



## **Release Highlights for CAM350 Product Version 10.9**

### **Introduction**

CAM350 Version 10.9 is a support release that introduces new functionality, including the IPC-2581 Export Filter for Functional mode, interactive support for adding arcs to polygons and board outlines, Aperture property updates, and support for All Users installation context.

### **New Functionality**

The following functional enhancements are contained in CAM350 Version 10.9

- ✓ IPC-2581 Export – tiered export filter per IPC-2581 specification
- ✓ Adding Arcs to Polygons – enhanced polygon creation with arc segments
- ✓ Aperture Property Updates – Mirror property and increased name length
- ✓ All Users Installation Context – administrator installation support

### **Details**

**IPC-2581 Export Filter for Functional Mode** - CAM350 IPC-2581 Export offers the ability to export different function modes for IPC-2581 content. Per the IPC-2581 specification, full support for Design, Assembly, Fabrication and Test function modes are supported. In addition, the so-called Full mode that supports all IPC-2581 elements is supported. CAM350 offers Import and Export of IPC-2581 formatted files as an enhanced form of passing data to PCB Fabricators. All CAM350 115 and 155 users, eligible to receive IPC-2581 Import. All CAM350 480, 815 and DFMStream users eligible for the update will receive both import and export of IPC-2581.

**Interactive Support for Adding Arcs to Polygons and Board Outlines** – The CAM350 commands for Adding Polygons have been updated to support true arc segments. These commands include Add Polygon, Add Polygon Void, and Add Border. Now during the interactive operation for adding a polygon, you can specify that the next segment will be an arc. You can specify the arc in three manners: 3 point arc(3 PT), clockwise arc (CW) and counter clockwise arc (CCW). Additionally, you can specify whether the junction for the new arc is tangent or not with the previous segment in the

polygon. This allow seamless definition of smooth transitions for arc segments to the adjacent segments in the polygon.

**Aperture Property Updates** – Aperture definitions are updated now to correlate with the ODB++ and IPC-2581 specification concerning an intrinsic mirror property. The mirror property reduces the need to customize aperture definitions when simple mirror operations are performed. The Aperture Table dialog is update to support mirror definition. The ODB++ and IPC-2581 interfaces are updated to support data transfer with mirrored apertures.

**All Users Installation Context** – The DownStream product installation now has the option to install customizations for All User login for a target PC machine. Specifically, an Administrator can install CAM350 and Blueprint-PCB on a PC Machine and then the customizations defined during the Administrator installation would be available for all Per User logins when CAM350 and Blueprint-PCB are run. Customizations include menu and tool bar customizations, CAM350.cam startup file, CAMNT95.ini file and installation options such as RSS feed and Allegro integration.

**Defect Fixes** – Software corrections have been made to previously existing functionality, further improving upon CAM350's quality and reliability:

### **Highlights from Earlier Versions of 10.x**

CAM350 Version 10.8 is a support release that introduces new functionality, including the Streams RC optimization checks, usability improvements for the Streams RC user interface and the IPC-2581 CAD data interface.

CAM350 Version 10.7 introduces new functionality, including the encryption of CAM350 VB macros and Clear Silkscreen functionality enhancements.

CAM350 10.6 introduces Flying Probe export to Microcraft tester format. The Microcraft testers support continuity and isolation tests on both side of PCB board. CAM350 10.6 supports import of spline geometry formats from DXF files. CAM350 10.6 supports zoom control for viewing Streams Rules Check errors.

CAM350 Version 10.5 introduces important new functionality, including the Design Analyzer, new data translation updates for Blueprint-PCB integration, Large Address Aware (LAA) implementation for expanded memory access, Pastemask rules checks, Stream Rules Checks updates, and DXF interface updates.

CAM350 Version 10.2 is a support release for CAM350. CAM350 10.2 includes Gerber import improvements for polygon self intersection analysis and DRC analysis accuracy updates for polygon outlines with arcs.

CAM350 Version 10.1 is a support release for CAM350. CAM350 10.1 includes performance improvements and memory usage improvements over previous releases of CAM350. Areas of improved performance include Gerber import and ODB++ import. Optimization for memory usage is delivered in CAM350 10.1 for all polygon analysis, which means that larger more complex layers of polygons can now be processed for commands such as Netlist Extract and Gerber Import. CAM350 10.1 also delivers over 50 important customer reported defect resolutions.

CAM350 Version 10.0 introduced significant new functionality, including reading and writing BluePrint-PCB files, new graphics user interface, a project explorer bar, flip panel support, design compare, Expedition cross probing, and various enhancements.

## **Defect fixes for CAM350 V10.9**

Software corrections and enhancements have been made to previously existing functionality, further improving upon CAM350's quality and reliability:

\*\*\*\* CAM350 BUILD 664 \*\*\*\*

### **FILE > IMPORT**

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Areas affected: File Import DXF

Symptoms: For certain DXF files, the File Import DXF command may drop void areas within polygon shapes with splines.

Reference number: 55759

Areas affected: File Import ODB++

Symptoms: For certain ODB++ files from Pulsonix PCB CAD systems, the File Import ODB++ command may erroneously report missing drill tool definitions.

Reference number: 56666

Areas affected: File Import CAD Data

Symptoms: For certain PADS ASCII files with split planes, the File Import CAD Data command fails to remove unused pads with the same net as the split plane areas.

Reference number: 56667

Areas affected: File Import Netlist

Symptoms: The File Import Netlist command fails to import CAM350 XY netlists with respect to external netlists.

Reference number: 56627

### **FILE > EXPORT**

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Areas affected: File Export Gerber (Barco DPF) Data

Symptoms: For certain Barco DPF files, the File Export Gerber Data command may export pads as outlines instead of solid shapes.

Reference number: 56593.

Areas affected: File Export Gerber

Symptoms: For certain Gerber files with aperture macros, the File Import Gerber Data command may fail to complete.

Reference number: 56658

## EDIT

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Areas affected: Edit Delete

Symptoms: For certain CAM files with text that is assigned to nets, the Edit Delete command may fail to complete.

