Caldera and the F-Series

1   Version – driver installation:

Caldera version 10.2 Build 160304

The drivers for F Series are in the module GrandCUT.
The module GrandCUT is included in GrandRIP, or is an optional module when VisualRIP is installed and cannot be used in combination with CopyRIP.

There are two drivers that work for the F Series.
There is the driver OptiSCOUT (manufacturer OptiSCOUT model OptiSCOUT) and the driver SummaFlex (manufacturer Summa model SummaFlex).

> **ATTENTION:** The SummaFlex driver is especially made for using the barcode production workflow with SummaFlex. This driver always prints a POSTNET barcode.

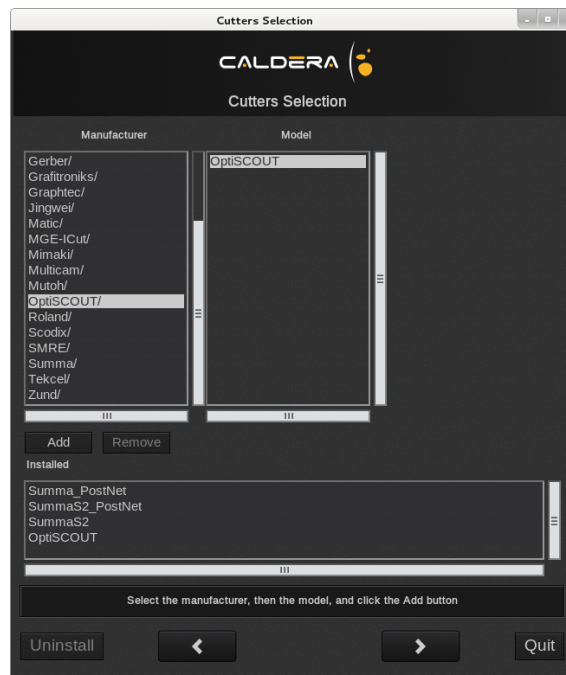If the barcode is not needed, then the OptiSCOUT driver can be used.

> **ATTENTION:** The barcode workflow that uses the camera of the F series needs an extra license for SummaFlex that needs to be ordered separately.

The drivers can be installed with the setup program of Caldera, or they can be installed separate afterwards.

1.1 Using the Setup program of Caldera

Start the installation procedure of Caldera. When the Cutter selection page is shown add the needed drivers to the list of drivers that need to be installed.
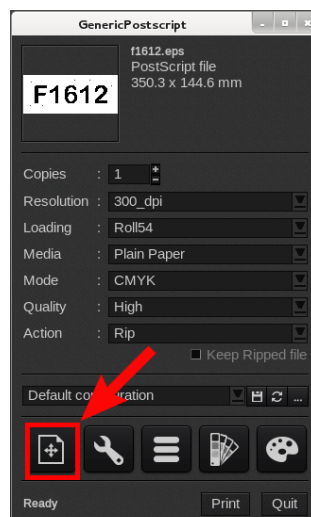

Then continue with the installation program. If a patch was installed after the previous installation then it is recommended to install this patch again.
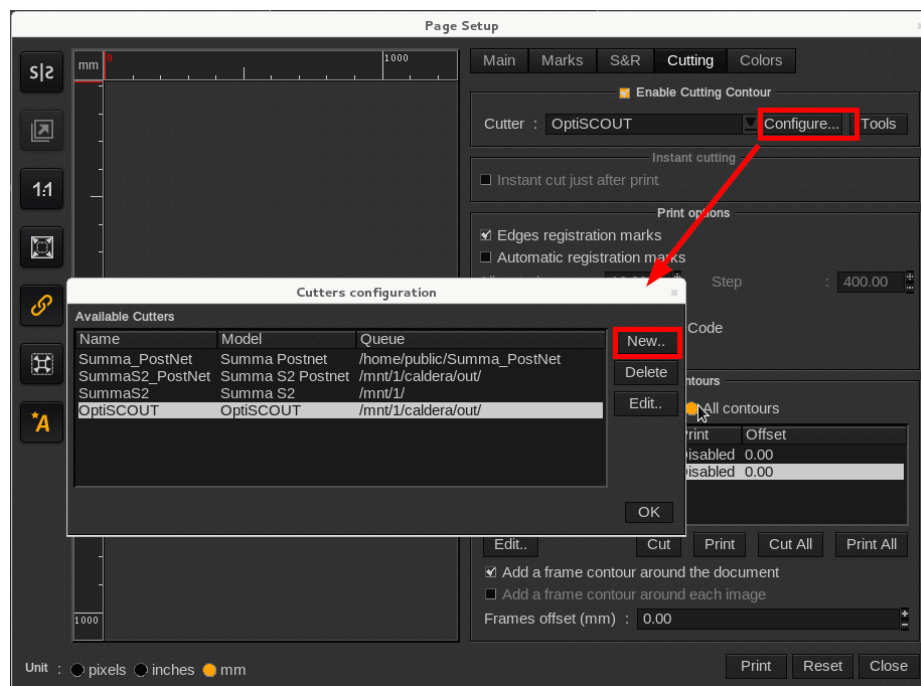
1.2 Adding a driver from within Caldera

A driver can also be installed from within the program itself.
The following steps will help you to add your cutter to your Caldera RIP if not done already. This operation has to be done only once. The installation will then be effective for all printers.
Launch Caldera, double click on a printer's icon to open its print configuration. Put an image on it to be able to click on the first button which opens the preview and advanced scale settings page.

