

## Maintenance Report - v10.2.1

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### AOI Output

#### Camtek

B365133

#### Bug Fix

Calculation of the inspection area during Camtek output, by using Auto Insp. Area, could be missing some exclusion areas between the blocks (with uPCB attribute allocated). These areas are marked as exclusion zones now.

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### CAD Output

#### DPF, Save layer

BB03439

#### Bug Fix

Importing some constructions in Gerber files using certain Ucam.properties conditions (always displaying the Options section in SmartStart) and saving the resulting layer as DPF file and using low output resolution could corrupt the saved DPF file. Loading these DPF file can be notifying for invalid aperture definitions and could be missing certain contour regions embedded in BLOck aperture (although editing the block aperture was correctly displaying the image). Importing the data and saving as DPF, using the indicated conditions, is not longer corrupting the data.

#### Gerber

BB03475

#### Bug Fix

Gerber output was not always respecting the rotation of some apertures. Issue was noticed, when generating Gerber output after importing an ODB++ layer containing the same aperture definition with a different rotation allocated. Both apertures were output into the same aperture definition (both with the same rotation). Issue was not noticed when saving the job after ODB++ import and reloading the saved job. Gerber output is now also defining the correct rotation when the output is generated directly after importing the ODB++ job.

#### XDPF

BB03486

#### Bug Fix

Running smartkleo script, for converting layers from an ODB++ job towards XDPF, could be running into memory problems (after running for hours, issue has been noticed on Linux platform). The conversion of this layer can be completed successful now.

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### Editing

#### Apertures

B364680

#### Bug Fix

Loading Apertures from a DPF file that contains also True Objects was causing Ucam crash. The TrueObjects are ignored while loading apertures from an external file.

B365139

#### Bug Fix

Group Pos/Neg is now preserving the Object attributes that were allocated to the original objects, previously these objects attributes could be lost after grouping.

B365363

#### Bug Fix

Selecting a different aperture in the ApertureManager, while running Insert Flash, was still adding a flash with the previous active aperture instead of using the newly selected active aperture. The following flashes were using the current active aperture. Each newly added flash is using the actual active aperture, also after changing the active aperture.

BB03490

#### Bug Fix

Generating a COMplex aperture from selected objects could be storing the net information, stored on the selected objects inside the definition of the COMplex aperture, loading these COMplex apertures was failing with the indication on illegal DPF syntax. Since net information inside an aperture definition is useless this is not longer stored inside the COMplex aperture. The net information stored inside a COMplex aperture is ignored while loading a DPF file, which allows loading the layer normally.

#### Enhanced Editor

BB03461

#### Bug Fix

Deleting the redundant segments of a crossing track and arc connection was

not always calculating the exact same connection point between the track and arc, as a result a different rout group could be allocated to these objects. The remaining segments are now having the same end points.

## Insert

**BB03523**

### Bug Fix

Inserting a flash with a BLock aperture was not pre-viewing the contour regions embedded in the block aperture definition. Also the regions are now highlighted while dragging the location to flash a block.

## Transform

**B364960, B365059**

### Bug Fix

Transform Thicken, with option Straight, on the contour could be losing a clearance. Issue has been noticed on a cut-in clearance for which the cut-in lines are creating a small gap in the region, these cut-in lines are not coincident. Thickening these regions is preserving these clearances (in case the applied value is not justifying that the clearance should disappear).

**BB03336**

### Bug Fix

Choking a contour, by using option Rounded and very small value for `contourize.analytic.arc.expand.margin` (issue has been noticed with `contourize.analytic.arc.expand.margin: 0.0002mm`) could be adding "bubble" at the edge of the choked region. Also Fill Vector could be suffering with the issue (when using similar configurations). Choking and Fill Vector are not suffering with these small configurations of `contourize.analytic.arc.expand.margin`.

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## Editing Tools

**BB03527**

### Bug Fix

A Java NullPointerException could be generated while clicking on Edit in the Draw Slots menu. The Java exception has been corrected while running the function.

## Contours

**B364764, B364989**

### Bug Fix

Exact Contourize could be failing with the notification of out of memory, this has been noticed on layers with many painted areas. Contourize has been improved for supporting these layers.

**BB03408**

### Bug Fix

Contour merge, with option Single, on selected objects could change the image, disappearing of not selected regions has been noticed on certain constructions. Merging these objects is not longer influencing the objects that were not selected.

**BB03496**

### Bug Fix

Exact Contourize could introduce ambiguous contours, by creating overlapping inner contours. This could result in situations where some inner contours were not correctly displayed. Exact Contourize is not longer generating these ambiguous configurations.

**BB03525**

### Bug Fix

Exact Contourize of data far away from the origin (several meter) could be hanging. Issue was noticed while handling a layer resulting from importing a DXF file. These constructions can be contourized normally now.

**BB03544**

### Bug Fix

Merging regions, defined in different CONtour aperture, when running the function on selected regions, could be losing a clearance. When merging on all objects and without any selections the image remained unchanged. Merging with or without selections is now preserving the image.