Reference number: 56629

## USER INTERFACE

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Areas affected: Info Measure

Symptoms: After the Info Measure command is executed, the keyboard focus may be redirected from the CAM350 graphics window such that keyboard commands are not recognized.

Reference number: 56253

## INSTALLATION

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Areas affected: License Installation

Symptoms: When a license file is installed or updated, or the DownStream License Manager is installed, the installation may hang for certain laptops with wireless adapters enabled.

Reference number: 56615

\*\*\* CAM350 BUILD 658 \*\*\*

## FILE > EXPORT

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Areas affected: File Export Gerber Data

Symptoms: For certain PADS ASCII files with component graphics that include raster polygons, the File > Export > Gerber Data command may create incorrect arced segments in the polygons.

Reference number: 56271

Areas affected: File Export DXF

Symptoms: For certain CAM files when exporting to DXF R2004 format, layers are not properly set for DXF Block structures. The result is data displayed on the wrong layers.

Reference number: 56528

## TABLES

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Areas affected: Layers Table

Symptoms: After File > Import > CAD Data for certain PADS ASCII files, the Layer Table dialog operations may cause the layer mapping to change. The result will be graphic display of data on the wrong layers.

Reference number: 56523

Areas affected: Apertures Table

Symptoms: For the Apertures Table dialog, you can adjust the column width for the aperture data display. However, the column width adjustment is not remembered upon reopening the Apertures Table dialog.

Reference number: 54484

## USER INTERFACE

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Areas affected: File Overwrite Dialog

Symptoms: For long path names, the file name display is truncated in the file overwrite dialog for the File Export commands. The file name cannot be read.

Reference number: 54483

Areas affected: Message Window

Symptoms: The CAM350 Message will does not scroll to the last displayed message in the message window.

Reference number: 56288

Areas affected: Japanese Translation

Symptoms: For CAM350 files with Streams RC definitions that contain a Preprocess check, an error is displayed concerning a missing message.

Reference number: 55748

\*\*\* CAM350 BUILD 624 \*\*\*\*

## FILE > IMPORT

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Areas affected: File Import ODB++

Symptoms: For certain ODB++ files with rotated custom apertures, the File Import ODB++ command creates pads that are incorrectly offset.

Reference number: 56225

Areas affected: File Import ODB++

Symptoms: For certain ODB++ files with offset custom apertures, the File Import ODB++ command creates flattened panel images with incorrect pad placement.

Reference number: 56071

## EDIT

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Areas affected: Edit Mirror

Symptoms: For CAM files with custom apertures, the Edit Mirror command may result in incorrect apertures for the mirrored custom apertures.

Reference number: 56173,56207

Areas affected: Edit Mirror

Symptoms: For CAM files with butterfly apertures, the Edit Mirror command may result in incorrect aperture orientation.

Reference number: 54381

## PANEL EDITOR

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Areas affected: Add Polygon

Symptoms: The Panel Editor command for Add Polygon does not work properly when selecting a closed area to fill.

Reference number: 56218

Areas affected: Change Dcode

Symptoms: The Panel Editor command for Changing a Dcode does not allow you to change the Dcode for Text.

Reference number: 56210



## ANALYSIS

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Areas affected: Netlist Compare

Symptoms: When Netlist Compare is performed on certain databases with copper pour and voids, false reports for shorts may occur.

Reference number: 56243

## UTILITIES

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Areas affected: Clear Silkscreen

Symptoms: When the Clear Silkscreen utility command is run on designs with silkscreen that has redundant overlapping lines, the Clear Silkscreen command may remove extra lines beyond the requested clearance.

Reference number: 56227

\*\*\* CAM350 BUILD 622 \*\*\*

## FILE > IMPORT

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Areas affected: File Import ODB++

Symptoms: For certain ODB++ files with rotated custom apertures, the File Import ODB++ command creates pads that are incorrectly offset.

Reference number: 56132

Areas affected: File Import IPC-2581

Symptoms: For the File Import IPC-2581 command, component pins for through hole pins were not correctly linked to their associated padstacks. This caused the ODB++ export command to generate incomplete component information in the ODB++ output.

Reference number: 56152

Areas affected: File Import IPC-2581

Symptoms: For certain IPC-2581 files with long reference designator strings, the File Import IPC-2581 command fails to complete.

Reference number: 56114

## ANALYSIS

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Areas affected: Streams RC

Symptoms: For certain Streams RC rule parameter files with area rules, the execution of the Stream RC command using "Run One Up Border" fails to complete.

Reference number: 56141

## MACRO

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Areas affected: Macro Playback

Symptoms: For certain CAM350 basic macro files during playback, the macro command "getmousepos@" can cause CAM350 to hang.

Reference number: 56143

## PANEL EDITOR

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Areas affected: Edit Text

Symptoms: The Panel Editor commands for Editing Text and Editing Variant Text are not properly enabled.

Reference number: 56146,56131

\*\*\* CAM350 BUILD 619 \*\*\*

## FILE > IMPORT

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Areas affected: File Import IPC-2581

Symptoms: For certain IPC-2581 files with brackets (" $\langle \rangle$ ") in net names, the File Import IPC-2581 command fails to complete.

Reference number: 55991

Areas affected: File Import ODB++

Symptoms: For certain ODB++ files with rotated and/or mirrored intrinsic apertures, the File Import ODB++ command incorrectly imports pad orientations.

Reference number: 55397,55977,56067,56025,54572,54987,54992

Areas affected: File Import DXF

Symptoms: For R14 format DXF files with stroked font text, the height of the stroke font is incorrect on for the File Import DXF command.

Reference number: 55252

EDIT

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Areas affected: Change Dcode

Symptoms: During the Edit Change Dcode command, you can use the "W" key to select a window of flashes. If you select the first corner of a window the selection window is displayed. If you then zoom in or out before selecting the second window corner, the selection window rectangle will disappear so that you cannot select the area for selection.

