Release Notes GC-PowerPlace v6.2

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New Features

Heel and Toe Pad Edits

The Advanced Stencil Editing suite of tools has been further enhanced with the addition of Heel and Toe Pad Edits. This function allows the user to grow or shrink one end of a pad or both ends of a pad by different amounts. These edits are used to better control the size of the stencil opening and hence the amount of solder paste put down on the board. The function also allows the changing of pad width and length by different amounts (both percentage and absolute). There is also an option to maintain the existing pad area based on a width adjustment (the pad would increase in length given a decrease in width).

The function works on a pair of pads so that the toe and heel are defined by the act of selecting. The adjustments are then made to the pair of pads and then, if required by the user, all other like constructions. The pad corners can also be rounded if required. Thus an entire SOIC can be adjusted by selecting two of the pads.

An important issue to understand is that the newly created pad retains the existing datum point. This means the new aperture is a custom pad with an offset datum point. This allows further pad manipulation based on the copper pad datum.

Merging Netnames

A new function has been added to allow the assignment of netnames from an IPC-D-356 file to a GraphiCode extracted netlist. This allows netnames to be output in a Gencad and C-Link DIF file if they are available.

User-definable attributes

Any entity can now have any attributes the user defines. This allows any attribute to be assigned to an entity and provides significant flexibility within the product. All relevant GC-Basic functions have been added to allow full control of all attributes through the scripting interface.

Scaling Selected Apertures

This function allows scaling of all selected apertures from a right click pop-up window in the graphics screen. This allows users to graphically choose which apertures need scaling. This avoids the need to go into the aperture table in order to scale apertures. The function is called ‘Scale Selected Tools…’ and can be found on the right mouse pop-up dialog within the graphics area.

Japanese and Traditional Chinese Language Versions

The first release of certain GraphiCode products in Japanese is now available. Also, in order to improve the overall robustness of the products, GraphiCode has also built a Traditional Chinese version. Previously, users in Taiwan relied on a third party application to provide translation tools and there were a number of issues with this third party software that caused incorrect behavior, particularly when importing Gerber data.

Collapse and Expand all Physical Layers

An option in the right click pop-up window for All Physical Layers now collapses or expands all physical layers in order to aid layer management.

Combine like layers

An option in the right click pop-up window for All Physical Layers or for individual Physical Layers combines layers to minimize the number of data layers within a Physical layer. For example all positive layers will be combined into a single positive layer unless they are separated in the layer stack by a composite or negative layer. The same applies to composite and negative layers separated by a positive layer. Care must be taken to understand any interactions that may occur with internal polygons following the Combining of layers.

Copy and Paste Layers

You can now copy and paste layers using right click menu items in the GC-Explorer dialog.

Enhanced Features

Annual Support Plan reminder

In response to a number of requests from users to remind them when their Annual Support Plan is due for renewal we have added a reminder that informs the user each time they start the application that they are less than 30 days away from their renewal date (based on the current license in use). This is for information purposes only and if the user chooses to let the Annual Support Plan lapse the software will not cease operation or be affected in any way. What will be affected is your access to Technical support from GraphiCode or its representatives and access to updates of your product. For products that are out of maintenance an informational message appears every tenth time the application is started.

Slot Drill output

The Excellon Drill output will now write a formatted G85 (slot drill) command for any trace/rout that is marked with the "Slot Drill" attribute on layers that are selected for output. As before, all other traces/routs will be ignored by this output. Other trace/routs can be output using the Excellon Rout output.

Streamlined Installation

Purchased products now have the license file burned onto the CD. This avoids the requirement to put the license file onto a 1.44Mb floppy disk. The license on the CD can now be accessed automatically during install. There are also options to search for the license file in the current way so that a single CD can be used when multiple seats are in use.

DFM Results

There is now no limitation on the number of DFM Results that can be displayed. Previously there was a limit of around 35,000 individual errors but as some poor users ran into this limit we have now removed this restriction.

GC-Basic functionality

GC-Basic functionality added for User defined attributes to be added, edited and removed. Also added GC-Basic functionality for the new Heel and Toe Edit function.

On Line Help

As always the On Line Help has been updated to include these new and enhanced functions.

Items Fixed since v6.1.2

This list is customer reported issues fixed for this release.

#3540 Improved the filling of areas when loading particular AutoCad generated DXF files.

#3528 Fixed a memory issue with a TCHAR array declared on the stack. Initialing the array to be NULL fixed the issue.

#3518 Fixed logic problem that caused items on a blind/buried drill layer to be rotated once for each physical layer pierced by the drill layer.

