EUROSYSTEMS

OptiScout

Version 8

User Manual

Production

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Please check the consignment for completeness and report the missing parts immediately to your dealer.
The **scope of delivery** of a OptiScout version includes:

- Hardware copy protection (USB dongle)
- Program data carrier
- Manual

Code number

The sticker is on the inner side of the manual cover. Alternatively, you can find the code number on the invoice.

Please check:

1. Check the presence of the copy protection (dongle) as this is your license at the same time.

2. The number on your copy protection **must** match the first block of the serial number (**000123-**OSP8-...).

Underneath the product description is your personal code number **serial number** (e.g. 000123-OSP8-123973-00089754).

Hardware Requirements

- Computer with min. 2 GB of memory (RAM)
- Windows 7 / 8 / 10 (32 or 64 bit)
- Minimum graphic resolution: 1280 x 1024 pixels

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Thank you for your understanding that inquiries by phone can only be handled by using this phone number. Other direct dialing numbers that may be known to you are reserved for purchase and sales department.

Our support staff members only give advice to **registered** users. In order to guarantee a competent support, we kindly ask you to get registered. Immediately after the reception of your registration, you will be added to our user-database.

Please keep the following information ready for each call:

Version-No: e.g. OptiScout Production 7.005 and **serial number or dongle number**

EUROSYSTEMS S.à r.l.

Web Sites: **www.eurosystems.lu - www.optiscout.com**

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Text: Peter Bettendorf, Frank Thömmes

OptiScout uses the OpenCV

(Open Source Computer Vision Library)

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OptiScout uses NLog

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About This Manual

With this manual you receive OptiScout. This manual is divided in *8 chapters*.

In the first chapter ***„Quickstart and installation“*** the installation of OptiScout on your Windows computer will be explained. Please follow the installation instruction carefully as the correct installation is the basic for the smooth usage of OptiScout.

The second chapter ***„How to work with OptiScout?“*** is an introduction in handling, tools and functions. The functional principle will be concretized by means of practical examples.

In chapter ***„Reference part“*** all menus and their menu items in their chronological order are explained. This chapter is thought of as *reference book* and should be used in case of doubts about the exact functioning of a command.

In chapter ***„Reference part display preview“*** all menus and their menu items in the display preview in their chronological order are explained. As chapter "Reference part" it is thought of as *reference book* and should be used in case of doubts about the exact functioning of a command.

In next chapter ***„Toolbars“*** are described. Toolbars contain important tools that are placed in a freely movable toolbar.

In the next chapter functioning of the ***„Tools“*** is explained in detail.

In the chapter ***„The Sidebar“*** the side toolbar with tabs (similar to the so-called dockers in CorelDRAW) is described in detail in its functioning. Summarized are layer editing, cliparts, object manager and file management. The selection of the various functional areas is implemented via so-called tabs.

In the following chapter ***„Add Ons“*** are described in detail. Add Ons are programs or program parts that are separated from the main program. Usually, they are made available by a user-defined installation.

In chapter ***„Tips and Tricks - Trouble Shooting“*** we have explained a selection of daily problems from our hotline and support experience and give you information for dealing with technical problems.

Typographical Orientation Guides

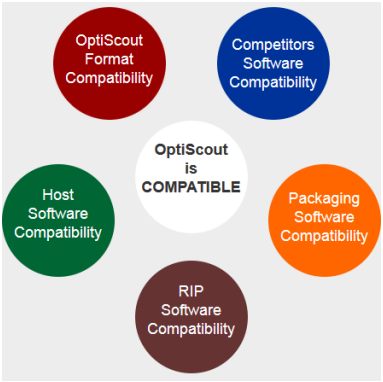
Display	Meaning
Bold	**Headlines**
Italic	*Indications, accentuations*
Bold, italic	Menus, fields, options e.g. ***new***-command
CAPITAL LETTERS	Name of keys on the keyboard e.g. INS, CTRL, …
KEY1+KEY2	The plus (+) between the key names means that the first key must be kept pressed while pressing the second key. Afterwards, let go the two keys.
KEY1,KEY2	A comma (,) between the key names means that you press the keys one after the other and let them go. Shortcuts and hotkeys
…	Three dots after menu entries and commands always mean that, when activating, a dialog window will be opened.

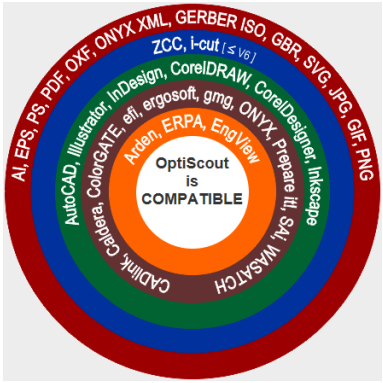
1 Preface

OptiScout is a modular finishing suite for multi functional flatbed cutters for the usage in the industry for the digital exactly contour cutting and milling.

1.1 Compatibility

EUROSYSTEMS philosophy of open software architecture has the goal of producing as many as possible contact points (interfaces) to other existing software suites to leave the user with numerous degrees of freedom with regard to the structure of its production environment. Especially in heterogeneous environments, compatibility is a key factor for productive workflow and cost-effective production.





The **OS format compatibility** provides the basis of an open software. Its goal is to be capable to import and export as many relevant file formats into the production environment as possible.

The **competitor's software compatibility** ensures that production data from competing software systems can be imported to provide the smoothest possible data transport.

The **host software compatibility** aims to automate the exchange of data with leading CAD, graphics and illustration programs. This is done by means of so-called plug-ins that are integrated into the toolbars or the menu structure of its host program.

The **RIP software compatibility** ensures that production-ready data from the relevant RIP software suites can be imported and processed; quality-reducing effects and time-consuming conversions are avoided.

The **packaging software compatibility** ensures that production data from the relevant packaging software suites can be imported and processed; quality-reducing effects and time-consuming conversions are unnecessary.

1.2 OptiScout Product Variants

1.2.1 Production

Product variant for multifunctional flatbed machines in industrial use with optical recognition software. Prior to the processing of a job, Production locates the position of the OptiScout video markers via a camera mounted on the milling or tool head. These were previously printed at strategic positions on the medium to be processed. A correction algorithm compares the current position of the alignment marks with the mark position in the original job. Using these data inaccuracies can be compensated that occurred during the printing process.

1.2.2 Front-End

Product variant with post-processor, import plug-ins for CAD and illustration software (AutoCAD, Illustrator, CorelDRAW, InDesign, Inkscape) and various productivity tools. **Front-End** has **no** camera detection.

1.2.3 Roll Cutter Edition

Product variant **especially for roll cutters** on the basis of Production. A barcode import is implemented.

For a complete comparison of all product variants see: ***product comparison*** on www.optiscout.com.

2 Quickstart and Installation

2.1 Installation of the Software

Copy protection (Dongle)

Important: The supplied copy protection (dongle) must be plugged into the USB interface of the computer before installing the software. When the internal red LED is lit, the connection is established.

2.1.1 Case 1: Software on Data Carrier

Insert the disk into the drive. An **Autostart** program starts the installation automatically.

Note: If the automatic start is not performed, start the installation by clicking on the install.exe.

Select the purchased product from the list. Clicking on the ***Install*** **button** starts the installation. Follow the instructions in the dialogs.

Registration: We recommend that you perform the online registration immediately after the installation, since you now have all the necessary information in the access.

After the installation is complete, the software will start automatically and you will be prompted to enter the license code..

Important note: The license data must be entered exactly and completely, otherwise they will not be accepted.

2.1.2 Case 2: Software via Download or via E-mail Link

Start the installation by double-clicking the **optiscoutxxxxx.exe**. Follow the instructions in the dialogs.

Registration: We recommend that you perform the online registration immediately after the installation, since you now have all the necessary information in the access.

After the installation is complete, the software will start automatically and you will be prompted to enter the license code.

Important note: The license data must be entered exactly and completely, otherwise they will not be accepted. The easiest way to do this is to copy and paste them.

2.2 Dongle and Licence

1, Copyright

OptiScout is a program protected by copyright. As protection a hardware copy protection is used in connection with a code number.

Without dongle and license input OptiScout is not ready for use.

Insert the copy protection (dongle) of the software into a USB port of your computer.

Note: The dongle "glows" (diode) if interface and dongle are all right.

Fig. 2.2-1: Memo HASP dongle for the USB interface

1.1 License sticker

If OptiScout prompts you to enter the license information, then you can find the necessary information on the license sticker.

Setup of the sticker:

1. Program name: e. g. OptiScout Production 8
2. Serial Number consisting of 4 blocks: *Code-program abbreviation-Code-Code*
Example: 000231-OSP8-8935340-792556

Important! The serial number has always to be entered completely - with minus sign.

1.2 Licensing with *.ECFN File

As an alternative to manually enter the license data licensing can also be performed using a ***license file***. A double click on the *.ECFN file performs the licensing fully automatic. The license file is copied and activated in the program folder of OptiScout Production 8.

Important note: If the ECFN file is linked to an application other than OptiScout Production 8, then the ECFN file must be manually copied into the program folder and must be activated by a double click.

When outputting to a connected device, the safety instructions of the machine manufacturer must always be observed strictly.
No liability is assumed for infringement.

2.3 Install Device Driver

Important Note: None of the following settings are required if your device is controlled via Win-CNC. When USB is selected, the appropriate USB device driver must be selected.

2.3.1 COM Port

Start OptiScout and open the ***Settings - Standard Settings - Output Devices*** dialog. In the ***Driver field***, you can select the driver for your machine. A name for this device can be assigned manually on the left. The name given should correspond to the machine name in order to allow a differentiation of the devices in the presence of several output devices.

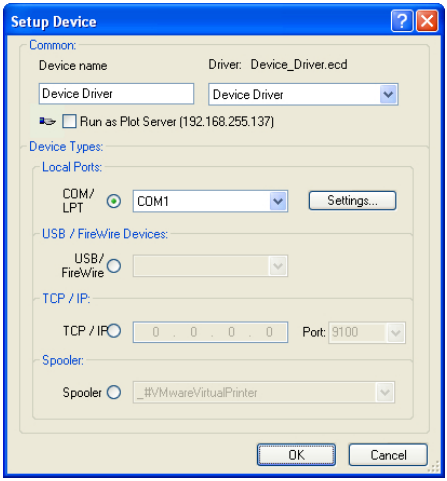


Fig. 2.3-1: Driver selection dialog

In the ***device types*** *area*, you can set how the output device is to be controlled. If a COM port is selected as the ***local port***, the ***settings*** **button** must be pressed.

2.3.1 COM Port

The following dialog opens:

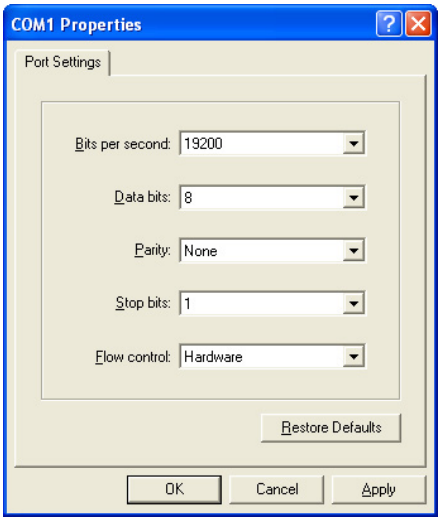


Fig. 2.3-2: COM port settings dialog

The **baud rate** is set in the first field. The baud rate indicates the number of transmitted data per second. A higher transmission rate than 9600 bps results in uninterrupted processing of the data on the machine.

Recommended setting on the computer *and* on the machine

Bits per second:	19200 or 38400
Data bits:	8
Parity:	None
Stop bits:	1
Flow control:	Hardware

Note: If the output device is serially controlled, "Hardware" should be selected in the flow control list.

All the set parameters must match the settings of the output device. Otherwise no communication can take place. Accept the settings by pressing the ***OK* button**.

The following dialog will open.

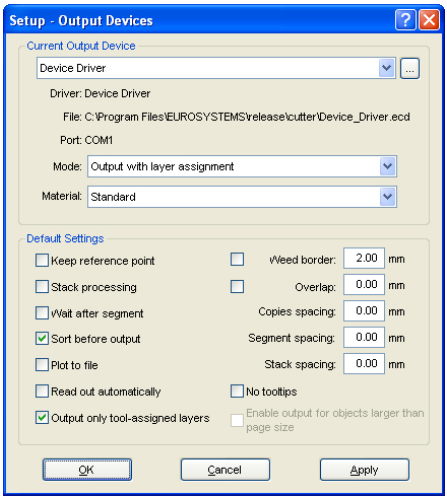


Fig. 2.3-3: Setup default settings device

The default values for the **output** dialog can be set in this window.

Note: The figure shows the recommended settings.

Confirm the settings with the ***Apply* button** and then exit the dialog via the ***OK* button**. Now open the **driver editor** by pressing the key combination CTRL + SHIFT + P.

2.3.2 Edit Frame Size in the Driver Editor

After the driver editor has been opened, the **frame size** [length] must be adapted to the output device.

A double-click activates the field. Change the value from 79 to the real table length in cm (for example, 250 at a table length of 2.5 m {L2500}).

Note: This setting is important for the use of an automatic feed option and when working with copies.

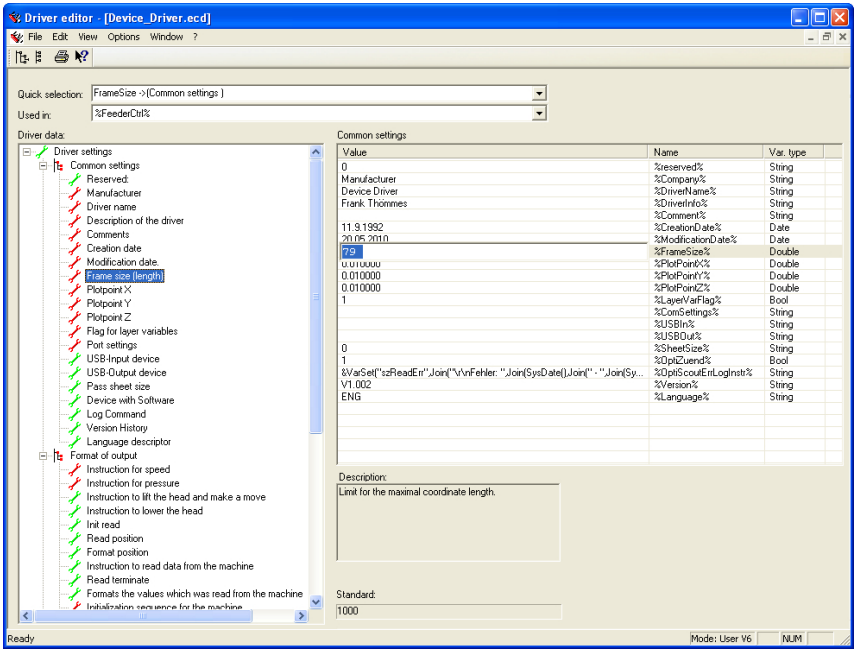


Fig. 2.3-4: Dialog for editing driver settings

Save the change in the driver using ***File, Save***.

2.4 Basic Settings in The Camera Dialog

If the video settings are not 24 RGB a configuration dialog will be shown at the start.

2.4.1 Video Settings

Via the ***set*** button the dialog for the setting of the picture parameters will be opened. Here you can make changes at the camera picture in order to influence for example the contrasts or the brightness of the picture.

This setting can be used with a low-contrast marker background-combination in order to make the markers "readable".

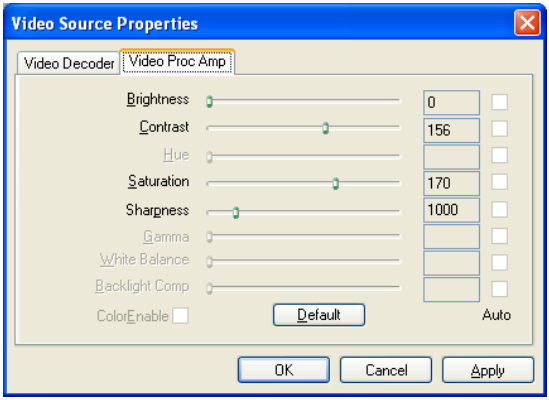


Fig. 2.4-1: The *Video source* dialog

2.4.2 Marker Recognition

Via the context menu the parameters for the marker recognition can be set.

2.4.3 Marker Size

Here, the size of the circles that are recognized as position-marker can be defined. Usually, the outer edge should be recognized. The marker size in the picture depends on the optic, the video signal resolution and the distance between the objective and the material.

2.4.4 Recognition Frame

The recognition frame is the range around a marker in which the marker coordinates can be measured **without** centering the camera on the marker. If, for example, a marker is not shown exactly in the center by the camera the distance from the center point of the camera picture and the marker is measured. If there is a camera distortion there will be an error that usually grows with the distance.

This error is not linear and therefore cannot be compensated without special measures (please refer to attachment camera calibration). With the recognition frame the range is defined from which on the error cannot be tolerated anymore and the camera shall be centered automatically on the marker (correction tour).

2.4.5 Correction Run

A correction run centers the camera on the marker. As the correction run is always done if the marker is outside the recognition frame the marker usually will not be met exactly due to the distortion error.

2.4.5 Correction Run

After the correction run the distance can be measured directly. With the parameters ***correction factor x*** respectively ***y*** the length of the correction run can be set.

Marker set too big

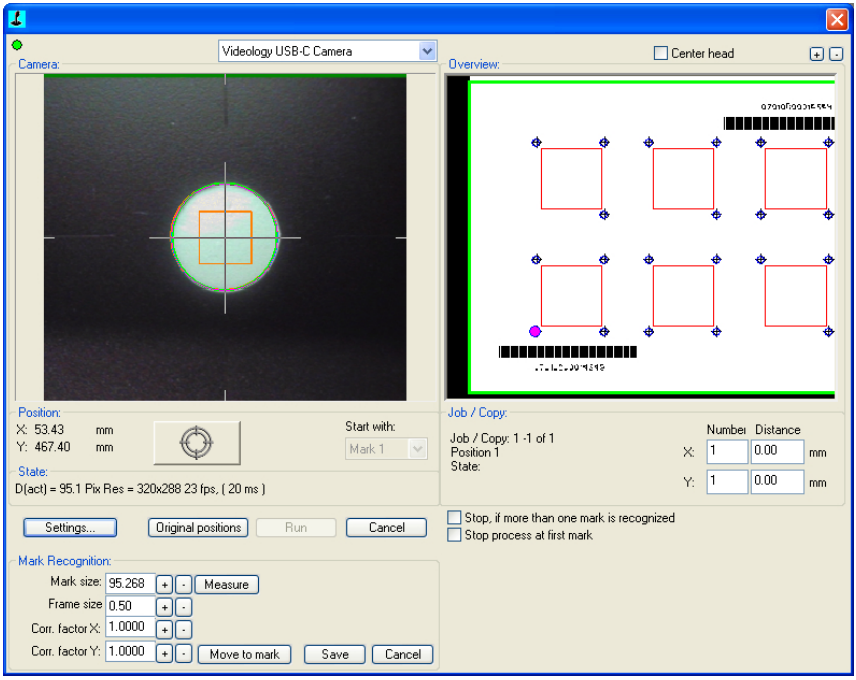


Fig. 2.4-2: Example for a marker too big

Marker set correctly

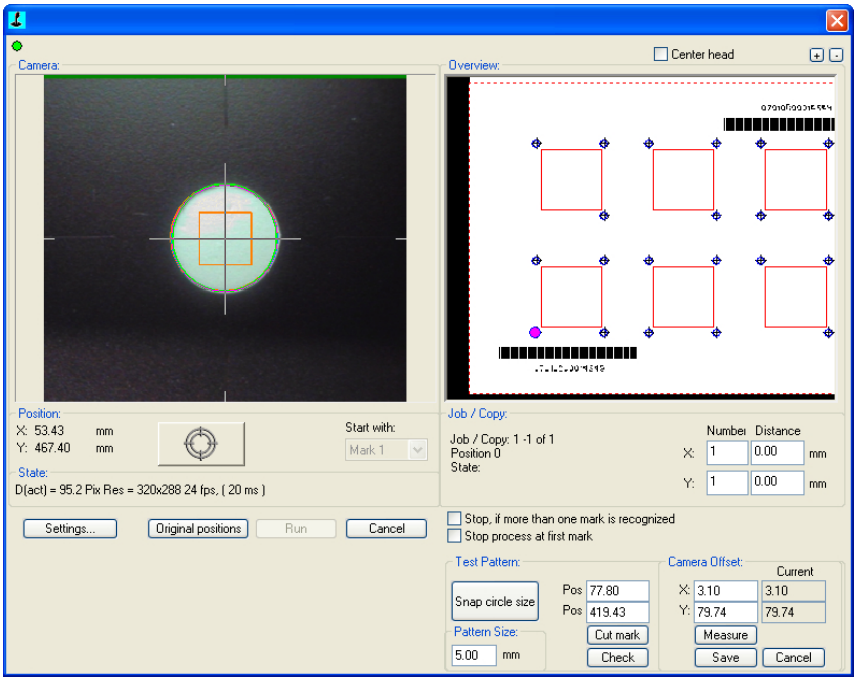


Fig. 2.4-3: Example for a marker set correctly

Orange circle - currently set size of the marker.

Green circle - recognized marker, within recognition frame, retracement unnecessary

Red circle - recognized marker, outside recognition frame, retracement necessary

Orange square - recognition frame (marker size x frame size)

If no marker was recognized the size must first be roughly estimated by means of the picture.

Example above

320 pixels, marker takes less than 1/3 space, estimation -> 80, set, marker is recognized -> then set exactly.

With the ***access marker*** button the setting can be tested.

A correction tour is carried out which means that the camera is centered on the marker. For this positioning, the previously set parameters are used. The size of the frame

should be set as follows: set the frame about the size of the marker and then check if the exactness is sufficient.

To do this you can access the vertices with the camera and press the button ***access marker***. The correction tour should now meet the center of the marker from all directions. If this is the case the frame can be enlarged and be checked again. Aim is to find out the size of the range in which the picture is (almost) undistorted.

Indication: *The correction tour should meet the center exactly if the marker is within the range of recognition!*

2.5 Camera Setup

Mount the camera on the tool head of the machine. This mounting instruction is for Zünd machines and can differ on other machines. The machine ***must*** be switched off while doing this. Depending on the respective head configuration, both lower 3 mm hex socket head cap screws or the upper 5 mm screw with the fixing pin are used. Connect the provided adapter cable with the connection on the cutter. Those are e.g. with Zünd machines at the left side of the tool head. Remove the lens protection of the camera and switch on the machine. The functioning of the camera will now be shown by a red LED on the upper side of the camera.

2.5.1 Install Grabber Driver

Insert the installation data carrier.

Select the appropriate software package and driver for your USB grabber from the list. Follow the instructions on the screen.

Now connect the provided dongle and the USB grabber (for video capturing) with the PC and start the computer. The new hardware should be recognized automatically after the new start. Now connect the video cable with the ***Video OUT*** port of the machine. The video cable is included in the delivery of the machine. The connection is underneath the right side case of the machine (Zünd).

Fig. 2.5-1: USB grabber with S-Video and Composite Video interface

Connect the camera cable of the machine with the ***Video IN*** interface (yellow) of the USB grabber. Check the functioning of the camera and the USB grabber with the auxiliary program ***AMCAP.EXE*** in the ***Tools*** directory of the OptiScout CD. To do so, select the menu item ***Preview*** under ***Options.*** The camera image should now be visible.

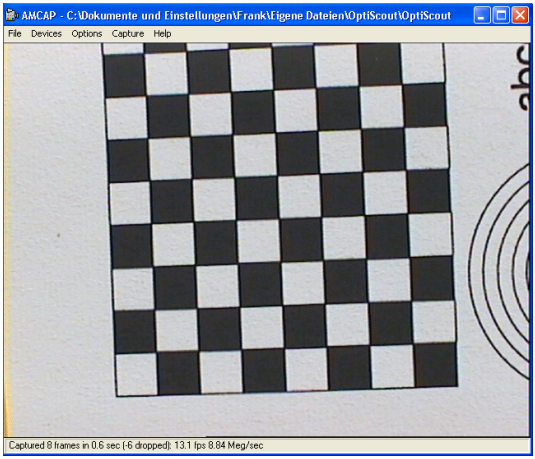


Fig. 2.5-2: AMCAP.EXE application

If the picture is defective or distorted the video format has to be changed from NTSC to PAL_B in the menu ***Options / Video Capture Filter...***.

Indication: This step is only necessary if the OptiScout camera is used.

Maybe the camera objective has to be set anew in order to adjust the sharpness. If the camera image is visible now, close the AMCAP software.

2.5.2 Basic Settings for Camera Offset and Marker Detection

Now open the example file that has been prepared for you by selecting in the ***File*** menu the item ***Open*** or by using the key combination ***CTRL+L*** on your keyboard.

2.5.2 Basic Settings for Camera Offset and Marker Detection

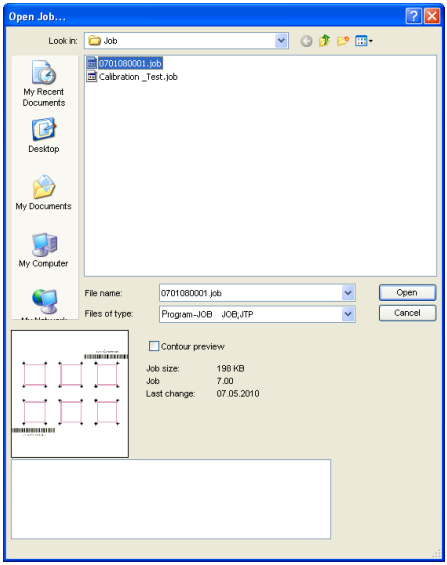


Fig. 2.5-3: OptiScout *Open Job* dialog

After having opened the job, output it on the connected printer by selecting via the ***File*** menu the item ***Print*** or with the key combination ***CTRL+P***. The print should be *unscaled* (100 %) on a DIN A4 page.

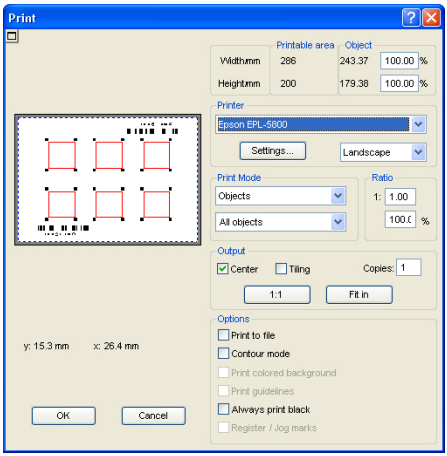


Fig. 2.5-4: OptiScout *print* dialog

Installation of the device driver: please refer to 2.3: Install Device Driver

Place the printout on the cutter and fix the print with the vacuum of the machine. Switch the machine to the ***online*** mode. Now open the ***Output*** dialog by pressing the ***S***-key on your keyboard or by selecting the menu item ***Output*** in the ***File*** menu. By pressing the ***Read material*** button the material width and length of the connected machine should be shown.

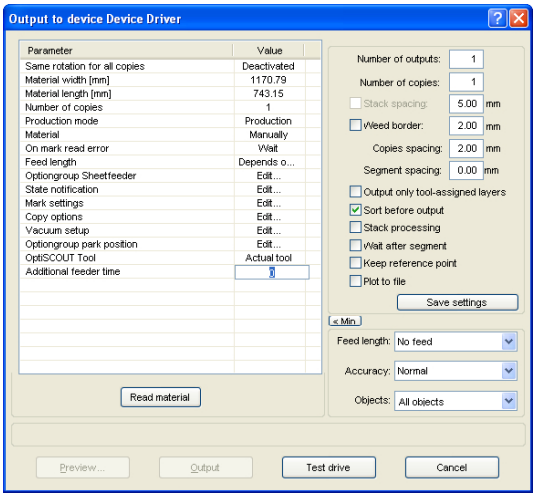


Fig. 2.5-5: OptiScout *output* dialog

Indication: *If the machine does not answer, check the status of the machine and the settings of the used interface.*

When pressing the ***Preview*** button following dialog appears.

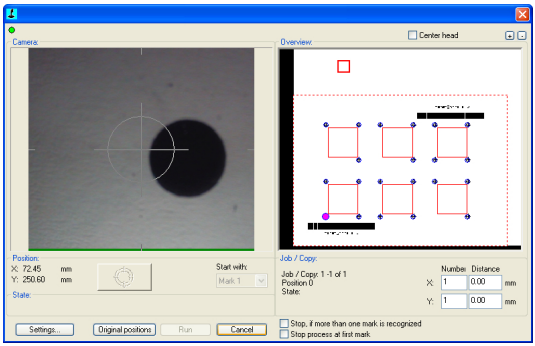


Fig. 2.5-6: OptiScout dialog with preview window

Now check the resolution of the camera picture. It should be ***320 x 240***. For checking press the ***right mouse button***. For this, the mouse **must** be in the left camera window.

2.5.2 Basic Settings for Camera Offset and Marker Detection

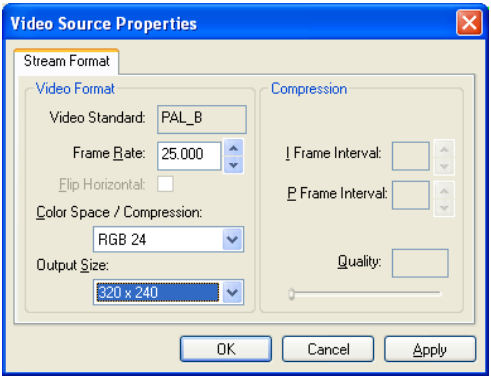


Fig. 2.5-7: Video format dialog

In the now visible menu select the function ***Default Settings -> Video Settings -> Video Format.*** If necessary, change the setting and leave the menu. Now move the tool head with the ***arrow keys*** on your keyboard until a video mark is visible in the camera picture.

The steering is done via:

Arrow key ***left***	-->	negative in X direction
Arrow key ***right***	-->	positive in X direction
Arrow key ***up***	-->	positive in Y direction
Arrow key ***down***	-->	negative in Y direction

Simultaneously pressing the ***CTRL*** key increases the speed by the factor 10.
Simultaneously pressing the ***SHIFT*** key increases the speed by the factor 100.

2.5.3 Setting the Marker Size

If a video mark is visible in the left camera window, press the ***right mouse button***. In the now visible menu select the function ***Default Settings / Mark Recognition.***

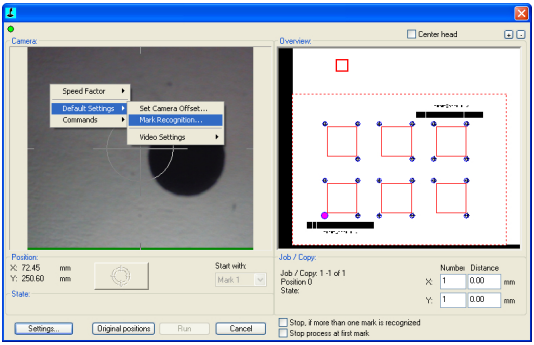


Fig. 2.5-8: OptiScout dialog with camera display

The function can only be opened if the mouse cursor is in the left camera window.

Following dialog appears.

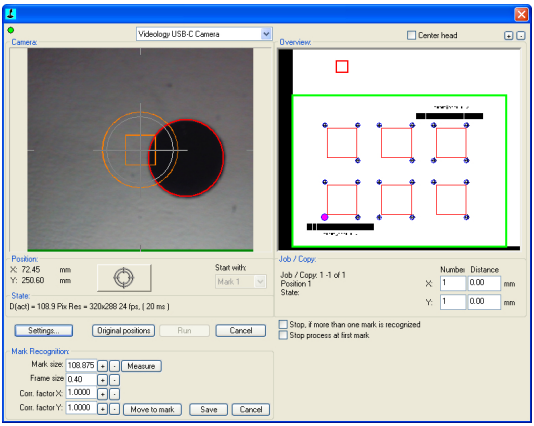


Fig. 2.5-9: OptiScout *access marker*

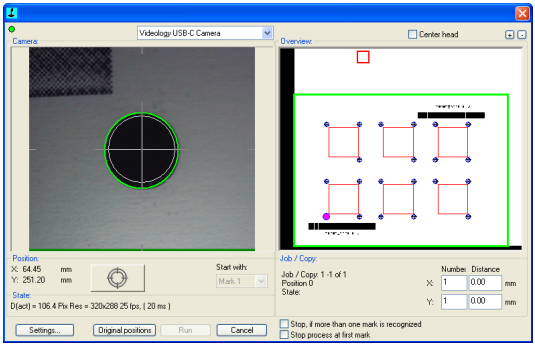


Fig. 2.5-10: Video mark recognized (green)

Press the ***Measure*** button. Now, an orange circle (marker recognition) with a rectangle (range of recognition) should be shown. Click on the ***Move to mark*** button and then again on the ***Measure*** button**.** The video mark should now have a ***green*** frame and be congruent with the ***orange*** circle lying in the center of the camera picture. The marker size to be recognized is now defined. This setting guarantees the recognition of video marks with the size predefined in the basic settings.

This process must be repeated when the mark size is different.

Note: The with a square displayed detection area defines the area in which a mark for measuring must be located. If the square is set very big, the mark is not moved to the center of the camera image before the measurement. The advantage is a faster mark measurement. The disadvantage is a measuring inaccuracy due to the curvature of the camera image. With a small square the mark is measured only in the center of the image, which results in a higher accuracy. The measurement process takes a little longer because a repositioning may be necessary.

The set value must be confirmed with the ***Save*** button.

2.5.4 Set Camera Offset

This setting is for the exactness of the later output. The ***camera offset*** is the distance between the output tool and the center of the camera. Now place a sheet of cutter foil (black) sized min. 30 x 30 cm on the machine and set the cutting parameters and depth of knife so that the foil but not the material will be cut. The aim is to get a test object (circle) with contrast values as high as possible.

Note: This description applies only to "Zünd" machines. For the setting of the camera offset for other machine manufacturers, please contact sales@optiscout.com.

Switch the machine to the ***online*** mode.

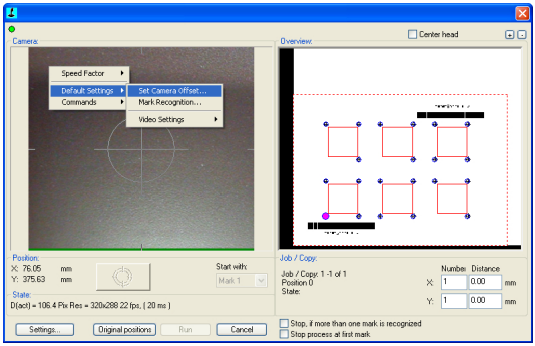


Fig. 2.5-11: OptiScout *set camera offset*

Press the ***right mouse button***. In the menu now visible select the function ***Default Settings -> Set Camera Offset***.

Indication: The function can only be opened if the mouse cursor is in the left camera window.

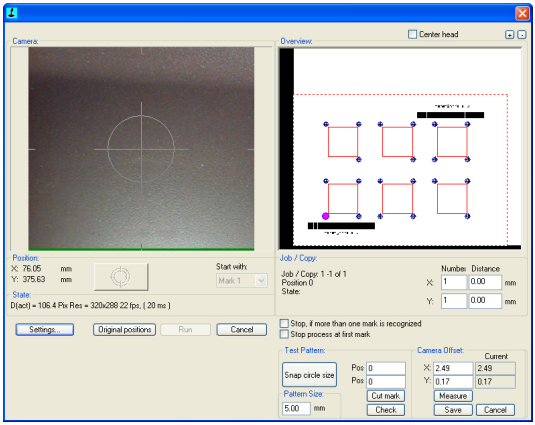


Fig. 2.5-12: OptiScout *Preview* dialog with camera position

Now move the tool head with the *arrow keys* on your keyboard until the tool head is above a free spot on the foil.

2.5.4 Set Camera Offset

The steering is done via:

Arrow key ***left***	-->	negative in X direction
Arrow key ***right***	-->	positive in X direction
Arrow key ***up***	-->	positive in Y direction
Arrow key ***down***	-->	negative in Y direction

Simultaneously pressing the ***CTRL*** key increases the speed by the factor 10.
Simultaneously pressing the ***SHIFT*** key increases the speed by the factor 100.

Press the ***Cut mark*** button.

Indication: Weed the cut test circle without moving the foil on the table.

Now move the camera with the arrow keys until the cut test circle appears in the camera picture and is framed in red.

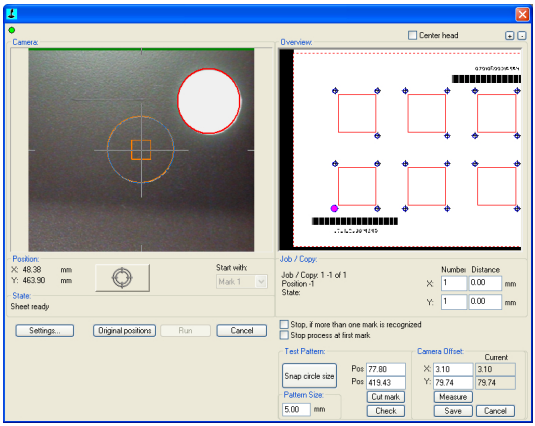


Fig. 2.5-13: *Test circle in the camera picture*

Now press the ***Measure*** button. The offset between camera and tool head will now be determined automatically. To check the measurement another circle can be output with the ***Check*** button. The circle that served for the measurement should now be in the center of the second control circle. If this is not the case, repeat the measurement. Press now the ***Save*** button to confirm the measured offset value. Installation and basic settings of the camera and software are now finished.

Caution: These settings must be repeated if the output occurs with a constant offset in comparison to the original object. This can happen for example after changing the camera to another tool head.

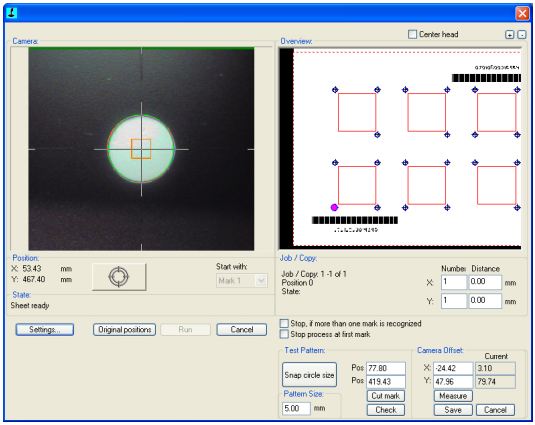


Fig. 2.5-14: Cut circle for offset correction

When outputting to a connected device, the safety instructions of the machine manufacturer must always be observed strictly.
No liability is assumed for infringement.

2.6 Calibration of the OptiScout Camera

Open the ***Calibration_Test.JOB*** that has been prepared for you by selecting the menu item ***open*** in the ***file*** menu. After having opened the job print it on a connected printer. **CTRL+P**

Indication: The print-out should be output unscaled on an A4 page.

Open the dialog layer settings with a **right click** on the color red in the OptiScout-layer-toolbar. The dialogue layer- settings opens. In this dialog the output parameters for the objects of the red layer are defined.

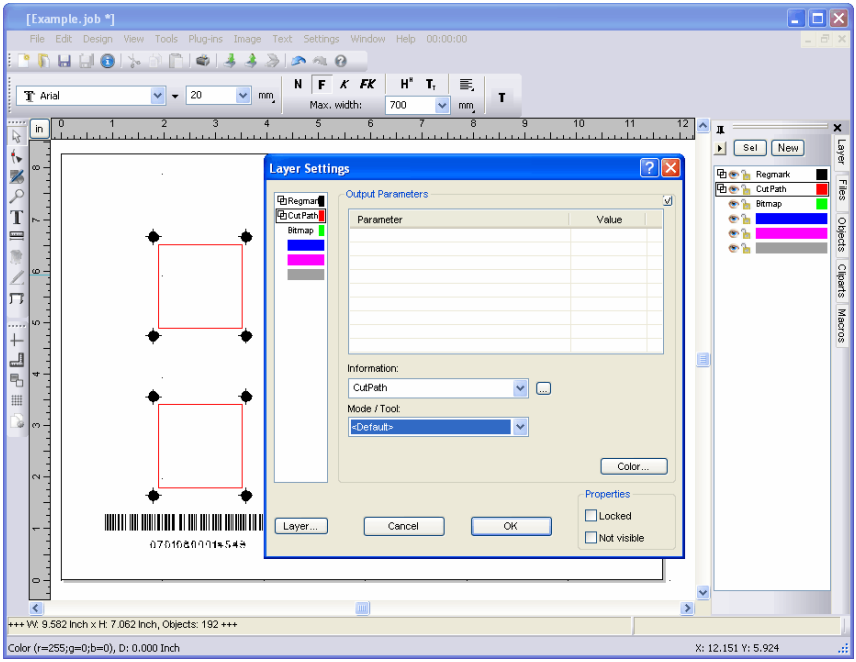


Fig. 2.6-1: OptiScout Layer settings

Select in the menu mode / tool the output tool to be used and enter the ***values*** necessary for the output into the upper list.

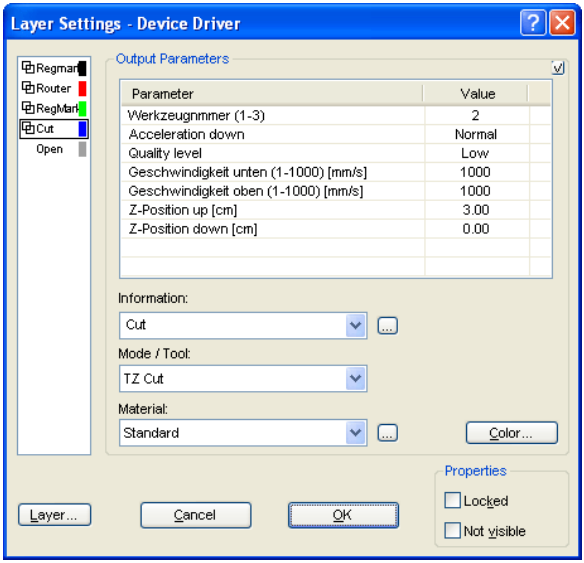


Fig. 2.6-2: OptiScout layer settings advanced

Confirm the assignation with the OK-button. The layer assignation is shown with a red checkmark left of the layer color.

Now open the ***output*** dialog by pressing the S key on your keyboard or by selecting the menu item ***Output*** in the ***File*** menu. Now check if the device is ***online***.

The OptiScout ***output*** dialog will be opened.

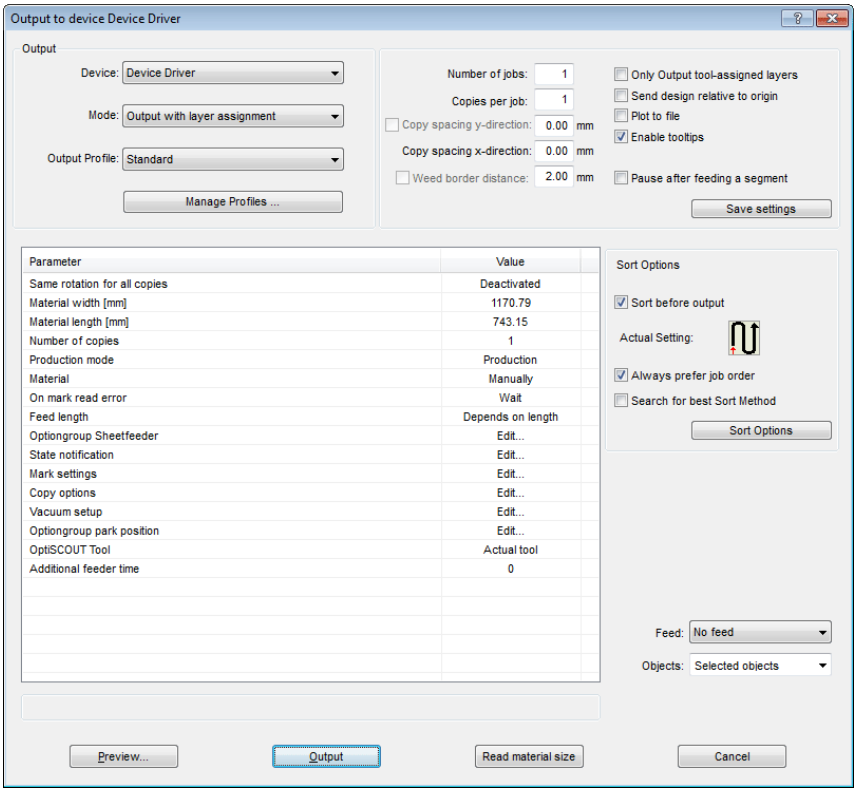


Fig. 2.6-3: Output dialog

A correct connection between the PC and device can be checked by pressing the ***Read Material -***button. If the values for the material width adjust to the values of the possible output size of the cutter the connection is ok.

If, however, the ***waiting for answer*** dialog appears the interface parameters have to be checked. If the parameters correspond with the size of the output device press the ***Output*** button.

Indication: The camera offset is subtracted from the maximum working space.

The OptiScout camera dialog should now be opened.

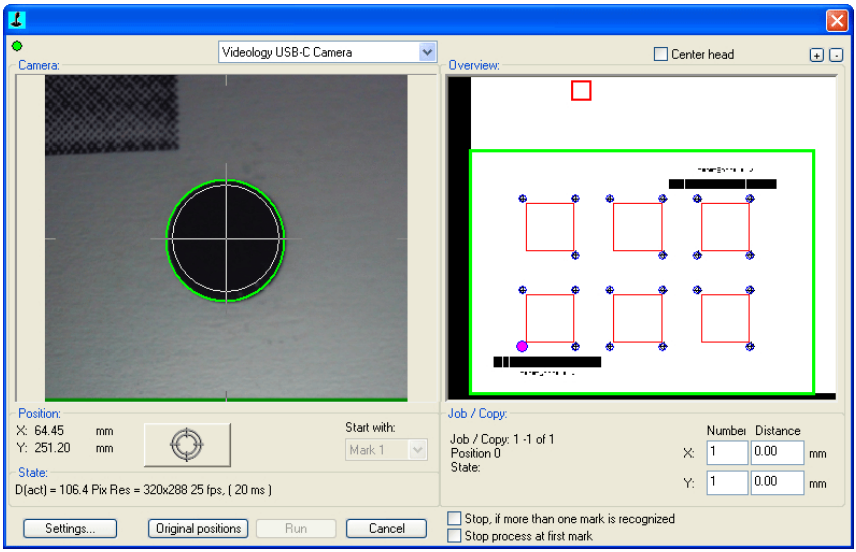


Fig. 2.6-4: Camera dialog

Position the camera with the arrow keys of the keyboard above the start marker. It will be shown in magenta and usually is the marker that lies the most convenient to the device origin.

The steering is done via the arrow keys:

Arrow key ***left*** -> negative in x-direction - arrow key ***right*** -> positive in x-direction - arrow key ***up*** -> positive in y-direction - arrow key ***down*** -> negative in y-direction

Pressing simultaneously the CTRL key increases the speed with the factor 10. Pressing simultaneously the SHIFT key increases the speed with the factor 100. If a marker is framed in red in the camera picture it means that it was recognized.

The measurement can be started by pressing the ***ENTER key*** or with the button  .
The markers should now be read automatically.

Indication: Measurement of the video marks can be proofed by pressing 'N' key. The measured position will be approached und the cross-hair should be in the center of the mark. If this is not the case, you can press 'M' key to make a new measurement. The deviation can be proofed with the X- and Y-coordinate in the area Position.

2.6.1 Output of the contours

Indication: OptiScout starts automatically if a graphic was output with adjust markers. In order to output without OptiScout support you have to delete the markers or block the layer of the markers for the output.

When pressing the ***take over***-button all positions of the objects are calculated and the output is started.

2.6.2 OptiScout Camera Module

The high-grade OptiScout CCD-camera can be mounted on many different tool-heads. The display detail can be varied by changing the optic. Depending on the distance to the material to be printed a wide angle or normal objective can be used. The offset of camera and tool center as well as the adjust markers are calibrated by means of the software.

2.7 Autoexport - Scripts

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

2.7.1 Corun Installer

With the Corun Installer you can install OptiScout 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.

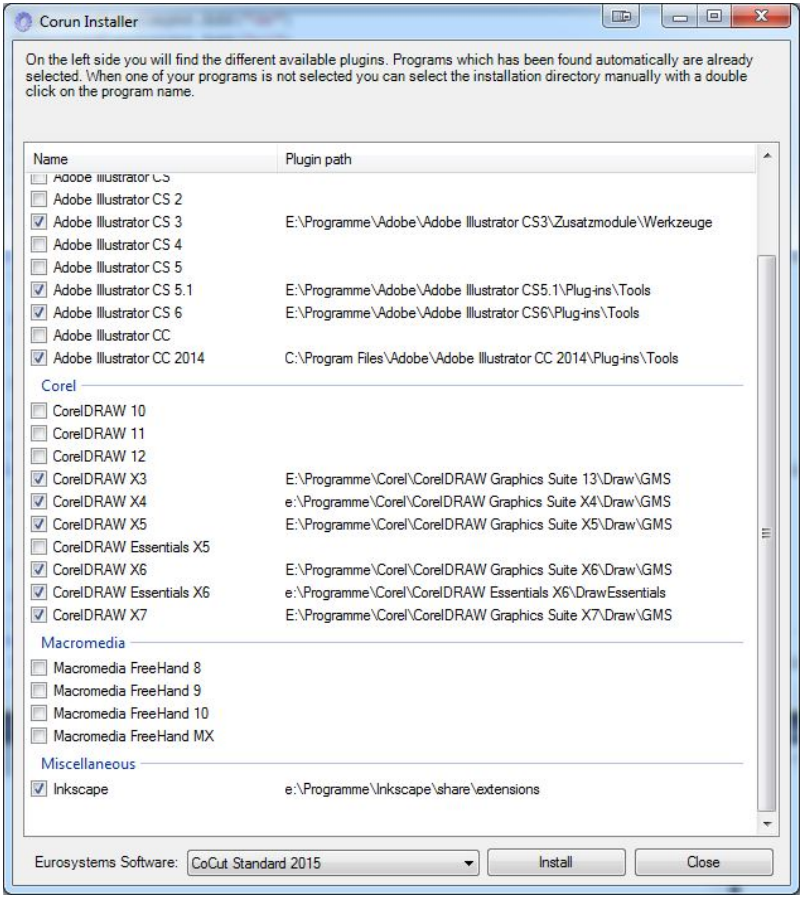


Fig. 2.7-1: Corun Installer dialog window with detected host programs and path indicators.

2.7.2 Insert OptiScout Icon in CorelDRAW Toolbar

2.7.2.1 CorelDRAW X3-X8 and 2017/2018

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

This option can be installed as follows:

2.7.2 Insert OptiScout 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 OptiScout you have to link the OptiScout 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 OptiScout.
- Click on OK.

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

2.7.3 OptiScout Script in Inkscape

The OptiScout - script for Inkscape is located in the ***Extensions*** menu. The output routine is activated using the ***cutting*** menu entry in the OptiScout Production 8 sub menu.

2.7.4 OptiScout Script in Adobe Illustrator 8-10, CS-CS6, CC

OptiScout 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 OptiScout take place?

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

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

Indication: Special process color fills are not passed on.

2.7.5 OptiScout Script in Adobe InDesign CS4-CS6, CC

The OptiScout script is in the ***Plug-ins*** menu, under the following sub-menu: EUROSYSTEMS, ***Auto Export***. From the function list, select the appropriate function with a click.

2.7.6 OptiScout Script in AutoCAD

2.7.6.1 Menu File for AutoCAD 2000(i), 2002-2018, 2002LT-2018LT

- 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 OptiScout menu is now loaded.
- Now change the menu bar dialog in the upper tab. In the menu group select ***OptiScout Plot*** and insert it into the desired place in the AutoCAD menu.

2.7.6.2 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 OptiScout-menu is now loaded.
- Now change to the ***menu bar*** dialog in the upper tab. In the menu group select ***OptiScout 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 OptiScout entry and in the toolbars OptiScout 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 OptiScout 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 OptiScout does not work anymore!

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

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

2.8 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.

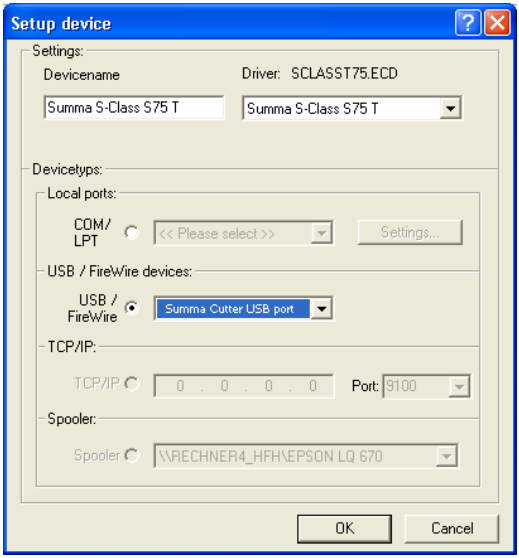


Fig. 2.8-1: Dialog for the selection of the device driver

Detailed information for the setting of the ***local interface*** is here: **please refer to 3.12: Cutting - Milling - Creasing - Drawing …**

3 How to work with OptiScout

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.

