



UcamX v2020.12

Code changes and fixes

We have taken great care in fixing the items below for you and hope this will contribute to an even better user experience.

CAD Output

- Full conversion of gerber files with GER2BMP available
- ODB++ Output could fail when the layers of a job are containing inconsistent values of uPCB attribute on blocks. In case the algorithm fails interpreting the uPCB attributes, ODB++ output is continued by ignoring the uPCB attributes (and notifies the operator about it).

Direct Imager Output

- Ledia Output is compatible with Java11 now

Drill Output

- Rout output could output a small segment, of an arc that is slightly split over different quadrants, as a full circle. When the remaining segment would become a 0-arc (due to applied output resolution) the small segment is skipped.
- A new Option "ARCSPLIT" is developed to handle Autodrill Outputs for arcs differently. FULL – QUADRANT - EXPAND – MACHINE

Editing Tools

- Running transformations, on partially selected objects of a layer (with some of the regions selected), could take long time. These transformations, on selected objects, are performing normal again.
- Deleting selected objects is notifying the operator in case the operation affects objects on other layers than the one displayed in plane 1 (configurable with check.active_layers). Previously there was no notification when deleting the objects by using an icon added to a toolbar.
- Clipping tracks against regions could be incorrect, sometimes clipped tracks to the origin were created (instead of connecting the 2 edges of the clipped track). These tracks are now correctly clipped against the regions.
- Exact contourize and/or PDF output on certain layers could keep running. These functions can be completed successfully again on these layers.
- Exact contourize is creating valid contours.
- All columns now sorted correctly
- Spread and Choke on contours could lose inner contours., even in case this is not expected by the applied value. Contour Spread and Choke is no longer losing these inner contours.
- Replacing a model is removing the current selections and creating flashes with the active aperture. In case the active aperture is a CONtour aperture (e.g. because the corresponding aperture for the model was not created) the data remains unchanged (since flashes with a contour aperture are not allowed) and the operator is warned about the incompatible current aperture type. Previously the image could be modified without a notification.
- Rout Compensation will not break chain of objects.
- Rout Compensation of some very small draws and arcs in the rout path was not being handled correctly. Adjusted correctly now.
- Silk Optimizer could create unwanted big full arcs (with start- and endpoint in the origin, X0Y0, of the job). These silk layers are now correctly optimized.

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Editing

- Applying plot parameters, by using Edit > Plot Parameters menu, could be causing UcamX crash. Plot Parameters can be allocated correctly to the layers of the job.
- Modifying the Space parameter while editing a Vector Text object was ignored, unless also the String value of the Vector Text was modified. The Space parameter is correctly applied again.

Electrical test

- Slots constructed with multiple overlapping draws are added with correct sizes and the longest slot is written as a flash.
- Improvement to ensure all outer layer copper islands will have at least 1 testpoint.
- Testpoints generated with modifications to the `contourize.analytic.expand.margin`.

FaultStation

- Abort codes on Image 1 no longer cause Faultstation to crash
- Testpoint windows remain open when loading subsequent jobs
- Checked in WinXP 32bit. Additional .dll was necessary

General

- Surface calculation of contour, containing arc(s), has been corrected, sometime the arc(s) was not always considered correctly.
- `Alignmentinfo.txt` extended with all needed Hakuto D-Codes
- Changing units is also changing values in Drill Tool Manager accordingly
- VHS Editor running on Java 11 32-bit machine.
- The Mirror options of the Flip Job menu are displaying the corresponding icons again. Previously a Java exception was given and the icons were not displayed.

Hyperscript

- Both syntaxes for `selectWindow` are working with Java 11

Hypertool

- Method `ape_group(String opt)`; was not correctly interpreting the `opt` value, when applying the function on block apertures.
- Hypertool function `contour_straight` was not working anymore, usage of the function has been restored.
- Fixed issue with using `Ucamapp.cO.info("xxxx", true)`;

Input

- Some regions, containing cut-in inner contours and composed by short objects, were not correctly displayed. These regions are correctly displayed now.
- Text formatting codes, as can be mentioned in the definition of DXF MTEXT entities, are no longer converted as part of the resulting text string.
- Gerber X2 input is correctly allocating the aperture attributes defined on the Gerber regions to the resulting contour apertures.
- When the possibility to import individual layers form and ODB++ job has been activated (`odbxx.input.showlayers`) opening an ODB++ job is automatically indicating the layers of the default step (`odbxx.input.default.step`). Previously the step needed being clicked before the layers were indicated.
- ODB++ Import of a text feature containing text feature defined over 2 lines (with unnecessary `<CR>` at the end of the text string) could have incorrect text font parameters (e.g. text height). Issue has been noticed with the conversion of an ODB++ job with compressed features file(s). The text font is now correctly applied during the conversion of these ODB++ layers/jobs.
- Introduction of `odbxx.input.job_dynamic_string`, allowing influencing the value for dynamic string `$$JOB` during ODB++ Import.
- Native ODB++ import is adding all layers and information to UcamX.



