



How To Create Documentation Drawings Utilizing dalTools Commands

dalTools has commands that make it easy to create your fabrication and assembly drawings inside Allegro. This is better than exporting data to ACAD or other external tools like Blueprint by Downstream because the source and final data are all in the same database. This helps make the process much faster, easier and less error prone with mis-matched data.

Commands used for documentation in Allegro:

- dal text (Auto rotates refdes text on the assembly drawing.)
- dal vertex (Trim and extend lines for details and the board outline.)
- dal merge (Creates a continuous line for the board outline.)
- dal detail (Scale the format sheet to match the 1/1 scale of the board outline.)
- dal split (Splits the ≥ 16.5 dimensions down for easy editing.)
- dal plot (Batch plot multi sheet Fab & Assy drawings to PDF.)
- dal out (Batch output ALL data and drawings for manufacturing.)

Sample Fabrication Drawing

PAGE 1

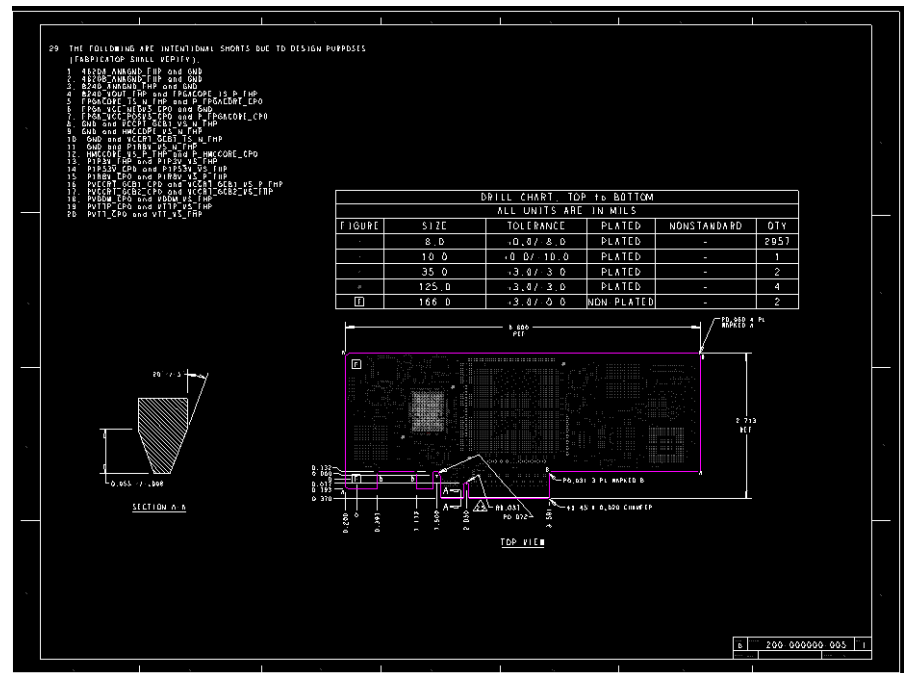
dal cut and dal stretch are used to quickly create or edit the impedance chart. dal text can be used to edit all the notes in a text editor at once.



PAGE 2

The drill chart is on the original manufacturing layer and updates when the drill chart is updated. The board outline and dimension layers are at scale 1 and on the original layers. We recommend you leave the source graphics on the original layers and do not copy to other layers so they are always up to date.

The dal split command makes it much easier to get the dimensions right. The dal detail command makes it easy to scale and create details.