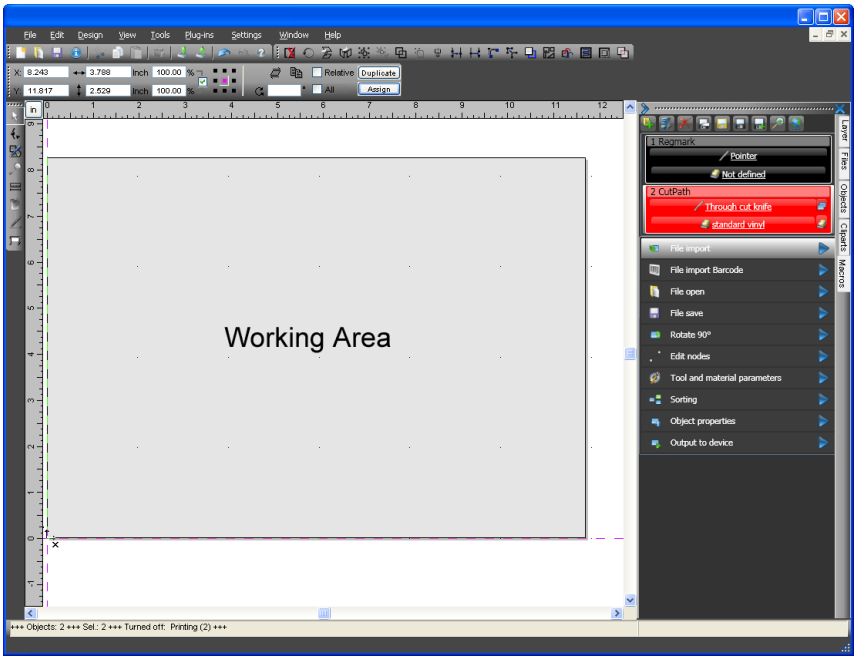


Fig. 3.1-1: Desktop with working sheet (here: gray), Background (here: white), Toolbars, Sidebar, Rulers, Statusbar

3.1.2 II. Working Area

The so-called **Working Area** is a sub area of the OptiScout desktop. The working sheet is - as a rule - the same format that is given out later on your device. Besides the known DIN formats arbitrary formats can be applied e. g. different sign sizes.

3.1.2 II. Working Area

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 3.12: Cutting - Milling - Creasing - Drawing ...

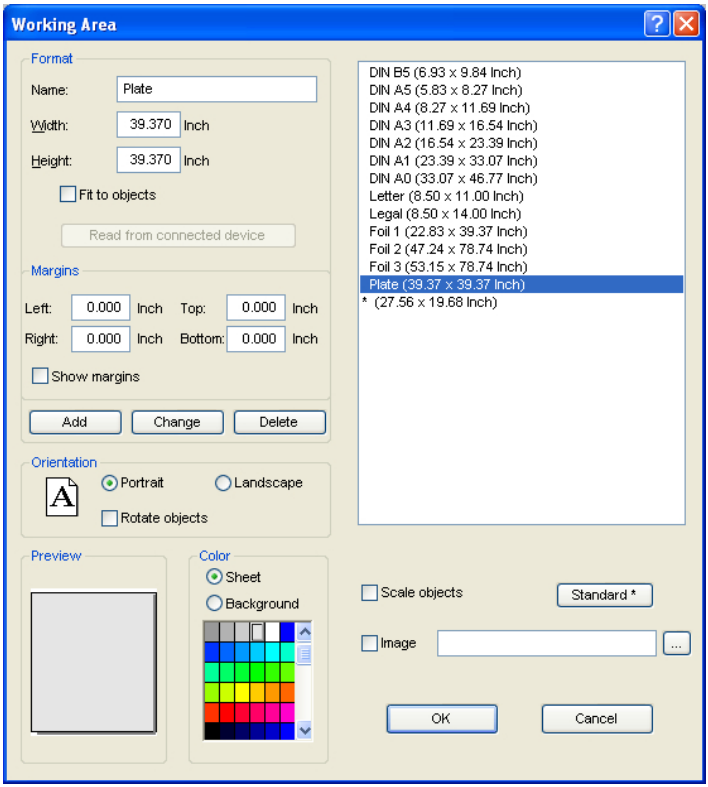


Fig. 3.1-2: Working Sheet Setup

3.1.2.1 Format

Name

In this field the ***name*** of the new format is entered resp. that of the selected format

Width

Hereby, the ***width*** of a format is assigned.

Height

Hereby, the ***height*** of a format is assigned.

***Rescale to Objects* Option**

This option fits the working sheet to the objects which are located on the desktop background.

***Read Out Connected Device* Button**

A connected device can - if the read out command can be processed by the devices' controller - define the size of the working sheet.

3.1.2.2 Margins

Left, Right, Top, Bottom

In this 4 field the distance from the margins to the sheet edge is defined.

Note: Also negative values are allowed.

Display Leaf Margins

This option shows margins as dotted aid lines above the working sheet.

3.1.2.3 Alignment

Portrait

This option defines, if the format is displayed as portrait.

Landscape

This option defines if the format is displayed as landscape.

***Rotate Objects* Option**

This option defines, if the objects which are located on the working sheet or desktop background, are also rotated when the alignment is changed.

3.1.2.4 Preview

In this area *Working Sheet, Background Color, Background Image, Proportion* and *Alignment of the working sheet* is displayed.

3.1.2.5 Color

Working Sheet

This option defines the color of the working sheet.

Background

This option defines the color of the desktop background.

3.1.2.6 List of Formats

***Rotate Objects* Option**

This option scales, decreases or increases - all objects on the desktop background proportional to the values of the changed format of the working sheet.

Standard** **Button

The *Standard* button marks the selected format in the list of formats and saves the selection. With each new job this format is preselected.

***Image* Option**

This option shows the selected bitmap on the working sheet.

 ***Button***

The  button opens a window, in order to search or insert the desired image.

3.2 Desktop Customization

3.2.1 Desktop Configuration with Profiles

Complicated? No, cleaned up, clearly arranged and practical the user interface presents itself, if its configured following the real needs of the user. Dealer, Administrator or the user itself can slim "his" OptiScout with a few mouse clicks.

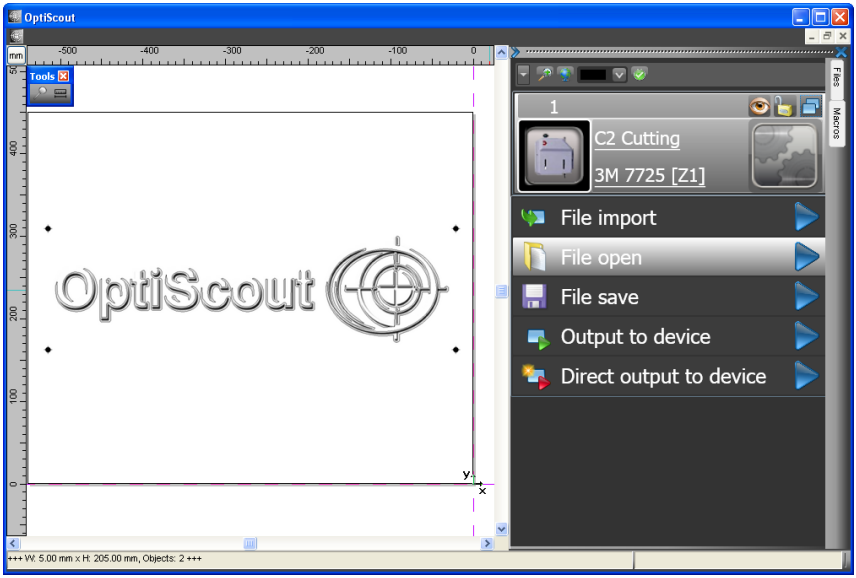
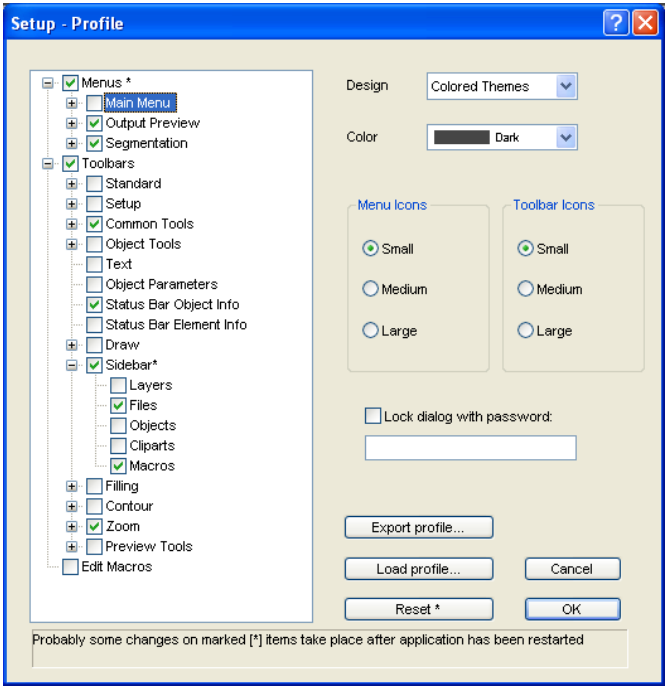


Fig. 3.2-1: Clean, clearly arranged, easy to use - individual configured user interface

3.2.1.1 1. Step: Deactivate Menus And Toolbars

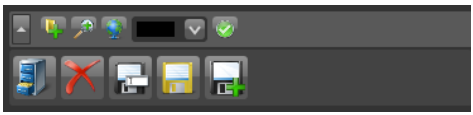
All menus and toolbars, that are not required, should be deacitvated via mouse click. Then export the profile and save it for a later usage. A click on the ***Reset*** button restores the initial state.

Note: The profile can be exported and at the same time saved. On-demand it can be loaded or copied onto another computer, in order to create uniform environments.



3.2.1.2 2. Step: Delete Macros

Delete all Macros, that are not required, as well.



a) Select non-required macro.

b) Delete macro with the  button from the list.

Note: The administrator or user can reload the deleted macros at any time from the Marcros / DefaultMacros folder.

Conclusion: Customizing simplifies usage, avoids operating errors and increases productivity!

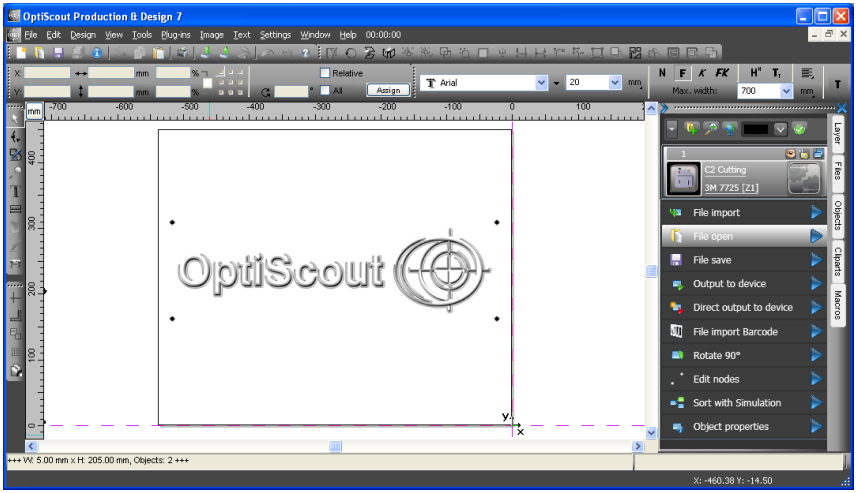


Fig. 3.2-2: Convertible and powerful - complete functionality for the demanding and experienced user

A fully upgraded user interface offers the administrator and experienced user a powerful tool, which can fulfill complex and challenging needs, quite so as you would expect from a professional finishing solution.

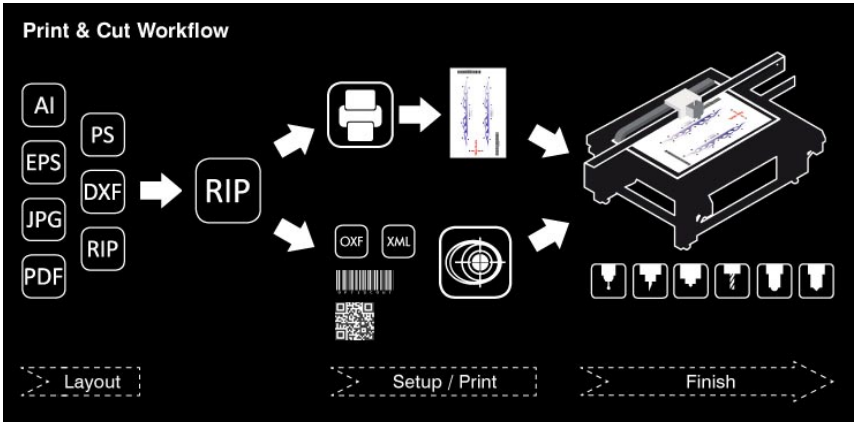
3.3 Functional Principle of The OptiScout Software

3.3.1 Workflow Ability

An important challenge in this market is “Workflow”. Therefore OptiScout software must be workflow capable. It needs to have automatic interfaces to existing design- and RIP software packages. In OptiScout software this automatic data transfers is done e.g. by the OXF, OXX, PDF... file format. The OXF file format contains cut contour, register marks and - if applicable - barcode information.

An automatic data transfer with OXF, OXX or PDF file format into OptiScout containing cut contour, register marks and barcode is integrated into these **RIP software** packages:

Caldera, PosterPrint, TexPrint, Colorgate, Wasatch, PosterJet, CADlink, MasterRip (IGEPA), ONYX, EFI, Prepare-it



3.3.2 Print & Cut Workflow

Three Steps from Artwork to Finished Job

The OptiScout solution guides users step by step through the pre-press, printing and finishing stages, regardless of the job, printer or RIP. OptiScout has unique features to streamline the workflow. OptiScout software lets users follow the same workflow from pre-press to finishing - cue: macros. The operator can continue using the RIP the way he did before having a finishing device (flatbed cutter). Creating and preparing the cut data will always be performed in the same way, fostering a consistent workflow that is familiar to all staff and easy to train on.

3.3.2.1 A) Print Workflow

Step 1: Cut Data Design and Preparation

Cut data creation is accomplished either in the design software (Illustrator, CorelDRAW, InDesign, Inkscape, OptiScout *Design*, OptiScout *Prepare*) or in the RIP Software. In the design software the operator designs or imports the artwork. The operator generates a cut-contour around the artwork in his design application. This artwork file with the cut contour is send to the RIP. In the RIP software the operator prepares the print file for the belonging printer and generates regmarks and a barcode around the artwork. An extracted separate file with cut-contour, marks and barcode only is sent as e.g. an OXF or PDF file to the OptiScout software.

Step 2: Print and Setup

When the generated print file is processed through the RIP software, it is sent to a printer. The cut-contour will not be printed. The registration marks and the barcode will be printed together with the artwork onto the substrate. The completed print is ready for cutting. In the OptiScout software the operator takes the OXF file with the cut-contour and the regmarks and sets up the cut file for the output to the cutting table. The tools are assigned.

3.3.2.2 B) Cut Workflow

Step 3: Automated Cut Finishing (Cutting - Creasing - Milling - Lasering)

The device must be equipped. At cutting time, the operator simply places the print on the cutting table and scans the printed barcode. OptiScout automatically detects the correct cut data. By reading the regmarks with the camera mounted on the head of the cutter, OptiScout compares the position of the registration marks in the data to those on the printed job. Once the system has analyzed the exact image position, it starts cutting. Sophisticated optical registration capabilities ensure perfect accuracy for any size or shape.

The finished, cut pieces are ready for delivery with minimal operator intervention, 100% accuracy and reduced rejects and turnaround time.

3.3.3 Driver Diversity

The Finishing workflow often takes place in heterogeneous production environment, where devices from different producers are used. From the software side, this requires that the appropriate device drivers are available.
The open system architecture of OptiScout supports almost all devices currently on the market - from different manufacturers - for cutting, creasing, milling or lasering. All OptiScout software packages are equipped with device drivers for most commercially available machines. Thus, OptiScout can be easily integrated into existing production environments. The usual workflow is maintained .

Note: The OptiScout Custom Driver Service can develop custom-made device drivers on basis of a functional specification for the control of HPGL-, GPGL-, DMPL- or G Code devices.

3.4 Job Preparation

3.4.1 Import of Data

With this command graphics that have *not* been saved in the OptiScout-job-format are transferred to the working area.

The functionality of this dialog box corresponds to the ***open file*** command. Differences result, however, from the possibility of parameterizing the data to be imported.

3.4.1 Import of Data

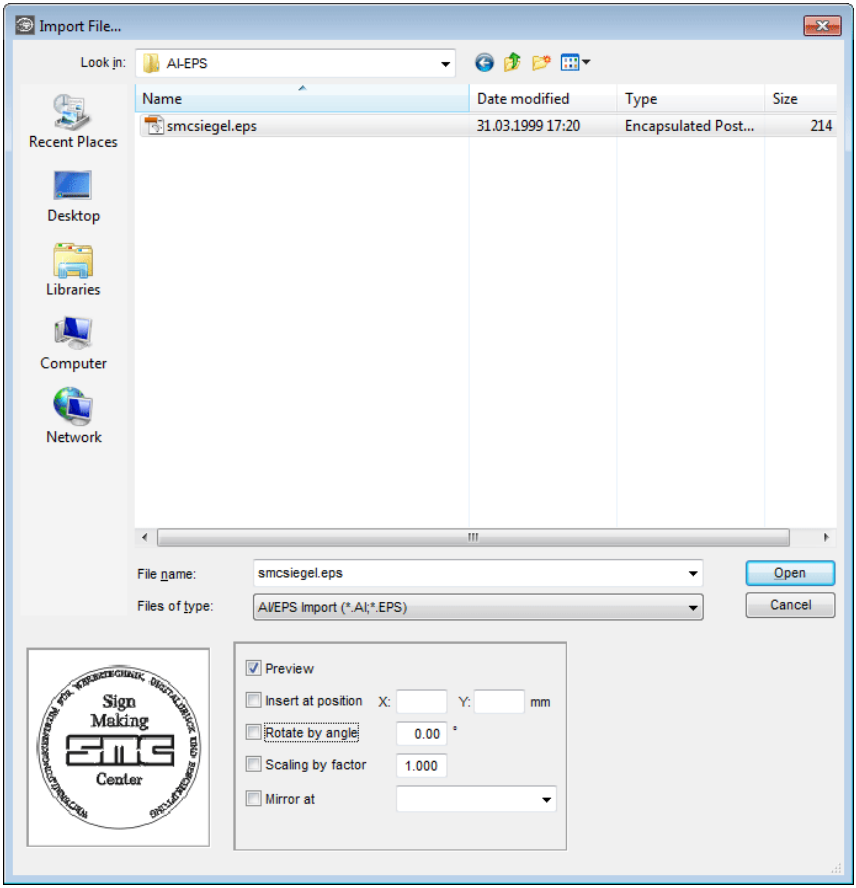


Fig. 3.4-1: Import dialog with preview window

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, *.cmx

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

Look 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

Files of type

Choose the file format 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 X, Y

This option inserts the objects at the given coordinates on the OptiScout-working surface.

Rotate by angle **°**

This option rotates all objects using the given value.

Scaling by factor

This option scales all objects (increasing or decreasing) using the given factor.

Mirror at

This option mirrors all objects at *horizontal axis, vertical axis or on both axes.*

3.4.1.1 Preprocessing of Import Data

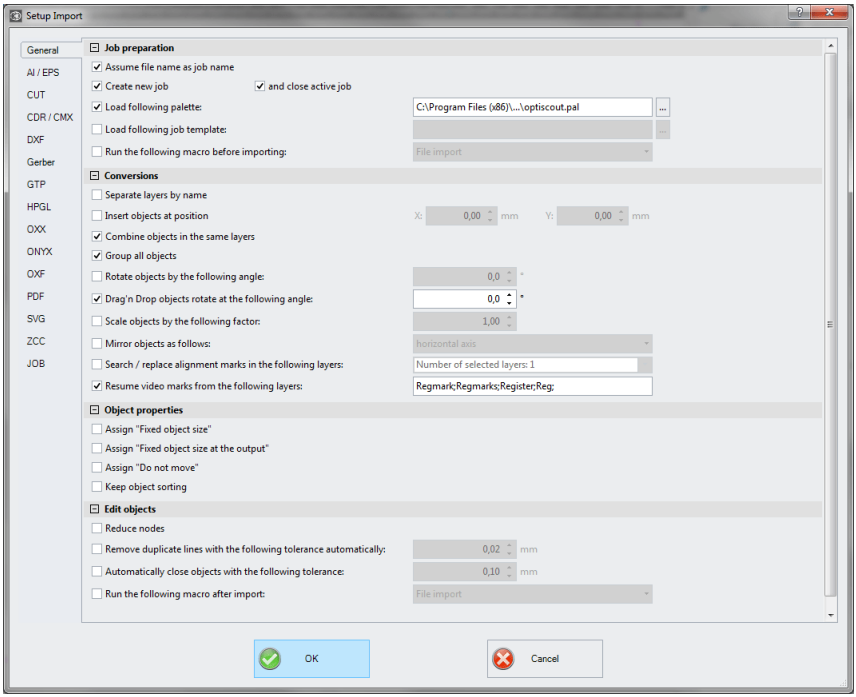


Fig. 3.4-2: Preprocessing for the import of OptiScout-data

3.4.1.1.1 Options (Selection)

Job Preparation

Assume file name as job name

If this option is enabled, the import file name is proposed as job name and not "untitled".

Create new job

This option performs the ***new file*** command automatically before the import of the data.

… and close active job

If this sub option is activated as well, the active window (Job) will be closed.

Note: This option prevents any myriad of open files, which can affect the stability of the computer.

Load following palette

Activating the **...**-button enables the search of a specific layer palette on any data carrier. Next to the color information also the tool pre-settings are taken over.

Conversions

Combine objects in the same layer

Here, a so called combination of all objects in a layer is created. Result is a combination-object containing all objects.

Group all objects

Here, all objects are united to a group. The features of the objects do not change, they are only combined temporarily.

Drag'n Drop objects rotate at the following angle °

All objects to be imported are rotated at the angle that is entered in the ° (degree) field. This facilitates the handling of data as the objects are rotated in the way they are needed for the output.

Resume video marks from the following layers

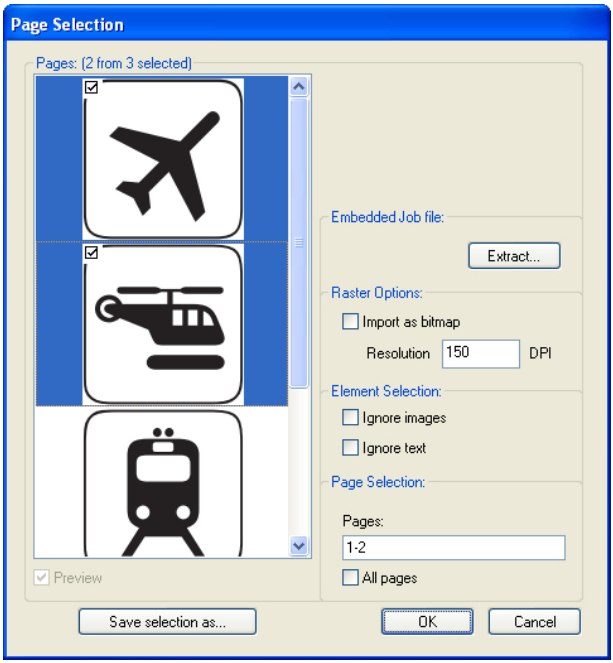
With this option the objects in the specified layer are automatically replaced by OptiScout-video marks.

3.4.1.2 Import Presettings

For many import operations, **constraints** can be defined to be taken into account **before**, **during** or **after** importing the data. Constraints can affect 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.

3.4.1.3 PDF Import

3.4.1.3.1 Additional Options



Integrated Job File

The ***Extract*** Button

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

Note: A prerequisite for this is that 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

Define the resolution value in dpi.

Element Selection

Ignore Images Option

If this option is enabled, no images (bitmaps) will be imported.

Ignore Text Option

If this 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.

3.4.2 What are Video Marks?

3.4.2.1 For what are they needed?

Video marks are marks, which are necessary for the output process, in order to make adjustments at the output job. The video marks are read out using a camera, which is fixed on the tool head of the cutter. Subsequently, OptiScout rotates and scales the output objects - if necessary. With it, deviations that arise during the preparation process - usually the printing - can be corrected.

The generation of the output job is done usually in AutoCAD, CorelDRAW or in Illustrator. With the generation of the job at least 3 marks (video objects) should be present.

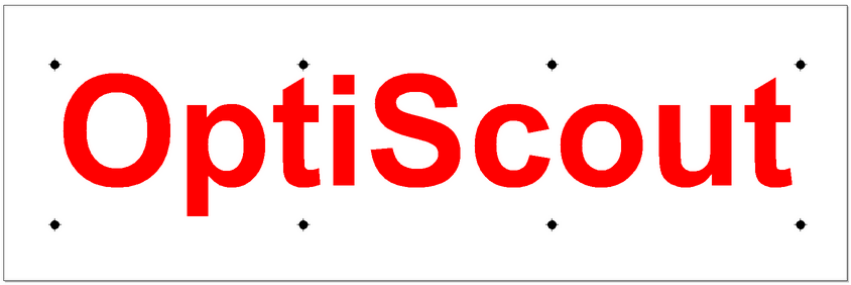


Fig. 3.4-3: Working area with video marks and output data

Form and color of video marks can be different. Possible types of marks are circle, square, edge or trimming marker (angle) and symmetric objects. It can be any color. This is especially important with single-color screen printing so that no additional pass for the marks is necessary.

Fig. 3.4-4: Video marks with different forms and colors and with different backgrounds

Per object the number of adjust markers is unlimited. OptiScout allows autonomously the optimal marker combination before the output. This procedure optimizes the accuracy.

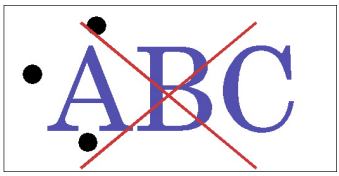
3.4.3 Video Marks (Regmarks)

3.4.3.1 Efficient Placement of Video Marks

For the compensation and adjustment of printed objects at least 3 video marks are required.

Indication: The recommended diameter is: 5 mm / 0.197 inch or 6,35 mm / 0.25 inch. The distribution of the marks is crucial for the later attainable accuracy of the output.

Placement:



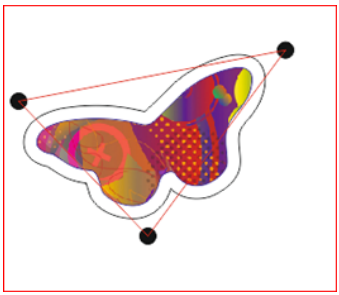


Fig. 3.4-5: Good placement of the video marks

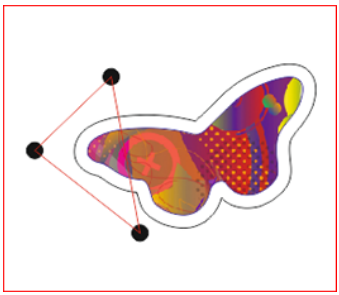


Fig. 3.4-6: Bad placement of the video marks

The placement of the video marks should result in a very big triangle in the ideal case which covers the object to be compensated with its surface as much as possible.

Covering:

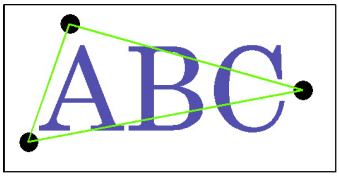


Fig. 3.4-7: Good covering of the area to be calculated

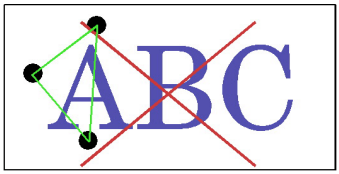


Fig. 3.4-8: Bad covering of the area to be calculated

Covering Variants:

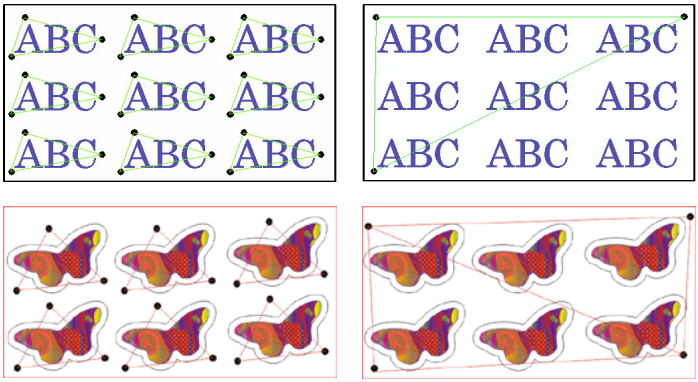


Fig. 3.4-9: 2 possible variants of covering using sheet with copies

In the **left** example each object is surrounded by 3 video marks. Therefore, the compensation takes place in the area relevant to the respective object. This way, a different scaling of the objects due to printing can be compensated. However, the production time is raised clearly, because all marks must be detected by the camera.

In the **right** example the sheet possesses only 3 (1 triangle) or 4 marks (2 triangles). Here, all objects are compensated via these 3 resp. 4 marks. But different distortions in the single objects cannot be compensated accurately. However, the production time is shorter than in the left example, because here only 3 resp. 4 video marks must be read.

It must be decided, how high is the required accuracy. Result is the minimum allowed number of video marks.

3.4.4 What Must Be Considered When Positioning Video Marks?

Many finishing processes require a precise cutting in relation to printed video marks or other material references (corners or edges). EUROSYSTEMS offers intelligent software solutions that realize, in conjunction with a CCD camera and sophisticated analysis

algorithms, perfect cuts.

Note: As an alternative to that of OptiScout used term Video Marks, the following terms are also used: register marks, jog marks, detection marks.

Note: The following comments are also valid for milling machines or lasers.

The CCD camera is mounted directly on the tool head of the output device. At the beginning of the finishing process, our predefined video marks are searched on the material. The definition and positioning of the video marks is done in the job preparation, RIP, or CAD software.

Basically, the following **5 criteria** in defining and positioning of video marks are to observe:

3.4.4.1 Criterion - Size of Marks

The mounted camera, always perceives only a certain section of the table as sharp. Therefore video marks may not be less than a certain size. The minimum size a mark depends on the machine and the mounting height, as well as on the optics employed. As a guideline a mark size diameter of 5 mm should apply.

3.4.4.2 Criterion - Shape of Marks

The most significant characteristic of a video mark is its shape. With OptiScout, also woven and embroidered marks can be used in addition to circles, squares, angles and other geometric shapes.

3.4.4.3 Criterion - Mark Contrast on the Printed Material

When generating the token must be ensured that a sufficiently large contrast between the marks and the material (background) exists. Ideal would be a black and white contrast. This is rarely possible in practice. In any case, the contrast must be as high as possible. If the contrast is too low, then the evaluation algorithm is no longer capable of distinguishing the mark from the material. This will delay or prevent the mark detection.

Note: In a few cases, the recognition rate can be improved using an additional illumination. In any case, attention should be paid to a uniform illumination of the production environment.

3.4.4.4 Criterion - Homogeneity of Marks

An error-free detection can only be expected when all video marks are uniformly designed. Inconsistent marks differ in the read by camera offset values. Compared to uniform marks the reading time is considerably longer and the production time increases.

3.4.4.5 Criterion- Number of Marks

The number of video marks has an influence on the cutting accuracy! The more video marks are used per object, the more accurate is - usually - the result. For an accurate cutting result as possible, we recommend 3 marks in the corners of each cuttable object.

Note: The number of marks to be used also depends on the distortions and displacements of the material during the printing process itself. In general it can be said that the more compensation performance of the recognition algorithms is required, the more video marks should be positioned. Ideally, only 3 marks are sufficient on print sheets.

3.4.5 How to recognize video marks?

The OptiScout measurement dialog only opens if video marks exist. In order to convert circles to video marks after the import there are several possibilities.

3.4.5.1 Manual recognition

Import the prepared output file. Select all objects and press the right mouse button. Use the function ***search / replace video marks***. All circles with the mark size - value set in the basic settings are converted to video marks. The basic setting in this dialog is 5 mm. The number of the recognized marks is shown in the ***status line*** below.

Import the prepared output file. Select all objects and press the key combination ***CTRL+B*** in order to break the group. Select one of the existing circles and press the right mouse button. Use the function ***search / replace video marks with sel. size.*** All circles with the same diameter are converted to video marks. The number of the recognized marks is shown in the ***status line*** below.

3.4.5.2 Automatic recognition

If the option ***search / replace video marks*** in the basic settings dialog ***Filter --> OptiScout*** is active all circles whose diameter corresponds to the basic setting of the mark size are converted already at the import to video marks.

3.4.5.3 Automatic recognition via Adobe Illustrator or PDF file-layer

When editing a file in Adobe Illustrator color and objects-layers can be named. When exporting, this information is written in the AI respective PDF file. When importing such a file OptiScout takes over the layer name from the file. If the name of the layer corresponds to **Settings, Standard Settings, Filter, Conversions, *Resume Video marks from the following layers:*,** all objects of this layer, independent of their size, are converted to video marks.

3.4.5.4 Change / delete object property video mark

Sometimes it can be an advantage to exclude a video mark from the recognition (for example a misprint). This can be done via the **object properties**. Select the group of the video marks and break the group ***(CTRL+B).*** Press the right mouse button and select the menu item ***properties***.

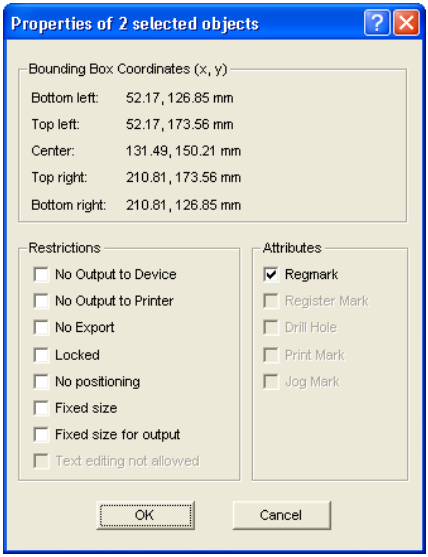


Fig. 3.4-10: Object properties type of object: vector

Remove the checkbox ***Regmark*** in order to deactivate this property of the object. The regmark becomes again a circle and is not considered during the recognition.

3.4.6 Video Mark Setup

3.4.6.1 Pre-conditions for a Smooth Workflow

1. The size of the video marks (vector circles) in the import file is the same as the preset size.

The ***size*** is preset to 5 mm. The imported vector circles must therefore exactly correspond to this size if they are to be recognized as video marks.

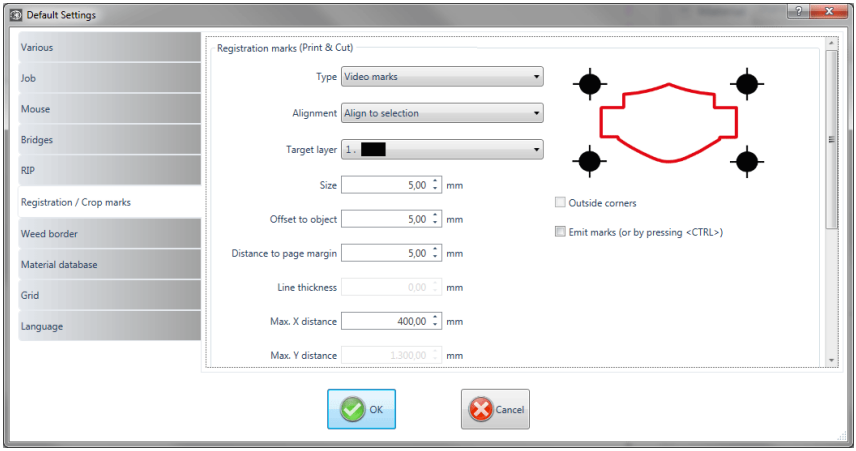


Fig. 3.4-11: Presets of the OptiScout video marks

2. Regmark Layer Conversion

The second option - the recommended and fastest - is the ***Regmark-Layer conversion***. This type of conversion converts objects that are located in a layer named "Regmark".

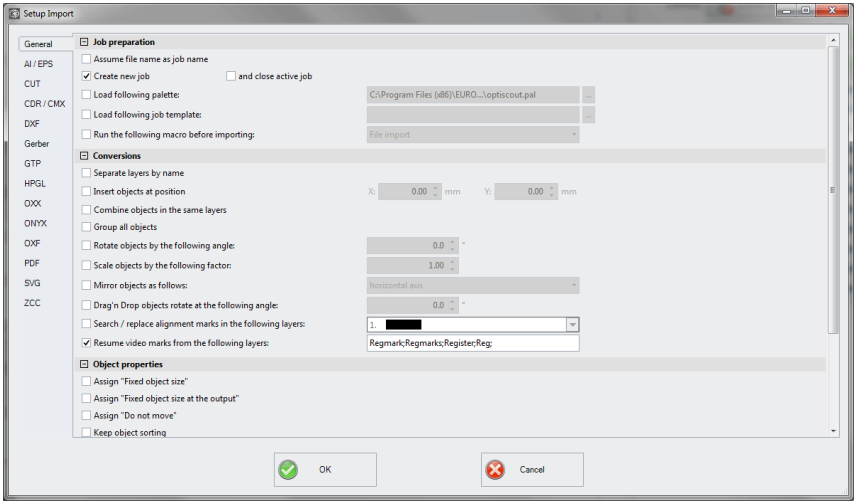


Fig. 3.4-12: Option - Resume video marks from the following layers - Regmark; … is active

Proceeding:

In the ***Setup Import d*****ialog"**, the option **Accept video marks from the following layers:** / Regmark; ... must be activated. As a result, all objects, which are located in the layer with the keyword "REGMARK", are automatically converted to video marks - regardless of their

size. The basic settings are ignored in this case. The keyword can be changed as desired.

The layer names can be taken over from the import files. To do this, you have to activate the ***Assume file name as job name*** **option** additionally.

Note: Ensure that there are only circles in the "Regmark" layer, which will be needed for later conversion and detection.

This method is not only the fastest, but it also has the additional advantage that the Layer name can contain information regarding the output tool to be used.

Important: Make sure that the marks lie within the reachable reach of the camera or the tool head. Marks, for example, lying too far on the edge of a vinyl roll or a sheet, can then no longer be captured by the lens of the camera.

3.4.7 Print & Cut File with CorelDRAW or Illustrator

3.4.7.1 How to set up your Print & Cut file in Illustrator or CorelDRAW!

Preliminaries

First create a new document in Illustrator or CorelDraw. Make sure the document size is large enough to fit the graphic plus registration marks around the image. Next create three layers in the new document. One layer for the regmarks (register marks resp. video marks), at least one for the cut contour (Kiss Cut, Through Cut, Creasing, Routing,…) and one for the artwork. Each layer should be named appropriately. OptiScout is able to read the layer names during the import of a file. This layer technology will speed up the job preparation process. The operator on the machine can easily identify the correct layers to assign the different output tools.

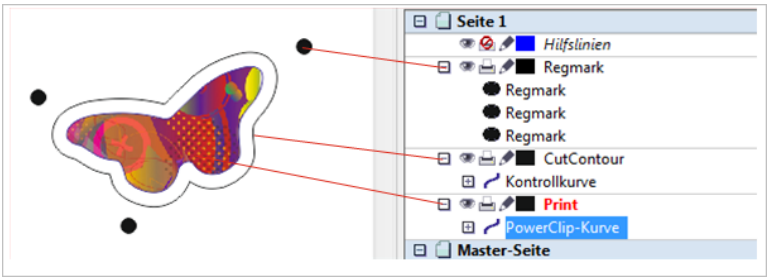


Fig. 3.4-13: Example: CorelDRAW layers

Step 1:

Import or draw the artwork to be printed and place it in a separate layer. The name of this layer can be Artwork or Print. This name is not important for the further steps as this layer will not be used by OptiScout.

Step 2:

Draw the circles, which represent the video marks, and place them into the regmark layer. The recommendation for the size of the regmarks is 5 mm / 0.197 inch or 6.35 mm / 0.25 inch.

Note: Circles should be black without stroke when printing on white substrate. The regmarks can have a different color when printing on colored substrate in order to give a better contrast.

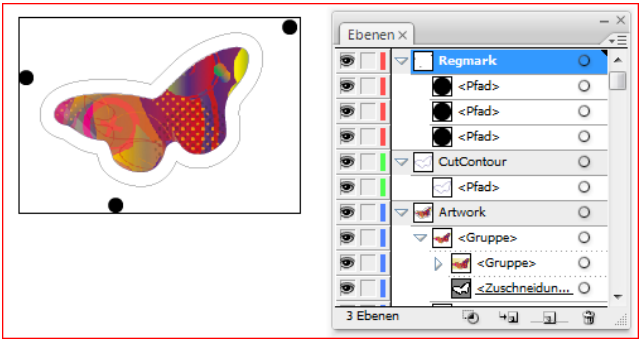


Fig. 3.4-14: Example: Illustrator layers

Step 3:

Generate the cut lines around the artwork and place it into a separate layer. The name of this layer will be shown in OptiScout after the import of the generated cut file.

Note: It is possible to set up various layers with different cut lines. This technology is very useful when doing jobs with multiple tools, like creasing and cutting.

Step 4:

Lock or hide the artwork layer to make sure, that only the regmark and the cut layers are exported in the next step. Select all parts and export the file as a PDF or AI file. This file should **not** contain the artwork.

Step 5:

Unlock the artwork layer and lock or hide the cut line layers. Select all parts, artwork and regmarks and export the design to a second PDF file for printing.

Note: This PDF file should only contain the regmarks and the artwork; the cut lines will not be printed!

Step 6:

Open the PDF print file in the RIP software and print the file.

Important: Make sure that the dimensions of the file will not be changed in the RIP.

Step 7:

Import the PDF cut file in OptiScout. The figure below shows the result after the import. The file contains the layers from the design software, the regmarks are indicated with a crosshair. Now the operator has to set the output tools to the corresponding layers and start the output procedure to the cutter.

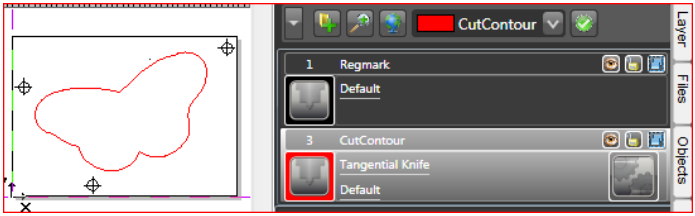


Fig. 3.4-15: Example: Quick Layers in OptiScout

3.5 The OptiScout Layer dialog

In the layer-settings dialog the parameters necessary for the output are set and attributed to an object, a color respective a layer. The dialog opens by a right mouse click on the OptiScout layer-toolbar in the main window.

Improtant note: The layers have a double function, namely the assignment of color and tool.

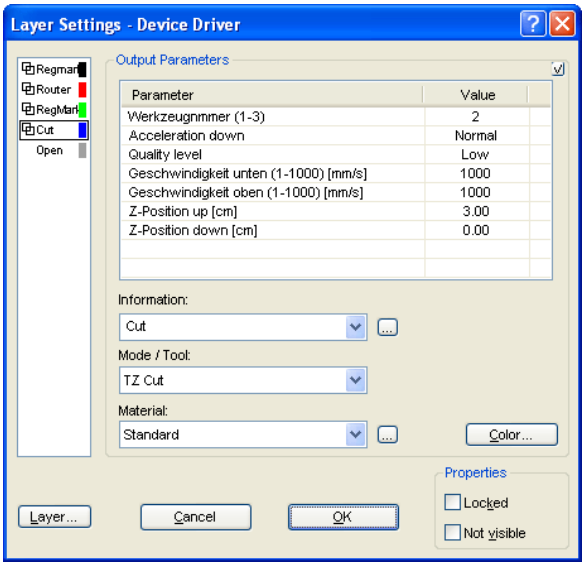


Fig. 3.5-1: Layer setup with tool assignment

Under ***Information*** a name for the layer can be entered. This name is shown later in all dialogs in which the colors of the objects are needed.

In the field ***Modus / tool*** the output tool can be selected from a list. The tools shown here depend on the used output driver.

In the field ***Material*** already saved material-configuration can be called up. The material-configuration can be created, saved or deleted with the …-button beside the selection box. Special values can be saved al mode resp. material defaults.

Indication: By clicking with the left mouse button on another color the settings are saved and the values of another layer can be edited.

3.6 Tool Assignment via Layer

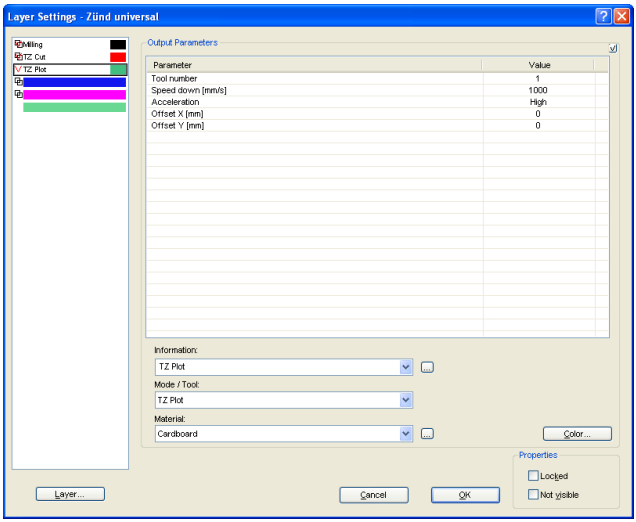
In OptiScout the tool assignment is done using the layer. The layer assumes a double function - object color **and** tool.

3.6.1 1. Assign Tool to a Layer

With the ***Mode / Tool*** option the tool is selected and assigned to the active layer. The assignment covers **all** objects that lie in this layer. The tool assignment is indicated by a **red check mark**.

Additionally each tool and mode an identifier can be given using the ***information*** field. This identifier is displayed in the color bar, in order to facilitate the prior checking. Also a **material** can be allocated.

Note: The Mode / Tool field lists all tools that are available in the device driver. In this dialog any number of tools and modes can be assigned.

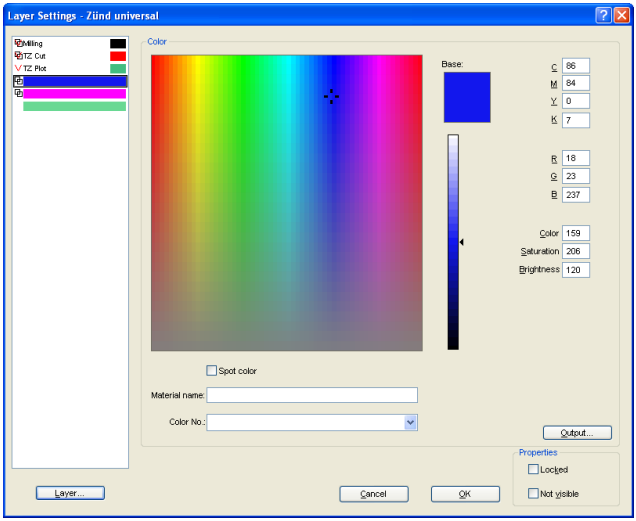


Subsequently the dialog is closed using the ***OK*** button.

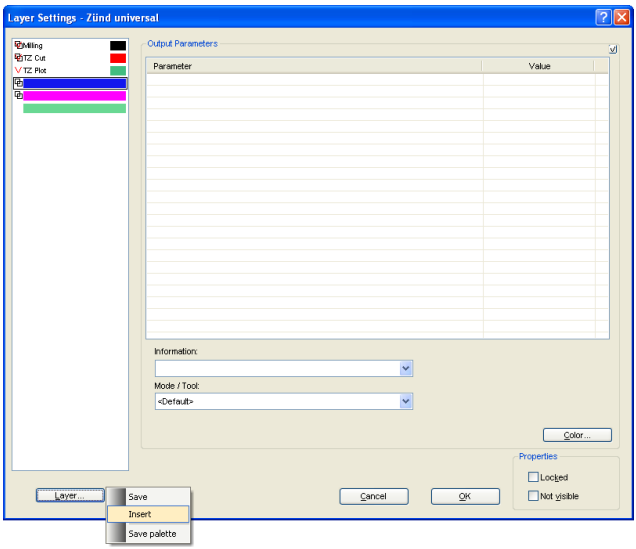
3.6.2 2. Add a New Layer

A new layer can be added by primarily defining a color and then activating the ***layer*** button.

3.6.2 2. Add a New Layer



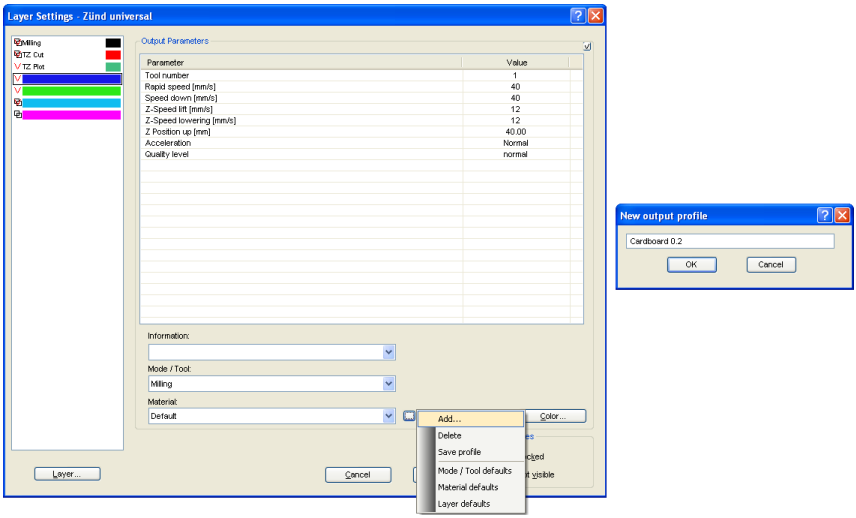
With the ***Insert*** option a new layer is added at the end of the layer list.



Subsequently the changes are saved pushing the ***OK*** button.

3.6.3 3. Define Material Parameter

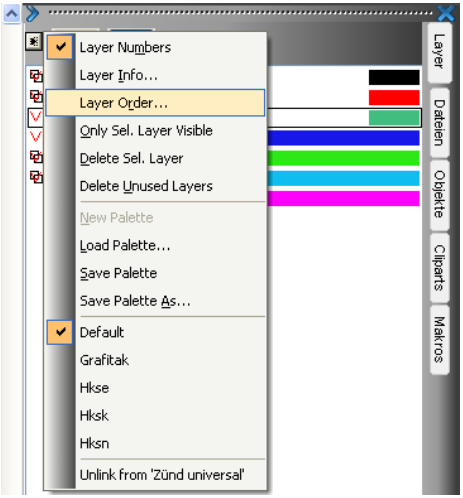
A new material can be defined using the ... button. Activating the ***Add*** option allows the creation of a new **output profile**.



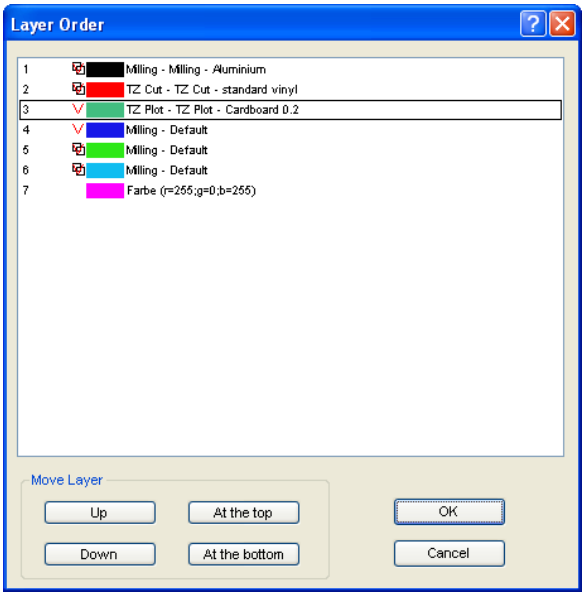
Subsequently the changes are saved pushing the ***OK*** button or using the ***Save profile*** option.

3.6.4 4. Determine Tool Order

The sequence of the tools is variable. It can be changed using the ***Layer Order*** option at any time.

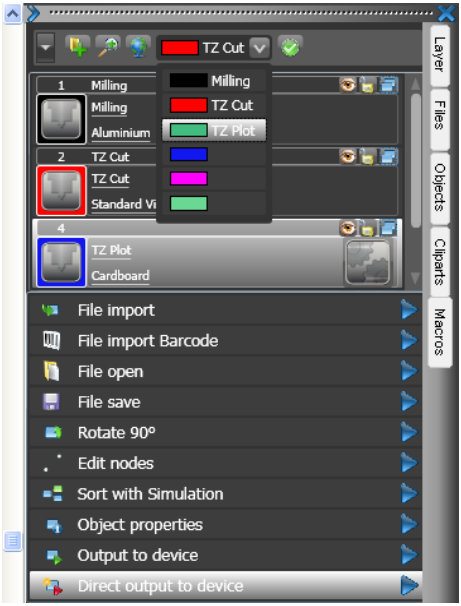


The layer you want to move is marked and positioned with the ***Move Layer*** buttons to the desired location.



3.6.5 5. Change Assigned Tool

You can assign another tool to selected objects at any time. For it, the ***Macros*** tab must be activated and then another tool can be assigned using the ***Tool Selection*** field.



Afterwards the selection must be confirmed with a click on the  button.

3.7 The Output

3.7.1 Device Setting - Interface Setup (Local Device)

The OptiScout 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. 3.7-1: 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.

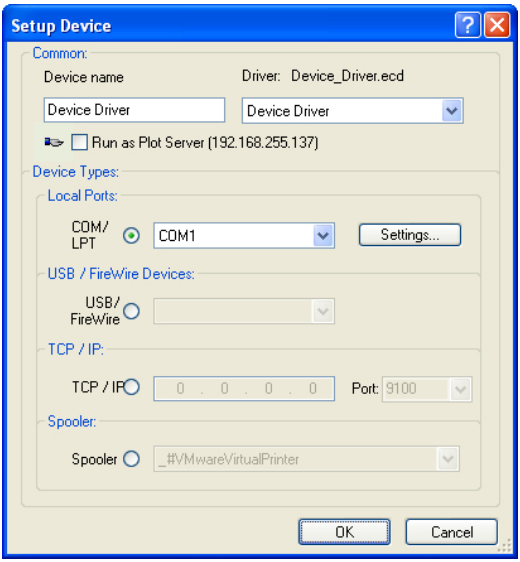


Fig. 3.7-2: Driver and selection of the connection

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 OptiScout. In the left list an individual name for the driver can be distributed. This name will be used in the output dialogs of OptiScout.

Enable as server

Requirements are at least 2 licenses of OptiScout.

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.