Click on the cutting tab and click on the checkbox just in front of Enable Cutting Contour. Click on configure, a new window will open with a list of the currently installed drivers. Click on New…

Fill in the pop-up as shown:
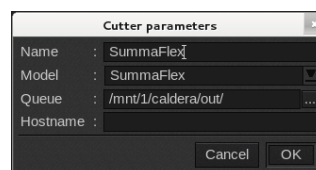Name: choose a name SummaFlex (this name will then appear in the cutter list)
Model: select you cutter model: SummaFlex
Queue: choose a directory where your cutting files (OXF files) will be saved
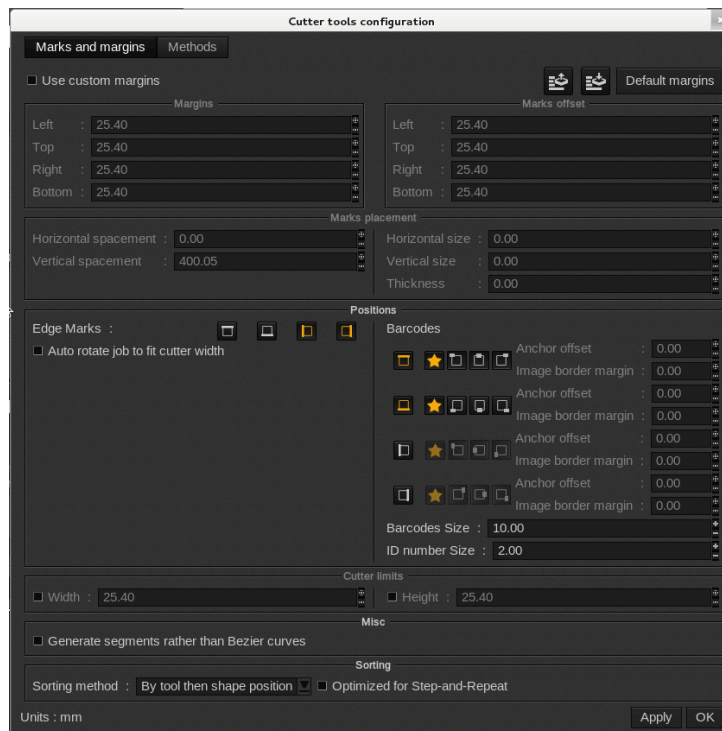Hostname: this field is not required.

Note: It is recommended to use a folder that is shared with the computer that controls the table (computer where SummaFlex is installed on).

Click on OK, the new driver is now installed.
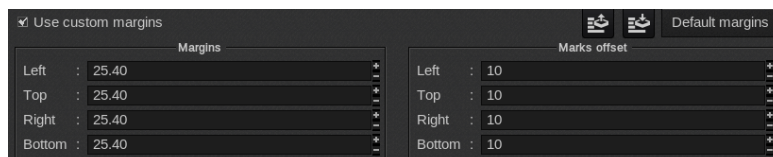
1.3 Detailed configuration of the driver

To open the detailed tool configuration for the driver, click on Tools in the page setup window (next to configuration, see section 1). A new window opens.

There are two main tabs.

- Marks and margins can be used to configure the registration marks (position and size).
- The methods tab is used to link the available tools to a spot color name

Marks and margin tab

This area is divided into three sections: Margins, Marks offset and Marks placement. Enable them by checking Use custom margins. Use the Default margins button to reset the margins to the default ones.
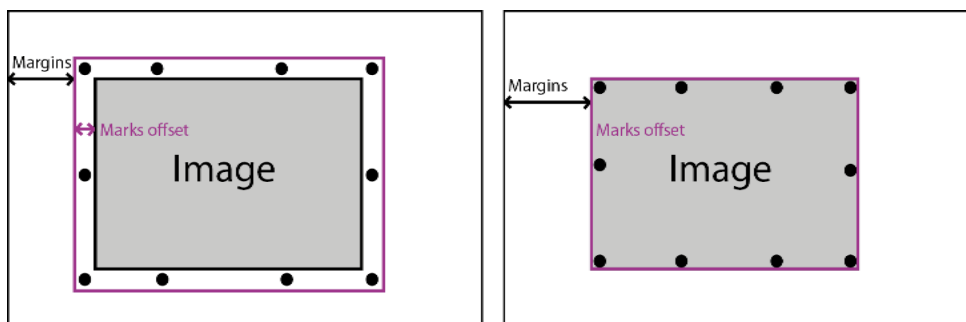
Marks offset
The Marks offset defines the space around the image that will contain the cutting marks. If the Left, Top, Right and Bottom margins are set at 0, the marks will be placed inside the image.

