

# Release Notes GC-PowerStation v7.3

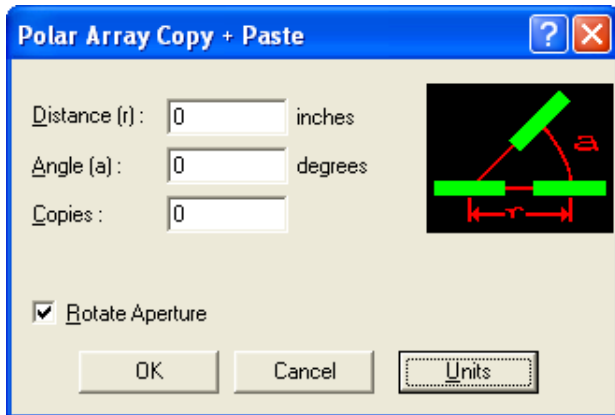
## Table of Contents

- NEW FEATURES..... 2**
  - STEP AND REPEAT (POLAR CO-ORDINATES)..... 2
  - IDENTIFY COPPER..... 2
  - DFM FIX BY SCRIPT..... 2
- ENHANCED FEATURES..... 3**
  - UPDATED DXF/DWG TOOLKIT TO v2.3.0 ..... 3
  - ADDED AUTO FIX FOR SOLDERMASK CLEARANCE VIOLATIONS..... 3
  - PASTING INFORMATION TO MULTIPLE LAYERS ..... 3
  - OPTION TO DISPLAY DRILLS IN DIFFERENT MANNERS ..... 3
  - ON LINE HELP..... 3
- ITEMS FIXED SINCE V7.2.4 ..... 4**
- NEW GC-BASIC FUNCTIONALITY HELP ..... 6**

## New Features

### Step and Repeat (Polar Co-ordinates)

This function allows step and repeated images to be created based on Polar co-ordinates. The function applies to selected data and therefore can also be used to create pad patterns that are centered on a position.



The step and repeated image can be rotated or not rotated depending on the requirements.

### Identify Copper

This function selects trace information based upon a user-defined number of intersecting traces. The default number of intersecting traces is four and so the function selects areas of copper that are not single tracks. Once this data has been selected it can be assigned an attribute to aid in more specific DFM checks being applied.

### DFM Fix by script

Fix by Script provides an interface for GCBasic application developers to write scripts that are able to fix DFM errors selectively from DFM results grid. Users can right-click on the DFM results grid to have a context menu show up and then select the “Fix by Script” command to activate underlying corresponding fix scripts. The following guidelines will aid in implementing this functionality.

Enable the “Fix by Script” command for a specific check. The application will look for a file called DFMPFix.ini in the application directory and if a check ID number for the current check results is contained within this file. If it does, it will enable “Fix by Script” command in the popup menu. GCBasic developers can then activate specific scripts based on context. The format of the DFMPFix.ini is check ID number followed by check ID constant with each check starting with a newline. An example file is like this:

33655 'GCB\_SL\_PAD2PAD

Once a user clicks the “Fix by Script” command, the application will start the entry script named “DFMPFixEntry.gcb” in the application directory. Programmers can use the template and modify the script to fix targeted check results they choose.

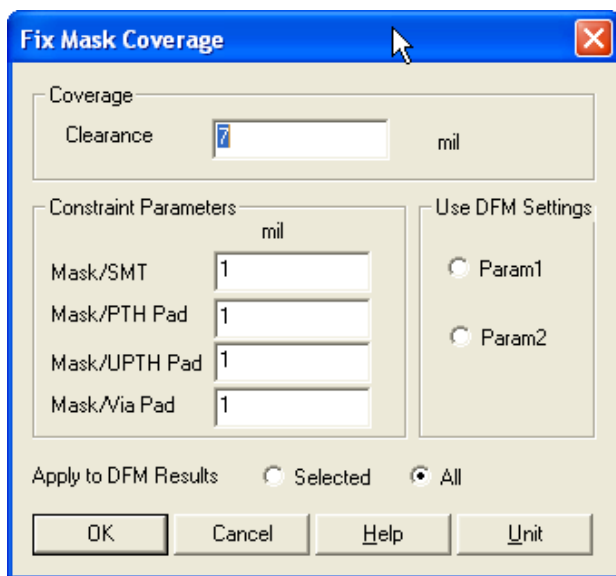
## Enhanced Features

### Updated DXF/DWG toolkit to v2.3.0

The toolkit for the import and export of both DXF and DWG files has been updated to the latest version in order to take advantage of the improvements recently added.