- The presence of a single quote character as part of an ODB++ text string was confusing the import conversion. In the ODB++ format a text string is enclosed in single quotes, a single quote inside the text string itself was notified as an unprintable character and ignored for the resulting text. These text strings are correctly handled.
- Updated ICEpdf ensures correct input of PDF files.

Internal

- Keyboard shortcuts (Accelerators) are active in text fields and main window.

Job Editor

- Save as with locked layers is creating a new job including locked layers with content before locking the layers.

Job Management

- Performance of loading a job has been improved. Layers that are not (yet) displayed are no longer loaded while opening the job.

Netlist

- Build Job netlist updates True Objects in PP1 and PP+ for all layers

Rout Manager

- Cleanup-Reconstruct arcs is now respecting the draw length in the input field.

Select

- Selecting objects, on a Netlist Reference layer, based on the net number allocated to the objects was causing Java NullPointerException. Select Net can be completed normally again.

Setup

- Snap to Outline is available to be placed on toolbar

Layout

- Opening the Job Plane Setup menu was causing Java RuntimeException violation and menu was missing the icons. Job Plane Setup menu can be opened normally again.

SmartPlot Server

- ODB++ jobs imported without Java exceptions again.

SmartPlot

- Crashes while import of ODB++ data in SmartPlot Standalone is fixed.

SmartStart

- Closing SmartStart (after eventually adding a layer to the actual job) was losing the information of the material that was used between the layers in the Job Buildup. Material between the layers remains when closing SmartStart.

Verification

- The _edges layer, that can be created while running Etch Compensation, is now considered as a feedback layer. Appearance of feedback layers during Etch Compensation can be configured by `etch_compensation.showfeedback`.
- Every part where original copper is missing is highlighted when using toggle to check missing original copper
- Secure Etch Compensation, with option Horns activated for ClearanceManager, was not always respecting the required clearance between the nets, in some construction the compensation could introduce a short. Secure Etch Compensation is correctly handling these constructions.



- Secure Etch Compensation, with option Horns activated for ClearanceManager, could introduce in invalid (COMplex) aperture definitions. Secure Etch Compensation is now creating valid apertures in these situations.

View

- Annoying messages, informing about not implemented function, were appearing in the messages window, when measuring objects and dragging over flashed block apertures. These messages are no longer given.
- UcamX no longer becomes locked when choosing another component with "Show pin" active
- Select and Query Net were not always correctly interpreting the net names allocated to the nets of the job. These functions are correctly handling the net names.
- Query Object was not always correctly indicating the net names (if specified for the job) when querying objects of the netlist reference layers. Query Net, on objects in the netref layers, is displaying the involved net names.
- Performance of opening Query Object menu has been reviewed. The presence of net names could delay the opening of the Query Object menu.
- Query Object was highlighting small arcs (arcs with radius smaller than the radius of the applied aperture) incorrectly. These arcs are correctly highlighted by Query Object.
- Query Objects and Measure Objects were not always highlighting the involved objects.
- Select Doubles could select parts of regions, when the objects that are composing the region is overlapping with an other object that is part of another region. Only double regions remain selected now, the ?double? objects belonging to different regions are no longer selected, which prevents changing the image (e.g. by creating open contours) when the double objects are deleted.
- Display of certain object in Outline mode was sometimes, depending on the applied zoom factor, incorrect. The endpoints of certain objects were displayed as if there was/were flash(es) at the end of the objects. These objects are correctly displayed again in Outline mode.

YELO Copper Adjuster (CAJ)

- When using different values for the required clearances between the different types of object in YELO Copper Adjuster could give unexpected remaining clearance violations. Copper Adjuster was modifying the layer and object types, as a result the verification was not always done by using the intended clearance value. Even if Copper Adjuster is changing the object types, the expected clearance value is used to approve the result.
- Plane part of CAJ is checking according to minimum ring settings Mechanical, Laser vias, Component and mechanical holes
- Crash in YELO CAJ solved
- Object attribute to skip objects in Copper Adjuster has been changed from "SignalLayerAdjusterSkipObject" to better name "CAJ_Exclusion".
- The regions are adjusted without copper-cut-ins.
- Region to outline will be shaved in case of same size between outline and region.
- Plane part of Copper Adjuster only fixes circular drill pad clearances with specified values.

YELO Legend Adjuster (LAJ)

- LAJ takes the mask layer into account as well to differ between Frame and text.
- Several improvements to text recognition have been made.

YELO Mask Adjuster (MAJ)

- All clearances to copper not in the same net are shaved.
- MAJ included in existing YELO Toolbar.
- Button YELO Mask Adjuster now shows the correct icon and opens the correct window.