Ucamco

Former Barco ETS

UcamX v2019.04

Release notes

UcamX

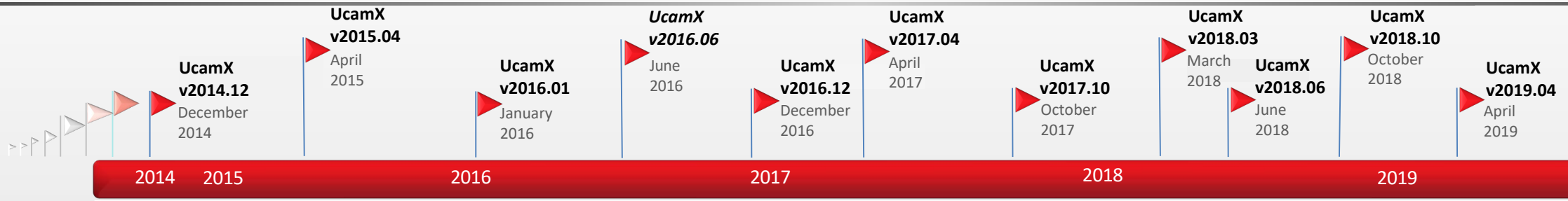
Version 2019.04
Release Notes

64 Bit

Multi Core

UcamX v2019.04 Release Notes

Commitment to regular updates



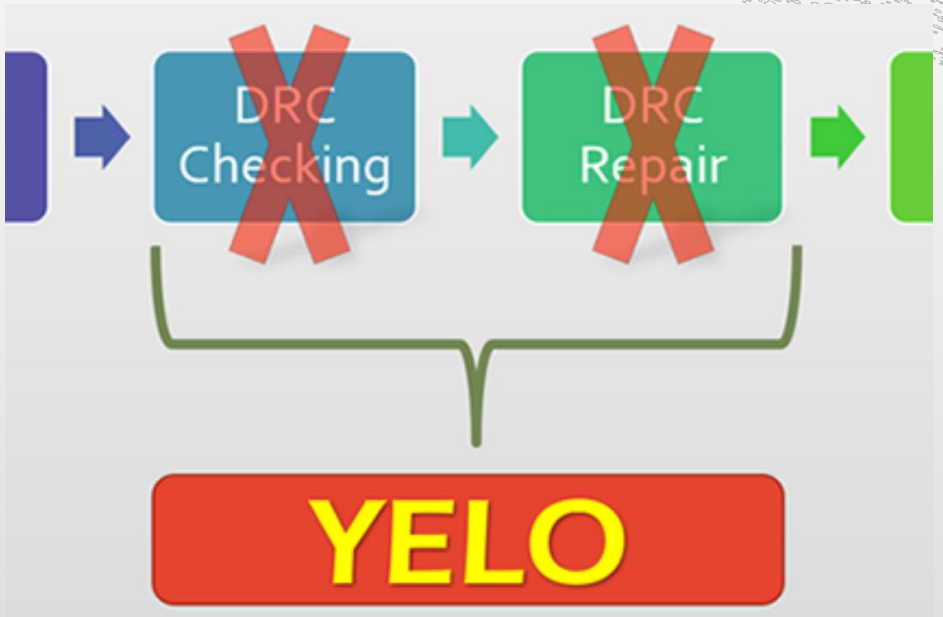
Version	Release date	Highlights
2014.12	Dec-14	Workspace GUI, Parallel processing
2015.04	Apr-15	Load balanced sessions, Gerber X2 Input support
2016.01	Jan-16	Background output, Parallelized image compare
2016.06	Jun-16	Maintenance update
2016.12	Dec-16	New insert Arc command, Improved Sieb&Meyer rout import
2017.04	Apr-17	Performance boost DRC copper-cut-ins, Improved "Select Painted" feature
2017.10	Oct-17	New startup routine, Extended Job Editor View, Optimized Rout Compensation
2018.03	Mar-18	Eagle input with proportional font, Scaled line width in Silk optimizer, Introduction of YELO Signal Layer Adjuster
2018.06	Jun-18	Save jobs by creating archives, free trial period of all YELO modules
2018.10	Nov-18	Query Component, Read Component information from ODB++
2019.04	Apr-19	YELO Combined GUI for all copper layers, YELO Extension of functionality, Rout Manager enhancements

UcamX v2019.04 Release Notes

Overview - YELO

New and Enhanced

- Signal and Plane Adjuster are now combined in an all-in-one user-friendly Copper Adjuster GUI
- Clearance to outline adjustment
- Component Pad annular ring adjustment
- Separate annular ring values for Mechanical, Component and Via Pads.
- Expand and shave Complex Pads

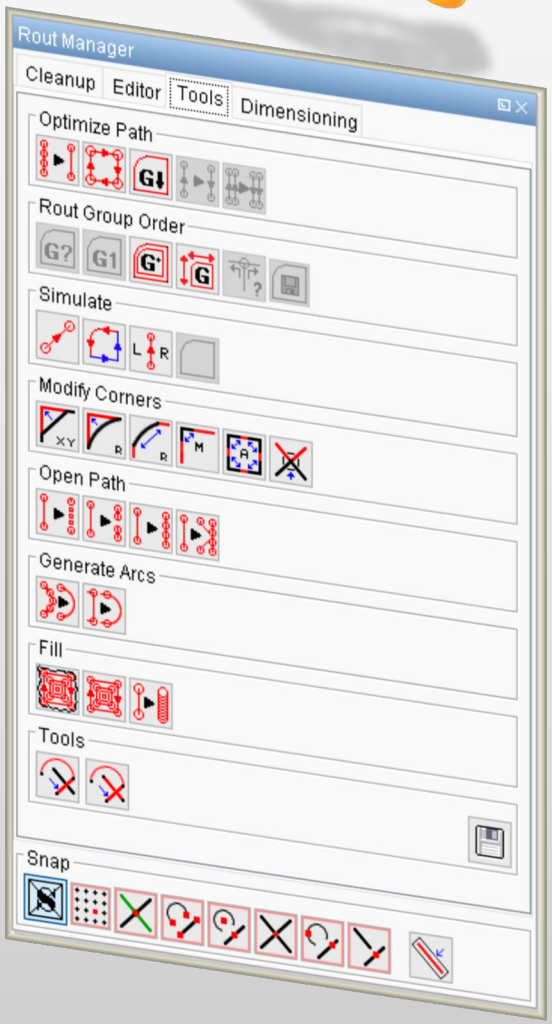


- Pad Type colors are now available at all time, also outside the Markup Assistant
- New YELO attribute category simplifies handling YELO attributes
- Runs much faster

UcamX v2019.04 Release Notes

Overview – Rout Manager

- Change direction of all chains at once NEW
- Algorithm for generating arcs vastly improved Enhanced
- Automatic trimming of overlapping routs NEW
- Keep chain order for example by dragging a rout line Enhanced
- Possibility to force the rout path in case of ambiguous situations NEW
- Additional improvements NEW



UcamX v2019.04 Release Notes

Overview - Miscellaneous

- Scripts available on right mouse click NEW

- Gerber X2 output NEW

- Secure Etch Compensation with additional security feature – automatic net compare Enhanced

UcamX v2019.04 Release Notes

YELO Combined Copper Adjuster GUI

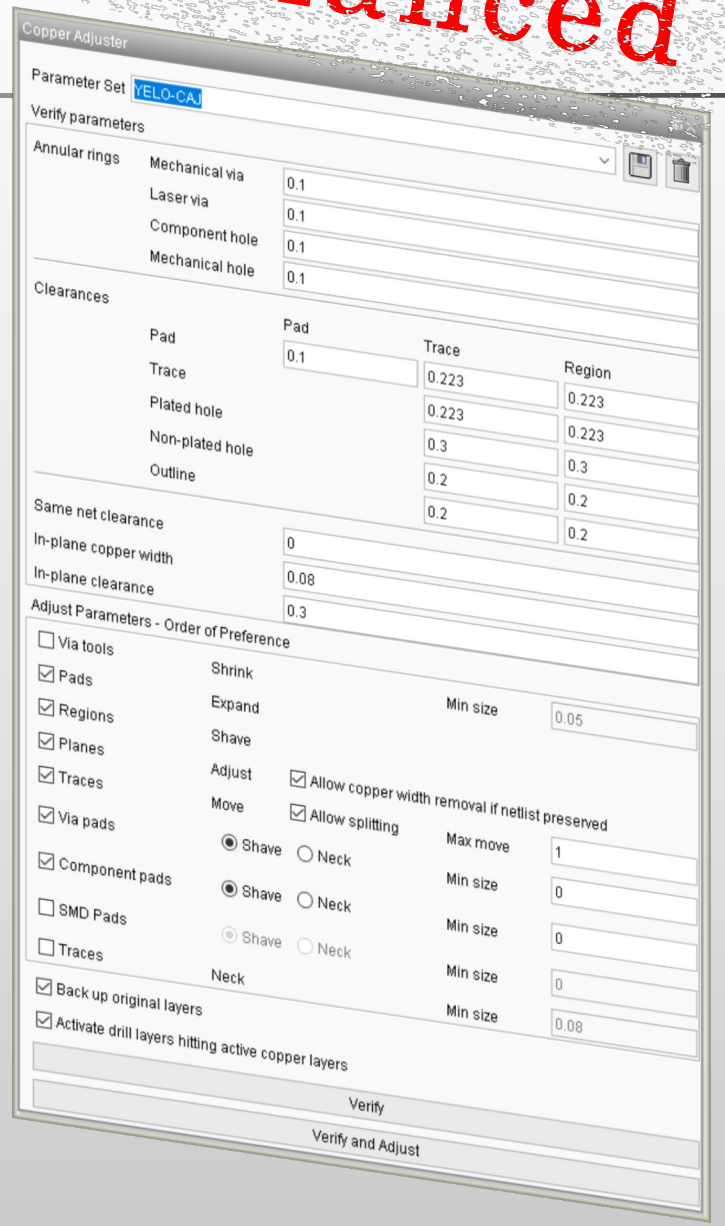
Enhanced

Copper Adjuster GUI

The all-in-one GUI to control all copper layer adjustments at the same time.

