top of each other.

Indication: In the output-preview the first object is shown "normally". Each further object of the stack is shown with a black square filled with an X.

No tooltips

This option takes care that no tooltips that were entered in the device driver are shown in the output dialog.

Enable output for objects larger than page size

This option causes objects to be passed to the output module that are larger than the dimensions of the working area.

4.6.1.7 The *Import* Setup

The ***setup import* dialog** is used to preset all import filters implemented in GreatCut. The settings are divided into 4 categories for the sake of clarity. Settings made in the ***General* tab** apply to all import filter file formats listed in the left column. ***Default* settings** are already activated. Settings other than the standard can be activated by clicking on the respective ***file format* tab**. The ***filter-specific* settings** can be activated or deactivated as required.

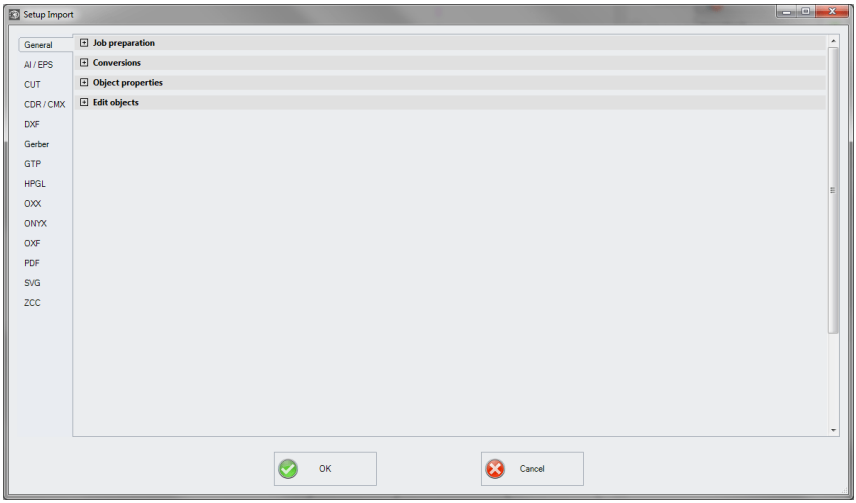


Fig. 4.6-4: Import dialog with closed category structure and import filter file formats

Fig. 4.6-5: Plus sign control

Fig. 4.6-6: Minus sign control

Fig. 4.6-7: Check control

A click on the ***plus sign* control** opens the desired **category**. A click on the ***minus sign* control** closes the desired **category**. Clicking on the ***check* control** activates or deactivates the corresponding option.

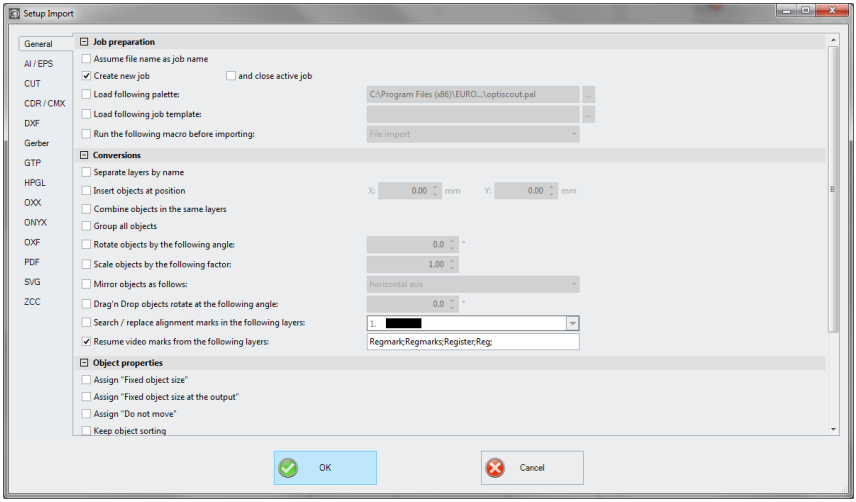


Fig. 4.6-8: Import dialog with opened category structure - here: General tab active

4.6.1.7.1 The Settings

4.6.1.7.1.1 Job preparation

- Assume file name as job name

This option takes the name of the **import file** for the job file. This makes it easier to assign source file to job file.

- Create new job

(Default: set) - When importing foreign data, the data is imported into a job without a name (untitled.job).

and

- close active job

The active job is closed during import. This prevents the job history becoming very large and confusing when importing many files.

- Load following palette:

Enabling this option allows you to load a color palette with the *.PAL file extension.

- Load following job template:

Enabling this option allows you to load a template with the file extension *.JTP.

- Run the following macro before importing:

This option lists all available macros. This option allows data operations to be performed before importing, such as 90° rotation, sorting with simulation, etc.

4.6.1.7.1.2 Conversions

- Separate layers by name

When importing external data, it may happen that several layers have an identical color value. If they are assigned different names, GreatCut can separate them during import and place the corresponding objects in separate layers.

- Insert objects at position

If this option is activated, it is possible to determine the position in X and Y in which the data is stored on the work surface.

- Combine objects in the same layers

If this option is activated, all closed objects that are in the same layer are combined during the import.

- Group all objects

If this option is activated, all objects are grouped during import. *Advantage*: The position of the objects remains unchanged when the objects are moved because only one group object is moved.

- Rotate objects by the following angle:

The value specifies the angle at which the objects are rotated when they are imported. Negative values are allowed.

- Scale objects by the following factor:

The value specifies the extent to which the objects are scaled, i.e. enlarged or reduced, during import. Negative values are allowed.

- Mirror objects as follows:

This option allows the objects to be mirrored when they are imported: Possible settings are: **horizontal axis, vertical axis, both axes.**

- Drag'n Drop objects rotate at the following angle:

If objects are dragged to the GreatCut work surface, they are rotated by the entered value when released.

- Search / replace alignment marks in the following layers:

This option searches in the selected layer for vector objects that have the size of the alignment marks (see Standard Settings / Register / Crop Marks / Size) and convert them into alignment mark objects, that is, these objects get the object attribute: **alignment mark**.

- Resume video marks from the following layers:

(Default: set) This option takes the objects from the layers with the layer name, e.g. **Regmark; Regmarks; Register; Reg;** and regards them as video marks, that is, these objects get the **object attribute video mark**.

4.6.1.7.1.3 Object properties

- Assign "Fixed object size"

If this option is activated, all imported objects are marked with the **object attribute** "*fixed object size*"; Thus size change is deactivated

- Assign "Fixed object size at the output"

If this option is activated, all imported objects are marked with the **object attribute** "fixed object size at the output". If this option is active, then no size compensation takes place during output. The objects are placed and rotated only after the marks have been imported.

- Assign "Do not move"

If this option is activated, all imported objects are marked with the **object attribute** *"Do not move". The **Do not move*** option prevents the selected object from being moved. The position is locked.

- Keep object sorting

If this option is active, the object sorting is not changed during the import. The sequence of objects will remain.

4.6.1.7.1.4 Edit objects

- Reduce nodes

Enabling this option removes all superfluous nodes. The vector object is reduced by those nodes whose removal does not influence the curve trajectory.

- Remove duplicate lines with the following tolerance automatically:

If this option is activated, all identical, overlapping lines are automatically removed.

- Automatically close objects with the following tolerance:

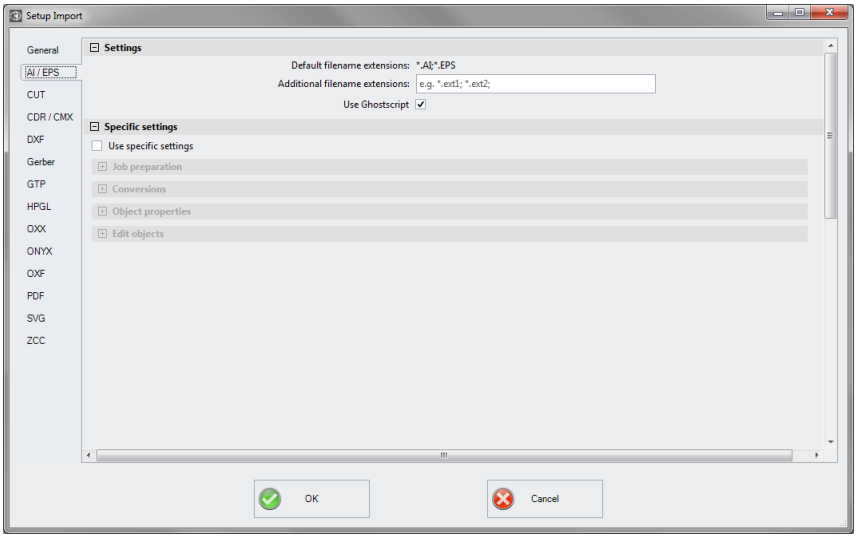
If this option is activated, all vector objects are automatically closed or connected during import, whose distance from the start and end point is within the closing tolerance.

- Run the following macro after import:

This option lists all possible macros. This option allows operations to be performed after importing, such as 90° rotation, sorting with simulation, etc.

4.6.1.7.2 The Settings

4.6.1.7.2.1 AI/EPS



Default filename extensions

here: *.AI, *.EPS

Additional filename extensions

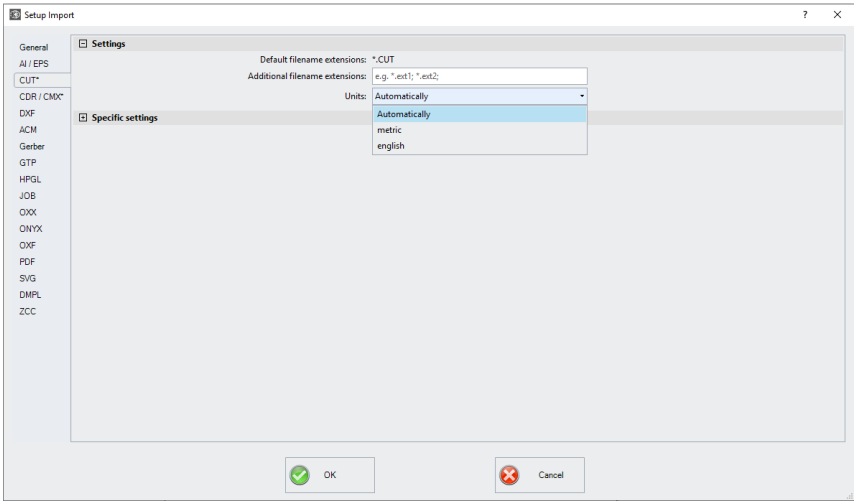
For the standard endings, individual file extensions can be specified. The import filter is configured as in the standard version.

Use Ghostscript

If this option is activated, the open-source interpreter application named Ghostscript is used for the data preview and the import process.

4.6.1.7.2.2 CUT

4.6.1 The Standard Settings Menu



Default filename extensions

here *.CUT

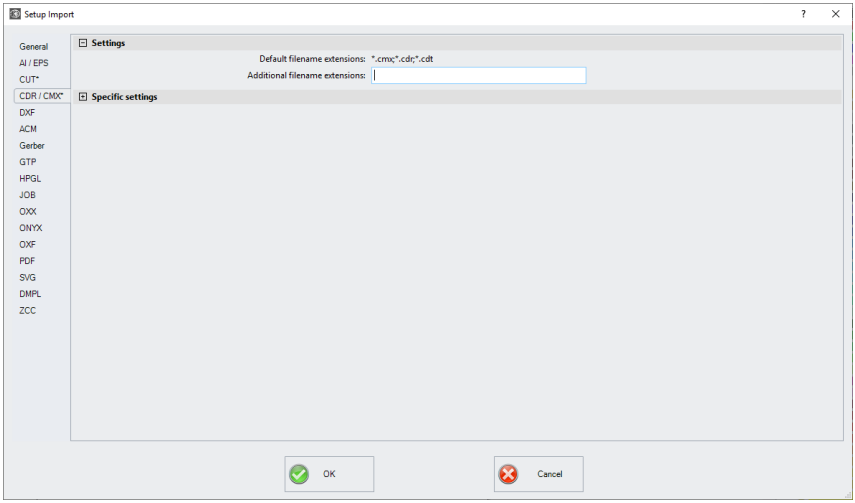
Additional filename extensions

For the standard endings, individual file extensions can be specified. The import filter is configured as in the standard version.

Units

Here you define in which unit the data is imported: *automatic, metric or english.*

4.6.1.7.2.3 CDR/CMX



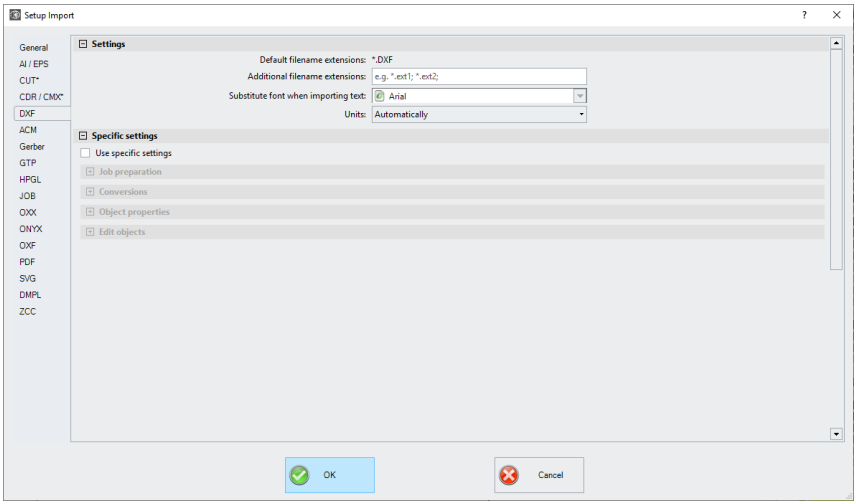
Default filename extensions

here *.CMX, *.CDR, *.CDT

Additional filename extensions

For the standard endings, individual file extensions can be specified. The import filter is configured as in the standard version.

4.6.1.7.2.4 DXF



Default filename extensions

here *.DXF

Additional filename extensions

For the standard endings, individual file extensions can be specified. The import filter is configured as in the standard version.

Substitute font when importing text

Here you can select which font is used during the text import. The selection lists all fonts installed on the import computer.

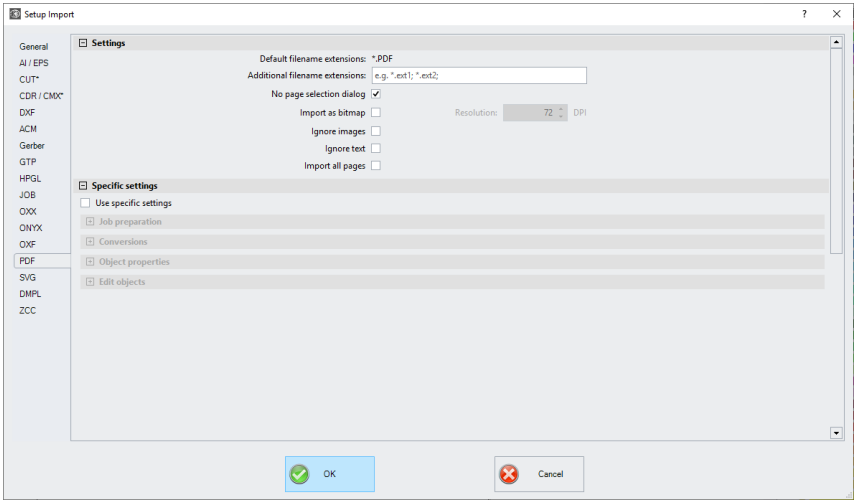
Units

Here you define in which unit the data is imported: *automatic, metric or english.*

4.6.1.7.2.5 ACM, Gerber, GTP, HPGL, JOB, OXX, ONYX, OXF

see CDR/CMX

4.6.1.7.2.6 PDF



Default filename extensions

here *.PDF

Additional filename extensions

For the standard endings, individual file extensions can be specified. The import filter is configured as in the standard version.

No page selection dialog

Activating this option suppresses the page selection dialog.

Import as bitmap

Enabling this option will not import the vector data contained in the PDF file, but the bitmapped image also included.

Ignore images

This option ensures that any existing photos are not imported.

Ignore text

This option ensures that any existing texts are not imported.

Import all pages

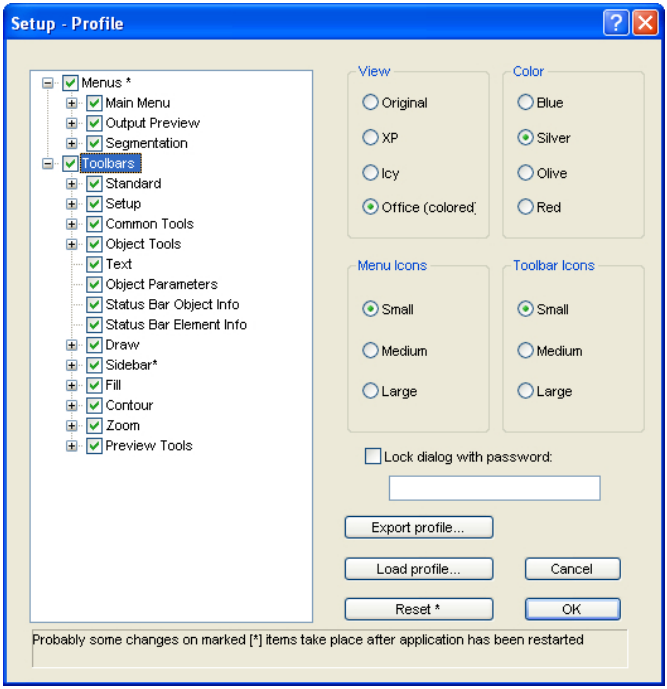
This option ensures that all page breaks are ignored and that the document is imported as a whole.

4.6.1.7.2.7 SVG, DMPL, ZCC

see CDR/CMX

4.6.1.8 The *Profile...* Setup

The ***Profile...*** setup serves the customization of the desktop. The user or administrator can adapt the GreatCut interface to fit his needs or restrict it to its necessary amount. The so defined user profile can be exported or be transferred - provided with a password protection - onto other licensed client computers.



4.6.1.8.1 Presentation

The following options are possible: ***Original, XP, Icy, Office (colored)***. Changes are executed directly.

4.6.1.8.2 Color

The following options are possible: ***Blue, Siver, Olive, and Red***. Changes are executed directly.

4.6.1.8.3 Menu Icons

Possible sizes are: ***Small, Medium and Large***. A preview in the left hand area of the dialog shows, what effect the changes have.

4.6.1.8.4 Toolbar Icons

Possible sizes are: ***Small, Medium and Large***. A preview in the left hand area of the dialog shows, what effect the changes have.

4.6.1.8.5 Lock Dialog with Following Password Option

If here a password is assigned, this password is queried while the activation of the ***Profile Menu Item***. Changing the view is only possible with the known password.

4.6.1.8.6 Export Profile Button

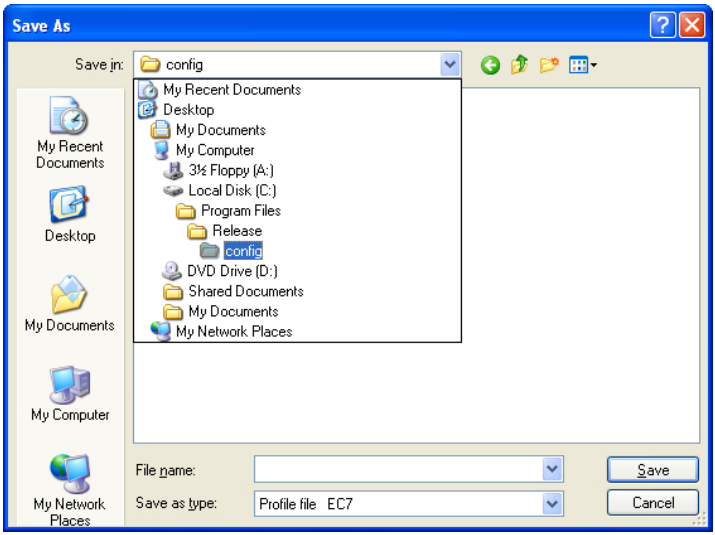


Fig. 4.6-9: Save profile dialog with default path

Enabling of the ***Export Profile*** button allows saving of customize GreatCut profiles. The used file extension is *.EC7. As default *.EC7 files are saved in the folder, where the program data are located.

Note: If all menus or the settings menu were accidentally disabled, then access on the profile resp. profile file is possible using the sytem menu. The system menu is enabled with a click on the program logo, which you'll find left from the program name in the program bar.

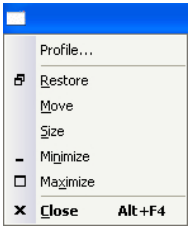


Fig. 4.6-10: System menu with *Profile… sub menu*

4.6.1.8.7 Status Area

In the ***status area*** messages and infos are displayed that explain the program's operation.

4.6.2 The *Color Palette* Command

With this command new color palettes can be created, loaded or saved.

Layer Numbers

If this option is active layer numbers are shown in the layer-toolbar.

Layer Info…

Opens the dialog for the setup of the layer toolbar. Here, you can define which information is shown if the mouse cursor is positioned above a layer color.

