

Release Notes GC-PowerStation v7.2

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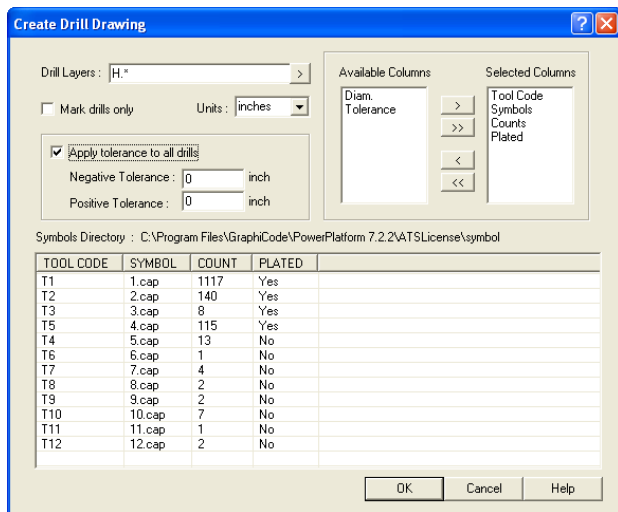
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New Features

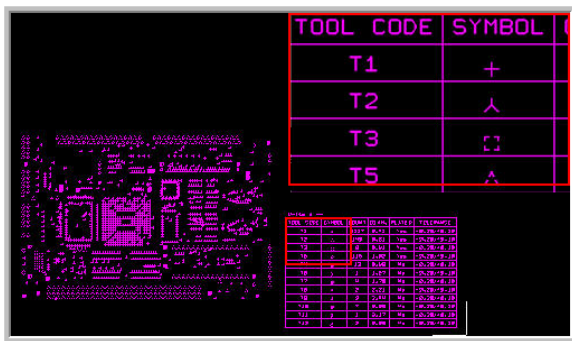
Drill Drawing Creation

This function creates a drill drawing from NC drill files. There are many requirements possible for the creation of a drill drawing and this function endeavors to provide as much flexibility as possible. The symbols used to represent each unique drill size can be changed if required by the user along with the information included in the legend.

The function is found under the NC menu. The default symbols used are stored in a directory called 'symbols' that is created in the installation directory. Each individual symbol is a Custom aperture file and is numbered sequentially. If the drill file contains five unique drill sizes then symbols 1.cap through 5.cap will be used in the drill drawing. There are 13 default custom apertures supplied and if more are required they can be created in the product (except GC-Prevue) using the advanced scan and replace function and saving the custom aperture to the symbol directory.



An example of the resulting drill drawing is displayed below.



Display Physical layers – just press ‘1’

This is one of those functions where we looked at each other and wondered why it had taken so long to do this. This function is pre-assigned the hotkey ‘1’ and simply puts a physical layer into Edit mode while hiding all other layers. The first physical layer displayed is P1 and then, when the hotkey is pressed again, P1 is hidden and P2 is set to Edit. This makes cycling through all physical layers quick and easy and is particularly useful when identifying and setting physical layer properties. Once the final physical layer in the list has been displayed the function cycles back to P1.

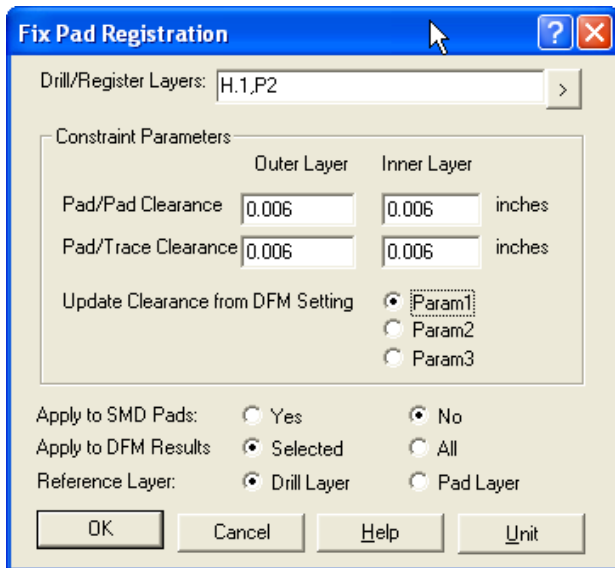
The display status of drill layers and unassigned layers is not changed and remain in the same state as when the function is called. This allows drill layers to be displayed easily against all physical layers one after another.