It is no longer need to run YELO two times, or more, to solve the signal and plane parts on a copper layer

- One GUI to define your requirements
- No double checks
- Parameter sets now saving combined actions
- Clearly specified succession of modifications (order in GUI is order in action)



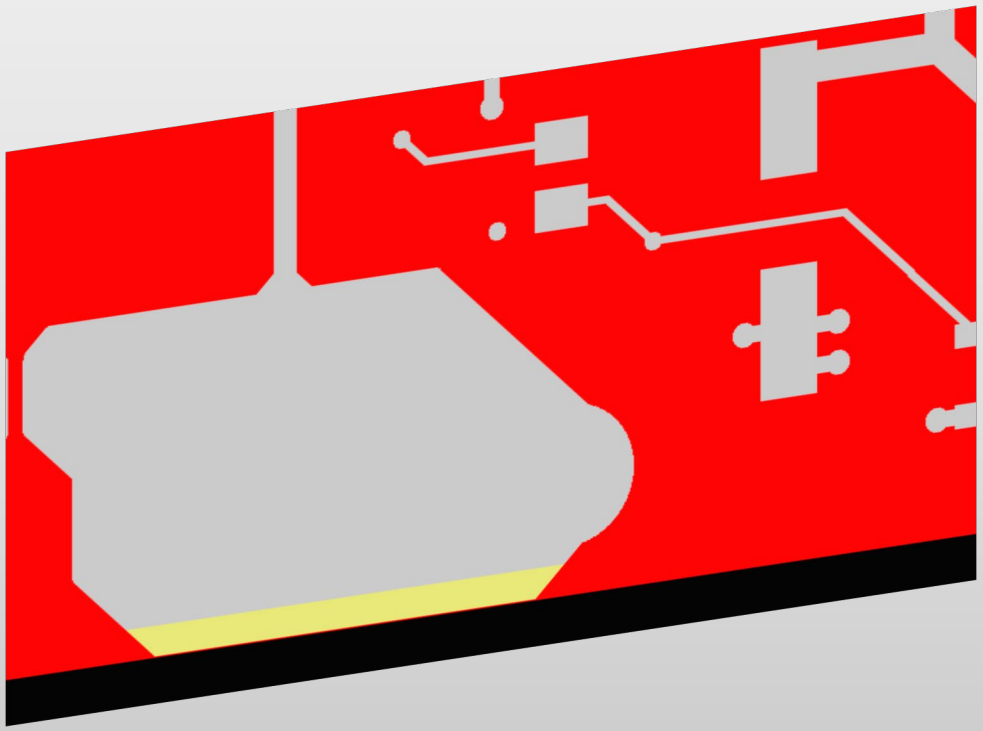
UcamX v2019.04 Release Notes

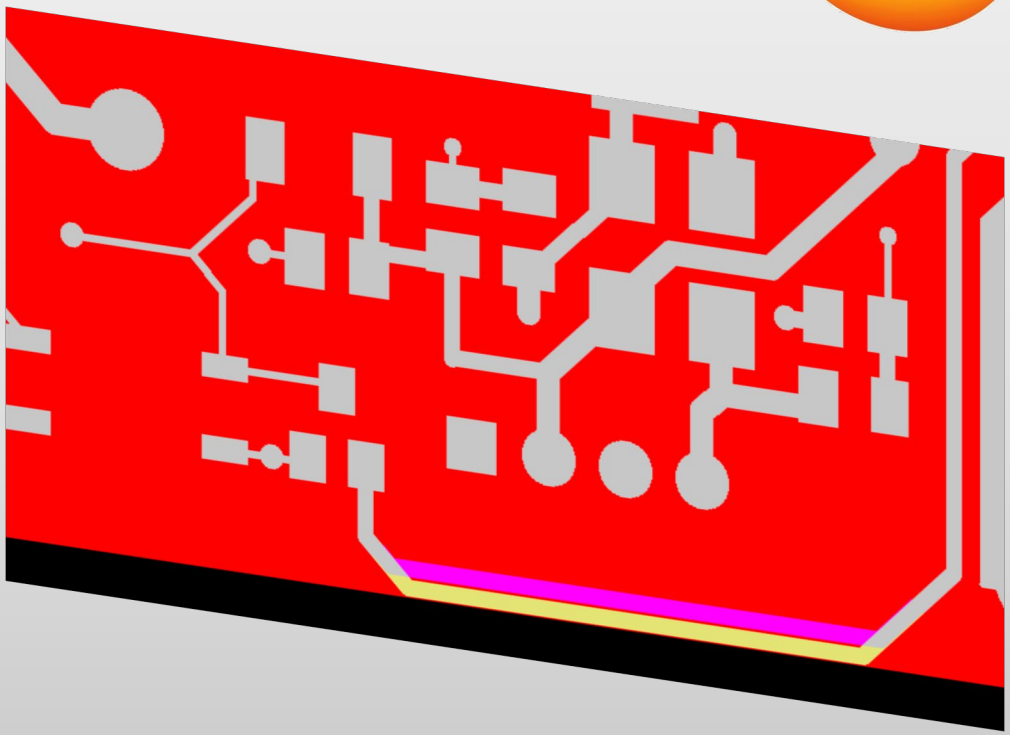
NEW

YELO Clearance to outline

Clearance to outline adjustment

The adjustment of traces and regions to outline was the one most in demand.
Regions will be shaved and traces moved to meet your clearance to outline value.





UcamX v2019.04 Release Notes

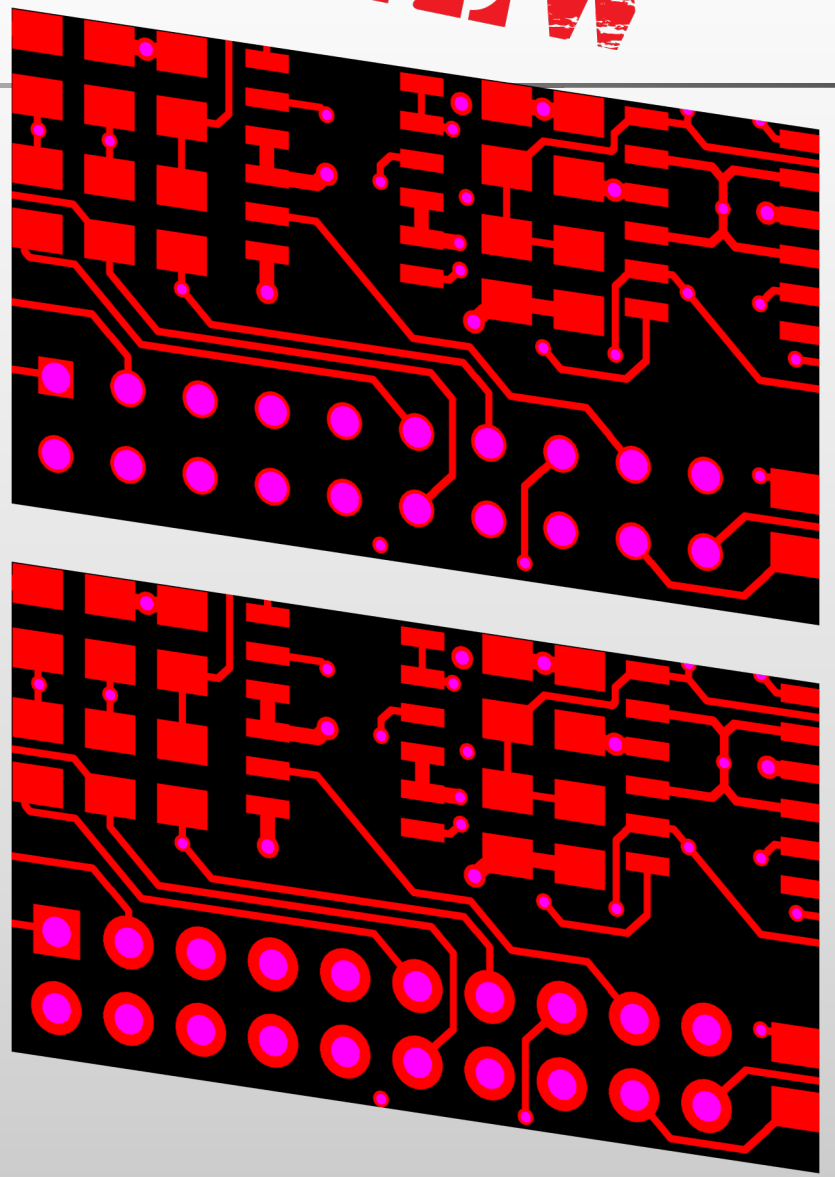
NEW

YELO Increasing Component Pad annular rings

Annular ring adjustment for Component Pads

The annular ring of Component Pads (and Mechanical Pads) can be increased, similar to the existing adjustment for Via Pads.