Possible information is: color-number*, RGB values, CMYK values, material name, mode/tool, material* and *amount objects*. In addition, the *amount of visible layers* and the *width of the window* can be set.

An „I"-button opens a window with shortcuts of the ***layer*** toolbar.

Layer Order…

This option opens a dialog for the modification of the layer order respective the output order.

Only Sel. Layer Visible

If this option is activated only the objects lying in the selected layer are shown on the working surface.

Delete Sel. Layer

Deletes the selected layer from the layer list.

Delete Unused Layers

This option removes all unused layers, all layers without objects and without device connection.

New Palette

All color layers that have layer numbers bigger than 6 are removed. You use this command if you want to define a new color palette individually. The selection of the layer color is done by just selecting the desired color with your mouse cursor and then activating the ***OK*** button.

Load Palette…

The previously defined palettes can be loaded.

Save Palette

With this command you save a newly defined or a modified standard palette on your hard disk. If this new or modified palette is saved as default palette it will be used at every new start of GreatCut.

Save Palette As…

This command allows the new allocation of a palette name.

Default

This command loads the color palette that is delivered as standard with GreatCut. It is a Mactac foil color chart that was defined as default palette by means of the color fan.

Palette History

This function facilitates the loading of the last 4 color palettes without the detour via the file directory tree. At the end of the menu list of the color palette menu the names of the last 4 edited color palettes appear. Click with the mouse cursor on the desired palette name and thus open the selected palette.

4.6.3 The *Working Area…* Command

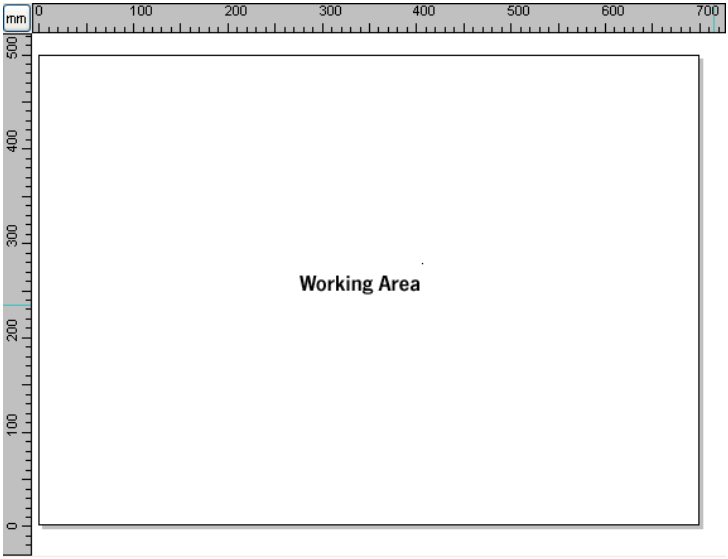


Fig. 4.6-11: Working area with shadows and rulers

Here, you can newly define the size and color of your working area. The working area is displayed as a paper frame with a gray shade on the right and bottom next to the frame (see figure above). The color of the working area is freely definable; this guarantees an optimal layout control on the screen.
Pre-defined are for example DIN-A-sizes. Besides the fix defined measures you can define any number of user-defined working area. One can be defined as *standard*. It will then be pre-set at every "file new".
This option is a very helpful function for everybody who has e. g. a milling or an engraving machine as the new entry in each case of the usable area can be omitted.

Indication: A double click on the shade right next and below the working area also opens this dialog.

4.6.4 The *Rulers…* Function


SHIFT+I

With this function you define the positions where the rulers shall be placed. Due to lack of space the display of the rulers can be abandoned. With diametric display each 5th step is drawn longer and with non-diametric each 2nd and each 4th once again.

4.6.5 The *Unit of Measurement* Function

This instruction switches the measuring unit to the preferred unit (mm, cm or inch).

Indication: The metric can also be changed directly via a button that is in the angle of both rulers.

4.6.6 The *Origin* Function

This function shows a zero point (origin) in the lower left corner or the lower right corner of the working area. It is used for orientation on the working area. Which view is preferred depends mostly on the zero point of the connected machine. The view on the working area then corresponds to the real conditions.

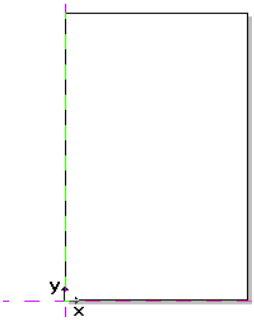


Fig. 4.6-12: Here: Origin bottom left

4.6.6.1 The *Settings Origin* Menu

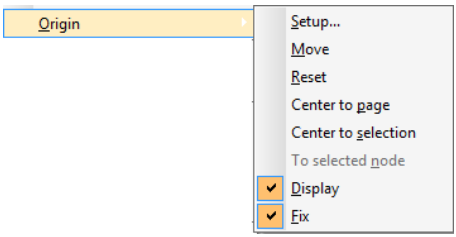


Fig. 4.6-13: The Origin Options

4.6.6.1.1 Setup...

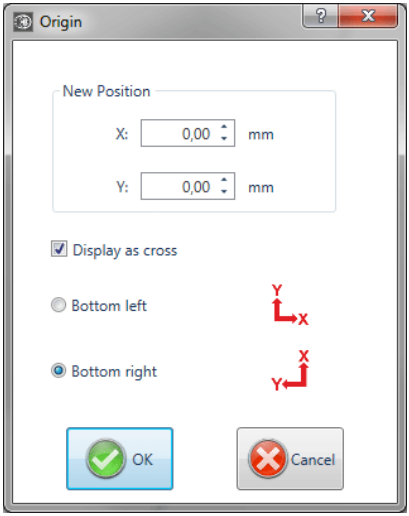


Fig. 4.6-14: The origin dialog box

New Position (X / Y)

This option allows you to set the zero point using specific values.

X Field + Measuring Unit

In the X field, the absolute coordinate of the zero point on the X-axis can be specified.

Note: The unit depends on the setting of the ruler.

Y Field + Measuring Unit

In the Y field, the absolute coordinate of the zero point on the Y-axis can be specified.

Note: The unit depends on the setting of the ruler.

***Display as Cross* Option**

If this option is activated, the origin point is represented by a dashed coordinate cross. If the option is deactivated, the position of the zero point is only taken into account in the rulers.

***Bottom Left* Option**

This option places the zero point in the lower left corner of the working area.

***Bottom Right* Option**

This option places the zero point in the lower right corner of the working area.

4.6.6.1.2 Move

This command serves to move the ruler origin. The ***Move* option** activates a crosshair as a mouse cursor. With the help of this, the zero point can be moved to any individual position.

4.6.6.1.3 Reset

The ***Reset* option** returns the zero point to the original position (lower left or lower right).

4.6.6.1.4 Center to page

This command serves to move the origin point to the center of the working area (center of page).

4.6.6.1.5 Center to selection

The ***Center to selection* option** sets the zero point to the position of the middle handle located at the center of a selected object.

Note: This command is selectable only, if one or more objects are selected on the desktop.

4.6.6.1.6 To selected node

The ***To selected node* option** sets the zero point to the position of a marked (selected) node.

Note: This command is selectable only, if one or more objects are selected on the desktop.

4.6.6.1.7 Display

This option displays the zero point or makes it invisible.

Note: Only visible, if the Display as Cross-Option is active.

4.6.6.1.8 Fix

This option makes the zero point moveable or fixes it at the current position.

4.6.7 The *Undo* / *Redo* Command

With this instruction the ***undo*** / ***redo*** function can be switched on or off.  **SHIFT+F7**

Advantages when undo / redo switched off:

With big or many objects the node processing is faster. The testing phase (initial state -> edition -> temporary final state) with several processing steps can be made undone as follows:
1. Switch off undo/redo, 2. edit objects and 3. switch on undo / redo

The selection of the ***undo*** function in the ***edit*** menu reestablishes the state before point 1.

4.6.8 The *Snap Mode* Function

The snap mode facilitates the creation of objects at the subsidiary lines. This option activates the "magnetic" effect on graphic objects and text blocks.  **P**

4.6.9 The *Choose Language…* Command

This option sets the language for **user interface** and **help file**.

4.6.9.1 Program Language

The user interface language is set here.

4.6.9.2 Language for the Help File

The language for the help is determined here.

4.7 The *Window* Menu

4.7.1 The *New Window* Command

Activating this instruction opens a new GreatCut window.

4.7.2 The *Tile Horizontally* Command

The activation of this instruction places all open windows diminished - one above the other - horizontally.

4.7.3 The *Tile Vertically* Command

The activation of this instruction positions all opened windows diminished - side by side - vertically.

4.7.4 The *Cascade* Command

The confirmation of this instruction displays all windows diminished and cascaded (diagonally displaced).

4.7.5 The *Close* Command

Clicking this instruction closes the momentarily active window after prior safety query.

4.7.6 The *Close All* Command

Clicking this instruction closes all open windows after prior safety query.

4.7.7 The *Standard* Command

CTRL+1

This command switches the ***tool***-toolbar on the desktop or makes it disappear.

4.7.8 The *Sidebar* Command

CTRL+2

This instruction switches the so-called ***Sidebar*** on or off. The ***Sidebar*** contains several tabs (e. g. layer) and is normally displayed at the right border.

4.7.9 The *Setup* Command

This instruction switches the ***setup*** toolbar on the desktop or makes it disappear.  **CTRL+3**

4.7.10 The *Common Tools* Command

This instruction switches the ***common tools*** toolbar on the desktop or makes it disappear.  **CTRL+4**

4.7.11 The *Object Tools* Command

This instruction switches the ***object tools*** toolbar on the desktop or makes it disappear.  **CTRL+6**

4.7.12 The *Object Parameters* Command

This instruction switches the ***object parameters*** toolbar on the desktop or makes it disappear.  **CTRL+7**

4.7.13 The *Status Bar Object Info Command*

This instruction switches the ***status bar object info*** toolbar on the desktop or makes it disappear.  **CTRL+8**

4.7.14 The *Status Bar Element Info* Command

This instruction switches the ***status bar element info*** on the desktop or makes it disappear.  **CTRL+9**

4.7.15 The *Active Windows List*

At the below part of the ***window*** menu instruction list all active jobs are listed.

Indication: If more than 9 jobs are active it will be indicated by the menu item: further windows.

4.7.16 The *Further Windows…* Command

This instruction is only visible if more than 9 windows are active. A window with a list of all active windows is opened. A click switches to the wanted window.

4.8 The *Help* Menu

4.8.1 The *About ...* Command

The selection of this menu entry opens an info window in which various information is shown. On the left part of the dialog among others the *serial number*, *version number, free disk space, co-processor,* or *type of processor* are shown. On the right down part of the dialog is a scroll window in which all the application files of the respective application version are listed. This file list can be printed via the ***print*** button.

Indication: If there should be problems with your GreatCut version you can fix them the fastest, if this list is made available to our support staff.

4.8.2 The *Help...* Command

This option starts the **GreatCut help**.  **F1**

4.8.3 The *Object Info...* Command

The activation of this instruction opens an info window that contains information about the objects on the desktop. These are among others the number of objects, number of selections, vector objects, text blocks, all groups and combinations or all bitmaps.  **F10**

The ***selection*** button opens the ***object manager***.

4.8.4 The *Install Autoimport Plug-Ins...* Command

Enabling this command opens the *Corun Installer* window, that lists for which programs plug-ins are available. Programs which were automatically found are marked already. Select the *target* program for the intended data exchange in the *Eurosystems Software* list field.

Pressing the ***Install*** button starts the installation.

please refer to 2.3.1: Corun Installer

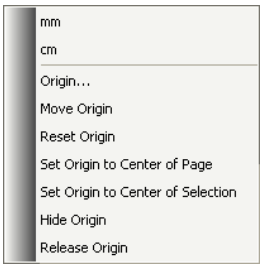
4.9 Context Menu Left Mouse Button

4.9.1 Context Menu Ruler

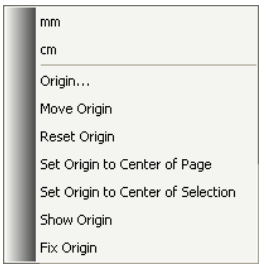
4.9.1.1 The *Unit* Button

A click on the ***Unit* button** activates one of the following context menus:

Note: Which of the two is enabled, depends on whether objects are selected on the working area and what zero point setting is active.



or



4.9.1.1.1 Origin…

please refer to 4.6.6: The *Origin* Function

4.9.1.1.2 Move Origin

This command serves to move the ruler origin to any position on the desktop.

4.9.1.1.3 Reset Origin

This command serves to move the origin point into the lower left corner of the working area.

4.9.1.1.4 Set Origin to Center of Page

This command serves to move the origin point to the center of the working area (center of page).

4.9.1.1.5 Set Origin to Center of Selection

This command serves to mirror or place objects at the coordinate axis.

Note: This command is only visible, if one or more objects are selected on the working area.

4.9.1.1.6 Hide Origin

This command serves to switch the ruler zero point to invisible.

4.9.1.1.7 Release Origin

This command serves to release the fixation of the ruler origin in order to move it with the mouse.

4.9.1.1.8 Show Origin

This command serves to switch the ruler zero point to visible.

4.9.1.1.9 Fix Origin

This command serves to anchor the ruler zero point at a definite point.

4.10 Context Menus Right Mouse Button

4.10.1 Context Menu on Empty Working Area

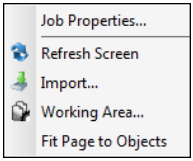


Fig. 4.10-1: This menu appears if no objects lie on the desktop

Job Properties…

This command opens the following ***Job properties*** **dialog:**

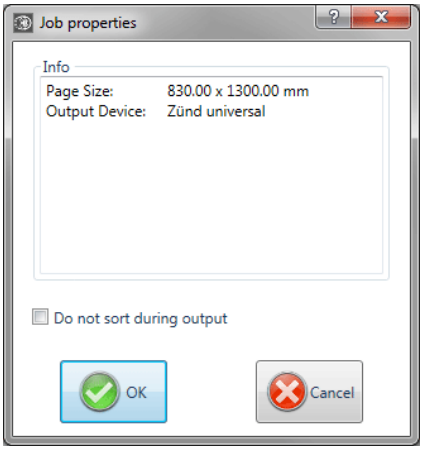


Fig. 4.10-2: Job properties dialog with job infos

Do not sort during output

This option prevents, if activated, the objects being sorted before or during output. In other words, the original object sorting is retained.

Note: If this option is activated, the "Do not sort during output" option located in the output dialog is automatically deactivated.

Refresh screen

This instruction refreshes the active window.

Import…

This menu entry opens the ***import*** dialog for the import of external file formats.

Insert

This menu entry inserts contents from the Windows clipboard to the GreatCut working area.

Working area

This menu entry opens the dialog for the pre-setting of the parameters of the working area.

Fit Page to Objects

This option scales the working area proportionally in relation to the object size.

5 Reference Part Output Preview

5.1 The *Output* Menu

5.1.1 The *Output* Command

Starts the ***output*** on the connected device with the settings of the ***output to device*** dialog.

5.2 The *Options* Menu

5.2.1 The *Save As...* Command

The ***save as...*** command in the ***output*** preview ... saves the job with all changes that were done in the preview. When returning to the working surface all these settings would be lost, therefore, the job can here be saved under another name.

SHIFT+CTRL+S

please refer to 4.1.4: The *Save as...* Command

5.2.2 The *Rotate Axis* Command

This command rotates the marked objects at 90° counter-clockwise.

please refer to 4.3.1: The *Rotate Axis* Command

A

5.2.3 The *Horizontal Mirror* Command

The selected object is mirrored at the horizontal through its center-point.

please refer to 4.3.3: The *Horizontal Mirror* Command

X

5.2.4 The *Vertical Mirror* Command

The selected object is mirrored at the vertical through its center-point.

please refer to 4.3.4: The *Vertical Mirror* Command

Y

5.2.5 The *Optimization...* Command

The foil optimization takes care that all objects are arranged in a way that they take the least space on the foil. By rotation or no rotation of objects it is taken care of, that the material waste can be decreased.

please refer to 4.5.6: The *Box Nesting…* Function
please refer to 3.8.1.1: Material optimization

5.2.6 The *Sort With Simulation…* Command

CTRL+F10

This command opens the **sort objects** function with which the output order and the direction of rotation can be defined. The sortation can de done dependent or independent on layer. Also, the preferred direction of the sortation can be defined.
In a preview window the output of the objects is simulated graphically; here, the traverse paths of the tool head can also be drafted. The simulation can be done unlimited without changing the original objects.

please refer to 4.3.18: The *Sort With Simulation…* Command

In detail: please refer to 7.5: The *Sort with Simulation…* Tool

5.2.7 The *Recalculate* Command

N

The ***recalculate*** command enables the modification of the output-parameters or of the driver settings without leaving the output routine.

This command switches back from the ***output*** preview to the ***output*** dialog.

5.2.8 The *Initial View* Command

SHIFT+N

Puts back the output preview to the status before having pressed the ***preview*** button in the output dialog. All changes are made undone.

5.2.9 The *Horizontal Weeding Lines* Command

H

Weeding lines serve for the better processing of big jobs. Material lengths of several meters in length or width are difficult to handle, therefore you can insert weeding lines during the foil cutting that divide the job into smaller parts that are easier to handle.

The ***horizontal weeding lines*** are set with the hotkey "h" or drawn with the arrow from the weeding frame dashed in blue.

please refer to 3.8.1.2: Weeding lines

5.2.10 The *Vertical Weeding Lines* Command

V

Weeding lines serve for the better processing of big jobs. Material lengths of several meters in length or width are difficult to handle, therefore you can insert weeding lines during the foil cutting that divide the job into smaller

parts that are easier to handle.

The ***vertical weeding lines*** are set with the hot key "v" or drawn with the arrow from the weeding frame dashed in blue.

please refer to 3.8.1.2: Weeding lines

5.2.11 The *Test Drive* Command

If the ***test drive*** command is activated the connected device goes with lifted tool head along the weeding frame. This also happens if the option "weeding frame" was not activated.

Compare ***test drive*** button in the ***output*** dialog **please refer to 3.4.3: Start Output from the GreatCut Working Surface**

5.3 The *View* Menu

5.3.1 The *Material Width* Command

When activating this command the section is adjusted to the values for the ***material width*** defined in the driver or set in the ***output*** dialog.

 **B**

5.3.2 The *All Objects* Command

This function changes the display in that way that all objects can be seen on the screen. The section is selected so that it is the biggest possible display showing all objects.

 **F4 and SHIFT+F4**

If the SHIFT key is pressed while activating this command, only the selected objects are zoomed to maximum.

5.3.3 The *Selected Objects* Command

If this command is activated only the ***selected objects*** from the ***output*** preview are displayed as large as possible.

 **SHIFT+F4**

5.3.4 The *Total Area* Command

If this menu item is activated the preview of the whole material surface is shown.
The size of the shown surface depends on the so called frame size (foil height x foil width) of the output device to be accessed.
If in the ***output*** dialog a driver for a friction feed cutter was selected, in the preview always a material length of 30m (32,81 yd) is shown.
If in the cutting dialog a driver for a flatbed cutter was selected, the maximum width of the flatbed cutter is shown as material length.

 **SHIFT+B**

5.4 The *Window* Menu

5.4.1 The *New Window* Command

Activating this instruction opens a new GreatCut window.

5.4.2 The *Tile Horizontally* Command

The activation of this instruction places all open windows diminished - one above the other - horizontally.

5.4.3 The *Tile Vertically* Command

The activation of this instruction positions all opened windows diminished - side by side - vertically.

5.4.4 The *Cascade* Command

The confirmation of this instruction displays all windows diminished and cascaded (diagonally displaced).

5.4.5 The *Close* Command

Clicking this instruction closes the momentarily active window after prior safety query.

5.4.6 The *Close All* Command

Clicking this instruction closes all open windows after prior safety query.

5.4.7 The *Common Tools* Command

This instruction swithes the ***Common Tools*** toolbar on or off.  **CTRL+4**

5.4.8 The *Object Parameters* Command

This instruction switches the object parameters toolbar on the desktop or makes it disappear.  **STRG+7**

5.4.9 The *Status Bar Object Info Command*

This instruction switches the ***status bar object info*** toolbar on the desktop or makes it disappear.  **CTRL+8**

5.4.10 The *Status Bar Element Info* Command

This instruction switches the status bar element-info on the desktop or makes it disappear.  **CTRL+9**

5.4.11 The *Active Windows List*

At the below part of the ***window*** menu instruction list all active jobs are listed.

Indication: If more than 9 jobs are active it will be indicated by the menu item: further windows.

5.4.12 The *Further Windows…* Command

This instruction is only visible if more than 9 windows are active. A window with a list of all active windows is opened. A click switches to the wanted window.

5.5 The *Help* Menu

5.5.1 The *About …* Command

The selection of this menu entry opens an info window in which various information is shown. On the left part of the dialog among others the *serial number*, *version number, free disk space, co-processor,* or *type of processor* are shown. On the right down part of the dialog is a scroll window in which all the application files of the respective application version are listed. This file list can be printed via the ***print*** button.