### Added Auto Fix for Soldermask Clearance violations

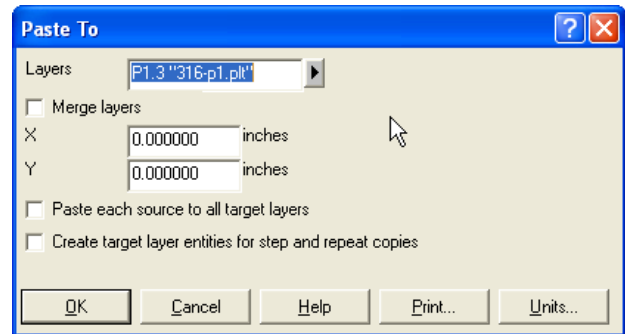
The continued addition of autofixing functionality for DFM violations resulted in Soldermask pad shaving in response to Soldermask clearance violations. Selecting the Fix option from the right click pop-up menu in the DFM results page a dialog box appears that allows the constraint parameters to be entered.



If a violation is fixed then the comment field is updated to reflect this action. In cases where a fix cannot take place because a constraint would be violated, the comment field also reflects this situation.

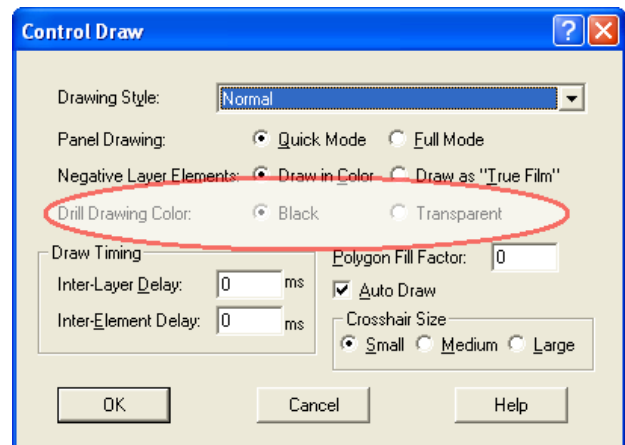
### Pasting information to multiple layers

The paste to function now allows the pasting of data to multiple layers. The dialog has also been updated with an option to create necessary entities when data from a step and repeated layer is pasted to a non step and repeated layer.



### Option to display drills in different manners

In order to aid in the display of drill / layer interaction in cases where negative elements are involved, the manner in which drills are displayed can be altered using a setting within the Control Draw dialog.



### 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 v7.2.4

This list is customer reported issues fixed for this release.

#4003 Excellon M97/M98 parser now treats the first space character following a text string as a terminating character, and begins searching the next text block (either on the same line or the next) for the XY location of the text string.

#4001 Updated code to allow the addition of attributes to selected entities only (if required).

#4000 Fixed a contour issue that caused the compare layer algorithm to enter an infinite loop.

#3999 Fixed an issue where Reorder Rout was removing attributes assigned to rout segments prior to reordering.

#3992 Removed Gprevue.pdf file from the installed products to eliminate confusion when customers try to open this file using Adobe Acrobat.

#3986 Now correctly reading the Format string FSAG2X34Y34D2M2 from an RS-274X file. Previously the 'D' was being misinterpreted.

#3985 Updated code to better find minimum voids that have long, thin construction.

#3984 Added code to check for 360 arcs created by rounding errors; arcs whose start and end points are identical when scaled to user units are now written as zero-length draws instead of as 360 degree arcs. Previously extremely small arc definition resulted in an almost 360 arc.

#3980 Another dataset containing a long, thin void. Fixed along with #3985.

#3977 FLEXIm drivers updated to support 64bit OS and processor combination.

#3976 Adding an attribute via GC-Basic no longer adds a Comment attribute also.