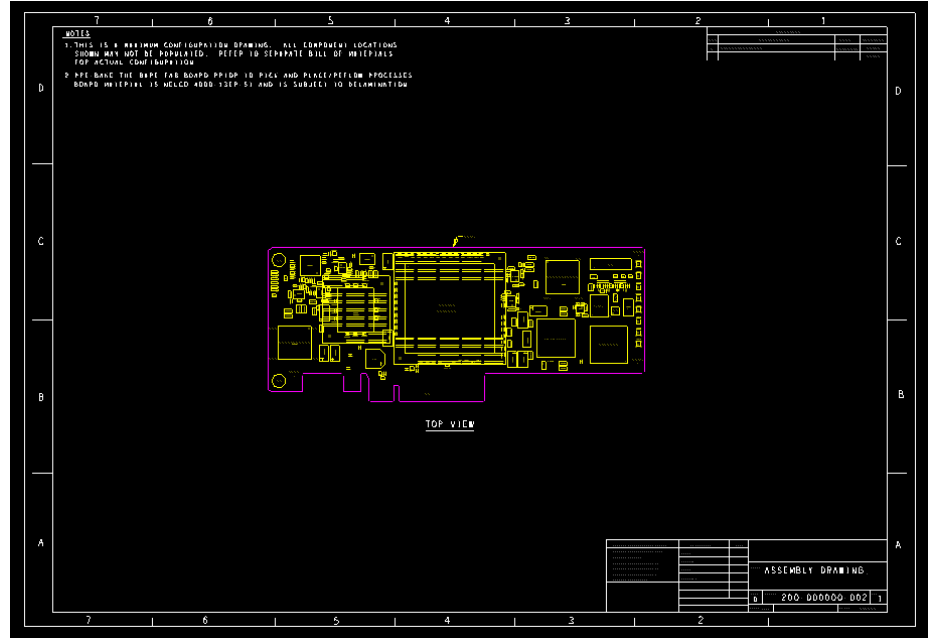
Sample Assembly Drawing

PAGE 1 (TOP)

The outline, assembly layer and refdes text are all on the original layers. The Format sheet can easily be scaled to match the size of the 1/1 board outline. If a refdes changes the drawing is automatically updated since it is NOT a copy! The dal detail easily scales the format to the outline by user pick in the lower left and upper right by click.

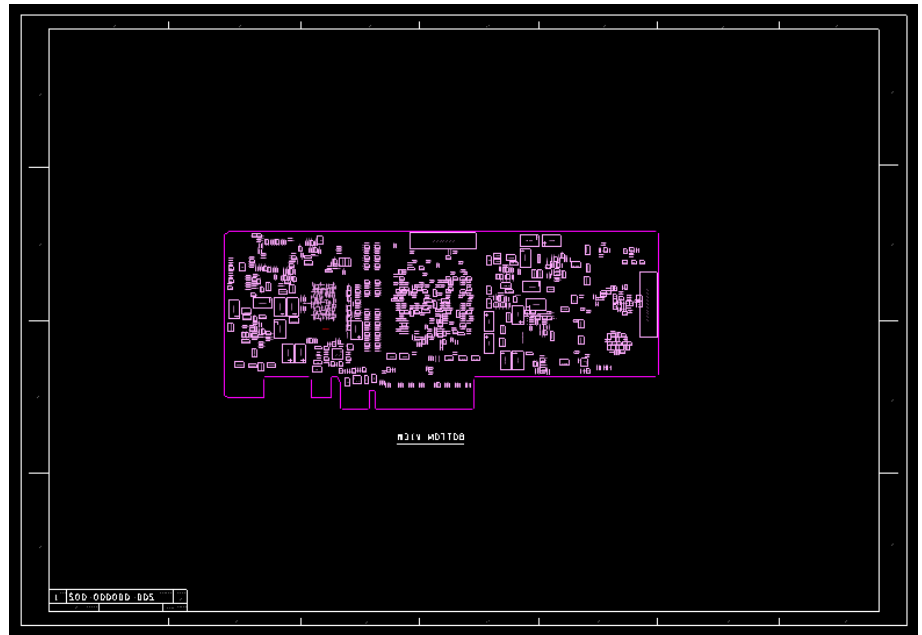
The dal text command rotates and centers all text automatically. It will also DRC text vectors to ensure all text is readable.

All callouts can be placed on the assembly layer.



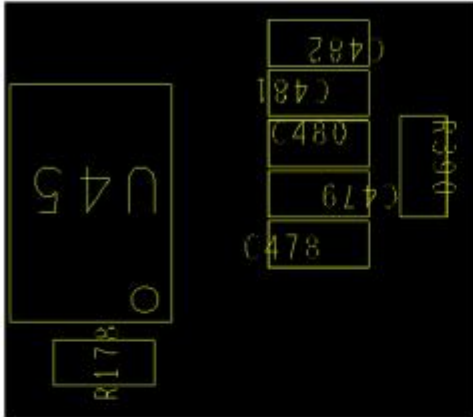
PAGE 1 (BOTTOM)

The bottom assembly layer is already mirrored by default so we also mirror the format sheet and format text. This can be done quickly with the dal detail command. When we plot with dal plot the bottom assembly layer is mirrored at that time so the print is correct and readable.

