

# Release Notes GC-PowerPlace v6.3

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## New Features

### Import BOM files from Excel

This release allows for an Excel file to be used as a valid BOM. The current import BOM function has been enhanced so that when an Excel file is chosen the user can choose columns or a range of cells as the information to be extracted from the file. This information is then shown within the current import BOM dialog. The field values to interpret the information are then automatically updated to graphically show the user which information has been extracted from the Excel file. The default is to pass the entire column into the Import BOM dialog but the user is also allowed to specify a row range to eliminate such things as Header information.

### Automatically create new physical layers.

Currently DXF and DWG files are imported into a single Physical layer with layers from the DXF/DWG environment shown on individual data layers. We have added an option into the GC-Explorer window called 'Move Data to New Physical Layers' that creates a separate physical layer for each data layer within a Physical layer.

### Measure between shaved objects

The measure function has been enhanced to take into account composite data if display on screen. Previously, the measure function simply measured between the items under the cursor and did not taken into account any composite information that may have shaved the pad or trace, thus increasing the gaps between features. This has now been rectified and if the composite data is visible on screen, it will be taken into account. If the composite layer is hidden, then the function simply measures between the features displayed on screen.

### Remove Queried items from the Query list

We now allow information to be removed from the Query window using check boxes. Any item in the Query window now displays with a checkbox in the first column. If the data in the Query window is not needed then individual entries can be checked and then a right mouse click option called 'Deselect Checked' will unselect the checked items and update the Query window accordingly. This feature is very useful in selecting features (particularly polygons) that are buried by identical features.

## Enhanced Features

### Assembly Report

The following additions have been implemented in the Assembly Report:

The bed size has been added

In general information, after the total part count, a line has been added for the total part count and unique part count for the top and bottom sides

We also now list the top and bottom part numbers and package types after the total part number and unique part type lists

Added a board side to the list of potential problems section

Added a section of the report to list each package type (footprint) and all the part numbers associated with each one.

If a part number has two different footprint sizes associated with that part number (see above request), errors are called out by referencing the part number, the two different package types (footprints), and the reference designator(s) that has the odd package type (footprint).

### 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 v6.2.2

This list is customer reported issues fixed for this release.

- #3659 GCB adddrilllayer function has been corrected to create information in the specified tool position.
- #3647 Fixed an issue where created text in a specific orientation was being incorrectly flipped due to an unnecessary translation algorithm.
- #3646 Incorrect assignment of polarity was occurring when a terminating SR command preceded the LPC command in the Gerber X file; fixed by keeping better track of when at least one positive layer has already been loaded so that we never assign a negative polarity unless the LPC layer is the first being loaded within the file.
- #3630 Fixed an issue with the creation of text using the Stencil2 font supplied with the application.
- #3617 Fixed a DXF/DWG importing issue related to text justification and text size. Text alignment and size issues were being caused by the inclusion of potential Unicode characters in algorithm decisions made regarding text size and position.
- #3616 Incorrect net number assignment was causing issues when loading into third party software application. The netlist connectivity was correct but this bug caused the incorrect net assignment on a single feature.
- #3615 Fixed Netlist crash due to contour failure on the inner layer.
- #3613 New GC-Basic function (ExpireDate is a GCBAApp read only property) has been added to find the Maintenance Expiration Date as a string. String format is "dd-mm-yyyy" as shown in the "About" dialog of the product.
- #3607 Found and fixed a problem that caused some import log messages to be lost following the compression of top and bottom layers in a +c+ or c+c layer triplet.
- #3602 Composite layer assignment ignored after step and repeat occurs. Composite layer polarity assignment was being overwritten when code encountered IPPOS statement in mid-processing. RS274x spec says this command should occur once and only once within a file. Added a check for multiple IP statements within a single file; all IP commands after first are now ignored. If polarity specified in subsequent IP commands countermands the current layer's polarity, then an import warning is issued.
- #3597 Updated the Advanced Scan and Replace function to handle rectangular traces.
- #3594 Fixed an issue regarding the SVS output caused by a high number of calibration boxes causing memory leak.
- #3588 Fixed an issue where SOIC end pads of a different size and shape were displaying incorrectly in third party software package. As a side effect of this work a minor issue concerning rotation was also fixed.
- #3587 Problem with rotating rounded rectangles through 180 degrees has been resolved to provide the correct display.
- #3586 Updated the HP3070 output dialog to accept a newly pasted or typed working directory. Also, added a validation to the default output directory.
- #3585 Checked GC-Basic functionality to read the comment attribute in Traditional Chinese version of GC-PowerPlatform.
- #3584 Fixed Advanced Scan and Replace algorithm to correctly convert a single polygon pad in this specific dataset.
- #3581 Added a mechanism to handle illegal polygon construction that was causing a contour failure in this dataset.
- #3580 Arc direction is now reversed when mirroring is specified for one of the two (but not both) axes in the RS-274X file.
- #3579 Updated the Gencad file units descriptor to correctly define metric output.
- #3578 Bug fixed and modified algorithm to speed up Net Compare function. Now the Reference Net layer's net number can be used as a filter.
- #3577 Update Installer to include the new DLL for the reading of Microsoft Excel files in the Import BOM function.
- #3575 Reduced the number of new layers created due to redundant SR commands within the dataset. If the SR parameters (number of X and Y copies, offsets, polarity, etc) are the same, then we do NOT create a new layer, but continue writing any new data to the current layer.
- #3574 Not properly assigning bHatch with polygon – fixed.
- #3571 We have enhanced the DFM capabilities available in GC-PowerPlace by adding the Drill to Drill spacing check.
- #3569 Eliminated an annoying Internal Error message that occurred when generating a GenCAD export. The

issue arose due to missing Soldermask clearances for plated drills.