Reference number: 54729

Areas affected: Change Text Style

Symptoms: For the Edit Change Text Style command, you can enter a value for Total Height. Repeat the Edit Change Text Style command again and you can see that Total Height value is not retained.

Reference number: 54730

Areas affected: Line Change Chamfer

Symptoms: Load a database Blindbur.cam from Demos folder. Make only layer 14 visible (border layer). Select the Edit Line Change Chamfer on the two 90 degree corners on the right side of the border. Now select the Edit Move and click the SELECT ALL button. The Border is not selected and it should be.

Reference number: 44406

Areas affected: Line Change Fillet

Symptoms: When the Edit Line Change Fillet command is executed and you select a vertex with a flash on it to fillet then select a second similar vertex, the command will abort.

Reference number: 55917

Areas affected: Delete

Symptoms: The delete command fails to complete after creating new graphic elements and then executing the delete command on the new graphic elements.

Reference number: 56105

## ANALYSIS

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Areas affected: Analysis DRC

Symptoms: When the Analysis DRC command is executed, the DRC dialog has multiple Dcode Filter dialogs. The number of characters that you can enter into the Dcode Filter is limited to the visible characters.

Reference number: 55992

Areas affected: Streams RC

Symptoms: When the Streams RC check is executed for Pad to Mask annular ring check, the error values for violations do not display negative clearance values, for example when the mask is smaller than the pad.

Reference number: 56066

## PANEL EDITOR

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Areas affected: Snapping to Objects in Panel Editor

Symptoms: You cannot snap to stepped image circuit elements, for example pads and drills. The Query command, Measure command and Move Window command should be able to snap to circuit elements within stepped images in a panel.

Reference number: 54274

## UTILITIES

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Areas affected: Netlist Extract

Symptoms: When Netlist Extract is performed on certain databases with drilled slots, the length of the slot is incorrectly modified.

Reference number: 55448

## USER INTERFACE

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Areas affected: Live RSS Feed

Symptoms: Customers do not want the Live Web RSS feed update on the Start Page.

Customers would like an option during installation to remove the Live RSS feed so that users cannot enable the Live Feed.

Reference number: 55996

\*\*\* CAM350 BUILD 616 \*\*\*\*

## FILE > IMPORT

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Areas affected: File Import PADS

Symptoms: For certain PADS ASCII files rectangular thermal pads in positive copper pour polygons have incorrect orientation.

Reference number: 55683

## ANALYSIS

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Areas affected: Minimum Width Check

Symptoms: For the DRC or Streams RC check for Minimum Width, false errors may be reported for small minimum width test values and for small arcs.

Reference number: 55240

## UTILITIES

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Areas affected: Gerber to Mill

Symptoms: The Utilities > Gerber to Mill command creates segmented mill routes instead of arc mill routes when converting drawn arcs to mill routes.

Reference number: 55687

Areas affected: Clear Silkscreen

Symptoms: The Utilities > Clear Silkscreen command results in data that exports to Gerber data with drawn lines that have undefined DCodes.

Reference number: 55708

Areas affected: Clear Silkscreen

Symptoms: The Utilities > Clear Silkscreen command should optionally not use solder mask drawn lines to clip silkscreen data.

Reference number: 55833

## LICENSING

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Areas affected: Network Licenses

Symptoms: For network licenses, bundle selection dialogs appear inappropriately referring to bundles from the previous pricelist.

Reference number: 55664

\*\*\* CAM350 BUILD 611 \*\*\*

## FILE > IMPORT

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Areas affected: File Import DXF

Symptoms: For certain DXF files with splines, the File > Import > DXF command fails to complete with memory fault error messages.

Reference number: 55335

Areas affected: File Import ODB++

Symptoms: For certain ODB++ files with chamfered rectangle apertures, the File > Import > ODB++ command generates incorrect mirrored pads.

Reference number: 55397

## ANALYSIS

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Areas affected: Soldermask to Pad Check

Symptoms: When the DRC or Streams RC check for Soldermask to Pad spacing is run, error column headers are transposed for soldermask size and pad size.

Reference number: 55454

Areas affected: Pad to Drill Check

Symptoms: When the DRC or Streams RC check for Pad to Drill spacing is run, the error size is incorrect for certain reported errors.

Reference number: 55359

## UTILITIES

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Areas affected: Clear Silkscreen

Symptoms: The Utilities > Clear Silkscreen command creates incorrect silkscreen output for certain designs.

Reference number: 55370

## LICENSING

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Areas affected: WAN Licenses

Symptoms: For wide area networks that cover worldwide license checkout, WAN license checkout sometimes delays program startup.

Reference number: 55336

\*\*\* CAM350 BUILD 570 \*\*\*

## FILE > IMPORT

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Areas affected: File Import ODB++

Symptoms: For certain ODB++ files with custom symbol names that begin with the period (".") character, symbol graphics are dropped for the File > Import > ODB++ command.

Reference number: 55060

Areas affected: File Import PADS

Symptoms: For certain PADS ASCII files with copper with arcs that are associated with part decals, the File > Import > CAD Data command incorrectly displays coppers for mirrored components.

Reference number: 55102

## FILE > EXPORT

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Areas affected: File Export Panel Gerber

Symptoms: For certain CAM350 files with few flashes, the Export Gerber data command in the Panel Editor fails to complete.

Reference number: 55246

## INFO

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Areas affected: Measure Object to Object

Symptoms: The Info > Measure > Object To Object command displays no results for pads for SMT components that are placed on the bottom side of the PCB design.

Reference number: 54885

## TABLES

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Areas affected: Aperture Table

Symptoms: The Aperture Table dialog creates rounded rectangle apertures with less precision for rounded corners compared to earlier versions of CAM350..

Reference number: 55103



## UTILITIES

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Areas affected: Netlist Extract

Symptoms: The Utilities > Netlist Extract command fails to complete for certain MCM designs with copper fill.

