

NEW FEATURES and COMMANDS

NEW – 64-bit architecture

Moving to a 64-bit architecture allows VisualCAM to make full use of all the memory available in the Windows 64-bit address space. This removes the restrictive 4GB memory limit imposed on 32-bit applications. This allows us to support significantly larger databases with increased accuracy.

NEW – Stackup Augmentation

Full editing and augmentation of your IPC-2581 stackup using VisualCAM's Navigator and/or Stackup editor is now available. You can now add Designer Notes, Standard Notes, Impedance, Tolerances etc. with the assurance that your augmented stackup will be defined per the IPC-2581 specification. All data that you add to your stackup using VisualCAM will be saved in your VisualCAM database and correctly exported IPC-2581 file. This is truly one big step to single file manufacturing. VisualCAM's stackup editor allows you to keep libraries of standard, designer and compliance notes, impedance definitions, material list, surface finishes and even color control of how your layers are displayed on screen so that you can decrease the amount of time required to process your jobs.

NEW – Enhanced View Tabs

View tabs now save/restore more view settings including viewed layers and part visibility.

- We have added the optional ability to automatically load default View Tabs for ease of viewing and working with your data. These defaults include new Top and Bottom part assembly view tabs
- Customize your own working environment by adding additional view tabs and controls
- View Tabs support the new WSSI_SITE environment variable so your whole team can use the same environment setup

NEW – Site wide environment control

Control of several configuration options at a network level is now available via the new WSSI_SITE environment variable. Some of the settings available are:

- View Tab Settings
- Loading Macros
- User Menu
- DRC/DFM Rule Sets including dynamic rule sets
- Advanced Panel Patterns
- Custom Apertures Loaded
- Stackup Settings, Notes, Impedance Definitions, Materials List etc.

NEW - Options for object snapping

Using the HOME key during operations which require a coordinate, now snaps to the nearest end or center of lines, arcs, and polyline or polygon segments. Using SHIFT+HOME allows snapping to the nearest point or centerline on the edge of an item. CTRL+HOME and CTRL+SHIFT+HOME continue to pop the Absolute coordinates dialog when snapping.

NEW – Fill Closed Polylines

It is now quite simple to turn an entire design worth of drawn outlines into filled polygons with voids. Options for cleaning up poorly drawn outlines help to solve some of the toughest data manipulation needs.

NEW – Test Point Analysis

Design for Test (DFT) analysis checks have been implemented for Test Point locations defined in IPC-2581 files. New checks include:

- Test Point to Test Point
- Test Point to Exposed Copper
- Test Point to Mill Path
- Test Point to Border
- Test Point to Component
- Test Point to Mask
- Missing Test Point

NEW – Updated Dimensioning Tools

Modeless dialogs for Drawing/Dimensioning allow on-the-fly switching of parameters for a faster, smoother workflow.

- Changed ordinate dimensioning to use a single base point per drawing layer
- Automatically create a drawing layer if one does not exist during Add/Dimension command
- Dimension changing to Horizontal/Vertical ask for the position of the text
- Note Balloon shape now surrounds the full text

NEW – Centroid Export Control

Added a new Centroid Export button to BOM Report for ARE Licenses

- Format control: Space Delimited or Comma Delimited
- Option to add Title Block and Column Headers
- Control which fields export
- Control the order of the columns

NEW – Query Part Command

Implemented new Query Part command that allows you to choose to display by Reference Designator, Part Number, Footprint or Device. This new list control tracks what the user types positioning the list selection automatically. The user can touch the enter key or double click in the list. If a RefDes is selected that part is highlighted on screen and the detailed part information is shown in Item Properties in the Navigator. Any of the other types result in the parts being highlighted and the item properties shows a list of RefDes and a count. This command is invoke-able from the old "Part Query" command.

VisualCAM Stencils Enhancements:

New Support for Step Stencils

- Define step areas by component, rectangle, freehand drawing, or part selection
- Create multiple step thicknesses
- Create multiple step regions of any number of thicknesses
- Stepped data export with options for naming conventions and data separation

Enhanced handling of parts from intelligent databases

Ability to choose whether or not paste is generated on parts with "No Populate" setting. Ability to ignore unassociated pads. Better association of part pins to layer features.