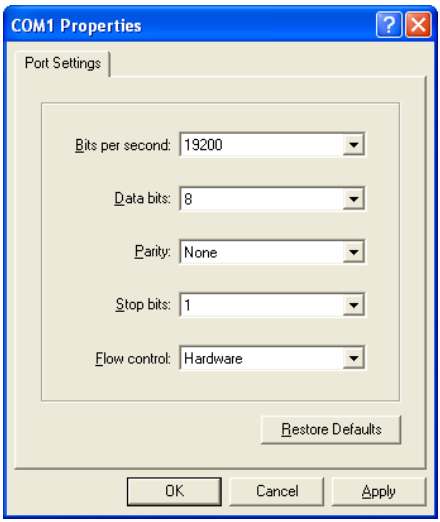


Fig. 3.7-3: Dialog for the setting of the interface parameters

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.

3.7.2 Device Setting (Network Device)

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

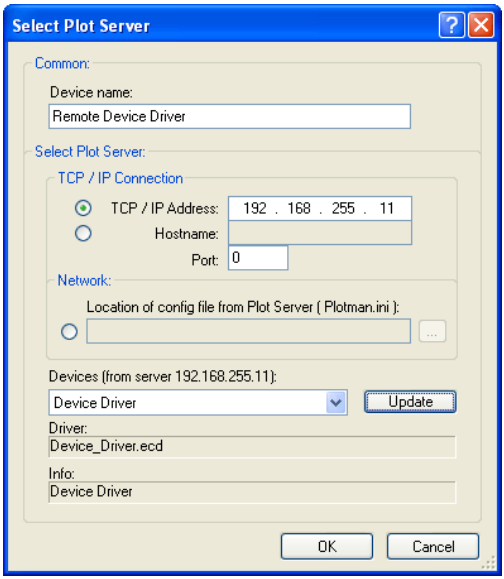


Fig. 3.7-4: Dialog for the configuration of a plot server

A ***network device*** enables the output of OptiScout 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.

3.7.3 The Camera Window

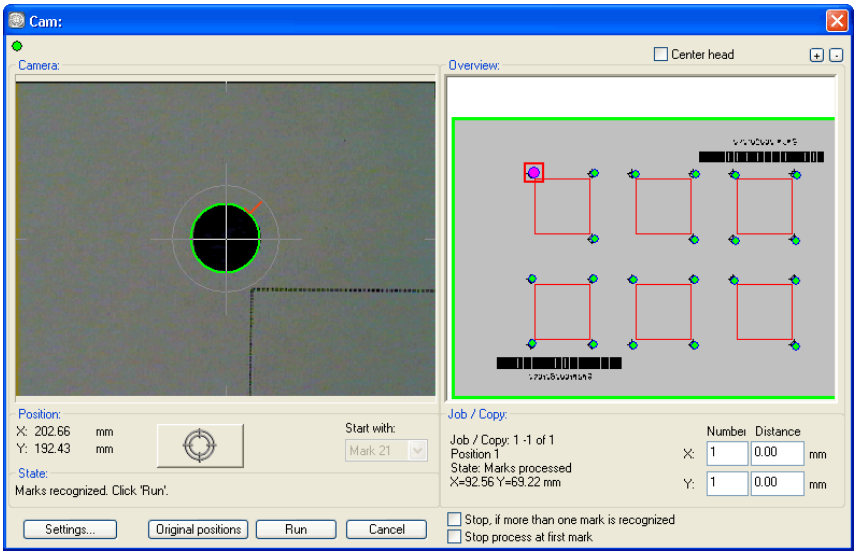


Fig. 3.7-5: Left side camera picture - Right side preview with magenta colored first video mark

Marks that have been read correctly after having pressed the start-button are bordered in green and marked with a red hook. After the correct reading of the video mark the area is marked in gray and the Run button becomes active. If the option Preview was chosen the objects intended for the output are shown once again taking into account the corrections, when pressing the Run button. The chosen the objects intended for the output are shown once again taking into account the corrections, when pressing the button the data output is started.

please refer to 2.6: Calibration of the OptiScout Camera

3.7.4 Output

3.7.4.1 Prepare Your Cutter

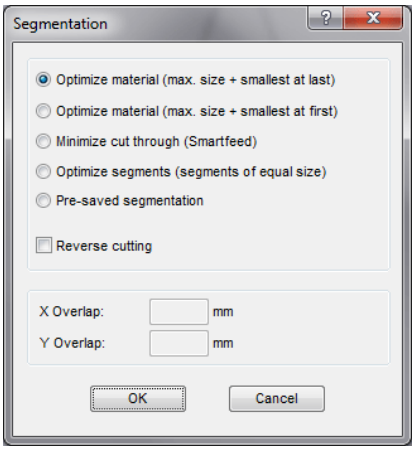
Before the output of the job can now be started, at least the following preparatory measures are to be carried out by yourself at the cutter!

1. Placing the material correctly. Correctly means that the orientation must be thus in the X Y direction in the way as it is indicated in the preview.
2. The cutter is to be set online.
3. The basic tools setup must be done, meaning if e.g., the knife"s depth is correct.

If it is ensured that the cutter is ready for use, the output can be started.

3.7.5 Production Modes with Segmentation

Segmentation, i.e.: sectioning, becomes necessary if not all copies or outputs fit the cutter table.



3.7.5.1 Segmentation Types

The following sectioning options are supported by OptiScout: **- Optimize material, Minimize cut through, Optimize segments, Pre-saved segmentation - Reverse cutting**.

Additionally, the **overlap of the segments** can be defined in X / Y direction. The size of the overlap depends on the used material and on the assembly.

3.7.5.1.1 Optimize Material (max. size + smallest at last)

Optimize Material causes OptiScout to produce segments in the maximum size allowed. The size of the last segment is generally different from the others.

3.7.5.1.2 Optimize Material (max. size + smallest at first)

Note: This option is only active for flatbed cutters.

If the last segment is cut as last, the plate can not be processed to the end. Therefore, the rest is cut first so that the plate remains on the table until the end of the process.

3.7.5.1.3 Minimize cut through (Smartfeed)

The ***Smartfeed*** option is enabled by OptiScout by default when there are **video marks** in the job. The above dialog is passed and the preview of the dynamic segments is displayed. The purpose of this optimization is that at least 3 video marks are always required. Depending on the location of the video marks, OptiScout searches up to 30% next to the segment line, if there is a video mark. If so, the segment is ***dynamically*** adjusted accordingly.

3.7.5.1.4 Optimize Segments (segments of equal size)

If the ***Optimize Segments*** option is activated, then always equal-sized segments are generated.

3.7.5.1.5 Pre-saved Segmentation

The last used setting is saved automatically. When reloading the job, this sectioning can be reused.

3.7.5.1.6 *The Reverse Cutting* Option

The ***Reverse Cutting*** option determines that the objects are cut as a "negative", e.g. for use as a template for screen printing.

3.7.6 Start Output from the OptiScout Working Surface

The output is started using the plotter icon  .

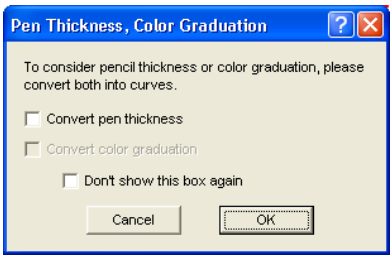


Fig. 3.7-6: Pre-processing line weight and color gradient

If a OptiScout 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.

3.7.6.1 Output to Device

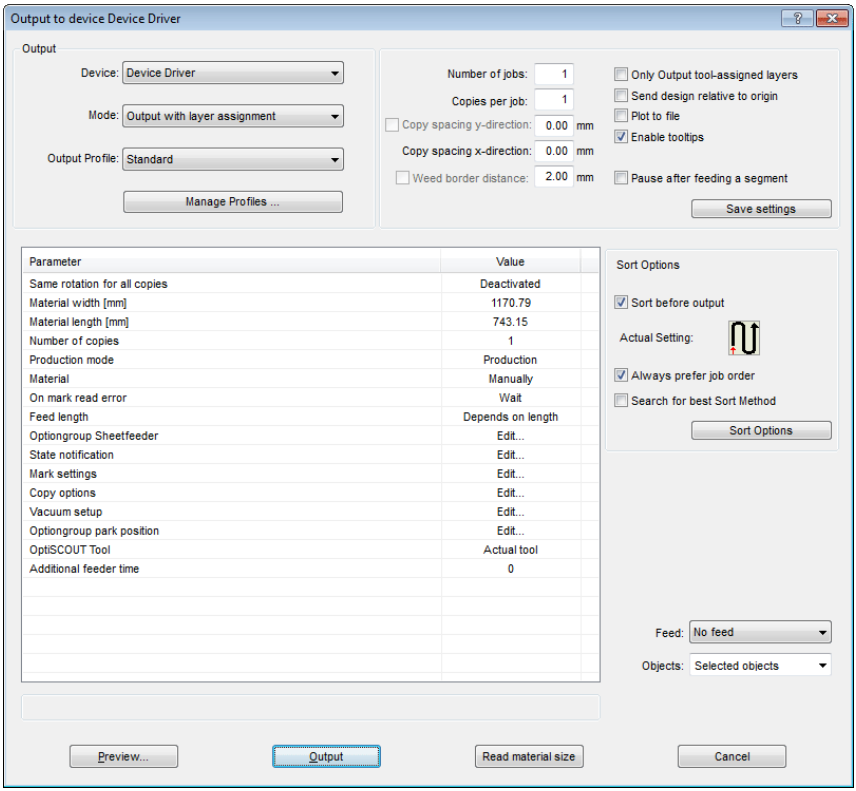


Fig. 3.7-7: Output dialog

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.

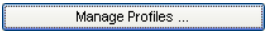
Mode

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

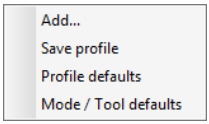
Output Profile

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*.

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 OptiScout 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 OptiScout 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 OptiScout 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.

3.7.6.2 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. 3.7-8: 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.

Search for Best Sort Method

This option means that prior to the output, preference is given to the sorting method that yields the most effective result, here: the shortest traverse path. For this purpose, all possible sortings are calculated successively.

The Sort Options **Button**

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

please refer to 7.14.4.1: The *Sort Settings* Tab

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.

Note: This option is dependent on the driver. It does not appear with each device.

Objects

The field ***Objects*** allows the selection of the objects to be output. Besides the modes ***all objects*** and ***selected objects*** OptiScout 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***".

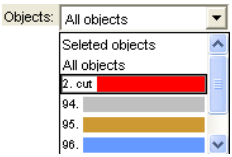


Fig. 3.7-9: List field objects with selection modes.

3.7.6.3 *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***.

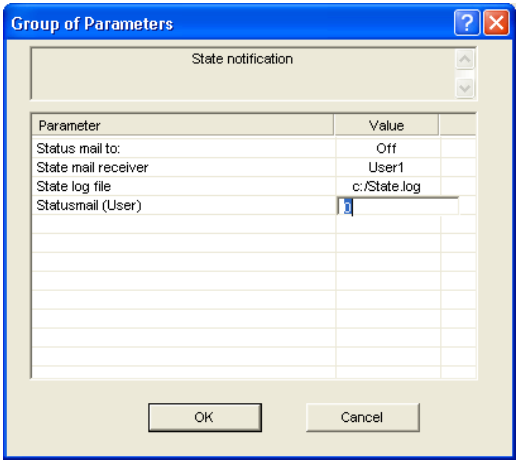


Fig. 3.7-10: Example for an opened parameter group

Info Line

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

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.

3.7.6.4 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.

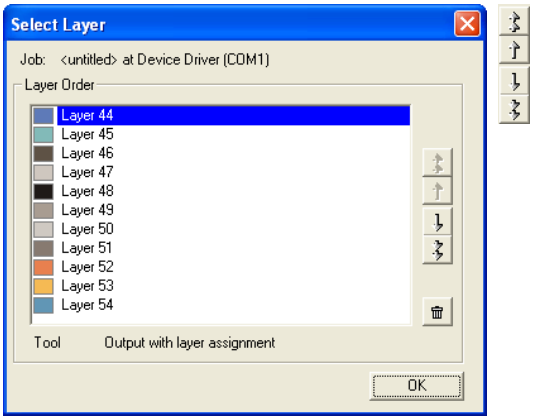


Fig. 3.7-11: Definition of the order in which the single layers shall be processed by up / down buttons

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.

3.8 Export

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

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

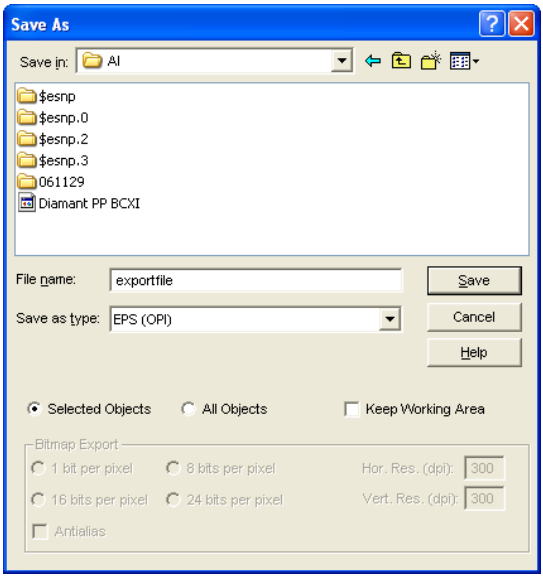


Fig. 3.8-1: OptiScout Export window with file selection

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 OptiScout: *.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

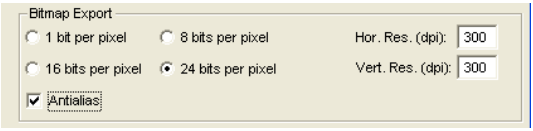


Fig. 3.8-2: Shade and resolution at Bitmap-export

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.

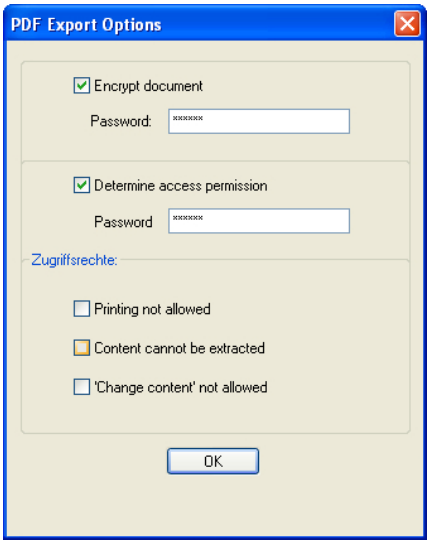
Indication: Higher values are often not suggestive as the size of the file increases with higher dpi.

Antialias

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

3.8.1 PDF Export

3.8.1.1 Additional Options



3.8.1.2 *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.

3.8.1.3 *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 OptiScout 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.

3.8.1.4 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.

3.9 Excursion: Contour vs Outline vs Contour Line

Often, there is confusion among OptiScout Production 8 users, because the differences between this terms are not clear and there can be seen no difference on the OptiScout 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.

3.9.1 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  .

3.9.1 1. Contour

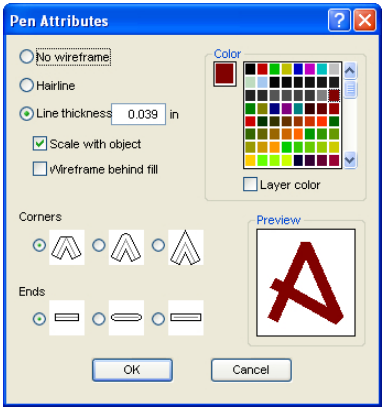


Fig. 3.9-1: Pen attributes dialog

Fig. 3.9-2: Full surface mode

Fig. 3.9-3: 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.

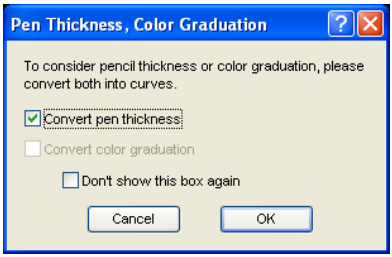


Fig. 3.9-4: Dialog for conversion of contours into cuttable objects

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).

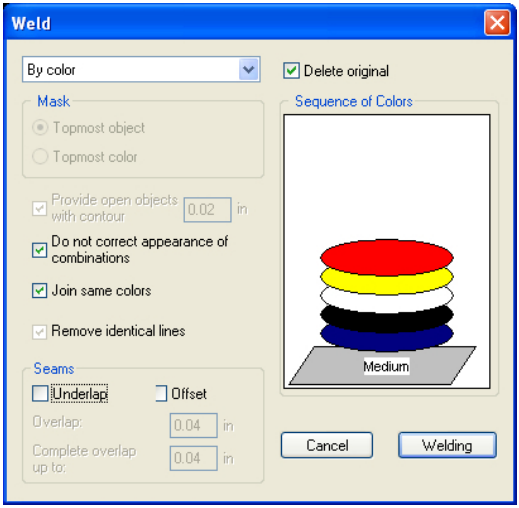


Fig. 3.9-5: Welding dialog with presetting "by color"

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

3.9.2 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.

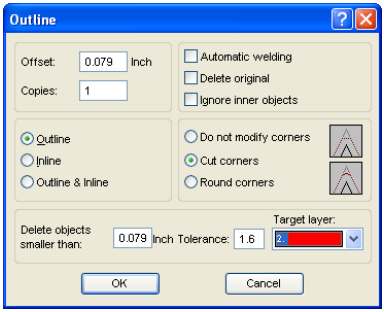


Fig. 3.9-6: Outline dialog

Fig. 3.9-7: Full surface mode

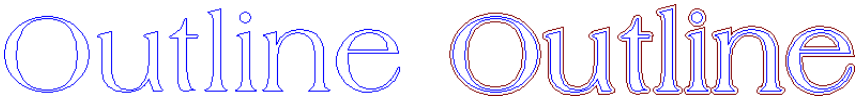


Fig. 3.9-8: Contour mode

3.9.3 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.

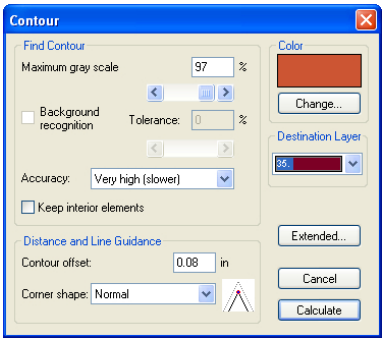


Fig. 3.9-9: Contour line dialog

Fig. 3.9-10: Full surface mode

Fig. 3.9-11: 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 OptiScout Production 8 are.

3.10 Excursus: Welding of Vector Objects

3.10.1 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***.

3.10.1.1 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.

3.10.1.2 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.

3.10.1.3 Full Surface

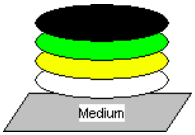
The option ***Full Surface*** underfills objects in one color, whose areas cover the areas of another. The partially covered objects are handled in a way, that the overlying ones cover the underlapped totally.

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.

3.10.1.4 Screen Printing

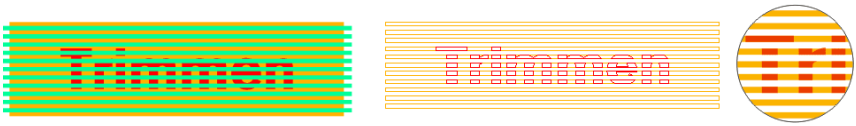
The welding option ***screen printing*** is particulary powerful tool for screen printers. First of all it eleminates overlaps of the color layers. Afterwards the colors are stacked in the color sequence. Finally, a bridge (an outflow wedge) gets inserted as an overlap.

3.10.1.5 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.

3.10.1.6 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.

3.11 Label Production with Cutters with Optical Sensor

OptiScout Production 8 is predestined for the so-called "Print & Cut" production of labels or stickers on self-adhesive material. The term "print & Cut" means, that on the medium gets printed first and then the labels are cut outlined with a cutting plotter. The cutter therefor should be equipped with an optical sensor, which recognizes so-called register marks or jog marks, so that print inaccuracies can be compensated. For the "Print & Cut" process it doesn't matter with which method the material was printed - screen print or digital inkjet print.

Definition: OPOS - Acronym for **O**ptical **PO**sitioning **S**ystem

3.11.1 1. Step: Job Preparation

The job is prepared with OptiScout Production 8. All tools which are needed for the production of labels are included. With the CoRUN export function out of host programs like CorelDRAW, Freehand, AutoCAD or Illustrator external data can be imported and processed in OptiScout.

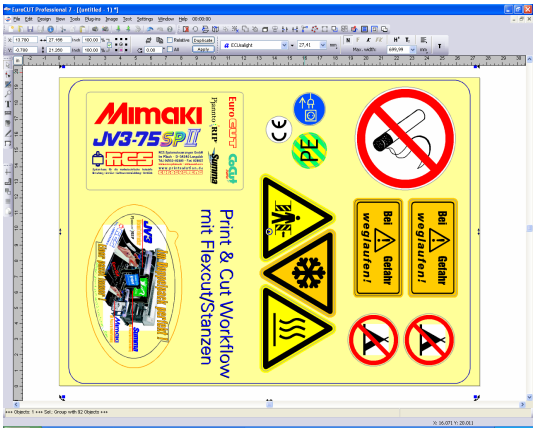


Fig. 3.11-1: Job preparation

Using the special functions 1. Contour Line, 2. Clones, 3. Multi Copies, and 4. Set Jog Marks a job is prepared for printing. Printing can be done directly using OptiScout Production 8, if for example PjanntoRIP or EuroVPM as a print program is installed as well. If another RIP than those specified is in use, you must use the EPS (OPI) export in order to prepare the job data for printing.

Tip: For the generation of identical copies, the clone tools should be used. This ensures a small amount of data and a high processing speed.

Thus the cutter can provide the print job with cut outline, manufacturer-specific jog marks can be used and printed additionally! Setting of the jog marks can be done with the ***Settings / Common Settings / Register Marks*** menu in OptiScout.

Limits: OptiScout Production 8 has no resp. only rudimentary image processing tools. The image processing must be done in a host program such as Photoshop. Afterwards, the image data are imported into OptiScout and processed.

3.11.2 Jog Marks for Optical Recognition Systems

3.11.2.1 Field of Application: Contour Cutting (Print & Cut):

Wherever printed materials must be cut or milled with contours, the usage of jog marks is indispensable, in order to produce with the required accuracy. Beyond that, inaccuracies which occur during the print process, must be compensated. Preset ist done in the Settings / Common Settings / Register Marks menu. The jog marks are set using the tools menu with the Set Jog Marks submenu item.

Note: The jog marks function can be used with all cutters with optical sensors or with flatbed cutters or milling machines equipped with camera systems for mark recognition.

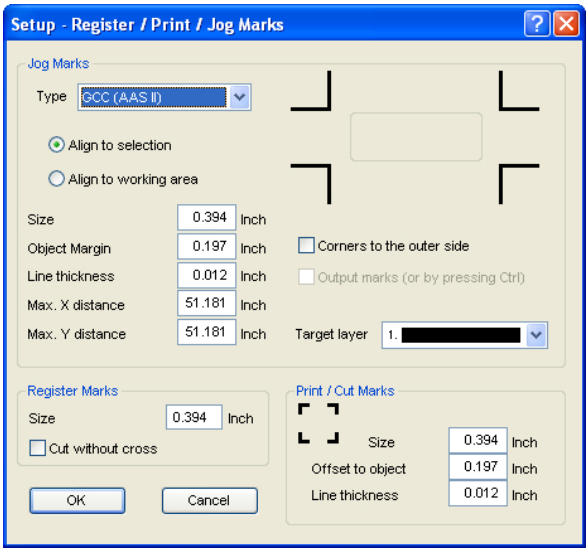


Fig. 3.11-2: Settings menu in OptiScout with jog mark selection

3.11.2.2 Definition

Jog marks and video marks are used synonymously for marks related to optical detection of marks. ***Register marks*** describe a tool, that is used for the assembly of colored signs. ***Print and cut marks*** describe marks, that are used commonly in printing and desktop

publishing.

Note: Jog marks are usually associated with an optical sensor; video marks with camera usage.

3.11.2.3 Jog Marks

A detailed description of all parameters can be found here: **please refer to 4.7.1.5: The *Register / Crop Marks...* Setup**

After preselecting the producer-specific jog marks, this jog marks can be set around the job, so that in the 2nd step they will be part of the printing job. Hotkey for this function in OptiScout is **SHIFT+J**.

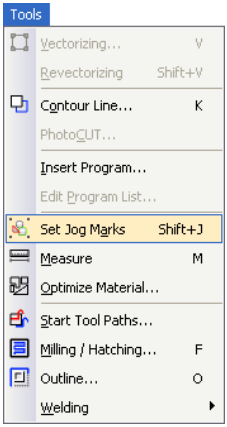


Fig. 3.11-3: Tool menu for setting of jog marks

3.11.3 2. Step: The Print Process

Print processing is either done in screen print or digital inkjet print with solvent ink. The RIP does the rastering, the linearization and the density correction. Additionally control parameter like heater temperature, resolution, etc. are managed. Modern solvent printer print on un-coated materials which often do not have to be laminated. All users which do not have an own printer, can delegate the print process to an external provider.

3.11.4 3. Step: The Cutting Process

Currently, all premium cutter have an optical sensor, so that with this devices a serial production of label, stickers, or decals is possible. The cutter processes in doing so the contour line - not to be confused with Outline - which was generated in the job prepartion around all copies. Fig. 3.11-7 shows the magenta contour lines which will be cut.

3.11.4 3. Step: The Cutting Process

Fig. 3.11-4: Cutting head with sensor and tangential knife

The cutter described above are able to process sheets or rolls. OptiScout's plotter driver support both functions. Fig. 3.11-5 and Fig. 3.11-6 show the driver parameter for the cutting with sensor for the processing of identical job copies using rolls or sheets (Fig. 3.11-6).

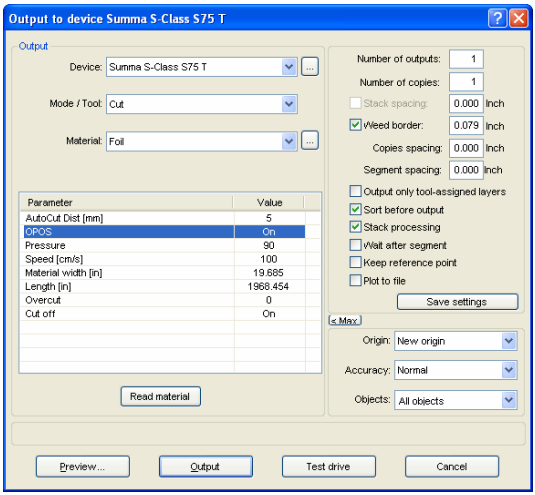


Fig. 3.11-5: Parameter setting OPOS=ON using the example of Summa S-Class

Note: The parameter "OPOS" is set automatically on "ON" if the appropriate marks are used. When processing identical copies of jobs on a roll using jog marks, the mode "OPOS cutting with copies" must be used (Fig. 3.11-6). Then additionally the number of copies in X direction can be set and as well as the mark distance between the copies in mm.

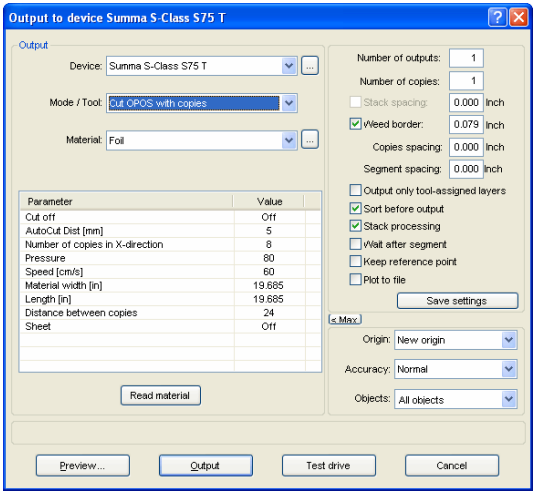


Fig. 3.11-6: Parameter setting with identical Job copies from roll (also possible with sheets, if the parameter "Sheet=On" was set)

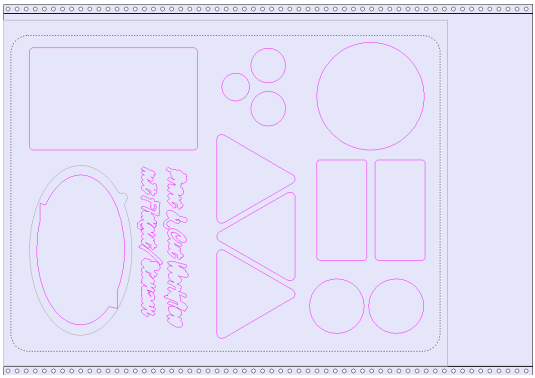


Fig. 3.11-7: Cut contours in the cut preview (the gray contour below left, is required for "Flex-Cut")

The **result** of this process are readymade labels in individual number and size. To get the labels carwashresistant, they must be treated with a liquid lacquer.

3.12 Cutting - Milling - Creasing - Drawing …

3.12.1 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 OptiScout

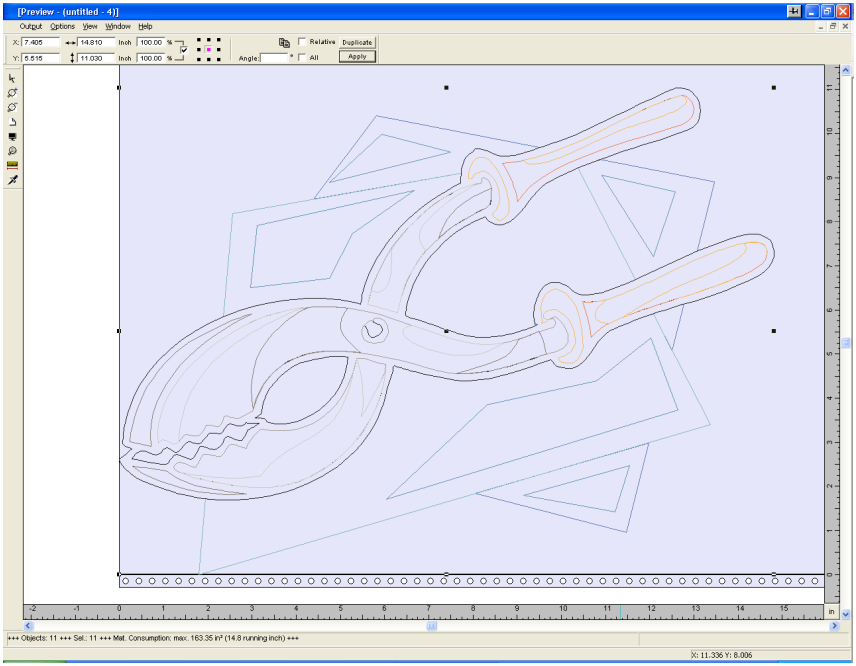


Fig. 3.12-1: Output preview with toolbars, status line and output objects

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 6.8: The *Preview Tools* Toolbar

please refer to 6.9: The *Preview Object Parameters* Toolbar

3.12.1.1 Foil optimization

The material consumption can be reduced by using the module ***foil optimization***.

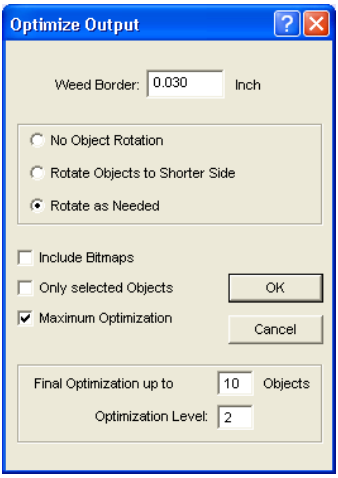


Fig. 3.12-2: Parameter dialog for the material optimization

The ***foil optimization*** takes care that all objects are arranged in a way that they take the least space on the material.

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.

Rotate objects to shorter side

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

Rotate as needed

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

Include bitmaps

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

Only selected objects

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

Maximum optimization

If this option is activated two more fields are shown in the foil optimization dialog. The option ***maximum optimization*** calculates all possible combinations the can arise from the fields ***end optimization up to maximum ... objects*** and ***permutation depth***. The calculation can take much time depending on the size of the here set values as all possible combinations that arise from the two values are calculated and compared. Therefore, you should usually not set more than 20-30 objects with a permutation depth of max. 5.

Indication: An optimization always leads to the rotation of one or several objects.

3.12.1.2 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.

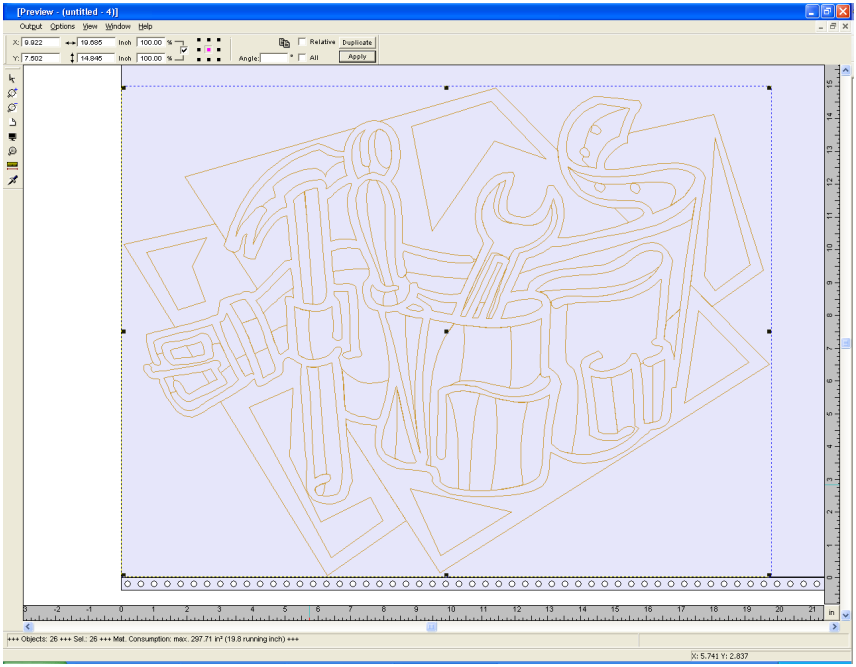


Fig. 3.12-3: Output job with weeding frame (dashed in blue) without weeding lines

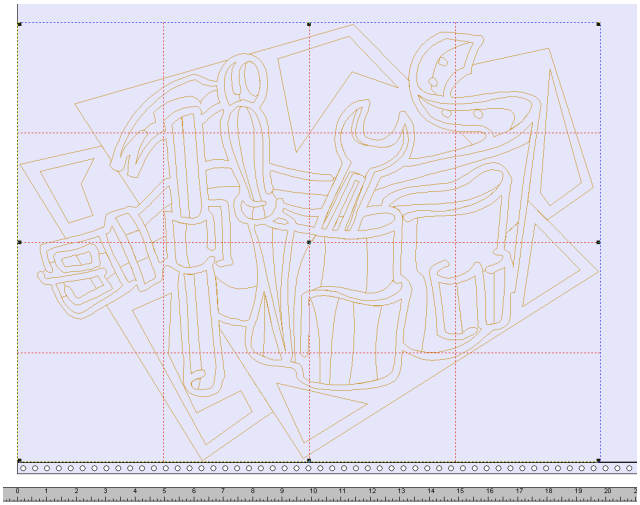


Fig. 3.12-4: Example with 3 horizontal and 3 vertical weeding lines (dashed in red)

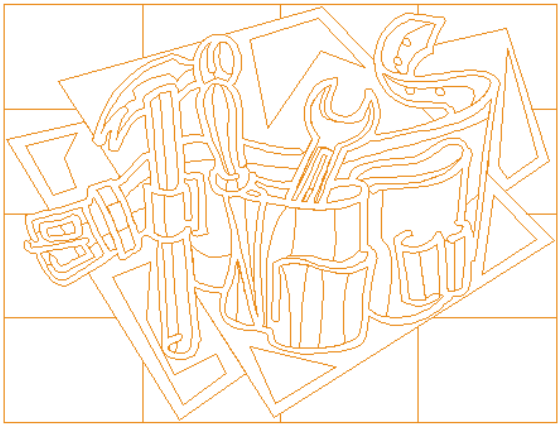


Fig. 3.12-5: Result of the output with weeding lines - objects not! cut

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.

3.12.1.3 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:

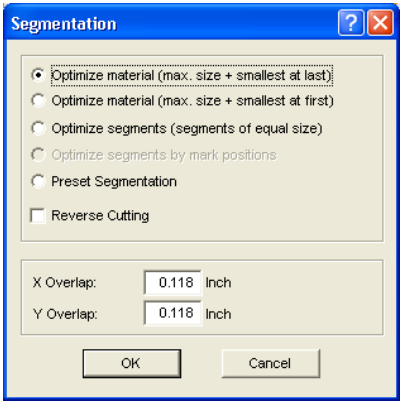


Fig. 3.12-6: Sectioning dialog with overlapping of 3 mm

Optimize material (max. size + smallest at last)

Optimize … smallest at last) causes OptiScout 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 OptiScout 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 OptiScout "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.

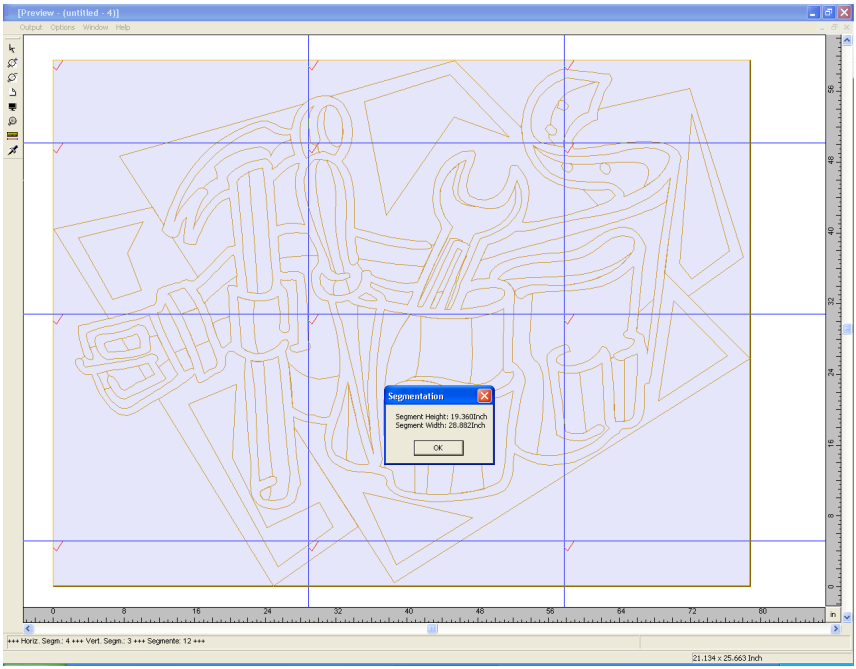


Fig. 3.12-7: Foil optimization in the sectioning preview with 8 segments and information on segment sizes

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 OptiScout 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.

3.13 Printing

Fig. 3.13-1: The print button in the standard toolbar

3.13.1 Without RIP Software

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

Open the OptiScout ***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.

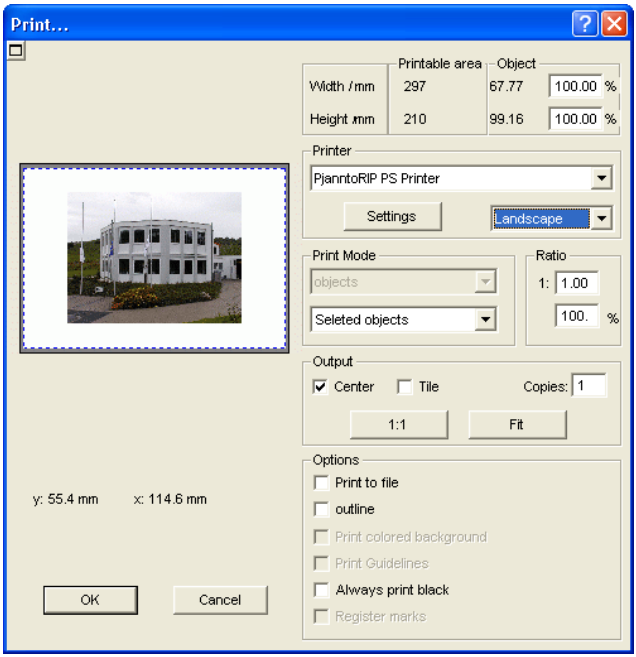


Fig. 3.13-2: The print dialog

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. 3.13-3: The print preview button

Fig. 3.13-4: 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.

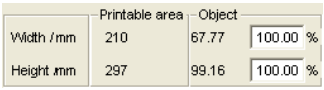


Fig. 3.13-5: Section field printing area and object

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.***

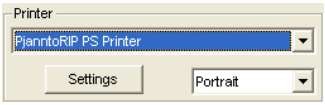


Fig. 3.13-6: Printer selection and Setup

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.

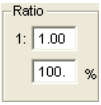


Fig. 3.13-7: Field for the entry of the size proportion

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.

3.13.1.1 The Tile Mode

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

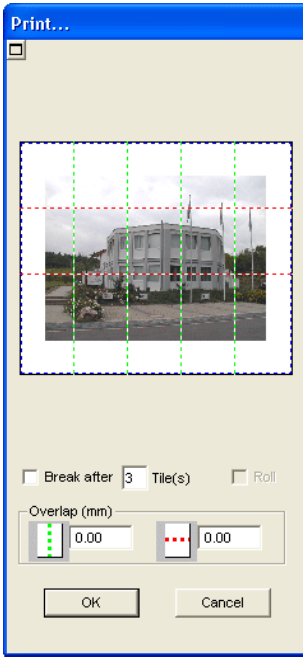


Fig. 3.13-8: The preview window in tile-mode

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 OptiScout ***print*** dialog and depends on the connected output device.

Load any graphic in OptiScout 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 OptiScout ***print*** dialog is opened in the ***adapt*** mode. Activate the ***tile*** mode by activating the thus named button.

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

3.13.1 Without RIP Software

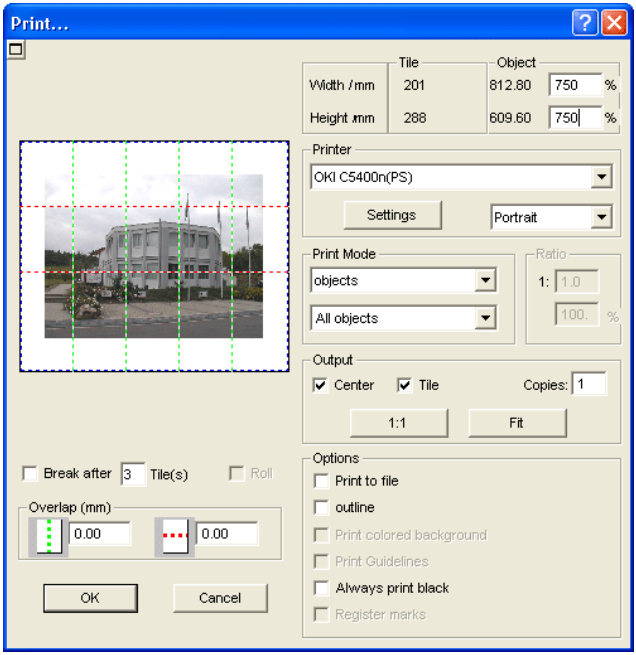


Fig. 3.13-9: The print dialog in the tile mode

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.

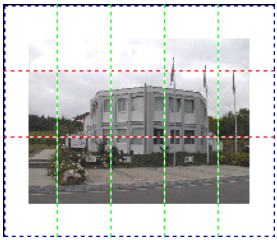


Fig. 3.13-10: Preview with settings in the tile mode

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**”.

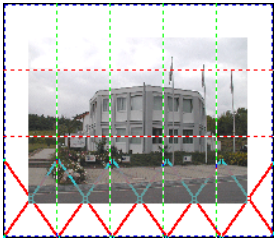


Fig. 3.13-11: Bottom row: Tiles deactivated

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.

3.13.2 With Pjannto RIP software

Fig. 3.13-12: The Pjannto RIP button in the s*tandard toolbar*

Indication: Pjannto RIP is a professional PostScript-RIP that is not a part of OptiScout. 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 OptiScout and the file menu enlarged with the entry Pjannto RIP... .

3.14 The OptiScout Output Dialog

Generally, the properties of OptiScout are set via the output dialog.

If you select a field a tool-tip and/or a graphic is shown that explains the parameter more closely.

As the single fields and functions depend on the device, here, only the general parameters are described. Special functions are explained in the tooltips/-info-graphics.

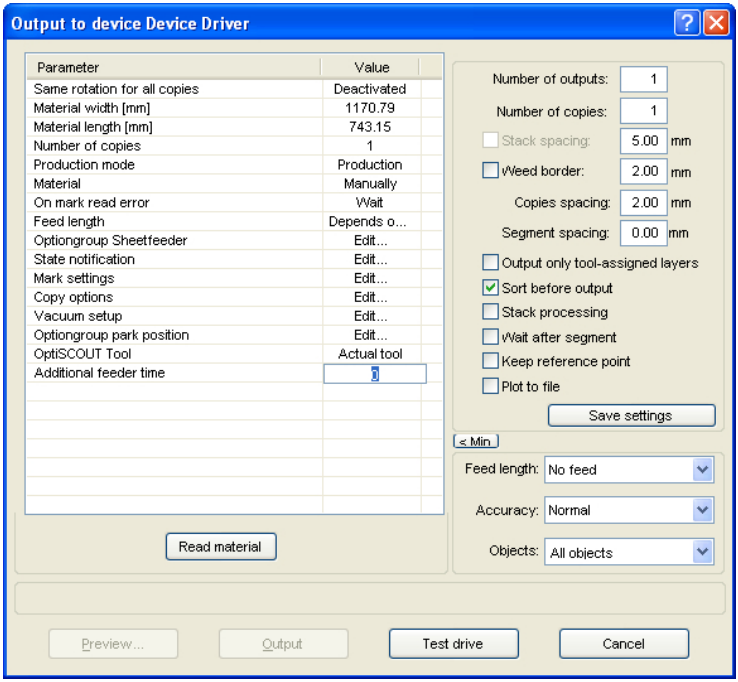


Fig. 3.14-1: General settings and parameters

3.14.1 Number of copies

Here, the total amount of the outputs is defined, also refer to the group copy options.

3.14.2 Production mode

Property of OptiScout when reading the markers:

Manually define start marker and sheet positions (teaching mode)

Automatically access and re-deliver production markers.

3.14.2.1 Manual production (default)

First output is done in the manual mode, then it is switched to production. This setting implicates that with the first copy of a series the display position is detected and all further copies are executed automatically.

Vacuum switch-over: Optional the vacuum when changing the sheets can be switched from suction to puffing.

Vacuum offset (mm): Additional range of vacuum for the vacuum width.

Indication: Normally, the position of the vacuum slider of OptiScout is adjusted automatically to the size of the graphic.

Depending on the application it can be necessary to install besides the sheets of the graphics additional mounting aids and stencils that facilitate the loading of the table or to increase the holding force at the vamp edges.

As these additional parts usually also have to be ingested the range of vacuum has to be increased.

3.14.3 Status reports

In the parameter group status reports the status output can be defined. Wise are status reports in order to check the output process without having to stay next to the device.

Here, you can define in which form a status report shall be generated. Status reports are received during ***reading errors***.

Markers were not recognized and the output process is thus configurated that it waits for a user"s reaction. Possible reasons why markers have not been recognized during the process are for example:

- faulty or smudged printout of a marker.
- slipped support of a sheet. Sheet the wrong way round in a pile of sheets.
- sudden change of the ligthning conditions (ligthning fails, sun rises, ...)
- the output was terminated

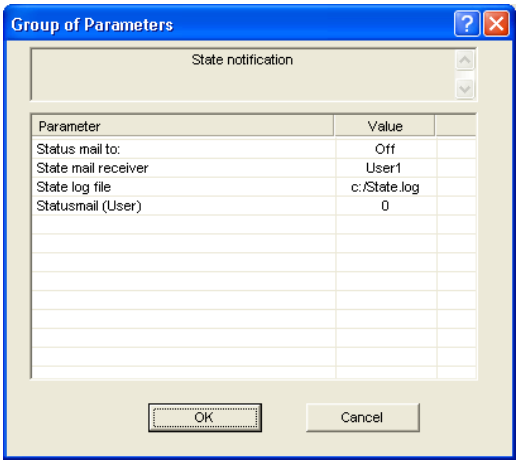


Fig. 3.14-2: The parameter group dialog

On demand, a system for the continuous status tracking can be activated. Only then you can detect for example a power failure promptly as here, the status report does not appear when finishing.

Status report on

Deactivated - no status report
Email - transmission of an email
In file - status is written to a log-file

Status mail recipient

User - the address in the field ***Status mail (User)*** is used.

Selection of a pre-defined address.

Status log file: file name of the log file

Indication: Instead of backslashes you have to write slashes „/" .

Status mail (User): Here, you can enter the email-address that is used when selecting ***user***.

Indication: Many email-providers offer a (usually with costs) service with which you can receive emails as SMS. This way, you can also check the output process when you are en-route or the device shall produce time-critically over night.

3.14.4 Marker settings

In this dialog you can define the general settings for the marker type as well as the properties of the search strategies when sheets have not been placed accurately.

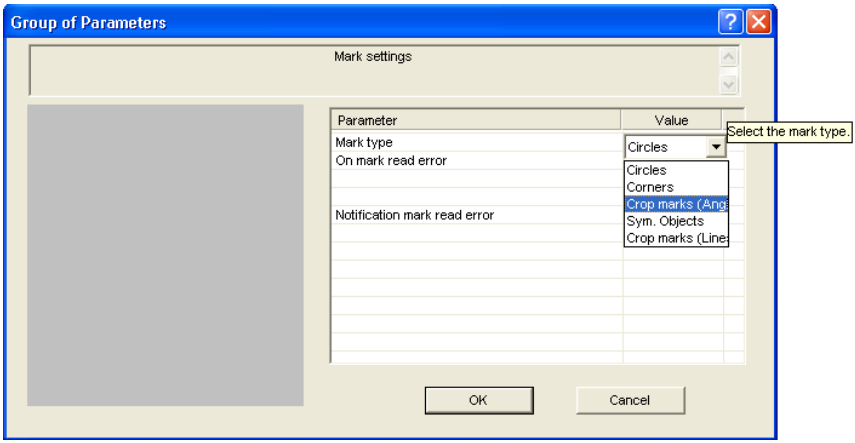


Fig. 3.14-3: The marker settings dialog

3.14.4.1 Marker recognition

Definition of the marker form to be recognized

Video markers - circles with defined diameter.

Sheet corners - recognizes corners of the sheet or of a contour.

Trimming sign - isosceles angles

Squares - squares with definable side length

When reading error

Define property when a marker was not recognized.

Wait - waits on user intervention

Read once again - it is tried to read the marker(s) once again.

Notification reading error

If this option is activated a notification is done with every output not done due to a reading error. Depending on the setting in the status reports the message appears in the log file or as email.

The message contains the position of the sheet in the pile. A very helpful function in order to mark the waste with serial output.

3.14.5 Copy options

3.14.5 Copy options

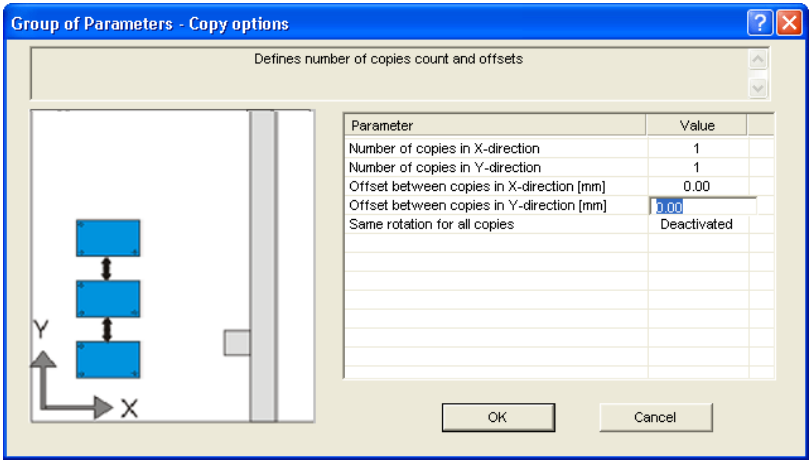


Fig. 3.14-4: The parameter group - copy options dialog

In this dialog you can set the copy options.

Here, the amount of output in X-direction resp. Y-direction and the distance of the outputs in X-direction resp. Y-direction can be set.

3.14.6 Park position

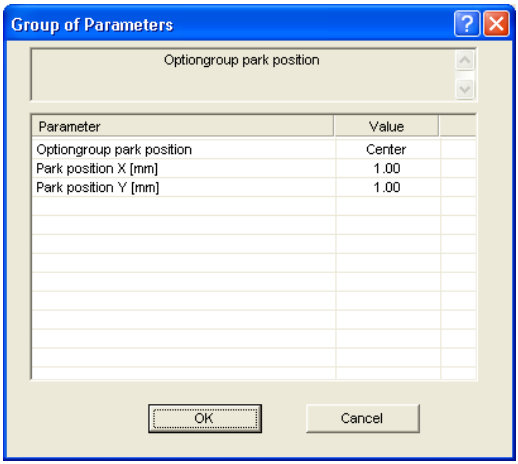


Fig. 3.14-5: The park position dialog

In this dialog the property after the output can be set.

Park positions

Table end - drives the head to the end in X-direction.

Position X, Y - drives to a position to be defined

Table middle- drives to the middle

Lift head - don´t change position

Park position X [mm]

Position in X-direction for setting position X,Y

Park position Y [mm]

Position in Y-direction for setting position X,Y

3.15 Treatment of Rolls

When processing roll material, there are 2 main cases:

3.15.1 Case 1: without Segmentation

If the job fits the existing table length, no segmentation is required.

1.1: Several copies after another

Here, the same objects are processed consecutively, for example, 10 times. The distance between the copies is detected autonomously by accessing the next copy.

1.2: Duplicates per Sheet

Here, several "sheets" with identical or not identical duplicates exist parallelly or consecutively.

1.2.1: Identical Duplicates

The rotation angle is the same for all sheets, so that a global rotation can be done. The copy-distances are detected autonomously as in case 1.1.