Note: Use only values of 10 and larger (mark size itself is 5mm and there need to be at least a white space of 5mm around the mark so that the camera on the table can detect it).

Margins

These parameter set the distance between the page border and the frame created by the marks. If the media is roll material, then this parameter can be used to set a minimum distance between the jobs.
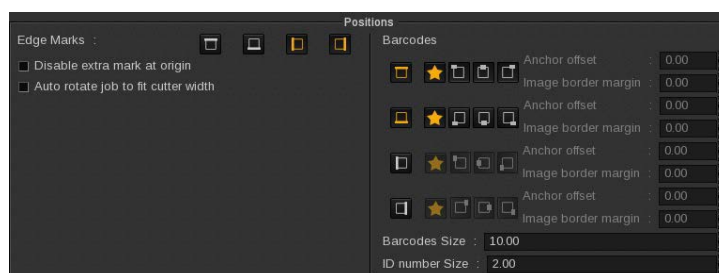

In the second example, the Marks offset is equal to 0 then the marks are placed on the image.

Marks placement

The distance between the marks is the same in the X as in the Y direction. So only one parameter can be changed. It is not recommended to use the default value of, use values like 250 or 350.

Horizontal and Vertical size and Thickness are fields for marks for ~~square~~ OPOS marks, leave them at 0.

Positions

With the edge parameters icon, the place where the marks will be printed can be set. If the icon is orange, then the marks will be printed.
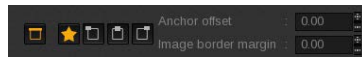

| Top | Bottom | Left | Right |

Disable extra mark at origin is only visible when the OptiSCOUT driver is used, this extra mark helps the user to easily find the origin when the job has to be placed on the table. The Auto rotate job to fit cutter width option works with the Cutter limits (and especially with the Width are set). This option can be useful when the print width is larger than the cutter width. The job is then automatically rotated so the printed job will fit into the cutter. However it is not recommended to use this option.
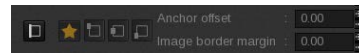
> **Note:** Do not print the top and bottom marks when using the SummaFlex driver (otherwise the marks will be printed on top of the barcode line). Set the top and bottom marks on when using the OptiSCOUT driver.

Barcodes

Side activated   Side deactivated

The sides are the same as for the mark positions and are activated only when the first icon is orange.
The second icon is orange if barcode will be set automatically (at its default position).
The three following icons can be used to set the barcode at the left, right or in the middle of that side. The values can be used to create an extra offset of the position. The anchor offset is the offset to its chosen position (left, right or middle) and the image border margin is to add an extra offset between the barcode and the image.
Below the Side settings, there are the the Barcode and ID number Size setting.
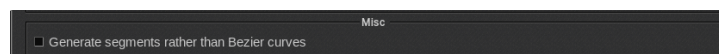It is not recommended to change any of these values.

Cutter limits

The Width and Height of the cutter can be set with these parameters. These parameters work together with the "Auto rotate job to fit cutter width" setting. If the job's width is too large to fit the cutter width, the job will rotate. If the height has been set, a check will be made to see if the rotated job can fit. If not, the RIP will undo the rotation.
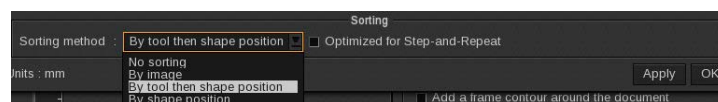
Be careful, no warning will come if the job does not fit the cutters limits.

Misc.

Here the choice can be made whether to use curves or line segments for the contours.
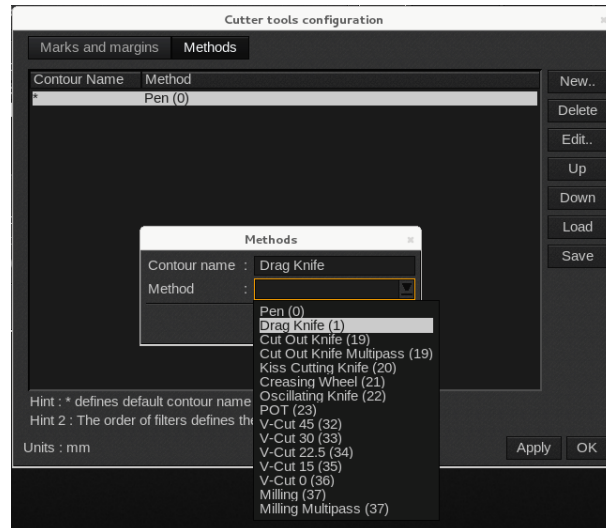
Sorting

This sorts the contours. It will choose the optimized path to select the next contour to be cut in order to save time. This lets the user specify the cut order: by image, cut tool or shape. Further sorting can be maximized in SummaFlex itself.