Indication: If there should be problems with your GreatCut version you can fix them the fastest, if this list is made available to our support staff.

5.5.2 The *Help…* Command

This option starts the **GreatCut help**.  **F1**

5.5.3 The *Install Autoimport Plug-Ins…* Command

Enabling this command opens the *Corun Installer* window, that lists for which programs plug-ins are available. Programs which were automatically found are marked already. Select the *target* program for the intended data exchange in the *Eurosystems Software* list field.

Pressing the ***Install*** button starts the installation.

please refer to 2.3.1: Corun Installer

5.6 Context Menu of The Right Mouse Button

5.6.1 Context Menu Output Preview

Fig. 5.6-1: Context menu of the output preview with weeding frame function

Weed border

This function creates a weeding frame around the *selected* objects in the output preview unlike the weed border option.

All other menu entries can be activated via the main menu.

6 Toolbars

6.1 The S*tandard* Toolbar

The **standard** toolbar is switched on or off via the ***window*** menu. **CTRL+1**

Fig. 6.1-1: Freely placeable toolbar - Collection of standard tools

Fig. 6.1-2: Fixed standard toolbar

BUTTONS FROM 1 TO 15

1. Create *New window*
2. *Open* job
3. *Save* job
4. *Save all*
5. Edit *job info*
6. *Cut to* Clipboard
7. *Copy to* Clipboard
8. *Paste from* Clipboard
9. *Print* objects
10. *Import* file
11. *Export* objects
12. *Scan* image
13. *Undo*
14. *Redo*
15. *Help*

6.2 The *Setup* Toolbar

The ***Setup*** toolbar is switched on or off via the ***Window*** menus. **CTRL+3**

Fig. 6.2-1: Free placeable Setup toolbar

Fig. 6.2-2: Fixed Tool Bar

BUTTONS FROM 1 TO 2

1. *Contour mode* on/off
2. *Desktop S*etup

Indication: Alternatively the work area can be defined by doubleclick on the shades beside the work surface.

6.3 The *Object Tools* Toolbar

The ***Object Tools*** toolbar is switched on or off via the ***WIndow*** menu. **CTRL+6**

Note: This is the section which in former GreatCut versions (right mouse click for icon assignment) was the variable section of the object toolbar.

Fig. 6.3-1: Freely placeable toolbar - collection of objcet tools

Fig. 6.3-2: Anchored toolbar

BUTTONS FROM 1 TO 21

1. *Delete* Objects
2. Do *Axis Change* with Objects
3. *Horizontal Mirror* of Selected Objects
4. *Vertical Mirror* of Selected Objects
5. *Group* Objects
6. *Ungroup* Objects
7. Combine Objects
8. *Release Combination* of Objects
9. Generate *Block Shadow*
10. *Align* Objects
11. Close Objects
***12. Open* Objects**
***13. Round* Objects**
14. Delete Redundant Nodes
***15. Vectorize* Objects**
16.* Generate *Contour Line
17.* Start *Foil Optimization
18.* Set *Start Tool Paths
***19. Hatch* Objects**
20. Generate *Out- or Inlines*
21. *Weld* Objects

6.4 The *Object Parameter* Toolbar

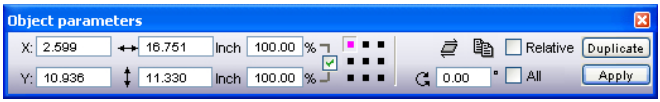


Fig. 6.4-1: Freely placeable toolbar - collection of object parameters

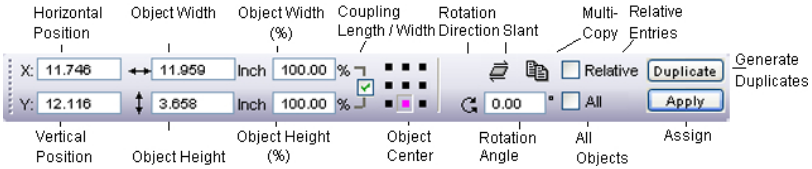


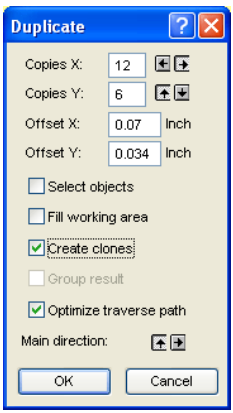
Fig. 6.4-2: Object parameters toolbar with explanations

6.4.1 The *Multi Copy* Command

Definition: Multi Copy = Multiple copies of selected objects (Duplicates)

6.4.1.1 The *Multi Copy* Button

Pressing the button opens the following dialog:



6.4.1.2 Copies X:

Using the ◧ or ◨ button the number of duplicates can be increased or decreased in increments of one. The alignment is done in the ***Main Direction***. Alternatively, any integer value may be entered in the field.

6.4.1.3 Copies Y:

Using the ↑ or ↓-button the number of duplicates can be increased or decreased in increments of one. The alignment is done in the ***Main Direction***. Alternatively, any integer value may be entered in the field.

6.4.1.4 Offset X:

This value determines the distance between the duplicates in X-Axis direction.

6.4.1.5 Offset Y:

This value determines the distance between the duplicates in Y-Axis direction.

6.4.1.6 The *Select Objects* Option

If this option is enabled, all duplicates will be selected finally.

6.4.1.7 The *Fill Working Area* Option

If this option is enabled, then the working sheet only and not the desktop is filled with duplicates.

Note: Enabling this option, de-activates the Copies X and Copies Y fields.

6.4.1.8 The *Create Clones* Option

If this option is enabled, then the selected object is uses as control object for cloning. All duplicates are generated as clone objects.

6.4.1.9 The *Group Result* Option

Enabling this option groups all duplicates finally.

6.4.1.10 The *Optimize Traverse Path* Option

If this option is enabled, duplicates are generated in meanders. This reduces the head movement of the output device and shortens the output process.

Note: The main direction option defines additionally, if meandering is done in X-Axis or Y-Axis direction.

6.4.1.11 The *Main Direction* Option

The ↑ button sorts the duplicates in Y-Axis direction - "column by column". The →-button sorts the duplicates in Y-Axis direction - "line by line".

6.5 The Status Line *Object Info*

This status line informs about the properties and attributes of objects on the GreatCut desktop. This information comprises number, type of object, color model, color value and many other data important for the evaluation.

Fig. 6.5-1: Status line for the display of object properties, color spaces , etc. - free floating

Fig. 6.5-2: Status line for the display of object properties, color spaces, etc. - fixed

6.6 The Status Line *Element Info*

This status line indicates the current mouse cursor position in x/y-coordinates. In addition, in the left part next to the cursor coordinates subsidiary texts and additional texts from the layer info for example from the field *material name* are displayed. It is also possible to show driver information as for example the set tool depth for a particular layer.

Fig. 6.6-1: Status line element with subsidiary texts and element information, here coordinates

6.7 The *Preview Tools* Toolbar

The *Arrow* Tool **SPACE**

This mode allows you to *mark, move, group temporarily* (marking function) and *modify the size* of objects in the ***output*** preview.

The Magnifying Glass+ **F2 or +(Num)**

The button with the (+) plus sign increases parts of the output preview. Draw with the marking function a frame around the area that shall be increased. This function can be carried out successively several times until a beep reminds acoustically of the last possible step.

The Magnifying Glass− **F3 or -(Num)**

The button with the (-) minus sign decreases *gradually* parts of the desktop or of the working area.

The Sheet **B**

The button with the symbolic sheet of paper shows the material area increased to the maximum

The *Screen*  **F4**

The button that symbolizes a screen displays all objects on the material area as big as possible. The section is thus selected that is it the biggest possible display with all objects visible.

The *Magnifying Glass for Selected Objects*  **SHIFT** + **F4**

The „dotted loupe" button displays all selected objects as big as possible.

The *Measure* Tool  **M**

This tool serves for the determination and the percental modification of object dimensions.

The *Output Command*  **S**

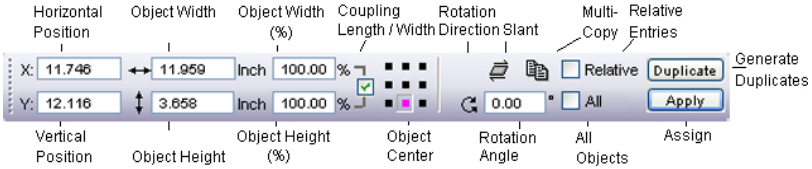
The activation of this button gives the data to the Plot-Manager for the output to the connected device.

6.8 The *Preview Object Parameters* Toolbar

The ***preview object parameters*** toolbar is activated with the following shortcut. **CTRL+7**

Indication: It is identical with not variable part of the object parameters toolbar in previous GreatCut versions.

Fig. 6.8-1: Object parameter toolbar with position, size, angle, multi copy, …



Note: The display of the object parameters toolbar varies depending on how the object properties are set!

7 Tools

7.1 The *Desktop*

After starting GreatCut the desktop with the working area appears as follows:

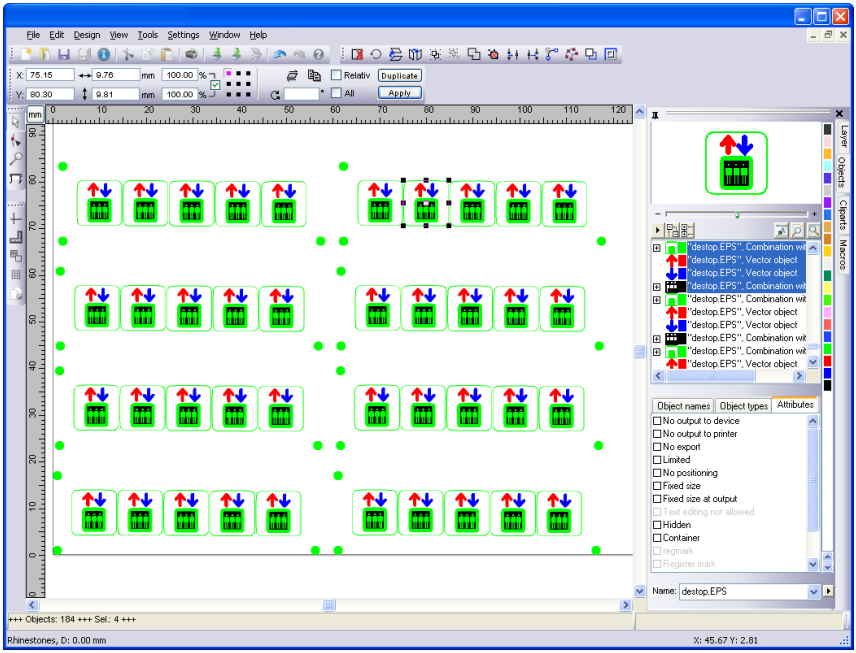


Fig. 7.1-1: GreatCut Desktop with working area and shown tool-toolbar, rulers, Object Manager and status lines

The ***working area*** is marked by a black frame that has on the right and below a gray shade. The working area serves for the orientation and dimensioning.

The ***rulers*** can be freely positioned or completely switched off. The ***layer*** toolbar is integrated into the Sidebar. The ***metric*** (cm, mm, inch) can be directly changed via a button that is within the angle of the two rulers. Also ruler's origin can be changed. Following options are available: Set Origin to Absolute Coordinates, Move Origin, Reset Origin, Set Origin to Center of Page, Show Origin and Release Origin.

In the ***status line*** you find much information about the objects on the working area. For example the ***wire frame***, ***filling***, ***object dimensions***, ***-number***, ***combination*** or ***grouping*** are displayed.

7.1.1 Cursor forms on the working area and their meaning

Cursor form	Meaning
	no object marked or selected

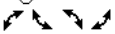
Indication: You mark objects by positioning the mouse cursor above the object and pressing the left mouse button.

Cursor form	Meaning
	Move objects

Indication: This cursor is only active if the cursor is within the range of the inner part of the object or in the range between the 8 black squares on the wire frame line. The object must be marked.

Cursor form	Meaning
	Increase object vertically
	Increase object horizontally
	Increase object diagonally

Indication: The cursors for the modification of the object size are only active if the cursor is within the range of the 8 black squares on the wire frame line of the object. You switch to the skewing-/rotation-mode by clicking with the left mouse button with active cross cursor (see above move objects).

Cursor form	Meaning
	Object in the ***skew/rotate***-mode
	Rotate object
	Skew object (set tilted horizontally/vertically)

7.2 The *Outline* Function

This function is activated via the button in the variable part of the ***object tool*** toolbar or via the ***tools*** menu, menu entry ***Outline...***

The ***outline*** function creates contours in a freely definable distance around graphical and text objects.

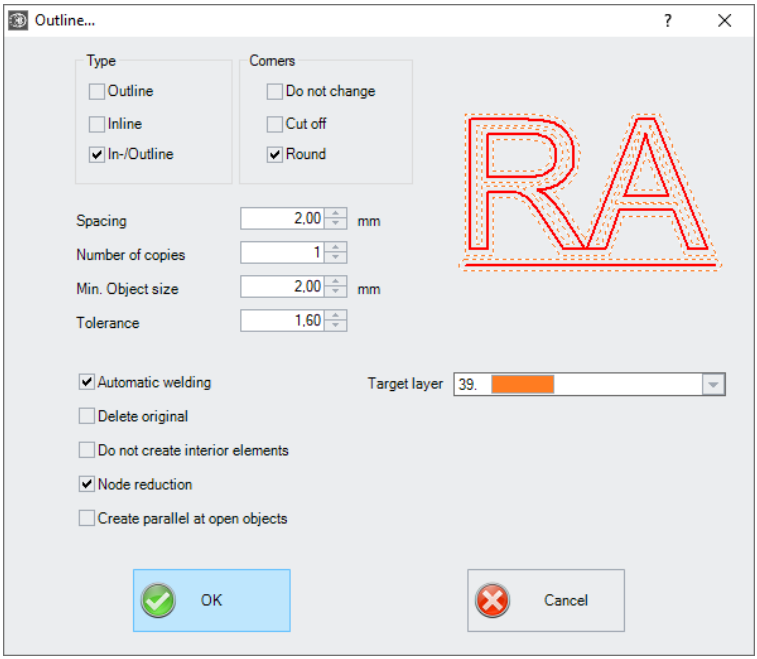


Fig. 7.2-1: Outline parameter window

Type Area

Outline

The option ***Outline*** creates a contour line to the outside around the selected objects.

Note: If there are objects within other objects, then an inline from the inner object is created.

Inline

The option ***Inline*** creates a contour line inside the selected objects.

In-/Outline

The ***In / Outline*** option creates a contour line outwards and inwards around the selected objects.

Corners Area

The ***corner treatment*** can be influenced by three additional options. The preview shows how the selected option affects the contours.

Do not change

The option ***do not modify corners*** creates the mathematical accurate dot on the outline to each corner dot. This leads to the fact that in pointed corners the outline is extended endlessly which often leads to unaesthetic results. Therefore the option ***cut corners*** is pre-defined as default. This option shortens the extension up to the value that is entered in the field ***tolerance***.

Cut off

This option truncates the extension up to the value entered in the ***Tolerance*** field.

Round

Rounding corners converts the corner point into a rounded curve. The field ***Tolerance*** indicates, in which distance of the corner point is rounded off.

Spacing

The desired value for the distance of the inner or outer contour from the original object is entered in the ***Spacing*** field.

Number of copies

The ***Number of copies*** option specifies how many Inlines or Outlines are to be created simultaneously during a function call.

Min. Object size

This value defines from which object size a contour is generated. It prevents the creation of small parts that can not be weeded.

Tolerance

The field ***Tolerance*** indicates how much is cut off or rounded off. The value 1 equates approximately the spacing value.

Options

Automatic welding

Automatic welding means that all overlappings of the generated contour lines will be removed.

Delete original

If the button ***Delete original*** is activated, the original object is deleted after creating the contours.

Do not create interior elements

This option suppresses the automatic generation of an inner contour.

Node reduction

If this option is activated, the number of nodes required for the contour line will be reduced as much as possible without losing accuracy.

Create parallel at open objects

If this option is activated, parallel lines will be created next to the selected open object instead of a closed outline.

Target layer

The ***target layer*** option allows the preselection of the layer into which the contour lines are laid.

Note: It is possible to pre-select the tool since the layers can be preconfigured with a tool.

7.3 The *Undo Redo* Stack

The undo redo stack is activated via following key combination:

SHIFT+F5 or SHIFT+F6

These functions can ***undo*** or ***redo*** all *object-related* actions.

Indication: Actions that refer for example to the working area, the desktop or the layer-toolbar are not taken into the stack.

The pre-settings in the *settings* menu, submenu *miscellaneous*

The ***Undo Redo*** stack related settings as for example the number of stack actions is carried out in the following setup dialog.

Indication: The maximum number of the undo steps can only be modified with no objects on the working area.

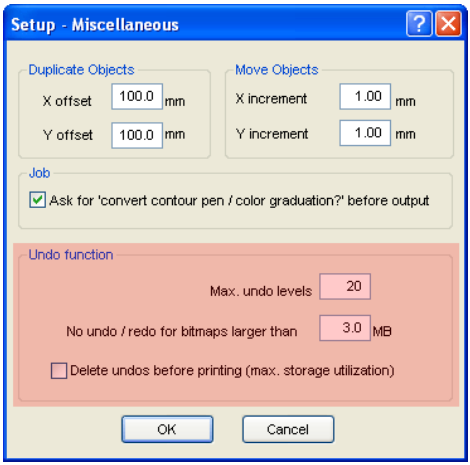


Fig. 7.3-1: The parameter of the undo stack (here: marked in red)

The area ***undo function*** comprises the settings that effect the undo stack.

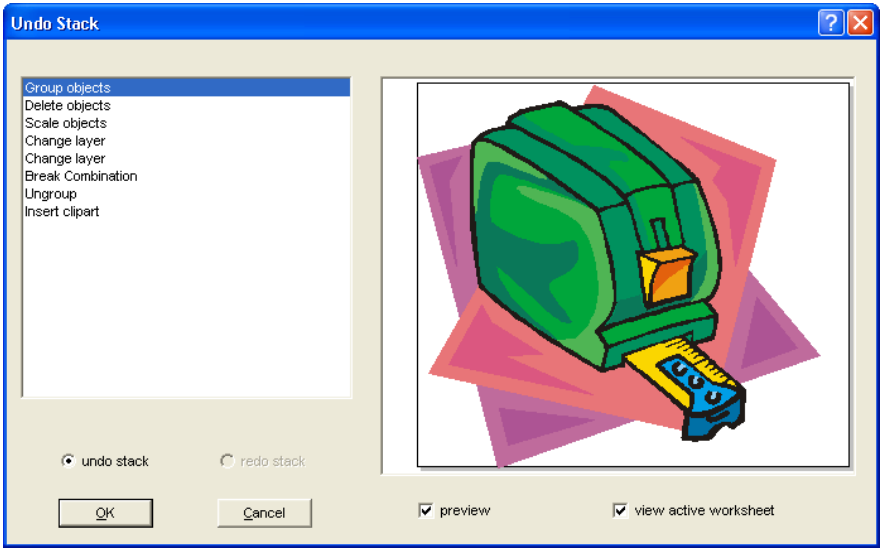


Fig. 7.3-2: Undo stack with preview window and working area

In the left stack the action can be selected up to which you want to go back. The preview window shows the status of the working area and of the objects on the working area at the moment of the action.

The ***redo*** stack operates in the same way.

7.4 The *Alignment* Function


Fig. 7.4-1: The alignment button

This function aligns two or more marked objects to each other or to the working area.

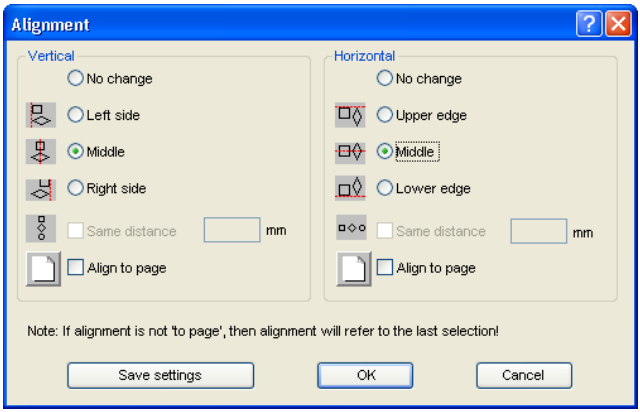


Fig. 7.4-2: The alignment dialog

Objects can be aligned horizontally or vertically. A centered alignment is also possible as the selection of the same distance between the marked objects. The type of alignment is illustrated by icons. Setting can be stored by pressing the ***Save settings*** button.

Indication: The last marked or drawn object serves for alignment as reference object, that means that all others are aligned in the same way. If alignment is not 'Align to Page', then alignment will refer to the last selection.

7.5 The *Sort with Simulation…* Tool

This tool serves for the ***sortation of objects*** and the ***determination of sequences*** before the output at the connected device. A simulation with or without complete path of the device tools facilitates the estimation of the results.