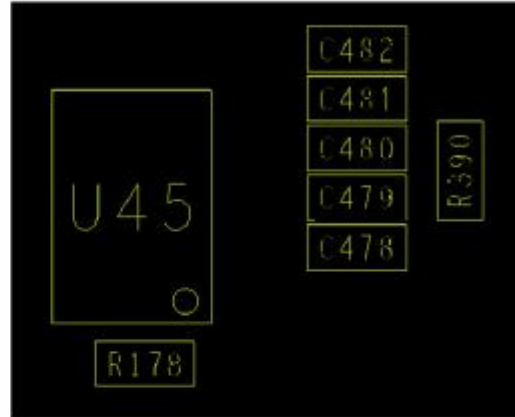


dal text

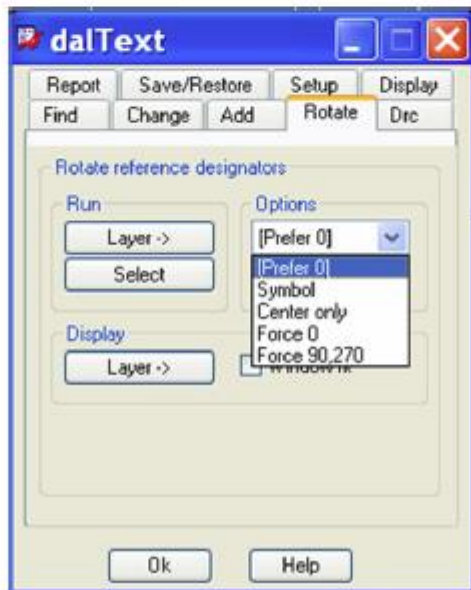
Rotate



Before

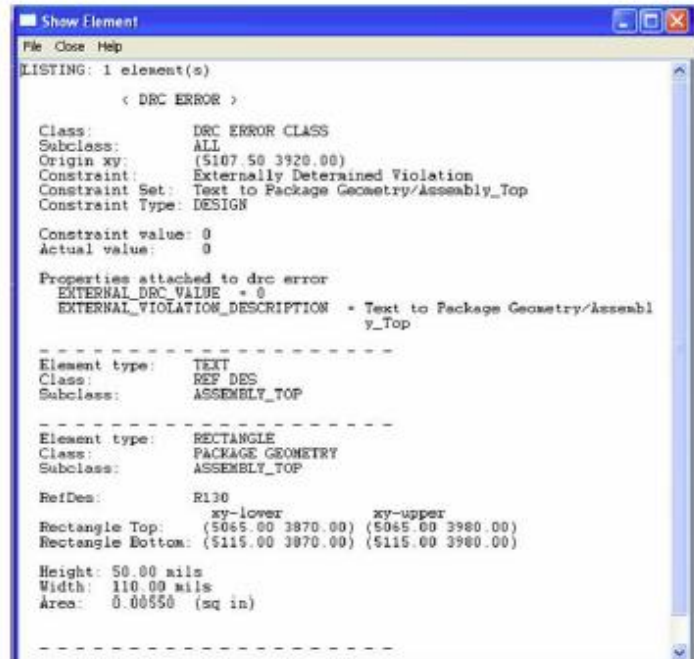
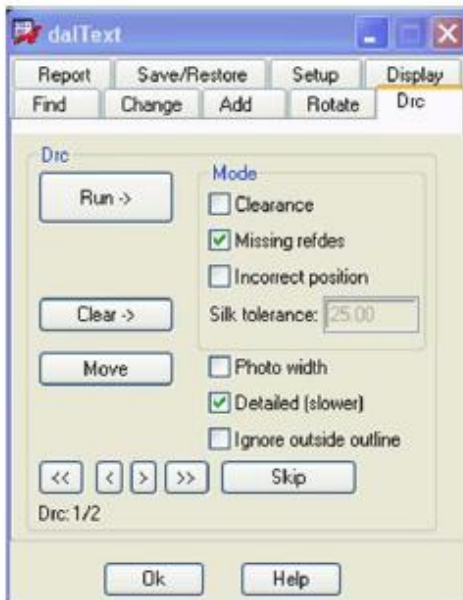
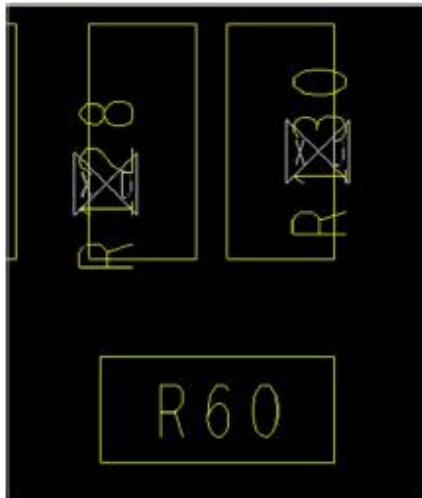