Reference number: 54997

## LICENSING

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Areas affected: Multiple Bundle Licenses

Symptoms: When multiple bundles are purchased in a single license, the bundle choice dialog on program startup only selects the lowest level bundle.

Reference number: 55039

\*\*\* CAM350 BUILD 564 \*\*\*

## FILE > IMPORT

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Areas affected: File Import ODB++

Symptoms: For certain ODB++ files from Genesis, mirrored rotated pads may not be imported correctly.

Reference number: 54887

Areas affected: File Import DXF

Symptoms: For certain DXF files with long multi-line strings, the File Import DXF command fails to complete.

Reference number: 54993

## FILE > EXPORT

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Areas affected: File Export DXF

Symptoms: For certain DXF files, the File Export DXF command fails to complete for R14 DXF format.

Reference number: 54904

## EDIT > LINE CHANGE

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Areas affected: Segments To Arcs

Symptoms: For certain design files, the Edit > Line Change > Segments To Arcs command incorrectly converts segments to arcs.

Reference number: 54908

## ANALYSIS

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Areas affected: Pad to Drill Check

Symptoms: When the DRC or Streams RC check for Pad to Drill spacing is run, errors are missed for pads that are contained within drills.

Reference number: 54893

## UTILITIES

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Areas affected: Draw To One-Up Border

Symptoms: The Utilities > Draw to One-up Border command fails to create correct board outlines when the selected drawn lines contain arcs that have not been sectorized.

Reference number: 54370

\*\*\* CAM350 BUILD 558 \*\*\*

## FILE > IMPORT

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Areas affected: File Import IPC-D356A

Symptoms: For certain IPC-D356A netlist files with long net name mapping, the long versions of net names are not imported properly.

Reference number: 54866

## EDIT

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Areas affected: Edit Commands

Symptoms: The D-Code filter for the Edit commands such as Move does not accept more than ten (10) D-Codes.

Reference number: 43239

## ANALYSIS

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Areas affected: Netlist Compare

Symptoms: For certain CAM files, if you run netlist extract after running Netlist Compare, successive Netlist Compare executions will fail to complete.

Reference number: 54799

Areas affected: Track to Pad Check

Symptoms: When the DRC or Streams RC check for Track to Pad spacing is run, clearance errors are missed for certain CAD designs.

Reference number: 54505

Areas affected: Pad to Drill Check

Symptoms: When the DRC or Streams RC check for Pad to Drill spacing is run, false clearance errors are reported for laser drills that are placed within SMD pads.

Reference number: 54549

Areas affected: Streams RC

Symptoms: When the command Run One-Up Border is executed to run Streams RC checks, any area exclusions that defined for the executed checks are ignored.

Reference number: 54086

Areas affected: Streams RC

Symptoms: For certain graphics cards, Streams RC results tab will cause the graphics screen to flicker.

Reference number: 54795

Areas affected: Streams RC

Symptoms: When the Streams RC check for Copper Slivers is run, false errors may occur when small pin holes exist and cause copper slivers to be detected.

Reference number: 54586

UTILITIES

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Areas affected: Clear Silkscreen

Symptoms: The Utilities > Clear Silkscreen command does not handle different combinations of silkscreen and solder mask data types. For example, Clear Silkscreen only works for drawn silkscreen items; it needs support for flashes and polygons.

Reference number: 34781

PANEL EDITOR

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Areas affected: Panel Editor

Symptoms: For various zoom levels in the Panel Editor, polygon fill is dropped for certain panel designs with polygons and stepped images.

Reference number: 54458

MACROS

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Areas affected: Macro Scripting

Symptoms: Macro commands should support encryption so that CAM350 users can create and distribute CAM350 macros without losing the intellectual property (IP) that is contained in the CAM350 macros.

Reference number: 54682

\*\*\* CAM350 BUILD 517 \*\*\*\*

FILE > OPEN

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Areas affected: File Open

Symptoms: The File > Open command fails to complete for certain old version CAM files with complex custom apertures.

Reference number: 54746

FILE > IMPORT

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Areas affected: File Import Gerber

Symptoms: The File > Import > Gerber creates duplicate Dcodes on import rather than reusing existing Dcodes for certain Gerber files.

Reference number: 51576

Areas affected: File Import DXF

Symptoms: The File > Import > DXF creates text that is incorrectly offset for certain DXF files with MTEXT (embedded text style) constructs.

Reference number: 54737

Areas affected: File Import Mill Data

Symptoms: The File > Import > Mill Data incorrectly imports arcs in the IJ format for Sieb & Meyer format NC data files.

Reference number: 54243

## FILE > PRINT

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Areas affected: File Print

Symptoms: The File > Print fails to output text and filled polygons for certain CAM350 database files.

Reference number: 54714

## EDIT COMMANDS

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Areas affected:

Symptoms: After you delete a polygon vertex, the Copy, Move and Delete commands do not select the edited polygon when you use the "Select All" command button.

Reference number: 53960

## ADD COMMANDS

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Areas affected: Add Polygon

Symptoms: The Add > Polygon fails to maintain specified clearance when pouring around shapes for certain CAM files.

Reference number: 54224

## UTILITIES

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Areas affected: Teardrops

Symptoms: The Teardrops command fails to maintain specified clearance when creating teardrops for certain CAM files.

Reference number: 54727

## ANALYSIS

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Areas affected: Find Pin Holes

Symptoms: The Analysis Pin Holes command fails to find some pin holes for certain CAM files.

Reference number: 54780

\*\*\* CAM350 BUILD 514 \*\*\*\*

## FILE > IMPORT

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Areas affected: File Import and Export ODB++

Symptoms: The File > Import > ODB++ command incorrectly imports drilled slots from ODB++ files when slots are defined as oval pad symbols.

Reference number: 54535

Areas affected: File Import ODB++

Symptoms: The File > Import > ODB++ command incorrectly imports certain Expedition ODB++ files that have negative planes definitions with anti-pads.

Reference number: 54510

Areas affected: File Import CAD Data

Symptoms: The File > Import > CAD data command incorrectly imports PADS ASCII files for free standing copper cutouts defined for decal pads.