Radius applies to corners created by window panes

You have asked that we apply the radius to any new corners created by the window panes and we have added that functionality.

Added Rectangle corner radius to the Paste Layer Report

Analysis "Check Paste on Mask" and "Paste on Drill"

Added these additional analysis checks to ensure that you get your stencil done right the first time.

- Paste on Mask highlights issues when mask opening is smaller than the pad and does not have proper aperture size associated.
- Paste on Drill helps to highlight issues when there are vias in the heatsink, covered by paste and paste flows through the via during reflow.

Additional Shape Conversion Options

- Homeplate and other shapes now have an option to "conform to original" geometry. For example, you can use the Homeplate shape on an oblong pad and when this option is checked your paste shape will keep within the oblong shape.



Quicker processing of jobs

- Added Quick Convert to right click menu for easy and quick conversion of flashes
- Added ability to set Pin Mount Types of Surface, Through Hole, Blind and Inherit
- Import of intelligent files now capture the Pin Mount type and set the pins to either SMT or TH and TH Hole pins are set to No Paste automatically
- Added Select by SMT or TH and Invert selection in the library for quicker editing of shapes
- Added Rotate by Pin Reference points to the library to help set up parts at the correct orientation.
- Added Array Shape to Quick Convert
- Add "Next" and "Previous" for pin selection in FP Library

BOM Import enhancements:

Modified the import process so that at the end of the import a dialog is opened (if needed) that displays errors found during the BOM import. There are two possible error conditions:

- 1) A part is defined in the BOM but it does not exist in the design
- 2) A populated part is defined in the design but there is no corresponding part in the BOM, unpopulated parts are ignored for this check.

If either condition is found then the import error dialog is opened and a brief description of the errors found is displayed. In this dialog the user may also determine if the error report is to be generated and if existing populated parts not in the BOM are to be marked as unpopulated.

IPC-2581 Enhancements and Fixes:

- Added support for Xform on Standard Primitive for Zuken files
- Fixed issues loading IPC2581 files from Altium
- TestPoint attribute in PhyNet is now imported into VisualCAM
- Fixed ColorTerm attribute ordering
- Now Exports "Internal Layer" type None as Internal
- Fixed exporting of blind and buried layers when dielectric layers are present
- Added ability to set Silkscreen Color
- Layer Type "Other" Missing in 2581 export
- Fixed Assembly marker closing polyline when it shouldn't
- Layer Type of Immersion Tin Top and Bottom set wrong on import
- Losing Layer "Immersion" on export of 2581
- Dimension layer is now exported to 2581
- Method to bypass 2581 import dialog - added check box to the dialog if checked will only display the dialog if Shift key is pressed
- Fixed issue where step names were changing to lower case on export

ODB++ Enhancements and Fixes

- Extensive work was done to enhance ODB++ part support
- ODB Footprint Library Merging now checks for duplicate footprints
- Import is creating erroneous second part for backside
- Added support to import ODB PKG outlines
- Fixed import problem producing bad pad angles
- Fixed this file import with unrecognized fields
- Added support for "Poynting for Microwave" software
- Fixed pin placement and association issue
- Fixed not importing oblong pads correctly on this part
- Fixed an issue exporting ODB when a part pin is not associated
- Fixed issue of translating part data from ODB to 2581
- Fixed import of file with filenames that are all numeric

Macro Developer Enhancements

- NEW - DefineForm macro command to enable the design and use of a custom dialog with the following types of form controls:
 - EditControl
 - MultiLineEditControl
 - DropListControl
 - ListControl
 - ButtonControl
 - FileBrowserControl
 - StaticText
 - AnalysisErrorReport
 - GetItemArea
- NEW - Add layer to stackup macro command
- NEW - SAVEFPL macro command
- NEW - Macro command to Save and Load from the Stackup Editor
- NEW - Macro command for Hole Charts both one up and panel designs
- NEW - Macro command to access FHS via GET and PUTNCTOOLDESIGNDATA
- NEW - Macro to Create Silkscreen Layers from Part Info
- Fixed - DCEXPAND macro command no longer requires the layer to be visible
- Fixed - TextReplace macro command problem fixed
- Fixed - Macro Crash removing layers
- Fixed - Stacked Pads macro command no longer requires the layer to be visible
- Fixed - FILEWRITE command parser issue
- Fixed - IDF Import Macro now loads in all drills to the Drill Layer