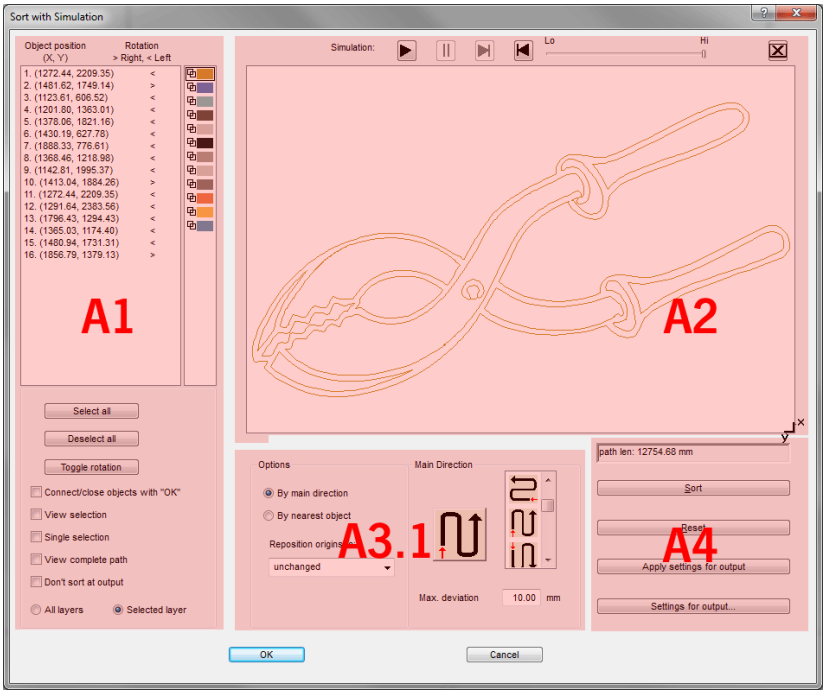


Fig. 7.5-1: Object-sortation with preview-window and simulation option

7.5.1 Zone A1 - Object Position, Color Bar, …

Object Position and Rotation

The **object position** column indicates the **object number** and the **coordinates of the objects on the work surface in the X / Y direction**. The **rotation** column indicates whether the object contour is rotated **clockwise** ">" or **counterclockwise** "<".

Color Bar

A click on the wanted color bar selects the respective color layer.

The *Select All* Button

Clicking on this button selects all objects in the list.

The *Deselect all* Button

Clicking on this button deselects all objects of the list.

The *Toggle rotation* Button

This option modifies the orientation from clockwise (right) to counterclockwise (left) and vice versa.

***Connect / close objects with "OK"* Option**

This option ensures that open objects are automatically closed when the dialog is closed with the "OK" button.

***View selection* Option**

Shows the selected objects in the preview window

***Single selection* Option**

In the list only one object can be selected; the multi-selection (standard) is deactivated.

***View complete path* Option**

A blue dashed line shows the track that the tool head covers.

***Don't sort at output* Option**

This option prevents object sorting at output.

7.5.1.1 Layer-dependent Sorting

***All Layer* Option**

This option will include all layers in the sort if **layer-dependent sorting** is enabled.

Note: This option is disabled in the output preview, depending on the driver setting.

***Selected Layer* Option**

This option only applies the selected layer to the sort, if **layer-dependent sorting** has been activated.

7.5.2 Zone A2 - The Simulator

The simulator is used to test and evaluate all settings before output. The operation of the simulator is similar to a DVD-player.

Lo (low) up to ***Hi*** (high) regulates the speed of the simulation display.

Indication: Before simulation, in addition to orientation, you have to do sorting by clicking on the sort button.

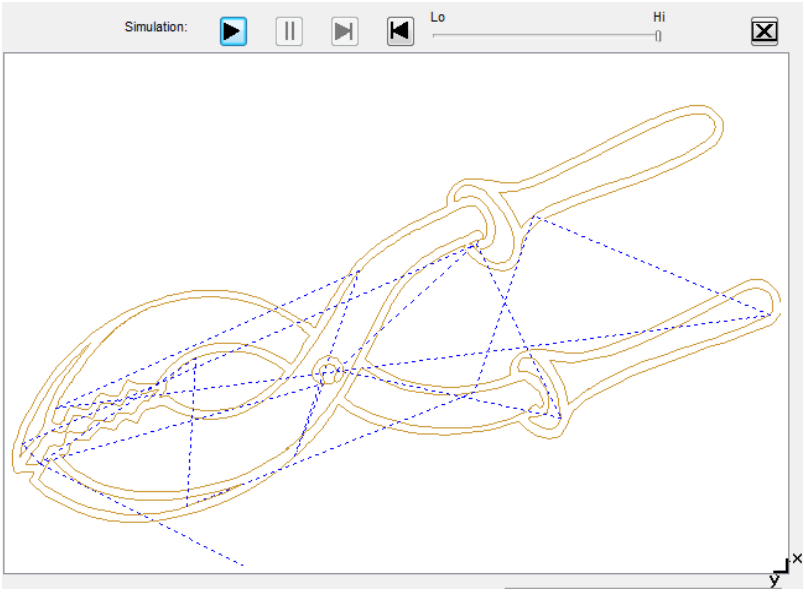


Fig. 7.5-2: Option View complete path activated (blue dashed lines)

7.5.3 Zone A3

7.5.3.1 Options

By Main Direction

If this option is activated, the main direction (area) is visible.

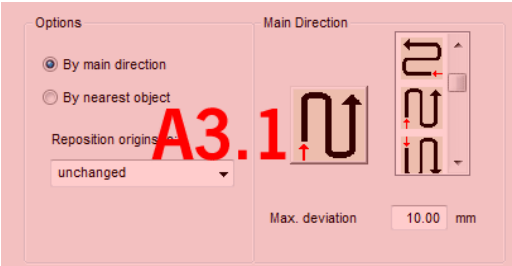
By Nearest Object

If this option is activated, the **nearest object (area)** becomes visible.

Reposition origins to

In this option the start point is set: Possible settings are: **unchanged, lower left, upper left, lower right, upper right.**

7.5.3.2 Zone A3.1 - Main Direction (Area)



Main Direction

16 methods can be activated as main direction for the sortation. The icon shows with a red arrow where sortation begins.

Max. deviation in … mm

In the input field can be entered the value for the maximum deviation of the imaginary vertical respective horizontal line that an object may have in order to be sorted.

7.5.3.3 Zone A3.2 - Nearest Object (Area)

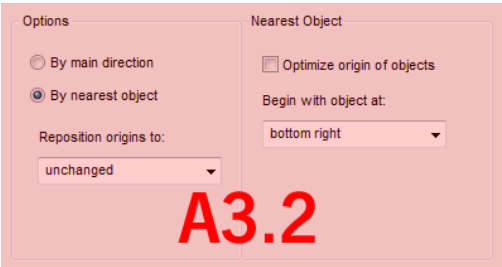


Fig. 7.5-3: Cutout from the main window (see above)

***Optimize origin of objects* Option**

The aim of this option is to minimize empty runs. Enabling this option checks, which node of the following object is closest to the first start point. The first is established; Then it is examined which node of the following object is closest to the start point.

The simulator can be used to check whether the desired optimization is achieved. Usually the variant, which has the shortest travel distance, is to be regarded as optimal. In

individual cases, however, other criteria can also be decisive.

Note: If this option is active, the "Reposition origins to" option in the Options (area) is disabled.

***Begin with object at* Option**

This option determines which **start object** is taken into account during sorting. Possible choices: **lower left, upper left, upper right, lower right**.

Focus: Simulation with start point optimization

In addition to the other traverse path optimizations, the starting point of the objects can be moved automatically so that the tool head shifts as little as possible. The figure on the right shows the starting points of the contour objects, represented by an arrow, before and after the optimization. The direction of the arrow shows the orientation - clockwise or counterclockwise.

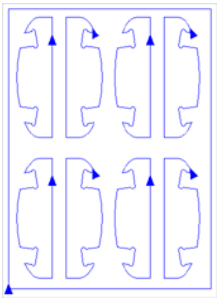


Fig. 7.5-4: Before origin optimization

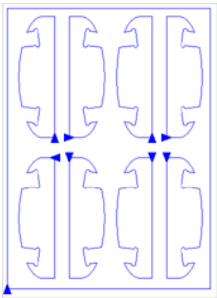


Fig. 7.5-5: After origin optimization

7.5.4 Zone A4 - Sorting, Settings, …

***Path length* Field**

This field displays the realistic **traverse path length** of the tool measured during the simulation.

The ***Sort* Button**

Only the ***Sort* button** activates the object sorting. You can then check in the simulation whether the sorting meets your requirements.

The ***Reset* Button**

Resets the objects in the sort-list to the initial values

The ***Apply settings for output*** **Button**

This option saves the changes made in the ***Sorting with simulation*** **dialog**.

The ***Settings for output*** **Button**

Clicking on the ***Settings for output*** **button** opens the following dialog:

Note: The settings made here are job-spanning and are the default settings for output.

please refer to 3.4.3: Start Output from the GreatCut Working Surface

7.5.4.1 The *Sort Settings* Tab

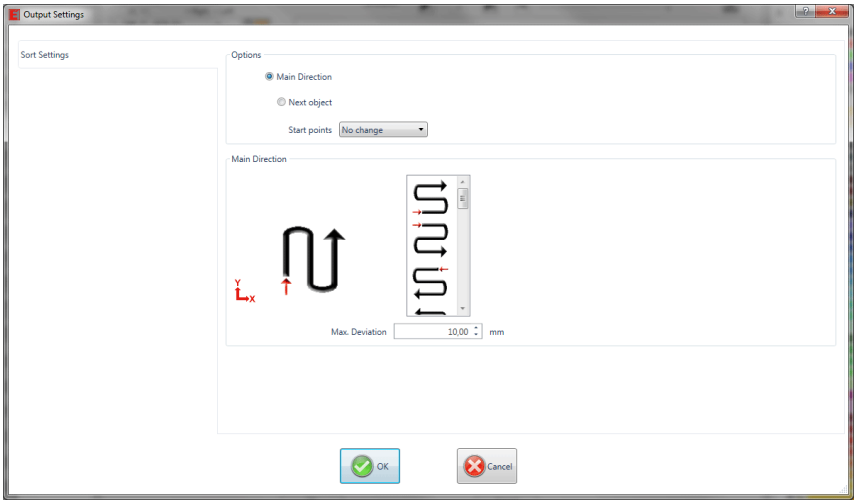


Fig. 7.5-6: Sort settings tab with main direction (Area) active

7.5.4.2 Options (Area)

Main direction **Option**

If this option is activated, the **main direction (area)** is visible. The desired main direction is selected via mouse click. (See figure above)

Next object **Option**

If this option is activated, the **nearest object (area)** becomes visible.

Nearest object (Area)

***Start point optimization* Option**

See above: **Focus: Simulation with start point optimization**

***Start object* Option**

In this option the start point is defined: Possible settings are: **unchanged, lower left, upper left, upper right, lower right**.

Note: The selection of the starting point has an effect on the traverse path length. In the simulator, the shortest path can be evaluated.

7.5.4.3 Main direction (Area)

In this area, all possible preferential directions are displayed graphically. The desired preferential direction is selected by mouse click. The icon shows a red arrow where the sorting is started.

Max. deviation in … mm

In the input field can be entered the value for the maximum deviation of the imaginary vertical respective horizontal line that an object may have in order to be sorted.

7.6 The *Pen Attributes* Tool

With this tool, objects can be provided with wire frame and diverse pen attributes. A pen attribute is color wire frame thickness, corner and end treatment, etc.

generates hairline (0.001 mm)
removes pen attributes
opens the pen attribute settings dialog
allocates the layer color of the object to the wire frame

Fig. 7.6-1: Pen attributes tool with sub functions and description

Create hairline

Fig. 7.6-2: The hairline button

The activation of this button creates a hairline around marked objects.

Indication: The thickness of this hairline is not variable and is 0,01 mm.

Remove pen attributes

Fig. 7.6-3: The remove pen attributes button

The activation of the ***remove pen attributes*** button removes *all* pen attributes.

The pen attributes dialog

Fig. 7.6-4: The pen attributes-button

Via the ***pen attributes*** dialog the wire frame pen of curves, combinations or text objects can be designed. Wire frame pens are used among other things for drawing the object outlines in the full surface mode or preview mode and for printing.

Indication: The pen attributes have no influence on the display of the objects in the wire frame mode (F9). Here, the outlines of the objects are drawn with a simple wire frame line in the layer color.

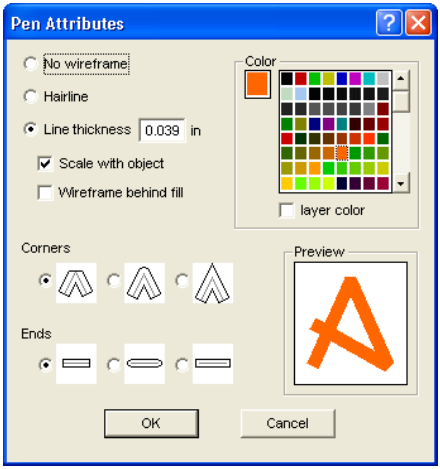


Fig. 7.6-5: The set pen attributes dialog

No wireframe

If you select the option ***no wireframe*** the object will not have a wire frame. In the full surface and preview mode closed curves are drawn as area without outline with this setting. Open curves are, as in the wire frame mode, drawn as outline in the color of the layer.

Hairline

If the option ***hairline*** is activated the object is encircled with a very thin pen of constant thickness.

Color

In the field ***color*** you can determine the color of the wire frame.

Indication: This can be different from the layer color. Thus it is possible to highlight the outline of the objects from the filling also in the full surface mode.

Line thickness

Select the option ***line thickness*** to determine an arbitrary pen thickness in the input field.

Scale with object

Scale with object means that the line thickness is adjusted proportionally when distorting respective scaling the object. If this field is not activated the wire frame pen keeps the set thickness.

Wireframe behind fill

With the option ***wireframe behind fill*** you can prevent that the pen "runs" into the filling of the object. The outline is then drawn by the filling so that only the part of the outline lying outside of the filling is visible.

Corners

You have also the possibility to determine the appearance of the corners. You can select between *cut*, *rounded* and *sharp corners*. The appearance of the respective corner form is given to the icons and also displayed in the preview field.

Ends

Also you can select the form of the ***ends*** of *open* objects. ***Ends*** can appear *cut*, *rounded* or *extended*.

Color field

The current color of the pen is shown in the ***color field*** left of the palette and in the preview field.

There are two possibilities to modify the pen color.

1. To mix the pen color anew you *double click on the color field* left of the palette. Then following color selection dialog appears with the currently set values of the pen color:

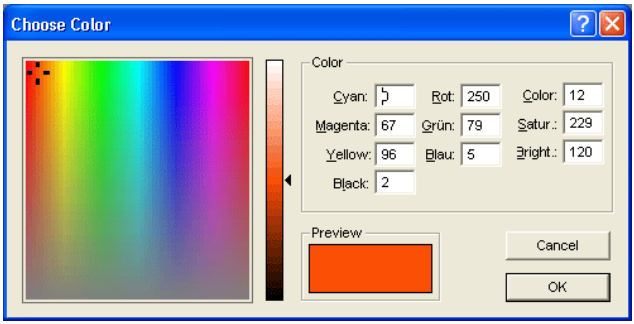


Fig. 7.6-6: The pen attributes color selection

After you have determined the pen color, it appears in the ***pen attribute*** dialog in the ***color field*** left of the color palette. The pen color is also shown in the preview field.

2. In the palette you can freely choose the color values. These are selected by simply clicking with the mouse on the wanted color field. With the scroll bar on the right edge of the color palette you set the color intensity.

Assign layer color to object contour

Fig. 7.6-7: The assign layer color button

The activation of this button allocates the layer color to the contour of a marked object.

7.7 The *Welding* Tool

This function is activated via the button in the variable part of the ***object parameter*** toolbar or via the ***tools*** menu, menu entry ***welding…*** W

This function welds two or more vector objects with each other to a combination. Depending on the number and the form of the selected objects you can choose between the following options: ***manually***, ***automatically, by color***, ***full area*** or ***screen printing***.

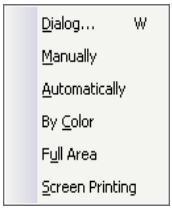


Fig. 7.7-1: Tools menu - welding submenu

Dialog…

The activation of this submenu opens the following dialog

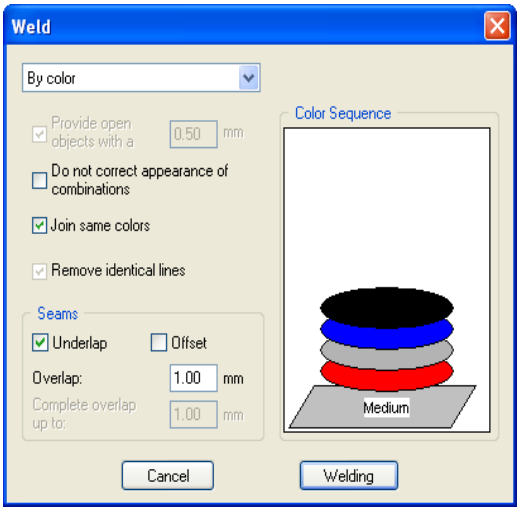


Fig. 7.7-2: Welding dialog

Manually

Manually separates all intersections that occur because of the overlapping of outlines and creates object parts. With the ***arrow***-function you mark the object parts that you want to remove. With the DEL-button the selected object parts are deleted. Overlapping-free object parts are kept and can later be further edited. The original color of the object parts

are kept with the manual welding.

Automatically

Automatically calculates the common areas of the objects. All overlapping parts are combined, transparent interior elements are considered.

Indication: With this option, objects of different colors are welded to a combination object.

If the object colors shall be considered please select the options ***by color***, ***full area*** or ***screen printing***.

The option ***automatically*** is especially suitable for the welding of serifs with scripts. The serif of the previous letter overlaps often with the successive character. The material would be slit at these positions without welding. The automatic welding eliminates this overlapping and takes care of a cuttable transition in the serifs.

Tip: If single parts are missing after the automatic welding, then reduce the character spacing in the text editor from 100% to 99%. This causes that identical node dots that lie on top of each other are misplaced so that they are recognized also as single nodes and the welding routine is carried out properly.

By color

By color removes all areas that are hidden by colors lying above. It does not matter how many objects and colors you select. If open objects are also selected they can be closed or provided with a line weight.

Full area

The option ***full area*** underfills objects of one color whose areas hide those of another. To do this, the partially hidden objects are modified so that they underlay completely the ones lying above. Here, you can also proceed with the open objects as described under ***automatically***.

Tip: The mostly used field of application is the showcase labeling where the by color-option is often too laborious to be pasted over. With 2 maximum 3 foil colors you take the full surface option where the single foil colors are pasted above the other.

Screen printing

The welding option ***screen printing*** is an especially efficient tool for the screen printer. At first, the overlappings of the single coatings are removed. Then, the colors are layered according to the sequence in the field ***color sequence***. At the end, a small bar is inserted at the ***seams*** between the single color layers as overlapping.

The color stack with the screen printing-welding

Modification of the color stack: With the screen printing, the printing sequence is from bright to dark. Brighter colors are printed before the darker colors. By mouse click a coating is grabbed and drawn to the wanted position. The color stack reflects the position of the layers above the medium. The output sequence considers the modifications of the color stack.

Provide open objects with contour … mm

If open objects are amongst the selected you can indicate with the option ***provide open objects with contour …*** which thickness the created closed object shall have.

Do not correct appearance of combinations

With this option combinations are treated that they are welded as displayed in the full surface mode. Overlays in combinations remain transparent.

Join same colors

It can happen that the same color reappears in different group- or combination objects. Then, select the option ***join same colors*** so that those merge to one color layer.

Indication: This is especially important with the creation of screen printing templates as with the screen printing process the darkest color is always spread at last in order to prevent possible white gap that might occur while mounting the single colors.

Remove identical lines

With this option all vectors that are identical are removed but one.

7.7.1 Seams

Underlap - Offset

These options can only be activated with ***by color***. In the field ***overlay*** you can enter the value for the ***underlap*** or the offset.

Overlay … mm

If the option ***screen printing*** is activated you can enter here the value for the ***overlay*** of the colors in mm.

Complete overlay up to:

Here, you can additionally enter the limit up to which width it shall be completely overlaid.

7.8 The *Color Bucket* Tool

With this function you can fill objects with color graduations or bitmaps. The user has here four available buttons.

generates color graduations
inserts filling bitmaps
removes all fillings
allocates layer color as filling if the object has a color gradient or a bitmap filling
adjusts transparency

Fig. 7.8-1: The color bucket tool with sub functions

Create color graduations

Fig. 7.8-2: The color graduation button

Pressing this button opens the ***color graduation*** dialog in which the appearance of the gradient fill of *closed curves*, *text objects* or *combinations* is determined.