Reference number: 54558

Areas affected: File Import CAD Data

Symptoms: The File > Import > CAD data command incorrectly imports PADS ASCII files for rotated SMD components that have thermal pad definitions for split mixed plane polygons.

Reference number: 54571

Areas affected: File Import Gerber Data

Symptoms: The File > Import > Gerber Data incorrectly repairs self intersecting polygons for bow tie shaped polygons that have four edges.

Reference number: 54539

Areas affected: File Import DXF

Symptoms: The File > Import > DXF creates text that is undersized for rotated text in a DXF file that was created by exporting the text to R2004 format.

Reference number: 54594

Areas affected: File Import DXF

Symptoms: The File > Import > DXF incorrectly imports special characters (for example, the degree character and the diameter symbol) when the code page is Chinese.

Reference number: 53967

Areas affected: File Import DXF

Symptoms: The File > Import > DXF fails to complete for certain DXF files.

Reference number: 39444

## FILE > EXPORT

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Areas affected: File Export Panel Gerber Data

Symptoms: The File > Export Panel > Gerber Data results in Gerber files with undefined apertures for certain panel designs with flipped stepped images.

Reference number: 54459

Areas affected: File Export ODB++

Symptoms: The File > Export > ODB++ command causes duplicate drill hit definitions in the exported ODB++ file. The drill count is incorrectly increased after ODB++ export.

Reference number: 54506

Areas affected: File Export ODB++

Symptoms: The File > Export > ODB++ command does not export the nonplated status for drill hits for NC layers.

Reference number: 54530

Areas affected: File Export ODB++

Symptoms: The File > Export > ODB++ command fails to complete for certain CAM350 database that are reverse engineered.

Reference number: 54536

Areas affected: File Export DXF

Symptoms: The File > Export > DXF command fails to complete for certain CAM350 database files with empty strings.

Reference number: 54541,54485

#### FILE > MERGE

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Areas affected: File Merge

Symptoms: When the File > Merge command merges databases with all graphic layers, after the merge operation is complete, the merged data cannot be exploded nor edited.

Reference number: 54575

#### FILE > OPEN

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Areas affected: File Open BluePrint file

Symptoms: The File > Open command for a BluePrint database file may incorrectly drop SMT pads when the pads are centered on vias.

Reference number: 54695

#### FILE > PRINT

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Areas affected: File Print

Symptoms: The File > Print command incorrectly assigns colors to drill tools when you print to a color printer or plotter from the NC Editor.

Reference number: 54321

#### EDIT



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Areas affected: Copy NC Data

Symptoms: The Edit > Copy command results in reverse order for mill paths when copying mill paths from one layer to another layer and the source layer also contains drill paths.

Reference number: 53929

## ANALYSIS

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Areas affected: Streams RC

Symptoms: The View > Streams RC command should include zoom controls to specify the minimum and maximum zoom level for the graphics port when cross probing errors in the Streams results tab.

Reference number: 53694

Areas affected: Trace to Pad DRC

Symptoms: The DRC check for Trace to Pad misses certain trace to pad violations for certain noncircular pads.

Reference number: 54505,54597

## MACROS

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Areas affected: Variable Text

Symptoms: When playing back a macro that defines the values for variable text in Panel Symbols, the variable text values are not properly set for the associated symbols.

Reference number: 53931

## PANEL EDITOR

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Areas affected: Panel View Zoom

Symptoms: The View Zoom commands drops polygon display when zoomed in for certain panel designs with polygons and stepped images.

Reference number: 53466

\*\*\* CAM350 BUILD 471 \*\*\*

Areas affected: File Import ODB++

Symptoms: The File > Import > ODB++ command results in incorrect pad orientation for certain Allegro ODB++ files when asymmetric pads are offset from pin centers for components and those components are placed on the bottom of the PCB board.

Reference number: 54455

## LICENSING

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Areas affected: Hardware Key Support

Symptoms: A single license file cannot be used to specify license features for more than one dongle.

Reference number: 53959

## PANEL EDITOR

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Areas affected: Panel Centroid Report

Symptoms: The Info Report Centroid command reports incorrect component rotations when stepped images in the panel definition are rotated.

Reference number: 54432

## ANALYSIS

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Areas affected: Streams RC

Symptoms: For certain designs with complex one-up borders, Streams run using One-up Border may fail to complete.

Reference number: 54392

\*\*\* CAM350 BUILD 468 \*\*\*\*

FILE > SAVE

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Areas affected: File Save Panel NC Data

Symptoms: The File > Save command fails to save any change made to Panel NC Drill data by using the Utilities > Sort Drills Hits command to sort the Panel NC drill path.

Reference number: 54312

#### FILE > IMPORT

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Areas affected: File Import ODB++

Symptoms: The File > Import > ODB++ command results in incorrect pad orientation for certain Allegro ODB++ files when pads are offset from pin centers for components and those components are placed on the bottom of the PCB board.

Reference number: 54333,54334

Areas affected: File Import DXF

Symptoms: The File > Import > DXF command fails to complete for certain DXF files that have font definitions that are not installed in the Windows OS.

Reference number: 54362

Areas affected: File Import GENCAD

Symptoms: The File > Import > CAD data command fails to complete for certain GENCAD files that have FILLED keywords in the ROUTES sections of the file format.

Reference number: 54387

#### FILE > EXPORT

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Areas affected: File Import Zuken Redac

Symptoms: The File > Export > CAD data command fails to complete for certain CAM350 files that have paste mask layers in the component footprint definitions.

Reference number: 54387

## ANALYSIS

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Areas affected: Design Analyzer

Symptoms: Design Analyzer does not report SMD pad criteria when components are not defined in the CAM file.

Reference number: 54373

\*\*\* CAM350 BUILD 464 \*\*\*

## FILE > OPEN

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Areas affected: File Open Large Designs

Symptoms: The File > Open command may fail to open large CAM350 database files and report out of memory. The repair for this problem is only delivered for Windows XP 64 bit or Windows 7 64 bit.