If the sequence of physical layers is not consecutive (say P1,P2 and then P4) the sequence function is run to ensure that the display of physical layers can function correctly.

Enhanced Features

Added Auto Fix to DFM Pad Registration results

If the DFM PTH Registration check detects errors then these errors are reported in the DFM Results windows as usual. When specific results are highlighted, and the right mouse button is clicked, the Fix option is now available. This option allows for the on-the-fly fixing of PTH registration issues and is consistent with the Pad registration function. The dialog that appears is similar to the Pad Registration dialog but allows for the fixing of all DFM errors in addition to the highlighted error.



DFM Checking of Plane layers

The Minimum negative feature check previously required the plane layer to be displayed as a positive layer in order to detect the correct violation distance. Now, the polarity of the layer is not considered past the requirement that the polarity of the layer(s) correctly displays copper (if the layer is displayed in True Film draw style, the copper is displayed in color).

On Line Help

GraphiCode is in the process of putting all help information onto our website to allow faster and more accurate updating, easier access and reduced product size. Function information is available to all users but additional information is only available to customers with a valid Annual Support Plan. There will be a period of overlap where the Help files are still shipped with the product but all future Help information will be placed on the website.

Items Fixed since v7.1.2

This list is customer reported issues fixed for this release.

#3932 Fixed a bug that caused an extra drill hit to be placed at the beginning xy location of the first rout encountered after one or more drill hits.

#3928 Excellon outputs now only write tool table entries for tools used by layers being output; S&M output already does this.

#3924 Fixed code problem that caused drill hits to be skipped following G84 canned drill commands.

#3922 Fixed an issue that caused problems with attribute assignment when Drill optimization was run.

#3921 Now correctly address the case of a single pad being split by a composite trace by assigning nets correctly.

#3919 G85 code is no longer dependent on the status of the Sort tools option in the Export Excellon dialog.

#3918 Added a new function to cycle through physical layers (see above).

#3917 Enhanced the DFM checking for plane layers to correctly detect an annular ring violation that was not previously detected on this dataset.

#3915 Fixed an incorrect logic assumption within layer compression that resulted in the incorrect image being produced.

#3911 Added the layer extents to the Layer Information dialog.

#3910 Scale apertures dialog now defaults to Absolute Adjust rather than Percent Adjust.

#3909 Increased the population speed of the FlexGrid for DFM results. Rewired and reorganized the window messages so that we only fill the grid exactly once and added a progress bar to keep user informed when large numbers of errors are detected.

#3908 PTH to Copper DFM check reported multiple false errors with this dataset. Fixed.

#3904 CNC import module now assigns the "Drilled Slot" attribute to routs created via Excellon and S&M G85 commands.

#3902 Very, very short trace caused mis-merging of stencil cutting path. Fixed.

#3899 Netlist issue resolved.

#3894 Addressed a case where an isolation path created using a negative growth value was failing.

#3893 Fixed an issue that caused problems with attribute assignment when sorting entities using GC-Basic.

#3892 Fixed an issue in the non-docked version of GC-Explorer that was causing problems with Cut and Paste of layer information.

#3891 Created an example GC-Basic script to demonstrate the selection of files from a file picker.

#3890 Updated the location of the merge module during installation to avoid MFC42.DLL issues during installation.

#3889 Composite data interaction caused problem with contour generation. Fixed.

#3888 Reload of an Unassigned Drill layer no longer freezes the application

#3886 Strange reporting messages suppressed during netlist of this particular dataset.