- Simple adjustment to get the preferred annular ring
- Clearances can be corrected afterwards by shaving or necking the pads



UcamX v2019.04 Release Notes

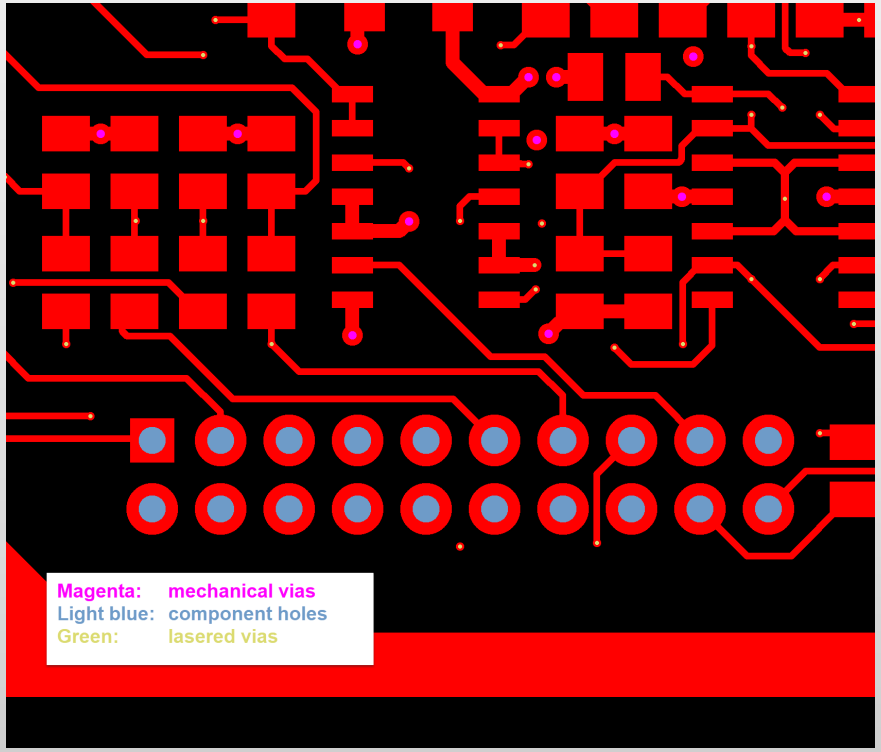
YELO Different annular rings

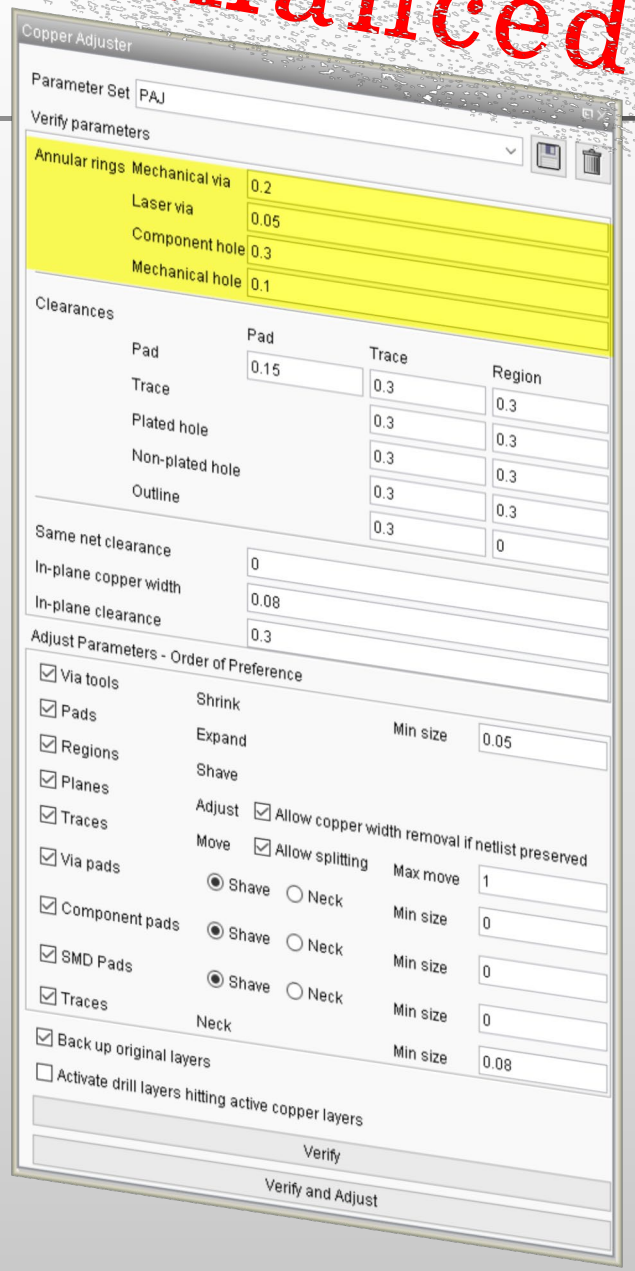
Enhanced

Different annular rings for different Pad Types

This new development allows to adjust annular rings for different Pad Types to distinct ring values:

- Mechanical via
- Laser via
- Component
- Mechanical



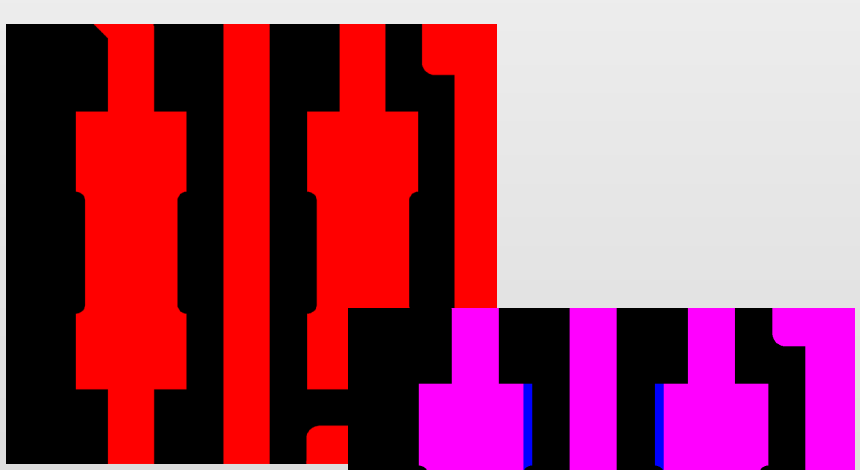


UcamX v2019.04 Release Notes

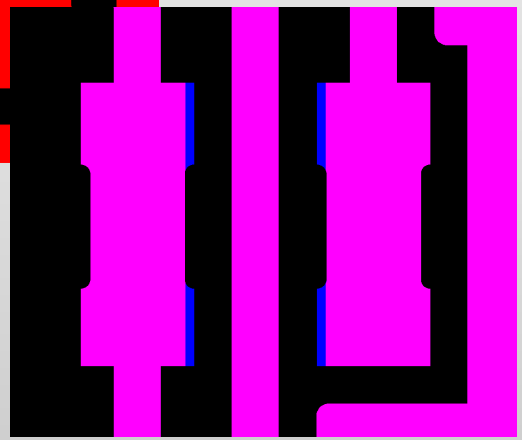
YELO Expand and Shave functionality for Complex Pads

NEW

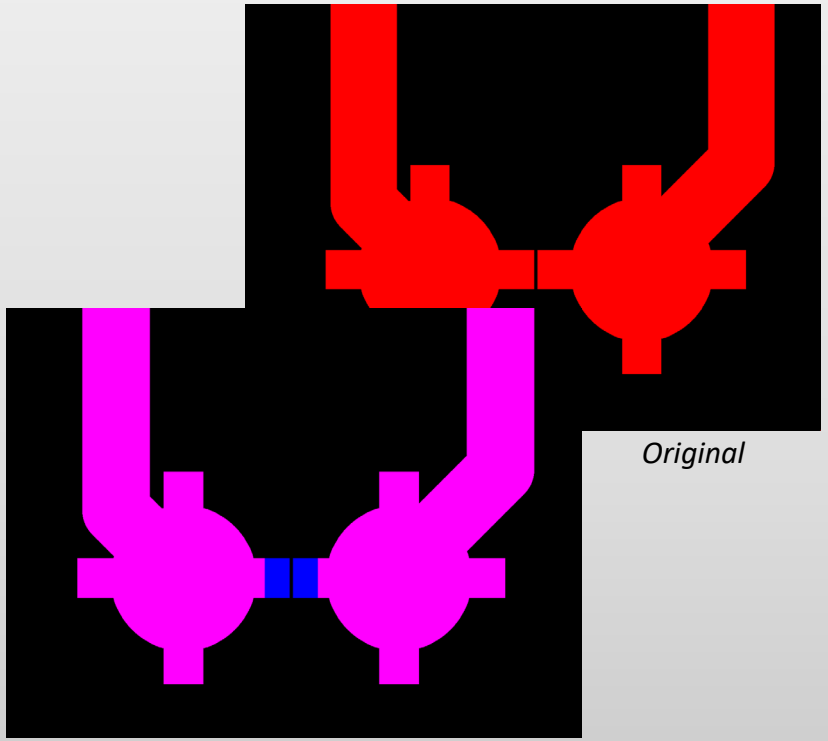
Complex Pads can be expanded or shaved just like standard pads