Reference number: 53510

## FILE IMPORT

-----

Areas affected: Import Gerber Data

Symptoms: The File > Import > Gerber command fails to complete for certain files with complex polygons.

Reference number: 53952,54174

Areas affected: Import PADS ASCII

Symptoms: The File > Import > CAD Data command for PADS ASCII files does not support decal copper voids for certain PADS Layout designs.

Reference number: 54146

Areas affected: Import ODB++

Symptoms: The File > Import > ODB++ command may fail to complete for certain Genesis ODB++ files that have internal parameters for pad feature oversize or undersize.

Reference numbers: 54230

Areas affected: Import ODB++

Symptoms: The File > Import > ODB++ command may shift component pads that are offset from pin centers for certain Allegro and Expedition ODB++ files.

Reference numbers: 54249,54261

Areas affected: Import ODB++

Symptoms: The File > Import > ODB++ command may drop component pads that are offset from pin centers for certain Allegro ODB++ files.

Reference numbers: 54201, 54109

Areas affected: Import ODB++

Symptoms: The File > Import > ODB++ command may not properly define blind and buried layer pairs for certain Allegro ODB++ files.

Reference number: 53255

Areas affected: Import DXF

Symptoms: The File > Import > DXF command may fail to complete for certain DXF files.

Reference number: 53962,54238,54247,54248

Areas affected: Import DXF

Symptoms: The File > Import > DXF command may drop circles for certain DXF files.

Reference number: 53721

Areas affected: Import DXF

Symptoms: The File > Import > DXF command may fail to properly import arcs for certain DXF files. The arcs are shifted or offset.

Reference number: 53306

Areas affected: Import DXF

Symptoms: The File > Import > DXF command may fail to properly import embedded text styles for certain DXF files.

Reference number: 54089

Areas affected: Import CAD Data - GENCAD

Symptoms: The File > Import > CAD Data command may fail to properly import custom pads for certain GENCAD files with FILLED keywords.

Reference number: 54193

Areas affected: Import CAD Data - GENCAD

Symptoms: The File > Import > CAD Data command may fail to complete for certain GENCAD files with FILLED keywords.

Reference number: 54192

Areas affected: Import CAD Data - GENCAD

Symptoms: The File > Import > CAD Data command may fail to create correct padstacks for certain GENCAD files with FILLED keywords.

Reference number: 54191

## FILE EXPORT

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Areas affected: Export Gerber Data

Symptoms: The File > Export > Gerber command may fail to complete certain designs with complex polygons.

Reference number: 54235

Areas affected: Export DXF

Symptoms: The File > Export > DXF command may fail to fill circles for the exported DXF file for certain design data.

Reference number: 53961

## EDIT

-----

Areas affected: Rotate

Symptoms: The Edit > Rotate command may result in incorrect display of raster polygons with arcs.

Reference number: 54237

## ANALYSIS

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Areas affected: Streams Execution

Symptoms: Stream RC execution fails to complete for certain designs for isolated thermal check with complex negative planes.

Reference number: 53437

Areas affected: Streams Execution

Symptoms: Stream RC execution fails to complete for certain designs for track to pad check for large designs.

Reference number: 53214

Areas affected: Streams Negative Plane Checks

Symptoms: The Negative Plane Check analysis for Isolated Plane Thermals may fail to complete for certain complex negative planes.

Reference number: 53958, 53953, 53911, 53588

Areas affected: Streams Pastemask Checks

Symptoms: Pastemask analysis checks are requested by the user to verify pastemask configuration with respect to soldermask, copper and through holes pads.

Reference number: 53855

Areas affected: Streams Signal Checks

Symptoms: Signal Layer analysis checks may hang on Track to Pad (TP) analysis for certain design databases.

Reference number: 53792

Areas affected: Streams Signal Checks

Symptoms: Positive Plane Layer analysis checks may fail to complete for certain design databases.

Reference number: 53787

Areas affected: Stream Rules Checks

Symptoms: True arc analysis may cause poor execution performance times for certain design databases.

Reference number: 53662

Areas affected: Streams Signal Checks

Symptoms: Signal Layer analysis checks for Pads without Drills (PWOD) may cause false errors for designs with SMD pads on top and bottom sides at the same location.

Reference number: 54221

Areas affected: Streams Signal Checks

Symptoms: Signal Layer analysis checks for Unplated Drills to Copper (UDC) and Plated Drills to Copper (DC) may cause false errors for so-called spot pads that are smaller than the drill sizes.

Reference number: 53767

Areas affected: Streams Execution

Symptoms: Stream RC execution fails to complete for certain designs for isolated thermal check with complex negative planes.

Reference number: 53437

Areas affected: Find Pin Holes

Symptoms: When Pin Holes are automatically fixed by the Analysis > Find Pin Holes command, polygon voids may be incorrectly removed for certain designs.

Reference number: 54197

## UTILITIES

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Areas affected: Netlist Extract

Symptoms: The Utilities > Net Extract command does not properly merge stacked vias into the same net for stacked vias which are located at the same position and terminate on a negative plane.

Reference number: 54141

Areas affected: Netlist Extract

Symptoms: The Utilities > Net Extract command may short nets together erroneously when mill route data is present in the design database.

Reference number: 54043, 54018

Areas affected: Netlist Extract

Symptoms: The Utilities > Net Extract command may fail to complete for large databases.

Reference number: 54223

Areas affected: Netlist Extract

Symptoms: The Utilities > Net Extract command may fail to complete for certain designs.

Reference number: 54262

Areas affected: Draw To Flash

Symptoms: The Utilities > Draw To Flash > Any Angle command may fail to complete for large databases. The repair for this problem is only delivered for Windows XP 64 bit or Windows 7 64 bit.

Reference number: 54222

Areas affected: Remove Covered Data



Symptoms: The Utilities > Data Optimization > Remove Covered Data command may incorrectly remove pads that are not covered.