#3974 Added some logic to determine if a layer specified as a testpoint location within an IPC-D-356 file is a legitimate location for a testpoint.

#3973 Updates to the S&M output. We are now bracketing entire image with M25/M01 codes when output is sorted, step-and-repeat option is chosen, and there are no step-and-repeat copies to be output.

#3966 Updated the selection of DFM errors to alleviate a problem that resulted in incorrect feature selection. The case arose from a construction of two pads sharing the contour with the drill.

#3963 Fixed a DFM crash when using the same net spacing checks on a specific dataset.

#3961 Fixed a contour calculation issue that resulted in Drill to copper violations being missed.

#3958 Updated the default settings for the Sieb and Meyer export dialog. "Optimization" checkbox is now de-selected by default; "Sort Tools" checkbox remains checked by default.

#3957 Excellon drill/rout and S&M outputs now write M97 and M98 codes for drilled text strings that have the

proper attributes set. GC's Excellon and S&M import modules now set the proper attributes for output.

#3956 Text command functions \*, &N, &T, and &D are now ignored within M97/M98 commands on import; when one of these codes is encountered, an import log warning is written as well.

#3955 Modified code to allow Print Preview displays a negative layer's polygons in black instead of white when the layer was drawn in color mode.

#3954 Added a log entry into the Import results to highlight any change of tool size necessary for G84 canned drill creation. For example: Substituted existing tool 35 for G84 canned circle at 20.58600 X, 14.00600 Y.

#3953 Added a new GC-Basic function to get the physical layer number, assigned GC-Explorer area. The new function name is GetPhysicalLayrNum.

#3948 Fixed a netlist issue caused by a contour failure.

#3946 Fixed an issue with Identify Silkscreen characters that was causing incorrect identification previously.

#3943 Added handling for certain characters within text strings in both Chinese and Japanese versions.

#3941 For Gerber D import, implemented same code as is used for Gerber X import as of PTrack 2788; when an illegal trace tool is encountered during import; substitute a round tool matching the largest dimension of the requested tool, and write an error to the import error log.

#3936 Load failure handling code was not taking into account special case of hole/rout layers when attempting to undo remnants of failed file loads – fixed.

#3933 Fixed a problem with the New Tool function that only occurred when a Hole/Rout layer was in Edit mode in addition to the layer being worked on. The error message did not affect behavior.

#3927 Updated the netlist extraction progress bar to give better, more accurate results.

#3907 Internal cleansing algorithms now prevent a previous crashing of the system when merging jobs on two specific datasets. The junk entries were created through scripting.

#3869 Fixed a problem where a feature was skipped when outputting a DXF file from this specific dataset.

#3833 Export of arcs into DXF format corrected for specific constructions.

#3811 Added new GC-Basic function to glean text string information and allow modification.

#3789 Added a setting in the Tools Customize > Option tab that will turn on/off the auto-clear of Filter Selection.

#3655 Output of trace arcs to lwplines was not being handled correctly. Fixed.

#3632 Large text string apertures were crashing the application. Now the List Control is limited to 260 characters and truncates the display. This does not modify the data stored in the database so the entire string is correctly displayed.

#3627 Pad edge being buried by a trace edge resulted in poor mask shaving behavior for this dataset. Issue resolved.

#3443 DXF datafile now loads using the Microns unit setting. The large size of the dataset does require a long draw time however.

#3065 Teach custom function now verifies that only selected polygon segments are taught as part of custom.

#2846 Correctly interpreting DWG file following update of the OpenDesign alliance toolkit.

## New GC-Basic Functionality help

### Object - TextObj

#### Declaration

```
Dim currText As New TextObj
```

#### Functions

```
Initialize(Aper)
```

#### Subroutines

```
ApplyUpdates
```

Description: Applies all changes and alterations to the referenced Aperture. Must be called to update aperture.

#### Read-Write Properties

String Text - Is the visible text contained in this TextObj.

Integer FontNum - Is the font number of the Text

Double Height - Is the height of the textobj

Double StrokeWidth (Legacy Fonts only)

Double RotationDegrees

Boolean Mirrored

Double XScale

Double YScale