Original

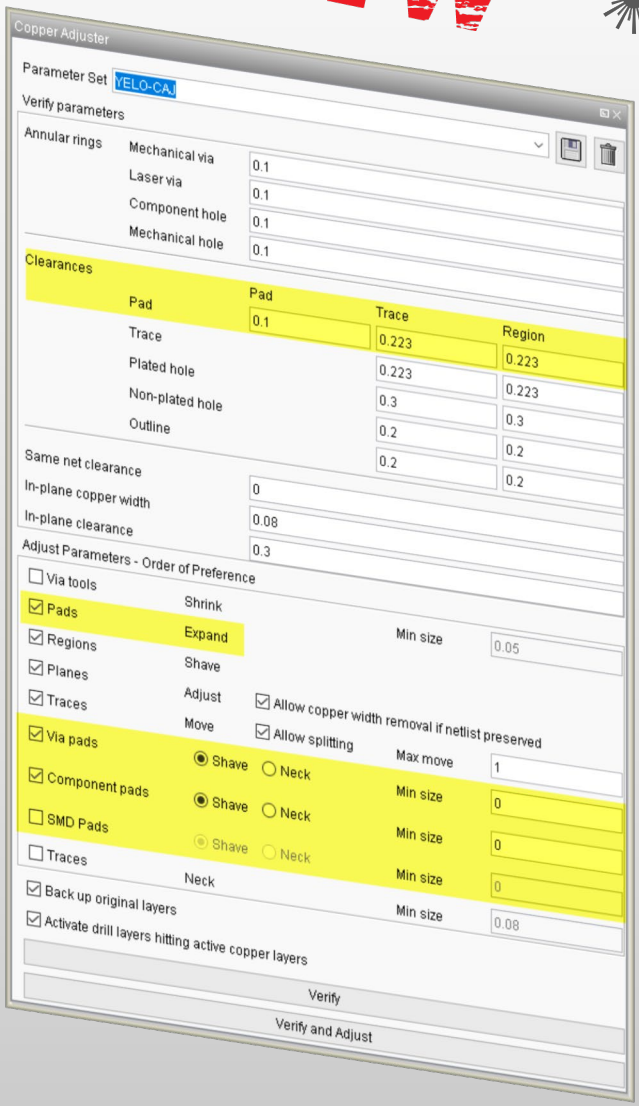


after CAJ modification



Original

after CAJ modification



UcamX v2019.04 Release Notes

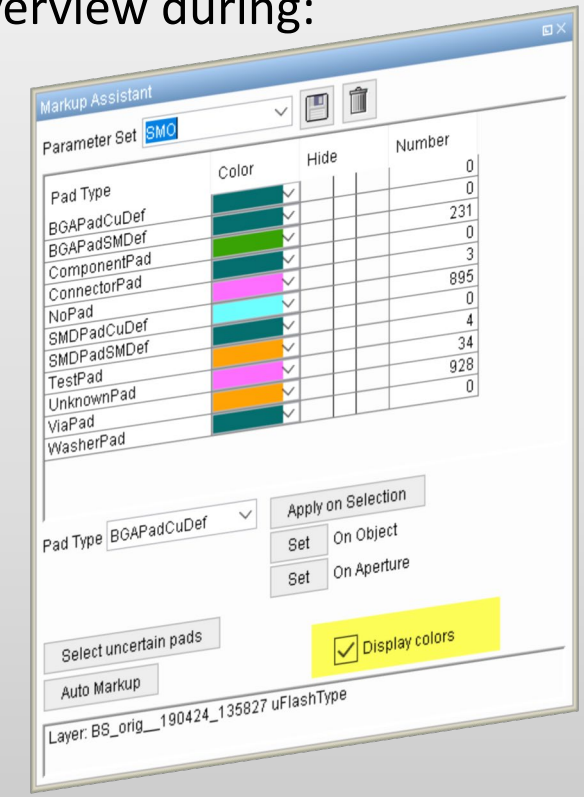
Enhanced

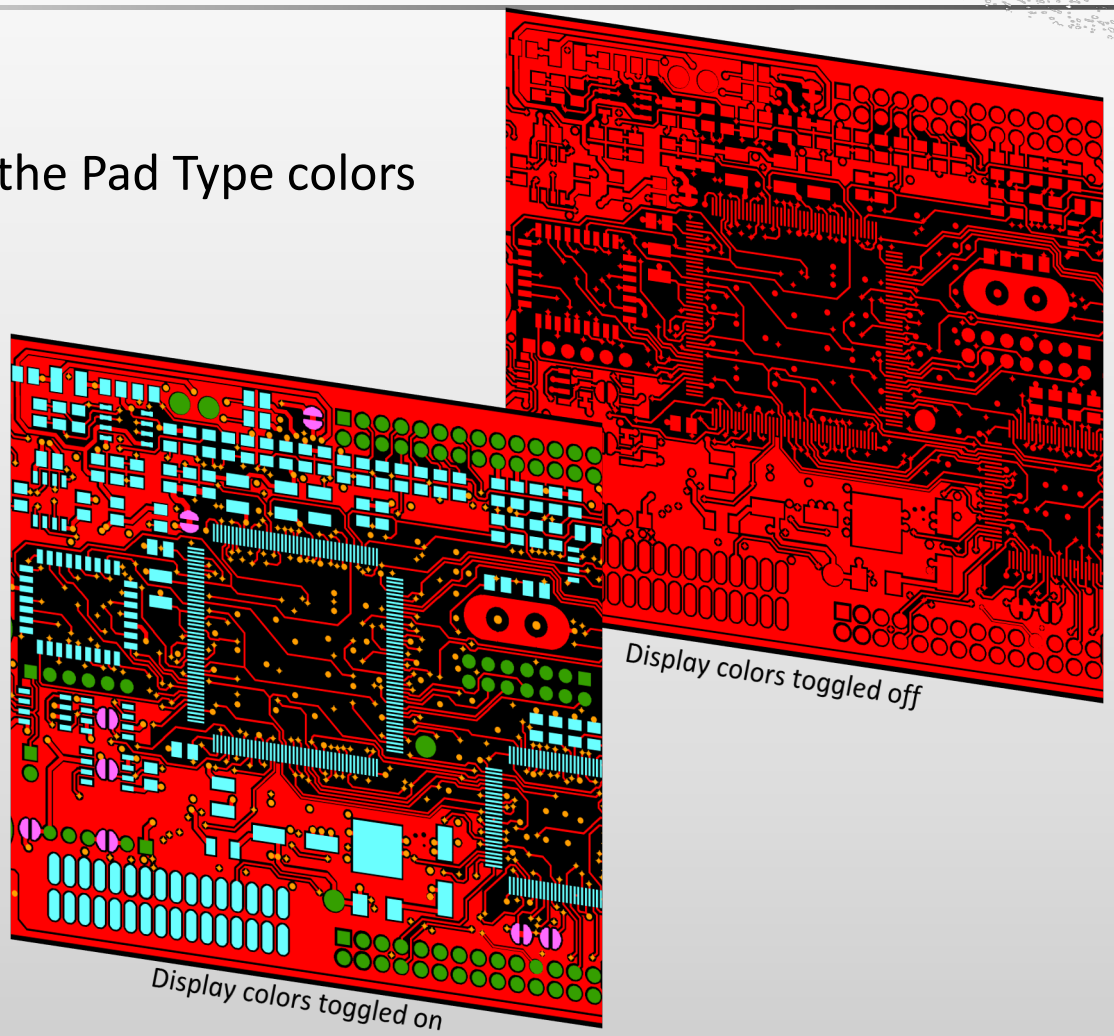
YELO YELO Markup colors

Usage of Markup colors not only in *YELO*

The development of Markup Assistant allows to keep the Pad Type colors as long as you want.
Use them for a better overview during:

- Zoom in and out
- Measurements
- Selections
- Modifications
- …





Display colors toggled off

Display colors toggled on

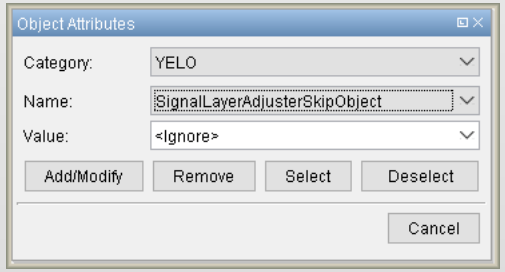
UcamX v2019.04 Release Notes

YELO various improvements and extensions

Enhanced

We not only added new things. We put a lot of effort into improving the YELO existing processes too.

- Much faster Same Net Spacing calculations
- Improved region modifications
- Partial track move on Box, Octagon and Complex Pads
- New YELO attribute category in Object Attributes. It is now easier to handle YELO attributes like the exclusion attribute



- Enhanced method for expand/shrink frames in Legend adjuster
- Additional security for Legend Adjuster by the automatic creation of backup layer on modification
- Increased performance of all YELO processes
- ....