1.2.2: Non identical Duplicates

The rotation angle is *not* the same, so that the marks for each sheet must be read anew.

or

3.15.2 Case 2: with Segmentation

The job is larger or longer than the maximum table length. This requires the segmentation of the job.

It is important to note the following:

2.1: Placement of Video Marks

The video marks must lie wisely, which means they should result in "good" triangles. please refer to 3.4.3: Video Marks (Regmarks)

2.2: Number of Video Marks

They should be printed in a sufficient amount.

and

2.3: Duplicates Relation

Video marks should be as object-related as possible, that is to say, they should be around each copy.

and

2.4: Object Placement

(Recommendation) The objects should be laid as close as possible to the origin of the device.

3.15.2 Case 2: with Segmentation

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 *New from Template C*ommand

This command is for saving jobs as template (file extension JTP). These templates can be loaded again via ***file*** / ***open*** or ***file*** / ***new.*** As JOB name „untitled" is shown.

4.1.3 The *Open…* Command

With this command the files that were stored on your hard drive or another data carrier in the OptiScout 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**

4.1.4 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. **CTRL+S**
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.

4.1.5 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.

4.1.6 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.

4.1.7 The *Import…* Command

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

 **CTRL+I**

4.1.8 The *Barcode Import…* Command

This command opens a dialog to import files using a barcode scanner. After opening the window the barcode is read and the appropriate file is imported.

 **SHIFT+ CTRL+I**

4.1.9 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**

4.1.10 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 OptiScout Production 8 must be processed: ***please refer to 4.7.1.4: The RIP… Setup***

4.1.11 The *Print…* Command

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

 **CTRL+P**

4.1.12 The *Output…* Command

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

 **S**

4.1.13 The *Quit* Command

With this you terminate OptiScout 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**

4.1.14 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 OptiScout.

Indication: If in OptiScout 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 *Prepare to Cut…* Command

With this command an object with defined line weight or filling can be made ready-to-cut.

Contour
The line weight defined before is contoured.

Color graduation
The color graduation defined before is divided into the defined number of steps and each step is provided with an outline.

Both
The defined line weight and the defined color gradient (number of steps) are outlined.

4.2.14 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 6.5: 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 Drill Hole

This command allows to insert pre-defined drill holes to the graphic.

Indication: This function is only important if you have a flatbed cutter with milling setup or a milling device.

4.3.16.2 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***.

4.3.16.3 Universal Placing Tool

This command allows you to insert predefined character forms into the graphic.

A detailed description can be found here: **please refer to 4.7.1.9: *Universal Placing Tool* Setup**

Note: The settings dialog can also be activated with a right mouse click.

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 *Reduce Nodes* Command

This command eliminates nodes of an object that are unnecessary or lying on top of each other. With straight lines, nodes that lie on the straight line and between the endpoints of the straight line are removed automatically. The reduction of nodes decreases the complexity of objects.

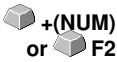
4.3.26 The *Weeding Border* Command

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

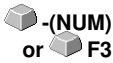
If you select this function the mouse cursor changes into a lens with a plus inside. You can now select an area that shall be zoomed by keeping pressed the left mouse button. The selected area will then be shown increased to the maximum in the program window.



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 OptiScout window remains always in the foreground.  **CTRL+Y**

Indication: This menu item is only active if the OptiScout 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 3.9: 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 7.22: The *PhotoCUT* Function

4.5.3 The *Insert Program… C*ommand

With this command you can insert an external program - external meaning no EUROSYSTEMS program - in the menu structure of OptiScout. The advantage of this possibility is that you do not have to leave the surface for starting other programs.

4.5.4 The *Edit Program List…* Command

With this command existing program entries can be modified or deleted.

Indication: The menu command only refers to the programs inserted additionally to the menu structure.

4.5.5 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 4.7.1.5: The *Register / Crop Marks…* Setup

4.5.6 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 / Filter menu entry.

4.5.7 The *Search / Replace Video Marks With Sel. Size* Command

This command searchs all *circles* in the selected size and replaces them through video marks.

Note: This command is useful if the video marks were not created manually in OptiScout, but a file is imported from a third-party programs including video marks. The size of the marks often deviates from the optimum size.

4.5.8 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.

4.5.9 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 3.12.1.1: Foil optimization

4.5.10 The *Nesting…* Function

Nesting means the interleaving of contours in order to save material. **please refer to 10.2: True Shape Nesting with Pairing**

Note: The Nestin module is copy protected. The license must be purchased in addition to the main license. Without license (Dongle) the menu function runs only in the trial mode.

4.5.11 The *Start Tool Path… C*ommand

When milling or laser cutting it often happens that at the starting point of an object dipping marks are visible. In order not to affect the quality of the object to be milled the starting point can be displaced to a position outside or inside of the object. This task is carried out by the ***Start Tool Path*** command.

Note: All actions take place at the origin point of an object, when no node is selected. Where the tool path is placed at the object depends on the object's orientation. Object without inner parts or which are lying one inside the other (no combination!) the orientation determines the location where the tool path is placed.

please refer to 7.6: The *Start Tool Paths*

4.5.12 The *Milling / Hatching…* Command


F

This command activates - if licensed - the milling application. It enables hatching, multi inline and milling radius correction. As an option the connecting lines can also be output.

4.5.13 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.

4.5.14 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 7.16: The *Welding* Tool

4.6 The *Plug-Ins* Menu

4.6.1 The *Object Select C*ommand

4.6.1.1 Object Selection According to Object Property

With this tool objects with specific properties can be selected. For example via the circle recognition all circular objects of a specific size can be selected.

Detailed: please refer to 8.7.3.1: The *Select Objects* Function

4.6.2 The *Object Replacer* Command

4.6.2.1 Replace Objects With Selected Type

All marked objects on the working surface are replaced by the selected type of object.

Detailed: please refer to 8.7.3.2: The *Replace Objects* Function

4.6.3 The *Contour Length* Plug-in

This script calculates the length of the vector contours from the selected objects. This information is used to determine the output time of a tool or a machine.

4.6.4 The *Orientation* Command

Set Orientation of The Object Vector

This function determines the orientation of the object vectors. This is especially important when milling in order to determine the handling of inner parts of objects.

Detailed: please refer to 8.7.3.1: The *Select Objects* Function

4.7 The *Settings* Menu

4.7.1 The *Standard Settings* Menu

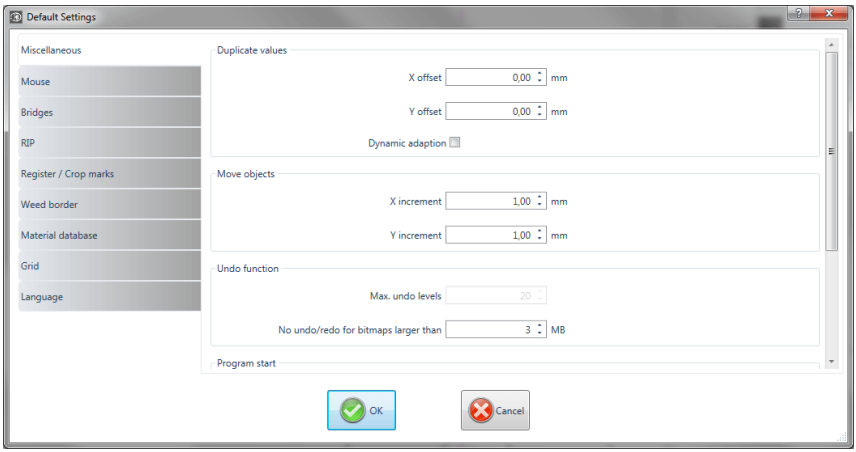


Fig. 4.7-1: Default Settings dialog - here: Miscellaneous tab is active

4.7.1.1 The *Miscellaneous...* Setup

CTRL+J

4.7.1.1.1 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.

4.7.1.1.2 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.

4.7.1.1.3 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.

4.7.1.1.4 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 OptiScout.

4.7.1.1.5 Font settings for dimensioning and info texts

- Font height

This option defines the **font size** of the font for the dimensioning function and the info texts. The unit depends on the defined metric.

- Font type

This option defines the font type to be used for the dimensioning function and the info texts. The possible font types are listed.

- Alignment to object

This option determines the location of the object. Possible are 4: **Left bottom, Top left, Right bottom, Top right.**

4.7.1.2 The *Mouse…* Setup

4.7.1.2.1 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.

4.7.1.2.2 Mouse Wheel

These options ease the navigation on the OptiScout 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).

4.7.1.3 The *Bridges…* Setup

When inserting a bridge via the ***context* menu** of the right mouse button, the object is ripped up at the point of the mouse click with the pre-set bridge length.

Note: This function is only available in Node Edit Mode.

4.7.1.3.1 Manual Bridge

Manually, because the exact point at which the bridge is to be placed can be determined by mouse click**.**

Bridge length

Here the length of the bridge is determined. The unit depends on the selected **metric**.

4.7.1.4 The *RIP…* Setup

Standard RIP

As an extension to OptiScout Production 8, 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.

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

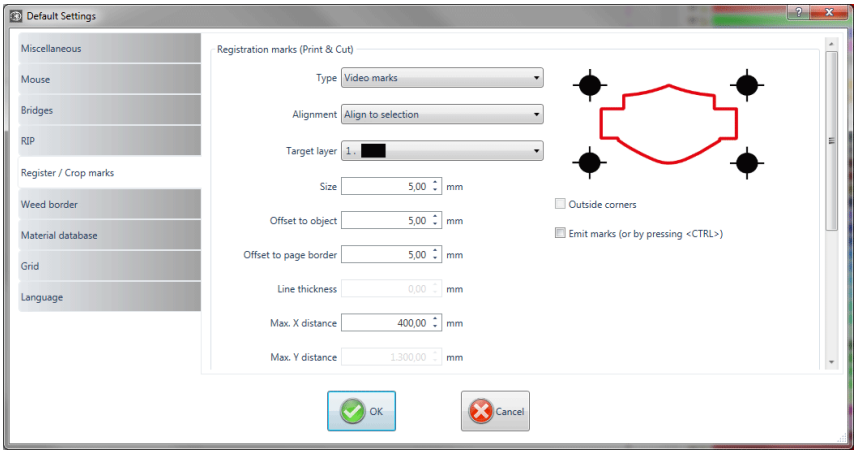


Fig. 4.7-2: Default Settings dialog: here: Register / Crop marks tab active

4.7.1.5.1 Registration marks (Print & Cut)

Fig. 4.7-3: 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.

4.7.1.5.2 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 OptiScout 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.

4.7.1.5.3 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.

4.7.1.6 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).

4.7.1.6.1 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.

4.7.1.7 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.

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.

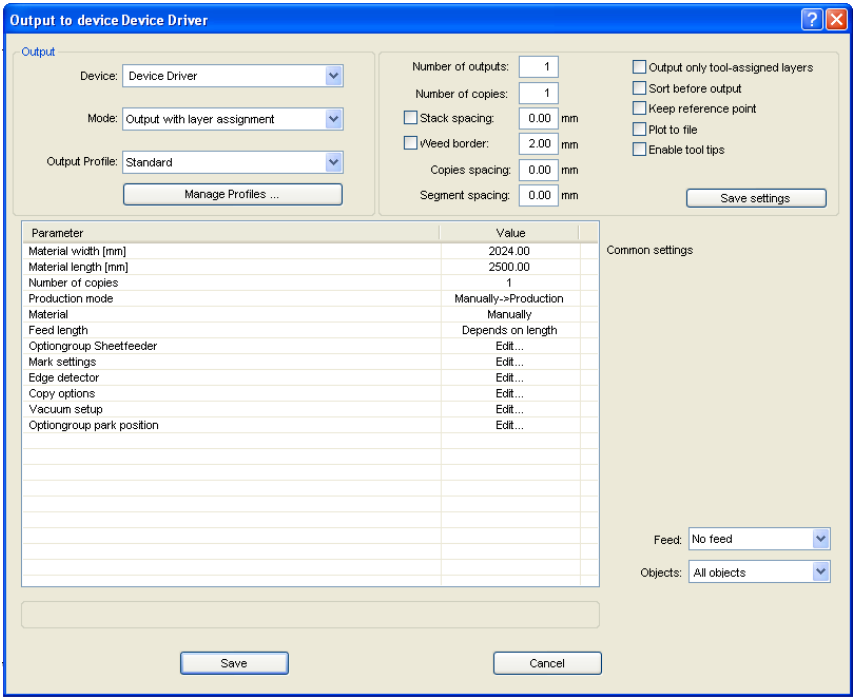
Enable output for objects larger than page size

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

4.7.1.8 The *Output Parameters* Setup

The following dialog is, regarding the settings, identically with the window in: **detailed description** **please refer to 3.7.6: Start Output from the OptiScout Working Surface**. With the difference that only the saving of settings is possible. Pre-selects and stored here are settings of device, mode, profile, parameters and values, thus all settings that affect the output on the device.

Note: The settings must be done here, if the output is done directly, without output window.



4.7.1.9 *Universal Placing Tool* Setup

Use this command to enable the mode for defining any - even non-geometric - shapes. These shapes or objects can be placed with the mouse anywhere on the desktop. In width and height, different values can be entered so that no circle but an ellipse is generated. In width and height, different values can be entered, so that no square but a rectangle is generated. They are listed in the file list (see below).

4.7.1.9.0.1 Width / Height

These two fields allow the definition of the size of the shape.

4.7.1.9.0.2 Keep original size

This option determines that the original size of the object is not changed.

4.7.1.9.0.3 Ellipse

This option allows you to set an ellipsoidal shape.

4.7.1.9.0.4 Rectangle

This option allows you to set a rectangular shape.

4.7.1.9.0.5 Regmark

This option takes a "visor" (crossed circle) as shape.

4.7.1.9.0.6 Clipboard

This option takes any object from the clipboard (vectors, text blocks, and bitmaps).

Note: Bitmaps are not included in the preview.

4.7.1.9.0.7 From file:

This option allows you to select any DXF file.

4.7.1.9.0.8 Add Button

Clicking on the ***Add*** **Button** opens the Windows file dialog for selecting files.

4.7.1.9.0.9 Delete Button

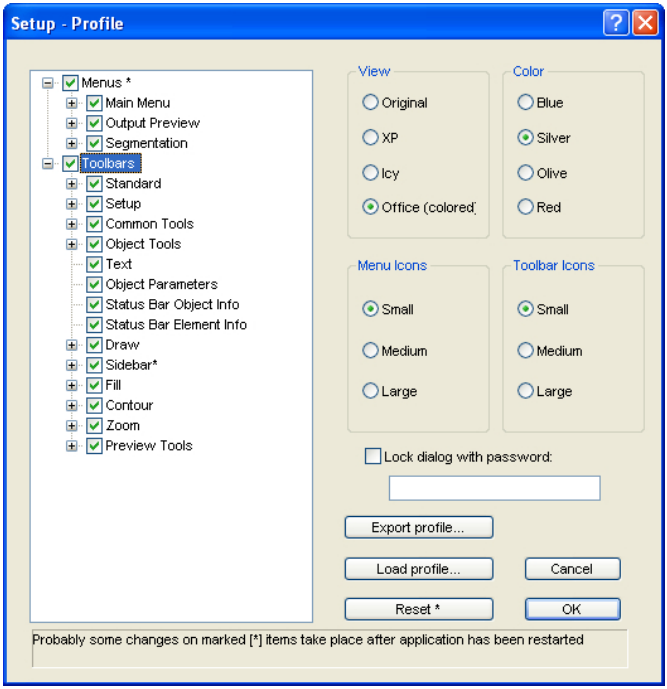
Clicking on the D***elete*** **Button** deletes the selected file from the file list.

4.7.1.9.0.10 The File List

The file list shows all added files. Clicking on the file activates the file preview in the upper right corner of the dialog.

4.7.1.10 The *Profile...* Setup

The ***Profile...*** setup serves the customization of the desktop. The user or administrator can adapt the OptiScout 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.



4.7.1.10.1 Presentation

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

4.7.1.10.2 Color

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

4.7.1.10.3 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.

4.7.1.10.4 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.

4.7.1.10.5 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.

4.7.1.10.6 Export Profile Button

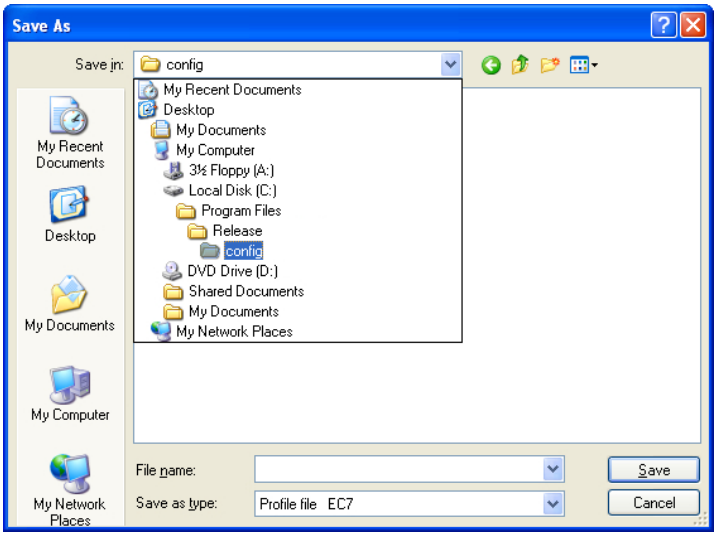


Fig. 4.7-4: Save profile dialog with default path

Enabling of the ***Export Profile*** button allows saving of customize OptiScout 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.

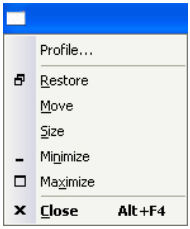


Fig. 4.7-5: System menu with *Profile… sub menu*

4.7.1.10.7 Status Area

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

4.7.2 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 OptiScout.

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 OptiScout. 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.

4.7.3 The *Working Area…* Command

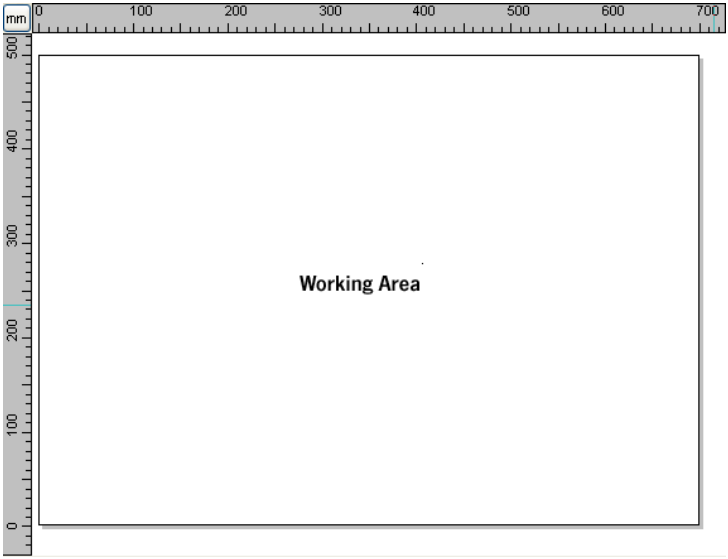


Fig. 4.7-6: Working area with shadows and rulers

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.

4.7.4 The *Rulers…* Function

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.

SHIFT+I

4.7.5 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.

4.7.6 The *Grid…* Function

 **CTRL+R**

This option shows either the grid itself or only the cross points of the gridlines (raster) on the working surface. This function facilitates the orientation and positioning of objects on the working surface.
The distance of the gridlines and the offset in X-/Y-orientation can be freely defined. Reference point thereby is the left down corner of the working surface. This point represents the 0/0-position to which the offset is added up. A positioning assistance with "magnetic" influence takes care of the accurate justification of the objects.

4.7.6.1 Distance and Start Position

- Spacing X

This value defines the distance of the grid from the edge of the working surface related to the X axis.

- Spacing Y

This value defines the distance of the grid from the edge of the working surface related to the Y axis.

- Offset X

This value determines the distance of the grid from the zero point of the working surface in relation to the X axis.

- Offset Y

This value determines the distance of the grid from the zero point of the working surface in relation to the Y axis.

Note: Negative values are allowed.

4.7.6.2 Settings

- Snap to grid Option

This option turns the **magnetic function** of the grid lines on / off.

- Grid on / off Option

This option makes the grid visible or invisible.

- Grid lines or Grid

This option switches between grid and grid lines view.

- Select color

This option allows you to specify the color of the grid. It is used to optically separate the grid from the objects.

4.7.7 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.

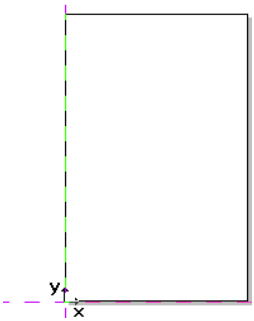


Fig. 4.7-7: Here: Origin bottom left

4.7.7.1 The *Settings Origin* Menu

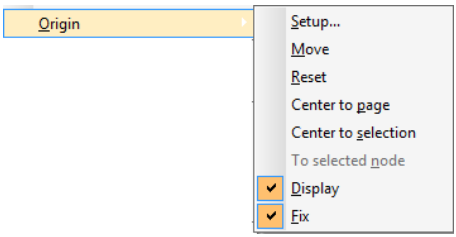


Fig. 4.7-8: The Origin Options

4.7.7.1.1 Setup...

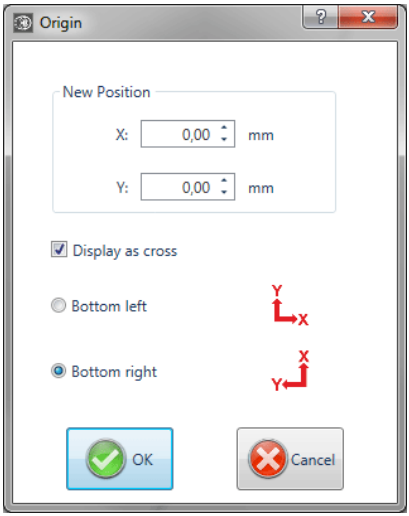


Fig. 4.7-9: The origin dialog box

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.

4.7.7.1.2 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.

4.7.7.1.3 Reset

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

4.7.7.1.4 Center to page

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

4.7.7.1.5 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.

4.7.7.1.6 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.

4.7.7.1.7 Display

This option displays the zero point or makes it invisible.

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

4.7.7.1.8 Fix

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

4.7.8 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.

4.7.9 The *Cross-Hair* Command

If you activate this option the cursor becomes a cross that reaches across the whole width and length of the OptiScout desktop. As soon as you move the mouse cursor beyond the desktop (for example in order to select a tool), it becomes an arrow again. **CTRL+F**

4.7.10 The *Guidelines...* Function

Guidelines (subsidiary lines) are blue dashed orientation lines that you can use as support for the construction. In addition, they facilitate the positioning of graphic objects and text blocks on the working surface. Red dashed lines are activated guidelines; They can be moved or rotated. Double-clicking on a help line opens the guidelines dialog. The current working area width and height are displayed for orientation and calculation. **H**

Indication: If the positioning support is activated the help lines have a "magnetic" effect on the objects coming close-by and allow the most accurate positioning.

Type Area

In this area, 3 types of guide lines can be selected: **horizontal, vertical and diagonal**.

Note: The guideline can be rotated using one of the nodes located at the ends of the help line. The mouse cursor changes to a round arrow. The rotation center can be moved as desired by mouse. The <CTRL> key restricts the rotation to 15 ° increments.

Depending on the selected type, the **Distance to lower edge of page**, the **Distance to left edge of page** and / or the **Pivot position** is additionally queried. Negative values are allowed

The List Box

The **Coordinates** and **Angles** of all defined help lines are displayed in a list box.

Copy Sel. Guideline

This option is used to quickly **create a grid pattern**. A guideline is selected in the list box. The desired value is then entered in the ***Distance* field**. The ***Copy* button** creates a new help line and adds it to the list.

Inserting Guidelines

Clicking on the ***Insert* button** adds a guide line at the **X**, **Y value** and / or **Angle**. The coordinates and the degrees are added to the list box. The dialog remains open until the ***OK* button** is clicked.

Modifying Guidelines

Clicking on the ***Change* button** changes the values of the selected guide line to the value entered into the **X**, **Y** and / or **Angle field**.

Deleting Guidelines

A click on the ***Delete* button** deletes the selected guideline. Clicking the ***Delete all* button** deletes all the guidelines that appear in the list box.

Note: Guidelines can also be deleted directly on the desktop by selecting them and removing them with the <DEL> key. They can also be pushed back into the ruler using the mouse.

4.7.11 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**

4.7.12 The *Lock Guidelines* Command

With this option you can block all subsidiary lines so that they cannot be marked or displaced anymore. Only by clicking once again on this menu instruction the subsidiary lines are unlocked and can be displaced again.  **CTRL+H**

4.7.13 The *Guidelines Visible* Command

With this option you can make all subsidiary lines invisible. Only by clicking once again on this menu instruction the subsidiary lines become visible again.  **SHIFT+H**

4.7.14 The *Choose Language…* Command

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

4.7.14.1 Program Language

The user interface language is set here.

4.7.14.2 Language for the Help File

The language for the help is determined here.

4.8 The *Window* Menu

4.8.1 The *New Window* Command

Activating this instruction opens a new OptiScout window.

4.8.2 The *Tile Horizontally* Command

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

4.8.3 The *Tile Vertically* Command

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

4.8.4 The *Cascade* Command

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

4.8.5 The *Close* Command

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

4.8.6 The *Close All* Command

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

4.8.7 The *Standard* Command

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

 **CTRL+1**

4.8.8 The *Sidebar* Command

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.

 **CTRL+2**

4.8.9 The *Setup* Command

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

4.8.10 The *Common Tools* Command

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

4.8.11 The *Object Tools* Command

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

4.8.12 The *Object Parameters* Command

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

4.8.13 The *Status Bar Object Info Command*

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

4.8.14 The *Status Bar Element Info* Command

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

4.8.15 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.

4.8.16 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.

4.9 The *Help* Menu

4.9.1 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 OptiScout version you can fix them the fastest, if this list is made available to our support staff.

4.9.2 The *Help...* Command

This option starts the **OptiScout help**.

 **F1**

4.9.3 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***.

4.9.4 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 2.7.1: Corun Installer

4.9.5 The *Online Support* Command

The activation of this menu item establishes a direct internet connection to the support page of the EUROSYSTEMS S.à.r.l. - www.eurosystems.lu.

4.9.6 The *Remote Support…* Command

Via remote control the content of the screen of a computer can be transferred in realtime to another computer. Thus it is possible that two users who are at different places look at the same desktop. While you are on the telephone with our consultant (support) you can show each other documents or applications even if you are far apart from each other in reality. The direction of transmission respective line of vision can be changed with a mouse click. Thus you can choose if you want to look together at your screen or at the screen of your consultant.
In order to be able to use the remote support you need an active internet connection.

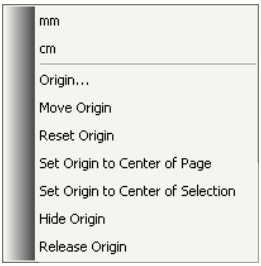
4.10 Context Menu Left Mouse Button

4.10.1 Context Menu Ruler

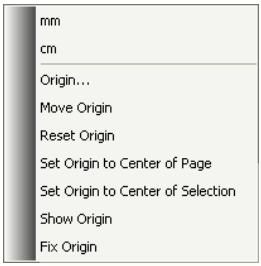
4.10.1.1 The *Unit* Button

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



4.10.1.1.1 Origin...

please refer to 4.7.7: The *Origin* Function

4.10.1.1.2 Move Origin

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

4.10.1.1.3 Reset Origin

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

4.10.1.1.4 Set Origin to Center of Page

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

4.10.1.1.5 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.

4.10.1.1.6 Hide Origin

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

4.10.1.1.7 Release Origin

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

4.10.1.1.8 Show Origin

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

4.10.1.1.9 Fix Origin

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

4.11 Context Menus Right Mouse Button

4.11.1 Context Menu on Empty Working Area

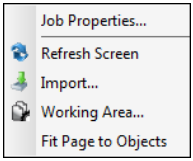


Fig. 4.11-1: This menu appears if no objects lie on the desktop

Job Properties…

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

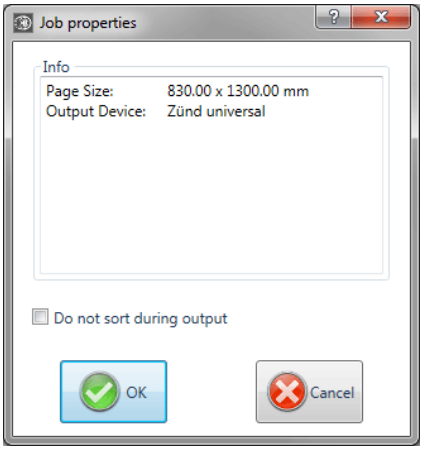


Fig. 4.11-2: Job properties dialog with job infos

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 OptiScout 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.

4.11.2 Context Menus Node Editing

Systematics of the menu structure:

If no locked objects are selected: - **insert** (if node selected), - **delete** (if node selected) - **break** (if 1 node selected and another one is behind), - **join** (if 2 nodes selected (start/start or start/end or end/end)) - **line** (if curves-node selected),- **curve** (if line-node selected), - **new starting point** (if 1 node selected and object closed)

If more than 1 node was selected: - **sharpen edges,** - **round edges,** - **join with line,** - **join with curve**

If 2 nodes within an object or a combination are selected: - **hor. object alignment**, - **vert. object alignment,** - **reduce nodes**

If less than 2 nodes are selected: - **reduce nodes,** - **round..., set origin to sel. node**

The menus in the graphical display

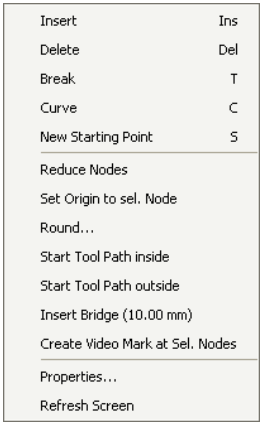


Fig. 4.11-3: 1 node selected

Start tool path inside or **start tool path outside**

A start tool path is used in the milling, graving and laser processing. The immersion point of the tool is moved from the original starting point from inwards or outwards. The advantage is that at the later output object no "immersion traces" are visible. Depending on the turning direction and arrangement of the object the start tool path is set inwards or outwards. The parameters for the start tool paths are set in the ***tools***-menu.

Create regmark at sel. nodes

This option takes care that a regmark is created at the selected node.

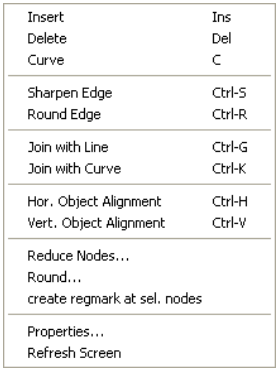


Fig. 4.11-4: 2 nodes selected

Sharpen edge **CTRL+S**

This function combines two nodes with two „smooth“ lines. Nodes that lie between the two marked nodes are deleted!

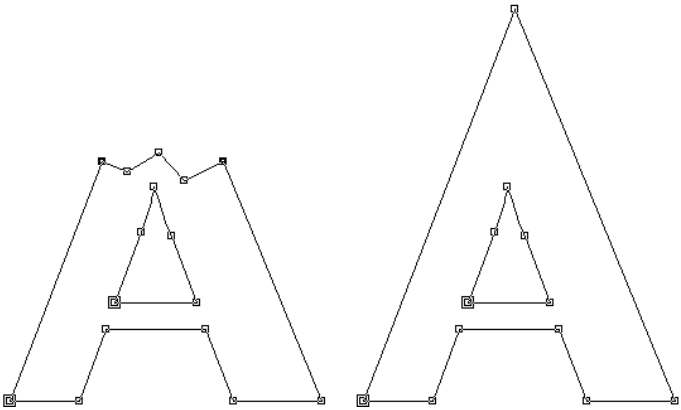


Fig. 4.11-5: Example for sharpen edge - filled with black the marked nodes

Indication: If one of the selected nodes lies at an edge the original angle is kept.

Round edge **CTRL+R**

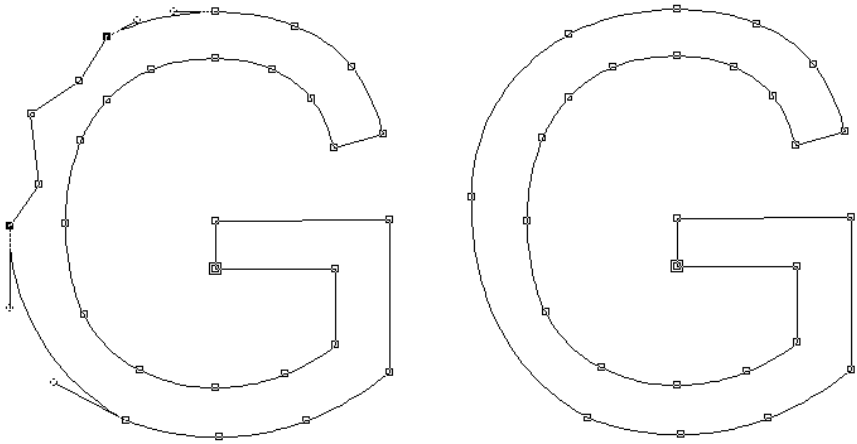


Fig. 4.11-6: Example for ***round edge*** - ***filled in black the marked nodes***

In the above illustration you can see that the „G” in the outer left area must be revised. To do this, the nodes above and below the "error" are marked. If now the ***round edge***-function is activated the nodes that lie between the marked nodes are deleted and the two dots are connected with a curve.

Join with line **CTRL+G**

The two selected nodes are connected with a line. Nodes that lie between the marked nodes are deleted.

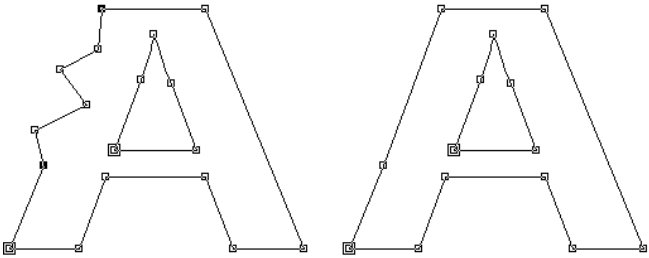


Fig. 4.11-7: Example ***Connect with line***

Join with curve **CTRL+K**

The two selected nodes are connected with a curve. Nodes that lie between the marked nodes are deleted.

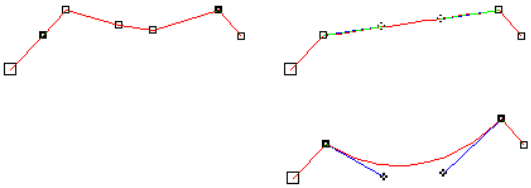


Fig. 4.11-8: Example ***connect with curve***

Hor. and vert. object alignment **CTRL+H or CTRL+V**

The object in which the nodes are selected are aligned at the horizontal respective vertical.

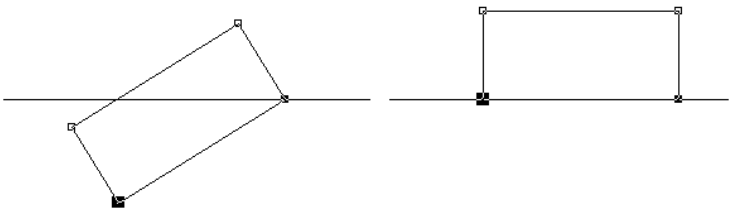


Fig. 4.11-9: Example for aligning object horizontally relative to the selected (filled with black) nodes

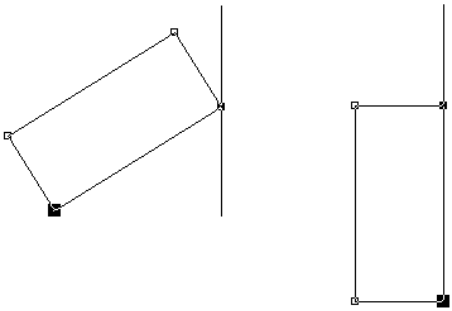


Fig. 4.11-10: Example for aligning object vertically relative to the selected (filled with black) nodes

Reduce nodes … **R**

The ***parameter reduce nodes*** dialog appears in which following settings can be done:

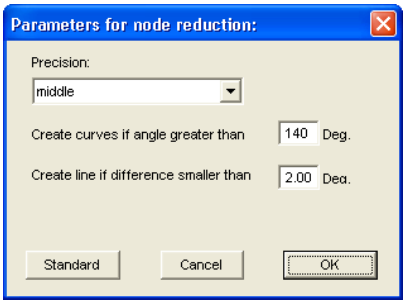


Fig. 4.11-11: Dialog for the settings of the accuracy of the node reduction

Precision

This value influences the conversion of lines to Bezier-curves. The higher the discrepancy the less curve instructions are needed in order to clone the initial line of curves.

Create curves when angle greater than … °

If at a node the angle of the lines is smaller than this limiting value the line of curves is interrupted at this node.

Create line if difference smaller than … °

If a curve is created who"s bending lies within the tolerance value it is converted to a line.

Node selection

Select next node	**TAB**
Select next node *additionally*	**SHIFT+TAB**
Select previous node	**Back**
Deselect last selected node	**SHIFT+Back**

Interactively *round edges* respectively *sharpen edges*

If you click with the mouse on a line of curves with the CTRL-button pressed on one, the node will be inserted at this position. This node serves for marking the rounding position. If the second node is selected you can sharpen, round or any other node edition function can be carried out.

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 4.1.5: 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 4.5.9: The *Box Nesting…* Function
please refer to 3.12.1.1: Foil 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 7.14: 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 3.12.1.2: 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 3.12.1.2: 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 3.7.6: Start Output from the OptiScout 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 OptiScout 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 OptiScout 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 **OptiScout 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 2.7.1: Corun Installer

5.5.4 The *Online Support* Command

The activation of this menu item establishes a direct internet connection to the support page of the EUROSYSTEMS S.à.r.l. - www.eurosystems.lu.

5.5.5 The *Remote Support…* Command

Via remote control the content of the screen of a computer can be transferred in realtime to another computer. Thus it is possible that two users who are at different places look at the same desktop. While you are on the telephone with our consultant (support) you can show each other documents or applications even if you are far apart from each other in reality. The direction of transmission respective line of vision can be changed with a mouse click. Thus you can choose if you want to look together at your screen or at the screen of your consultant.
In order to be able to use the remote support you need an active internet connection.

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***-menu. **CTRL+3**

Fig. 6.2-1: Freely placeable setup toolbar

Fig. 6.2-2: Fixed setup toolbar

BUTTONS FROM 1 TO 5

1. *Cross-hair* on / off
2. *Rulers* on / off
3. *Contour view* on / off
4. *Grid* on / off
5. Setup *working area*

Indication: Alternatively the working area also can be defined by double clicking on shades of the working area!

6.3 The *Node* Toolbar

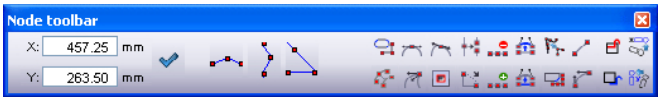


Fig. 6.3-1: Freely placeable node toolbar - collection of node editing tools

Indication: The object parameters toolbar (shown below) is switched over to the node toolbar while activating node mode. This happens either by double clicking a node or by clicking node editing button in the common tools toolbar.

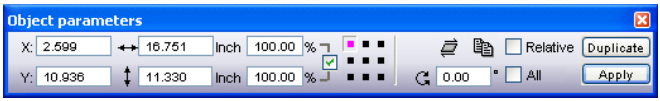


Fig. 6.3-2: Freely placeable toolbar - collection of all object parameters

Tip: The functions of the node edition that are used the most can be called up via the right mouse button. The allocation of the right mouse button changes, depending if one or several nodes are marked. In detail: ***please refer to 4.11.2: Context Menus Node Editing***

Indication: You select several nodes by keeping pressed the SHIFT key and by clicking with the left mouse button on the nodes that you want to mark one after another.

Round button U

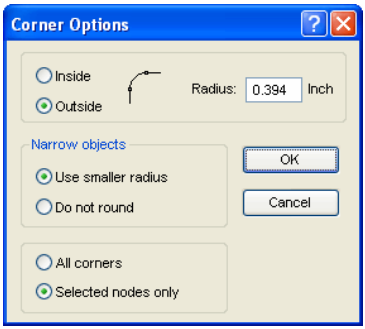


Fig. 6.3-3: **Round dialog of nodes**

The following setting possibilities are available in the ***round*** dialog:

Rounding Inside

If this button is activated ***only*** the ***selected nodes*** or the ***whole object*** are rounded inside at the given radius depending on the option selected in the dialog.

Rounding Outside

If this button is activated ***only*** the ***selected nodes*** or the ***whole object*** are rounded outside at the given radius depending on the option selected in the dialog.

Reduce nodes button

R

Reduce nodes

If this button is activated in the node edition all redundant nodes are removed which means the object is reduced of those nodes whose removal does not influence the course of the curve.

Attention: The node reduction always refers to the whole object.

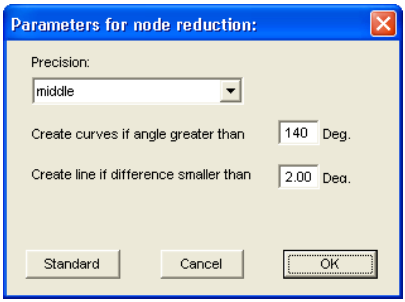


Fig. 6.3-4: Settings dialog for the node reduction

Symmetric node button

Y

With the instruction ***symmetric node*** the tangents are created symmetrically which means that both tangents form a line **and** the check points on both ends have the same distance to the node dot.

Sharp node button

P

With the instruction ***sharp node*** the symmetry and smoothing of a node is removed again. After that, each tangent can be modified. The display of the curve does not change at first.

Smooth curve button

Ä

With this option the tangents of a curve are modified in that way that they form a line. Always the minimum possible modification of the tangents is selected for this. At the position where a line passes into a curve this instruction adapts the tangent exactly to the line.

The advantage of the ***smooth curve*** instruction is that the transition from curves to lines and the course of the curve is done smoothly. When cutting later unaesthetic offsets are thus avoided.

Indication: If on both sides of the dot to be edited there are lines this instruction is not available. When moving tangents both tangents of a curve node loose their symmetric alignment to one another. With the smooth curve-instruction they are turned into a line again.

 ***New origin*** **button**  **S**

If you want to mill it is important for you to know where the milling cutter starts respectively where the tool first dips into the material to be edited. The origin nodes are marked by a **square with an additional contour.** This option moves the origin to the previously marked node dot.

 ***Open node*** **button**  **T**

This option creates open objects. Mark the node dot to be separated and then activate the ***open node*** button.

 ***Join nodes*** **button**  **N**

With this function you can combine open objects with each other. Click with the node cursor on the first node dot. Press the SHIFT keyand mark now the second node dot. Marked node dots are / will be filled with black and the status row indicates how many objects are marked respective selected. At the end, activate the ***join nodes*** button and the object will be closed.

Tip: A second possibility for marking node dots is using the marking function. For marking, draw a frame around the wanted dots with the left mouse button pressed.

Indication: The connection is only possible if two nodes are marked that are both end points of an open object.

 ***Delete nodes*** **button**  **Del**

This option deletes the node dot that was previously marked.

If it is an end point of an open object the two adjoining node dots are connected with a line if on one or both sides of the deleted node dots were curves. The node dots are connected to a line if on both sides of the deleted node were lines.

Indication: You delete a marked node dot the fastest with the DEL key on your keyboard.

 ***Insert node*** **button**  **I/Ins**

To insert node dots you move the node cursor to the spot on the wire frame of the object where the new node shall be inserted. Then you activate the ***insert node*** button.

Indication: ***CTRL - click inserts a node directly at the desired position.***

 ***Connect with curve*** **button** **K**

This option changes lines to curves with tangents.

 ***Connect with line*** **button** **G**

This option changes curves to lines.

Indication: All information of the curve is lost.

 ***Start Tool Path inside*** **button**

This option inserts a so called start tool path inside at the selected node. (Special function for routers and lasers).

 ***Start Tool Path outside*** **button**

This option inserts a so called start tool path outside at the selected node. (Special function for routers and lasers).

 ***Align nodes horizontal*** **button** **H**

This option aligns the selected nodes in the horizontal. With a doubleclick on a node - gets red - can be determined by which node is to be aligned.

 ***Align nodes vertical*** **button** **V**

This option aligns the selected nodes in the vertikal. With a doubleclick on a node - gets red - can be determined by which node is to be aligned.

Alignment buttons

This function aligns the node dots horizontally or vertically accurately.

Mark at least two node dots that shall be aligned accurately and double click on the **reference dot**. The reference dot is the dot to which shall be aligned.

 ***Arrange horizontally*** **button** **H**

This function aligns node dots horizontally.

 ***Arrange vertically*** **button** **V**

This function aligns the node dots vertically.

 ***Orthogonalize*** **button** **E**

A further possibility to align nodes is to align corners. This function balances nodes that are almost vertical or horizontal to their predecessor or successor nodes. ***Orthogonalize*** is a combination of align horizontally and vertically. This way, *right angles* can be fast created.

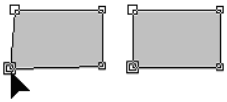


Fig. 6.3-5: Align corners - before / after

The previous illustration shows the method of operation of the ***ortthogonalization***. In the left illustration you can see the square in the original state. The down left corner is selected, the ***node*** toolbar is opened by a double click on this corner. The marked node will be aligned horizontally and vertically to its adjoining nodes. This way, a right angle is created. The result can be seen in the right illustration.

6.3.1 Direct Input of Coordinates of Node Positions

Position (mm) - horiz.(ontal) and vert.(ical)

In the ***node*** toolbar section ***position*** node dots can be positioned through the input of their **X or Y-coordinates**. With this positioning you differentiate between *absolute* and *relative* values.

Absolute values

With the input of absolute values the entered values are allocated to the **selected** node.

Relative values **SHIFT**

With the input of relative values the selected node is moved at the given coordinate value in horizontal and vertical direction *relative to the selected* node which means the entered and original coordinates are added.

Method of operation:

You first enter the wanted coordinates and keep pressed the SHIFT key while activating the ***move*** button.

Horizontal / vertical restriction when drawing lines and curves **CTRL**

With the CTRL key pressed lines can be restricted vertically or horizontally which means that the movement of the line is only possible in one direction.

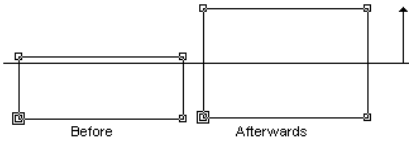


Fig. 6.3-6: Restricted drawing of nodes resp. lines

When drawing curves the curve is deformed. The deformation depends on the selected contact point as you can see in the following illustration.

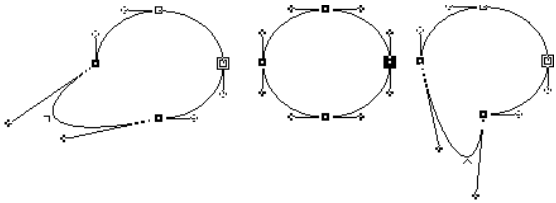


Fig. 6.3-7: Restricted drawing of curves

Indication: The node attribute smooth is automatically saved if the selected and following nodes are a curve.

Tip: The zoom functions are also active in the node editing mode.
Radius

In the window right next to the buttons mentioned above the ***radius*** with which the node or nodes shall be rounded can be set.

Narrow objects

Here, you can select between two options:

If the option ***use smaller radius*** is selected OptiScout calculates the radius that still is applicable for the rounding of this narrow object.

When selecting the ***do not round*** -option it is not rounded with narrow objects.

6.4 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 OptiScout versions (right mouse click for icon assignment) was the variable section of the object toolbar.

Fig. 6.4-1: Freely placeable toolbar - collection of objcet tools

Fig. 6.4-2: 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

6.5 The *Object Parameter* Toolbar

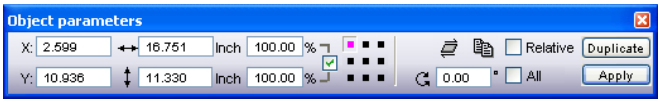


Fig. 6.5-1: Freely placeable toolbar - collection of object parameters

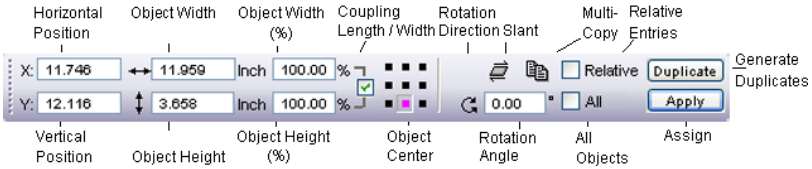


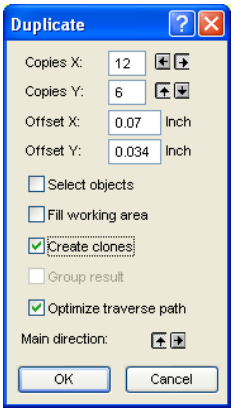
Fig. 6.5-2: Object parameters toolbar with explanations

6.5.1 The *Multi Copy* Command

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

6.5.1.1 The *Multi Copy* Button

Pressing the button opens the following dialog:



6.5.1.2 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.

6.5.1.3 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.

6.5.1.4 Offset X:

This value determines the distance between the duplicates in X-Axis direction.

6.5.1.5 Offset Y:

This value determines the distance between the duplicates in Y-Axis direction.

6.5.1.6 The *Select Objects* Option

If this option is enabled, all duplicates will be selected finally.

6.5.1.7 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.

6.5.1.8 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.

6.5.1.9 The *Group Result* Option

Enabling this option groups all duplicates finally.

6.5.1.10 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.

6.5.1.11 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".

6.6 The Status Line *Object Info*

This status line informs about the properties and attributes of objects on the OptiScout desktop. This information comprises number, type of object, color model, color value and many other data important for the evaluation.

Fig. 6.6-1: Status line for the display of object properties, color spaces , etc. - free floating

Fig. 6.6-2: Status line for the display of object properties, color spaces, etc. - fixed

6.7 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. 6.7-1: Status line element with subsidiary texts and element information, here coordinates

6.8 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**

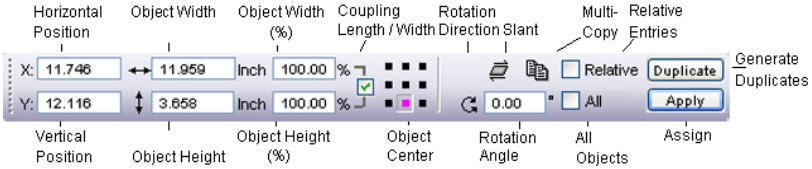
The activation of this button gives the data to the Plot-Manager for the output to the connected device.

6.9 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 OptiScout versions.

Fig. 6.9-1: 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 OptiScout the desktop with the working area appears as follows:

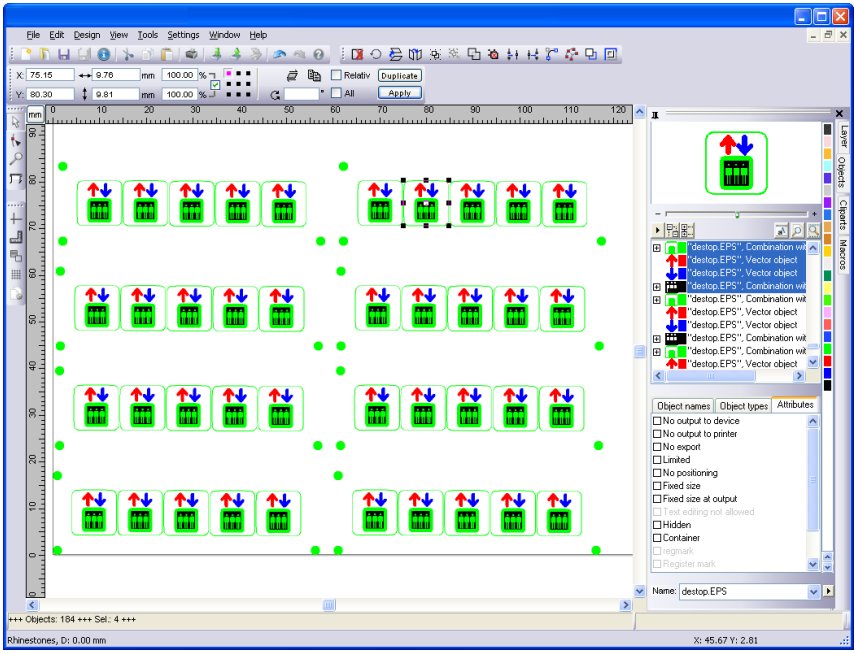


Fig. 7.1-1: OptiScout Desktop with working area and shown tool-toolbar, rulers, Object Manager and status lines

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

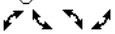
Indication: You mark objects by positioning the mouse cursor above the object and pressing the left mouse button.

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 parameter*** toolbar or via the ***tools*** menu, menu entry ***outline...***

The ***outline*** function creates contours in a freely definable distance around graphical and text objects.

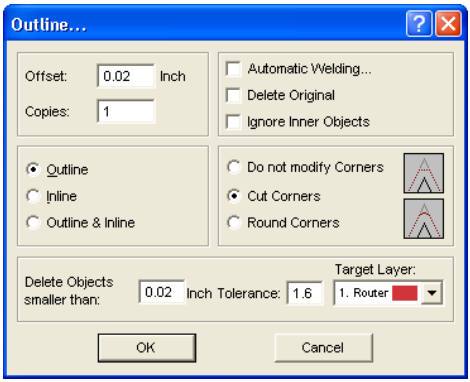


Fig. 7.2-1: Outline parameter window

Offset

The value for the distance of the inline and outline from the original object are entered in the field ***offset***.

Copies

The option ***copies*** indicates how many in- or outlines shall be created simultaneously at a function call.

Automatic welding

Automatic welding means that all overlappings of in- or outlines shall be removed so that a closed contour is created.

Delete original

If the button ***delete original*** is activated the original object is deleted after the creation of the contour.

The corner treatment can be influenced via three additional options.

Do not modify corners

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 to the value that is entered in the field ***tolerance***.