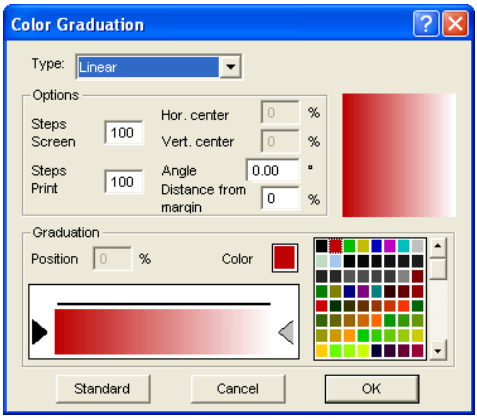


Fig. 7.8-3: The color graduation dialog with settings options

Determination of the color graduation

In the field ***type*** select the type of color graduation. You can choose between ***linear***, ***radial***, ***conical*** and ***square***. In the preview window up right in the dialog the appearance of the respective type is displayed.

Options

In the field ***steps screen*** you determine the number of color graduation streaks at the display on the screen.

Steps print means the respective number at the output on a printer.

With the fields ***hor.(izontal) center*** and ***vert.(ical) center*** you determine the center point of the color graduation.

Indication: These two fields are not active with the type linear.

With the input of 0% the center point is above the filled object. It can be moved in relation to it at 100% of the object width to the left or right respective at 100% of the object height up or down. As well, the origin can be determined with the mouse. To do this, move the mouse cursor in the preview window and click with the left mouse button on the spot where you want to have the origin.

The field ***angle*** describes the position of the color graduation streak with ***linear***, ***conical*** and ***square*** filling.
If ***linear*** is set you can set the angle of the graduation also by means of the preview field. To do this, click on any spot of the field. Keep the mouse button pressed and move the mouse. A line, that is tied to the origin appears and follows the movements of the mouse. After letting go the left mouse button the angle that was determined with the line is taken over for the graduation.

Distance from margin

The set value that lies herewith between 0% and 45% indicates the position of the first and last color relative to the center of the graduation.

Indication: The distance from the margin can only be modified with linear and quadratic filling.

Determination of the original color

Under ***graduation*** the start and end color as well as the ***position*** and ***color*** of possible intermediate steps is selected. The bar between the two triangles, the color graduation bar indicates the course of the colors.

Click into the left triangle to determine the original color. For the modification of the color value you have two possibilities. A double click into the field ***color*** left of the color palette opens the ***color selection*** dialog.

Selection of the target color and further color stations

In order to set the target color of the graduation you first activate the triangle at the right margin of the color graduation bar. ***Further color stations*** can be inserted with a *double click* on the bar above the graduation bar. A small ***triangle*** that indicates the position of the color in the graduation is shown at the selected position. The exact position is entered as percent value in the field ***position***. The position can be modified by moving the triangle

or through input of the wanted value in the field ***position***. In order to select the color at the wanted position you first select the triangle that points to the position. Then you can determine a new color in the ways described above. To remove a graduation step click on the triangle that has its position. Then press the DEL key. The triangle disappears from the bar and the color is not considered anymore at the graduation.

Indication: The original and the target color cannot be deleted.

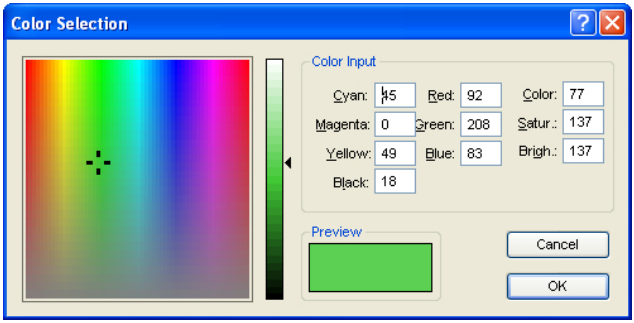


Fig. 7.8-4: The color selection dialog

Here you can modify the current original color. A click into the left color field selects a color, the vertical ruler determines the intensity and the ***preview***-field shows the selected color.

Color

The color value can also be defined numerically. The following color models are available: CMYK (cyan, magenta, yellow, black), RGB (red, green, blue) and HSB (hue, saturation, brightness).

Insert fill bitmaps


Fig. 7.8-5: The bitmap fill button

Pressing this button opens the ***bitmap fill*** dialog via which you can fill the vector objects with bitmaps.

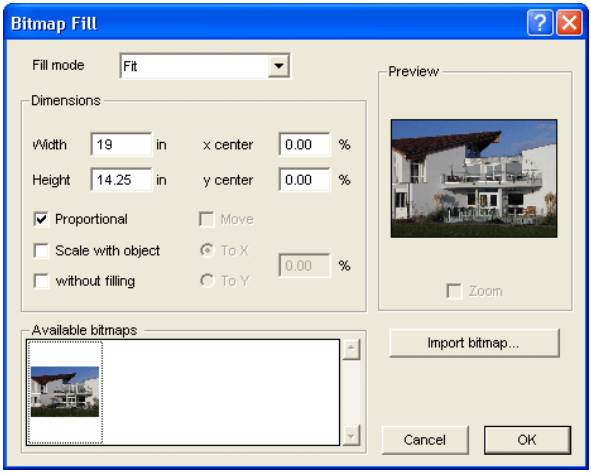


Fig. 7.8-6: The bitmap fill dialog

Selecting a fill bitmap

You first have to determine with which bitmap the selected object shall be filled. You have three possibilities:

1. Scanning a new fill bitmap

Scan your template that you want to use as fill bitmap via the GreatCut Twain Interface (***file*** menu, menu item ***scan***). Open the fill bitmap dialog. The selected bitmap is now shown in the preview and also appears in the field named ***available bitmaps***. Now do your settings and confirm the dialog with OK. If the result does not correspond with your demands you have the possibility to "loosen" the bitmap again which means that you can restore the original status of your scanned bitmap. To do this, select the option ***remove mask*** in the context menu.

2. Import new fill bitmap

Click on ***import fill bitmap*** in order to select a new bitmap as fill. A file selection dialog appears. There, you can search for and select the wanted bitmap.
The selected bitmap is then shown in the preview and also appears in the bar with the available bitmaps down left in the dialog.

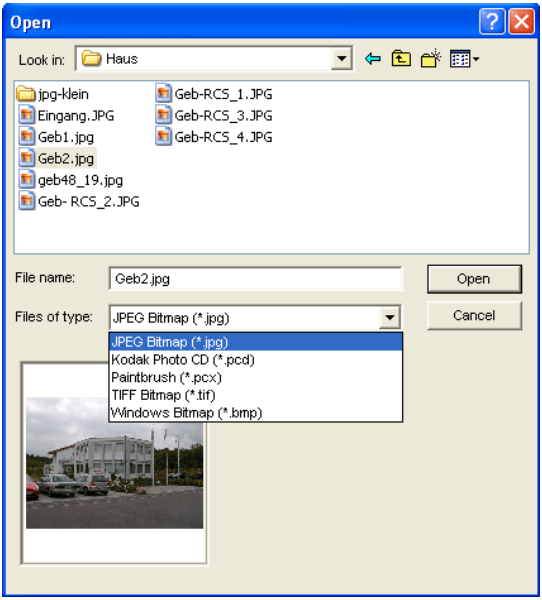


Fig. 7.8-7: The file selection dialog for the bitmap import

Available import formats are: jpg, pcd, pcx, tif and bmp.

3. Insert used fill bitmap

If you want to use an already used fill bitmap, select it from the bar with the available bitmaps. Via mouse click one of the bitmaps shown there is selected. To search for bitmaps not shown, please use the scroll bar.

Fill mode

In the field ***fill mode*** you select the mode of the fill bitmap. Possible modi are ***a) tile, b) seamless tiling, c) fit*** and ***d) object size***.

a) Tile

Tile fills the object with tiles drawn side by side and below each other from the select fill bitmap. The width and height of a single tile are determined in the fields with the same name in the group ***measurements***. Tick the field ***proportional*** to guarantee that in case of a modification of height or width the other corresponding value is adapted proportionally and the bitmap is not distorted.

If you activate the option ***scale with object*** the measurements of the tiling in case of distortion of the object are automatically adjusted. As default the first tile is placed in the upper left corner of the object outline. By means of the fields ***X-center*** and ***Y-center*** you have the possibility the freely select the starting position. Enter here a *negative value*

between 0% and -100% to move the tile to the left respective upwards. With *positive values* between 0% and 100% the center point of the first tile is moved accordingly to the right respective downwards.

By selecting the option ***move*** you can create an offset within the tiling rows. With ***to X*** resp. ***to Y*** you determine if the offset shall be done in horizontal or vertical orientation. The % field on the right serves for the input of the size of the offset of the tiling width respective the tiling height in percent.

b) Seamless tiling

Seamless tiling corresponds mainly to the option tiling. The difference is in the display of the tiling. With seamless tiling all rectangles with exactly the same measurements are drawn. This way, especially with patterns, a smoother picture is created.

Indication: The disadvantage of this method is that the position of the single tilings can vary depending on the size of the view.

c) Fit

In the mode ***fit*** the bitmap is only drawn *once* into the object. The preview shows the exact proportions of bitmap and object. With the input fields ***width*** and ***height*** you determine how big the bitmap to be filled shall be.

The positions of the bitmap within the object can be modified in two ways.

1. In the fields ***X-center*** and ***Y-center*** the deviation of the center point of the bitmap to the center point of the object can be given in percent.

2. But you also can determine the position by means of the preview field. Click on the bitmap in the preview field and keep the mouse button pressed.
Now, the picture can be positioned by moving the mouse. A cross hair is shown for the exact positioning. After letting go the mouse button the wanted position is taken over.

d) Object size

The last mode ***object size*** fits the bitmap optimal in the object. Its width and height are calculated so that the whole area of the object is completely filled.

No filling

Fig. 7.8-8: The no filling button

If this button is pressed, fillings and fill bitmaps of all marked objects are removed. Only the outline of the objects remains in the previously allocated layer color.

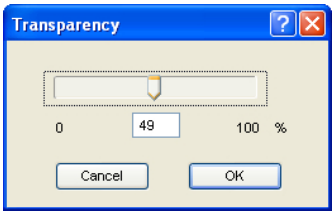
Fill with layer color

Fig. 7.8-9: The fill with layer color button

If this button is activated the marked layer color is allocated as filling if the object has a color graduation or a fill bitmap.

Adjust transparency

Fig. 7.8-10: The adjust transparency button



If this button is activated, transparency of a color filling can be adjusted linearly from 0 to 100 %.

7.9 The *Measure* / *Measurement* Tool

Fig. 7.9-1: The measure / measurement button

Activate the ***measure*** button in the toolbox with the mouse pointer. Return to the working area; the mouse pointer appears as circular sight. Move the center point of the sight to the starting point of the track to be measured. Keep pressed the left mouse button while moving to the end point of the track and let go the mouse button when you have reached the end point. A subsidiary line marks the measured track.

Indication: Keep pressed the SHIFT key during the measurement. Then the measurement is limited horizontally or vertically. This facilitates the exact measurement of straight lines.

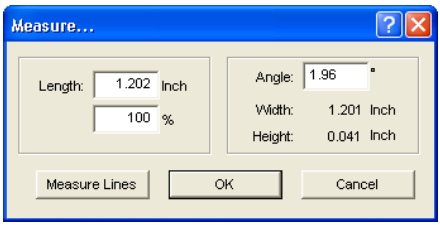


Fig. 7.9-2: The measure/measurement dialog

In the text field name ***length*** the result of your measurement appears. In order to modify this value, first mark the text field and then enter the new value. In the text field underneath you can *percental increase* or *decrease* the objects.

In addition, you get information about the angle of the measure lines, the width of the measured object at the starting point of the measurement and the difference in height between the starting and the end point that is resulted from the measure angle.

Measurement

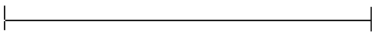


Fig. 7.9-3: Measurement tool / track

The ***measure lines*** button changes to the measurement tool (see illustration). This tool is attached to the mouse cursor and can be moved to the wanted position. After letting go the mouse button the detected track is entered above the measurement track.

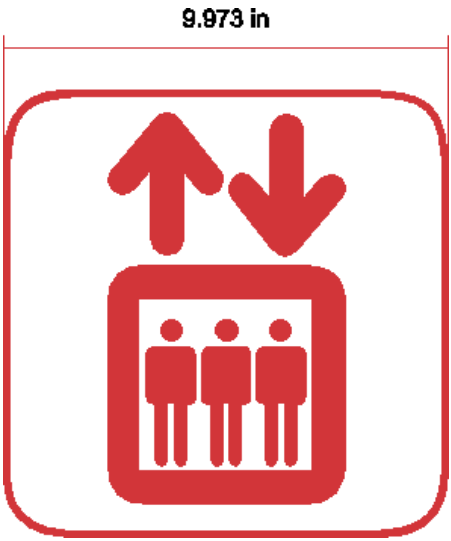


Fig. 7.9-4: Measurement track with the detected value in mm

Indication: The default size of the dimension text can be set via the settings / standard settings / miscellaneous... menu.

7.10 The *Contour (Line)* Function

With the ***contour line*** function the outer edge of arbitrary many objects is calculated and provided with a wire frame line. Contrary to the outline you can contour also bitmaps with this tool. In addition, not every single object is outlined. Instead, it is tried to possibly find one contour that comprises all selected objects. This function is therefore especially suited for the creation of cutting lines around labels. The objects of the label can be arranged arbitrarily.

Then the wire frame of the object is calculated in the wanted distance with the tool described here. The contour line thus created can be used later for cutting out the printed label.

First select the objects that you want to contour / outline. Then select ***contour...*** in the ***tool*** menu.

The following dialog for the creation of the parameters appears:

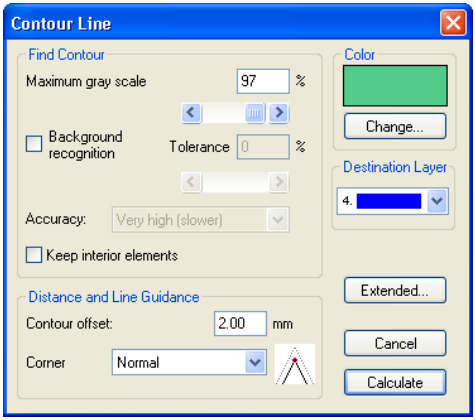


Fig. 7.10-1: Parameter dialog for the creation of contour lines

Find contour

With the fields in the dialog group ***find contour*** you can influence the calculation of the wire frame line. Generally, all objects that are not white are considered with the contour finding. Ideally, the background of the graphic to be contoured should therefore be white. But especially bitmaps contain often light gray spots that can occur when scanning.

Maximum gray scale

With the option ***maximum gray scale*** you can determine that gray spots above the selected intensity are *not* contoured. You can enter values between 50 and 99% or set them with the roll bar. 50% correspond to a relatively dark gray and 99% to an almost white color.

Accuracy

In the field ***accuracy*** you can select between three options. The low accuracy works the fastest. If the result is not satisfying with this setting, select the middle or a higher accuracy. The calculation of the contour line then takes a little bit longer.

Indication: The field accuracy is not activated if only a single bitmap was selected.

Keep interior elements

If the option ***keep interior elements*** is activated, possibly created interior elements are not deleted. This way you have the possibility to cut out parts of the graphic by applying a brighter "plaster".

Look at the following illustration for this:

Fig. 7.10-2: Option: keep interior elements

On the left side you see the two initial objects. A smaller white circle is put onto the black circle. On the right, the calculated contour line is displayed. The option ***keep interior elements*** was active, also the inner circle was considered at the contour finding. With the dialog field switched off, only the outer contour would have been created.

Indication: As default, keep interior elements should be switched off.

Distance and line guidance

In the second dialog group ***distance and line guidance*** you can influence the appearance of the contour line.

Contour offset

With ***contour offset*** you determine how far away the wire frame line shall be from the graphic. If you enter here the value "0" a contour line is created that directly is attached to the edge of the selected objects. With values smaller than 0 the contour line goes into the contoured objects.

Corner shape

The option ***corner shape*** determines how the contour line acts at salient corners.

Normal creates the mathematical exact dot on the contour to every corner dot. The contour line can thus be lengthened very far at sharp corners, which often leads to unaesthetic results. The options ***cut off*** and ***round*** lead to more satisfying results in such cases.

Cut off

Cut off shortens the contour at the indicated distance and cuts off the corner by a section.

Round

Round leads the corner dot to a rounded curve.

Color

On the right side of the dialog you can see a color selection field. A click on the ***change*** *button* opens the ***color selection*** dialog. With this dialog you can allocate colors to contours.

Destination Layer

This Field determines in which color layer - in doing so indirectly, with which tool - the contour line is processed.

Note: The contour line color can be different in the full surface mode (print) and the contour mode (output).

7.11 The *Job Info*

The job info can be opened in three ways:

1. Via the ***edit*** menu / menu item ***job info…***
2. Automatically when saving a new job
3. Via the so named menu item in the context sensitive menu (right mouse button)

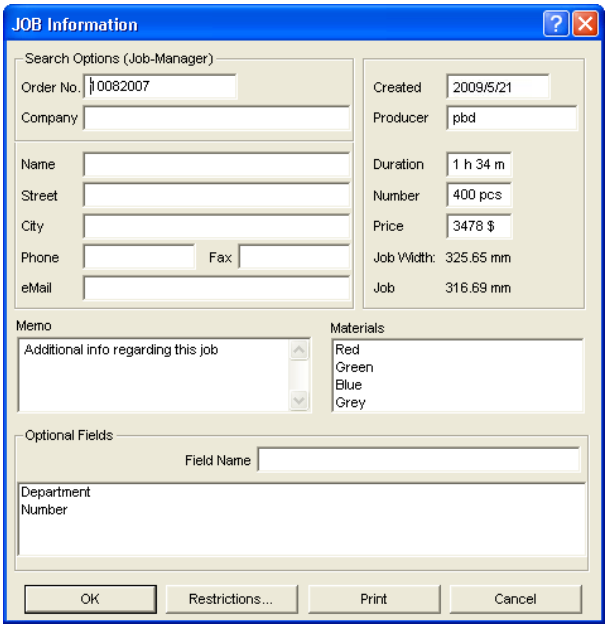


Fig. 7.11-1: Job info main window

With the job info you have the possibility to save additional information to each job. This information can be printed and used for the invoicing or as accompanying ticket to jobs. If the job info is printed, also the complete path in which the job was saved is printed.

Besides information as for example ***order number*** and ***company*** address the job info gives information about the used ***materials***, ***duration of the production***, ***number*** of cut / printed jobs as well as the intended or calculated ***price***. In the ***memo*** field keyword comments can be saved.

In the ***settings*** menu / menu item ***standard settings*** / menu item ***job info…*** the job info can be extended by arbitrary many fields.

Indication: The information under the field media are only inserted automatically, if you have given these information to the respective color layer in the layer settings dialog and selected the adequate palettes at the design. Further information about

this can be found here: ***please refer to 8.3.6: II. Layer Settings Color Setup***

Tip: The switch between the single fields is done the fastest way with the TABULATOR key.

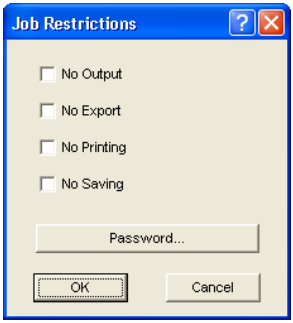


Fig. 7.11-2: Job restrictions

To each job following restrictions can be added:

No output

This job cannot be output.

No export

This job cannot be exported and thus cannot be converted to another format.

No printing

This job cannot be printed.

No saving

This job cannot be saved.

Password protection

In addition to the restrictions described above, a password can be given to each GreatCut job. This way, the unauthorized access to these job data is not possible.

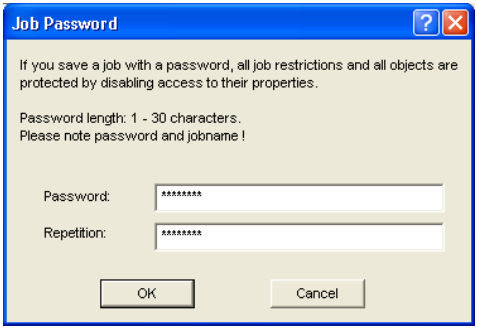


Fig. 7.11-3: Dialog for the determination of a job password

When outputting to a connected device, the safety instructions of the machine manufacturer must always be observed strictly.
No liability is assumed for infringement.

7.12 The *Plot Manager*

The ***Plot Manager*** has the following tasks:

7.12.1 Creation And Modification of Device Configurations

With the **Plot Manager** it is possible to create a device configuration or short, to create an output device. In a **device** all information necessary for the output of the data as for example driver and ports are summarized.

In GreatCut, these devices then can be used for the output of the graphics. It is possible, to output simultaneously at several devices.

7.12.2 Monitoring the Output Processes of the Jobs

The outputs to the respective devices can be monitored with the Plot Manager, for example the output can be broken or aborted and the sequence of the jobs can be changed retroactively.

7.12.3 Output of Data to Local Ports

The serial and parallel ports of the computer are identified and can be used for the file output.

7.12.4 Administration of Hotfolders

A function independent of GreatCut is the administration of Hotfolder. A Hotfolder is a directory monitored by the Plot Manager. If a file is copied to this directory the Plot Manager carries out automatically certain configurable functions.

7.12.5 Plot Server Function

The Plot Manager can enable devices so that other Plot Managers can use these enabled devices. This allows separating design and output working places.