Method tab

This tab is used to link a spot color to a tool. The list of tools is fixed. By default all spot colors that are set to be cut with tool number 1 (drag knife). These spot colors are all spot colors that begin with the prefix CutContour and the spot colors that are in the list that can be made while importing a file (see section 3.2).
Folow procedure below to link them to another tool.

New: to add a new spot color and a link. Fill in the spot color and click on the dropdown list to set the link. Then click OK.
Delete: Delete the link between the spot color and the tool (spot color will then again be using the Drag Knife)
Edit: select a spot color from the list, click edit to change the link.
Up & Down: to change the order in the list.
Load: to load a list of links that was saved earlier.
Save: to save the current list.

2   General Workflow for Contour cutting

The Workflow consists out of three main parts

1. Prepare the file by creating a cut path (in a specialized spot color) in a vector-based drawing program such as Adobe® Illustrator®, CorelDRAW®, Macromedia® FreeHand®, …

2. Open the file in Caldera. Enable the cutting feature in Caldera in the print setup menu to print the file with the registration marks (and optionally with a bar code) and create the OXF file for SummaFlex.

3. Import the file created by Caldera in SummaFlex to cut the image on the table (optionally the barcode can be used to import the correct file and automatically set the orientation.)

2.1   Preparing the File

The first step in the Contour Cut process is to prepare your file for contour cutting. To prepare your file, first you must define the cut path in a vector-based drawing program such as Adobe® Illustrator® or CorelDRAW®. The cut path may be as simple or complex, as you desire – it can range from a rectangle around a bitmap image or an outline of script text.

Creating a cut path in Adobe® Illustrator®, CorelDRAW®, … is simply defining an object with a specific stroke color. Once you create the cut path, you must assign a spot color to it. This spot color (specifically the name, not the color) is the most important part of preparing the file as it allows the SummaFlex to determine where the table should cut the image and which tool will be used.

The name you assign to this spot color must have a unique name, which matches the name assigned in Caldera. In Caldera, the default name for the cut path spot color starts with "CutContour". However it is recommended to use as spot color name already the tool name that will be used on the table to cut the design. A swatch library for Adobe® Illustrator® and a color palette for CorelDRAW® is available.

When Caldera processes and prints the file (after it has added registration marks and an optional barcode). The path(s) with the specially named spot colour(s) will not be printed with the rest of the image. Caldera processes the(se) cut path(s) in spot colour(s) as a cut path(s) and creates a separate file for SummaFlex.

Requirements of the Contour for proper detection:
- Stroke with an 0.1 point line weight (illustrator setting) or hairline (CoralDRAW setting) to avoid double cuts.
- Stroke without special effects
- Stroke needs to be centered (specific Illustrator setting). Not set inside or outside.
- If the spot color name begins with the prefix "CutContour" then the contour will not be printed, it will be cut, if the spot color name does not with CutContour, then it can be added to the list of colors that need to be cut while opening the file (see next section)
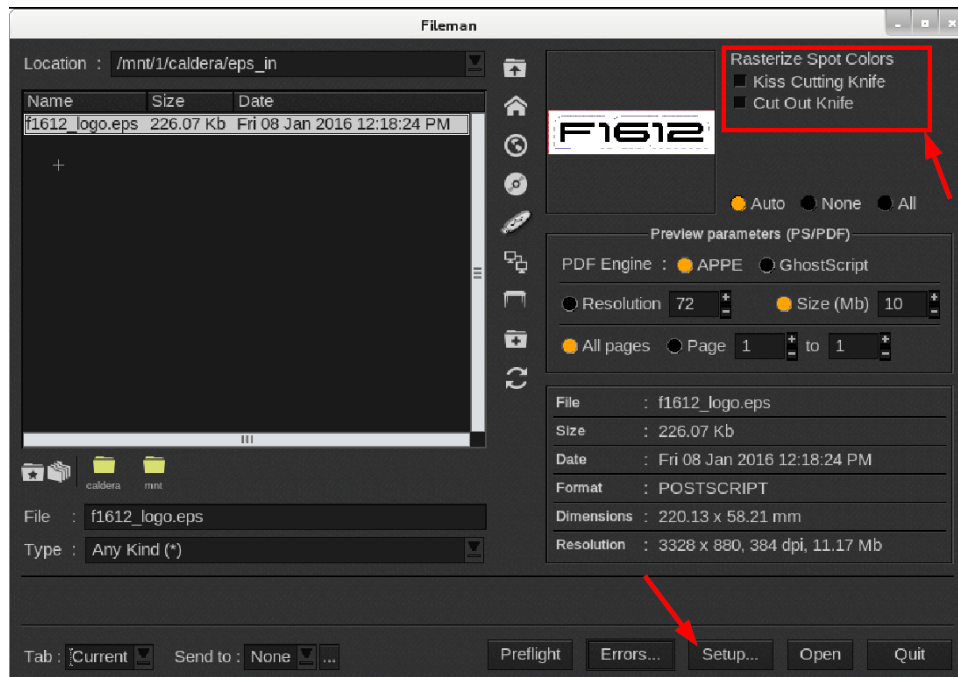
2.2 Open the file, print it and create the OXF file for SummaFlex