Reference number: 45273,51482

Areas affected: Remove Covered Data

Symptoms: The Utilities > Data Optimization > Remove Covered Data command may fail to complete for certain designs.

Reference number: 48842

## REPORTS

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Areas affected: Info Report Centroid

Symptoms: The Info > Report > Centroid command may fail to complete for design databases with long device names.

Reference number: 53745

## USER INTERFACE

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Areas affected: View Dashboard

Symptoms: After using the View > Dashboard command to turn off the Dashboard toolbar, if you then save the CAM file (or Save Defaults) and then load the saved CAM file, CAM350 may be unstable and may crash.

Reference number: 54218

Areas affected: Navigation Pane

Symptoms: When the path name is long for imported Gerber files, selection of layer names in the Navigation Pane layer bar may cause CAM350 to crash.

Reference number: 53788

## MACROS

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Areas affected: Netlist Import

Symptoms: When playing back a macro that imports a netlist as an External Netlist into CAM350, the final dialog for the File > Import IPC356 or IPC356A command is erroneously displayed.

Reference number: 54199

\*\*\* CAM350 BUILD 401 \*\*\*

FILE > OPEN

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Areas affected: Mill Route Visibility

Symptoms: The File > Open command may fail to properly display mill routes for certain mill closed cutout shapes.

Reference number: 54076

ANALYSIS

-----

Areas affected: Streams RC Checks

Symptoms: For certain design files with fine patterns, Streams RC may report erroneous errors for Track to Track and Plated Drill to Copper checks.

Reference number: 54074

INFO REPORTS

-----

Areas affected: Centroid Report

Symptoms: For certain design files with long device names, the Info > Reports > Centroid command may fail to complete.

Reference number: 54072

BED OF NAILS EDITOR

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Areas affected: Export CircuitLine

Symptoms: For certain design files, the File > Export command in the Bed Of Nails Editor may fail to complete for CircuitLine format.

Reference number: 54075

\*\*\* CAM350 BUILD 400 \*\*\*\*

## FILE IMPORT

-----

Areas affected: Import Gerber

Symptoms: The File > Import > Gerber Data command may fail or cause incorrect graphics for Gerber files that have undefined apertures.

Reference number: 53976,53815

Areas affected: Import Gerber

Symptoms: The File > Import > Gerber Data command may fail for certain Gerber files that have the percent character ("%") in aperture macro names.

Reference number: 42567

Areas affected: Import PADS ASCII

Symptoms: The File > Import > CAD Data command does not support PADS Layout version 9.2 ASCII files.

Reference number: 54003

Areas affected: Import ODB++

Symptoms: The File > Import > ODB++ command may cause pads to shift for ODB++ files that contain pads that are offset from the associated component pin origins.

Reference number: 53975

Areas affected: Import ODB++

Symptoms: The File > Import > ODB++ command fails to properly import and flatten ODB++ files that contain flipped images.

Reference number: 53778

Areas affected: Import Drill Data

Symptoms: The File > Import > Drill Data command does not support the Excellon command ("%SR\*%") to end step and repeat data in drill files.

Reference number: 53863

Areas affected: Import Drill Data

Symptoms: The File > Import > Drill Data command may fail for certain Allegro generated NC Drill files that have very small arcs.

Reference number: 53486,51315,50813

Areas affected: Import AutoImport

Symptoms: The File > Import > AutoImport command fails to initialize colors for layers properly when the NEXT button is selected on the AutoImport dialog.

Reference number: 53852

## FILE EXPORT

-----

Areas affected: Export ODB++

Symptoms: The File > Import > ODB++ command may fail to export correct Mill data for certain Mill route definitions with arcs.

Reference number: 53853

## PANEL EDITOR

-----

Areas affected: Edit Flip

Symptoms: The Edit > Flip command may fail to properly display mill data that contains arcs for stepped images that are flipped.

Reference number: 53847

## NC EDITOR

-----

Areas affected: Add Mill Tab

Symptoms: The Add > Mill Tab command may incorrect add mill tab locations and associated perforations for certain jagged mill route patterns.

Reference number: 53822

Areas affected: Settings View Options

Symptoms: The Middle Mouse zoom setting will be lost after modifying and saving changes to the Settings > View Options dialog in the Panel Editor.

Reference number: 54002

Areas affected: Explode Step & Repeat Data

Symptoms: The Edit > Change > Explode Step & Repeat command fails to report that step and repeat (SR) NC data does not exist in the current design.

Reference number: 53848

## UTILITIES

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Areas affected: Netlist Extract

Symptoms: The Utilities > Netlist Extract command may fail to complete for designs that have zero size Dcodes.

Reference number: 53868

## USER INTERFACE

-----

Areas affected: Grid Visibility

Symptoms: The Grid Visibility toggle on the command toolbar may cause CAM350 to crash when the dashboard toolbar is not visible.

Reference number: 53872

\*\*\* CAM350 BUILD 391 \*\*\*\*

## FILE IMPORT

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Areas affected: Import DXF

Symptoms: The File > Import > DXF command may fail for certain DXF files that have very small arcs.

Reference number: 53874

\*\*\* CAM350 BUILD 391 \*\*\*\*

## FILE IMPORT

-----

Areas affected: Import DXF

Symptoms: The File > Import > DXF command may fail for certain DXF files that have very small arcs.

Reference number: 53874

Areas affected: Import Drill Data

Symptoms: The File > Import > Drill Data command is incorrect for Seib&Meyer 3000 files that have drilled slots (code G85).

Reference number: 53835

Areas affected: Import PADS ASCII

Symptoms: The File > Import > CAD Data command will display reference designators that have PADS Label visibility set to "None".

Reference number: 53844

Areas affected: Import PADS ASCII

Symptoms: The File > Import > CAD Data command may drop drill definitions for pad stacks that have square pads.

Reference number: 53862

## FILE EXPORT

-----

Areas affected: Export DXF

Symptoms: The File > Import > DXF command will fail to complete when exporting DXF data and panel mill data layers are specified for output.