Important note:You start the Plot Manager with a double click on the icon that is down right of the screen in the task bar.

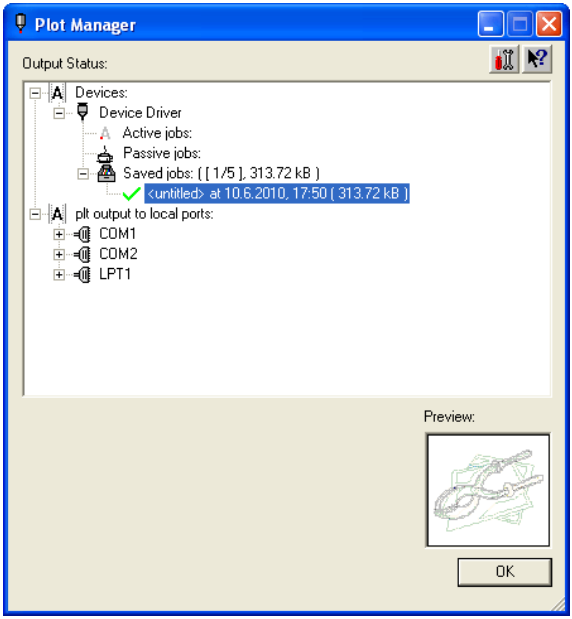


Fig. 7.12-1: Plot Manager main window with job preview down left

7.12.6 Devices Folder

Each device possesses three device folders in which the jobs are shown:

Indication: with jobs, also those output actions are meant that are carried out by Hotfolders or on local ports.

Devices Folder 1

Active Jobs
All jobs that shall be output as soon as the device is ready are collected in this folder. If a job has been output completely, the next job is output. If the option „show message window before output of a job" is active, a notification dialog is shown before each output.

Devices Folder 2

Passive Jobs
If the output device is broken, all jobs to be output are moved to this folder.

Devices Folder 3

Saved Jobs
Here, all jobs that have been output are saved. The number of the saved jobs can be indicated in the options dialog of the device. If the number of the saved jobs is reached the

next one to be saved replaces the oldest existing job.

Job Functions

The functions differ according to device folder, device type and job status.

Indication: The functions can be carried out via a context menu.

7.12.6.1 Jobs at local devices

Active Jobs
If the job is being output:

Pause
The output of the data is paused. The job is marked with the symbol.

Paused Jobs

Continue
The output is continued.

Set Job to passive
The job is removed from the list of the active jobs and added to the folder of the passive jobs.

Delete Job
The job is deleted.

Passive Jobs

Activate Job
The job is removed from the list of the passive jobs and added to the folder of the active jobs.

Delete Job
The job is deleted.

User message: to this job, a notification text can be entered. This information is shown if the job shall be output respective if it is selected.

Saved Jobs

Activate Job
The job is removed from the list of the output jobs and added to the folders of the passive or active jobs depending on the setup device.

Delete Job
The job is deleted.

Plot to File
Here you can determine if the job shall be output to a file.

Save as
Save job data into file before cut data processing.

7.12.6.2 Jobs at Plot Servers

Active Jobs
No functions

Passive Jobs

Activate Job
The job is removed from the list of the passive jobs and added to the folder of the active jobs.

Delete Job
The job is deleted.

User message: to this job, a notification text can be entered. This information is shown if the job shall be output respective if it is selected.

Saved Jobs

Activate Job
The job is removed from the list of the output jobs and added to the folder of the passive or active jobs depending to the setup device.

Delete job
The job is deleted.

Save as
Save job data into file before cut data processing.

7.12.6.3 Jobs at Hotfolders

Active Jobs
No functions

Passive Jobs

Activate Job
The job is removed from the list of the passive jobs and added to the folder of the active jobs.

Delete Job
The job is deleted.

User message: To this job, a notification text can be entered. This information is shown if the job shall be output respective if it is selected.

Saved Jobs

Activate Job
The job is removed from the list of the output jobs and added to the folder of the passive or active jobs depending to the setup device.

Delete Job
The job is deleted.

Save as
Save job data into file before cut data processing.

7.12.6.4 Jobs at local ports

Active Jobs
If the job is being output:

Pause

The output of the data is broken. The job is marked with the symbol.

Paused Jobs

Continue
The output is continued.

Set Job to passive
The job is removed from the list of the active jobs and added to the folder of the passive jobs.

Delete Job
The job is deleted.

Passive Jobs

Activate Job
The job is removed from the list of the passive jobs and added to the folder of the active jobs.

Delete Job
The job is deleted.

Notification: To this job, a notification text can be entered. This information is shown if the job shall be output respective if it is selected.

Saved Jobs

Activate Job
The job is removed from the list of the output jobs and added to the folder of the passive or active jobs depending to the setup device.

Delete Job
The job is deleted.

Plot to File
Here you can determine if the job shall be output to a file.

Save as
Save job data into file before cut data processing.

7.12.7 Settings of the Plot Manager

Fig. 7.12-2: Optional parameters for the Plot-Manager

If the option is activated ***Plot Manager always on top***, the Plot Manager window remains always in the foreground.

If the option ***tooltips*** is activated, a short description to a dialog element is shown if the mouse pointer remains above the dialog element.

If the option ***view job preview*** is activated a preview of the output data is shown.

Command line parameters

If the Plot-Manager is started without parameters it checks all devices if there are jobs for processing.
If a job was found it is carried out. It stops if no jobs were found or if all jobs have been processed.

If, when calling up the parameter **!SPOOL!** is given, the Plot Manager remains active. It then has to be terminated manually with a right mouse click onto the symbol in the taskbar.

Hotfolder

With a Hotfolder a directory can be monitored. If a file is copied to the directory to be monitored one of the following actions is carried out automatically depending on the settings:

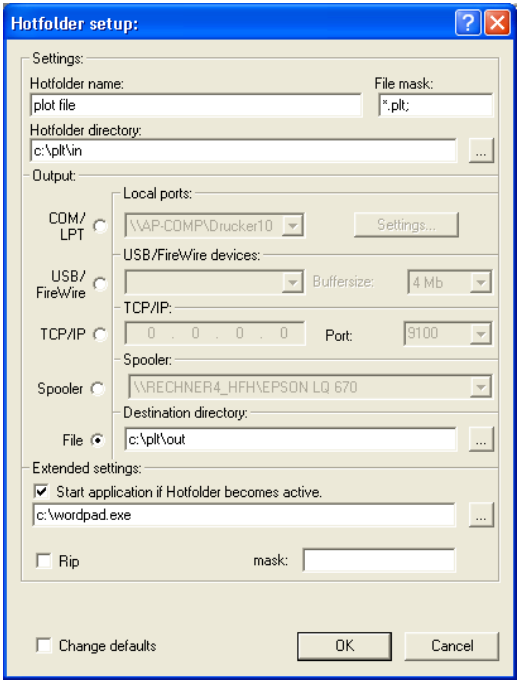


Fig. 7.12-3: Example for setup devices of a Hotfolder

Settings

Hotfolder name: here you have to enter the name of the Hotfolder

File mask: here, the file name ending are given, that shall be considered, for example *.plt.

Hotfolder directory: here, it is determined which directory the Hotfolder shall monitor.

Output

COM/LPT: the file is output to a local serial respective parallel port.

USB: the file is output to a USB device. A USB device is only shown if it is connected with the computer.

TCP/IP: the file is send to a TCP/IP address. With some addresses, you additionally have to enter the right port number.

Spooler: the file is output via a printer driver.

File: the file is copied to the output directory. An existing file with the same name is overwritten.

After having carried out the action, the input file is deleted.

Indication: if "file" is set as output, the application is started **after** *the copy. In all other cases, the application is started* ***before*** *the output.*

Extended Settings

Start application if Hotfolder becomes active: in addition, another application can be started that shall further process the input file to be processed. The file name is marked with %s.

RIP: only necessary if Pjannto RIP uses this Hotfolder as RIP Hotfolder.

*Mask: f*ormatting of the output file name: %File file name; date/time: %Y - %d_%H-%M-%S year/month/day: hour/second/minute

Change defaults: prevents that the user modifies the output parameters accidentally.

7.12.7.1 Device Options

In the ***Device Options*** window you can set - for each device which is listed in the Plot Manager - the following device options.

Note: This window will be enabled by clicking with the right mouse button on a device item and selecting the Options menu item.

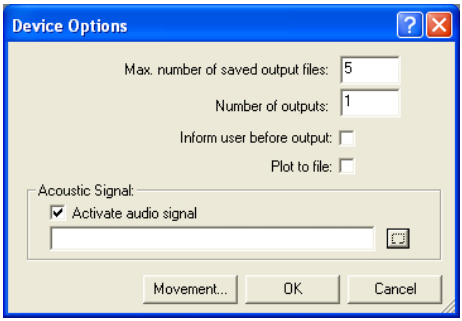


Fig. 7.12-4: Additional options for each device

Maximal number of saved output files

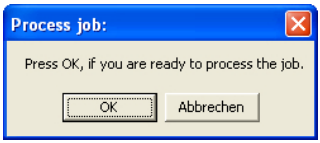
The registered value of this option limits the number of saved output jobs for this device in the history of stored files.

Number of outputs (of a Job)

The registered value of this option defines how often active Jobs will be given out.

Inform user before output

If this option is enabled, then a message window will be shown, before the outputting of each Job. This gives the user the opportunity to prepare the machine before the data output.



Plot to File

If this option is enabled, then the output is redirected to a file. Before writing the file to the ***Job Save As*** dialog is enabled.

Activate Sound Signal

If this option is enabled, then an individual sound signal will be given out before each output of a Job, in order to draw attention to the user.
A sound file in the WAV file format can be selected using the ... button.

The *Movement...* Button

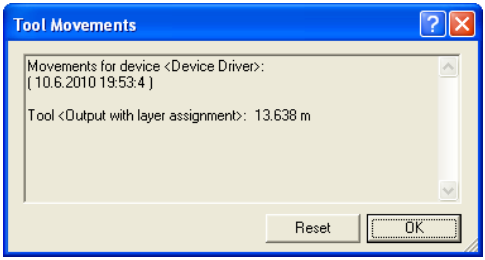


Fig. 7.12-5: Distances of the used tools

This feature tracks the distance (tool motion), from *every tool* of the activated output device in meters. In addition to the distance, date and time of each output are given.

7.13 The *PhotoCUT* Function

PhotoCUT creates vectors out of bitmaps. PhotoCUT calculates from Windows bitmap files (*.BMP, *.PCX, *.TIF) raster strips or patterns that can be output with a cutting plotter. The picture is divided in logical pixel and the average gray value detected for each of these logical pixel. A picture is created that has fewer pixels than the original. Then, horizontal or vertical strips, circles, squares, ... are created from this picture whose width is proportional to the gray value at the respective position.

7.13.1 The PhotoCUT Dialog

Open the ***PhotoCUT*** dialog by selecting the so named menu item in the ***tools*** menu.

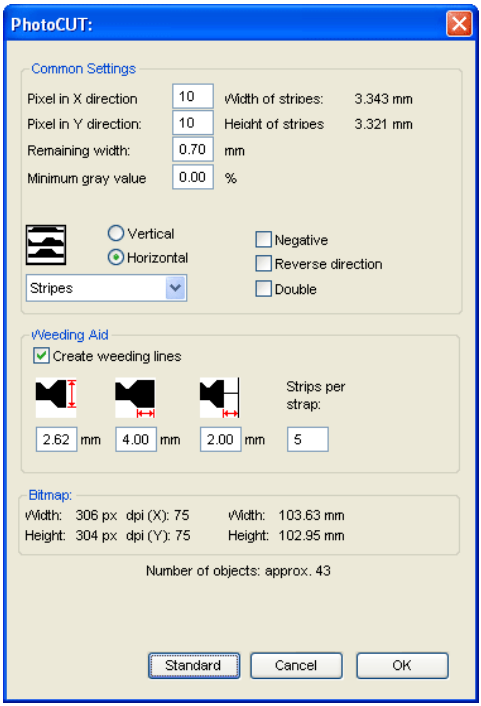


Fig. 7.13-1: Dialog with parameter-setup

General settings

Pixel in X-direction

In this field, enter the number of ***pixel*** that shall be combined to a *logical* pixel ***in X-direction***. The smaller the value in this field, the better the output quality of the "picture".

Pixel in Y-direction

In this field, enter the number of ***pixel*** that shall be combined to a logical pixel ***in Y-orientation***. The smaller the value in this field, the better the output quality of the "picture".

Remaining width

This value determines the ***remaining width*** of a strip (only with strips) in mm of the line respective column size.

Excursion: contrast (adjust via *image* menu *contrast*)

Because of the division of the bitmaps into logical pixel the line respective column size is determined. The width of a strip depends on the set gray value and the contrast. The maximum width is line respective column size minus the value of the remaining width.

Corresponding to the contrast value the width of the strip is identified by the average shade of gray. The contrast is the proportion between white and black in %, which means with 100% contrast the 100% black is mapped on the maximum and 100% white on the minimum width of the stripe. If the contrast is reduced, the 100% black is only calculated with for example 50% of the maximum width of the stripe.

Minimum gray value

The ***Minimum gray value*** is a limit for the shade of gray. You can for example remove a constant gray bitmap background.

Indication: This value is only relevant if a graphic is darker than its background.

For all examples the following picture serves as template: (Standard path: C:\Program Files\GCC\GreatCut 4\Bitmaps\photo.bmp)

Fig. 7.13-2: Template for all following result examples

Negative

The range of value of the shades of gray is reversed which means that 100% black become 0% white and vice versa.

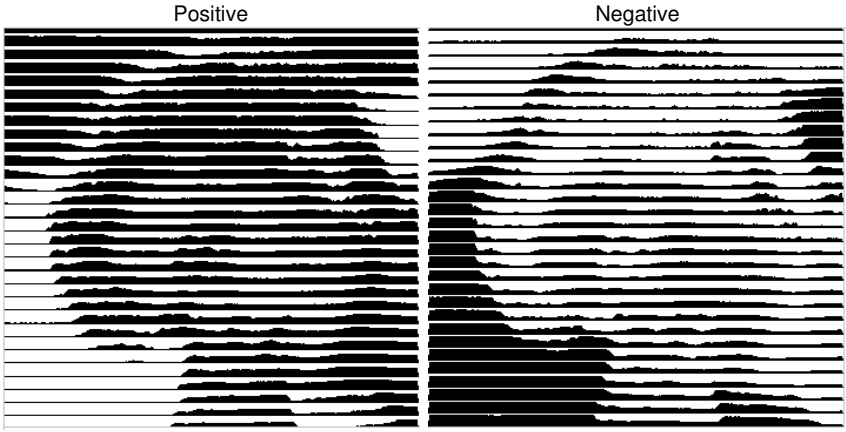


Fig. 7.13-3: Example for the reversion of the range of value

Reverse direction (only with stripes)

If this option is activated, the width of the stripe is aligned downwards.

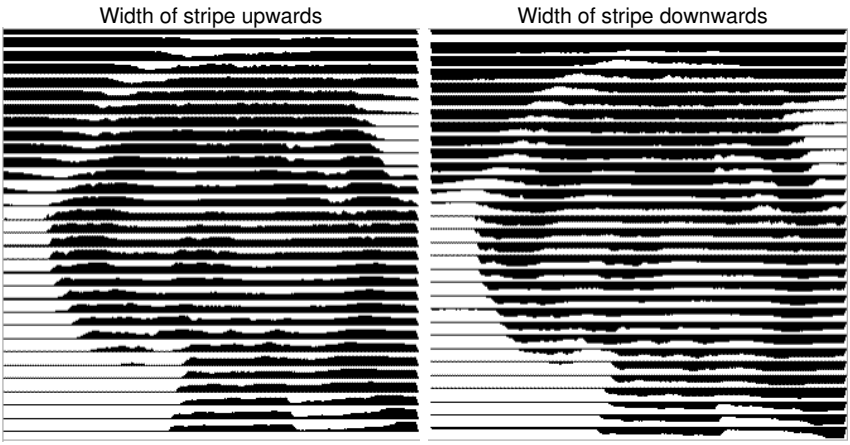


Fig. 7.13-4: Example for the reversion of the width of stripe

Cut out

Width of stripe upwards

Width of stripe downwards

Double (only with stripes)

If this option is activated, the width of stripe is created up *and* down.

Width of stripe up and down

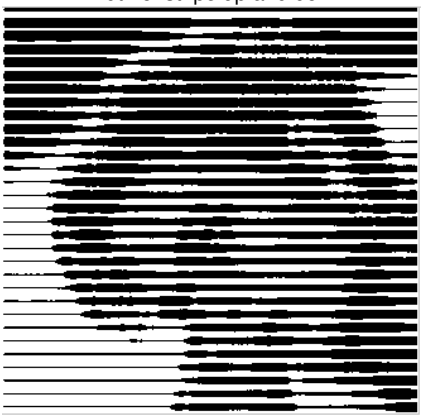


Fig. 7.13-5: Example for „double”

Horizontal or vertical

With the options ***horizontal*** or ***vertical*** the direction of the stripe is determined.

Bitmap

In the area named ***bitmap*** the file data of the template (of the picture) are shown. In the upper area the ***width*** and ***height*** of the picture in pixel are indicated and the *resolution* in dpi. Underneath, the width and height of the picture are shown in millimeters.

Depending on the functions in the area ***general settings*** different effects are created.

Example 1

Following values have been set:

Pixel in X-direction = 1
Pixel in Y-direction = 10
Remaining width = 0
Contrast = 80
Minimum gray value = 0
Orientation = horizontal

Negative = not active
Reverse direction = no active
Double = not active

Result

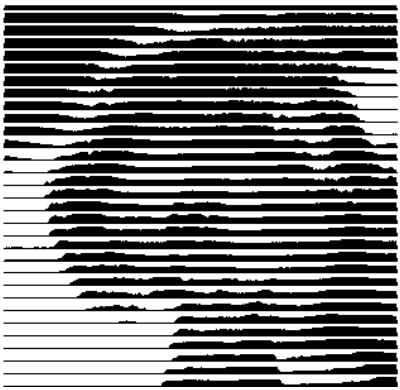


Fig. 7.13-6: Result from the value of example 1

Example 2

Following values have been set:

Pixel in X-direction = 3
Pixel in Y-direction = 15
Remaining width = 5
Contrast = 60
Minimum gray value = 0
Orientation = horizontal
Negative = not active
Reverse direction = not active
Double = not active

Result

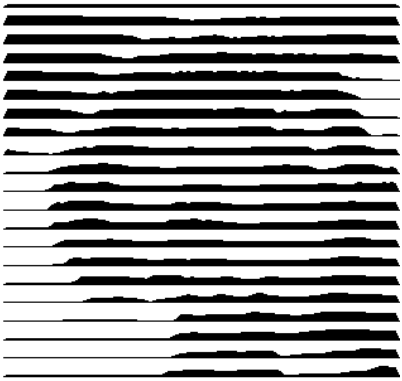


Fig. 7.13-7: Result from the value of example 2

With the 2 examples you can see that already small modifications of the values lead to big discrepancies with the result.

Weeding aid

Create weeding aid

The stripes at the ends are automatically thickened so that the result can be wed faster.

Stripes per strap

In this field the number of stripes that shall contain a strap can be set.

Width of strap

In this field you define the width of a strap.

For information, underneath these fields the estimated ***number of objects*** is shown. This is important to decide beforehand if the expenditure of time for the weeding is in a responsible relation to the complexity.

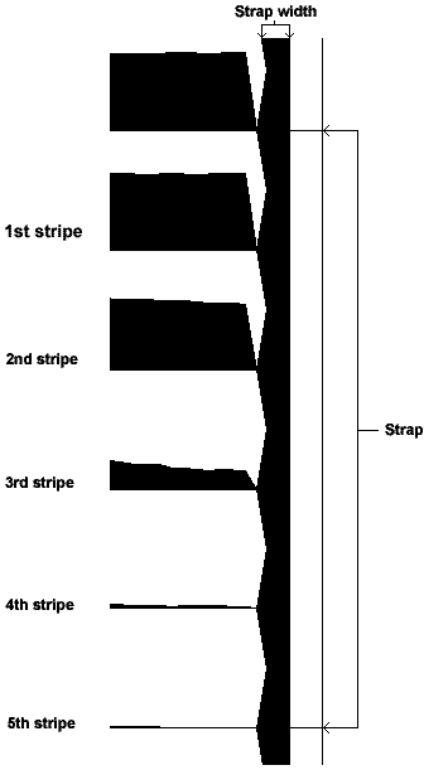


Fig. 7.13-8: Example for stripes per strap, width of strap and stripes

The different modi

In the PhotoCUT dialog you can select between following ***modi: stripes, rhombuses***, ***circles***, ***rectangles***, ***single rhombuses***, ***single circles***, ***single rectangles***.

With which mode you obtain the best and most attractive result depends strongly of the used template. Templates rich in contrast are usually better suited for optically interesting results.

Tip: The screen does not always show a view that enables a reliable evaluation of the results. Therefore, print the result on your printer. Now you can judge the result of the procedure relatively exactly and do not risk to waste expensive material!