DRC-DFM Enhancements and Fixes

- Solder Bridge checks now run much faster
- Added "Single Error Highlight" option when viewing DFM errors
- Fixed false Copper Sliver error
- Fixed Netlist error with extremely long arcs
- Fixed duplicate errors produced by Border check
- Added support to ignore external nets named "unused" during netlist comparisons
- Fixed "Drill to Copper" error issue on plane layers
- Added refresh of "ERR" tab after loading in a new file
- Data items with NonstandardAttribute name="TEXT" are now ignored during Acid Trap, Copper Sliver, and Stubs detection

Other Misc

- View > Restore Toolbars command will now load factory defaults
- License Activation Email now works with 64-bit Outlook
- Part viewing/selection is more granular and is no longer restricted to what layers are being viewed
- Fixed "Custom to Intrinsic" not creating intrinsic when expected
- Consolidate vectored items now adds a segment rather than snapping endpoints
- Added support for new constructs found in CAM350 file
- Fixed issue creating Hole Charts that have more than 12 legends
- Added support to keep rotation of pad shape during Drawn Pad Conversion
- Added support to analyze and consolidate custom apertures when the same graphics are found at different rotations
- Fixed display issue of not able to see Pin # during Part Identification
- Added ability to control layer visibility after multi-layer format import
- Added support for mixed mount type both SMD and THRU in parts
- Fixed part association on parts that have mechanical pins or no geometry shape
- Fixed missing clearance in custom aperture that contains outline polygons
- Isolated Pad Removal using Drill Pads Only now removes same size
- Added support for Do Not Insert or No Populate parts from ODB++ or IPC2581 files and display on screen as outline or solid fill using option in Options/Configure/Parts
- Added Viewing and BOM support for Do Not Populate parts
- Fixed Convert Drawn Pads alters these window panes in unexpected ways
- Added clearances automatically on SMT and SMB layers when adding Tooling Holes
- NEW – Added support for importing V-Score data from IDF file
- Added support in placement section of IDF files for v2 and v3
- Fixed Dimension issue not updating aperture used

Stencils Fixes:

- Paste pins which have the "No Paste" shape assigned will remove existing paste during paste generation
- Fixed problem loading in this FPL that had corrupted data in it
- Fixed issue generating Paste after running a custom macro
- Fixed issue that caused a bad assumption selecting a footprint in Stencils when aperture table was full. User is now warned to compact aperture table.
- Fixed part association issue with offset pin pads
- Add option on Paste Generation dialog to generate paste on "Do Not Populate" parts
- Fixed shape justification issue on this thermal pad that has positive and negative data
- Added sort option in the Navigator to show Footprints without Shapes assigned
- Added option to control the appended footprint name when duplicate names are found in the library
- Fixed issue when array stencil shape row or column count set to 1
- Fixed FPL creating duplicate parts in the library when merging a library into ODB++ files
- Fixed issue of generating errors for every pin when no shape is assigned and unmodified option is turned off
- Fixed issue in the Footprint library updating pin types when no pin type is set
- Fixed issues with Part identification at wrong angle on backside
- Fixed Paste Generation to remove the paste pad after updating the shape to No Paste
- Fixed issue handling apostrophe in a shape name
- Added a check during the 2-pin part check to look for clear silkscreen data. If clear data is found on the silkscreen the user will be prompted if they want the data flattened so that the 2-pin part check can process the data correctly.
- Fixed issue opening the paste layer report on this design
- Fixed issue with pin justification on generated paste
- Fixed issues with part association with offset pin pads that caused paste to not generate
- Added option to the Export Gerber format dialog to Flatten Customs on export
- Added a registry setting that when set to 0 none of the Part Identification dialog settings will be saved when click on the OK button. This allows you to have default settings that you use on all jobs but when you do make a change for a specific need the setting won't be saved so that the next job you process will use your default settings. Note that there are three versions of the part identification dialog ("Library", "Package", "Select") so there are three settings used, one for each version:

- 1) "Library Save To Registry"
- 2) "Package Save To Registry"
- 3) "Select Save To Registry"