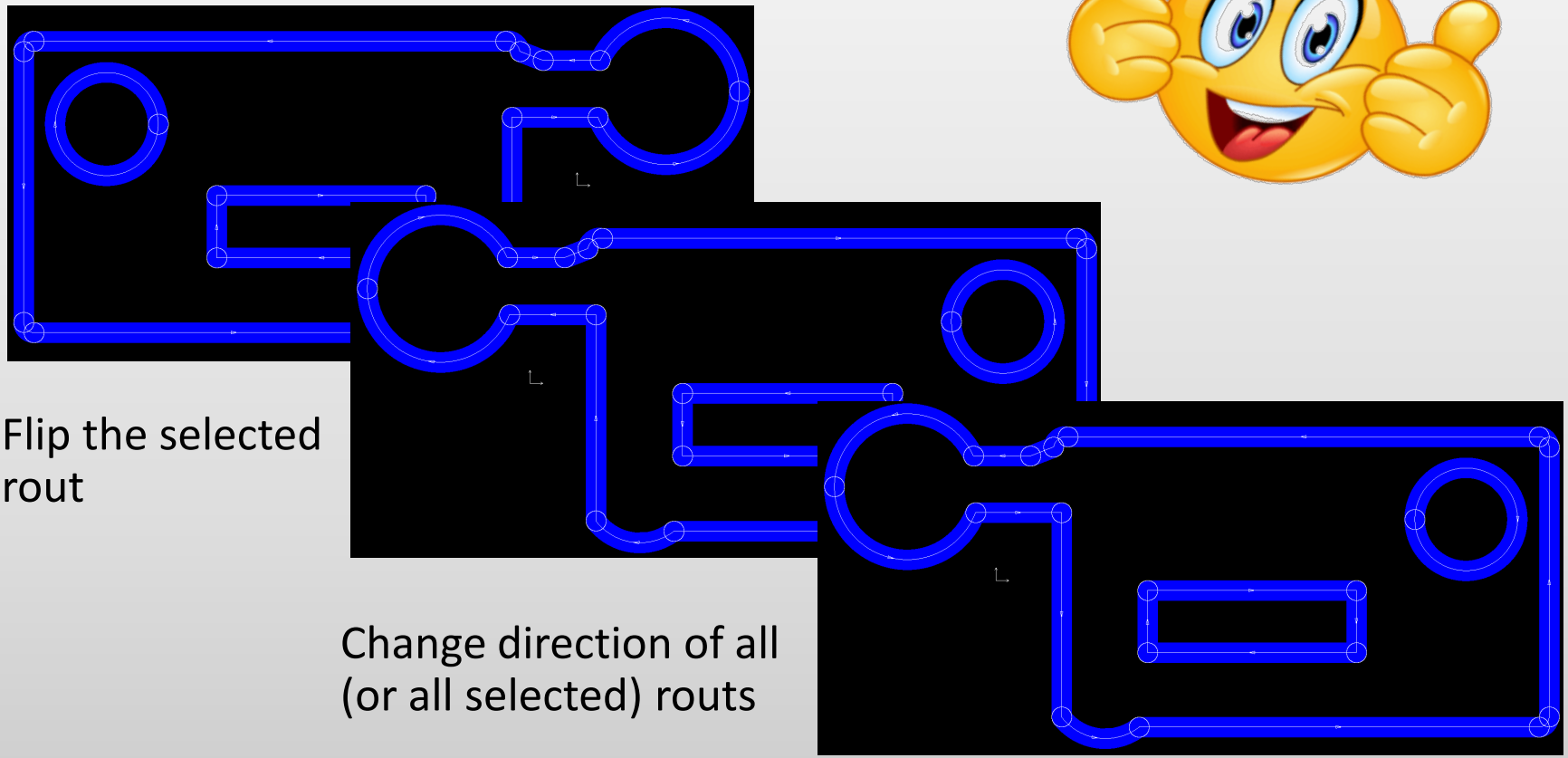
UcamX v2019.04 Release Notes

Rout Manager Change direction of all chains at once

NEW

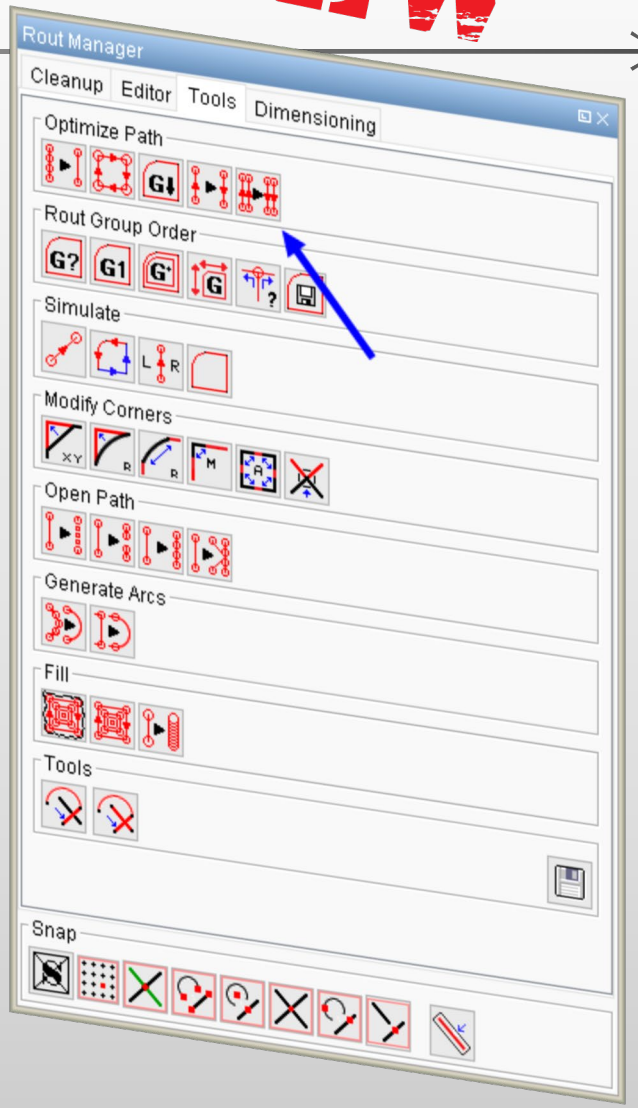
Change direction of all chains with one click

Routing from bottom side?



Flip the selected rout

Change direction of all (or all selected) routs



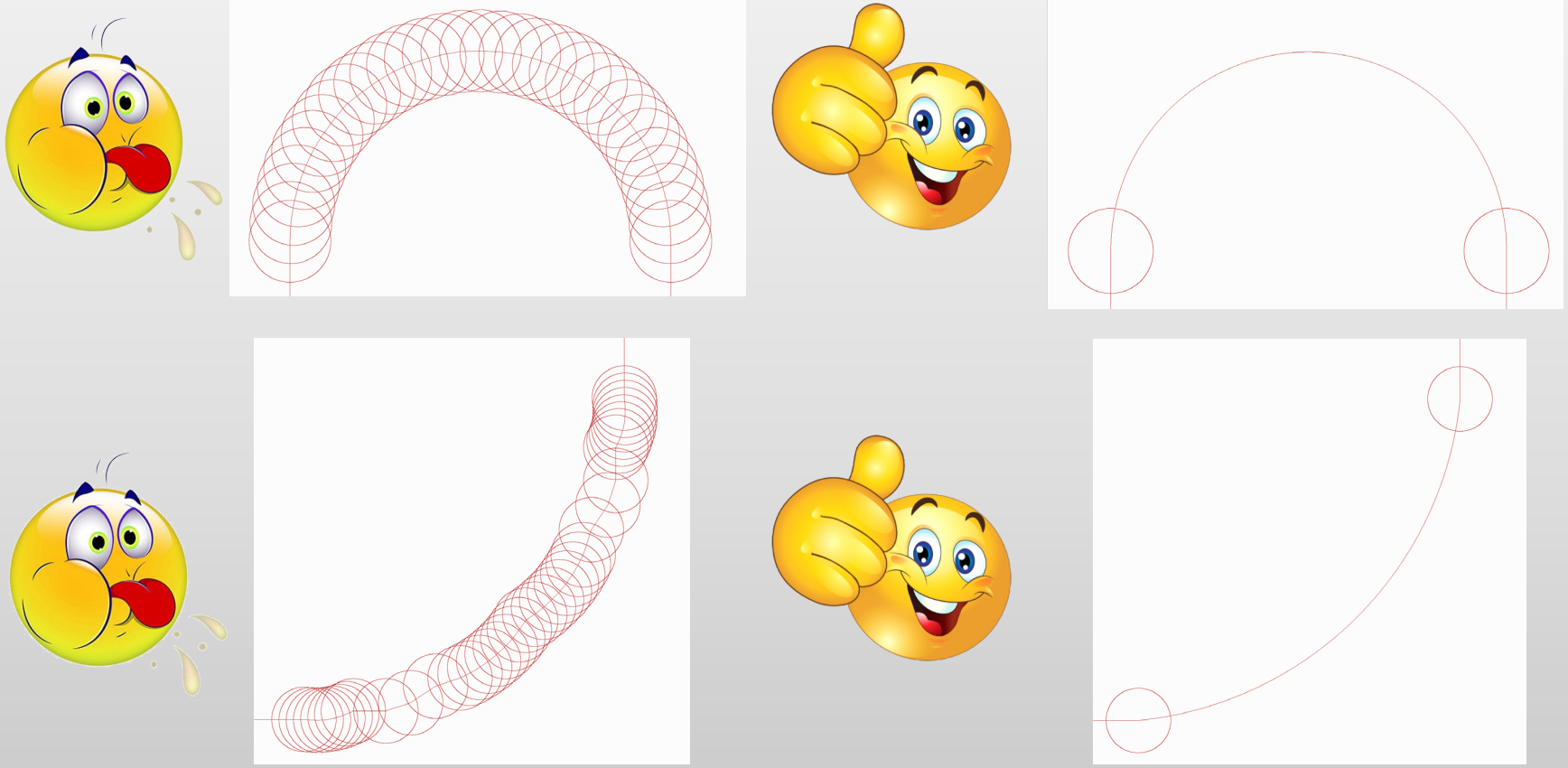
UcamX v2019.04 Release Notes

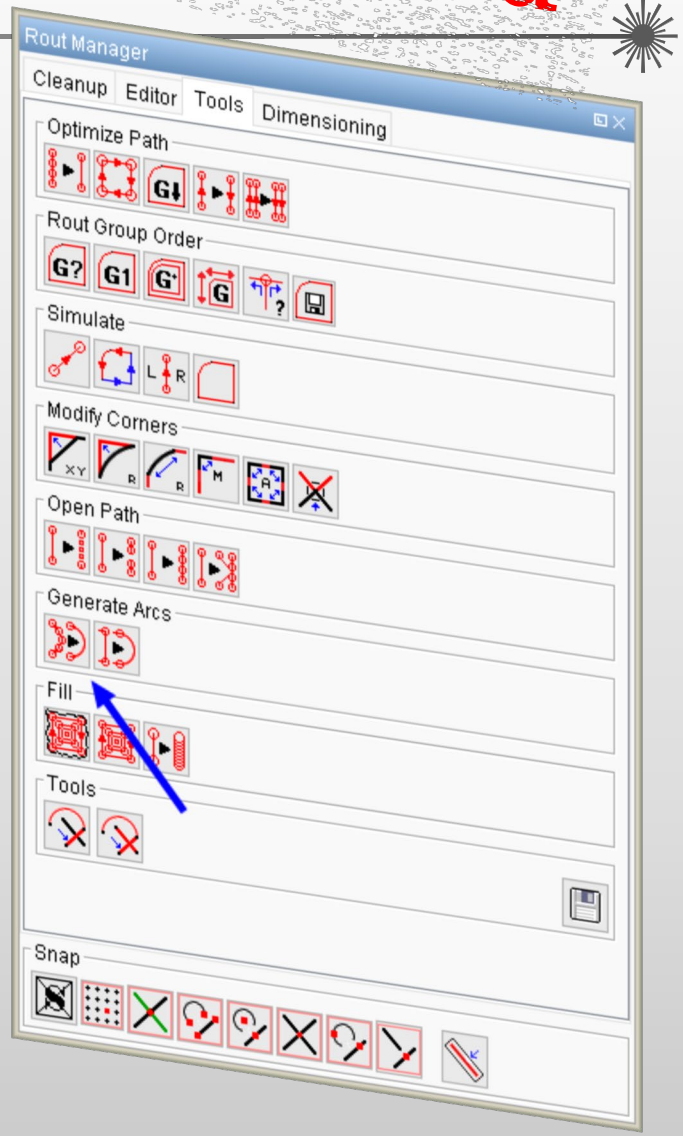
Rout Manager Algorithm for generating arcs

Enhanced

New algorithm for generating arcs

Generating arcs by specifying an arc tolerance with significantly improved results:





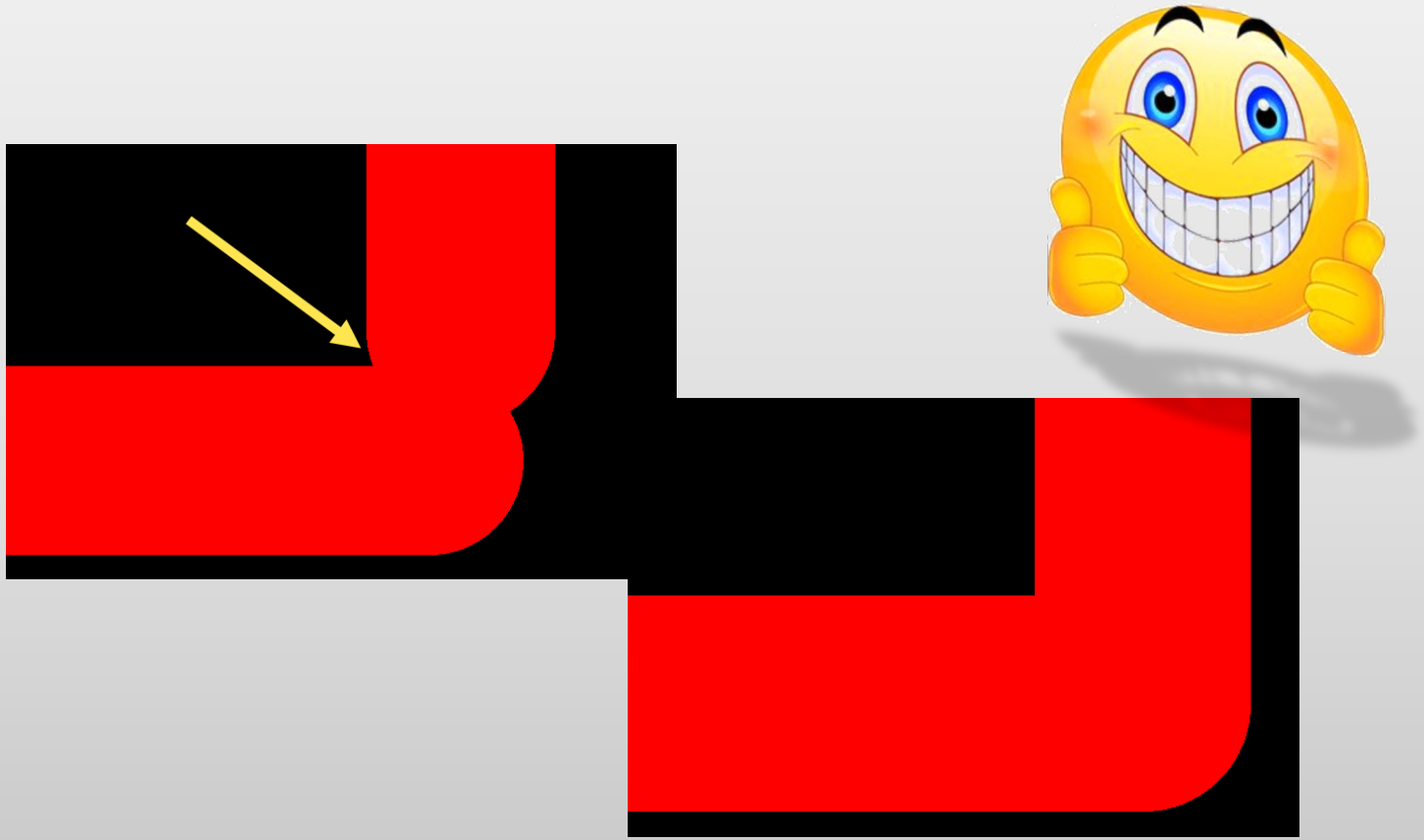
UcamX v2019.04 Release Notes

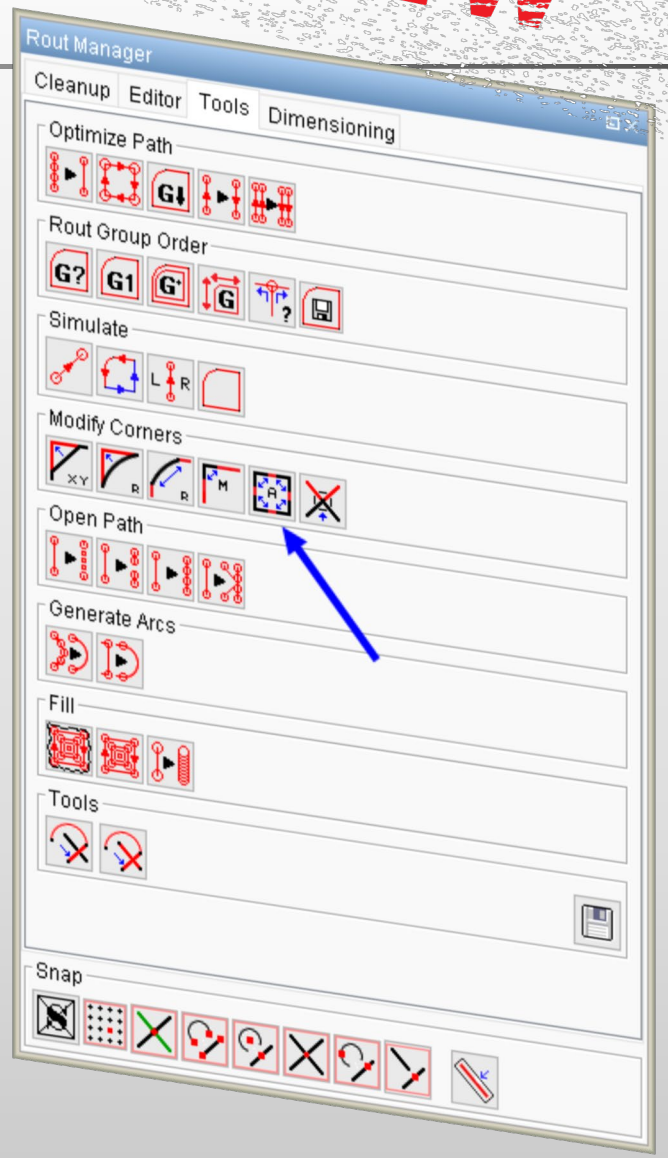
Rout Manager Automatic trimming

NEW

Automatic trimming

Overlapping routs will be trimmed automatically using this function.



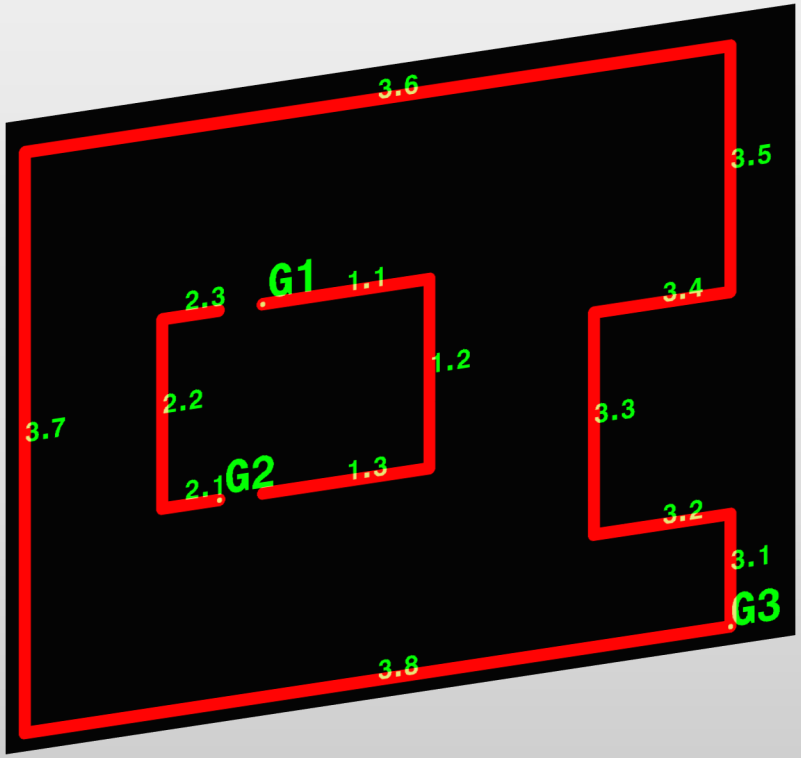


UcamX v2019.04 Release Notes

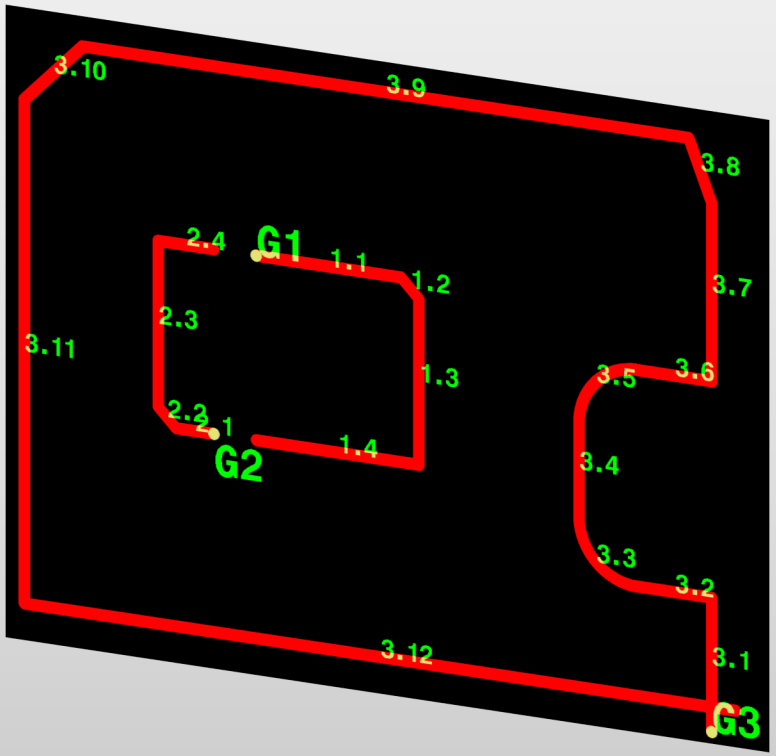
Rout Manager Keep chain order

Keep chain order: A very valuable background functionality

Rout modifications do not change the Chain Order.