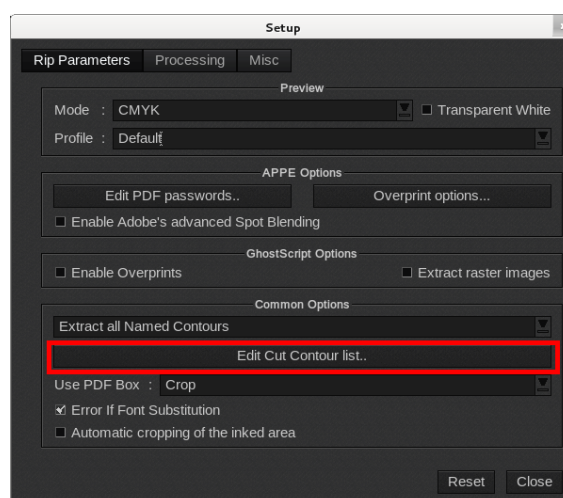#### 2.2.1 Open the files that need to be printed

To open a file double click Fileman. A window opens and a file can be selected to open. Fileman displays, before the import, the embedded spot colors and vector files (see below).
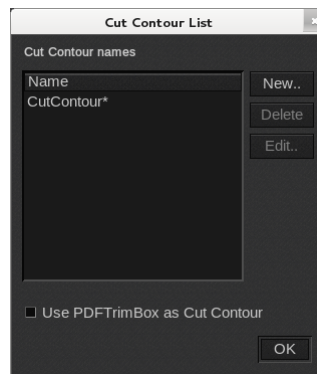
> **Note:** Do not check the box placed in front of your contours. There will be included into the image so you won't be able to use them for cutting anymore.

By default, only contours beginning with "CutContour" are recognized as contours but others names can be set up to be recognized as well. It is however recommended to use the names used in the swatch library or spot color palette provided by Summa.
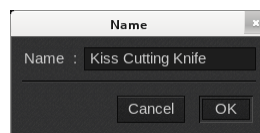Click on the Setup… button to open the setup window.

Then click on the Edit Cut Contour list… button. The cut contour list appears.

There, use the button on side to manage your contour list:
- New…: this button adds a contour to the list.
- Delete: this button removes a contour from the list.
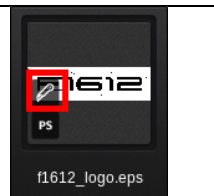- Edit: this button changes the contour name.

If you type a name followed by a star "*", every contour which begins with this name will be recognized by Fileman. It is recommended to use the names in the swatch library or spot color palette. On first use, add the names of all the tools available on the table.

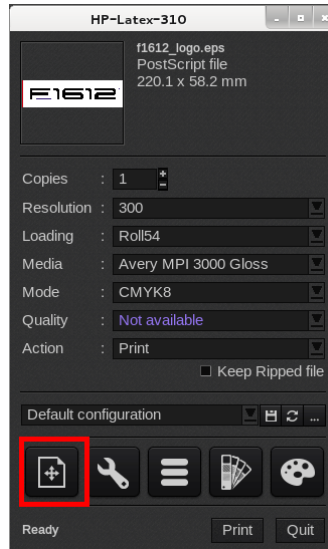Once the spot color list is complete Click OK.