#3567 Added the ability to create pads from suitably defined entities in DXF or DWG files. Polylines that pass the “flashability” test are automatically flashed as a round pad.

#3560 Added necessary bitmap images for all available toolbar buttons.

#3559 Certain traces had incorrect net numbers assigned to them even though they correctly connected the appropriate pads. This issue has been addressed.

#3558 Add a warning if duplicate Dcode existing in Export 274X. The UI version of RS274x output now warns user if aperture table contains duplicate D-codes; GCB version disallows output if this condition is detected and function returns a new error code - GCB\_ERR\_DUPE\_DCODE.

#3557 Part numbers can now be individually selected from a drop down list in the Filter Selection dialog. Multiple Part Numbers can also be selected by using the Control key when highlighting part numbers in the drop down box and ranges of part numbers can be highlighted using the Shift key.

#3549 Fixed a bug in the translation of the application to Traditional Chinese that resulted in a ‘Clear Part Numbers’ message appearing when opening a GWK file.

#3546 IPC-D-356 import now includes drilled test points if there is a pin identifier in column 27-30. Previously, these points were being skipped.

#3545 Now populating the netname field with the netname from the IPC-D-356 file. It can be seen in the Properties page and in the Query window.

#3544 Internal documentation generated for the process of adding language support to product suite.

#3543 Increased size of the Install button in Autoplay Dialog so that Chinese Characters now fit inside.

#3542 Fixed a bug in the contour engine that resulted in a failure due to composite data.

#3541 Fixed some legacy code that created invalid tool numbers when running the .IsFirst and IsLast GC-Basic script supplied in the GC-Basic helpfile.

#3539 FATF output code was incorrectly assuming a maximum pad symbol number of 255 (actual number is 2047), and also including apertures in the maximum count that are not actually used as pad symbols; both issues fixed.

#3527 Fixed problem within trapezoidizing code that was causing misrepresentation of upside-down triangular shapes on output (especially at low output resolution).

#3525 Fixed problem that was causing incorrect inclusion/exclusion of panelized data depending on user selection. Also fixed problem that hidden hole/rout layers were being included in calculations.

#3520 Fixed a bug in the Create Reference Netlist routine that was include some composite pad locations as valid testpoints. This no longer occurs.

#3516 Crashes in the old third party translated version of the application in Chinese have been eliminated by the release of the GraphiCode translated version.

#3512 Converted CMSFlexGrid to CMSHFlexGrid to expand the number of DFM errors to be handled.

#3511 Allow data to be 'deselected' from within the Query window (see above).

#3509 Further refinement of the Assembly report (see above).

#3508 Allow user to choose a specific layer to run the assembly report against.

#3502 Fixed a problem creating bogus aperture warnings during Creation of a Reference Netlist.

#3497 The Import BOM dialog has been updated to show the column number of the cursor in the window. This greatly helps when entering the values defining the various fields of the BOM.

#3483 Gerber X files no longer crash the Chinese version. The issue was resolved by building a Chinese version at GraphiCode and not relying on third party products. Conflicts between the two software packages were causing the crashes.

#3470 Previously a contour problem resulted in compensated rout data being deleted. The work done to the contour engine resolves this issue.

#3458 Added a unit button to the Layer Information dialog that updates the aperture sizes in addition to the data extents.

#3455 Updated the Testability Analysis report to preferentially pick Part Layers (based on whether they are Merged Part layers or ACE top Parts layers).

#3442 Chinese version has problem importing drill file- fixed (see #3483)

#3424 Included the ability to add composite layer to GC-Explorer layer structure.

#3410 Introduce high precision data representation and operation to improve contour calculation.

#3402 Allow BOM Import to read BOMs in Excel format (see above)

3360 New Feature - Assign Selected to Physical/Sub-layer (see above)

#3312 We now allow access to the Reference netlist and Signal netlist colors via GC-Basic.

#3303 Select Connected marked no longer selects neighboring non-touching data when this construction is encountered.

#3206 Moved Import Results verbiage to String Table to allow for the translation of these strings.

#3104 Fixed an contour failure during the isolation of an isolation. Previously certain areas were not being isolated.

#2957 Measure function now works as expected on the supplied data (previously not taking the composite data into consideration).

#2893 Fixed an isolation issue during work for #3410.

#2664 Add File location setting to the RS-274-X dialog. This directory is then automatically used when the Default option is chosen.

#2614 Updated the GC-Basic help file to change the old MeasureDistance function to the current Measurement, MeasureCenterCenter, measureCenterEdge, and measureEdgeEdge functions.

#2492 Work on #3410 fixed the contour failure that caused this netlist failure.

#2090 Measure does not take shaved data into account (see above)