After



dal text (cont)

Drc



Text clearance check

dal text (cont)

Display

The screenshot illustrates the 'dalText' software interface. At the top left, a list of text alignment options is shown: 'Text at 0', 'Text at 90', 'Text at 180', 'Text at 270', and 'Text at odd angle'. An arrow points from this list to the 'Display' section of the software window. The 'dalText' window features a menu bar with 'Find', 'Change', 'Add', 'Rotate', 'Drc', 'Report', 'Save/Restore', 'Setup', and 'Display'. The 'Display' section includes buttons for 'Layer ->', 'Highlight ->', and 'Toggle photo width'. Below these are checkboxes for 'Find only visible' and 'Show counts', and a 'Dehighlight all text' button. At the bottom of the window are 'Ok' and 'Help' buttons. An arrow points from the 'Highlight by textblock' dropdown menu to a detailed list of text blocks. The main image shows a dark background with several text elements highlighted in yellow boxes: 'R1156', 'C486', 'C487', 'U45', and 'R178'. A small white circle is also visible on the right side of the image.

Text at 0
Text at 90
Text at 180
Text at 270
Text at odd angle

dalText

Find Change Add Rotate Drc
Report Save/Restore Setup Display

Display
Layer ->
Highlight -> Toggle photo width

Highlight by textblock:
Find only visible Show counts
Dehighlight all text
Ok Help

Highlight by textblock:
Qty:833
1 Qty: 748 Width 16.000 Height 25.000
3 Qty: 81 Width 38.000 Height 50.000
7 Qty: 2 Width 69.000 Height 94.000
62 Qty: 2 Width 2.000 Height 2.000
Dehighlight all text

