



## UcamX v2022.06

### Fixed issues

Your continued feedback is important and appreciated. This version resolves the following issues you have raised with our Customer Care department.

#### Analysis: Copper Count

- The configured value for the accuracy of the calculation of copper calculator (calc.accuracy) is respected.

#### CAD Output: ODB++

- Object attributes could cause UcamX crash while generating ODB++ output (or create incomplete output when running in multi process mode). These attributes are no longer preventing the creation of ODB++ output.
- CAD converter ODB++ is running without no matter the settings for odbxx\*blo\_cleanup\_allow.

#### CAD Output: XDPF

- Saving a job as XDPF was taking some time and memory consuming, due to the presence of attributes. The performance has been improved and the memory allocation remains normal.

#### Checklist: Checkup

- Adding a Message while defining a Step in Checklist, was not storing the input parameters for the new step. These string input parameters are correctly stored now.

#### Editing tools: Contours

- Exact Contourize could be suffering with some of the reverse flashes touching the edge of a region, which was resulting in cut-in inner contour and ambiguous contours. Exact Contourize is no longer introducing ambiguous contours and is respecting the initial image.
- Issue in the low level merger will now be handled correctly.
- Exact Contourize could lose certain clearances, created by reverse circle touching the edge of a surrounding positive object, without any notification.
- Exact Contourize of touching reverse contour regions could be incorrect.

#### Editing tools: Drill Tool Manager

- Some missing icons in the Setup menus of Drill Tool Manager have been restored.

#### Editing tools: Rout

- Removal of redundant objects connecting correct traces.

#### Editing: Transform

- Some transformations could confuse the references between linked block aperture definitions, which could change the image unexpectedly. These links between the blocks are correctly preserved again.



### **Electrical Test: Testpoint Generation**

- All pad-drill combinations are correctly considered to determine remaining copper when "testpoint.overlapping\_pads.include\_drill\_area: 0" is set.

### **Electrical Test: Utest**

- Optimized testpoint creation.

### **Electrical Test: Utest Utilities**

- Some stagger icons were missing in the Utest Utilities menu, which caused Java RuntimeException when displaying the menu. Missing icons are correctly displayed.

### **General: Snap Mode**

- Sometime the calculation of the intersection points between arcs and draws failed. These calculations have been improved.

### **Hypertool**

- A new method "hash(String opt)" can be used to compare layers.
- HyperShell.secureEtchCompensationUndo(); usable in Hypertool now.

### **Input: DPMX**

- DPMX Import optimized (DPMX Version C).

### **Input: DXF**

- The extrusion direction group code defined on INSERT entities (which can have the effect that the resulting image should be mirrored) is correctly interpreted during DXF Import.

### **Input: ODB++**

- In some configurations of "odbxx.input.job\_dynamic\_string" the conversion of dynamic string \$\$JOB could be inconsistent with the name of the resulting job. The interpretation of the job name is respecting the configuration of "odbxx.input.job\_dynamic\_string" and is identical for the job name as for the conversion of the dynamic string \$\$JOB.
- Sometimes the .tgz extension of a compressed ODB++ job was considered as part of the resulting value for the \$\$JOB dynamic string. Only the filename itself is used for replacing the dynamic strings.
- The presence of user attributes with the same name of predefined dynamic strings could confuse the conversion of the dynamic string into its value.
- Empty value for a feature attribute text strings was causing crash during ODB++ import, even if the empty attribute value was not allocated to any feature. These ODB++ jobs can be imported successfully.
- Conversion of islands/holes, containing very short track(s), of a surface definition of an ODB++ job could be skipping these contour region. The import of these surface features is stricter for connected consecutive very short (or zero length) track during ODB++ Import.
- ODB++ could ignore the mirror transformation applied on a flash with a symbol definition in which a text string, using a customized font, was specified. The conversion of these features is now correctly considering the transformations.



- The profile of the substeps were not always correctly indicated in the Preview section of the Import ODB++ Steps menu, sometimes only the profile of the actual step was indicated. The profiles of the current step and all its substeps are previewed correctly now.
- Optimized arc handling in Input: Import ODB++
- Conversion of some holes, which contain very short track(s), of a surface definition of an ODB++ job could be incorrect. The hole with the very short track(s) could be wrongly positioned. The position of these holes is as expected now.

#### **Job Editor: Layers**

- The unique combination of subclass, attach and index number of extra layers in the job is now also verified when using the OK button Layer Parameters menu. Previously this was only verified when using Apply/Next button.
- Group Pos/Neg per ape number: Only groups if definition, number, ape attributes and names are matching. Definition means all kind of object attributes even inside of BLO, no matter what level.

#### **Netlist: Build**

- Stabilized Job Netlist build in multi-processing.

#### **Panelization: PanelPlus**

- PanelPlus was confused when the job contains different extra layers having identical subclass, attach and index number, which could cause incorrect content of the panelized job for the involved layer(s). Although the subclass, attach and index number of extra layers should be unique for each extra layer PanelPlus will correctly handle the duplicated layer parameters.
- PanelPlus is handling multiple jobs correct again.

#### **Print Output: Layer**

- Enabled print with HP printer.

#### **Rout Manager**

- Improved Overlapping Trim functionality.

#### **Select: Embedded**

- Select embedded is now working correctly on BLO apertures.

#### **Select: Overlaps**

- Previously analyzing Job Copper Count, by involving mask layer(s) during copper calculation, could disturb the selection of overlapping objects (Select > Overlaps).

#### **Smart DRC**

- Optimized copper cut-in reports: real cut-ins, minimum copper widths for each copper object, small regions with size smaller than the threshold.

#### **SmartStart**

- DXF input is now up to 5 times faster.



## Stencil Toolbox

- Pad recognition prevents rotation of original position.
- GUI of Stencil Toolbox Change Aperture Shape is extended by only one cutoff value and an option to exclude inner corners from "Round" and "Chamfer".

## Undo/Redo

- Undo/Redo on modifications made at the corners on the rout chain, by using Rout Manager has been improved.

## Verification: Image Compare

- Image Compare on selections, Compare on User defined Areas, was not always restricted to the indicated area.

## Verification: Secure Etch Compensation

- Fixed issue where data get deleted after SEC.
- With configuration of "contourize.analytic.arc.expand.margin.dynamic: true" the expected result is obtained.
- Stable running of Secure Etch Compensation in case of configuration of "iterate.nested.pcb.images: 1".
- SEC creates expected results when Contourize.analytic.arc.expand.margin.dynamic is set to true.

## View: Select

- Cut/Paste of selected flashes with block apertures was not always restoring the original selections. Blocks with only 1 polarity level were no longer selected after pasting the clipboard in the same layer from where it was selected, pasting in a different layer was respecting the selections. Now these block apertures remain selected.

## YELO Copper Adjuster

- Copper Adjuster is solving all region to outline faults.
- Copper Adjuster was not moving some traces which were too close to drill holes.
- Copper Adjuster via pad stacks move could lead to shorts in job.
- Copper Adjuster no longer creates reverse contours outside of outline.

## YELO Mask Adjuster

- Complex areas are handled as required.
- The Job Editor view now refreshed after every run of Mask Adjuster.
- Solder mask opening with ambiguous relation to different pads are not adjusted anymore.
- YELO Mask Adjuster Via Handling was giving confusing warning message about expired license when the job does not contain the expected attribute settings. In these situations the operator is notified about the missing Via attributes.
- Adjustment of contourized mask openings following the specified values for Overlap, Mask to Mask and Solderweb.
- Mask Adjuster prevents mask printed on pads.
- New Mask Adjuster handles non-plated mask openings.