Note: You can check at any time if one of your images from your image bar contains cut files. If your image is marked with a cutter it means that a cut contour has been recognized by Fileman during the import process.
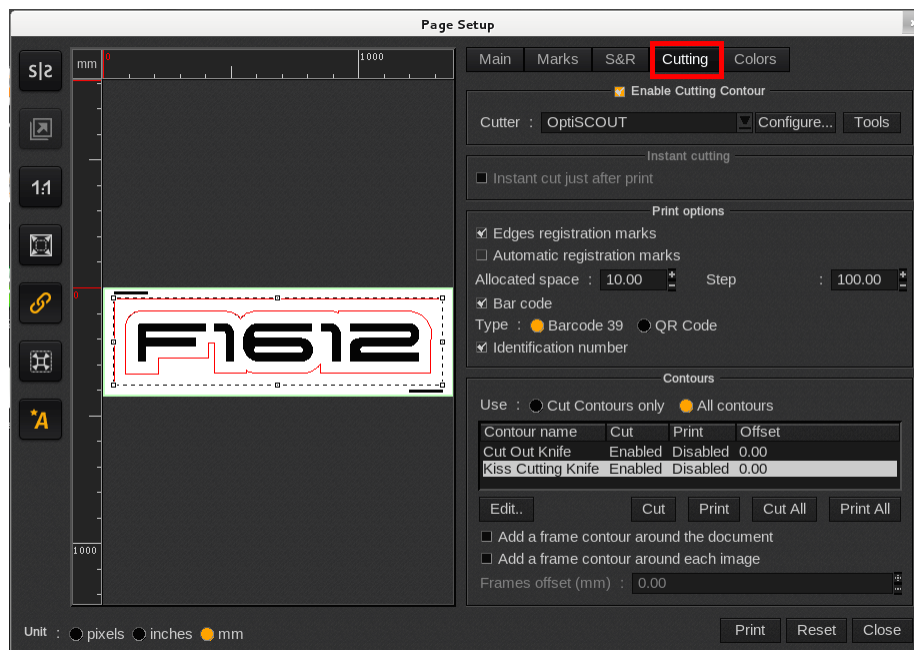
To group jobs or to print multiple copies use Compose. A new job will then me made that can be printed. In Compose there are a lot of useful features like nesting and the possibility to add automatic or manual extra marks for higher precision. Refer to the Caldera manual for more info and extra explanation.
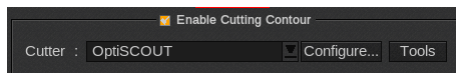
2.2.2   Print the job

Double click on your printer's icon to open its print configuration. Choose the resolution, loading, media, mode and quality. Refer to the Caldera User Manual for further information about the other actions available. Drag and drop your image from the image bar to the printer configuration window.

Click on the first button on the left. It opens the preview and advanced scale settings of the page. Go to the Cutting tab.

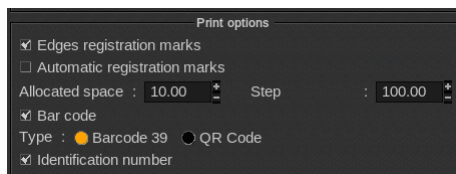In the panel of the cutting tab there are several options.

Make sure Enable Cutting Contour is checked.
Click op de triangle of the dropdown icon to select the correct driver:

- SummaFlex for barcode workflow
- OptiSCOUT for other

The configuration and tools settings have already been done, but the settings can be changed if necessary. Once they have been changed, they are stored automatically for future use.
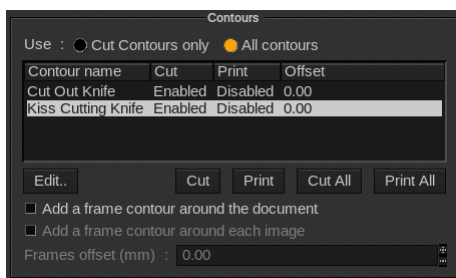

Edges registration marks and automatic registration marks: This option adds the registration marks on the printed document to allow the positioning of the cutter device. Automatic registration marks will add extra marks inside the job for higher accuracy, The use of automatic registration marks is explained in a document from Caldera : "use the Extra Marks".
For normal use check Edge registration marks and uncheck Automatic registration marks

Barcode: the correct settings for the barcode parameters is dependent on the chosen driver.
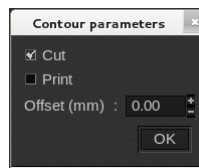
- For **SummaFlex**: **Uncheck the box** just in front of Barcode. The POSTNET barcode is automatically printed when the SummaFlex driver is chosen. Checking this box would result in printing a second barcode which is not used and could be hindering the reading of the POSTNET barcode.
- For **OptiSCOUT** driver: **Check the box** just in front of Barcode if the hand scanner will be used in SummaFlex, if no scanning device will be used to identify the job when it is laid on the table, then it is not necessary to print a barcode and the box can be unchecked. Use Barcode 39.

Print identification number: This option print the identification number on each edge of the document. This can be used if for some reason the barcode cannot be read. The job id can then be filled in with the keyboard.

Use: There is the choice to display only the contours that have a spot color name that starts with CutContour, or to display all the contours with spot color name.

Edit…: opens the following pop-up that acts on the selected contour:

> Cut: activate or deactivate the creation of the cut file for the selected contour.
> Print: activate or deactivate the contour print.
> Offset: change the cut vector by moving it inside (negative offset) or outside (positive offset) the current cutting path. The values range from -10.00mm to +10.00mm.