Reference number: 53834

## EDIT

-----

Areas affected: Break At Vertex

Symptoms: The Edit > Line Change > Break At Vtx command will fail to complete when modify segments for an added circle that has been sectorized.

Reference number: 53866

## ANALYSIS

-----

Areas affected: Streams Report

Symptoms: The Info > Report > Streams Results command truncates net name lists for long names or long lists of net names.

Reference number: 53776

## USER INTERFACE

-----

Areas affected: Cursor Display

Symptoms: For certain Microsoft Intellimouse Mouse drivers, the CAM350 cursor graphics may disappear for various window commands.

Reference number: 44126

\*\*\* CAM350 BUILD 389 \*\*\*\*

## FILE IMPORT

-----

Areas affected: Import Gerber

Symptoms: The File > Import > Gerber command loses arc precision for polygons in for certain small designs.

Reference number: 53699

Areas affected: Import ODB++

Symptoms: The File > Import > ODB++ command incorrectly assigns nets to finger edge pads for certain files output by Mentor Expedition.

Reference number: 53590

Areas affected: Import ODB++

Symptoms: The File > Import > ODB++ command incorrectly imports bottom mounted finger connector components for certain ODB++ files.

Reference number: 53686

Areas affected: Import ODB++

Symptoms: The File > Import > ODB++ command incorrectly handles angles for components and other elements for ODB++ files output by PADS Layout 9.1.

Reference number: 53668

Areas affected: Import PADS ASCII

Symptoms: The File > Import > CAD Data command may drop custom apertures for PADS 9.x files when alphanumeric pin mapping does not specify all pins in a component.

Reference number: 53675

Areas affected: Import HPGL

Symptoms: The File > Import > HPGL command fails to complete for certain HPGL files with filled polygons.

Reference number: 53666

## FILE EXPORT

-----  
Areas affected: Export Gerber

Symptoms: The File > Export > Gerber command may drop some features after the import DXF command is executed for certain DXF files with polygons.

Reference number: 53672

Areas affected: Export Gerber

Symptoms: The File > Export > Gerber command may drop resolution for certain designs with filled polygons.

Reference number: 53616

Areas affected: Export Drill and Mill Data

Symptoms: The File > Export > Drill Data and Mill Data command dialogs should support the Copy Names button to copy layer names to file names just as the Export Gerber dialog already does.

Reference number: 53629

## ANALYSIS

-----

Areas affected: Find Pin Holes

Symptoms: The Analysis > Find Pin Holes command may find false errors for certain designs with complex polygons.

Reference number: 53663

Areas affected: Find Pin Holes

Symptoms: The Analysis > Find Pin Holes command may fail to complete for certain designs with polygons that have arcs.

Reference number: 53644

Areas affected: Acid Traps

Symptoms: The Analysis > Acid Traps command may find false errors for certain designs with complex polygons.

Reference number: 53680

## UTILITIES

-----

Areas affected: Quick Part

Symptoms: The Utilities > Quick Part command does not keep track of the side of the board on which the parts are placed. Quick Part should allow you to create parts from pads on the bottom side and match pads on either top or bottom side of the board.

Reference number: 53135



\*\*\* CAM350 BUILD 386 \*\*\*

## FILE IMPORT

-----

Areas affected: Import ODB++

Symptoms: The File > Import > ODB++ command may create invalid CAM data for certain ODB++ data files.

Reference number: 53591

## FILE EXPORT

-----

Areas affected: Export Composites

Symptoms: The File > Export > Composites command may fail to complete for composite definitions created by deleting table entries.

Reference number: 53597

## EDIT

-----

Areas affected: Delete Segment

Symptoms: The Delete Segment command may fail to complete for certain arcs or circles that have be sectorized.

Reference number: 53631

## ANALYSIS

-----

Areas affected: DRC

Symptoms: The Analysis > DRC command may fail to complete for certain designs with polygons that have arcs with out of memory message.

Reference number: 53627

Areas affected: Streams DFF

Symptoms: The Streams DFF check for Copper for Border minimum gap may report false errors for certain board outlines with arcs.

Reference number: 53660

Areas affected: Streams Design Compare

Symptoms: For an ODB++ file import, the Design Compare function reports false errors for TopPartOutline and BotPartOutline layers.

Reference number: 53640

## UTILITIES

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Areas affected: Clear Silkscreen

Symptoms: The Utilities > Clear Silkscreen command may fail to complete for certain CAM files.

Reference number: 53595

\*\*\* CAM350 BUILD 384 \*\*\*\*

## FILE IMPORT

-----

Areas affected: Import Gerber

Symptoms: The File > Import > Gerber Data command drops certain voids for complex outline polygons.

Reference number: 53484

Areas affected: Auto Import

Symptoms: The File > Import > Auto Import command should load IPC-D-356 and IPC-D-356-A netlist formats.

Reference number: 53551

Areas affected: Drill Data

Symptoms: The File > Import > Drill Data command does not support G85 (drilled slots) for Sieb & Meyer format.

Reference number: 53160

Areas affected: Import ODB++

Symptoms: The File > Import > ODB++ command fails to complete for certain Genesis files that have annular ring attributes and CAMTEK attributes.

Reference number: 53573

Areas affected: Import ODB++

Symptoms: The File > Import > ODB++ command fails to complete for certain Zuken files that illegal references to layers that are not defined.

Reference number: 53577

## FILE EXPORT

-----

Areas affected: Export Gerber

Symptoms: The File > Export > Gerber Data command does not properly export arcs that are in mirrored raster polygon outlines.

Reference number: 53575

## UTILITIES

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Areas affected: Draw To Raster

Symptoms: The Utilities > Polygon Conversion > Draw To Raster command displays the warning message for polygons with more than 16,000 vertices multiple times for one command. There should be an option to not display the warning again.

Reference number: 53570

## GUI

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Areas affected: Arc segmentation

Symptoms: Arc graphics are not smooth for large arcs when you zoom such that the arc radius is larger than the width of the graphics port.

Reference number: 53579