Round corners

Round corners transfers the corner dot in a rounded curve. The field ***tolerance*** indicates in which offset from the corner dot is cut respectively rounded.

Delete objects smaller than

Delete objects smaller than defines the size of a filter that deletes automatically small and smallest "rejects" that might occur at the creation of an outline. The cumbersome welding of smallest parts thus can be omitted.

7.3 The *Milling / Hatch Fill* Function

This function is activated via the button in the variable part of the ***object parameter*** toolbar or via the ***tools*** menu, menu entry ***milling / hatch fill...*** **F**

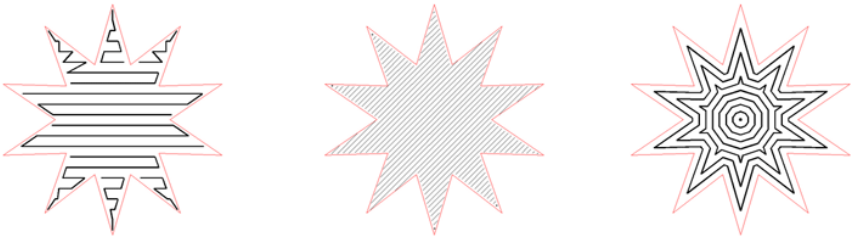


Fig. 7.3-1: Hatch with pocket connection, without pocket connection, Island fill (concentric)

7.3.1 The Hatch Fill and Island Fill Dialog

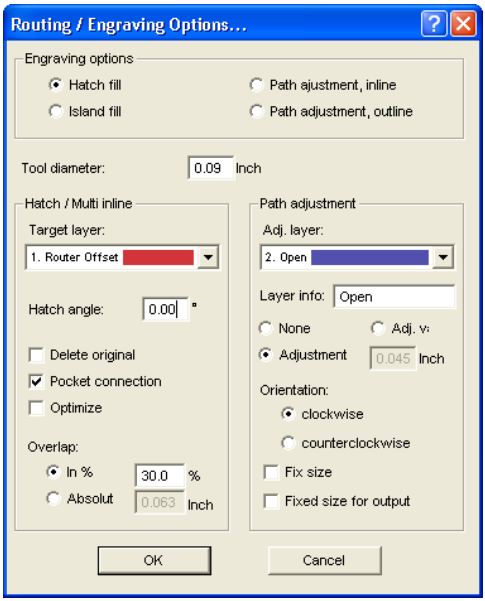


Fig. 7.3-2: The routing / engraving dialog

Hatch fill

If the option ***hatch fill*** is activated the area to be hatch filled is provided with a hatch. The area is hatch filled along this hatch.
The ***hatch angle*** can be set in the so named field.

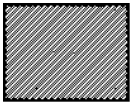


Fig. 7.3-3: Hatch fill with hatch, hatch angle 45°

The *point of start* of the hatch is up left and the *end point* is down right.

Island fill

When selecting this option the area to be hatch filled is provided with ***inlines***. Along these inlines the area is hatch filled from *outside to inside*.
The black areas that lie in-between the inlines are called „***islands***“.

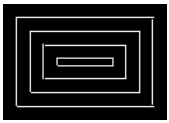


Fig. 7.3-4: Hatch fill with multi-inline

Path adjustment, inline

If this option is activated, the selected objects are provided with an inline (tool diameter).

Path adjustment, outline

If this option is activated, the selected objects are provided with an outline (tool diameter).

Tool diameter

Here, you set the tool diameter. When the milling diameter is 3 mm you have to enter the value 3.

Hatch / Multi-Inline

Target layer

Here, you define in which ***color layer*** the hatch shall appear. This serves on the one hand to separate the original object optically stronger from the hatch and on the other hand to influence the priority in which the single layers shall be milled.

The objects are milled in the *reversed* sequence in which the color layer was selected. At first, all objects to be milled are sorted in that way that the interior elements are considered before the outer elements. Then, the single color layers are processed in descending sequence: for example red (2) before black (1), green (3) before red (2) and blue (4) before green (3).

Indication: The color layers are used to determine the milling depth of the single layers. More detailed information about the connection between color layer and milling depth is in the chapter setting of the milling depth.

Hatch angle

With the ***hatch angle*** you determine in which angle shall be hatch filled or in other words, in what angle the traverse path of the miller is to the material.

Delete original

If the option ***delete original*** is set, the original outline is deleted after the hatch fill process.

Pocket connection

The option ***pocket connection*** determines if the single hatch fill lines shall be connected with each other or not. Here, the surface to be cleared is provided with hatching in which the tool is not raised as long as the hatching lines can be connected to one another.

Optimize

If the option ***optimize*** is active, the hatch fill lines are still connected if with activated ***pocket connection***-option there are gaps on the shorter side.

Indication: The milling duration shortens. Sometimes this leads also to an unwanted derogation of the hatch picture.

Overlap

With the ***overlap*** it is determined how big the distance between the single hatch fill lines shall be. With ***overlap*** it is avoided that single bridges remain.

In % or absolute

Example:

1. The tool diameter is 2 mm
2. The button ***in %*** is set to 30 %

Result: 2 mm - 30 % = 1.4 mm

30 % corresponds to ***absolute*** 1.4 mm**. If the option *absolute*** is active you can enter here the value (here: 1.4) also directly.

Path adjustment

The ***path adjustment*** determines if for the outline the milling strength shall be considered or not. If the option ***path adjustment*** is activated the outline is moved for the half milling strength inwards which means that from the original outline of the object an inline with half the value of the milling strength is calculated. This option effects that the outer edge of the original outline is accessed accurately by the milling tool. The original measurements remain.

Adjustment layer

Selection field for the layer in which the created path adjustment is stored.

Layer info

Serves for the display or modification of the layer-info. (Refer to *layer settings* dialog / field *information*)

Indication: Here is only displayed if layer numbers are switched off.

None

If the option ***none*** is set the outline of the milling object remains in the original status.

Indication: As result the milled object is strengthened for the half milling strength because the milling tool accessed the original outline centered.

Adj. Value

With the option ***adj. Value*** the traverse path can be moved inwards at any value. The result of this option is that the original measurements of the milling object are decreased inwards for the set value *plus* half of the milling strength.

Adjustment

If this option is activated an adjustment value for the path adjustment can be entered in mm.

Orientation

Clockwise

Sets the orientation of the path adjustment (inline or outline) to ***clockwise.***

Counterclockwise

Sets the orientation of the path adjustment (inline or outline) to ***counterclockwise.***

Fix size

OptiScout sets attribute to ***fix size*** which means that the adjustment object cannot be scaled any more.

Fixed size for output

The adjustment object is not scaled with video marks at the output.

7.3.2 Mill with or without Frame

With a small „trick” two different results can be obtained at the hatch fill. When milling *with* frame the objects remains embossed. When milling *without* frame the milling object itself is milled deepened out of the material.

Depending on which of the two effects you want to have you have to draw a frame (rectangle) around the objects to be milled with the drawing tool ***rectangle***. If the frame around the milling objects is drawn the ***milling / hatch fill*** -function recognizes this and omits the milling objects before the hatch fill.

Example:

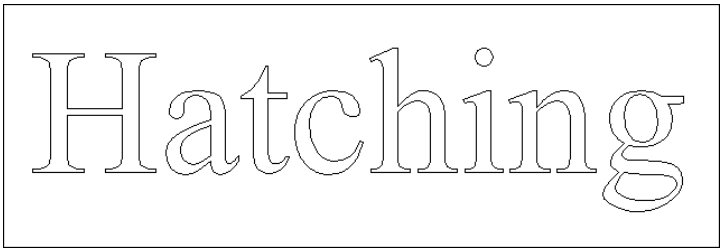


Fig. 7.3-5: Text with frame

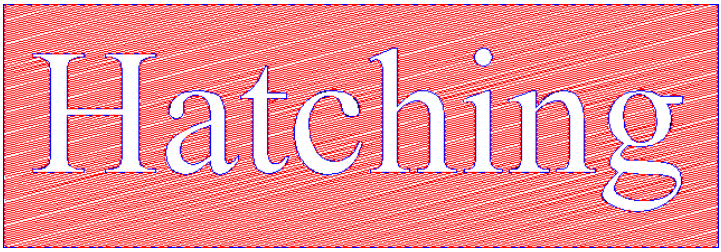


Fig. 7.3-6: Result: embossed text

Fig. 7.3-7: Text without frame

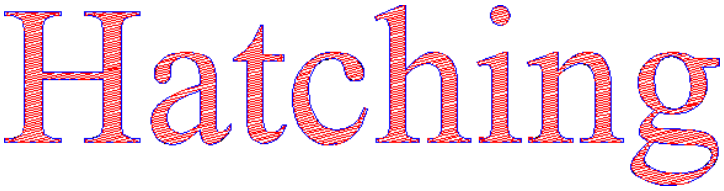


Fig. 7.3-8: Result: milled text

7.3.3 Setting of the milling parameters

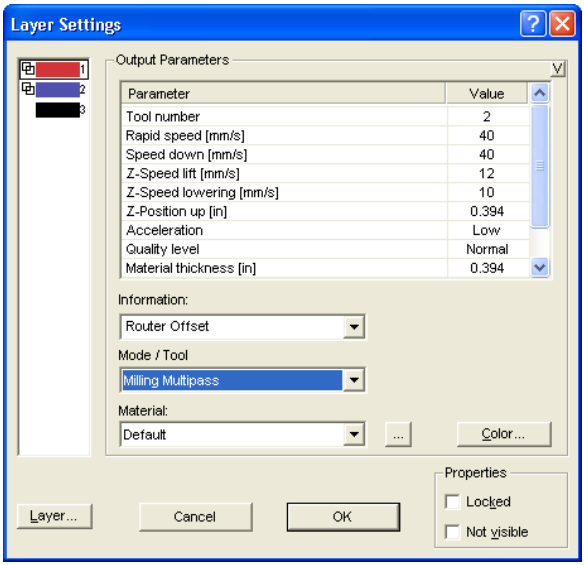


Fig. 7.3-9: Milling parameters with the example of a flatbed cutter

In the area ***output parameters*** all driver parameters can be set that are important for the mode *milling*.

7.3.4 Milling Tool Radius Correction - Interactive and Dynamic

With the interactive, dynamic radius compensation to the OptiScout user has a powerful tool that can significantly simplify and accelerate the milling workflow. Any change is immediately displayed on the work area and any resizing will be recalculated immediately.

Important note: An animation on www.optiscout.com illustrates the mode of operation of the milling tool radius correction including cleaning pass.

What means *interactive?*

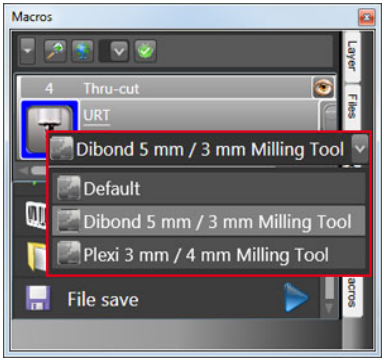
Any change in tool diameter and orientation is performed immediately and displayed on the working area. Each reselection of the output profile is applied to the selected objects.

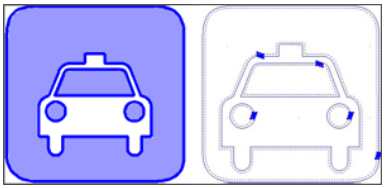
What means *dynamic?*

At every scaling of milling objects a recalculation is performed.

How does the optimal workflow look like?

If the data are prepared in such a way that the color of the corresponding Quick Layer corresponds, then immediately after the import an output-capable job is created! Tool, tool diameter and material are predefined in the ***output profile***.



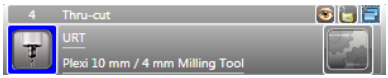


The milling functions are embedded in the OptiScout Quick Layer material selection. On the working area the milling objects are displayed with transparency and full-color path adjustment. If the ***contour mode*** is enabled, then in addition the object orientation is indicated.

7.3.4.1 How to create an output profile?

7.3.4.1.1 The *Quick Layer*

The Quick Layer here with the output mode: ***Thru-cut, Tool:*** URT and ***Output profile***: Plexi 10 mm / 4 mm Milling Tool.

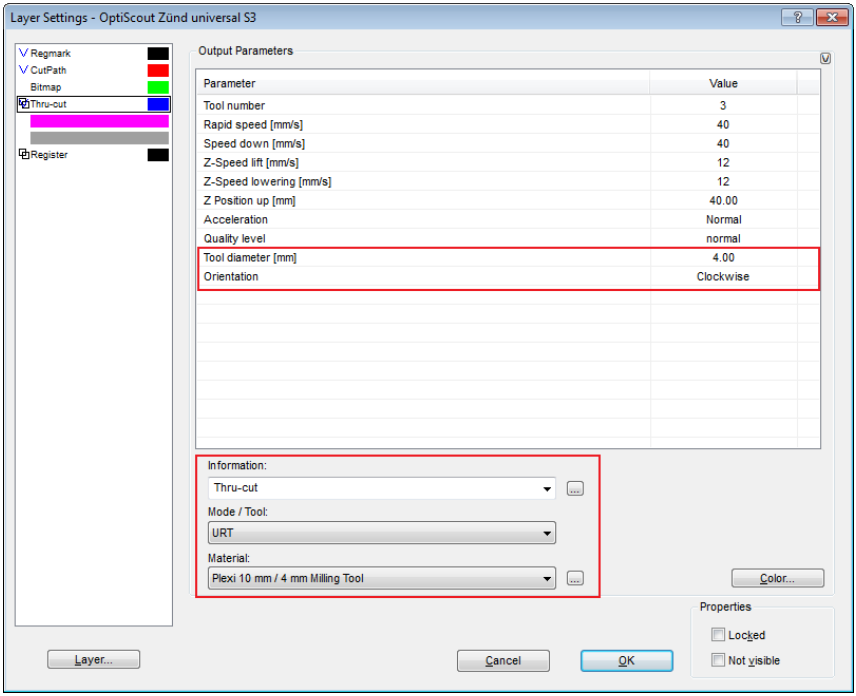


7.3.4.1.2 The *Edit* button in the Quick Layer

A click on the ***Edit*** button opens the following dialog.

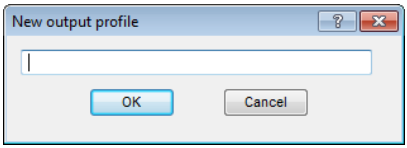
7.3.4.1.3 The *Layer Settings* Dialog

The settings relating to the tool diameter and the object orientation are done in the ***Layer Settings*** dialog.



7.3.4.1.4 The *Threepoint* Button

This button provides the generation and naming of a new ***output profile*** for the active Quick Layer. After you click the following dialog appears.



Here the ***name*** can be specified for a new output profile. In the output parameter range (see above), the matching parameters are defined. After saving in the active Quick Layer a new output profile is selectable.

Note: Radius correction can alternatively be done via the tools menu, menu item Milling / Hatching….

7.3.5 Kerf Compensation (Special Case: Laser)

The aim of the ***kerf compensation*** is the exact dimensional accuracy of the lasered object. The cutting gap (kerf) compensation is identical to the milling tool radius compensation, with the difference that the value range is 4/1000 of an inch.

Note: Job preparation with cutting gap correction is also possible with OptiScout Design and Prepare. The output then is made with Front-end or Production.

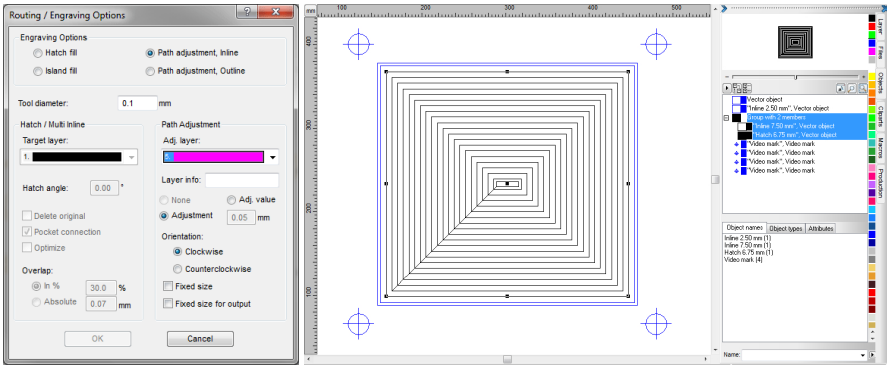
The kerf compensation is an element of the post-processing with laser cutting - a thermal separation process using a laser. The deviation which is caused by the cutting gap of the laser (0.004 in) must be **compensated side properly before the output**, in order to **maintain a perfect object measure in the production.**

Important Note: An animation on www.optiscout.com illustrates the effect of the laser gap compensation.

7.3.5.1 Practice

The definition is made in the ***Tools*** menu - Menu entry: ***Milling / Hatching ... /.*** In the example below, the setting of ***Path adjustment, Inline*** was selected with a tool diameter of 0.1 mm.

7.3.5.2 Tool Radius Correction

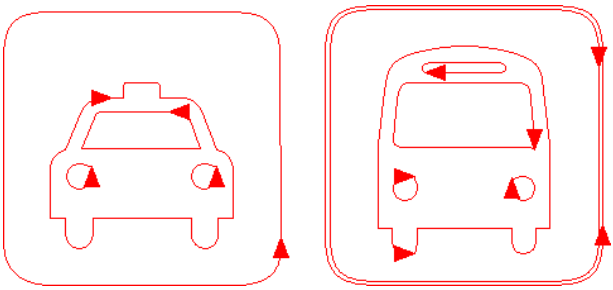


Note: It is useful to alter (F9) between the "Contour mode" and "Fill mode" as required.

7.4 Object Rotation Direction Indicator

CTRL+F9

It is often important to know how the direction of rotation of the objects is - clockwise or anti-clockwise, because the object rotation direction determines how the tool processes the contour (milling!). This function is used to display the orientation of the contours. You can change the orientation using the ***Adjust orientation*** **function**.



7.4.1 Practice

1st Step: Activate the ***Show object orientation*** **option** in the ***View*** **menu**.

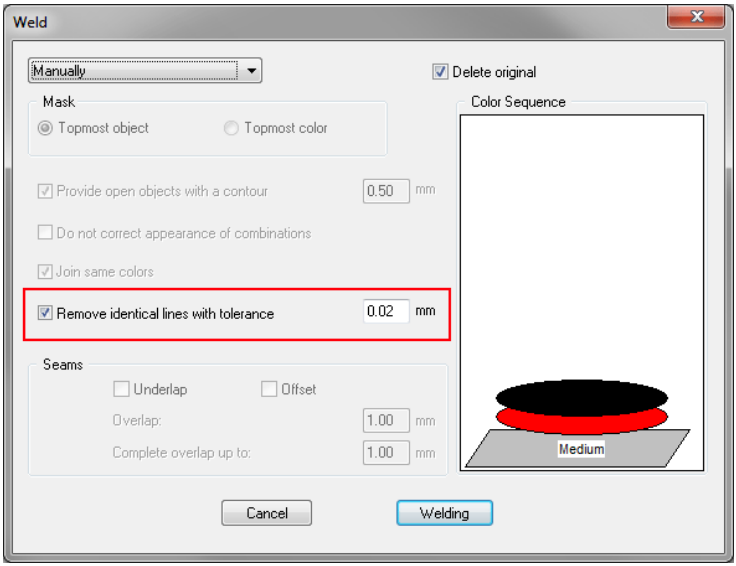
2nd Step: Select object(s).

3rd Step: Either click the desired indicator or change the orientation in the ***Design*** **menu -** *Clockwise* > / *Counterclockwise* <.

Alternatively change object rotation via ***Plug-ins* menu / Orientation**.
please refer to 8.7.3.3: The *Orientation* Function

7.5 Double Line Removal

This function removes super-imposed lines or rather welds them into one contour. The required tolerance can be defined. The double line removal is a subfunction of the **manual** welding. It is used everywhere to prevent that a tool runs a path twice (milling, lasering).

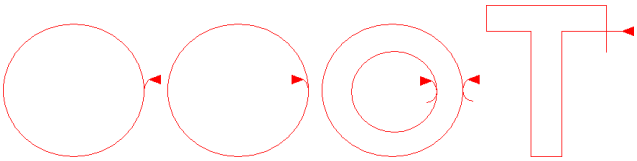


Practice

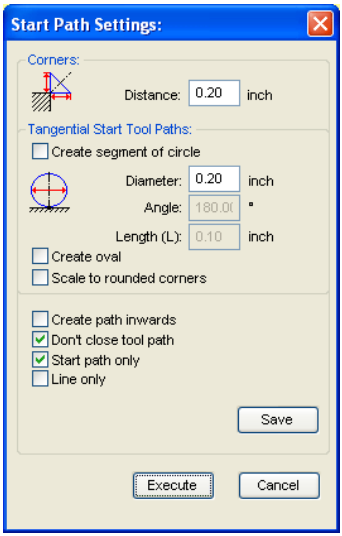
Select the overlying contours and activate the **manual** welding function. Also, activate the ***Remove identical lines with tolerance* option**, which is red-rimmed above. Specify the tolerance from which the welding function should intervene.

7.6 The *Start Tool Paths*

Definition: When milling or laser cutting it often happens that at the starting point of an object dipping marks are visible. In order not to affect the quality of the objects to be milled, the starting point can be displaced to a position outside or inside the object (***Start Tool Paths***), so that it is not visible anymore.



Important note: An animation at www.optiscout.com shows the effect and use of start tool paths.



7.6.1 Corners

7.6.1.1 Distance

The value in the ***Distance* field** defines the line lengths of the tool path - starting from the selected node.

7.6.2 Tangential Start Tool Paths

7.6.2.1 *Create segment of circle* Option

This option generate circle segments (quarter or half circles) at the selected node in case of curves or circles

Diameter

This value determines the circle diameter of the tool path.

Angle

A circle is divided into 360 horizontal segments. Depending on the angle the number of circle segments is generated.

Length (L)

This value defines the length of the oval.

7.6.2.2 *Create oval* Option

This option generates on oval (ellipse) as alternative to a circle tool path. The value in the length field defines the width of the oval.

7.6.2.3 *Scale to rounded corners* Option

The ***Length* value** defines the curve length of the start tool path. At the selected nodes the tool paths are placed - depending on conditions - outside or inside the objects.

7.6.2.4 *Create path inwards* Option

Depending on the orientation of the objects a start tool path is place inside or outside at the object.

7.6.2.5 *Don't close tool path* Option

Enabling this option causes, that the generated code segment, the tool path, is not shut.

7.6.2.6 *Start path only* Option

If this option is enabled, there is only one start tool path generated and no exit tool path.

Note: This applies to segments of circles and lines.

7.6.2.7 *Line only* Option

If this option is enabled, only lines no circles as exit tool path are placed at the object.

Note: Even at circles and lines tool paths are generated.

7.6.2.8 The *Save* Button

Enabling the ***Save* button** saves the above mentioned settings. These parameters are used, when the ***Start Tool Path*** command is executed.

7.6.2.9 The *Execute Button*

Enabling the ***Execute* button** performs the action for all selected objects.

7.7 Segment Helper (Driver Option for Textile Cutting)

The disconnecting of contours in textile cutting frequently leads to distortions in the fabric. When textile cutting oversized objects so called segment helpers* come into action. They prevent the emergence of runs.
Suitable **materials** are, for example, Textile, Cloth, Fabric, Carbon Fiber, Felt, Glass Fiber, Leather Skin, Nylon.

Important Note: This option can not be activated on all machines. Information at EuroSystems - www.optiscout.com!

Types

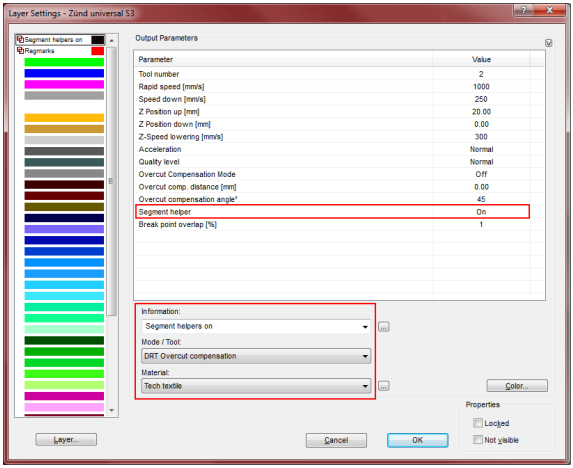
Hooks and **Circles** are preferably used with lasers; **T Shape** using rotating roll knives. Result is a **textile cut without runs**.

An animation on www.optiscout.com demonstrates effect and use of segment helpers.

7.7.1 Practice

Tools: Laser head or Oscillating Knife / Rotating Roll Knife

The **activation** is performed in the ***output parameters*** section of the **tool layer** (see figure below). Also **type** and **size** of the segment helpers are preset here.



7.8 Overcut Compensation (Driver Option)

The aim of the overcut compensation is to optimize the cutting quality. With the following methods an optimum cutting result for the respective material is achieved. The cutting paths are optimized by the Plot Manager depending on tool, material type and thickness. Specific driver parameters ensure that the objects are cut optimized.

Note: The job preparation with subsequent optimization methods is also possible with OptiScout Design / Prepare. The output can be done with Front-End or Production.

7.8.1 Tools

The matching tool has to be chosen according to **material type** and **thickness**!

1. Tangential Oscillating Knife

Materials: Cardboard, Folding Carton, Paper, Magnetic Foil, Foam, Sealing Material

The ***tangential oscillating knife*** is lifted in accordance with the driver values from the material and then rotated by 180 °. The cutting path is traced in the opposite direction. This compensation method ensures that the object material is not damaged.

An animation on www.optiscout.com demonstrates effect and application of an overcut compensation for the *tangential oscillating knife*.

2. Rotating Circular Blade

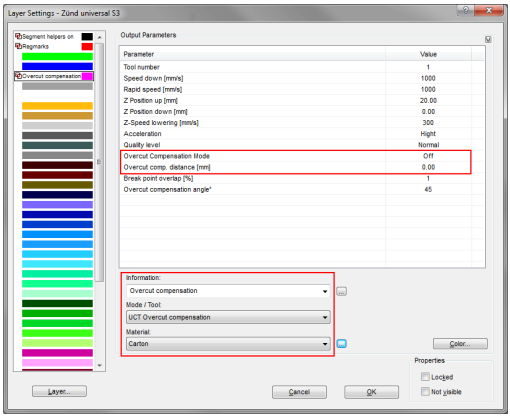
Materials: Cloth, Fabric, Carbon Fiber, Felt, Glass Fiber, Leather Skin, Nylon

The appropriate overcut compensation - **positive** or **negative** - is defined in the **device driver**. A **positive value** will prevent that the object material will not be damaged during immersion even when retracting, i.e. is not cut too far. A **negative value** will prevent that the object material will be damaged at the inner angles. The surrounding material plays no role in this method.

An animation on www.optiscout.com demonstrates effect and application of an overcut compensation for a *rotating circular blade*.

7.8.2 Practice

Activation is performed in the **output parameters** of the **tool layer** (see figure below):



This defines the mode and length of the overcut compensation, as well as the overlapping of the intersection points.

7.8.2.1 Example:

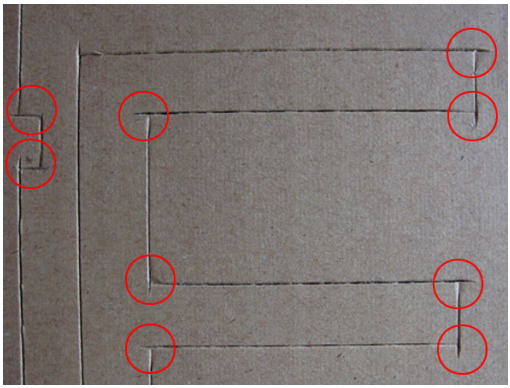
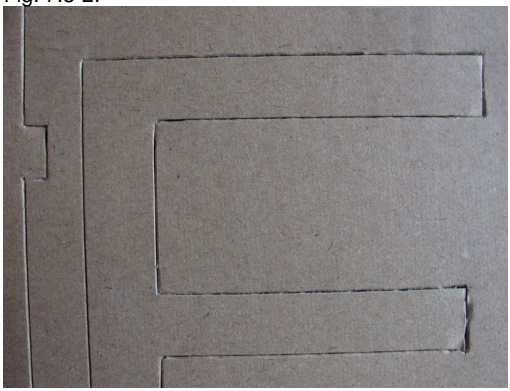


Fig. 7.8-1: Without Overcut Compensation

Fig. 7.8-2:



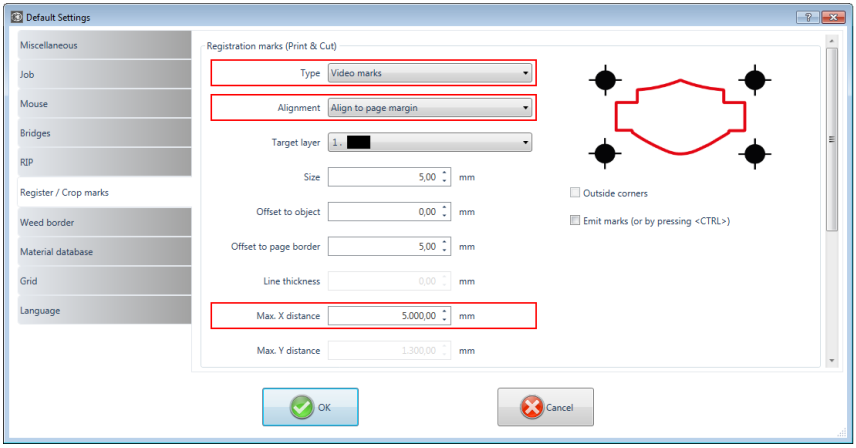
With Overcut Compensation

7.9 Edge Detection

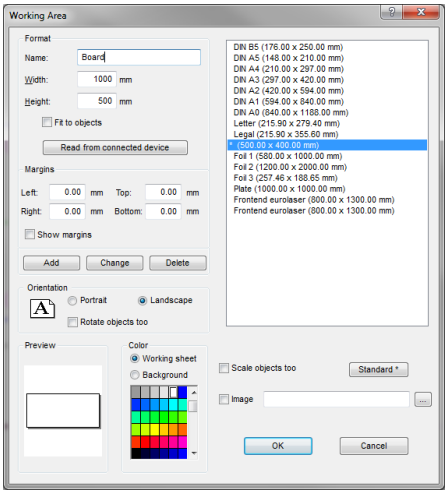
This type of recognition is required if material is handled, where the attachment of the visible video marks is not allowed or wanted, such as Plexiglas or cardboard.

Open the ***"Settings – Standard settings – Register / Jog Marks" dialog*** and set the ***"Align to working area" option*** active. Make sure the ***"Max. X distance"*** is higher than the maximum table size of the cutter in X axis, e.g. 5000 mm. Press **"OK"** to exit the setup.

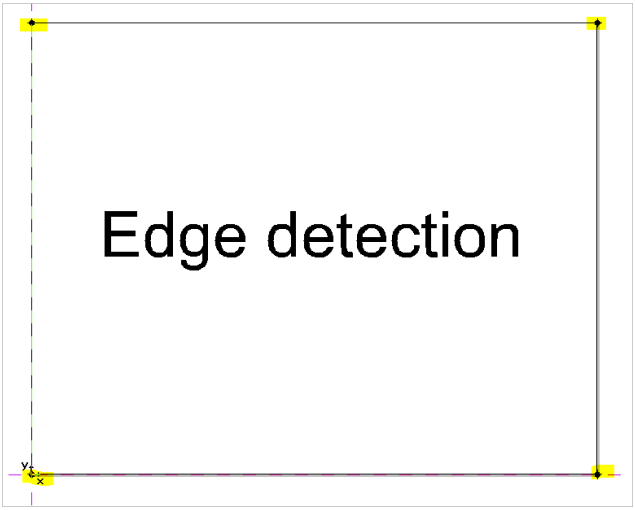
7.9 Edge Detection



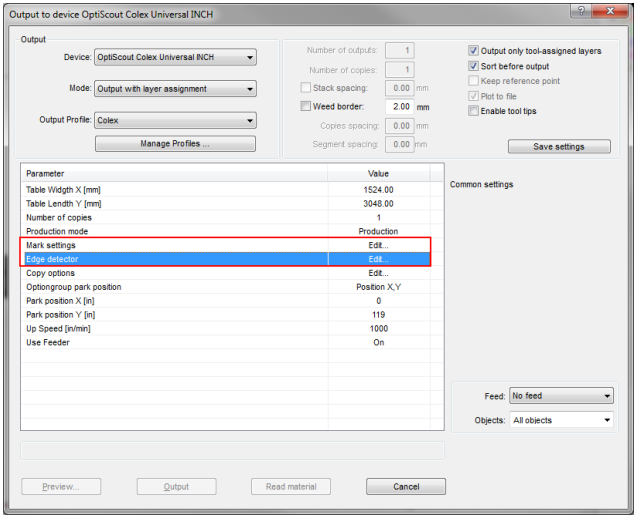
Import the cut file and set the size of the working area to the size of the printed board. Press the right mouse button and select ***"Working Area"*** from the context menu.



Exit the work area setup and move the objects on the work area to the position where you want to output them on the board (e. g. center of the board). Select all objects and choose the option ***"Set Jog Marks"*** from the ***"Tools" menu***. The result should be one regmark at placed on each corner of the board. Make sure that the file contains no more regmarks than the 4 at the corners.



Assign the output tools and set the tool parameters for the layers. Prepare the file for the output sequence.
Start the output for the cut file. Click ***"Edit"*** to open the setup interface for the edge detector.

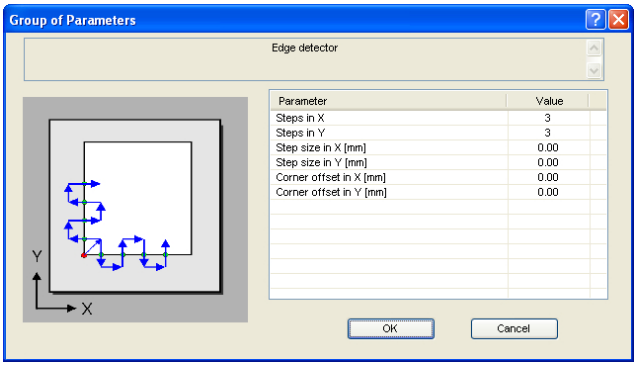


Now set the ***parameters*** for the edge detector.

Steps in x and y means the number of points along the edge to be measured. This value should be higher than "1" for X and Y to get a good accuracy.

We recommend using a value between 3 and 5.

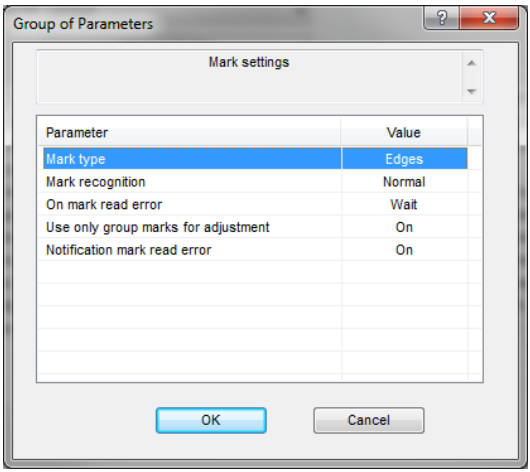
The ***step size*** parameter defines the distance between the measured positions along the edge in X and Y axis.
We recommend using a value between 30 and 100 mm.



The ***corner offset*** defines the first point to be measured after placing the camera to the lower left corner of the board. This value is used to start the recognition in an area of the board where the edge is not damaged. Sometimes the corners of boards a not in good condition for edge recognition.
We recommend using a value between 10 and 30 mm.

Confirm the settings and close the dialog.

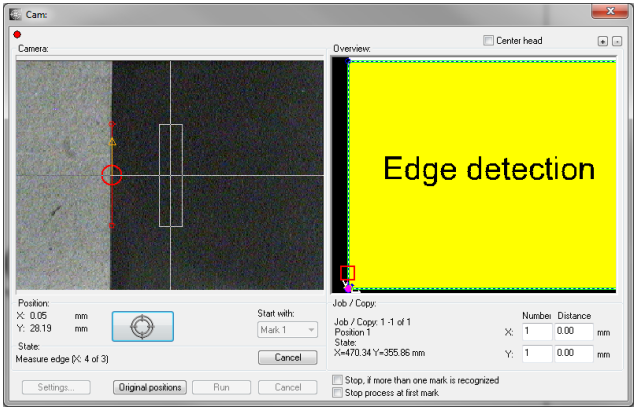
Click ***"Edit"*** to enter the mark settings dialog and select ***Mark type*** "Edges" from the list.
Click "OK" to confirm and exit the dialog.



All the setup can be saved in an ***output profile*** in the output window. Press the ***Manage profiles button*** and select the ***"Add" function***. Enter the name for this setup and press OK. The output profile list should now contain minimum 2 entries.

Now press ***"Output" button*** to continue. The recognition window of the camera should now open. Move the head in x direction approx. 10 mm X away from the corner of the board and start the recognition if the green or red arrow indicates the edge of the board. The edge detector will now detect the defined amount of points along the x axis.

After reading the x axis the camera will change the orientation and start looking for the edge in Y axis. The defined amount of points will be measured as well. If every edge has been detected the ***"Run" button*** will become active to output the file. By pressing the ***"N" key*** on your keyboard you can check the recognition before you run the file. The camera will move the cross hair to the lower left edge of the board.

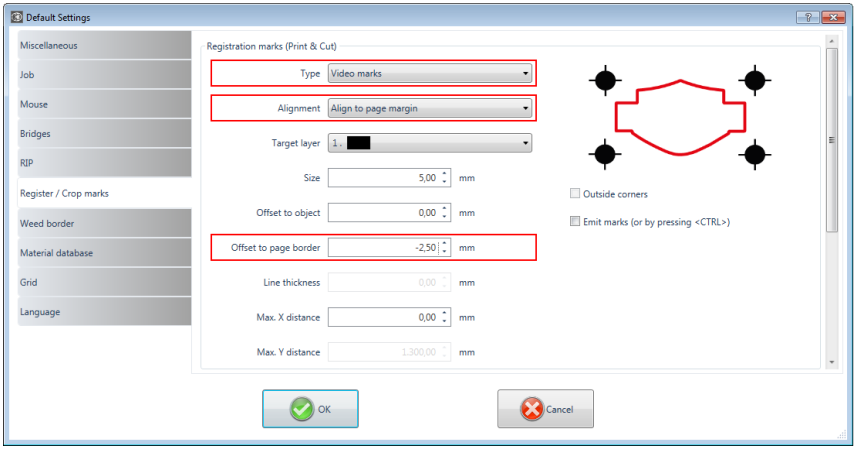


7.10 Corner Detection

The approach is similar to the edge detection. Video marks are used to detect the corners of the material. In difference to the edge detection the compensation is active; the cut contours are scaled accordingly to the compensation factor.

1. Basic Settings

- a. Select Type "Video marks"
- b. Activate "Align to working area" option
- c. Set "Page Margin" to negative (minus) 50% of the video mark size!

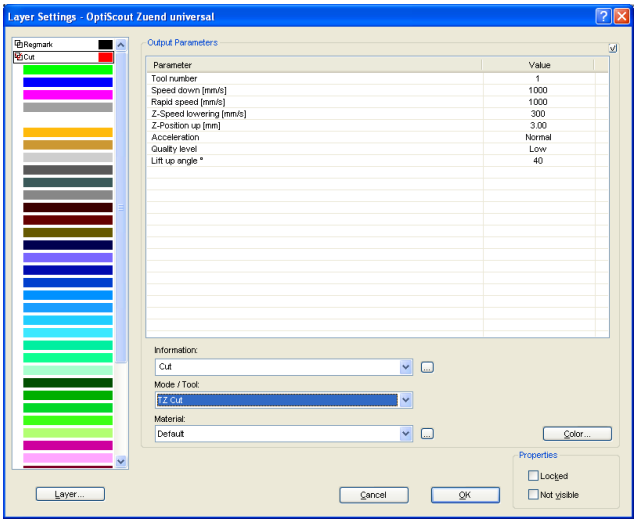


2. Regmark Placement

Import the cut file and set the ***working area*** to the size of the sheet that should be detected. Select the cut contours and choose the ***Set Jog Marks*** function from the tools menu. This function will now place one regmark on each corner.

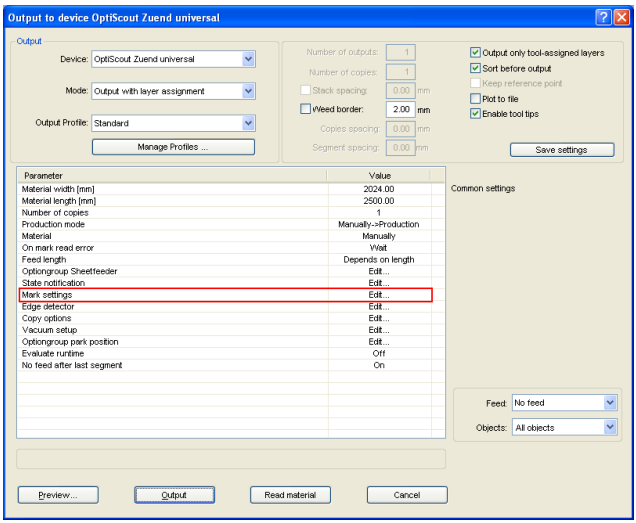
3. Set Output Parameters In The Layer Dialog

Select the ***Mode / Tool*** which should be used.



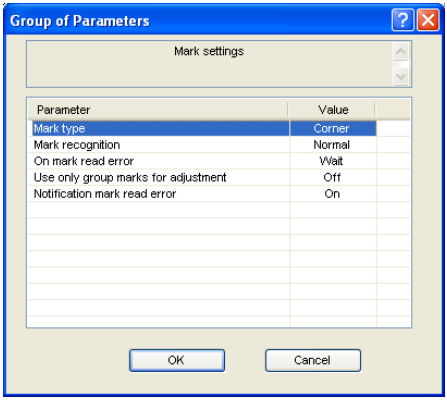
4. Start The File Output

After pressing the ***Output*** button the following Dialog appears:



5. Mark Setting "Corner" In The Parameter List

A click on the ***Edit…*** field of the ***Mark settings*** parameter opens the dialog for the setting of the mark type.



When you start the ***output*** the OptiScout recognition window will appear. Move the camera on top of the magenta indicated corner and press the  button.

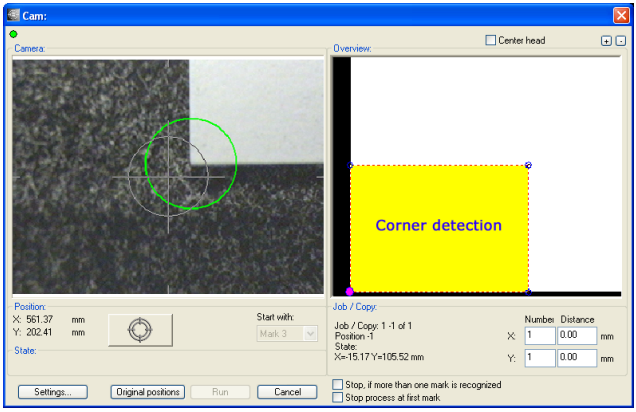


Fig. 7.10-1: Before the detection of the video marks

After all marks have been approached and recognized, the result can be confirmed by clicking on the ***Run*** button.

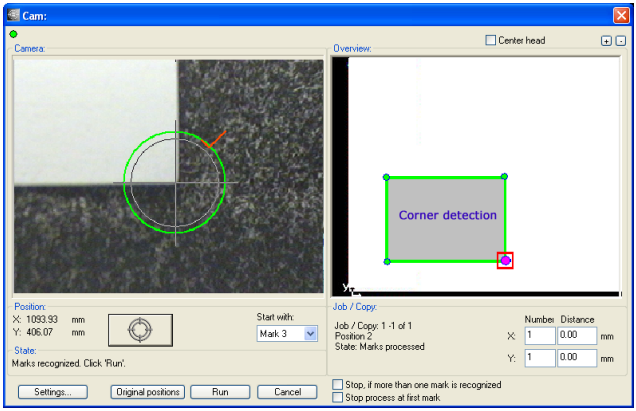


Fig. 7.10-2: After the detection of the video marks

The click on the ***Run*** button starts output of the contours.

7.11 Feed Optimization (Smartfeed)

The aim of the **feed optimization** is 'minimal segmentation' of object contours. In order to achieve this objective, device feed and segment lines are moved dynamically. The segmentation of the objects is prevented by performing an **intelligent feed**.

An animation on www.optiscout.com illustrates the effect of **feed optimization** using the example: textile cutting.

7.11.1 Practice

Tools: **Rotating Roll Knife** or **Laser**

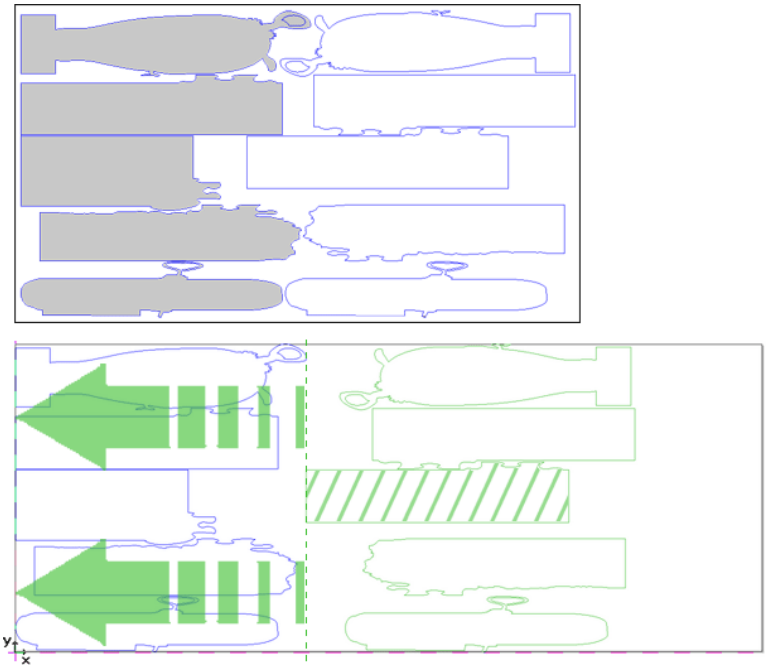


Fig. 7.11-1: „Intelligent" feed - The green dashed object is processed only after the feed.

The **initial situation** is a printed textile roll which is to be cut by means of a rotating roll knife or laser. The separation of the objects is prevented with a "smart" feed. If the object to be cut is larger than the table length, segmentation is performed conventional. Oversized objects for textile cutting will be equipped and separated with **Segment Helpers**.

The **result** of this process is that as little object contours as possible are disconnected.

7.12 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.

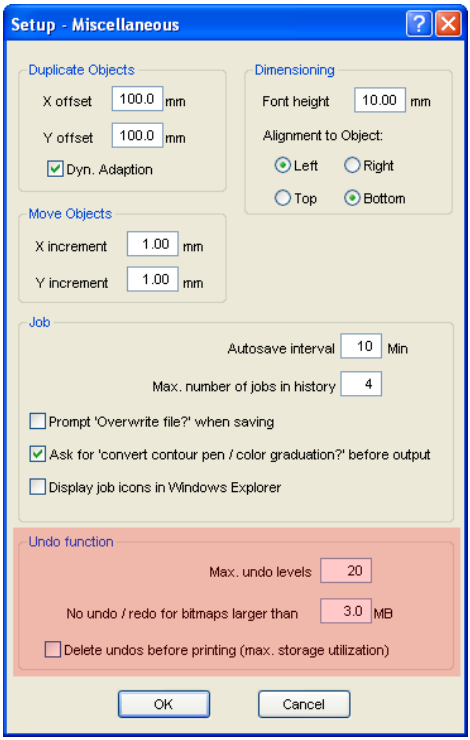


Fig. 7.12-1: The parameter of the undo stack (here: marked in red)

The area ***undo function*** comprises the settings that effect the undo stack.

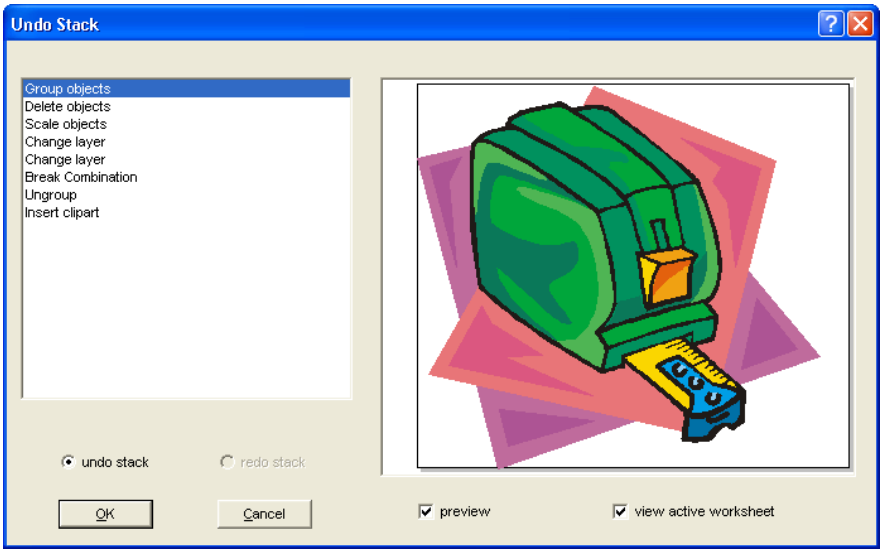


Fig. 7.12-2: Undo stack with preview window and working area

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.

7.13 The *Alignment* Function

Fig. 7.13-1: The alignment button

This function aligns two or more marked objects to each other or to the working area.

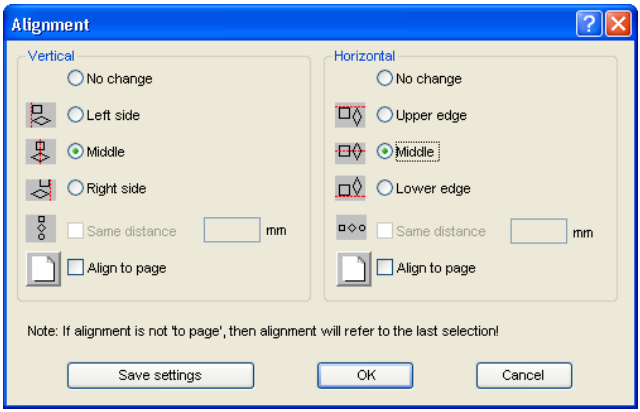


Fig. 7.13-2: The alignment dialog

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.

7.14 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.

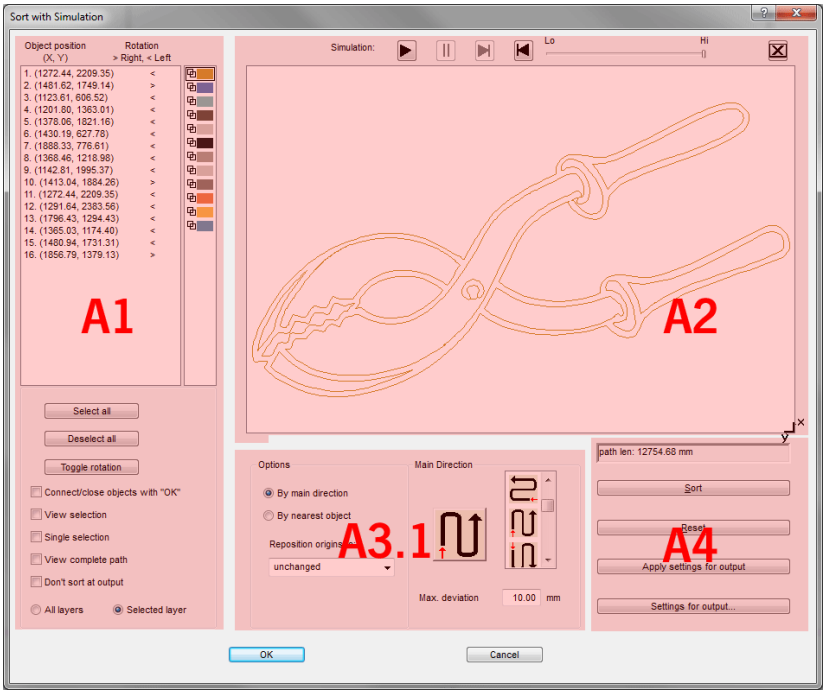


Fig. 7.14-1: Object-sortation with preview-window and simulation option

7.14.1 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.

7.14.1.1 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.

7.14.2 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.

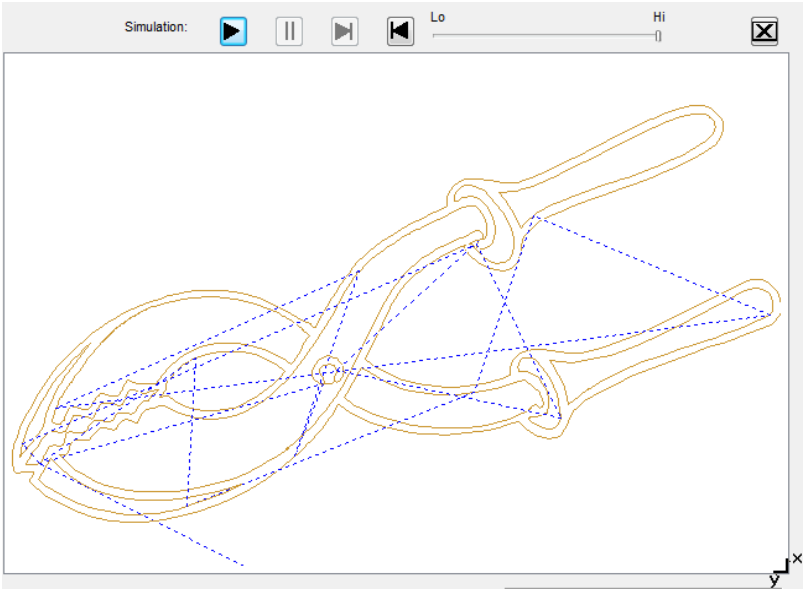


Fig. 7.14-2: Option View complete path activated (blue dashed lines)

7.14.3 Zone A3

7.14.3.1 Options

By Main Direction

If this option is activated, the main direction (area) is visible.