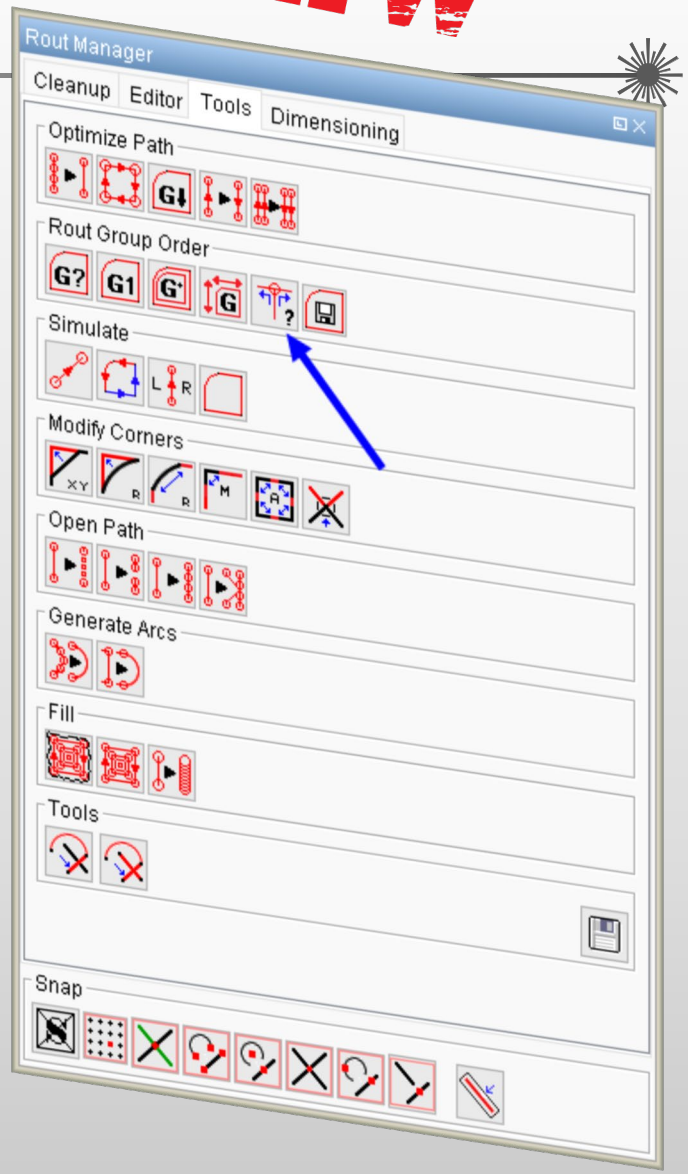
- No change on drag a line, modify corners to arcs or fillets
- New objects are integrated in the existing rout order
- No waste of time because no manual intervention is needed



UcamX v2019.04 Release Notes

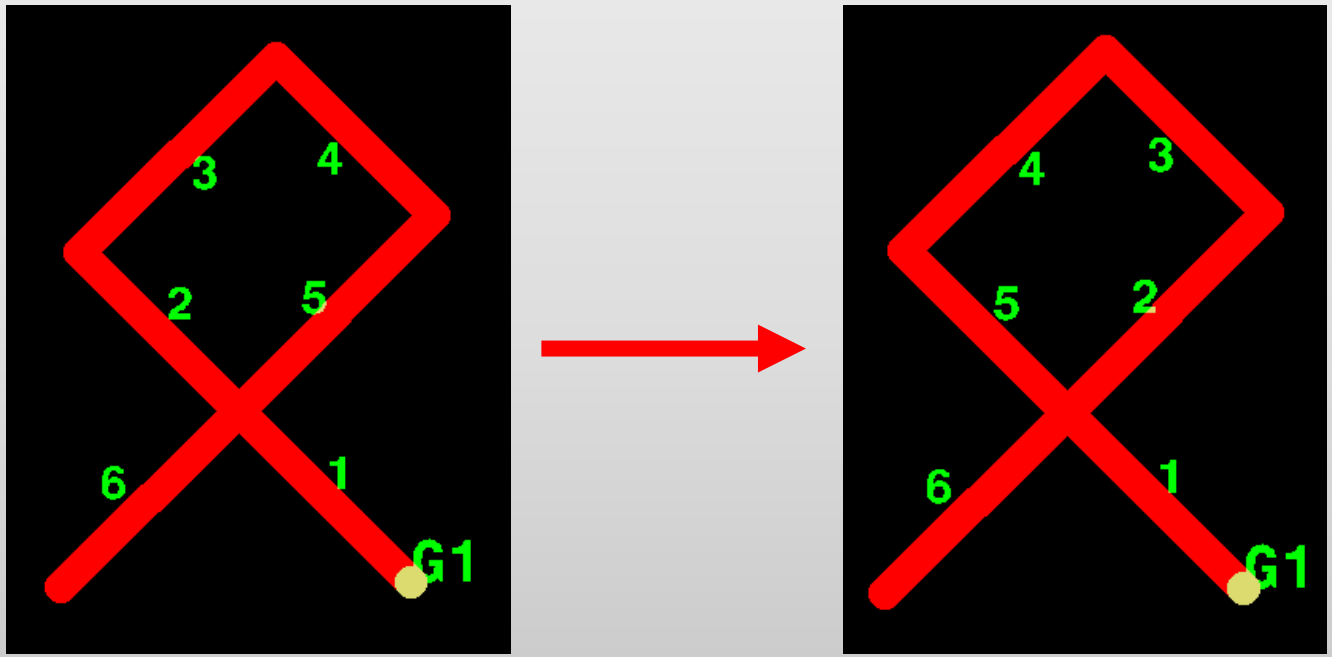
Rout Manager Force rout path

NEW



Force rout path

This new feature shows the consecutive numbers for the rout path with a possibility to change individually. The routing order in ambiguous routing situations can now be controlled/
Example:

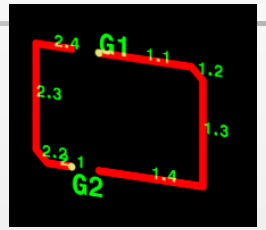


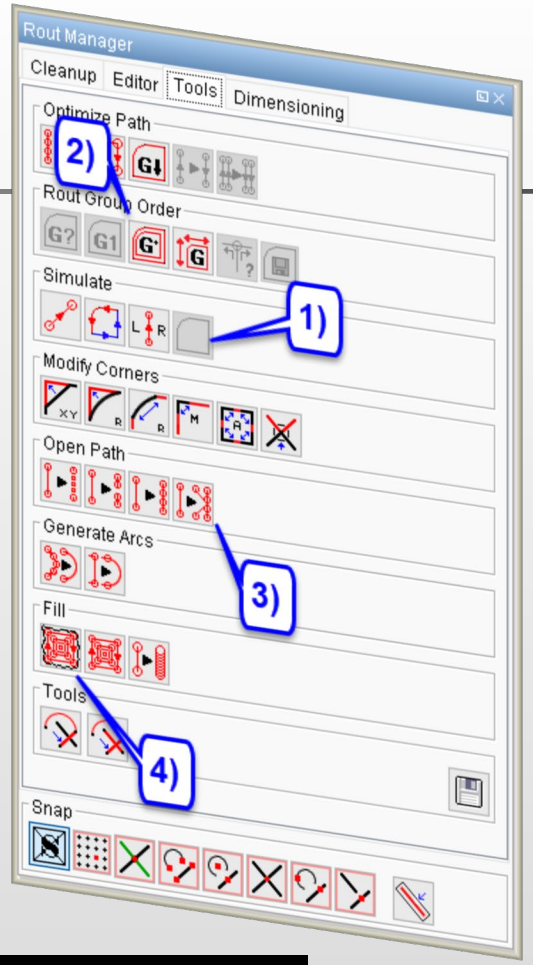
UcamX v2019.04 Release Notes

Rout Manager Additional Improvements

1) Show/Hide detailed path

NEW



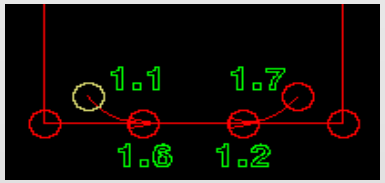


2) Optimal Rout Order
(inner before outer, shortest distance, …)

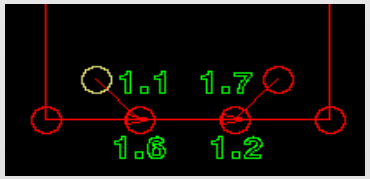
NEW

3) Insert Cut-out openings:

With arcs

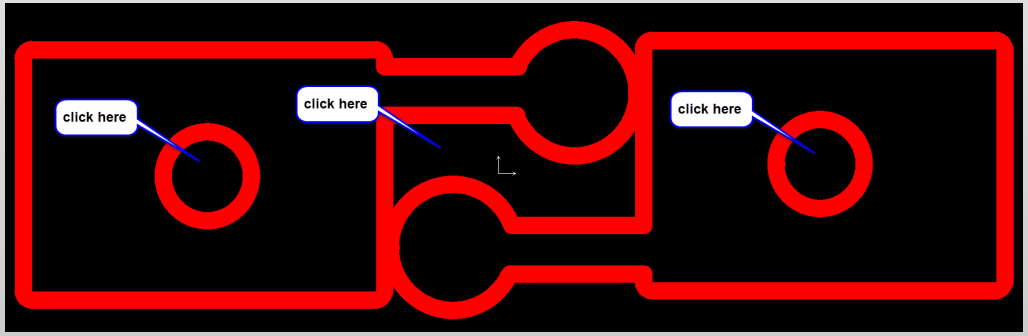


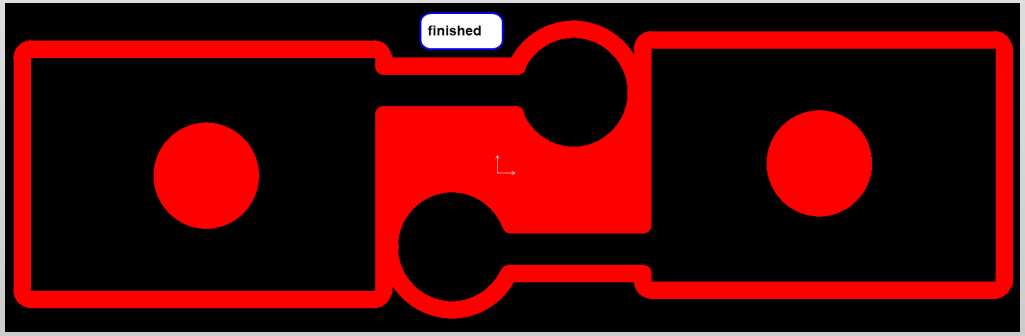
With lines



NEW

4) Insert Grinding





NEW

UcamX v2019.04 Release Notes

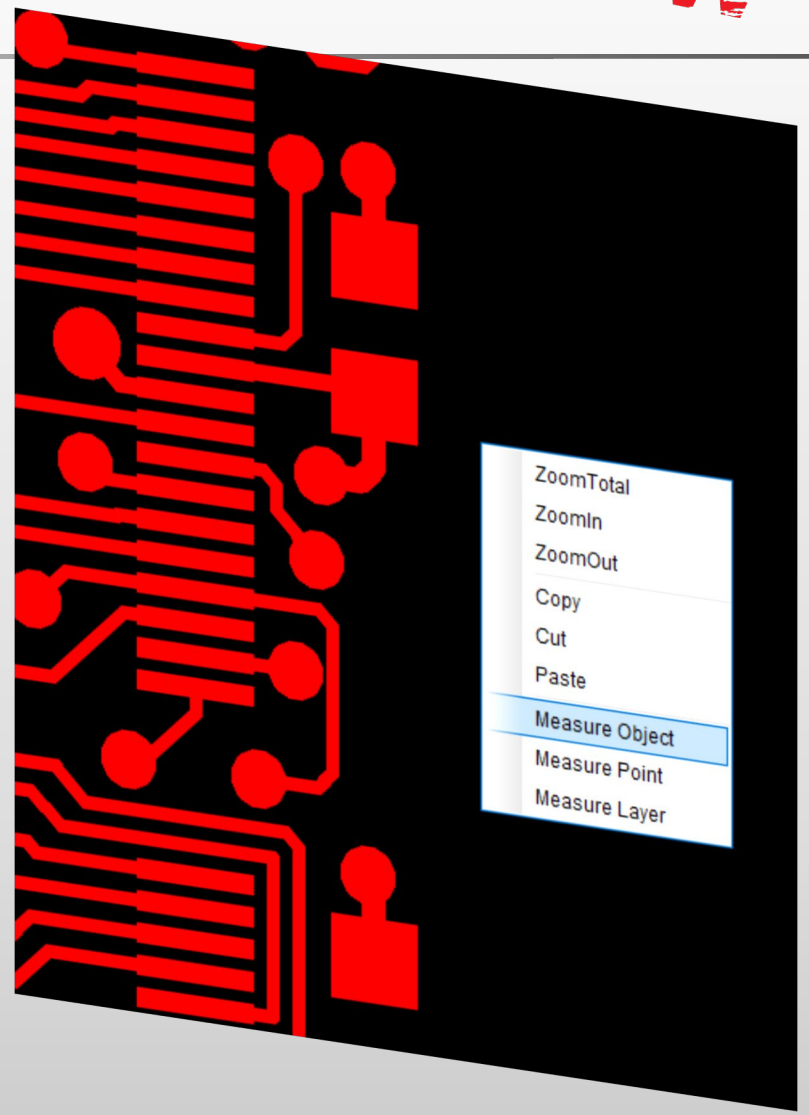
Right Mouse Button Menu

NEW

Right Mouse Button Menu

The world of commands at your fingertips

- Pre-installed scripts for:
  Zoom in, zoom out and total view
  Copy, cut and paste
  Measure objects, measure points and measure layer
- Create the scripts you would like to use and modify the menu.
  - Examples for you to test this function in:
    $ETSCAM_CFG\setup\mousecontrol\
    - Copy the .vhs files to your:
      $HOME\VHS\scripts\
    - Copy the .xml file to your:
      $HOME\VHS\
    - Change the paths in the .xml file



UcamX v2019.04 Release Notes

Gerber X2 output

NEW

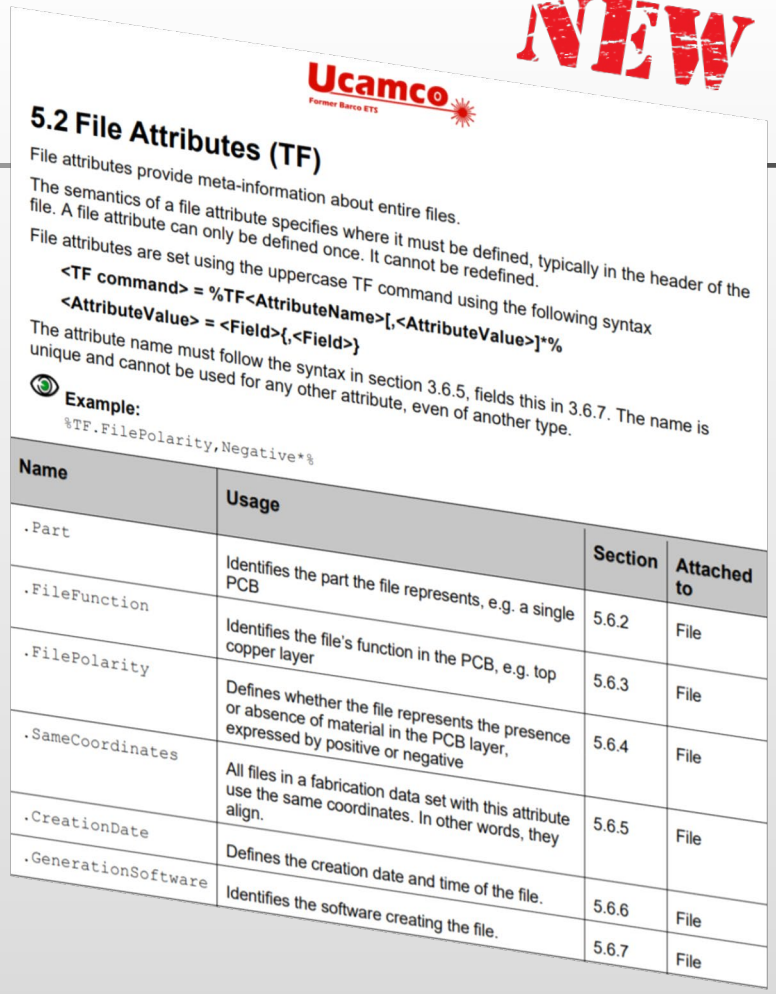
New CAD Output: Gerber X2

Gerber X2 is Extended Gerber with attributes, the new Gerber standard

- X2-attributes add information about the Gerber file in a standard manner.
- Attributes do not affect the image. A Gerber reader will generate the correct image if it simply ignores the attributes.

Gerber X2 output will get you layer number, attachment, polarity, …

Just by saving – no extra effort
In a standardized manner



Ucamco

5.2 File Attributes (TF)

File attributes provide meta-information about entire files.

The semantics of a file attribute specifies where it must be defined, typically in the header of the file. A file attribute can only be defined once. It cannot be redefined.

File attributes are set using the uppercase TF command using the following syntax

<TF command> = %TF<AttributeName>[,<AttributeValue>]*%

<AttributeValue> = <Field>{,<Field>}

The attribute name must follow the syntax in section 3.6.5, fields this in 3.6.7. The name is unique and cannot be used for any other attribute, even of another type.

Example:

```
%TF.FilePolarity,Negative*%
```

Name	Usage	Section	Attached to
.Part	Identifies the part the file represents, e.g. a single PCB	5.6.2	File
.FileFunction	Identifies the file's function in the PCB, e.g. top copper layer	5.6.3	File
.FilePolarity	Defines whether the file represents the presence or absence of material in the PCB layer, expressed by positive or negative	5.6.4	File
.SameCoordinates	All files in a fabrication data set with this attribute use the same coordinates. In other words, they align.	5.6.5	File
.CreationDate	Defines the creation date and time of the file.	5.6.6	File
.GenerationSoftware	Identifies the software creating the file.	5.6.7	File

```
G04 Generated by UcamX,v2019.04-190430 on 2019.4.11*
%FSLAX26Y26*%
%MOIN*%
```

```
%TF.FileFunction,Copper,L1,Top*%
%TF.FilePolarity,Positive*%
%TF.SameCoordinates,0QXDCPi8FDQk26qQ2XOPSxsnmyOGr4P*%
%TF.CreationDate,2019-04-11T09:27:16+0200*%
%TF.GenerationSoftware,Ucamco,UcamX,v2019.04-190430*%
%FSLAX26Y26*%
%MOIN*%
```

UcamX v2019.04 Release Notes

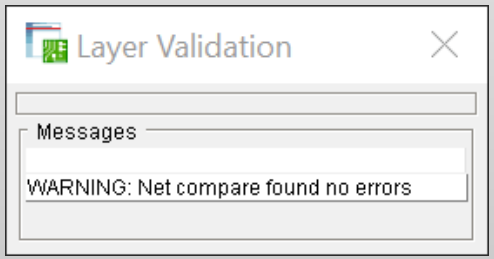
Secure Etch Compensation

NEW

Additional security feature in SEC (Secure Etch Compensation)

To boost the security when using SEC, the process is automatically checked by our well-proven net compare.

- A reference netlist will be created before the SEC process starts
- A new netlist will be created after the SEC process
- SEC automatically starts net compare as part of the process and gives feedback on the status of the netlist



UcamX v2019.04 Release Notes

and more …

UcamX v2019.04 comes with a host of fixes for issues you have cared to report to our hotline.

Your continuous support is our motivation to make it even better. Thank you!

We recommend to upgrade to this version at your earliest convenience.

If you are still on an older version of UcamX or still on Ucam, please have a look at the release notes and code fixes of recent versions.

UcamX v2017.04
UcamX v2017.10
UcamX v2018.03
UcamX v2018.06
UcamX v2018.10

All Release Notes and code fixes are listed on the Downloads page of the Ucamco website.

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