8 The Sidebar

The ***Sidebar*** is switched on or off via the ***Window*** menu. **CTRL+2**

8.1 Term Definition Sidebar

A "sidebar" means a lateral toolbar with tabs. It is comparable to the so-called docking bars in CorelDRAW. In summary, we find the layer editing (formerly Layerbox), the clip art manager, object manager, file manager, and the macros.

Functionality of the Sidebar for the user:

The Sidebar summarizes different tools. Previously distributed toolbars such as Layerbar, Clipart Manager were combined in a compact tab structure. The sidebar serves as a **central element of the object management**.

8.2 The Anchorage Control

Fig. 8.2-1: Anchorage control with arrow and dotted line for moving and placing

Note: Only in the docked state, the Anchorage control is activated and visible.
The *Collapse* Button

Pressing the ***Collapse*** button folds in the sidebar so that only the ***tab bar*** and the ***Unfold*** button stay visible on the right side.

The *Unfold* Button

Enabling the ***Unfold*** button folds out the sidebar to the previous set size.

The *Close* Button

Pressing the ***Close*** button removes the sidebar from the program user interface.

The *Dotted Line*

The ***Dotted Line*** is used to move the entire sidebar. While the ***left mouse button is hold down***, the sidebar can be moved to any place. ***Double-clicking on the dotted line*** looses the sidebar as well. Double-clicking on the head **or** moving the mouse towards the right edge of the bar **anchors** the sidebar.

The Tab Bar

Fig. 8.2-2: Tab bar with activated layer tab

The selection is done by clicking on the appropriate tab.

Note: The bar may include, depending on the program version more, less or other than those shown tabs.

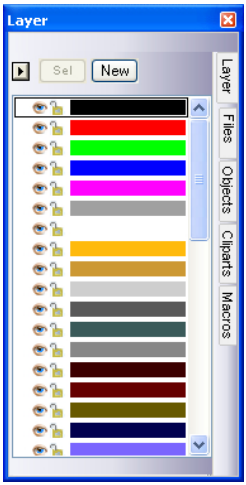
8.3 The *Layer* Tab

The ***Sidebar*** is switched on or off via the **Window** Menu. Selection using the ***Layer*** tab.

 **CTRL+2**

The ***Layer*** area serves for the coloring of objects, the definition of foil colors, the selection of objects that have a layer color, the locking and the hiding of color layers as well as the allocation of *output* tools.

8.3.1 A) The Layer Area



8.3.2 B) The Layer Options

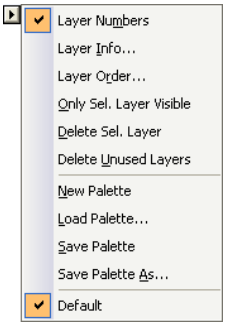
Fig. 8.3-1: The *New* button

This option generates a new layer an opens the corresponding dialog.

Fig. 8.3-2: The *Sel(ect)* button

This option selects the clicked Layer.

8.3.3 C) The Palettes Options



Layer numbers

The activation of this option switches on or off the numbering next to the color bar.

8.3.3.1 Layer Info Dialog

Layer Info...

opens the following Setup Layer dialog.

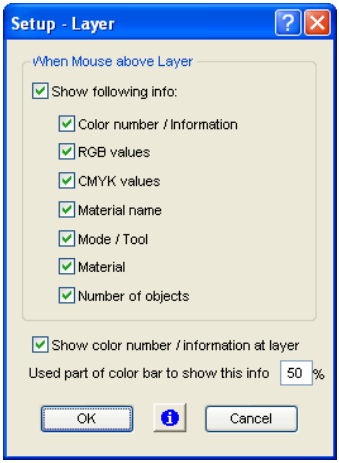


Fig. 8.3-3: Setup Layer Dialog

When mouse over layer, show following info,

the activated information is shown in so-called Tooltip.

In addition, the ***used part of color bar to this info %, number of visible layers*** can be defined and the ***window width*** of the ***layer*** toolbar can be changed interactively.

8.3.3.2 Layer Order Dialog

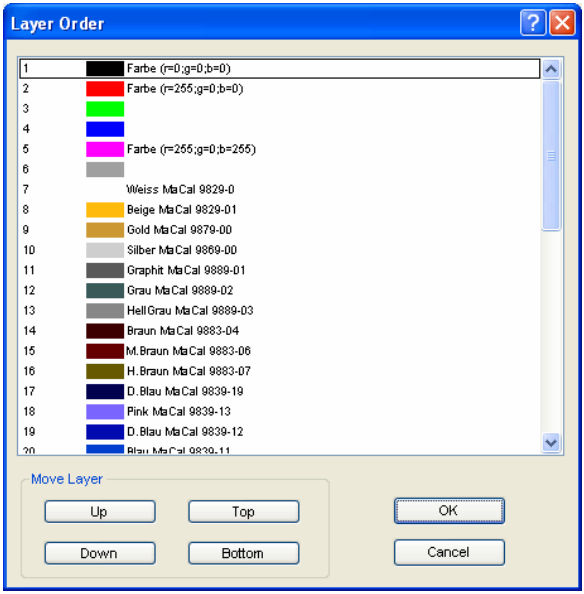


Fig. 8.3-4: **The Change Layer Order Dialog**

The sequence of the layers can be changed arbitrarily. To do so, please use the ***up, down, to top, to bottom*** button.

8.3.3.3 Only sel. layer visible

Only shows the objects that lie in the selected layer.

8.3.3.4 Del sel. layer

The activation of this option deletes the selected layer.

Note: This option can only be activated if no objects lie in this layer, if the layer is unused.

8.3.3.5 Delete unused layer

All layers that do not contain any objects (unused) are deleted.

8.3.3.6 New

This option generates a new color palette.

Note: 6 base layers will always be created. Order and color can be changed anytime.

8.3.3.7 Load

Previously defined palettes can be loaded.

8.3.3.8 Save

With this instruction a newly defined or modified palette is saved on your harddisk.

Note: If a new or changed palette is named 'Default', this palette is used at every restart of GreatCut.

8.3.3.9 Save as

This instruction allows the renaming of a palette name and save the palette using the new name.

8.3.3.10 Default (History)

This instruction loads the color palette that is delivered as standard with GreatCut. It is a Mactac foil table.

History

This function facilitates the loading of the last color palettes. At the end of the menu list the names of the last edited color palettes appear.

8.3.4 Status Indicator Layer

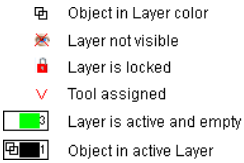


Fig. 8.3-5: Layer status view

Object in layer color

Is a layer marked with this symbol, it means that objects are in this color or layer assignment exists. The selection is easiest using the Sel button.

Not visible layer

Is a layer marked with this symbol, it means that objects in this color or layer assignments are not visible at present. They exist and can be switched visible if needed. In general layers are set to invisible, if they are obstructive while designing.

Locked layer

Is a layer marked with this symbol, it means that objects in this color or layer assignments are locked, thus can not be edited, moved or scaled.

Tool assigned

If a layer is marked with this symbol, this means that a tool from the selected device driver has been assigned to this layer. All objects that are in this layer are given out using this tool.

Layer active but not occupied

Is a layer marked with a frame, it means that no objects are available in this color or layer assignment, but the layer is active. Now, for example, objects can be filled with that color or contour and layer assignments can be done. The number indicates the layer number and the depth of arrangement.

Note: The term depth of arrangement means that objects with a lower number are drawn before those with higher numbers. The layer order also has an influence on the drawing sequence.

Object in layer and active

Is a layer marked with a frame and this symbol, it means that the layer is active and there are objects in that color (or layer assignments) on the desktop. The number indicates the layer number and the depth of arrangement.

Note: The term depth of arrangement means that objects with a lower number are drawn before those with higher numbers. The layer order also has an influence on the drawing sequence.

8.3.5 I. Layer Settings Output Setup

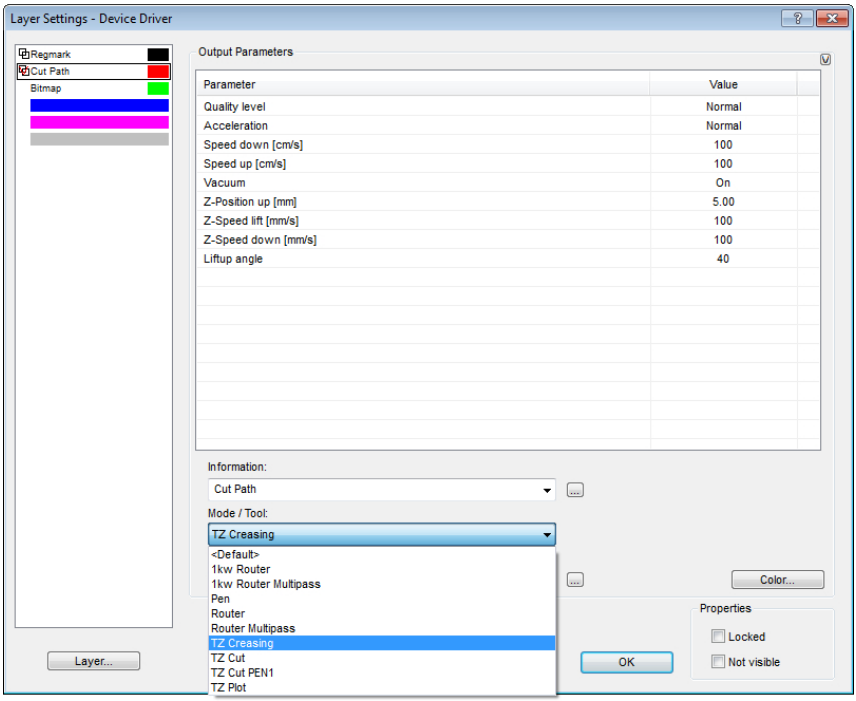


Fig. 8.3-6: Layer Settings dialog with toll / mode list - Output setup

Note: Here the tool is assigned to the layer color - Red Cut Path - Tool TZ Cutting

8.3.6 II. Layer Settings Color Setup

The following view appears after you press the ***color*** button.

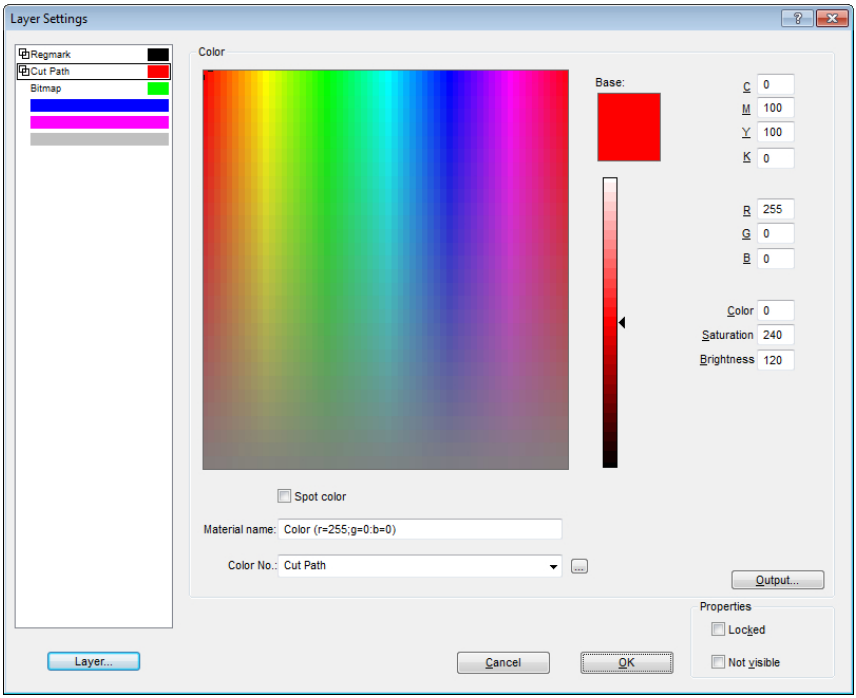


Fig. 8.3-7: Layer - color, material name, color number and define properties - color setup

In the ***layer settings*** dialog the following three color models are available.

1. **CMYK** - **C**yan, **M**agenta, **Y**ellow, **K**ontrast
2. **RGB** - **R**ed, **G**reen, **B**lue
3. **HSB** - **H**ue, **S**aturation, **B**rightness

Layer button

Save

This instruction saves an additional layer containing individual settings.

Insert

Inserts a layer into the ***Layer*** toolbar.

Delete

This instruction deletes a layer from the ***Layer*** toolbar.

Save palette

This option saves all modifications in the corresponding palette file into the pal subfolder.

Properties

Locked

Locked means that objects which are in this color layer can not be marked or selected. In front of the locked layer appears symbolic a U-lock.

Not visible

Not visible lets disappear all objects from the desktop which are assigned to this layer. In front of the not visible layer appears symbolic a stroked eye.

Note: Both functions can be undone at any time by activating the layer settings dialog using the right mouse button in the color bar. Now the resetting of properties is possible.

Color

Material name

In the field ***Material name*** you can assign to a color layer an individual name.

Color number

In the field ***color number*** you can enter the name associated with this type of material or color number.

Note: The advantage of the allocation of foil name and color number is that you can assign all materials to color layers - tailored to your stock. In designing these materials can be taken into account so that the assignment is visible during output. For each choice of films or types of materials a palette that is used in the design can be stored.

Output button

The activation of the ***output*** button switches to the ***Output*** setup.

Important note: This dialog is only enabled when this option was set in the driver! Only then the output button appears.

Spot color

The color name that is entered in this field is written into the output file if an EPS export is done.

Note: Often, this option is used for the definition of cutting paths, or the spot color is treated as a special channel in Photoshop.

Palette history

This function facilitates the loading of the last color palettes. At the end of the menu list the names of the last edited color palettes appear.

Sel button

Fig. 8.3-8: Sel(ect) button

If the ***sel*** button is pressed all objects which lie in the selected layer are marked.

8.3.7 Hotkeys in the Layer Processing

The following hotkeys are available in the layer processing.

Adjacent hotkey opens the ***Layer Settings*** dialog box  **L**

Jump in the toolbar

POS 1 key	Jump to the first layer
END key	Jump to the last layer
PgUp key	Jump to 1/10 of the total layer number
CURSOR up / down	Jump to the next layer

Color assignment via the toolbar

Double-click	assigns the layer color to marked objects
Double-click + CTRL key	assigns to marked objects a pen contour in the active layer color

Movement of single layers / modification of the sequence

1. Step: Position mouse cursor on wanted layer
2. Step: Press left mouse button and keep pressed
3. Step: Move layer to the wanted position
4. Step: Press once right mouse button
5. Result: The layer is at the new position

8.4 The Macros Tab

8.4.1 The Toolbar Area

8.4.1.1 The Toolbar

Fig. 8.4-1: Closed toolbar with layer selection

The *Open/Close* Button

A click on the ***Open/Close* button** opens and closes the complete toolbar.

Fig. 8.4-2: Opened toolbar

8.4.1.2 Layer Selection and Assignment

The *Layer Selection* Button

Fig. 8.4-3: 

With this button **selected objects** can be related to any **layer** and **tool** (if assigned!).

The *Assign Layer* Button

Fig. 8.4-4: 

After clicking on the ***Assign Layer*** button the selected objects are **assigned in fact** to the chosen layer.

9 Tips & Tricks - Trouble Shooting

Often, it is just a bagatelle that makes the "implementation" of new software difficult. Similar to a new machine, there are questions and problems with new software that often can be explained and solved easily. Therefore, we have explained a selection of questions that occur daily at our hotline- and support routine more closely.

9.1 Code is not accepted with Windows 7, 8, 10 or Vista (No Dongle)

Error message: Invalid code or after each program start the code must be entered again **Tip 1**

The program must be executed once with **aministrator** rights. Click with the right mouse button in the program menu on GreatCut 4 and select **"E*xecute as administrator".***

Note: Don't change anything on the given activation data resp. license data.

9.2 Buffer Overflow Serial Port

The cutter cuts the first characters neatly and then starts to draw indefinable curves. **Tip 2**

With serial activation of the cutter, this is a typical buffer overflow problem and occurs if the protocol for the serial transfer is not set correctly. Most cutters are activated with the following parameters with a serial data transfer: *bits per second: 9600, data bits: 8, parity: none, stop bits: 1, protocol resp. flow control: hardware*

9.3 Computer without serial COM port

My computer provides no serial COM port, but a USB port. How can I connect my cutting plotter, which provides only a serial interface? **Tip 3**

In this case there is a computer accessory called - USB serial adapter- that provides one or more serial COM ports on one USB port.

Note: Not all adapters offered work properly, especially the use on 64-bit operating systems is sometimes not free from errors. It may be that different adapters must be tried.

9.4 Cutter Does Not Respond!

a. First check if you have selected the correct cutter driver and the correct port: for example <device name> at COM2 in the GreatCut cutting dialog **Tip 4**

b. COM connection: Check if the parameters of the port are set correctly. To do so, call up the system control of Windows. In the device manager, select the corresponding connection, for example: COM.

Popular standard parameter are: *Baud: 9600, data bits: 8, parity: none, stop bit: 1, protocol / flow control: hardware*

The settings in the system control and at the cutter must be identical otherwise no or only faulty data transfer will take place.

c. USB connection: Check if the correct USB driver is installed for the device. The settings are in the Windows device manager under USB controller. The USB driver for the cutting cutter must be entered in this list otherwise no activation is possible.
If the USB driver does not appear there, install it from the delivered data carrier of your device.

d. Original cable: Check if you use the original cable recommended by the manufacturer. If this is not the case, there might be bigger problems during the data transfer. GreatCut „communicates" during the data transfer with the cutter so that missing or faulty connected data cable with the cutter lead to input or output errors.

9.5 Buffer Overflow

The cutter reports „buffer overflow" or does not cut the whole job **Tip 5**

This is often because of an incorrect setting of the used protocol of the serial (COM) port. In most cases it is sufficient to set the protocol respective the flow control of the port to *hardware*.

9.6 Script Font Welding

The automatic welding of script fonts does not work as expected **Tip 6**

The success rate with the automatic welding increases clearly if the letter spacing is reduced from 100% to 99.9% or even 99%. This results in the fact that two nodes that lie mathematically exactly on top of the other can be slightly moved so that they can be "identified" as two dots.

Indication: Another possibility is the modification of the kerning in the Fontmanager for Adobe fonts with which problematic kerning pairs can be edited.

9.7 Generate Circle Segments

With the construction of logos or signets often circle segments are needed. They can be created as follows with the help of ***node editing*** function. **Tip 7**

- draw a circle with the wanted radius or diameter
- mark all nodes with the node tool
- double click on the origin
- select separate

Afterwards, all circle segments are available and can be selected with the ***arrow*** tool.

9.8 Data Import From Apple Computers

Data import from Apple computers in GreatCut **Tip 8**

When exporting Apple data you have to pay attention to some settings to have a perfect data export. All popular Apple compatible illustration and graphic applications can export EPS data. (Illustrator, Freehand, …)

1. For the contours, as line width only hairline (0.01 mm) must be entered.
2. No fillings should be transferred.
3. All texts must be converted to graphical objects. (text in curves)
4. Grouped or combined objects must not be available. (break up before)
5. Especially with the Freehand-export the export filter for the Illustrator-format must be selected.
6. As file name extension .eps should be used and you should not use umlauts as ü, ä, ü.

9.9 Typical Sources of Errors When Cutting

a) The foil is clamped too loose **Tip 9**

Consequence: the knive moves the foil during the cutting and the contour is not closed completely.

Remedy: when inserting the foil pay attention that the foil is clamped evenly and does not undulate.

b) The speed is too high

Consequence: small foil parts especially serifs and counters are unscrewed.

Remedy: reduce speed and lower the pressure.

c) The tool pressure is too high

Consequence: the release paper is also carved, character parts are unscrewed and parts of the release material get stuck at the characters. The weeding of the foil gets more difficult.

Remedy: reduce pressure and correct the depth of the knife if necessary.

d) The tool pressure is too low

Consequence: foil and adhesive were only partly cut through. The weeding is possible only with difficulty or not at all.

Remedy: increase the pressure and correct the depth of the knife if necessary.

e) The knife is set too deep

Consequence: foil, adhesive and release material were cut. Foil cannot be used any more.

Remedy: correct the setting of the depth of your **cutting knife**.

f) The knife is used up

Consequence: only the foil and not the adhesive is cut through.

Indication: when using standard foil the using up of the knife is little. When using reflection or sandblast foil the using up is much higher.

Remedy: use new original knife.

g) The characters were unscrewed

Consequence: The weeding border is possible only with difficulty. The unscrewed parts stick to the foil and cannot be detached any more.

Generally is presumed: the smaller the font size the thinner the foil must be; the adhesive force of the gluten is higher.

Remedy: reduce the speed and if necessary the tool pressure until this effect does not occur any more.

h) The release paper is also cut

Consequence: the release material sticks to the foil. The weeding is possible only with difficulty or not at all.

Remedy: correct the setting of the depths of the cutting knife and also reduce if necessary the tool pressure.

9.10 Plotter Via USB Is Not Working!

Error message: Cannot open interface! **Tip 10**

Check first, if your cutter is listed in the ***Device Manager*** *(Control Panel / System / Device Manager).* If not, reinstall the device driver as described in the plotter manual.