R1156
C486
C487
U45
R178

dal detail

Example



Auto scale by pick example

dal split



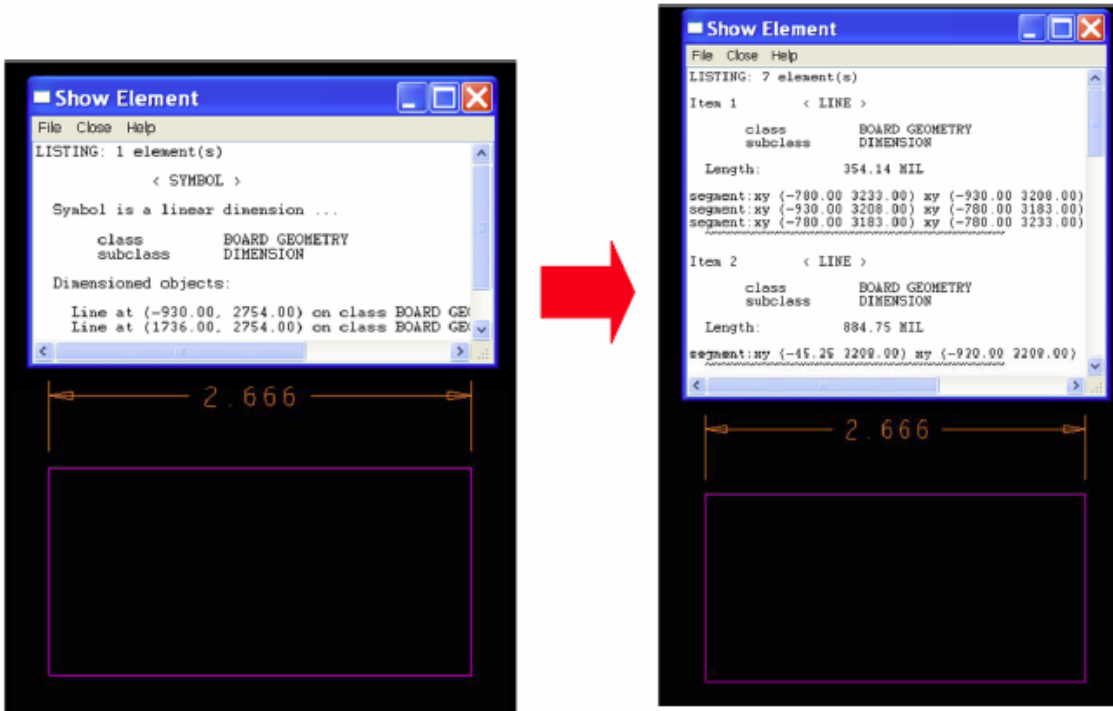
Split

Splits Allegro version 16.5 associative dimensions down to lines and text so that they may be edited easier.



Features:

- ❑ Converts the dimension symbol to lines and text.



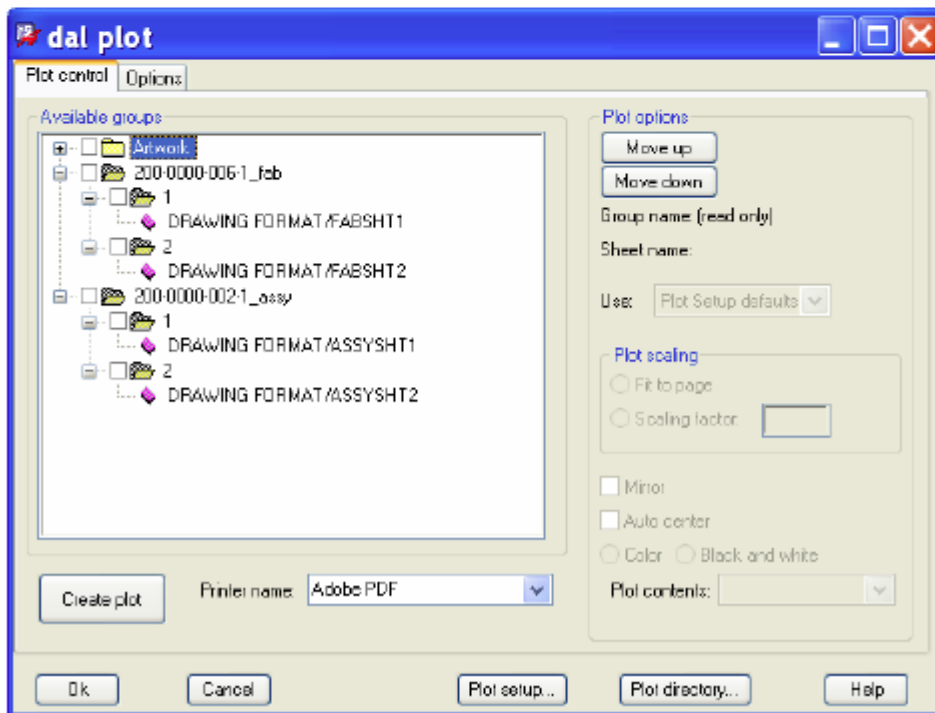
dal plot

Plot

Batch plots multiple sheets to single PDF.

Features:

- Fast batch plotting of artwork, fabrication, assembly and other drawings.
- Stores all settings inside the .brd file for reuse similar to artwork control form.
- Automatic batch printing of artwork layers into a single Adobe PDF.
- Single click multi-sheet documentation plots.
- Plot parameters are saved for reuse.
- Multiple groups and sheets may be batched printed at once.
- Searchable PDF support.



Out

Automates the process of generating manufacturing outputs.

Features:

- ❑ Supports single click outputs of individual items or all selected items.
- ❑ All settings are stored for subsequent runs.
- ❑ Completely automates the entire extraction and release process.
- ❑ Flexible enough to meet any company's requirements.