#3885 Contour failure caused by rare data construction. Fixed.

#3882 S&M import module expected 2nd XY argument to the G85 command to appear on the same line as the G85 code; fixed problem such that the module will now correctly read and interpret the 2nd argument whether it is written to the same line or immediately following a line break.

#3881 Ensured that canned drill attribute is correctly assigned to all step and repeat images when importing an Excellon file.

#3879 Added a pre-export popup dialog to the interactive versions of the Excellon and S&M outputs; dialog alerts user when canned drills are detected in the dataset, and describes what tool was created and/or used for their output.

#3878 Added Canned drill support for Sieb and Meyer import.

#3876 Updated vis2apr aperture converter to create custom apertures when encountering non-orthogonal rectangle, oblong, and square apertures.

#3875 Overhauled the GC-Basic functions tied to user attribute definition.

#3873 Excellon Drill export disables the simulated annealing drill optimization by default. If this optimization routine is required then the Serpentine option may be checked in the Export Excellon dialog.

#3872 Interactive output setup dialogs for Excellon Drill and Rout outputs now include a checkbox (defaulting to checked) to allow user to exclude output of feed speed and spindle code in tool table entries; GCB functions WriteExcellonDrill and WriteExcellonRout now include an optional parameter (defaults to TRUE) serving same purpose.

#3870 Incorrect DPF image was caused by parentheses embedded within parentheses when defining an attribute.

#3867 Added GarbageCollect functions for the part/pad/line information tables that are activated only upon saving a file.

#3865 Fixed a release-only build that caused the application to crash is aperture table units were changed during import (within the Tool Table Assistant).

#3864 Related to #3865. Crash occurred when units were changed in the import results window.

#3859 Application crash occurred when F12 was pressed within certain dialog boxes. Problem was caused

by conflict of the shortcut key F12 between the main menu and the getdata menu. F12 for the getdata menu is actually no longer valid and has been removed.

#3858 Added new GCB command HasNetData for the Layer and LayerGroup object.

#3857 Fixed a contour calculation inconsistency that resulted in an incorrect netlist result.

#3851 Fixed a logic problem with layer compression algorithm which only revealed itself when processing files specifying a polarity change after creating a layer with only one 360 degree arc created with a polygon tool. Fixed this logic problem.

#3847 Add drill drawing creation (see above)

#3838 Fixed an internal error that was causing odd error messages to appear when the Sort option was disabled in the Export > Excellon function.

#3837 The GC-Basic function to export RS-274-X data now allows a negative value in the scale field in order to allow easy mirroring of a layer during output.

#3828 Fixed a netlist extraction failure due to contour calculation

#3817 G80/G81 peck drill toggle commands are now recognized by S&M import module; when peck drilling is active, drills and routs are assigned the user-defined attribute of "G81/Peck Drill" during import; on export, now writing a G81 command upon first occurrence of drill or rout with the "G81" attribute, and writing G80 upon next occurrence of drill hit or rout without the "G81" attribute.

#3815 Updated the fix void algorithm to correctly recognize areas requiring fills. In this dataset, an area larger than expected was being filled.

#3806 Addressed a netlist failure due to contour calculation breakdown.

#3805 Fixed an issue that was causing the application to illegally shutdown when one of two icons were pressed.

#3800 Fixed a crash that occurred when Soldermask Bridging was checked within the DFM tool.

#3775 Added cleaner code to GC-Basic to copy layers and reduce the time taken in this particular dataset.

#3662 Added code to prevent a crash caused by illegal polygon construction.

#3344 It is now possible to disable the (formerly) automatic tool code sort of the Sieb And Meyer export module. The GCBasic Layer and LayerGroup's WriteSiebAndMeyer functions have been modified as well. There are two new BOOLEAN parameters to these functions: "Optimize" and "ToolSort".

#3252 Modified GerberX format recognition code to recognize an RS-274-X layer that contains no aperture definitions (and only uses a polygon aperture).