#3515 Updated riched20.dll that is shipped with the PowerPlatform and Prevue installer.

#3514 Added a message to remind users of upcoming expiration of the Annual Support Plan (see above).

#3504 Fixed an issue with exploding a custom aperture created from both positive and negative data. The issue was caused by an incorrect layer setup and initialization.

#3501 Now correctly recognize the G74 command in an RS-274-X formatted file if the G74 command occurs on the same line as the Format command.

#3499 Improved the Find Reference Designator algoritm to find more silkscreen characters in this dataset.

#3488 DFM Development includes updated FlexGrid Control that needs to be shipped with the installer. The updated control allows unlimited DFM or netlist compare errors to be stored and also allow translation of various strings used in the Results dialog.

#3484 Updated the draw engine and polygon handling algorithm to handle cases where the polygon overlaps itself . There are certain cases where the overlapping polygon is intended to create an opening and others where the intent is a solid fill. Both cases are now handled.

#3482 Auto burn license file to CD and have installer call this license file automatically during install (see above).

#3481 Can't properly recognize format when LZ and TZ statements are used. This bug only appears when the format finding code has found and parsed a valid header file that includes the LZ or TZ statement.

#3478 Added the Soldermask information to the Padstack section of a Gencad file in order to better support Teradyne equipment. As part of this fix we also updated a minor bug in the generation of Octagonal pads in the output.

#3476 Created separate pad stack information for the FAT-F output. Previously, padstacks were defined as being identical if the drill hole was common.

#3471 When creating and copying empty data layers and physical layers strange behavior was seen where empty layers disappeared. The layers attempted to self-copy themselves and problems arose because the layers were empty.

#3467 Fixed an issue with shave pads that caused poor results on SMD pads.

#3466 Application no longer crashes with the attached dataset during netlist extraction. The issue was caused by side effects of scripting.

#3463 We have updated our DXF and DWG reader to allow support of AutoCAD 2006 files.

#3456 In the C-Link DIF output we have updated the description used for the Name filed to remove an unnecessary COMP_XX descriptor.

#3450 Updated the Select Connected Dialog box to remove redundant wording.

#3447 Added Heel and Toe Edits (see above).

#3436 Fixed a small issue due to tangency in the measure function that resulted in a pad to pad error being detected. However, the netlist extractor defined them as being separate (and hence the pad to pad error should have been found). The functions now behave consistently.

#3435 Created a Consolidate Layers function (see above).

#3432 ODB++ import code was incorrectly constructing primitive stream for custom apertures created using more than two polygons (aka surface); fixed so that our custom aperture iterator will now be able to correctly describe them for our drawing and output engines.

#3430 Removed an unnecessary dialog box that occurred during IPC356A Export.

#3426 Added a "retain file extension" checkbox to the Tools/Customize/Settings dialog which acts in conjunction with the "Populate layer name" setting; also modified the physical, drill, and unassigned layer property pages (as well as the drill rack, probe table, and aperture table property pages) so that the "Source File" field is now a read-only field rather than a disabled field; this allows the user to scroll the file name from front to back and to copy its contents but not modify the field.

#3422 Merge Net Names (see above).

#3420 The Tool Table Assistant is once again automatically invoked when a Drill Rack file type is specified.

#3416 Two problems fixed in the C-Link DIF output. .

SMD pads are now correctly represented on the bottom side

The contour line precision has been updated to prevent crude jig-saw edges in the C-Link software.

#3415 Advanced Scan and Replace issue fixed. Some rectangles were incorrectly being converted to an octagon / rectangle combination.

#3413 We now load drill tables without a file extension. Previously an extension needed to be added in order to correctly load the file.

#3404 Added user definable attributes (see above).

#3394 The drill input module now ignores the command M02X0Y0 (which, if processed, would generate a duplicate step and repeat); however, the module no longer resets the pattern origin in this case as it does when it encounters an M02 command by itself.

#3373 Add G85 to Excellon Drill (see above).

#3358 Improved the Find Reference Designator algoritm to find more silkscreen characters in this dataset.

#3349 Added code to prevent self-intersecting polygons from crashing our contour engine.

#3329 Added right-click Copy/Paste to GC-Explorer (see above).

#3297 Added a function on the right click menu to expand all layers and collapse all layers. Also, when the GC-Explorer window is called (double click a layer) that the size of the window is remembered.

#3261 Fixed an issue that resulted in extra CU Coverage Failures being detected that did not require detection. One issue regarding tangency still exists.

#3259 Updated the MSFlexGrid to MSHFlexGrid.

#2897 Add new keywords (Trim, Lengthen, Gerbers, Clip) to Help Project to aid in successful search results.