Check then, if the USB port for your cutter is selected in the GreatCut ***Device Settings.*** You'll find the ***Device Settings*** window in the ***Settings*** / ***Common Settings*** / ***Devices*** menu.

Note: A USB cable should be no longer than 5 m without booster.

9.11 The Values for Cutting Pressure And Speed Are Not Saved

After changing the values it is often forgottten to confirm the values. Please press the ... button beside the *Enter Material* field and enable the ***Save Material Data*** option. **Tip 11**

9.12 Error Message While Output into File

Error message: "Error for CreateFile" **Tip 12**

This error message is given out, if the access right ***Write*** for the *program folder* of GreatCut is not set.

Relief: Enable ***write*** rights for the program folder.

Annex

A Dictionary of Technical Terms

Active and Passive Jobs — Active jobs are those that are being cut. Passive jobs are waiting in the queue for output.

Additional Programs — Additional programs are program modules or stand-alone programs that are part of the delivery.

Auto Import Plug-Ins — Auto import plug-ins are used to automatically import data from other programs - without intermediate steps.

Automatic Contour Pen Conversion — This feature means that before the data is transferred the software 'looks' for objects with the attribute 'contour'. If so, the user can decide whether the contour is to be converted or not. If the contour should be converted, then a vector object with the width of the contour is automatically generated!

Bitmap Functions — Bitmaps are pixel images or photos. Bitmap functions means all functions which are not vector tools like node editing, and which are only applicable on bitmaps.

By Color — This is a welding function, which deletes all surfaces, which are covered by overlying colors.

Bypass Cutting — Direct cutting - without window - before output on the cutter

CMX Data Transfer — CMX data transfer means the handing over of data using CorelDRAW's CMX data format. CorelDRAW had created this format in order to ensure the exchange of data within the Corel program families. CMX is a public data format and is used for the exchange of data. This has the advantage compared to EPS, that Corel specific types of data can be copied 1:1, without making a conversion of the format.

Cap Height Setting — Cap height is the typographical correct unit of capital letters. The text editor uses this unit by default when calculating the font size.

Circular Text — Is a special feature of the text editor with that text blocks can be placed on or in a circle.

Clipart Tab — Cliparts are job-similar files - often logos or patterns - which are useful for the design of an output job. The clipart tab is a sub-tab of the Sidebar, with that the cliparts can be managed.

Clone

This function is usually used when creating labels and series. Changes at the control object are transferred to all clone objects.

Close Objects (Automatically)

When importing DXF or HPGL data, many or all objects are not closed. On a cutter only closed objects can be processed reasonable. This function will automatically close all vector objects. In the basic settings the threshold for the closing of objects can be changed.

Contour Line (Print & Cut)

Unlike the outline / inline bitmaps are here provided with a vector contour. This function is regularly needed in the creation of labels and stickers.

Create / Edit Text Block

Text blocks are blocks of text that can be used more frequently because they appear identical or similar in many jobs - such as your address. With the PhraseWriter arbitrary blocks of text can be created and modified as needed.

Cut Out Region

Is a bitmap function which provides the tracing of parts of a bitmap. You can cut out any vector form out of a bitmap.

Device Control

This section deals with device control functions on the output side.

Digitize Mode

This feature means a drawing tool, that similar to digitizing tablet with a magnifier, draws nodes on the working sheet.

Dongle Protection

A dongle is a hardware copy protection that is stuck on the USB port of the computer to make run the software. The dongle protects producers against unauthorized copying of its software and at the same time it protects the investment of the buyer, since its competitors do not get the software free of charge. Thus from dongle protection both sides benefit - producers and buyers.

Drill Holes

Drill holes is a special drawing tool, that marks the position of a drill hole, using a crosshair cursor. If the connected machine is capable of producing drill holes, then the position is transmitted to the device driver.

Files Tab Is a sub-element of the Sidebar, with that Jobs can be managed. Job is the file extension, which is used from EuroCUT.

Flatbed Cutter All cutters that have a flatbed as a cutting surface.

Folder Monitoring This function means that the software monitors a selected folder on hard disk or network. Every time when a change in the monitored folder occurs - by saving or deleting of jobs - the thumbnail gets updated.

Fontmanager The Fontmanager manages fonts in databases. The advantage of this method is that the database can be copied from one computer to another and thus the same set of fonts is available on both computers.

Full Surface Is a welding function, which underfills objects in one color, whose surfaces overlap another. The partially hidden objects are treated in a way, that they are underlaying all overlying objects.

Hatching In this milling method the area, which should be removed, is provided with a hatching. The area gets removed along the hatching using the milling tool.

Hotfolder Management A folder can be defined as a so-called hot folder. All output jobs that are stored in this directory are supplied to the output.

Job Calculation The Job Calculation means a function with that preliminary costing can be done easily. This function is particularly well suited for calculating charges of material costs.

Job Info The Job Info can - referring to each job - save additional information such as order number, customer address, material, time spent, a. s. o..

Job Rerun Any job that is still in the job history can be cut again identically. The actual to the machine transmitted data is stored. All parameters are given out into the output file.

Laser Engraver Name for all devices which don't use an engraving needle but a laser unit.

Layer Tab Is a sub-element of the Sidebar, with that layers can be managed. Layers are color levels which determine and

	control output order and tool parameters - besides object position.
Material Display	Each color layer can be assigned a specific material with an exact material description. The assigned material is displayed before the output in the Job Calculation, Job Info and the layer itself.
Milling & Engraving	This rubric lists the specific functions and tools which were implemented for milling and engraving.
Monitor Output Process	With monitoring, we mean that the output process can be suspended, stopped and continued. Active jobs can be switched to passive and if necessary be re-activated.
Multi Inline	In this milling method the area, which should be removed, is provided with multiple Inlines. The area gets removed along the inlines - from outside to inside.
Multi Port Support	With this we mean that all ports on a given computer - which are suitable for the issue - can be used. Typically, these are all COM and USB ports.
Multi User Versions Available	For every main license multi-user version can be purchased. The additional versions here have the same serial number as the main license.
Multi-functional Cutter	Multi-functional cutters are devices which can use various tool heads beside a cutting tool head. They are, for example, oscillating knives, spindles, and hemming tools.
Multiple Cutting	Option to cut easier thick and resistant materials
Node Editing	Main tool for the creation and editing of vector objects.
Objects Tab	Is an sub-element of the Sidebar with that objects can be managed. A large number of object attributes such as visible / invisible, do not output, do not print, can be individually defined for each object.
Open Trimming	Is a welding function, which creates open vector objects, after they were separated at their intersections.
Optimization	Targets of the optimization are: diminishing of rejection rate, material saving, time saving, optimization and shortening of job preparation. The optimizing of objects can be done on the working sheet or in the output

	preview. The objects are sorted so that the material consumption, without nesting of objects, is minimized.
Outline / Inline	Outline is a special function, where vector object is contoured automatically with a contour in a predefined distance. In contrast to the contour line, the outline creates - in case of internal objects - so called Inlines.
Parallel Device Output	This function can simultaneously provide data on multiple machines, which are connected to a computer, if sufficient computing power on the PC is given.
PhotoCUT	PhotoCUT is a program module which can convert halftone drafts into vector stripes. The so generated vector stripes can be cutted on each usual cutting plotter and, generate - with the appropriate viewing distance - one photo-like effect.
PhraseWriter	The PhraseWriter is a program module for the management and use of text blocks. It is automatically started at startup and is accessible at any time using the right mouse button context menu. The specified text block is selected and then inserted and displayed on the desktop.
Plot Manager	The Plot Manager is a separate program module, which 'background' controls and monitors the output of the data on the selected device.
Plot Server Function (TCP/IP)	A computer at which multiple output devices are connected can act as a plot server. The data transfer can take place via the network using TCP / IP. Assuming the appropriate licenses, any number of client computers can give out on the plot server devices.
Plot to File	The output of the plot data can be redirected to a file. The user only has to activate the appropriate option in the output dialog.
Posterize	Posterize is a bitmap function which performs a reduction on any number of color hues per color layer.
Preview *.CDR and *.CMX	The files tab can display besides *.JOB also contents of *.CDR and *.CMX files (CorelDRAW formats).
Productivity Tools	Productivity tools are special tools, which - because of their workings - enhance the productivity of sign making processes. These are usually such tools, which distinguish a cutting software from illustration programs

	such as Illustrator and CorelDRAW.
Program Type	This section summarizes certain criteria which characterize the use of the program.
Reference Job (*.JRF)	In a so-called Reference Job the environment, the tool parameters and the device drivers are stored. In this way, it is possible to output the job in an identical manner as many times as wished.
Register Mark	Is a special drawing tool, with that marks, for the making of multi-colored foil signages, are drawn. This register marks can consist of a cut-through or a filled square and are positioned by the user to the desired position on the output job. While the output these registration marks are always cutted at the same position on the vinyl (layer independently), so then the precise assembly of various colors is possible.
Roll Cutter	Roll cutter means all cutting plotters, which can only handle material rolls.
Screen Printing	Is a welding function, which allows the changing of the color stack. Thus, the order of the colored vinyls can be re-sorted - interactively - from light to dark.
Segmentation with Overlap	Segmentation is always necessary when the job is larger i.e. longer or wider than the connected device is able to plot. The overlap is necessary when the individual segments are to be completed to a whole again. Joining otherwise would lead to undesired white gaps.
Sidebar	Sidebar means a movable control element that can be made visible on the desktop. The individual sub-elements are activated by clicking so-called 'tabs'.
Sort with Simulation	In this function, all objects are sorted according to a certain criterion. For some output devices such as lasers or milling machines the sequential processing of the objects is important. Therefore, the output can be simulated and the collation can be adapted to the requirements of the output device.
Space (1/1, 1/2, 1/4, 1/8)	Special function with that micro-typographical-correct spaces (keyword: em quad) and thus word / letter spacing can be generated. These special spaces can be directly entered via the keyboard.

Spool Function

When the Plot Manager is activated with the parameter !SPOOL!, it runs independently without starting the main program. Output data can be activated and given out via Drag & Drop.

Spot Colors Definable

Spot colors are color layers, which are defined in a way that color values are additionally given out. Some hybrid devices and RIPs use spot color values for the control of output processes. When printing the corresponding color plates are given out.

Stacking

Stacking means that at first as many objects are positioned adjacent as will fit on the material. The following objects are then positioned above it. This process is repeated until all objects are positioned on the material.

Stand-alone Software

"Stand-alone" means that this program can be used without any other so-called host program. It has all the tools that are needed for the design, layout, and the output of jobs.

Start Tool Paths

When milling and laser engraving it often happens that immersion traces are visible at the start point of an object. To ensure that the quality of the objects which are milled is not affected, the start point can be laid outside the object. This task is performed by so-called start tool paths.

Status Display Material Consumption

In the output preview at the bottom of the window is a status line where the material consumption of the job is displayed in square meters. Since this happens before the output, this feature can also be used to order exactly as much of a material as is required currently for the job.

Symmetrical Object

This is a tool that can create stars and polygons. With it the initial shape (circle, ellipse) and the number of edges can be specified. With its own drawing tool then the symmetric objects on the desktop are drawn.

Templates (*.JTP)

Templates or patterns are jobs which have no name (untitled) when opened. Templates can always be created if they can serve as an example for other similar jobs. The advantage is that the working sheet and layout are predefined.

Test Run

Before the actual output a so-called test drive can be carried out to examine whether, for example, the material

	is sufficient. During the test run the raised tool head moves along the vectors.
Text Editor	Text editor means program functions that include all the tools necessary for professional capturing and editing texts. Typographic special tools that are essential for signmaking were implemented.
Text Import (*.TXT, *.RTF, *.ECT)	External texts can be imported directly into the so-called text box, with the above formats being used. For formatted text the RTF format must be used. It can be saved from every professional word processing program.
Thumbnail Preview	Thumbnails are small low-resolution pixel previews of file contents. All in the selected folder located files will be - by means of the thumbnail preview - visible and manageable.
Tool Parametrization	Means that specific settings for a tool can be done by the user. This can be values for speed, drive, depth, angle, pressure, acceleration or other parameters. The device driver provides the parameter fields. The user can edit corresponding parameter values before the output on the device.
Tool Assignment	To each color layer a specific tool can be assigned. This makes creation and processing of jobs much easier. The selected device driver provides all possible tools. The assignment itself can be done by the user individually.
Track Logging	For each tool the distance will be recorded. In addition, the date, time and device names are stored.
Trimming	Is a welding function, which separates closed vector objects using lines or curves. The resulting partial objects are re-closed then automatically.
TrueType, OpenType, Type 1, BE Fonts	These 4 font formats can be managed with the Fontmanager i. e. add, enable and disable.
URW BE Fonts	The BE-type format was created by the company URW. The BE-format is a vector font format that was shipped with SIGNUS systems.
Vectorization, Tracing	Vectorization means the conversion of bitmaps (pixel images) to vector contours.
Video Marks (Print & Cut)	Video marks are marks that can be detected by cutters with optical sensors or cameras to compensate for

	inaccuracies of the print result. In the print and cut process they are used also for the contouring of print objects.
Wait After Segment	If a job has to be segmented, then the user receives this option with the ability to re-equip the machine before the next segment is processed. By means of a message window the process can be continued at any time.
Weed-Ex Driver Option	It is a specially laminated flex or flock material of Witpac GmbH. First, the actual vector lines are cut. In the second step, the components that need to be weeded, are cut out in a way, that they 'fall out' automatically at the end. So you have already reached the entire plot result after peeling off the medium and you don't have to weed manually.
Weeding Lines horiz. / vert.	In addition to the global weeding frame, which is generated around the entire output job, individual weeding lines can be added horizontally or vertically in the output preview. Large, bulky jobs can thus be divided.
Welding	Welding functions are needed for the treatment of overlapping of layers or vinyls. These functions are in the signmaking and screen printing department essential for the processing of vinyls.

B Glossary

Additive color system The ~ is based on mixing the additive, luminous spectral colors red, green and blue (RGB), for example in color TVs or color monitors

Adjustment Modification of the distance between two adjacent characters so that a harmonic type face is being created. This is reached by correcting the character - or word distance. With distances below 100% you speak of kerning and with values above 100% of spacing out.

Adjustment handles ~ are the 9 black squares that are drawn around the object and in the middle when marking objects.

Antialiasing Edge smoothing with bitmaps

Application tape Foil that is used to apply the cut foil after the weeding on the lettering area. The adhesive force must be strong enough so that the text - even the tiniest letters - can be released from the substrate without problems. After application, the ~ must also be released without problems.

Ascender Term for the part of a character that extends above the middle length.

Backup Data backup

Bit-depth also shade ~ is the mathematically possible number of colors with a specific number of bits, for example:
1 bit color depth = 2^1 = 2 possible colors (black/white)
8 bit color depth = 2^8 = 256 possible colors/shades of gray
24 bit color depth = 2^{24} = 16.8 millions possible colors

Bitmap Pixel-graphic

Bold Font that a bit thicker than the standard typeface.

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

Calibration Adaptation of printer, monitor, cutter or adaptation to desired values.

Cap height This is the height of the capital letters, the capitals. As measurement usually the height of the letter „H” from the font line to the top edge of the character is used.

Center justification A break justification where the text block is justified at the same time on the left and on the right side. To do this, the word space within a text line is varied (usually extended) so that on

	the left and right side a clean text edge is created. This is not only applied for the the last line of a break. compare also: forced block
Clipart(s)	~ are jobs or job parts that were added to the Clipart toolbar . They are saved in a separate directory. (C:\Program Files\GCC\GreatCut 4\CLIP)
Clipboard	~ is used for temporary storage in Windows. The ~ is used to exchange data fast between applications.
CMYK	Cyan, magenta, yellow, contrast (key, black) Standard colors for the four-color printing.
CMYK-color area	~ is the total number of colors that can be displayed by the colors used when printing (CMYK).
Color depth	~ is the number of possible color tones that can be recognized by a scanner or reproduced on a color monitor.
Container	A container - more exactly an image or text container - is a vector object, that similar to a real container can take up arbitrary image data or texts. In conjunction with macro scripts contents can be exchanged semi-automatically or automatically.
Context menu	Context menus are called so because the structure adapts and changes depending on the number and type of the selected objects (context). Context menus are always activated with the right mouse button. They serve for the faster access to important functions and tools and also to those functions that cannot be activated via the main menu.
Contrast	Contrast; range of brightness between bright and dark parts of a picture.
Cursor	~ is the blinking, vertical line in an editable field.
Decoration	Accentuation of text parts by modification of the text attributes, for example **bold**, *italic*.
Descender	This is the part of a character that protrudes below the font line.
Desktop	The area besides the working surface that can be used for the draft. It is comparable to a desk on which are the tools.
Digitalization	Conversion of a picture template into a digital form. The capture is done point for point or line by line by means of a digitalization tablet or by reading the template with a scanner.
Dongle	

	Means the copyright that is part of the scope of delivery of GreatCut. It is inserted in the USB interface of your computer. Without ~ the software cannot be started.
Download	Downloading applications or files from the internet to your computer.
DPI	Acronym for **D**ots **P**er **I**nch; resolution fineness (1 inch = 2.54 cm)
EPS	Acronym for „**E**ncapsulated **P**ostscript **F**ormat". In this file format the text and picture information is saved in the page description language postscript. This format also contains besides text and raster data also a preview bitmap which allows displaying a copy of the data on the screen.
Foil	Two production processes are common: calendaring and casting. Cast foil is created without drawing frame and thus has a lesser shrinking tendency. The costs are usually higher than with calendared foil. Calendared is cheaper, has a shorter period of usage and shrinks more. Cutting foils are built in three layers: 1. Substrate; the lowest layer 2. Gluten layer; is between the foil and the substrate 3. the foil itself.
Font	Type cut within a type face in digital form. Most type faces have the fonts normal, bold, italic and bold-italic. Often, the font is used for the same type face. Correct would be that each cut is a separate font.
Font line	~ is a thought line on which the characters of a row are standing. Even if different font types and font sizes are used in a row, all characters must stand on a common font line.
Font size	~ is the size of a font. It corresponds to the block height, which means it also comprises the ascender and descender as well as a certain space above and below the characters.
Forced justification	Justification where all text lines - also the last- are adapted to the width of the column or the working area. In GreatCut this justification is called „force justification".
Gamma correction	The ~ is a method for the correction of color graduation considering the perception of the human eye if there are two adjoining areas of different color.
Group	Combination of arbitrarily many objects to a group. The position of the objects itself does not change any more within the group.

Halftone image(s) ~ are pictures which contain shades of gray or hues. The tonal value between pure white and pure black is called halftone.

Hotfolder A Hotfolder is a directory monitored by the Plot-Manager. If a file is copied into this directory, the Plot-Manager carries out automatically specific configurable functions.

Inch Measurement unit for the length
1 Inch = 2.54 cm

Job File-ending of GreatCut; name for GreatCut file

Justification Alignment of a text block on the working area. GreatCut offers justification left-aligned, right-aligned, centered, center justification, forced center justification and adjust cap height.

Kerning If two characters stand closer together than it would correspond to their standard thickness, you speak of ~. With character combinations as for example „Te" you have a balanced type face.

Laminating Covering with transparent plastic films.

Live-Update Updating of software via the internet.

Macro A ~ automates program flows. The automation can thereby be realized with the program's own commands or a macro language.

Marking function ~ means marking objects by keeping pressed the left mouse button, then drawing a frame around the objects to be marked and letting go the mouse button only if all objects to be marked are completely within the frame.

Process colors Printing scale of colors for four-color-printing with cyan, yellow, magenta and black (key). By mixing these colors, it is possible to print all colors.

Profile The appearance of program surfaces is called ~. The shown tools and menu items can be individually adjusted to the user. Intention is to simplify the user interface.

Raster Image Processor short: RIP - Software that rasterizes vector data and controls the printing on a large format printer.

Resolution Number of pixels per track unit. It is indicated in dpi (dots per inch). Laser printers have a resolution from 600 to 1200 dpi.

Scan resolution Fineness of the resolution when scanning analogue images
Formula:
Resolution (in DPI) = printing length (L/cm) x 2 (quality factor) x

	enlargement factor x 2.54 (when converting from cm into inch)
Subsidiary line	These are lines for the virtual alignment of objects on the working area or the desktop. Subsidiary lines are only visible on the monitor are neither plotted nor output on the printer.
Superscript	The characters are set higher than the characters standing on the baseline. They usually have a bit smaller font size than the basic font.
Toolbar	can be freely moved and positioned on the working area of an application. Often, also the composition of the tools can be defined.
Trapping	A small overlapping zone at the limit of superposed colored elements. This ~ guaranteed that no white gaps occur at the color borders. The overlapping can happen through overfilling or underfilling.
Upload	Upload is the sending of files or applications to a networked server
Weeding	means the removal of unnecessary foil parts after the cutting with a cutting plotter.
White gaps	~ are the gaps on the edges of overlapping or abutting color or foil areas. Disadvantageous especially with silk-screens or when printing.
x-height	Height of the lower case/character „x” respective the lower case without the ascender of a font.

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