Cut and Print: activate/deactivate the cut and the print for the selected contour.
Cut all and print all: activate the cut and the print for all contours. The deactivation of one or the other must be done manually for each contour.

Add a frame around: add an oblong contour around each image and/or around the entire document. These contour lines will have the name CutContourFrame, add this to the palette in SummaFlex to link a tool to it.

2.2.3   Print

Click on the Print button or close the current window in order to change others printing parameters before launching the print. As soon as the printer starts to print the job with the marks and barcode, an OXF file is generated.
You can then find your cut file in the directory you've set for your cutter. Copy it on your cutter controller (where SummaFlex is installed) if you didn't use a shared directory.
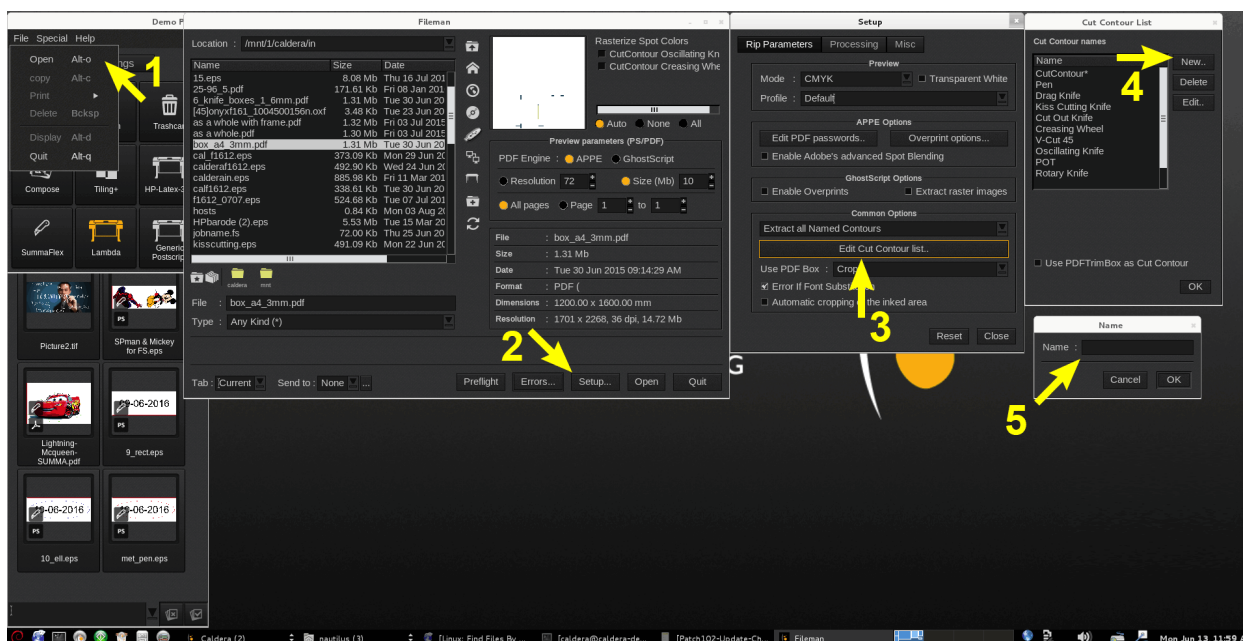
Appendix: Palette recommendations when using Caldera and OptiSCOUT driver:

With the current version of Caldera it is recommended to use the OptiSCOUT driver if the Barcode workflow is not used. However the tool names that this driver uses are different from the tool names that the SummaFlex driver uses. This means that two extra setup's have to be done.

1. Link the spot color names from the swatch library to the tool names used in the OptiSCOUT driver.
2. Use a different palette in SummaFlex so the tools are linked to the tool names the OptiSCOUT driver of Caldera uses.

This document explains what to do.