## Fill Pattern

**BB03431**

### Bug Fix

Fill Pattern selecting option Fill With Tracks was not always respecting the edges of the original contour region. Some tracks of the pattern could be missing and other tracks could exceed the edge of the original image. Fill Pattern behaves normally again.

## Fill Vector

**BB03447**

### Bug Fix

After running Fill Vector on selected contour regions all vectors, resulting from filling the regions, are now selected. Previously some objects were not selected.

## Rout

**B364829**

**Bug Fix**

Running some functions in the Tools section of the Rout Manager was losing the current active aperture, a Warning message "no current aperture" was popping up after running the functions. These functions are now keeping the current aperture active.

**BB03460**

**Bug Fix**

Using the Trim function, in Rout Manager, for connecting a track with an arc, could corrupt the image. Trim is now correctly connecting these objects.

**BB03464**

**Bug Fix**

Running Default Order, in the Tools section of Rout Manager, after clearing the unused apertures, could be causing a Java NullPointerException. This exception has been resolved.

**Shave**

**B364432**

**Bug Fix**

Shaving Pad Track/Arc, by using option Reverse, was not respecting the requested clearance between the objects, the resulting clearance was slightly bigger than the indicate value. The CONtour region, used for shaving has been corrected for respecting the requested clearance.

**B364942**

**Bug Fix**

Pad Shave was causing Ucam crash on certain constructions. Crash has been resolved.

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## Electrical Test

**Utest**

**B364662**

**Bug Fix**

Test Point generation with activating option "Filter Copper Area's" could filter away all test points of certain nets, when all potential test points are embedded in a copper plane at one side. At least one test point remains on these jobs.

**BB03455**

**Bug Fix**

The performance of calculating test points on painted pads was suffering with big areas in the mask layer(s), this has been notice on mask layers for which the enclosing box of the connected areas are covering a big part of the job. These mask layers are not longer delaying the calculation of the test points.

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## Input

**Gerber**

**B365381**

**Bug Fix**

Gerber input of a region with self-intersecting cut-in lines could be missing some of the connected cut-in clearances. These constructions are now flagged as self-intersecting contour and the clearance(s) get displayed.

**BB03442**

**Bug Fix**

Gerber input of an almost full arc, with endpoints very close to each other, could result in a short track between the endpoints of the object. Issue was noticed after the conversion of a Gerber file that was created in high accuracy (5.5mm) and with an almost full arc with 0.6μ between the endpoints of the arc. These arcs are now converted as expected.

**BB03473**

**Bug Fix**

Gerber input of constructions containing self-intersecting contours could be missing some clearances (created by the self-intersecting cut-in lines). These constructions are now flagged and result in ambiguous contours (since cleaning up these contours can lose these clearances).

**Import Eagle**

**BB03520**

**Bug Fix**

Ucam could crash while importing certain Eagle files. These files can be loaded successfully now.

**Import IPC-D-356B**

**B363691, B364438**

**Bug Fix**

Import of an IPC-D-356B files was always converting the file as it was created with 0.1 MIL values, Parameter record UNIT was ignored. The UNIT parameter is now correctly interpreted, even in case the alignment on the line is conflicting with the IPC-D-356B specifications (in case of conflict a warning message is given but specified unit is considered).

## Import ODB++

**B364249**

**Bug Fix**

ODB++ Import of a job containing a rout layer for which the START\_NAME and END\_NAME parameters are not specified in the matrix file failed with a Java NullPointerException. These jobs can be imported successfully now.

**B365307**

**Bug Fix**

The <resize\_factor> defined on ODB++ features is now correctly applied. Previously the <resize\_factor> on the negative objects was interpreted incorrectly.

**BB03437**

**Bug Fix**

ODB++ Import of job composed by nested symbol definitions (symbol definition using another symbol definition) on which transformations (mirror and rotation) are applied at different levels, could be applying the transformation in different sequence. These transformations are now applied in the same sequence as defined on the features, which results in the expected image.

**BB03474, B365362**

**Bug Fix**

The import of some compressed ODB++ jobs failed because the decompressing failed on long folder names. Decompressing these files by using 7z.exe allows importing these jobs. Configuration of external.decompress allows indicating which tool should be used for decompressing the TGZ files.

## IPC-D-356

**B364826**

**Bug Fix**

Importing an IPC-D-356A file, for creating netlist reference layers, was creating all netlist reference points in case the IPC file is loaded in an empty or in a job that contains the same amount of layers as indicated in the IPC file (access field in the record definitions). In other situations some references could be missing. All netlist references are created from an IPC-D-356A file, independent from the amount of layers that are available in the job when converting the IPC file.

## SUM 3000

**BB03478**

**Bug Fix**

Applying the rout track compensation on small arcs, while loading a rout file, could result in invalid arcs. The compensated arcs are now valid.