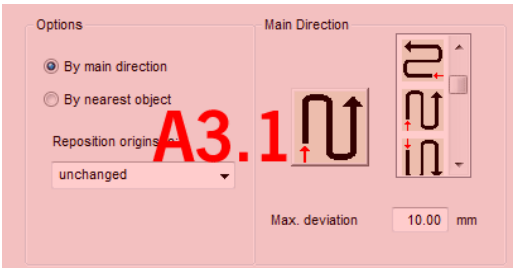
By Nearest Object

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.**

7.14.3.2 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.

7.14.3.3 Zone A3.2 - Nearest Object (Area)

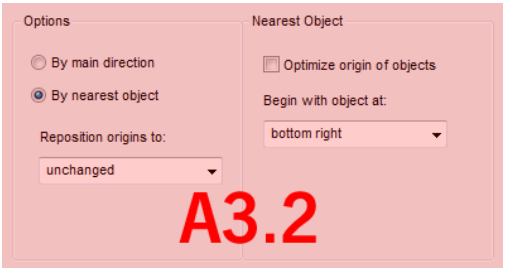


Fig. 7.14-3: Cutout from the main window (see above)

***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.

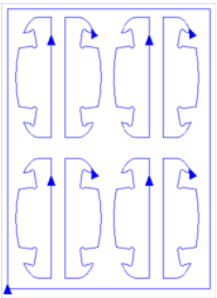


Fig. 7.14-4: Before origin optimization

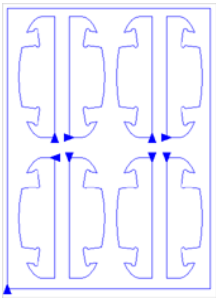


Fig. 7.14-5: After origin optimization

7.14.4 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 3.7.6: Start Output from the OptiScout Working Surface

7.14.4.1 The *Sort Settings* Tab

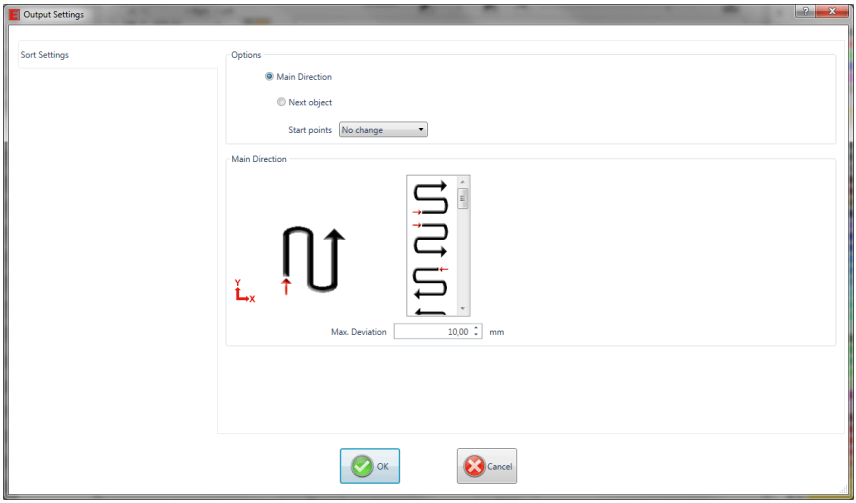


Fig. 7.14-6: Sort settings tab with main direction (Area) active

7.14.4.2 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.

7.14.4.3 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.

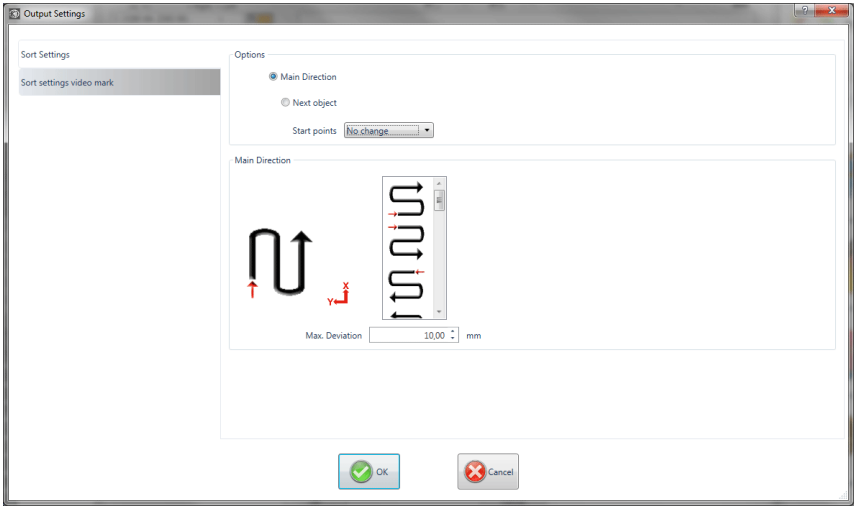
Max. deviation in … mm

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.

7.14.5 Sort Settings Video Marks

7.14.5.1 The *Sort settings for video marks* Tab

This tab activates the sort settings if the video marks are to be used as a criterion for sorting.



7.14.5.2 Options (Area)

Main Direction

The desired preferential direction is selected by mouse click. The icon shows a red arrow where the sorting is started.

Nearest object (Area)

Next object Option

If this option is activated, the **nearest object (area)** becomes visible.

Start object Option

In this option the start point is defined: Possible settings are: **unchanged, lower left, upper left, upper right, lower right**.

7.14.5.3 Main Direction (Area)

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.

7.15 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. 7.15-1: Pen attributes tool with sub functions and description

Create hairline

Fig. 7.15-2: 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. 7.15-3: The remove pen attributes button

The activation of the ***remove pen attributes*** button removes *all* pen attributes.

The pen attributes dialog

Fig. 7.15-4: 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.

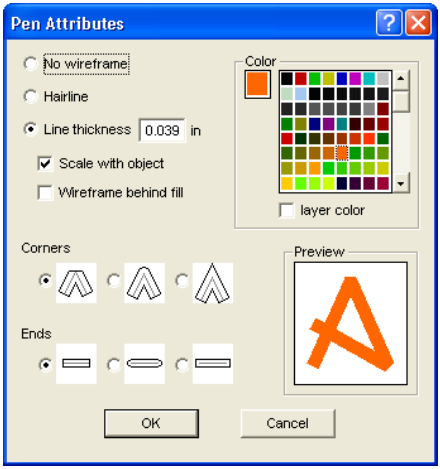


Fig. 7.15-5: The set pen attributes dialog

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:

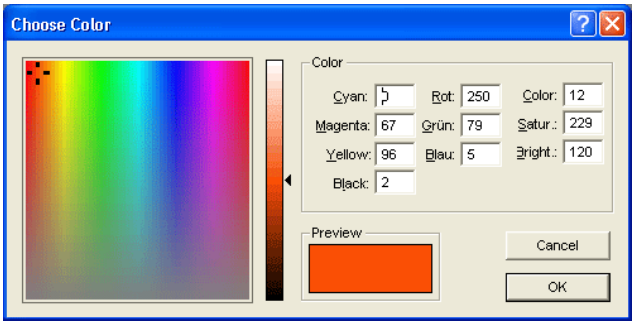


Fig. 7.15-6: The pen attributes color selection

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. 7.15-7: The assign layer color button

The activation of this button allocates the layer color to the contour of a marked object.

7.16 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, trim*** (cuts objects with lines or curves), ***open trimming, fill***, ***by color***, ***full area*** or ***screen printing***.

Fig. 7.16-1: Tools menu - welding submenu

Dialog…

The activation of this submenu opens the following dialog

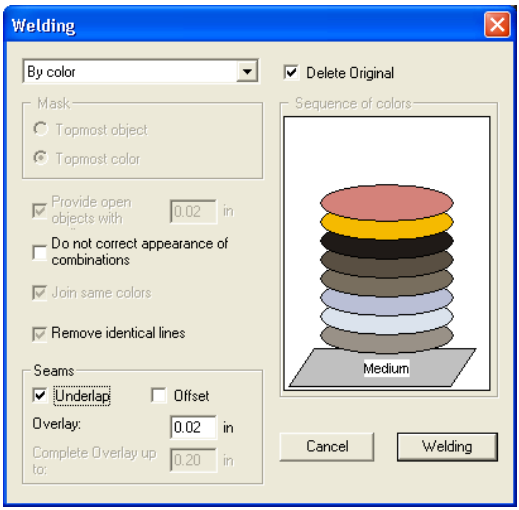


Fig. 7.16-2: Welding dialog

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.

Trimming

Trimming means that you cut through closed objects with lines or curve objects and that the object parts that are thus being created are automatically closed afterwards. Depending on your request you can lay one or more objects over the objects to be slit like a "knife". If you want to work with several "knives" these objects must be allocated to the same layer or be combined. Then, by means of the ***trimming***-option, the objects lying underneath are cut alongside the "knifes". Also cutting in several "tilings" is possible without problems as the knifes can overlap at discretion. The parts having thus being created are then sorted according to their position and combined to single groups.

Open trimming

The ***open trimming*** works like the trimming with the difference that cut-off points of the cut objects are not closed automatically but kept as open objects.

Fill

Fill provides objects that consist of arbitrary many other objects with a fill consisting of the other objects. Depending on your choice, the topmost object or objects of a layer are filled with the ones underneath.

Indication: Please pay attention that the objects to be filled must be closed. Only this way you limit an area that can be filled.

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.

Delete original

With the checkbox ***delete original*** you set if the initial objects shall be deleted after the welding process or not.

7.16.1 Mask

Topmost object

If this option is activated the ***topmost object*** can be defined as welding object with the welding functions ***trim, open trim*** and ***fill***.

Topmost color

If this option is activated all objects of the above lying color can be defined as welding object with the welding functions ***trim, open trim*** and ***fill***.

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.

7.16.2 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.

7.17 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. 7.17-1: The color bucket tool with sub functions

Create color graduations

Fig. 7.17-2: 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.

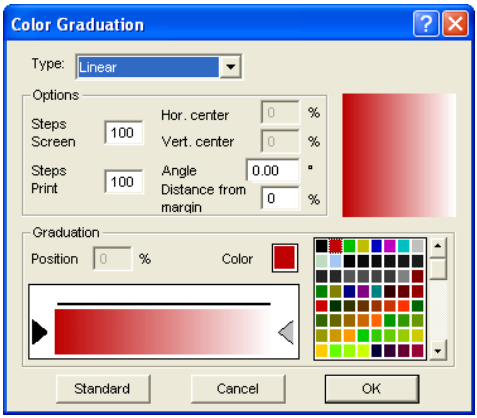


Fig. 7.17-3: The color graduation dialog with settings options

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.

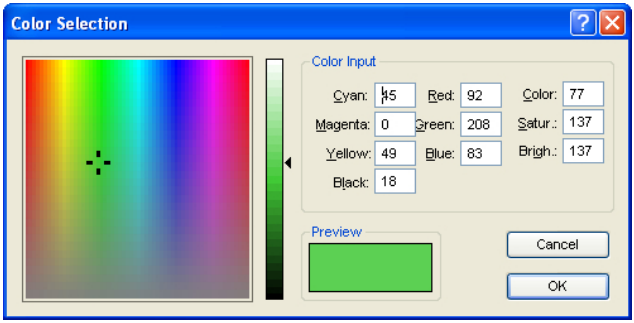


Fig. 7.17-4: The color selection dialog

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. 7.17-5: The bitmap fill button

Pressing this button opens the ***bitmap fill*** dialog via which you can fill the vector objects with bitmaps.

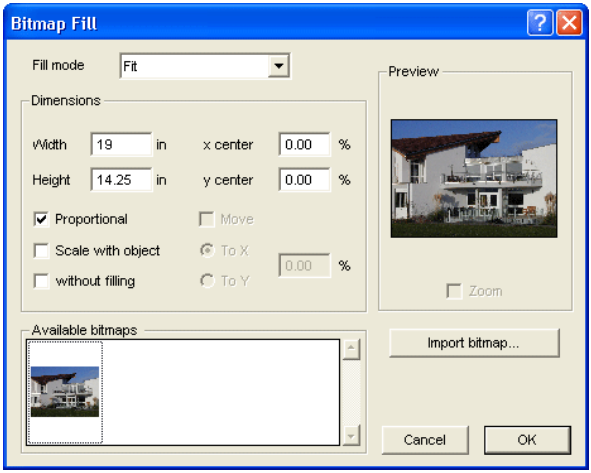


Fig. 7.17-6: The bitmap fill dialog

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 OptiScout 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.

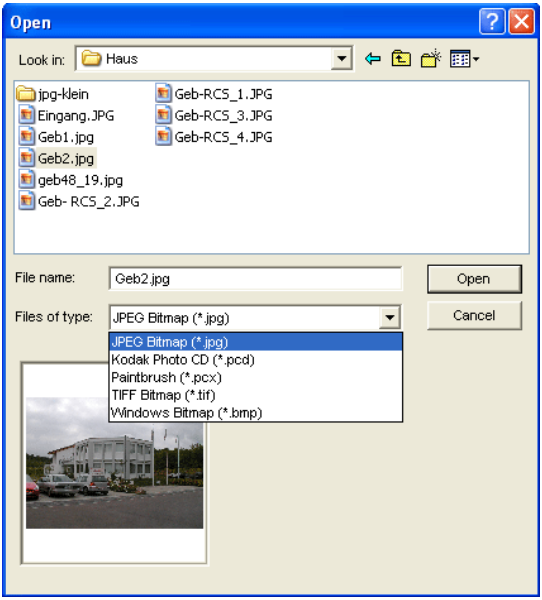


Fig. 7.17-7: The file selection dialog for the bitmap import

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. 7.17-8: 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.

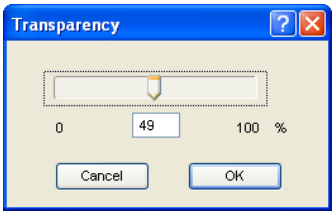
Fill with layer color


Fig. 7.17-9: 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. 7.17-10: The adjust transparency button



If this button is activated, transparency of a color filling can be adjusted linearly from 0 to 100 %.

7.18 The *Measure / Measurement* Tool

Fig. 7.18-1: 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.

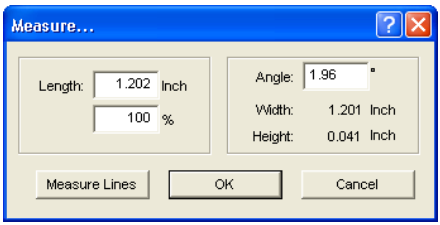


Fig. 7.18-2: The measure/measurement dialog

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

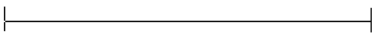


Fig. 7.18-3: Measurement tool / track

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.

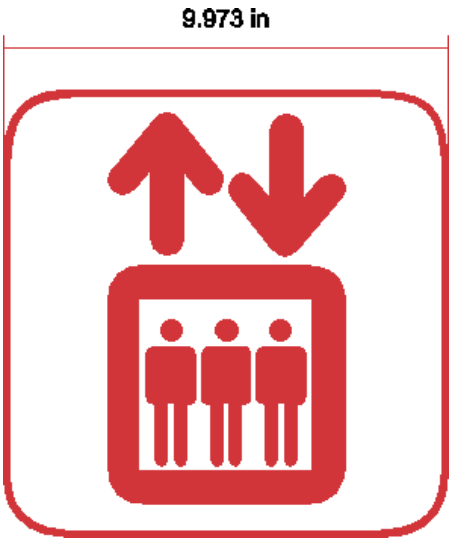


Fig. 7.18-4: Measurement track with the detected value in mm

Indication: The default size of the dimension text can be set via the settings / standard settings / miscellaneous... menu.

7.19 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:

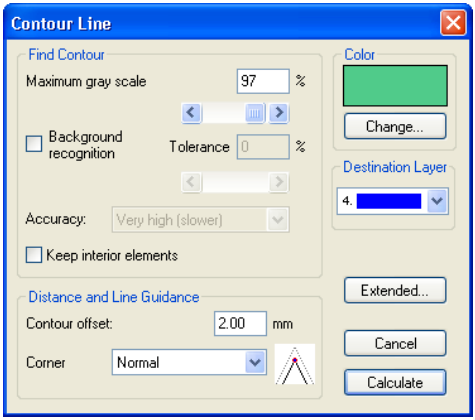


Fig. 7.19-1: Parameter dialog for the creation of contour lines

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. 7.19-2: 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).

7.20 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)

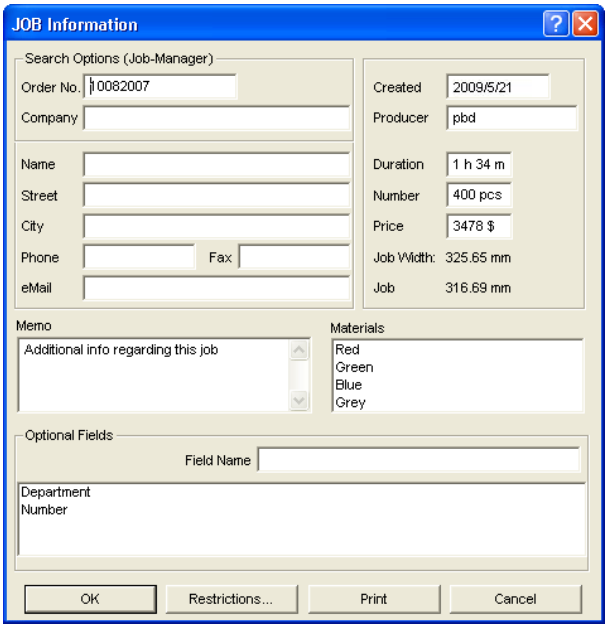


Fig. 7.20-1: Job info main window

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.

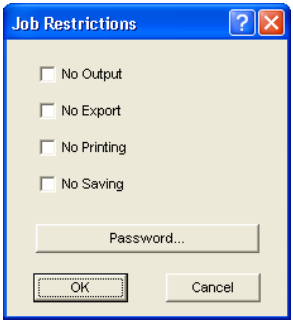


Fig. 7.20-2: Job restrictions

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 OptiScout job. This way, the unauthorized access to these job data is not possible.

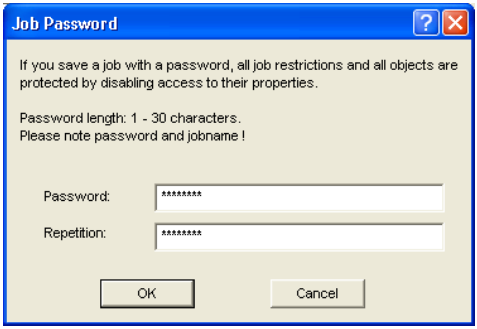


Fig. 7.20-3: Dialog for the determination of a job password

When outputting to a connected device, the safety instructions of the machine manufacturer must always be observed strictly.
No liability is assumed for infringement.

7.21 The *Plot Manager*

The ***Plot Manager*** has the following tasks:

7.21.1 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 OptiScout, these devices then can be used for the output of the graphics. It is possible, to output simultaneously at several devices.

7.21.2 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.

7.21.3 Output of Data to Local Ports

The serial and parallel ports of the computer are identified and can be used for the file output.

7.21.4 Administration of Hotfolders

A function independent of OptiScout 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.

7.21.5 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.

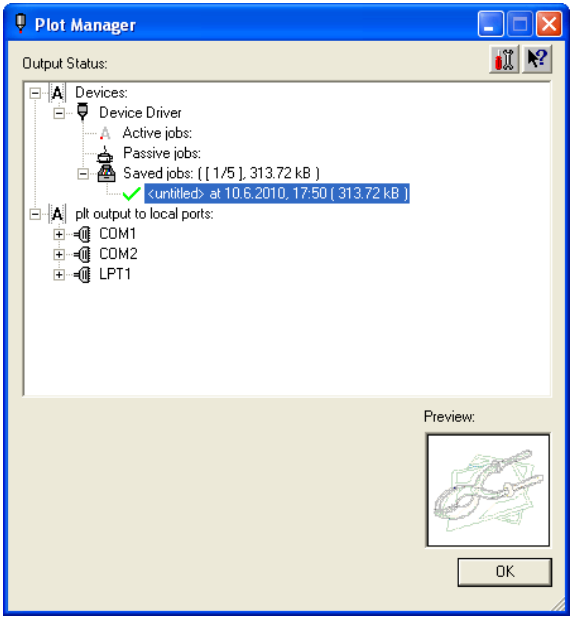


Fig. 7.21-1: Plot Manager main window with job preview down left

7.21.6 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.

7.21.6.1 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.

7.21.6.2 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.

7.21.6.3 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.

7.21.6.4 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.

7.21.7 Settings of the Plot Manager

Fig. 7.21-2: 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:

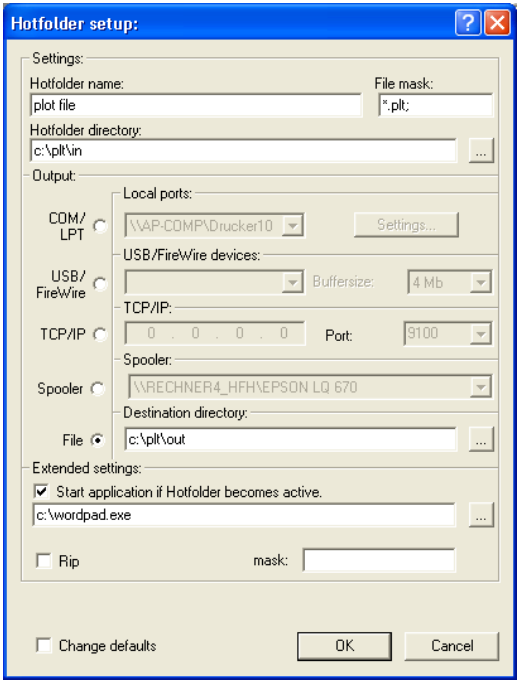


Fig. 7.21-3: Example for setup devices of a Hotfolder

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.

7.21.7.1 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.

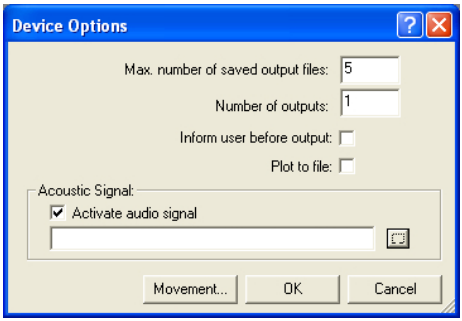


Fig. 7.21-4: Additional options for each device

Maximal number of saved output files

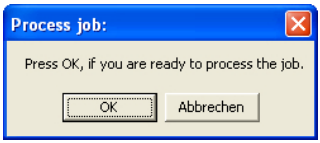
The registered value of this option limits the number of saved output jobs for this device in the history of stored files.

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

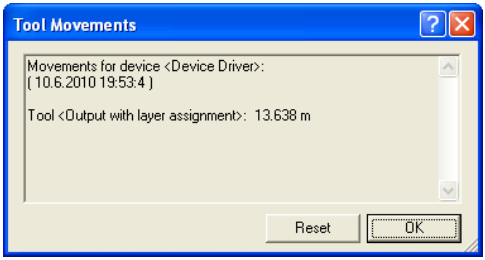


Fig. 7.21-5: Distances of the used tools

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.

7.22 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.

7.22.1 The PhotoCUT Dialog

Open the ***PhotoCUT*** dialog by selecting the so named menu item in the ***tools*** menu.

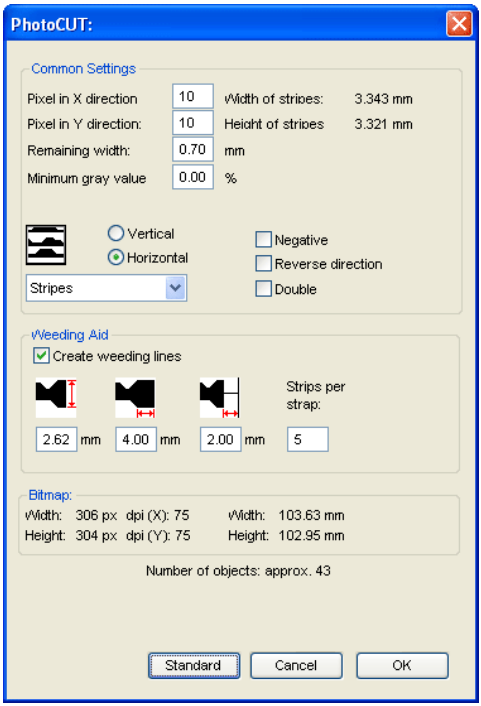


Fig. 7.22-1: Dialog with parameter-setup

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\EUROSYSTEMS\OptiScout Production 8\Bitmaps\photo.bmp)

Fig. 7.22-2: 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.

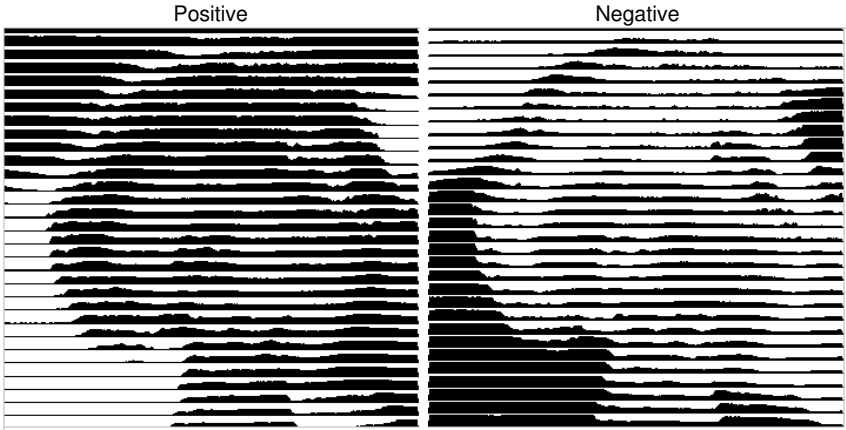


Fig. 7.22-3: Example for the reversion of the range of value

Reverse direction (only with stripes)

If this option is activated, the width of the stripe is aligned downwards.

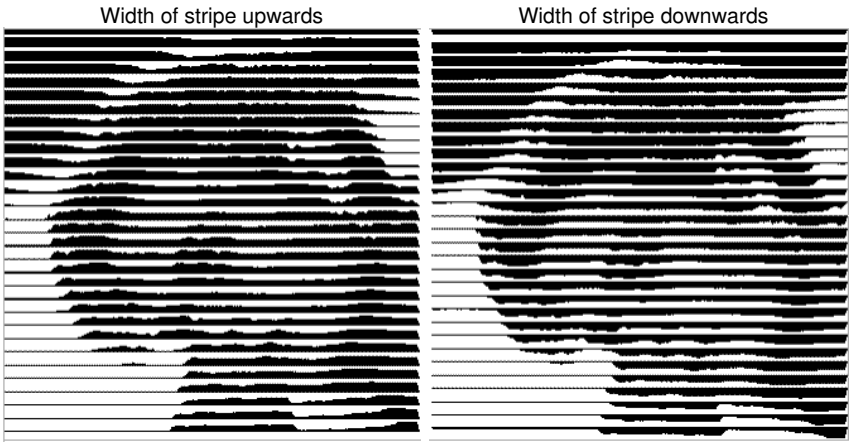


Fig. 7.22-4: Example for the reversion of the width of stripe

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

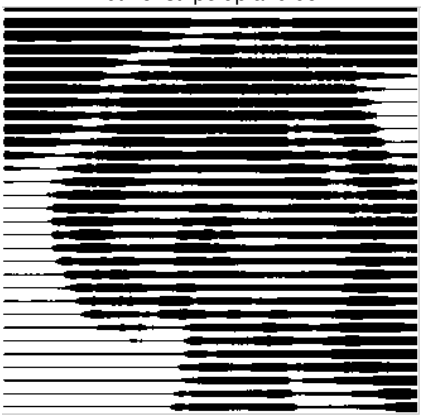


Fig. 7.22-5: Example for „double”

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

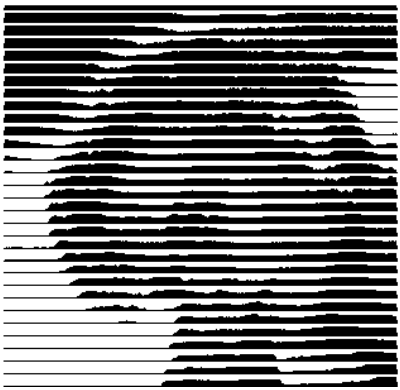


Fig. 7.22-6: Result from the value of example 1

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

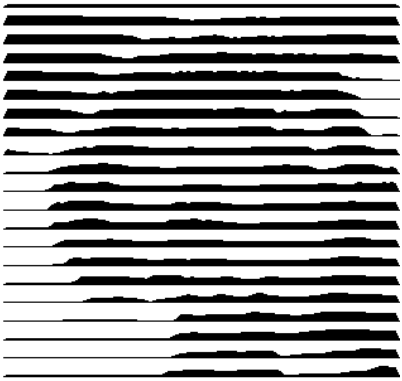


Fig. 7.22-7: Result from the value of example 2

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.

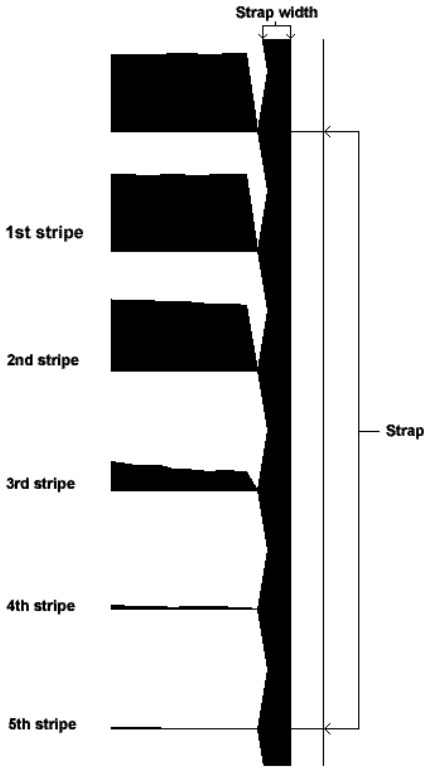


Fig. 7.22-8: Example for stripes per strap, width of strap and stripes

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.

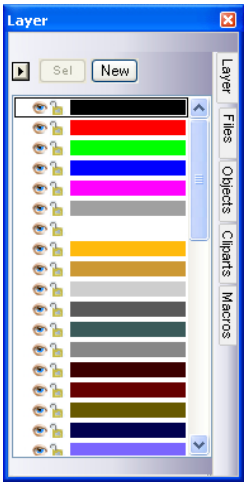
8.3 The *Layer* Tab

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

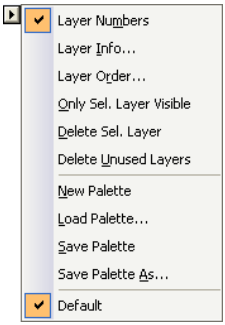
Fig. 8.3-1: The *New* button

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.

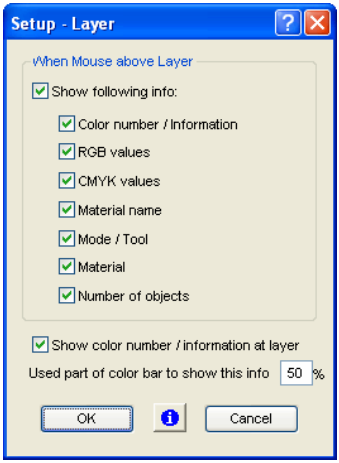


Fig. 8.3-3: Setup Layer Dialog

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

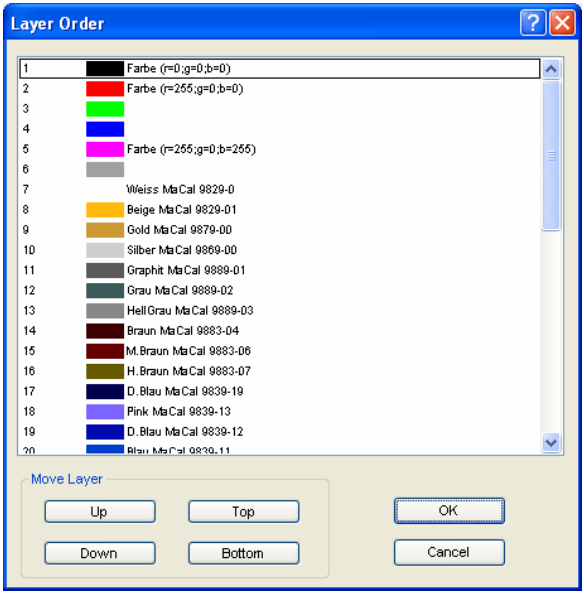


Fig. 8.3-4: **The Change Layer Order Dialog**

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 OptiScout.

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 OptiScout. 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

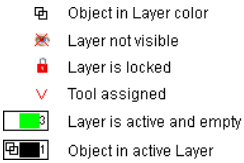


Fig. 8.3-5: Layer status view

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

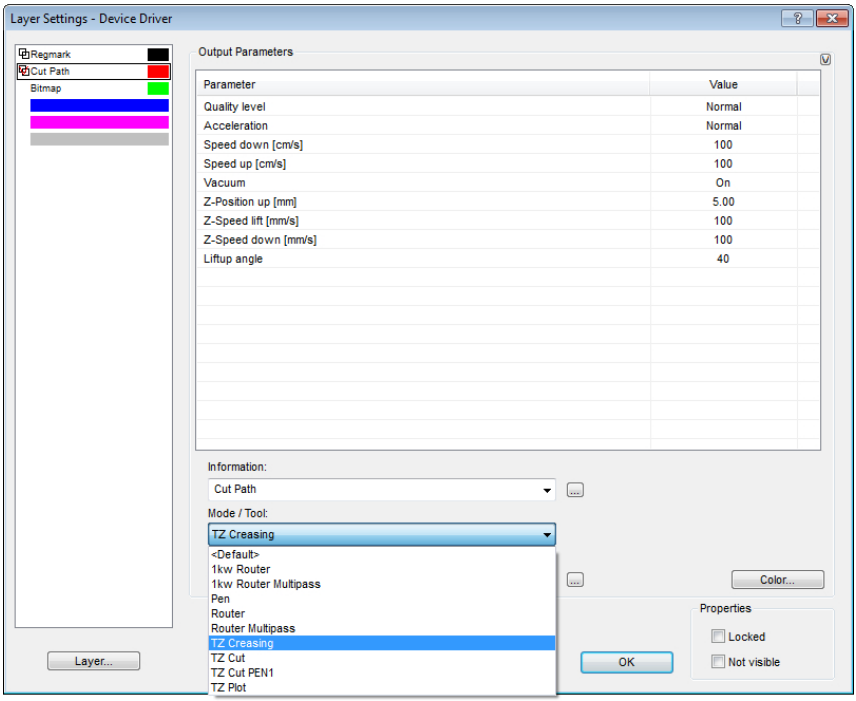


Fig. 8.3-6: Layer Settings dialog with toll / mode list - Output setup

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.

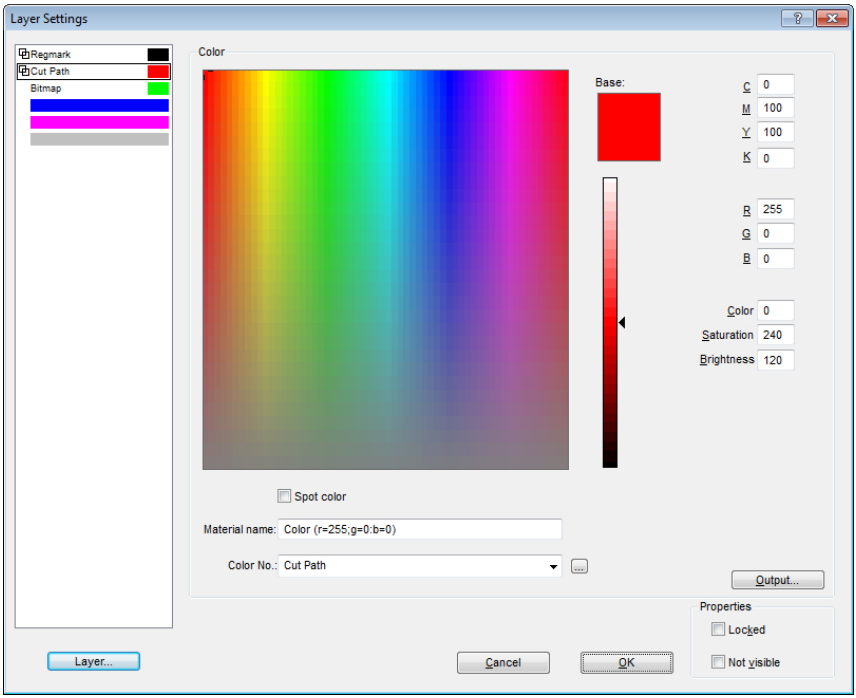


Fig. 8.3-7: Layer - color, material name, color number and define properties - color setup

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 *Files* Tab

The ***Sidebar*** is switched on or off via the **Window** Menu. Selection using the ***Files*** tab.

 **CTRL+2**

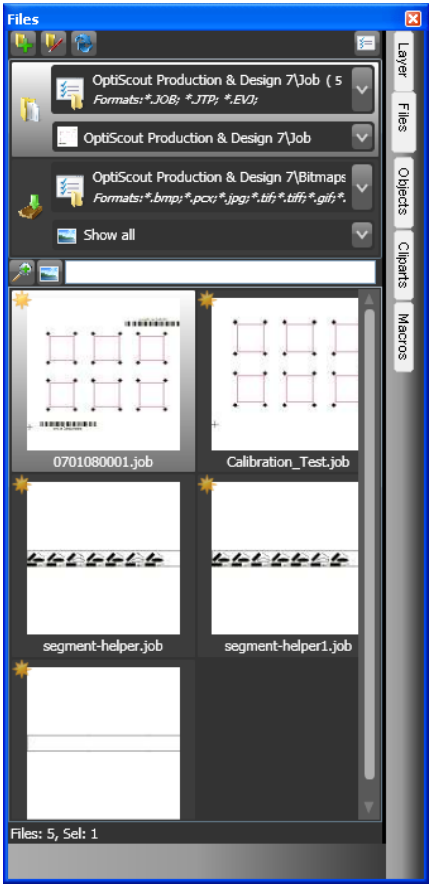


Fig. 8.4-1: File preview images (Thumbnails)

8.4.1 Toolbar in the Files Tab

8.4.1.1 The *Create New Search Path* Button

Fig. 8.4-2: *Create New Search Path button*

The following dialog appears if the ***open job*** option was activated.

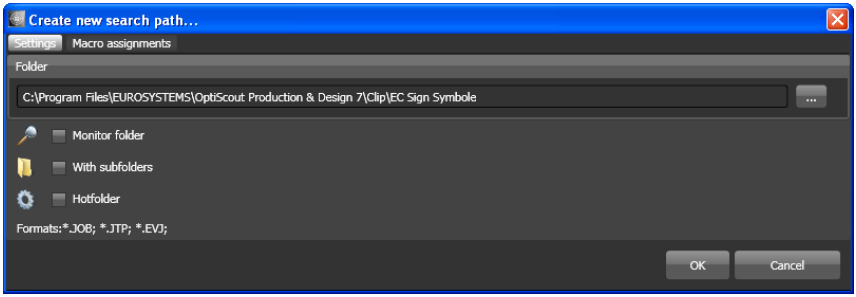


Fig. 8.4-3: Settings - Job open window

The following dialog appears if the ***import file*** option was activated.

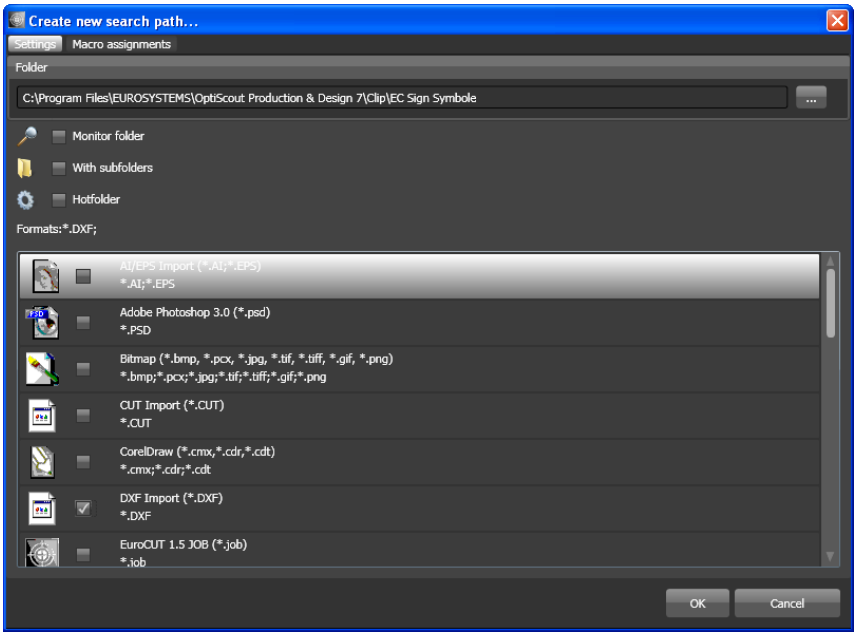


Fig. 8.4-4: Settings - Import file window

8.4.1.1.1 The *Monitor Folder* Option

If the *monitor folder* option is activated, then the in the search path mentioned folder is monitored. The result is that whenever a file is copied to this folder, the display is updated. The search must not be updated manually.

8.4.1.1.2 The *With Subfolders* Option

If the *with subfolders* option is activated, then all folders which are located below the selected folder are included in the file search.

8.4.1.1.3 The *Hotfolder* Option

please refer to 8.4.3: Hotfolder - Folder Monitoring

8.4.1.1.4 Formats

In the following list of file formats can be selected, which formats in the search path should be taken into account. A multiple selection is possible.

8.4.1.2 The *Edit Search* Path Button

In the ***Edit search path*** dialog one selects, which file format should be searched in the selected ***Folder***.

Fig. 8.4-5: *Edit Search* Path Button

The following dialog appears if the ***edit search path*** option was activated.

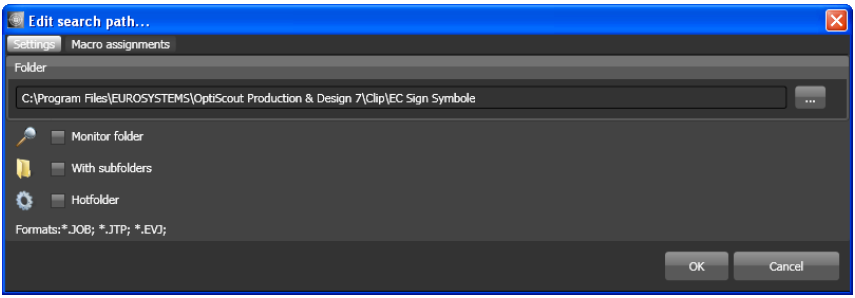


Fig. 8.4-6: Open job window

The following dialog appears if the ***edit search path*** option was activated.

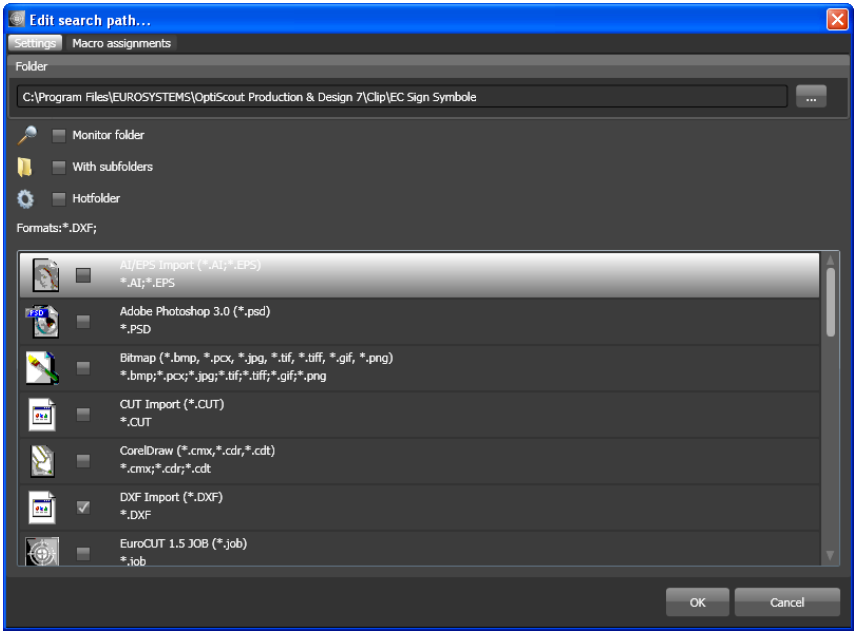


Fig. 8.4-7: Import file window

8.4.1.3 *Save Modifications* Button

The activation of the ***save modifications*** button saves all current settings from the ***files tab***.

8.4.1.4 *Update* Button

The activation of the ***update*** button rereads the selected search path and generates up-to-date preview images (thumbnails).

8.4.1.5 The *Settings* Dialog

The activation of the ***Settings*** button opens the following dialog, where you can set up the parameters of the thumbnails in the file preview area.

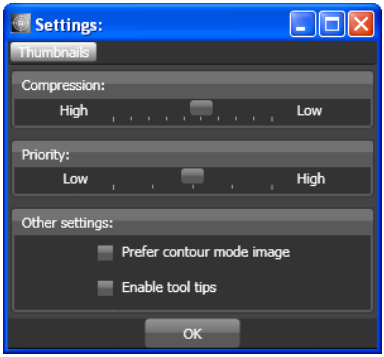


Fig. 8.4-8: Settings Dialog for the File Search

8.4.1.5.1 *Compression*

The variation of the compression influences the displayed quality of the thumbnails in the preview area. Moving the slide control in the direction of ***High***, improves the display quality. Moving the slide control in the direction of ***Low***, reduces the display quality.

Indication: In case of Jobs no effect ist visible, because the job's thumbnail is stored in the file in a fixed size.

8.4.1.5.2 *Priority*

Priority assigns more or less computing time for the generation of the thumbnails. The more computing time is assigned is assigned to this process, the faster the thumbnails are displayed in the preview area respectively updated.

8.4.1.5.3 *Other Settings*

The *Prefer Contour Mode Image O*ption

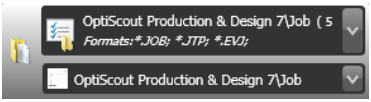
If the ***Prefer contour mode image*** option is enabled, then the thumbnails will be displayed in the ***contour mode*** and not in the ***full surface*** mode.

The *Enabled Tool Tips* Option

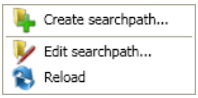
If the ***Enabled Tool Tips*** option is enabled, then exolanatory texts are displayed at the cursor position.

8.4.2 Search Paths

8.4.2.1 *Open Job* Button

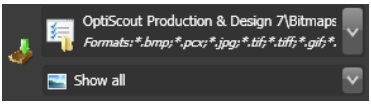


A click with the **right mouse button** in this area opens the following **context menu**.



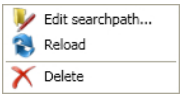
Description of menu items see above.

8.4.2.2 *Import Job* Button



A click with the **right mouse button** in this area opens the following **context menu**.

Context menu



Description of menu items see above.

8.4.2.3 Properties

8.4.2.3.1 Add Folder

A click with the right mouse button into the list field activates the *add folder* option and opens the following *settings* dialog.

8.4.2.3.2 Folder

In the ***folder*** field a search path can be specified where the files shall be searched.
Alternatively the following dialog can be activated using the ... button. Select here the folder which contains the files that should be listed.

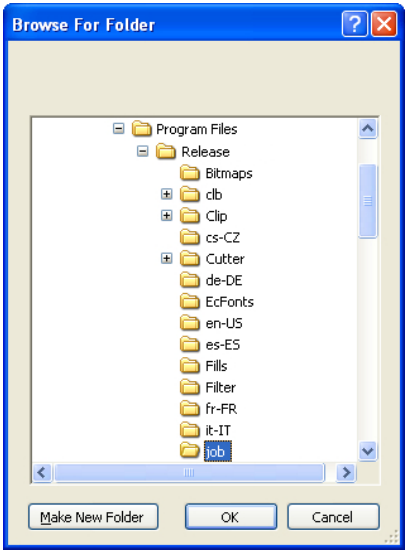


Fig. 8.4-9: Setting of the search path

8.4.2.3.3 Context Menu Search Path

A click with the **right mouse button** in a search path opens a context menu with more menu entries.

8.4.2.3.4 *Edit Search Path* Menu Item

The *edit search path* menu item open the *edit search path* dialog (see fig. above).

8.4.2.3.5 *Actualize* Menu Item

The *actualize* menu item activates the file search in the selected search path.

8.4.2.3.6 *Delete* Menu Item

The *delete* menu item removes the selected menu item.

Note: A double-click on the vertical separator between the columns (here: img, name, date, size) automatically sets the maximum possible width of each column. A click on the column heading sort ascending or descending depending on the selected criterion (column name). In doing so, a black triangle beneath the column

heading shows which column is activated and if it has been sorted in ascending or descending order.

8.4.3 Hotfolder - Folder Monitoring

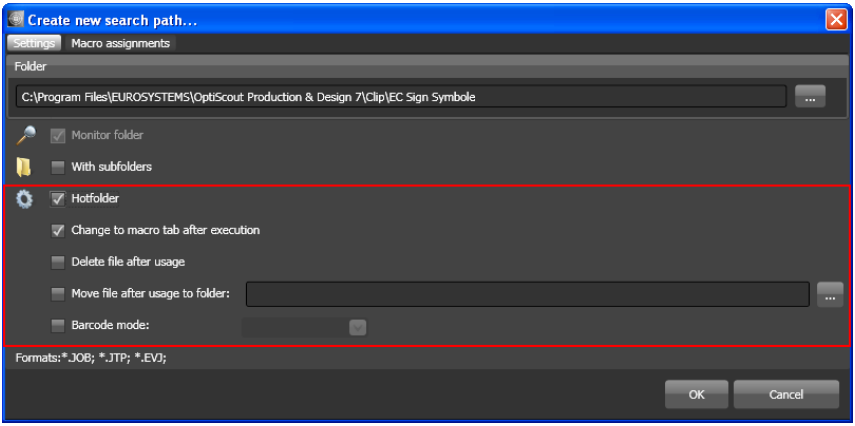
Aim

Aim of the Hotfolder - Folder Monitoring is the optimization of the Print & Cut workflow. Using a definable Hotfolder directory and Jobs, which can be 'equipped' with actions, the workflow can be sped up significantly. User errors are practrically impossible. The workflow is reduced to the strict minimum clicks.

Realization

That the above objective is achieved, the File tab has been enhanced with the following **settings**:

1. An individually specified directory (folder) can be monitored.
2. This can be done, when desired, also with its subdirectories.
   The user must only ensure that the files to be processed
   further will be transferred into this directory.
3. If the hot-folder option is enabled, option 1 "Monitoring folder" and Option 4 "change to macro tab after execution", are also automatically activated.
   This coupling ensures that monitoring is active and tool assignment as well as output of data can take place immediately thereafter.
4. The optional bar code import will load the desired file - using a barcode scanner. The to be used bar code must be selected in the RIP list. Existing rotation indicators such as T - Top (180 °) as well as the B - Bottom (without rotation) are considered. It is also displayed how many times the file had been loaded. In addition to an enlarged preview (thumbnail), appears - depending on the file format - additional information such as material name and number of copies. If the cursor is in the search field, then the reading of the code with the scanner can be performed.
5. When a RIP is in use for further processing, the matching connection can be selected from the RIP list below.
6. Finally, it is to determine what should happen to the hotfolder files after output. They can be deleted from the directory or moved to another directory.



8.4.3.1 The *Hotfolder* Option

The ***Hotfolder*** option switches the folder monitoring on or off.

Note: Automatically the 'Monitor folder option' and the 'Change to macro tab after execution' option are both activated with the Hotfolder option!

8.4.3.2 The *Change to macro tab after execution* Option

If this option is enabled, after you open or import a job from Files tab the application switches to the Macro tab of the sidebar.

Note: This reduces the number of necessary clicks.

8.4.3.3 The *Delete File After Usage* Option

If this option is enabled, then the active file is deleted from the hotffolder directory, after the termination of the action assigned with (usually outputting).

8.4.3.4 The*Move File After Usage To Folder* Option

If this option is enabled, then the file is moved into the defined folder, after the termination of the action assigned with.

8.4.3.5 The *Barcode Mode* Option

The ***Barcode Mode*** allows the quick opening of Jobs with a barcode scanner. If the cursor is located in the search field, the data can be read into OptiScout Production 8 using a barcode scanner.

8.4.3.6 RIP List

From the ***RIP List*** the suitable RIP for printing can be selected. Also the bar code to be use can be selected.

8.4.4 Search Field and File Preview

8.4.4.1 Open or Import a file

A double-click on a preview image (thumbnail) loads (opens) the file on the OptiScout working sheet. A pull out of a file via drag & drop imports the selected file **additionally** to the objects on the working sheet.

8.4.4.1.1 Reset Status

Files which are still not edited are marked with a yellow star. After opening or importing this file the star labeling will be reversed. The star labeling serves the clarity which files in a selected folder
were already edited and which not. The labeling can be reversed in its original state with the *reset status* option.

8.4.4.1.2 Status Area

In the area underneath the thumbnails resp. list view status messages, like number of selected files and more, are displayed.

8.4.4.2 The *Magnifying Glass* Button

A click on the *magnifying glass* button activates a transparent slider (see fig. below) with which the view can be enlarged or reduced.

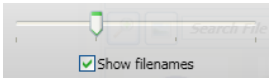


Fig. 8.4-10: Transparent slider

When the thumbnails are enlarged the number of images per line is displayed. A minimum size of 42 x 42 pixels can not be undercut.

8.4.4.3 The *List View* Button

The *list view* button switches from the thumbnail view in a list view and vice versa.