1. Make Caldera recognize the spot colors from the swatch library as contour lines.
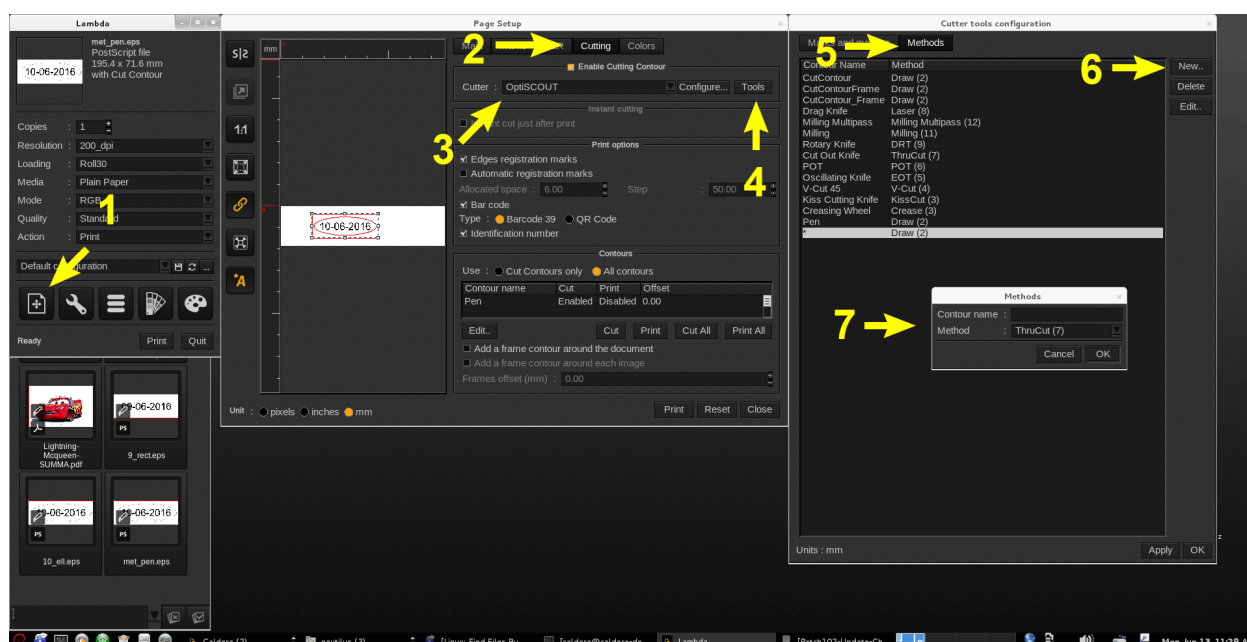

1. Open a file.
2. Click on Setup button.
3. Click on Edit Cut Contour List.
4. Click on New.
5. Fill in the name of the spot color and click OK.

It is recommended to go through the complete swatch library so all the spot colors are in the list.

2. Link the spot color name to the tool name of the OptiSCOUT driver.

1. Drag a file to the printer and click on the page setup button.
2. Click on the Cutting tab.
3. Make sure the selected driver is the OptiSCOUT driver.
4. Click on the Tools button.
5. Click on the Methods tab
6. Click on the New button, a window will open where a contour name can be filled in ands where a Method (Tool) can be selected for that contour name. Click OK if the Contour name has been filled in and the link has been set by clicking on the dropdown box after Method.

It is recommended to go over all the spot colors and link them to the tool. The driver has not enough tools to link all the spot colors. The user can then choose for himself which tools will be used for double use, or which tools he has not and can then be used for other tools. This will require an adaption of the palette for SummaFlex.

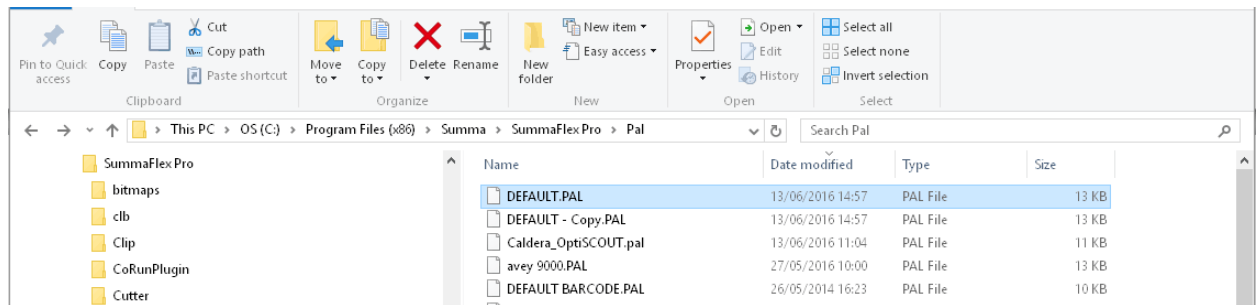| Spot color	Method	Spot color	Method
Pen	Draw	Kiss Cutting Knife	KissCut
V-Cut 45	V-Cut	Cut Out Knife	ThruCut
V-Cut 30		Cut Out Knife Multipass	Drill
V-Cut 22.5		Oscillating Knife	EOT
V-Cut 15		POT	POT
V-Cut 0		Rotary Knife	DRT
Drag Knife	Laser	Milling Multipass	Milling Multipass
Creasing Wheel	Crease	Milling	Milling

3. Set up palette in SummaFlex.

The default palette needs to be changed also. Before doing this, it is better to take a backup of the default palette. Follow instructions below for installing the palette.

In Windows Explorer go to the directory C:\Program Files (x86)\Summa\SummaFlex Pro\Pal.
Make a copy of the file DEAFULT.PAL (right click copy and paste).
Copy the file Caldera_OptiSCOUT.pal to that directory.

In SummaFlex open the palette that is needed. This palette can also be saved as the default palette if needed.