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## Netlist Output

### IPC-ATG

**BB03459**

**Bug Fix**

Output Netlist ATG-IPC was only working on stepped data, output of flat data resulted in an empty file. Now IPC-ATG output also supports flat data.

### IPC-D-356A

**B364857**

**Bug Fix**

IPC-D-356A output, using the FixGenius algorithm (ipcmnet.new\_output\_algorithm: 1), of a single layer job, which contains stepped data (blocks), and configuring ipc356a\*style: ATG, is also adding the Soldermask flag (columns 73-74) for the records describing the drill holes (017 records). This S2 indication was missing for the 017 records.

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## Panelization

**BB03524**

**Bug Fix**

PanelPlus, by using an Outline layer containing chained tracks with an aperture (not a contour aperture), was creating a (reverse) contour aperture which was not cleaning the background (venting pattern) as expected. These reverse contours are now covering the background again.

### PanelPlus

**B365405**

**Bug Fix**

PanelPlus, by using an Outline layer containing overlapping regions in different BLOck, was merging the different regions in the same (reverse) contour aperture (for cleaning the background, venting pattern), as a result inner contours could be created (and the background pattern became visible through these inner contours). These inner contours are no longer generated.

**BB03444**

**Bug Fix**

Running PanelPlus by using an Outline layer containing the region (using a CONtour aperture) that is embedded in a BLOck aperture (array data) is now clearing the background (venting pattern) at the location of the stepped image. This was already the case when the region of the outline layer is not embedded in a BLOck aperture.

**StepRepeat Reconstructor****BB03482****Bug Fix**

A crash, while running StepRepeat Reconstructor, has been resolved.

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**PowerRIP****mifdpf****BB03510****Bug Fix**

Submitting a layer containing aperture attributes, for which a name starts with a dot, can cause failed processing of the data on the RIP. The aperture attributes are skipped from the DPF file.

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**SmartKleo****BB03448****Bug Fix**

Running smartkleo script, for converting Gerber file towards XDPF, could be crashing (crash noticed on Linux platform). The conversion of this Gerber file can be completed successful again.

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**SmartPlot****B364800****Bug Fix**

Submitting certain constructions from SmartPlot Merge Queue in SmartPlot Plot Queue could be losing certain regions. This has been noticed on layer for which the operator was notified for Open contours while submitting in the Plot Queue. These jobs are now correctly submitted towards the RIP.

**B365629****Bug Fix**

TRIP is having issues while exposing some arcs, some very small arcs can be exposed as full circle and some other arcs can be exposed by a flash in its start and end point. These arcs are now expanded in tracks, while submitting from SmartPlot Merge Queue into Plot Queue.

**BB03499****Bug Fix**

Submitting a layer to a plotter with a TRIP (Unix RIP) could be losing certain inner contours of embedded outer contours (outer contour that is embedded inside an inner contour of the same CONtour aperture definition). SmartPlot is reviewing the construction of the regions for preventing embedded outer contours in the data provided to the TRIP.

**BB03532****Bug Fix**

Submitting a layer, containing COMplex apertures with hole(s) , from SmartPlot Merge Queue into Plot Queue of a TRIP could be causing a crash. These layers can submitted successfully now.

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**Verification****Arcs & Draws****B364962****Bug Fix**

Validating arcs, with an aperture, is preserve the object attributes that are stored on the original invalid arc(s). Previously these object attributes were lost on the validated arc objects.

**BB03494****Bug Fix**

Arc validation could be validating a small slightly invalid arc into an almost full circle. Validating these arcs is only slightly changing the image, if appropriate a short arc will be replaced by a short track.

**Copper Repair****B364028****Bug Fix**

DRC repair could corrupt the image, by removing track, while solving clearance violation between tracks flash on which multiple violations are found. These violation can be repaired without corrupting the construction.

**Design Rules****B364505**

**Bug Fix**

Running Design Rules Check could be missing some Peelable violations when running the verification with actual units set to MIL. The same violations are now found independent on the actual unit.

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**View****BB03456****Bug Fix**

Some single arcs could be displayed as composed by different objects, this could be noticed when selecting, querying or displaying in Skeleton mode. These arcs are displayed normally again.

**Apertures****BB03521****Bug Fix**

A block aperture, on which a scale factor is defined, could ignore the scaling on donut shape objects, issue noticed on region composed by 2 full circles (outer and inner contour). These objects are correctly displayed now.

**Select****BB03445****Bug Fix**

Select Embedded could be selecting objects which would change the image after deleting these "embedded" objects. Issue has been noticed on selected COMplex apertures for which the outline is completely embedded in CONtour region and the region has an inner contour inside the image of the COMplex aperture. These not full embedded objects are not longer selected as embedded objects.

**Zoom****BB03465****Bug Fix**

Sometimes some tracks were not displayed in Filled mode, these tracks are displayed again.

**BB03522****Bug Fix**

Zoom In at certain objects (issue noticed while zooming in very deep on a rounded BOX aperture) could be causing an Ucam crash. Ucam is not longer crashing while zooming on these objects.