8.4.4.3.1 The List View

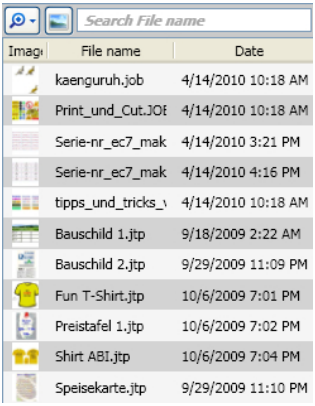


Fig. 8.4-11: List view with search field

8.4.4.3.2 The File Preview In The List View

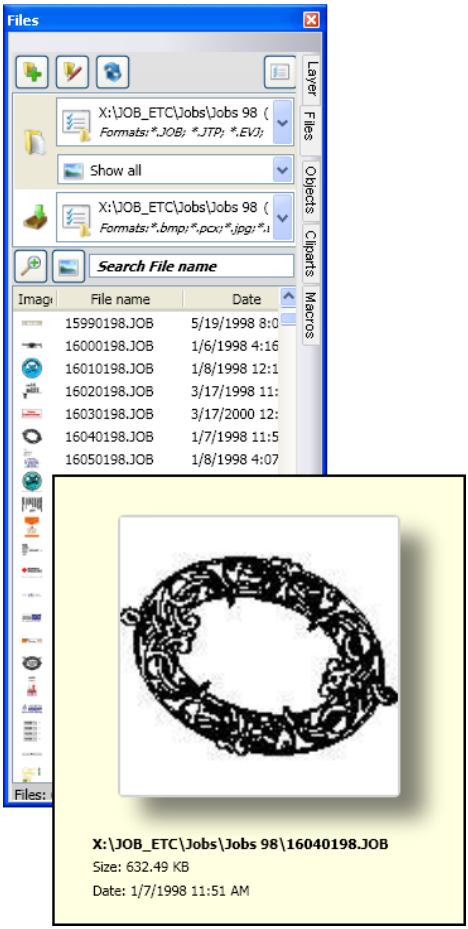


Fig. 8.4-12: List view with file preview popup window

8.4.4.3.3 Thumbnail View

A so-called *thumbnail* is a decreased pixel view of a file.

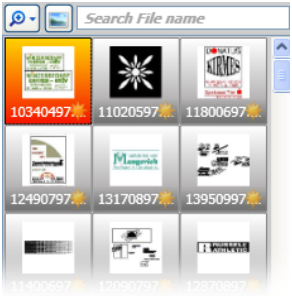


Fig. 8.4-13: Preview images (Thumbnails)

Note: The thumbnail preview is often of much help when searching files whose names are unknown or have been forgotten.

8.4.4.4 The Search Field

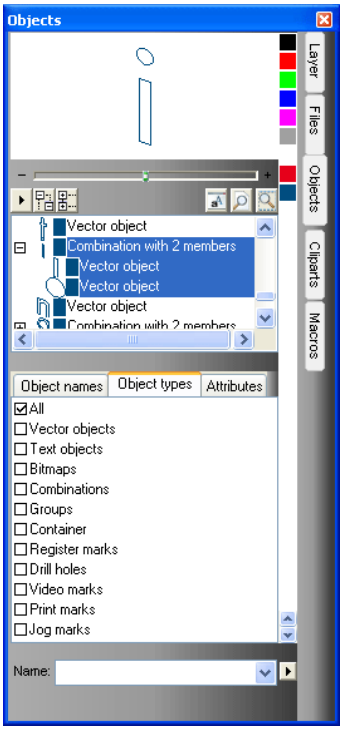
The ***search field*** serves to accelerate search requests. Depending on, which column is enabled (click on column name) the search is additionally performed after values from the search field. The preselection of the search is displayed in a list of file names. Each entry of a character in the search field refreshes the preselection.

Tip: After entry of the first letter or a number in the search field is searched in the selection for the same file name prefix and the selection is restricted - using the TAB key. This facilitates the search after distinguishable characteristics in file names.

8.5 The Objects Tab

8.5.1 The Object Manager

The ***Sidebar*** is switched on or off via the ***Window*** menu. Selection is done using the ***Objects*** **Tab.**  **CTRL+2**



8.5.1.1 Components Of The Object Manager

8.5.1.1.1 The Navigator

Tasks

- Object preview
- Navigation on the desktop and on the working sheet
- Zoom in and zoom out of the desktop and the working sheet

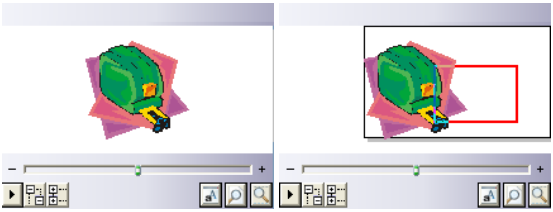
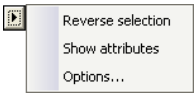


Fig. 8.5-1: Navigator with zoom slider, controls, vavigation area and to move rectangle (red)

The Zoom Slider

The ***Zoom Slider*** serves to diminish or enlarge the desktop's view. Every click to the left or right of the slider button enlarges or shrinks the view. The button can also be slided using the mouse cursor. When the 100% view is exceeded a **red rectangle** appears additionally in the preview window. This rectangle can be moved using the mouse cursor.

The Drop-Out Menu



Invert Selection

Reverts the selection in the objects list, i. e. what was previously selected is deselected.

Show Attributes

Displays all of the selected options of the ***Options*** tab in the status bar.

Options…

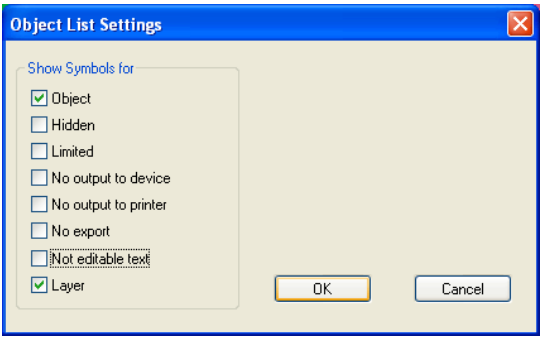


Fig. 8.5-2: Restriktions for the object list in the Objekt Manager

The Tree Buttons

1. ***Unfold*** branches
2. ***Collapse*** branches

The Zoom Buttons

1. Show whole sheet - Hotkey B
2. Show all objects - Hotkey F4
3. Show selected objects - Hotkey SHIFT+F4

8.5.1.1.2 The Color Bar

Fig. 8.5-3: Section of the color bar of the object manager

Tasks of the color bar

- color variation and assignment (Layer)

8.5.1.1.3 The Area Object List - Object Tree

Selection with mouse click

1. One click selects
2. SHIFT+Click selects several in sequence
3. CTRL+Click selects several not immediately contiguous objects

A click on plus / minus opens or closes the tree (cf. Windows Explorer)

8.5.1.1.4 Object Type And Object List's Attributes Selection

Task: Definition of the objects which should be displayed in the object list.

8.5.1.1.5 The Name Field

Task: Define alias or field name
Purpose: Apply macros or scripts on field value e. g. substitute objects, properties, …

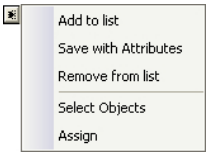


Fig. 8.5-4: Context menu name field

***Add To List* Menu Item**

Inserts the entry of the *name* field into the list.

***Save With Attributs* Menu Item**

Saves additionally to the names the selected attributes (object properties).

***Delete From List* Menu Item**

Deletes the selected entry from the list.

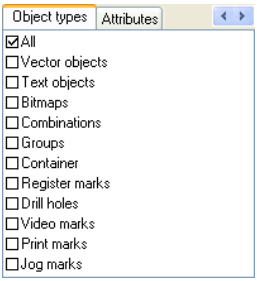
***Select Objekts* Menu Item**

Selects all objects with this name that are located on the working sheet.

***Assign* Menu Item**

Assigns name from the name field to all selected objects.

8.5.2 The *Object Types* Tab



Note: Any selection or multiple selection of the restricting attributes is possible at any time.

All

Shows all object types in the object list.

Vector objects

Shows all resp. only vector objects in the object list.

Text objects

Shows all resp. only text objects in the object list.

Bitmaps

Shows all resp. only bitmaps in the object list.

Combinations

Shows all resp. only combinations in the object list.

Groups

Shows all resp. only groups in the object list.

Container

Shows all resp. only containers in the object list.

Register marks

Shows all resp. only jog marks in the object list.

Drill holes

Shows all resp. only drill holes in the object list.

Video marks

Shows all resp. only video marks in the object list.

Print marks

Shows all resp. only print marks in the object list.

Jog marks

Shows all resp. only Jog marks in the object list.

Die Forward / Backward button

The button appears automatically if the column width gets to narrow to display all tabs at once. By means of the buttons can be scrolled back and forth between the tabs.

8.5.3 The *Object Names* Tab

The ***Object Names*** Tab list all defined names which were assigned to particular objects using the ***Name*** field. Names can be used in order to individualize objects and to apply macros.

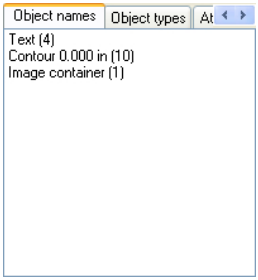


Fig. 8.5-5: List of all object names

The Forward / Backward Button

The button appears automatically if the column width gets to narrow to display all tabs at once. By means of the buttons can be scrolled back and forth between the tabs.

8.5.4 The *Attributes* Tab

The ***Attributes*** tab lists als restrictions, limitations that can be assign to an arbitrary object.

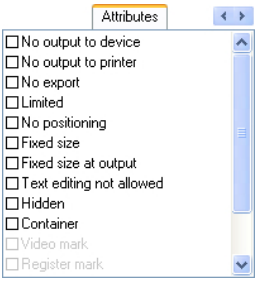


Fig. 8.5-6: List of all possible object restrictions

Note: Any selection or multiple selection of the restricting attributes is possible at any time.

No output on device

The ***No output on device*** option prohibits that the selected object is given out on a connected device (cutter, milling machine).

Note: Device means in that coherence devices that can be controlled from the Plot Manager.

No output on printer

The ***No output on printer*** option prohibits that the selected object is given out on a connected printer.

No Export

The ***No Export*** option prevents that the selected object is exported.

Blocked

The ***Blocked*** option prevents that the requested object can be selected. It will be marked with red handles.

Do not move

The ***Do not move*** option prevents that the selected object can be moved. The position is locked.

Fixed size

The ***Fixed size*** option prevents that the selected object can be scaled (enlarged or decreased). The size is locked.

Fixed size during output

The ***Fixed size during output*** option prevents that the selected object was unintentional scaled (enlarged or decreased) before output.

Text not editable

The ***Text not editable*** option prevents that the selected object is unintentional edited. The Text is not changeable.

Invisible

The ***Invisible*** option makes that the selected object is not visible on the working sheet. This option is useful every time when there is a lack of clarity.

Container

The ***Container*** option transfers an object into a container or back into the generic object. Container:

Video mark

Special attribute resp. object which is used when camera based recognition is used. The camera module drives the tool head with camera to the so marked objects.

Register mark

Special object which is outputted on a cutter - independently from a layer color - every time at the same position. The purpose is the subsequent, precision-fit assembly of the different colored materials.

Drill hole

Special attribute for milling applications. The object has no expansion and can not be scaled.

Note: Drill holes can be drawn using the drawing tool

Print mark

Print or cut marks are printed additionally to the print data while printing.

Jog mark

Special objects which are required while the output on cutters with optical sensors for a precise contour cutting. Each producer uses specific jog marks. The selection can be done using the *properties* menu.

The forward / backward button

The  button appears automatically if the column width gets to narrow to display all tabs at once. By means of the  buttons can be scrolled back and forth between the tabs.

8.6 The *Cliparts* Tab

8.6.1 Clipart Management

The ***Cliparts*** tab is switched on or off via the ***window*** menu.  **CTRL+2**

The ***Cliparts*** tab serves for the administration of your cliparts.

You can take these so-called cliparts from the wnate clipart group via drag & drop to the OptiScout working sheet and edit them further.

8.6.1.1 Definition Clipart

What is a ***Clipart***? Cliparts are objects, parts of jobs or whole jobs that have been added to the cliparts tab. Cliparts serve primarily to direct and quick access to design elements. As clip art is therefore virtually everything that is needed for quick or frequent job generating, for example sign plates of different sizes, logos, design templates, and much more.

Cliparts are similar to jobs in the handling.

Note: Aid lines are not saved.

8.6.1.2 Add Cliparts

Cliparts can be added via drag & drop or right mouse button context menu activation submenu ***"Add Cliparts"***.

8.6.1.3 Delete Cliparts

Cliparts can be deleted from the group using the DEL key.

8.6.1.4 Definition Clipart Folder

Folder is the structural generic term. In a ***Clipart Folder***, several ***Clipart Groups*** can be included.

8.6.1.5 Definition Clipart Groups

Group is the structural generic sub term. Individual cliparts are collected in ***Clipart Groups***.

Fig. 8.6-1: Clipart area with control elements

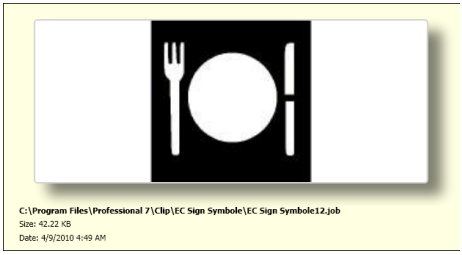
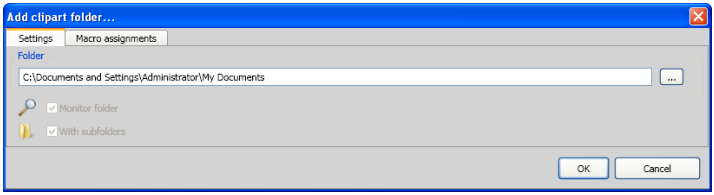


Fig. 8.6-2: Clipart info window

The Clipart info window is displayed if the mouse cursor whiles a short period of time above the desired thumbnail.

8.6.1.6 *Add Clipart Folder…* Button

8.6.1.7 Settings Tab



Folder Field

The selected folder in the Folder field is added to the list of clip art management.

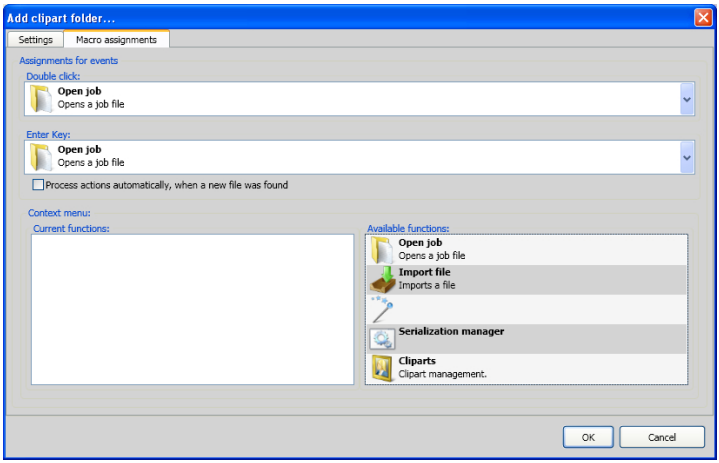
***Monitor Folder* Option**

With this option, the directory monitoring is turned on, ie, whenever a new file is stored in this folder, a thumbnail is created.

***With Subfolders* Option**

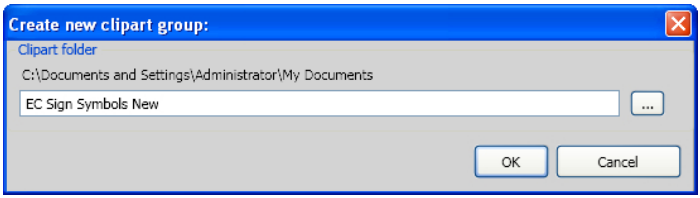
All subfolders are included in the monitoring if this option is also enabled.

8.6.1.8 *Macro Assignments* Tab



Using the ***Macro Assignments*** tab **events** (e. g. **double-click** or **enter key**) can be assigned to specific **functions**. The possible function assignments are listed in the ***Available functions*** area.
Additionally functions can be added to the ***context menu*** via drag & drop. After this procedure they are listed in the ***Current Functions*** area.

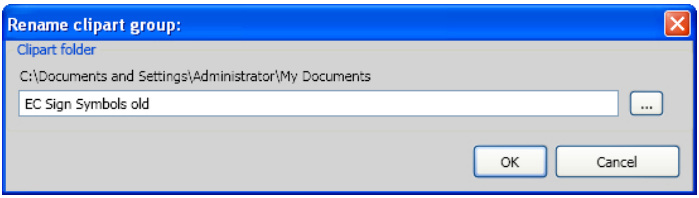
8.6.1.9 *Create New Clipart Group...* Button



Clipart Folder Field

In this field the name of a new clipart group can be entered.

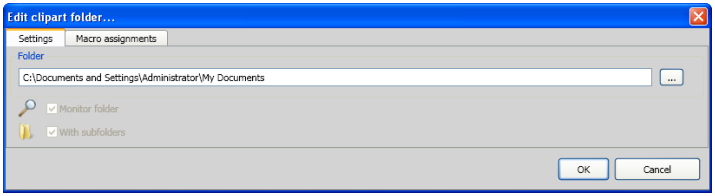
8.6.1.10 *Rename Clipart Group* Button



***Clipart Folder* Field**

Clicking on the ... button allows the selection of the clipart folder that should be renamed.

8.6.1.11 *Edit Clipart Folder…* Button



Folder Field

The directory field in the selected directory can be edited.

***Monitor Folder* Option**

With this option the folder monitoring is turned on that is, every time when a new file is stored in this directory a thumbnail is created.

***With Subfolders* Option**

All subfolders are included in the monitoring if this option is also enabled.

8.6.1.12 *Import Clipart Files…* Button

By means of this function elder **CLA files** can be read. All previous versions of OptiScout used the cla file format when saving cliparts. This function converts them into the new format.

8.6.1.13 *Refresh* Button

Rereads the clipart group and generates up to date thumbnails.

8.6.1.14 *Save Changes* Button

Saves the current state of the clipart management.

8.6.1.15 *Diminish Presentation of Folder Levels...* Button

Shortens the visible path by one folder level. This provides clarity in a complex and widespread clipart folder structure.

8.6.1.16 *Increase Presentation of Folder Levels...* Button

The visible path is extended by one more folder level.

8.6.1.17 *Common Settings...* Button

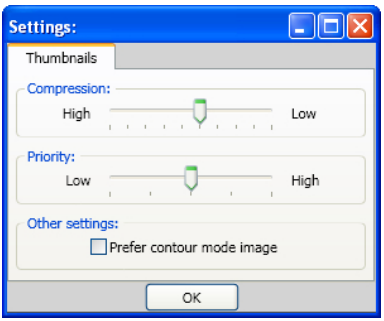


Fig. 8.6-3: Setup dialog of the Clipart Manager

Thumbnails Tab

Compression

This option determines which compression rate will be used when generating preview images (Thumbnails).

Priority

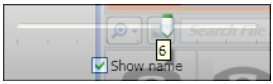
This option adjusts, how the thumbnail creation behaves in relation to the main application. The higher the priority, the more CPU time the process gets assigned.

Other Settings

Prefer contour mode image option

Enabling this option displays the thumbnails in contour mode i. e. without color fill - analogous to the ***contour*** mode.

8.6.1.18 *Number of Thumbnails per Line* Button



8.6.1.19 Slider

The slider serves to determine the number of thumbnails that can be displayed in a line. This is based on the current width of the sidebar. Here there are 6 thumbnails that are displayed per line.

8.6.1.20 Show Name

This option shows in the activated state the name of the clipart file in addition to the thumnbnail.

8.6.1.21 *Thumbnail View / List View* Button

8.6.1.22 Thumbnail View

8.6.1.23 List View

8.6.1.24 The Search Field

8.6.1.25 Search by File Name

By default, is searched in the order of the letters, how they are entered.

Note: Permitted are also wildcards such as * and ?.

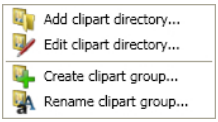
Example:

Be* - searches for all file names beginning with Be

B??ling - searches for all filenames that start with B, then have 2 characters in between and end up with ling, such as B**ill**ing

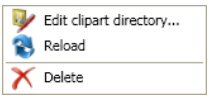
8.6.2 The Context Menus

8.6.2.1 Context Menu 1



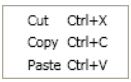
Description of menu items: please refer to 8.6.1.6: *Add Clipart Folder…* Button ff

8.6.2.2 Context Menu 2

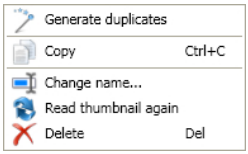


Description of menu items: please refer to 8.6.1.6: *Add Clipart Folder…* Button ff

8.6.2.3 Context Menu 3 Search Field



8.6.2.4 Context Menu 4 Clipart



8.7 The Macros Tab

8.7.1 The Toolbar Area

8.7.1.1 The Toolbar

Fig. 8.7-1: Closed toolbar with layer selection

The *Open/Close* Button

A click on the ***Open/Close* button** opens and closes the complete toolbar.

Fig. 8.7-2: Opened toolbar

8.7.1.2 The *New Macro…* Button

The ***New Macro* button** adds a new macro to the macro list.

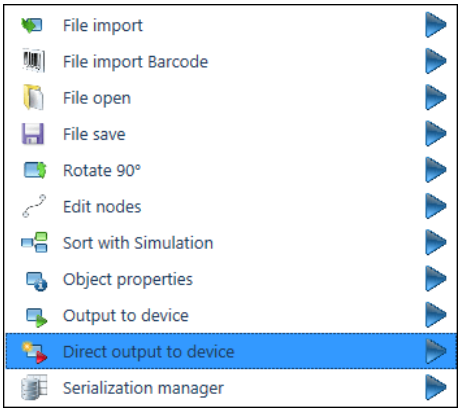


Fig. 8.7-3: Macro list into which the new macro should be inserted

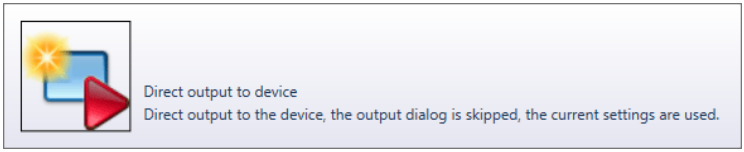
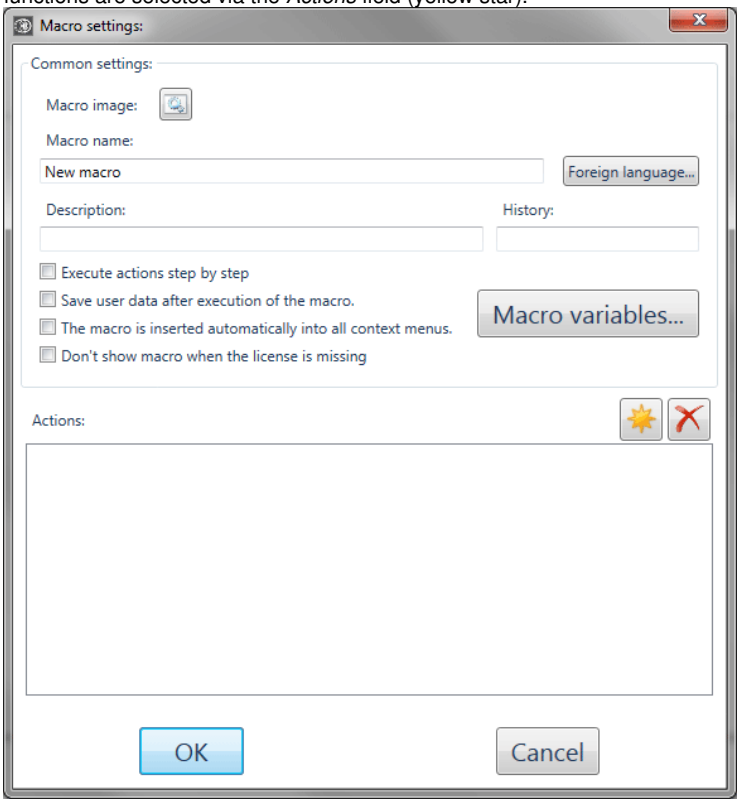
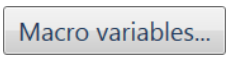


Fig. 8.7-4: Right mouse button window with macro info

8.7.1.2.1 Create New Macro

Activating the ***New Macro*** **button** opens the following dialog for creating a macro. The functions are selected via the *Actions* field (yellow star).





This option allows the adjustment of internal macro variables.

8.7.1.2.2 Common Settings

Macro Name

In the ***Macro Name*** field a name for the new macro can be specified. With this name the macro appears in the ***operations*** area of the ***macros*** tab.

The Foreign Language... Button

Enabling the ***Foreign Language*** button allows the translation of a macro into another language.

Description

In the ***Description*** field a descriptive text can be added that is displayed as a tool tip in the ***Operations*** area.

History

In the ***History*** field, additional information can be entered, such as version number.

The 'Execute Actions Step by Step' Option

Enabling this option requires confirmation at each macro step, even with parameterless functions, which otherwise do not require confirmation.

The 'Save User Data after Execution of The Macro' Option

If the macro has additional input fields, the values entered there are saved when this option is enabled. When the macro is executed again the stored data are used.

The 'The Macro is inserted automatically Into All Context Menus' Option

Enabling this option adds the selected macro in all context menus in the sidebar.

8.7.1.2.2.1 The *Actions* Field

The Yellow Star Button

Clicking this button opens a dialogue in which all features are listed which can be used in a macro.

8.7.1 The Toolbar Area

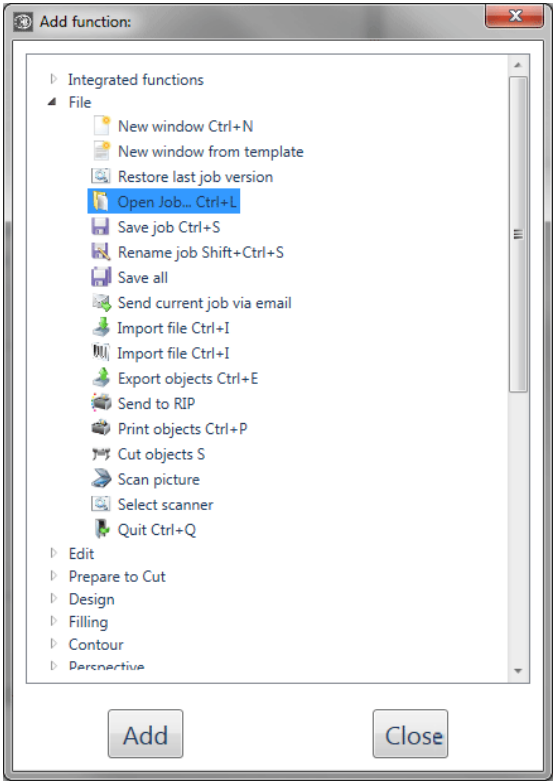
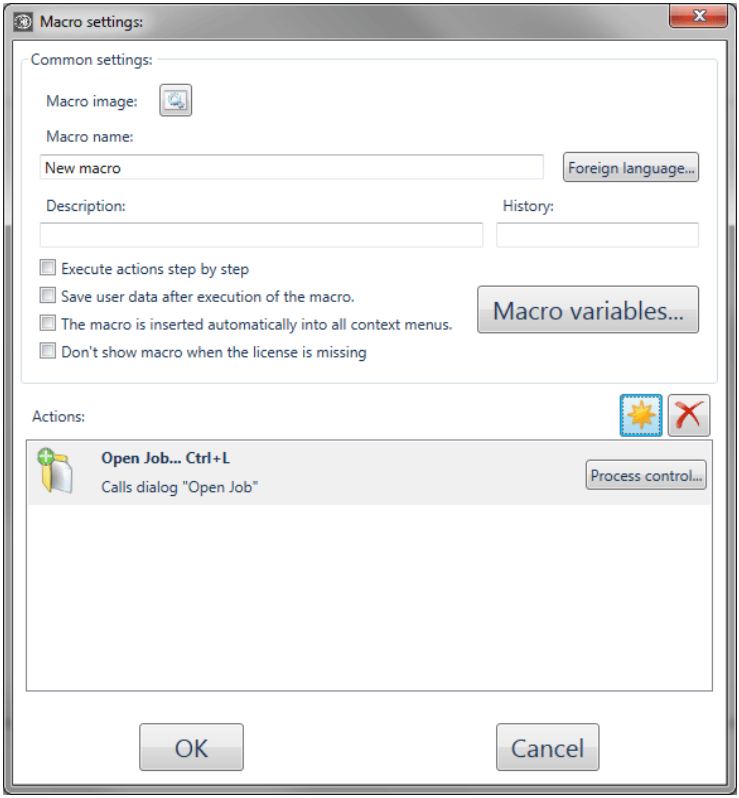


Fig. 8.7-5: Add Function dialog with selected Open Job… function

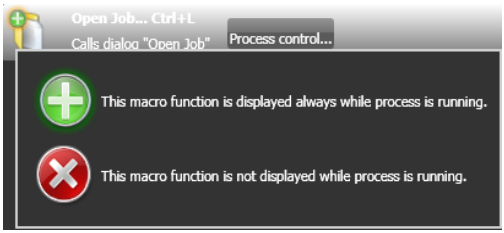
Using the ***Add*** button the selected function is transferred into the ***Actions*** area.

The following figure shows how the Actions area looks after adding a new macro function.



8.7.1.2.2.2 The *Actions* Popup

The ***Actions*** popup shows:



The state can be changed by clicking on the symbol.

Clicking on the ***Cancel*** button closes the functions window.

The ***Delete Action*** Button

Clicking this button removes the selected action out of the ***Actions*** *area.*

8.7.1.3 The *Settings...* Button

Enabling the ***Settings*** button allows adjusting the controls to the requirements of the used screen. The following dialog shows the extent of the possible adjustments.

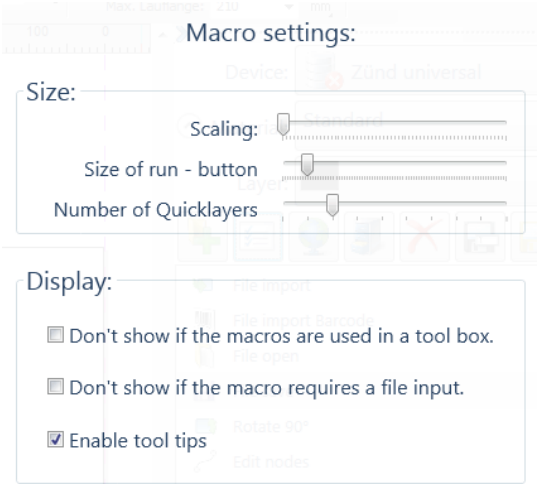


Fig. 8.7-6: Range of Macro Settings

8.7.1.3.1 The Slider

It enlarges or reduces the control elements within the ***Macros*** tab.

Note: This control is of particular benefit in the use of touch-screen monitors.

8.7.1.3.1.1 Size

Scaling

This option determines how large the display should be within the macro list.

Size of Run Button

This option determines the size of the ***Run* button** for playing the macros. A size adjustment can be made especially for touch-sensitive monitors (touch screens).

Number of Quicklayers

This option determines how many **Quick Layers** should be displayed in the ***macro* tab**.

8.7.1.3.1.2 Display

***Don't show if the macros are used in a tool box* Option**

This option prevents a macro from being displayed twice.

***Don't show if the macro requires a file input* Option**

This option only displays macros that do not require a file (*.job) as input.

***Enable Tool Tips* Option**

The ***Enable Tool Tips* option** enables or disables the display of help texts in the **Workflow Manager**.

8.7.1.4 The *Load Online Macros...* Button

Enabling the ***Load Online Macros***... button accesses the EUROSYSTEMS Web server and checks if online macros are available.

Note: If no macros are available online no action is taken.

8.7.1.5 Layer Selection and Assignment

The *Layer Selection* Button

Fig. 8.7-7: 

With this button **selected objects** can be related to any **layer** and **tool** (if assigned!).

The *Assign Layer* Button

Fig. 8.7-8: 

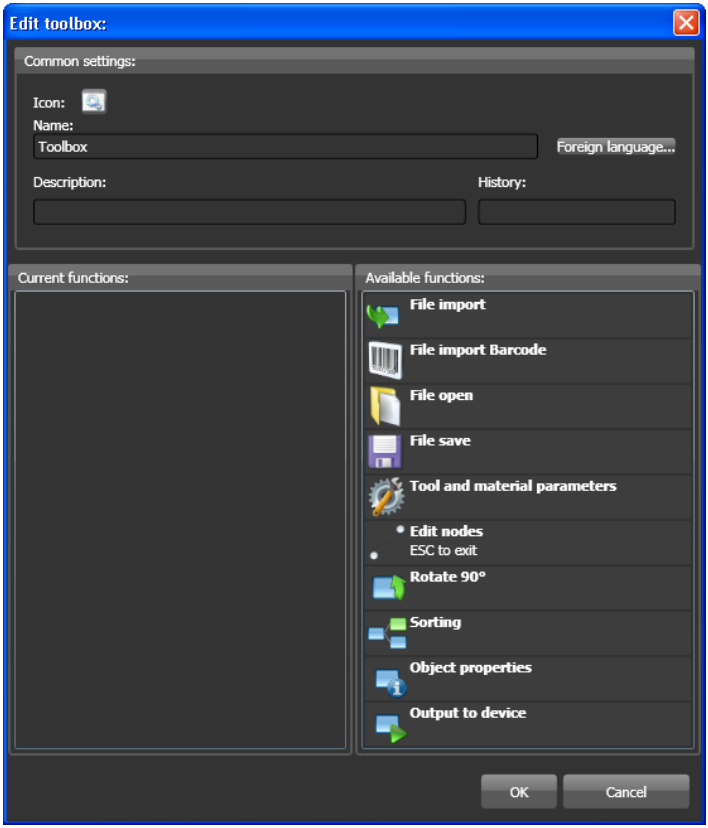
After clicking on the ***Assign Layer*** button the selected objects are **assigned in fact** to the chosen layer.

8.7.1.6 The *New Toolbox…* Button

8.7.1.6.1 What is a Toolbox?

A toolbox can be filled with operations or macros. It unites the tools; it groups them.

Enabling the ***New Toolbox...*** button opens the following window to configure the tool box.



How the "filling" of the toolbox works: **please refer to 8.7.4.3: Toolbox - Grouping of Operations or Processes**

8.7.1.7 The Delete Macro Button

Clicking on the ***Delete Macro…*** button removes the selected macro from the list: after displaying a security request.

8.7.1.8 The *Save Macro…* Button

Enabling the ***Save Macro…*** button opens the ***Save File*** window and allows you to save the selected macro in a file with the file extension *. pr7.

8.7.1.9 The *Rename Macro…* Button

Enabling the ***Rename Macro…*** button opens the ***Save As*** dialog and allows you to save the macro under a different name.

8.7.1.10 The *Save Changes…* Button

Enabling the ***Save Changes…*** button saves all changes within the ***Macros*** tab.

Note: This button appears only on the toolbar when changes were made.

8.7.1.11 The *Import Macro…* Button

Enabling the **Import Macro…** button opens the ***Open File*** dialog and allows the import of a macro with the file extension *. pr7 from a data carrier.

8.7.2 The *Macro Player*

A **double-click** on a macro in the **macro list** opens an additional window (called the parameter view) or executes the macro directly.

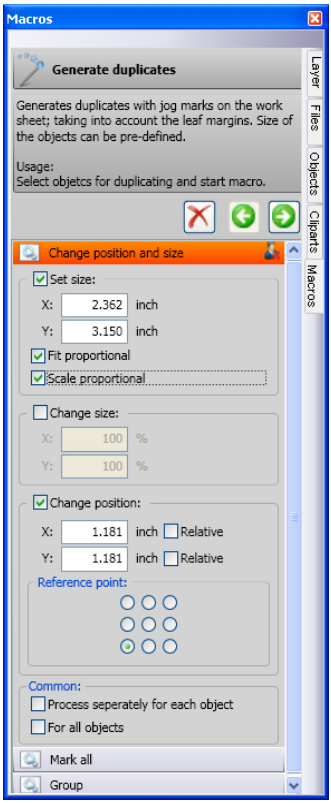


Fig. 8.7-9: Macro in Parameter View

8.7.2.1 The Control Elements of an Active Macro

8.7.2.1.1 The *Cancel Process* Button

Pressing the ***cancel process*** button breaks the macro process.

8.7.2.1.2 The *Step Back* Button

If the ***step back*** button is pressed, the macro jumps back to the last executed macro function.

8.7.2.1.3 The *Execute Function* Button

If the ***execute function*** button is pressed, the macro starts.

8.7.2.1.4 The *Open View* Button

Pressing the ***open view*** button opens the ***parameter view*** which allows entry of values and modes.

8.7.2.1.5 The *Close View* Button

Pressing the ***close view*** button closes the ***parameter view.***

8.7.3 The OptiScout Macros

8.7.3.1 The *Select Objects* Function

8.7.3.1.1 Object Selection by Object Property

With this tool objects with particular properties can be selected. For example via the circle recognition all circular of a particular size can be selected. Via a selectable tolerance also objects that are not exact circles can be recognized.

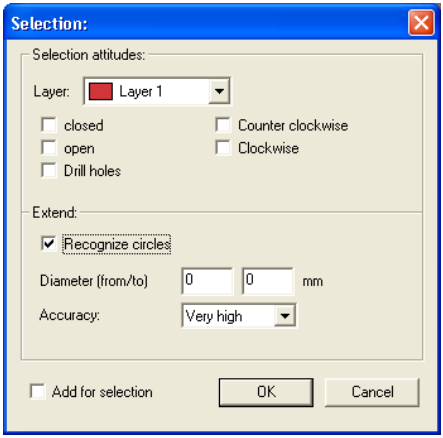


Fig. 8.7-10: Selection dialog for the selection of objects with particular object properties

Example:

A typical application is the preparation of the output data. If the device has for example a Punchtool with which you can punch circles you need, instead of a circle contour, only the center point of the circle. But if so far your other graphics have always contained the circle contours or you keep the design with all circles instead of drill symbols the circles must be replaced by drill holes. This work is reduced by the ***select objects-tool*** in connection with the ***replace objects-tool*** to a few seconds.

8.7.3.1.2 Selection settings

Layer

Selects the layer from which the objects shall be selected.

Closed

If this option is activated all objects are selected whose object contour is closed.

Open

If this option is activated all objects are selected whose object contour is open.

Drill holes

If this option is activated all objects are selected whose object type is ***drill hole***. Drill holes are special objects that can be drawn with the drill hole tool from the ***tools*-toolbar**.

Counter clockwise

If this option is activated all objects are selected whose orientation of the object contour was defined as ***counter clockwise***.

Clockwise

If this option is activated all objects are selected whose orientation of the object contour was defined as ***clockwise***.

8.7.3.1.3 Extended

Recognize circles

If this option is activated all objects are selected whose object type was defined respective drawn as ***circle***.

Diameter (from / to) … mm

In this option the wanted diameter of the circles to be selected can be defined.

Accuracy

In this list the recognition accuracy can be selected from ***very low*** to ***very high***. With ***very high*** only full circles are recognized. With ***very low*** ellipses and forms are recognized that distort from the circle form in several directions.

Add for selection

If objects on the working area are already marked before carrying out this function the newly found objects are added to the already existing selection.

8.7.3.2 The *Replace Objects* Function

8.7.3.2.1 Replace Objects With Selected Type

All objects marked on the working are replaced with the selected object type.

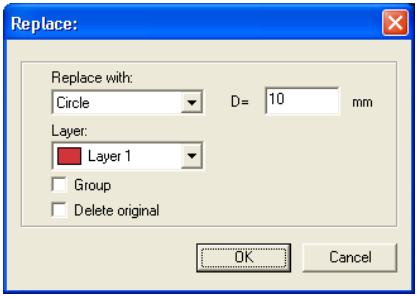


Fig. 8.7-11: Marked objects are replaced with the selected object type

8.7.3.2.2 Replace with:

Circle - D (diameter) in … mm

Replaces all selected objects with the object type ***circle***. The value ***D*** indicates the wanted diameter of the circle.

Drill hole

Replaces all selected objects with the object type ***drill hole***.

Regmark

Replaces all selected objects with the object type ***regmark***.

Clipboard

Replaces all selected objects with the content from the clipboard.

Layer

Layer indicates the target layer in which the replaced objects shall be put.

Indication: Not active with the option clipboard.

Group

If this option is active all replaced objects are combined to a ***group*** - ***grouped***.

Delete original

If this option is activated the original is replaced with the replaced objects.

8.7.3.3 The *Orientation* Function

8.7.3.3.1 Set The Orientation of The Object Vector

This function determines the rotation direction of the object vectors. This is especially important when milling in order to determine how the treatment of the interior elements of objects has to be done.

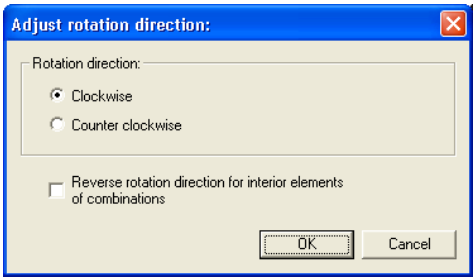


Fig. 8.7-12: Set rotation direction for all marked objects

8.7.3.3.2 Orientation

Clockwise

If this option is activated the rotation direction of the object vectors is determined respective modified to ***clockwise***.

Counter clockwise

If this option is activated the rotation direction of the object vectors is determined respective modified to ***counter clockwise***.

Reverse rotation direction for interior elements of combinations

Per layer hierarchy (nested combinations) the rotation direction for the interior elements of combined objects is modified, reversed.

8.7.4 The integrated Workflow Manager

The Workflow Manager is embedded in the user interface of OptiScout. It has been optimized for the use of touch-screen monitors. It is used to summarize complex processes and to arrange them in a way that they can be done by not specially trained users. The individual processes can be flexibly adapted to different requirements.

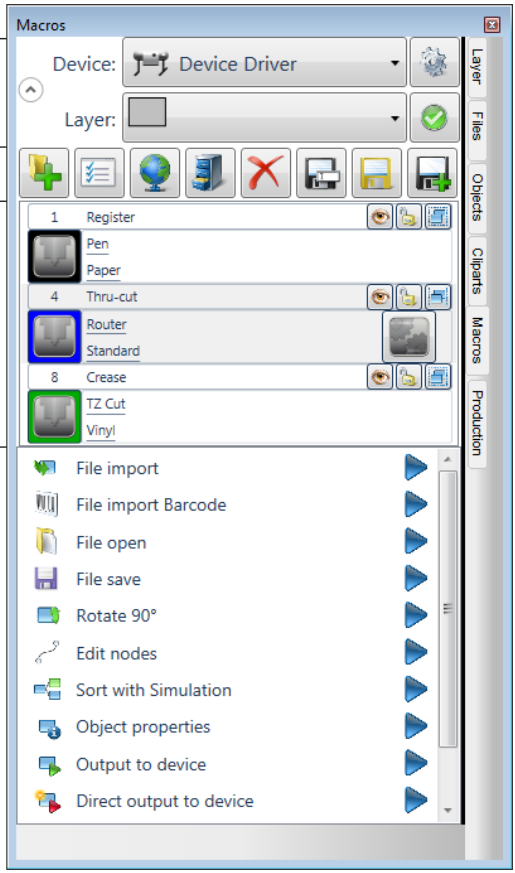
8.7.4.1 The Areas

The Profile Area

The Toolbar Area

The Quick Layer Area

The Operations Area



Note: The enlargement of the control elements of the Workflow Manager can be done using the magnifier button from the toolbar area.

8.7.4.2 Handling And Functionality

8.7.4.2.1 Execute Operations And Macros

The execution of each operation or macro can be run by *double clicking* or by clicking on the ***Execute Macro*** button.

8.7.4.2.2 Movement of Quick Layers

The ***movement*** of Quick Layers within the Quick Layer Area can be done via Drag & Drop.

8.7.4.2.3 Movement of Operations and Macros

The ***movement*** of operations and macros can be done via Drag & Drop - even within the same group (tool box).

8.7.4.3 Toolbox - Grouping of Operations or Processes

8.7.4.3.1 The *Filling* of The Toolbox

The tool box is filled, by dragging the desired function from the *Available Functions* column into the *Current Functions* column.

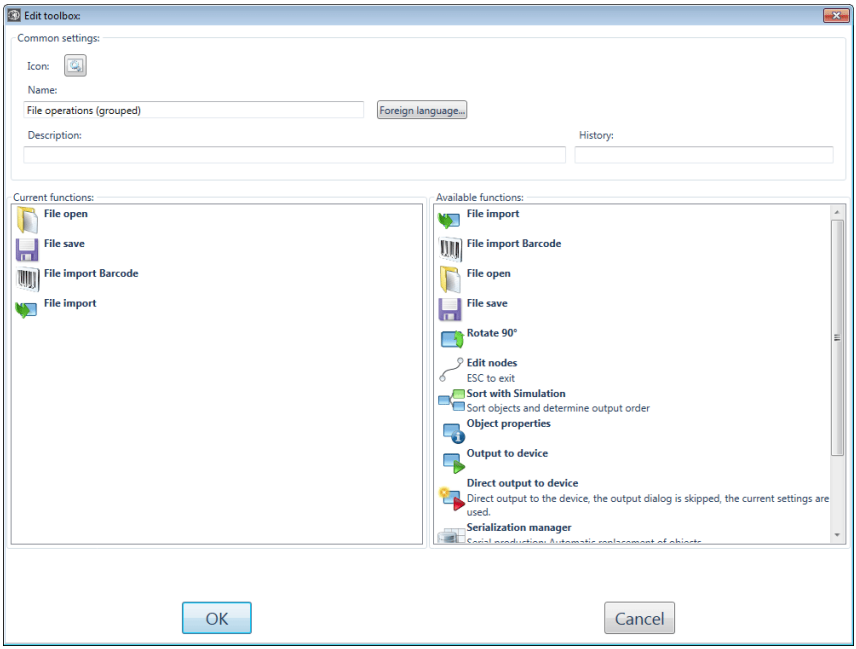


Fig. 8.7-13: Toolbox filled with 4 file functions

8.7.4.3.2 Toolbox Example (Group of Operations)

8.7.4.3.2.1 The *Toolbox Head*

In the ***Toolbox Head*** always is displayed the last selected operation - in this case: *File Import*.

8.7.4.3.2.2 The Open / Close Button

Activating the ***Open*** / ***Close*** button will collapse the toolbar or vice versa.

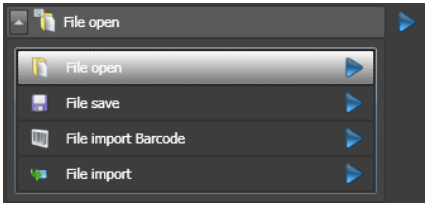


Fig. 8.7-14: Open Toolbox

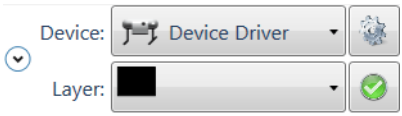
Fig. 8.7-15: Closed Toolbox

Important note: The operations disappear from the operations area, if in the Macro Settings the option 'Dont't show if the macros are unsed in a toolbox' is enabled.

8.7.4.4 The Profile Area

Above the Quick-Layer is the so-called profile area. Depending on the configuration, the **optional material database module** is installed or not. Accordingly, there are 2 different views of the profile area.

I. View *without* activated Material Database



Device

Clicking on the ***device* button** allows you to select a connected device.


Fig. 8.7-16: Setup device button

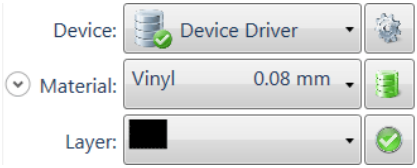
Clicking the ***Setup device*** **button** opens the ***Output to device*** **window**. Store the settings with the ***Save*** **button**. please refer to 3.7.6.1: Output to Device

Layer


Fig. 8.7-17: Assign to layer button

A click on the ***Assign to Layer*** **button** assigns all selected objects to this layer.

II. View with activated Material Database



Material


Fig. 8.7-18: Database button

Clicking on the ***Material*** **button** allows you to select a material defined in the material database.

Click on the ***Database*** **button** to open the ***Select Material*** **dialog**.

8.7.4.5 The *Quick Layer* Area

Definition: A Quick Layer is a layer with special function for the usage in the integrated Workflow Manager.

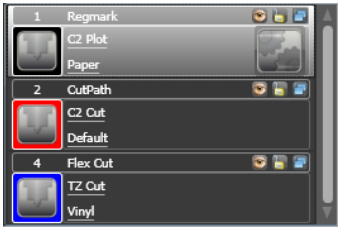


Fig. 8.7-19: Quick Layer Area with 3 visible Quick Layers

Note: The Quick Layers are visible only when a job is loaded. Only a maximum of three layers are displayed in the Quick Layer area. If more than 3 Quick layers are active a scroll bar appears - additionally on the right border.

8.7.4.5.1 Functionality:

8.7.4.5.1.1 The Assignment (Coloring) of Quick Layer Properties

A doubleclick on the ***Tool button*** assigns to all selected objects **color** and **parameters** of the ***Quick Layer***.

8.7.4.5.1.2 The Movement of Quick Layers

Quick Layer can be moved to any place in the ***Quick Layer Area*** using the mouse cursor - via Drag & Drop.

8.7.4.5.2 The *Active* Quick Layer

The ***Active Quick Layer*** is characterized by bar on the left and right next to the highlighted area and through the display of the ***Edit*** button.

8.7.4.5.3 The *Quick Layer* Head

In the Quick Layer Head appears the layer number and layer name - if a name was given for the layer.

Note: A name can be assigned using the information field of the edit button.

8.7.4.5.3.1 The *Visible* / *Invisible* Button

A click on the ***visible*** / ***invisible*** button switches all objects on the desktop from visible to invisible and vice versa.

8.7.4.5.3.2 The *Lock* Button

A click on the ***lock*** button blocks all objects on the desktop in this color.

8.7.4.5.3.3 The *Select* Button

Activating the ***Select*** button selects all the objects in that color on the desktop.

8.7.4.5.4 The *Quick-Layer Tool* Line

A click in the underlined area opens the list to choose from the available tools

8.7.4.5.5 The *Quick Layer Material* Line

A click in the underlined area opens the list to choose from the available materials.

8.7.4.5.5.1 The *Tool* Button

The ***tool*** button illustrates the tool which is assigned.

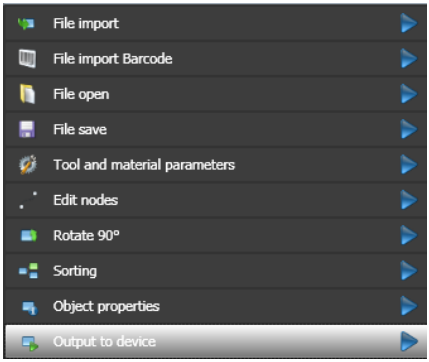
8.7.4.5.5.2 The *Details* Button

A click on the ***details*** button opens a dialog for setting of the layer parameter.

8.7.4.6 The *Operations* Area

8.7.4.6.1 Definition

Operation und Macro: An ***operation*** can include *one* or *more* menu entries and so called *integrated functions.* If a predetermined sequence is started it is called a ***macro***.



8.7.4.6.2 The *Execute Macro* Button

Enabling the ***Execute Macro*** button starts the selected macro.

8.7.4.6.3 The *File Import* Operation

Enabling this operation will open the ***File Import*** dialog similar to the file import.

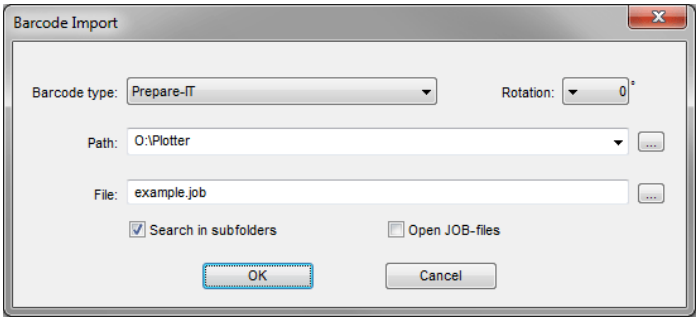
Note: In contrast to the menu command an operation can have a more extensive functionality.

8.7.4.6.4 The *File Import Barcode* - Operation

Note: In contrast to a menu command an operation can have "going beyond it" functionality.

Selecting this operation will open the following dialog, which allows to select the desired file. This can be done **manually**, i.e. by input or **automatically** with the help of a hand scanner.

8.7.4.6.4.1 Manual Import



Barcode Type

The ***barcode type* selection list** lists all available barcodes.

Rotation

The ***Rotation* option** determines the angle at which objects are to be rotated during import. Possible are 0°, 90°, 180° or 270°.

Path Field

The ***path* field** specifies the folder where the files to be imported are located. The **...** button opens the ***Browse for Folder* dialog** from Windows.

File Field

The name of the file to be imported is specified in the ***file* field**. The **...** button opens the ***Import File…* dialog** from Windows.

Search in subfolders

If this option is activated (default), then all subfolders below the **path** folder are also scanned. If the option is disabled, only the **path** folder is scanned.

Open JOB files

If this option is activated, the ***file open* function** is activated. Now only JOB files are opened - complete with layer table, etc.

8.7.4.6.4.2 Automatic Import by Hand Scanner

The automatic import links barcode information with file location and file name. A **printed barcode** (see below) is read by means of a hand scanner. The barcode is used to **automatically load the associated file** containing the cutting contours from the connected computer. In doing so, the sometimes complex file search is avoided (see above).

Fig. 8.7-20: Hand scanner when reading a barcode

8.7.4.6.5 The *File Save* Operation

The *File Save* operation behaves similar to the *Save File* command: **please refer to 4.1.4: The *Save C*ommand**

Note: In contrast to the menu command an operation can have a "going beyond it" functionality.

8.7.4.6.6 The *Rotate 90°* Operation

Selecting this operation will rotate the entire working area with all objects in 90 degree increments counterclockwise.

Note: In contrast to the menu command an operation can have a "going beyond it" functionality.

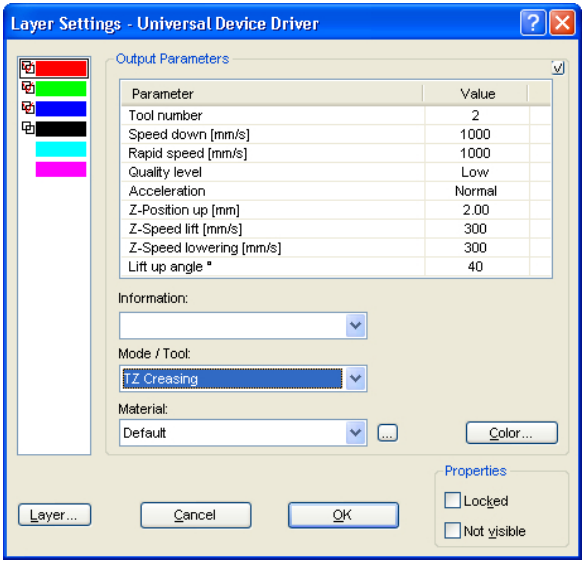
8.7.4.6.7 The *Edit Nodes* Operation

Enabling this operation switches in the so-called node-editing mode, in which the object vectors can be edited.

Note: In contrast to the menu command an operation can have a "going beyond it" functionality.

8.7.4.6.8 The *Tool And Material Parameters* Operation

Selecting this operation will open the following dialog, where in the fields ***Mode / Tool*** and ***Material***, the appropriate selection can be made.



Note: In contrast to the menu command an operation can have a more extensive functionality.

8.7.4.6.9 The *Sort* Operation

Enabling this operation will open the ***Sort with simulation*** dialog.

Note: In contrast to the menu command an operation can have a "going beyond it" functionality.

8.7.4.6.10 The *Object Properties* Operation

Enabling this operation will open the ***Object Properties*** dialog for setting restrictions and object attributes.

Note: In contrast to the menu command an operation can have a "going beyond it" functionality.

8.7.4.6.11 The *Output to Device* Operation

Enabling this Operation opens the ***Output to Device*** dialog for setting all output-relevant parameters and starts the output after pressing the ***Output*** button.

Note: In contrast to the menu command an operation can have a "going beyond it" functionality.

8.7.4 The integrated Workflow Manager

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 Buffer Overflow Serial Port

The cutter cuts the first characters neatly and then starts to draw indefinable curves. **Tip 1**

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*

9.2 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 2**

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.

9.3 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 OptiScout cutting dialog **Tip 3**

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. OptiScout „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.

9.4 Buffer Overflow

The cutter reports „buffer overflow" or does not cut the whole job **Tip 4**

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*.

9.5 Script Font Welding

The automatic welding of script fonts does not work as expected **Tip 5**

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.

9.6 Data Import From Apple Computers

Data import from Apple computers in OptiScout **Tip 6**

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.

9.7 Typical Sources of Errors When Cutting

a) The foil is clamped too loose **Tip 7**

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.

9.8 Plotter Via USB Is Not Working!

Error message: Cannot open interface! **Tip 8**

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 OptiScout ***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.

9.9 Summa Plotter Does Not Read Out!

Error message: Waiting for response... Cannot open interface... **Tip 9**

Check, if your plotter is set on the device language DMPL. If the cutter is set to HPGL, read out via cable is not possible.

9.10 The Values for Cutting Pressure And Speed Are Not Saved

Tip 10

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.

9.11 Error Message While Output into File

Error message: "Error for CreateFile" **Tip 11**

This error message is given out, if the access right ***Write*** for the *program folder* of OptiScout is not set.

Relief: Enable ***write*** rights for the program folder.

10 Modules (optional)

10.1 Material Database

10.1.1 Introduction

Material costs are an important part of the total production costs. To reduce costs or reduce them to a minimum is the effort of every industrial production. Therefore, it is advantageous to know and take into account material and method-specific parameters during design and in job preparation. This is to prevent the occurrence of disturbances or bottlenecks during production. Empirical values should be stored and taken into account during the next production. Working with a material database is quicker and more reliable than with data sheets and rule of thumb method.

All software applications involved in the entire production workflow can access the stored information: CAD, illustration program, RIP as well as production and machine control applications. Access to the database server can be done either locally on the client computer or on a specially provided production computer via a network connection.

All material-specific information, in particular with which methods it can be processed, as well as the tool and technology data, are available throughout the production process and can be changed at any time if required.

10.1.2 Why a Material Database?

The purpose of a material database is that the user does not have to be an expert to process a certain material in a specific output process. The OptiScout material database ensures that all material-specific properties are provided. These properties have previously been stored in a material profile. Access to the material profile is possible when the OptiScout database server is started. In addition to the material-specific properties, tool technology data, methods, inserts and equipment profiles are also stored in so-called production profiles. Production profiles contain all information relevant to the output process settings to be applied to the output data.

Objective

The goal is the inventory of all materials, methods and machine and tool parameters. In the ideal case, the material database is used to gather the experience gained from the practice of all production processes of a company.

The material database is at the center of the realization of a **production process automation**. The contents of the material database can be accessed at the stage of job preparation. Material, machine, tool and method are already known in the pre-production phase and can be taken into account in the design; errors are avoided at an early stage.

Meaning

Essential is the storage and retrieval of the right method when processing a particular material. Each material can be assigned single or multiple - also different - devices. It also defines which tool, which tool insert and which method should be used. All parameters are set to the values required for a perfect material handling, new materials can be added at

any time. Ultimately, everything culminates in a production profile, which controls the entire production process.

Benefits

Essentially, it is about minimizing rejects while maintaining the same process quality. This results directly in a high, consistent product quality, which leads automatically to satisfied customers. The output file contains immanently all the necessary information and technology data for a smooth production. The machine operator loads the output file, equips the machine and selects the appropriate production profile in OptiScout. Then he starts the output process and supervises the production.

10.1.3 The Database Server

To access the [P] material database, an active database server is required, which means that the [P] database server must be installed before accessing a material profile.

It is recommended that the option "***Create shortcut in the Windows auto start"*** will be activated at the end of the installation. If not, the database server must be started manually.

10.1.3.1 Two Applications

1. The material database server is located on a separate computer

or

2. The server is located on the client computer (s) directly on the output device.

When what is useful depends first and foremost on the number of machines; The staff available is also to be considered.

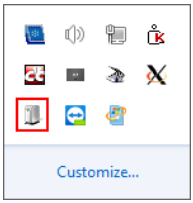


Fig. 10.1-1: OS MATDB Server Icon

After successful installation, the OSDB server icon  appears in the Windows taskbar.

10.1.3.2 Database Settings Dialog

Double-clicking on the icon starts the following ***Settings* dialog**:

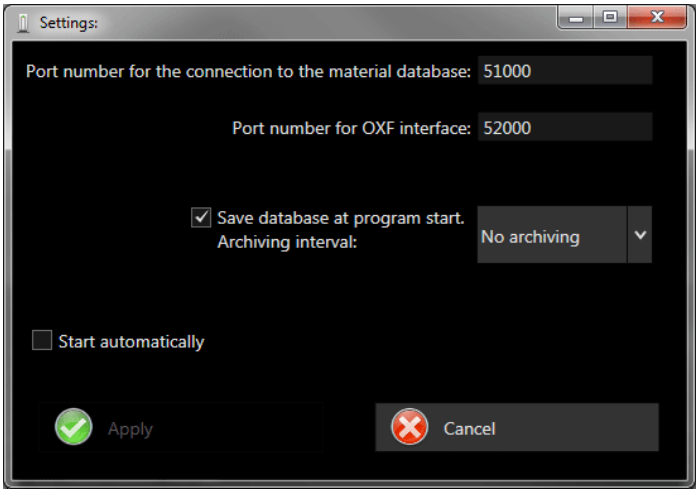


Fig. 10.1-2: Settings Dialog

***Port number for the connection to the material database* Field**

Default is 51000.

***Port number for OXF interface* Field**

Default is 52000.

***Save database at program start* Option**

If this option is enabled, the profiles are saved in the [P] material database.

Archiving interval:

The ***archiving interval*** determines how often the profiles are saved in the material database: 4 Settings are possible: 1 No archiving, 2 Daily, 3 Weekly, 4 Monthly

***Start automatially* Option**

10.1.3.3 The OptiScout Settings Menu

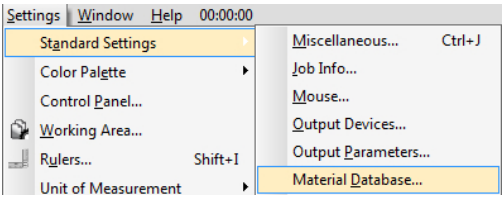


Fig. 10.1-3: Settings Menu with pre-selected Material Database

Opens the following ***Default Settings*** **Dialog**:

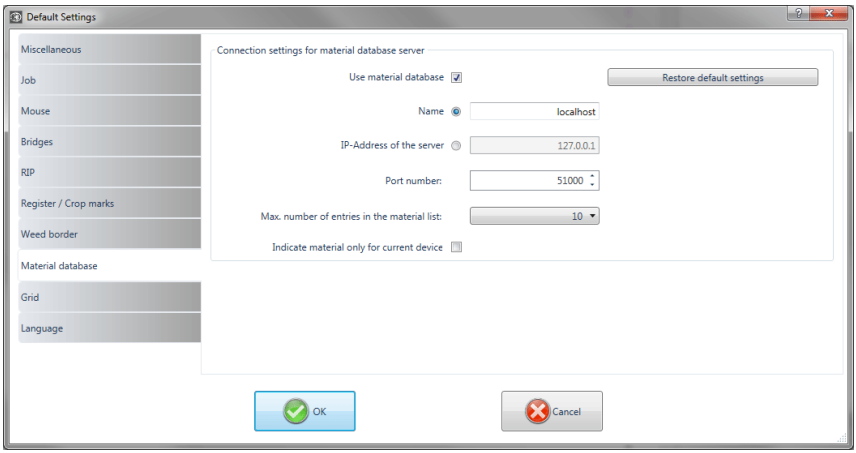


Fig. 10.1-4: Material database Button pressed

10.1.3.4 Connection Settings for Material Database Server

Use material database **Option**

If this option is enabled, the material database is used if the material database server is running.

Restore default settings **Button**

Activating this button will reset all values to their **default value**.

Name **Field**

Enter the name of the computer on which the material database server is running. Default is ***localhost***, that is, the server runs on the same machine as the application itself.

***IP-Address of the server* Field**

Here the IP address assigned to the material database server must be entered. Default is ***127.0.0.1*** if the server is running on the same machine as the application itself.

***Port number* Field**

Enter the port number used by the material database server. Default is ***51000*** if the server runs on the same computer as the application itself.

***Max. number of entries in the material list* Option**

Here, for the sake of clarity, the number of entries in the material list can be limited. Possible values are: 1, 5, **10 (default)**, 25, 50, 100, All.

***Indicate material only for current device* Option**

Enabling this option does not show all the materials that were saved in the database, but only for the current device.

Starts the database server automatically with the start of the computer. This option is required if the database is to be accessed centrally or if the database should be available each time OptiScout is started.

10.1.4 Exp: Crease Trough Cut Workflow

The material database embedded in the production workflow: from job design and job preparation, to prepress, prepress production and production.

For example, a complete workflow with register marks, barcode, production profiles, material profiles, methods and tools is outlined here.

10.1.4.1 Phase 1: Job Design (Layout) and Job Preparation

In phase 1, the printing and cutting data are created. Already in the design phase, the used materials, methods and tools are considered. The information on these elements can be found in the material database. The cutting data can be generated in a CAD program, an illustration program or in OptiScout itself. The location of the data generation is irrelevant for the further workflow.

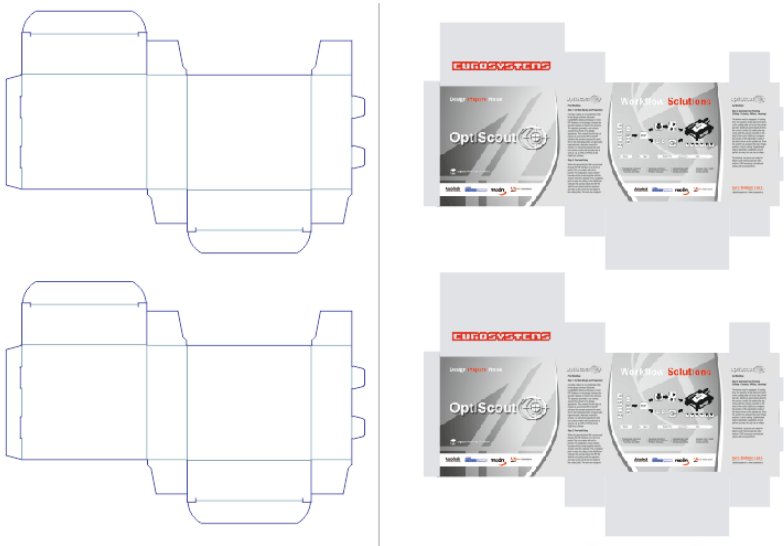


Fig. 10.1-5: Cut crease contours (on the left) and printing data (on the right)

The illustration above shows the so-called cutting data. The Thru-Cut contour in blue and the crease contour in green. On the right, you can see the print file as 2 duplicates.

10.1.4 Exp: Crease Trough Cut Workflow

Fig. 10.1-6: Cut crease contour located above print data

The illustration above shows the cutting data placed perfectly on the print file.

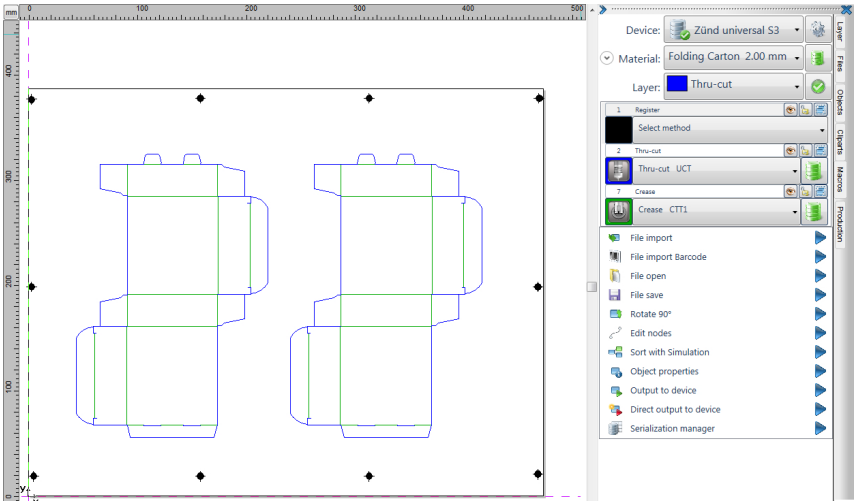


Fig. 10.1-7: OptiScout working area with material profile and method tool assignment

The illustration above shows the working area of OptiScout with the cutting data including video marks with quick-layer view and material database activation, indicated by the **database icon**. Assigned material is **„Folding Carton, 2 mm"**.

The **method "Thru Cut"** is assigned to the blue layer and **"Crease"** as method is assigned to the green layer. The video marks (**RegMarks**) are assigned to the black layer. As **tools** are selected **"UCT"** and **"CTT1"**.

10.1.4.2 Phase 2: Printing Preparation and Printing

In Phase 2 the print data are processed. The RIP scales the print data and reads **material data** and **method** from the material database. The print file is provided with **barcode** and **register marks**. The barcode serves to assign the file and allows an automatic import. The register marks (video marks) serve to produce the printing and cutting data with the smallest possible deviation from the original.

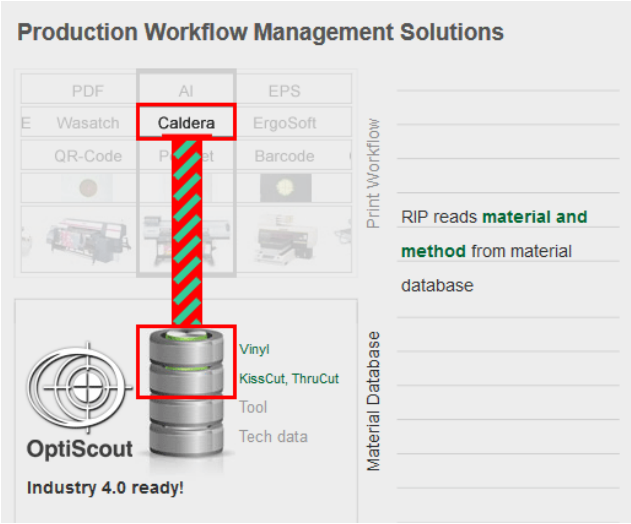


Fig. 10.1-8: Pre-Production: RIP reads material and method from the database

The illustration above shows how the RIP (here: Caldera) accesses the OptiScout material database and feeds material and method into the print preparation.

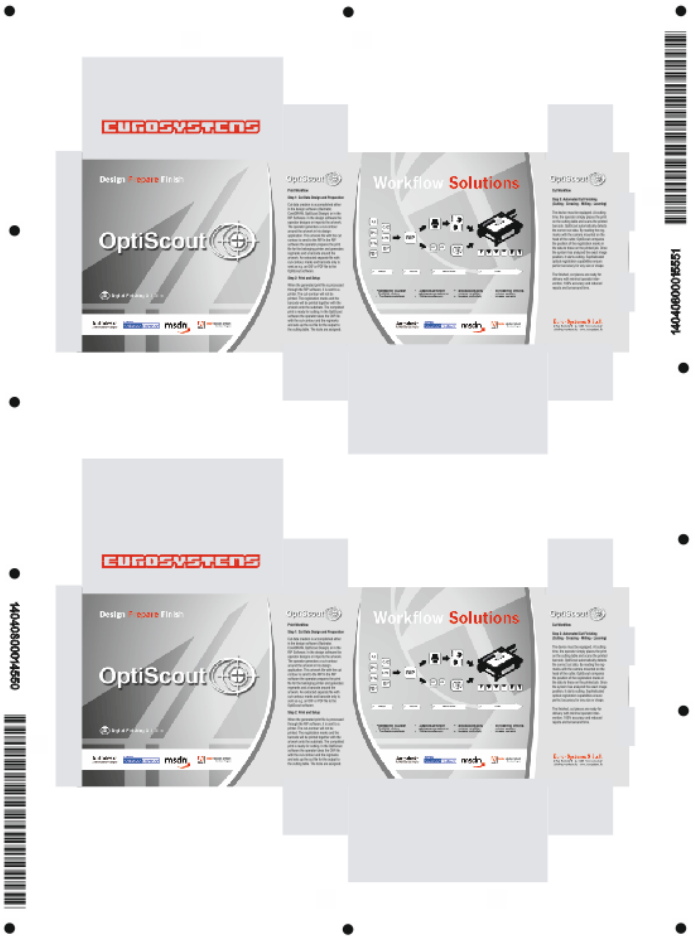


Fig. 10.1-9: Print file with barcode and register marks

The illustration above shows the finished print file with bar codes and register marks ready for printing.

10.1.4.3 Phase 3: Pre-Production, Production and Finishing

In Phase 3, post-production, the print sheets are processed further (Finishing).

In the **pre-production phase**, the **tools** and **technology data** of OptiScout are read from the material database.

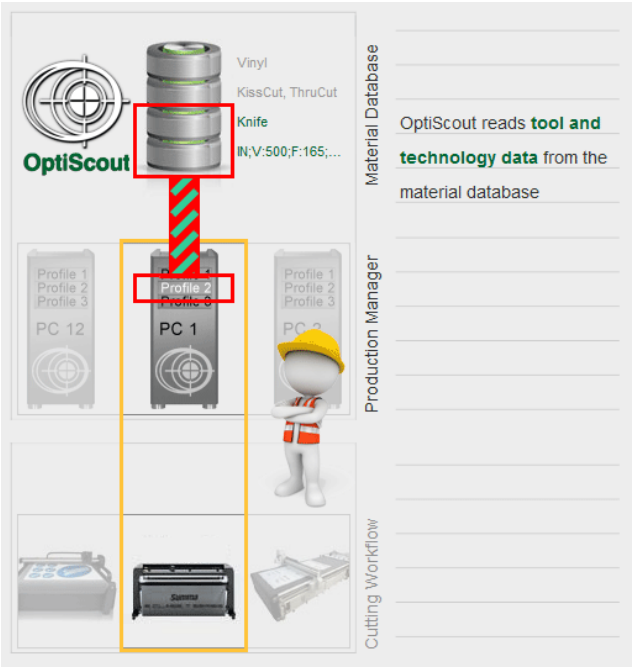


Fig. 10.1-10: Pre-Production: OptiScout reads tool(s) and technology data from the database

The figure above shows OptiScout when reading the material database: here: Tool (knife) with the corresponding technology data. The Production Manager loads the appropriate production profile - here: Profile 2.

10.1.4.3.1 Thru Cut Tool Settings - activated via database icon

Fig. 10.1-11: Mat DB icon

A click on the **Mat DB icon** opens the blue ***Layer edit* dialog**.

10.1.4 Exp: Crease Trough Cut Workflow

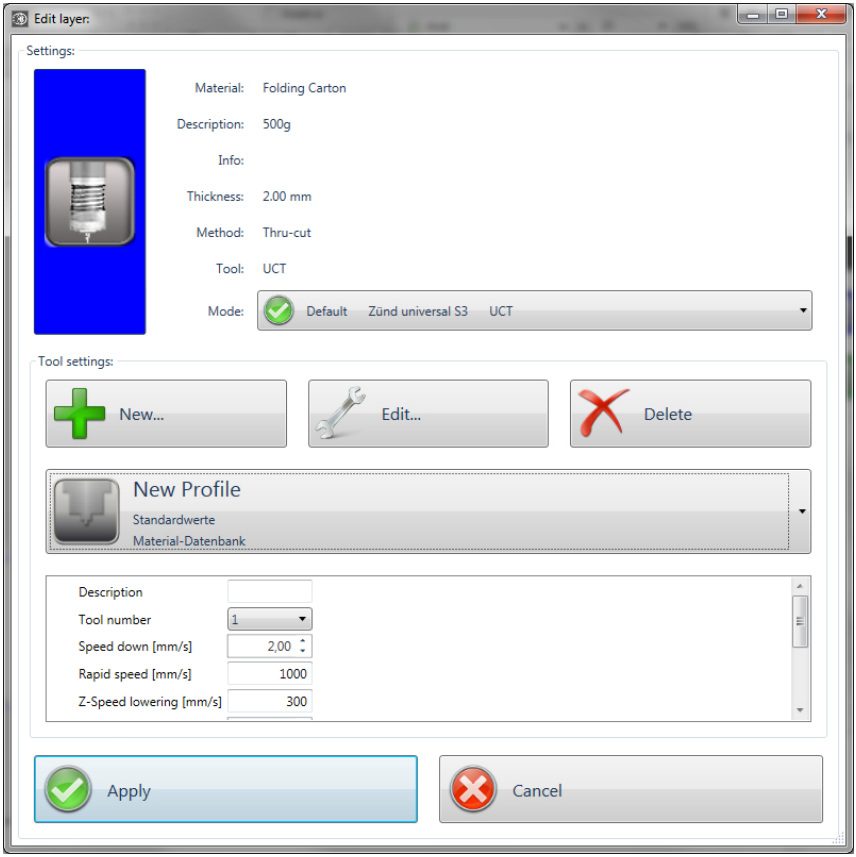


Fig. 10.1-12: Layer edit dialog in the material database mode here: blue layer

The figure above shows the **technology data** of the Thru-cut tool UCT (Cut through). Here you can make the necessary changes for the current output process.

10.1.4.3.2 Crease Tool Settings - activated via database icon


Fig. 10.1-13: Mat DB icon

A click on the **Mat DB icon** opens the green ***Layer edit* dialog**.

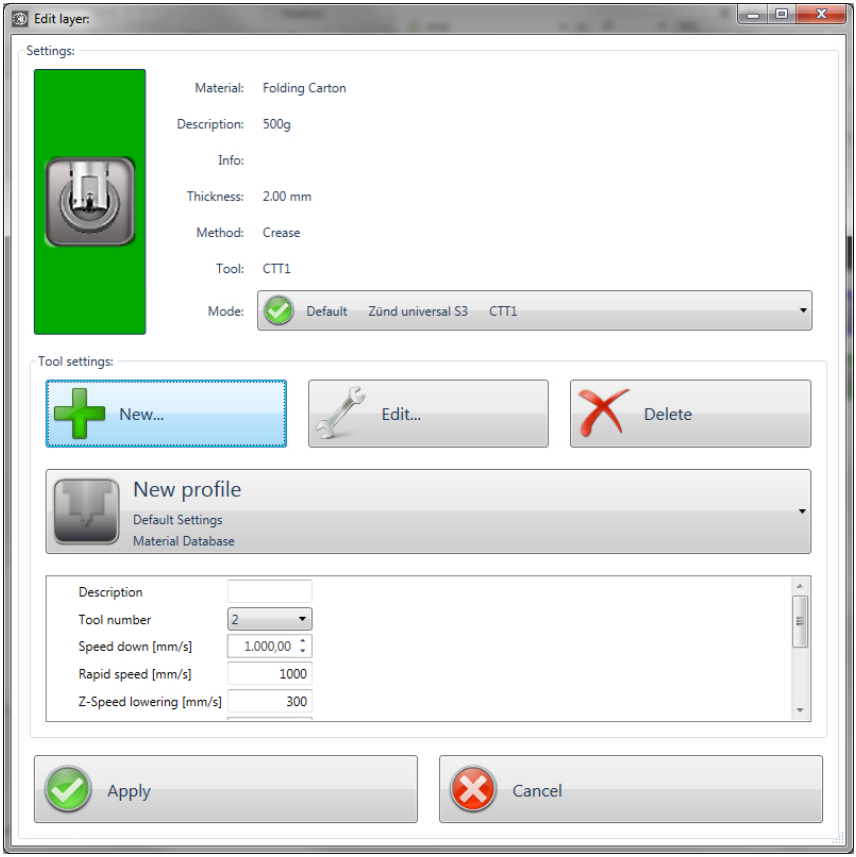


Fig. 10.1-14: Layer edit dialog in the material database mode here: green Layer

The illustration above shows the **technology data** of the crease tool CTT1. Here you can make the necessary changes for the current output process.

10.1.4.3.3 Material Method Dialogs - activated via database icon next to the material

Fig. 10.1-15: Mat DB icon

A click on the ***Mat DB* icon** with the **material** here: ***"Folding Carton"*** opens the ***Material edit* dialog.** The ***Method* button** opens the ***Assign methods* dialog.**

10.1.4 Exp: Crease Trough Cut Workflow

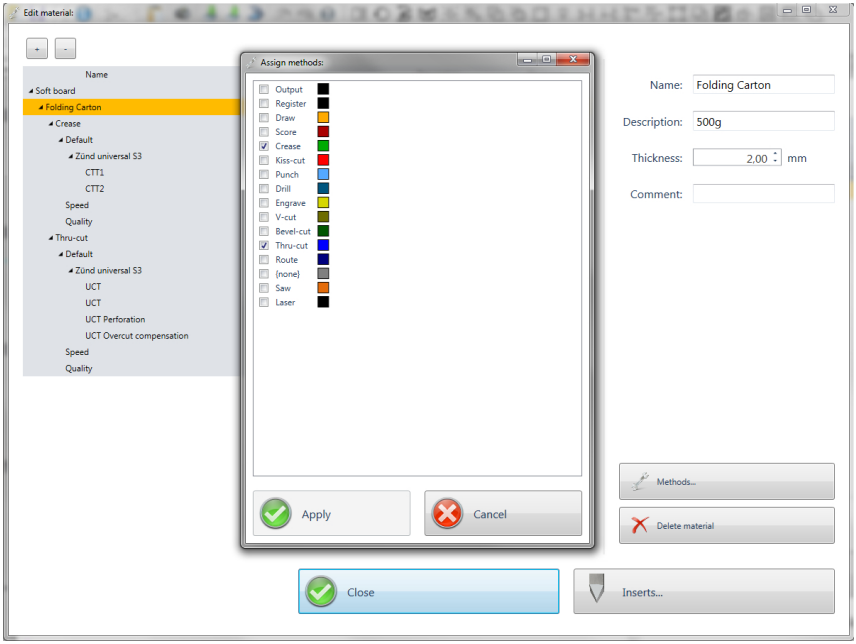


Fig. 10.1-16: Method assignment with layer color view

The figure above shows the two activated **methods Crease** and **Thru-Cut**. These are the two methods that are required to process the material: **"Folding Carton"**.

Once all the necessary changes have been made, production is no longer an obstacle.

The next step is setting up the machine and putting the material on. The machine operator switches to the ***Production* tab**.

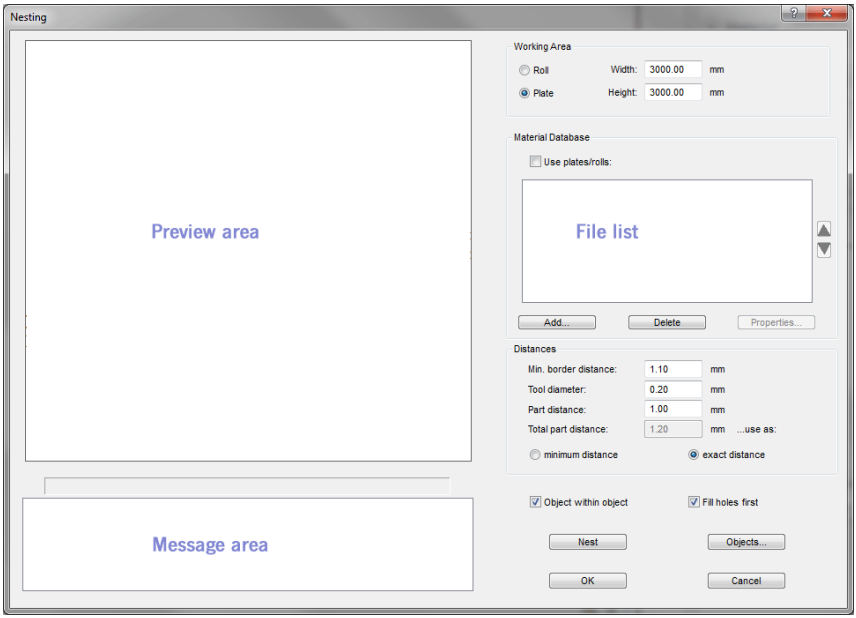
Fig. 10.1-17: OptiScout Production tab

Fig. 10.1-18: 

A click on the green arrow starts a production with the **production profile** "Standard".

10.2 True Shape Nesting with Pairing

Nesting refers to the nesting of vector shapes in order to save material.



Preview area: Previews the plate size and all objects, which **could** be nested.

Message area: Info area with status messages while nesting.

Info line: Informs about number of objects, plate, material consumption, a. o..

File list: All DXF files (Rest plates) that will be added are listed here.

10.2.0.1 Roll

Roll refers to a quasi-infinite plate. Enabling the ***Roll*** option nests on base of a roll of material. Taking into account the number of objects and the given height the nesting module automatically determines the required material length.

10.2.0.2 Plate

Enabling the ***Plate*** option nesting is done within the limits of a plate, whose width and height can be predefined.

10.2.0.1 Roll

Width

Individually defined ***Width*** of a nesting plate

Height

Individually defined ***Height*** of a nesting plate

10.2.1 Material Database

10.2.1.1 *Use Plates / Roll* Option

By activating this option a DXF file which includes the contour of a rest plate is imported when the the ***Add…*** button is pressed.

Note: The required file format is *.DXF.

The *Add…* Button

Pressing the ***Add…*** button opens the ***file open*** dialog which allows the selection of the *rest plate* file.

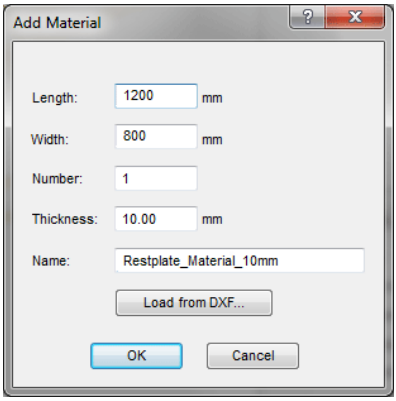
Note: It can be added more than only one plate which should be available for nesting.

The *Delete* Button

Pressing the ***Delete*** button removes the selected rest plate file from the list.

The *Properties…* Button

Enabling the ***Properties***… button opens the following parameter dialog:



Number

In the ***Number*** field you can enter how often a rest plate should be taken into account while nesting.

Thickness

In the ***Thickness*** field you can enter the material thickness of a rest plate.

Name

In the ***Name*** field you can assign a name for the rest plate, which is displayed in the ***objects*** tab for identification.

10.2.2 Distances - Other Settings and Options

Margin distance

Meant is here the pieces ***Margin distance*** from the plate edge.

Tool diameter

The ***Tool diameter*** is taken into account in the final part distance.

Part distance

If the tool diameter = 0, then the distance between parts after nesting is equal to the value entered.

If the tool diameter > 0 then the distance between parts is calculated using the following formula: part distance = part distance tool diameter. Part distance is increased by the value for the tool diameter.

Total part distance: [Unit] …use as:

Minimum distance

If this option is selected, no deviation is allowed that is less than this value.

or

Exact distance

If this option is activated, no deviation is permitted.

The *Part in Part* Option

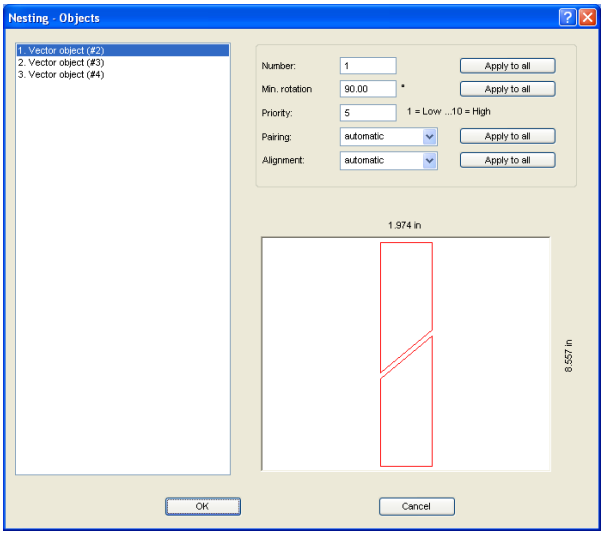
If the option is selected, the inner contours of work pieces are used for the nesting of smaller parts.

The *Fill Holes First* Option

When this option is chosen, then the inner contours of work pieces are used when nesting little pieces. When activating this option it is checked, if first should be tried if the next piece fits into another piece. If does not fit, the holes are not used until a piece can not be placed elsewhere on the plate.

10.2.3 *Objects…* Button

A click on the ***Objects…*** button activates the following dialog:



Object Selection List

List of selected objects on the OptiScout working area

Number

Only selected object in the selection list or all properties by activating the ***All*** button

Min. Rotation °

Only selected object in the selection list or all properties by activating the ***All*** button

Priority

Possible values from 0 to 10. The sequence of the parts can be defined using the ***priority*** field. The more largely the number, the rather the part is nested. If nothing is entered into the field or if several parts have the same priority, then the parts with descending surface are taken. Large parts first, thus the smaller - perhaps - still fit between them.

Preview

Shows the object which was selected in the ***Object Selection List***. Above and on the right hand side of the preview the width and height of the part is indicated.

10.2.4 Pairing

Pairing

The principle of pairing is to create one as small as possible, the pair enclosing box. Normally, therefore, with the option "best", even the best pairing is generated. The different options are presented below using an angular part as example.

Note: With the help of the function "pairing" pairs of parts can be created in order to nest them preferably pairwise. Basically for the following different ways is to note, that it depends very much on the parts, which of the possibilities turns out to be the best!

No pairs: Working without pairing.

Vertical: The parts are placed vertically above the other.

Horizontal: The parts are placed horizontally side by side.

Automatic: The parts are nested one after another. The algorithms seek the slightest area consumption.

Overlapped: For example, two angles are arranged so that they overlap.

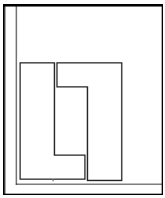
Staggered: The parts will also be stacked - one above another

Outer shape: This option can be used if a nesting object has multiple outer contours. This is often the case with groups. The group is handled like on object. Other objects can be nested in between.

10.2.4.1 Pairing Examples

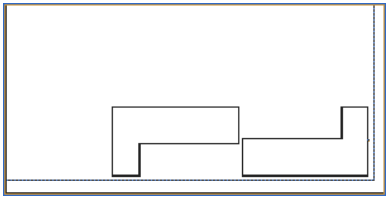
To this examples of the various options using a part. This is important not to notice the nesting itself, but whether the pairing is done vertically, horizontally, or overlapping. To determine the most affordable option, the corresponding part is called, the desired option is set and then is started by "Nest" the result of the pairing.

a) Vertical Pairing



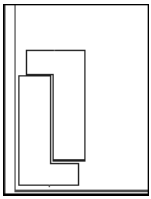
Vertical alignment of the parts in the nesting - at this angle part, a relatively large gap remains in the center of the pair.

b) Horizontal Pairing



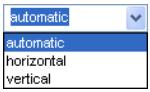
Parts are paired horizontally (to clarify the drawing was rotated 90°).

c) Overlapped Pairing



In our example, "angular part" the overlap function may provide an even more optimal pair result.

10.2.4.2 Alignment



Three option for the nesting direction, ie. the direction in which you want to nest, preferably resp. in which direction the objects should be turned.

Automatic

If the ***Automatic*** option is enabled the object alignment will be determined by the module itself.

Horizontal

This option considers the rotation direction of the objects and in accordance with it the priority assigns with the nesting - here the preferential direction is: ***horizontal***.

Vertical

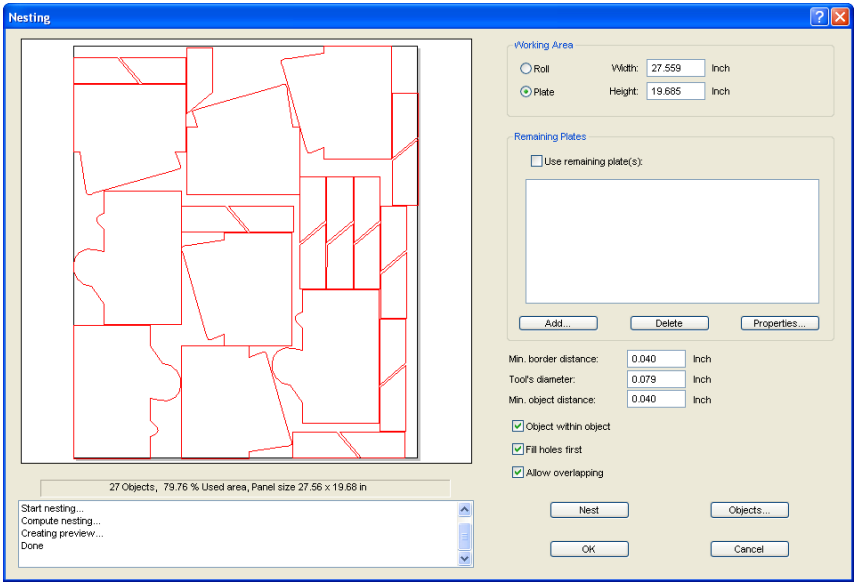
This option considers the rotation direction of the objects and in accordance with it the priority assigns with the nesting - here the preferential direction is: ***vertical***.

10.2.5 The *Nest* Button

The ***Nesting*** button starts the genuine nesting program. After all the plates and work pieces associated with the default settings have been selected, the plates are covered with work pieces. Depending on the number of parts, plates, and preferences in terms of accuracy and speed, the nesting process only takes a few seconds. Once all the available plates are filled, then the nesting results are displayed.

Result

The nesting result is displayed for control in the ***Preview area***.



After the evaluation of the result the objects are transferred to the main program for further processing.

10.3 Timer - Output Time Calculator

OptiScout Timer is an **optional module** for the approximate determination of the output time of production-ready finishing jobs.

Experience shows that it is difficult to measure the costs of finishing productions in advance. The rule of thumb method rarely leads to reasonable estimations. The risk of below-cost pricing is high.

The timer module provides a sufficiently accurate estimate of the output time, which is the essential factor for the calculation of a profitable production-ready finishing job. Virtually at the push of a button, the output time for different batches or series is displayed and that without the output device is blocked during the evaluation.

10.3.1 Licensing

Timer is a copy-protected extension to OptiScout Production 8. Usage is only possible with licensing code.

When you purchase this module, you will receive a license code from your dealer - an ECFN file (Name: OSxx-xxxxx.ecfn). Using this file, the module is unlocked.

Important note: 1. The latest available OptiScout Production 8 version must be installed! 2. OptiScout should not be active in the licensing process.

A **double click** on the file ECFN unlocks the module. The following message confirms the successful licensing.

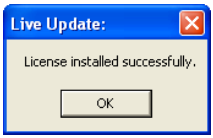


Fig. 10.3-1: Successful licensing

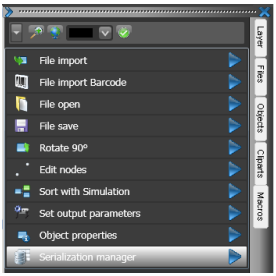


Fig. 10.3-2: Macro list **before** the licensing

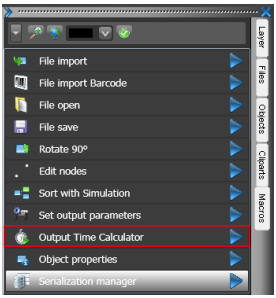


Fig. 10.3-3: Macro list **after** the licensing

10.3.2 Step by Step Instruction

1. Load output job (production-ready with nested Finishing data)

2. Select Timer driver or determine speed

3. Activate "Output Time Calculator” by clicking on the *Execute macro* arrow

4. Determine output parameters (see Prediction Parameters)

5. Read output time and total time (see Results)

10.3.3 The Macro View

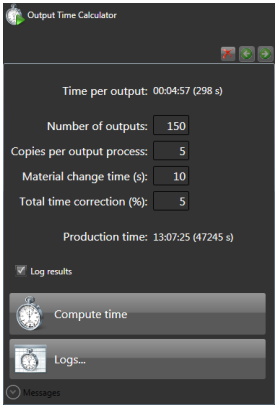


Fig. 10.3-4: Macro in the driver-dependent mode

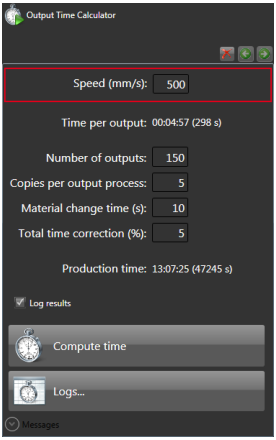


Fig. 10.3-5: Macro in the driver independent mode

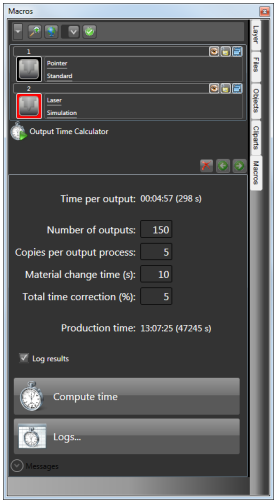


Fig. 10.3-6: Macro view with Quick Layers

10.3.4 Results

10.3.4.1 The Display *Time per output*

The result of the precalculation of **one output** is displayed here in the format *HH:MM:SS (Sec)***.**

10.3.4.2 The Display *Production time (DD-HH-MM-SS)*

The result of the precalculation of **all outputs** is displayed here in the format *HH:MM:SS (Sec)***.**

10.3.5 Prediction Parameters

10.3.5.1 The value *Speed [mm/s]*

Here, the value for the speed of output is specified. This value is taken into account in the prediction.

Note: The speed parameter is displayed if no special timer device driver is selected (driver-independent mode).

10.3.5.2 The value *Number of outputs*

Here you can specify how many outputs should be considered during the calculation.

10.3.5.3 The value *Copies per output process*

Here you can specify how many copies per output should be processed.

10.3.5.4 The *Material change time (s)*

Here you can specify how many copies are to be processed per output.

10.3.5.5 The *Total Time Correction (%)*

If the real output time deviates too much from the calculated time, then a correction can be made at this point.

10.3.5.6 The *Log results* Option

If this option is enabled, then any change of the technology data and the precalculation parameters is logged after clicking on the ***Compute time*** button and saved in a file. Access to this protocol is possible by clicking the ***Logs***… button (see below).

10.3.6 The Buttons

10.3.6.1 The *Compute time* Button

The activation of this button calculates the output time with the defined prediction parameters.

10.3.6.2 The *Logs...* Button

The activation of this button opens the *Time precalculation* dialog.

10.3.7 The Messages Area

In this area, messages are displayed during the calculation, which provide information on progress and status.

10.3.8 The *Time Precalculation* Dialog

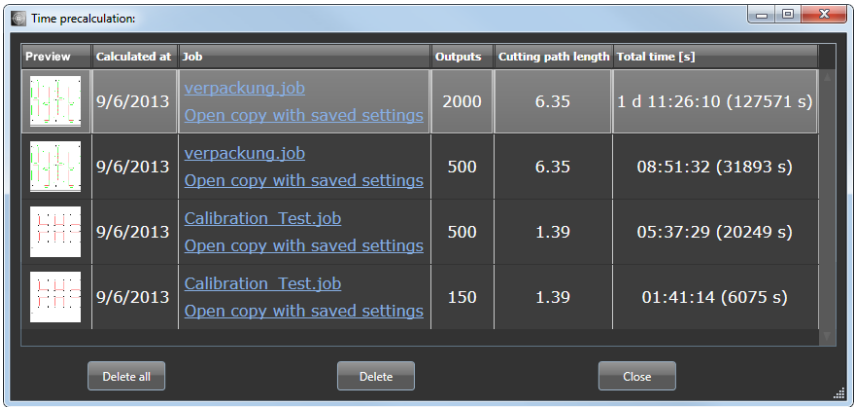


Fig. 10.3-7: Log with Job list, preview and production data

10.3.8.1 The Log Columns

Preview

In this column a job thumbnail is displayed. This image can facilitate the selection.

Calculated at

In this column is displayed the prediction **Day** in format *DD:MM:YYYY* and the **Time** in format *HH:MM:SS*, when the log entry is done.

Job

In this column, the different results are logged.

The field Job is double-spaced. In the 1st row the genuine Job is shown. In the 2nd row are listed all precalculated jobs with technology data (Tool assignment, Production parameters).

Outputs

In this column is displayed, how many outputs are processed.

Cutting path length [m]

This column shows the total length of the processed cutting paths.

Total time [s]

This column shows the estimated total output time in the format *Day:HH:MM:SS.*

The Delete all Button

The activation of this button deletes all selected rows.

The Delete Button

The activation of this button deletes the selected row.

The Close Button

The activation of this button closes this window.

10.3.8.2 The Log Rows

At any change in technology data or projection parameters, a new row is added into the log.

10.4 Production Manager

10.4.1 Introduction

10.4.1.1 What can a Production Manager do?

The **Production Manager** can be used to create individual production profiles (in other words: workflows). An editor allows you to define your own profiles. Several existing profiles are listed in the **Production Manager**.
The selection is done by a mouse click. All relevant production parameters are defined in the production profile. For camera-based applications, the camera image is displayed in a window.

Other features include:

- the dynamic execution of functions, eg milling radius correction, which is already displayed and carried out by simply assigning objects to the milling layer

- (Preview) of, for example, copies on the workspace when changing one or more driver parameters

- starting the output and activating the cutting object preview

- the display of production data, such as the number of outputs, number of copies, copy offsets, and much more

The definition and editing of production profiles is possible via the ***production* tab** in the **sidebar**.

Fig. 10.4-1: Production Tab

Note: The production tab is only integrated into the sidebar if a valid license exists. The license check is performed every time the software is restarted.

10.4.1.2 Integration into the Production Process

The **Production Manager** is a OptiScout module located at the interface between the edited output data and the output on the connected device. The machine operator controls the output process with it. For the output process, the Production Manager can access the material database and its material profiles (if installed and licensed). A practically fully automated output workflow can be implemented using macros. The machine operator equips the machine with material, selects the appropriate production profile and starts the output process. From now on, the process has to be monitored, the processed material has to be collected and the machine has to be supplied with new material if necessary.

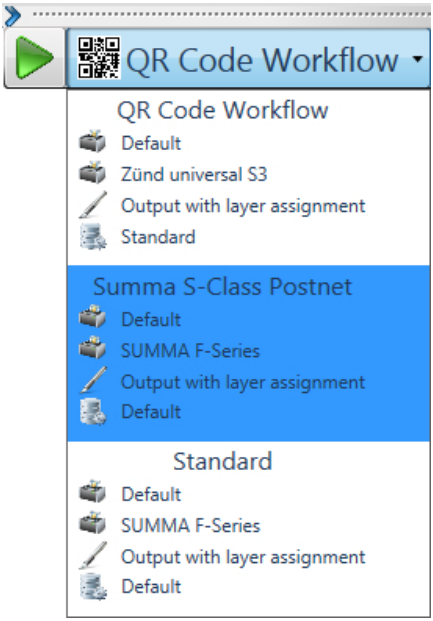


Fig. 10.4-2: Production Manager with a selection of production profiles

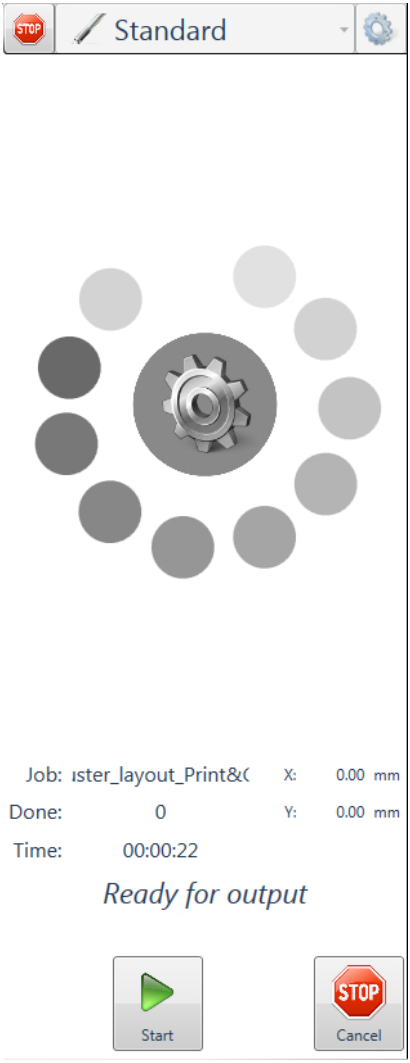


Fig. 10.4-3: Production Manager view after activating a profile

The **Production Manager** is ready to start the output.

10.4.2 The Production Profiles (Workflows)

10.4.2.1 Selection of a Production Profile

Fig. 10.4-4: Production Manager main control element

The list is opened by clicking on "Standard". The selection is made by clicking on the desired profile.

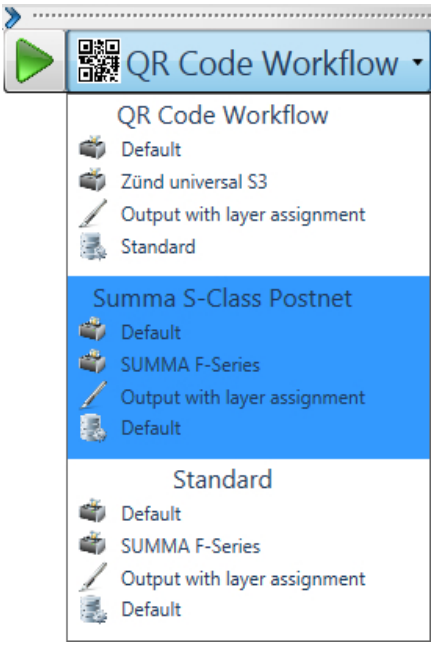


Fig. 10.4-5: Selection of a production profile

10.4.2.2 Start a Production

A production is activated by clicking on the green arrow. After that, OptiScout is ready for output.

Fig. 10.4-6: Icon: Green arrow

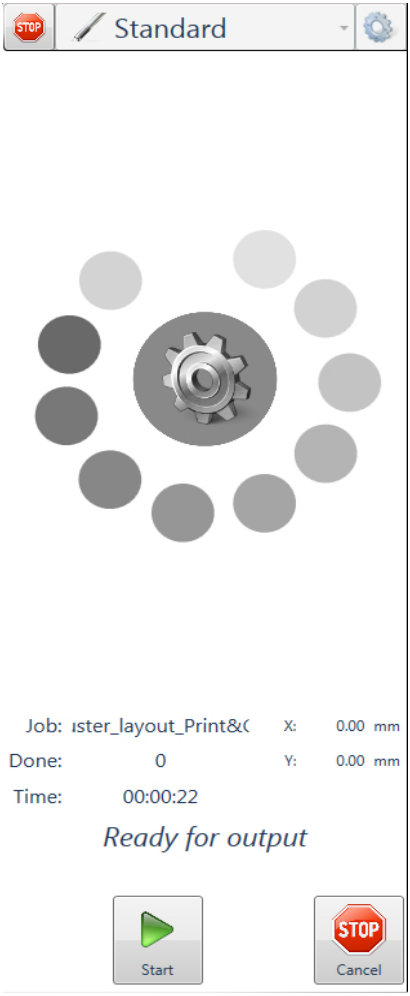


Fig. 10.4-7: Profil activated

Clicking the ***Start* button** starts the production process.

Fig. 10.4-8: Start button

The process can be interrupted or terminated with one of the two **stop buttons**.

Fig. 10.4-9: Stop / Cancel button

Clicking on the ***Stop Cancel*** **button** will stop data output to the output module.

Fig. 10.4-10: 

Fig. 10.4-11: Stop button

Clicking the ***Stop*** **button** closes the production profile.

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.

× - This device type is supported by the software suite

OptiScout. Full info at: www.optiscout.com

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.

× - This device type is supported by the software suite OptiScout. Full info at: www.optiscout.com

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\EUROSYSTEMS\OptiScout Production 8\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 OptiScout. 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 OptiScout 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 OptiScout; name for OptiScout file

Justification Alignment of a text block on the working area. OptiScout 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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