# Chapter 3W

Allegro to DXF Translator for Windows

The all2dxf translator for Windows views/plots and translates an Allegro intermediate plot file (IPF). Note that the Windows version of Allegro does not produce an intermediate plot file and hence this translator is for files generated only by the UNIX version of Allegro.

Starting the Program

To start the program double click on the **allvu** icon.
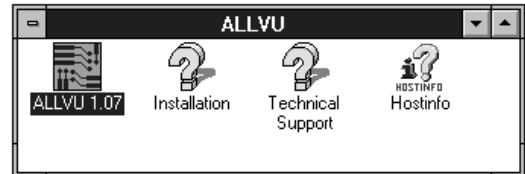
The main menu will open up as shown below:
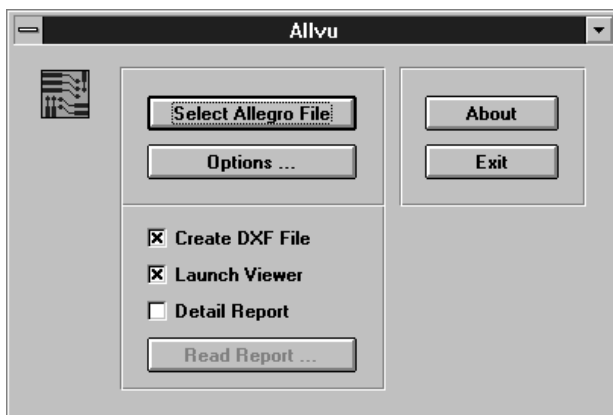
ALLVU Main Menu

Prior to selecting your file to view or translate you should check the functions and make sure your Options are set as desired.

Select Allegro File

Opens a file selection dialog box

Options

Opens the Options dialog box that controls some of the display and translation options.

About

Opens the box that identifies the version and date compiled along with information on how to reach Artwork Conversion.

Exit

quits the program

Checkboxes

⊠ Create DXF File - tells ALLVU to write a DXF file after loading the IPF file

⊠ Launch Viewer - tells ALLVU to launch the view window and processing the IPF file

⊠ Detail Report - check if you want ALLVU to create a detailed ASCII report of the translation. This is normally only needed during debugging of translation problems.

Options Dialog
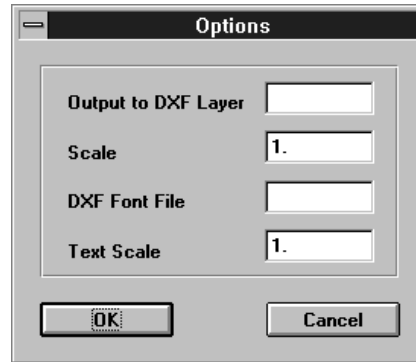
The options dialog box controls translation and display options.

Output to DXF Layer

By default, the translator creates one DXF layer per IPF color. However if you wish all data to be translated to a single DXF layer you can specify the layer name here.

Scale

The default scale factor is 1. Since IPF units are in mils you may wish to apply a scale of 0.001 to create a DXF file in inches or 0.03937 to create a DXF file in mm.

DXF Font File

The translator defaults to a font file called txt.shx. If you desire that the DXF file refer to a different font file you should specify the name here.

Text Scale

If you need to adjust the size of the text in the DXF file to fit into a title border you can adjust the overall text size using this parameter.

Option settings are remembered from run to run either via the .ini file (Windows 3.1) or by entries in the registry (Windows 95/NT).

Allegro to DXF Entity Mapping

Allegro Plot File	DXF Entity
drawing Size	DXF Limit Variable
line (width)	Polyline
arc (width)	Polyline arc
text	Text
mirroring	Supported
rotation	Supported
justification	Supported
Filled Rectangles	Solid
Figures	
1. Point	AutoCAD Point Entity
2. Circle	AutoCAD Circle
3. Octagon	Built from zwcp*
4. Cross	Built from 2 zwpl
5. Square	Built from zwcp
6. Rectangle	Built from zwcp
7. Diamond18	Rotated square
8. DRC Error	Circle with E*
9. Anti-pad	Circle*
10. Thermal-pad	Built from 4 zwcp o.d. is the value
11. Oblong x	ZWCP (arc bulge at each end)
12. Oblong y	ZWCP (arc bulge at each end)
13. Butterfly x	2 quarter pies built using a ZWCP
14. Butterfly y	2 quarter pies built ZWCP
15. Hexagon X	built using ZWCP flat vertical
16. Hexagon Y	built using ZWCP flat side
17. Test Point	AutoCAD point
18. Triangle 1-4	ZWCP
Polygon	ZWCP
Color Numbers	Mapped to AutoCAD color numbers

Notes

ZWCP - Abbreviation for AutoCAD's "zero width closed polyline. "Many figures need to be built from this since AutoCAD has no equivalent entity such as a true polygon. Please note that AutoCAD's zero width closed polyline is not solid filled. This is a limitation of the DXF database and not a defect in the translator.

AutoCAD Points - AutoCAD has a point entity - but the actual appearance of the point is affected by two AutoCAD system variables - PDMODE (the type of point) and PDSIZE (the size of the point.) If the points do not appear in the AutoCAD drawing it is because PDSIZE=0 most likely.

Text Handling

AutoCAD Text styles are structured much differently that Allegro's style. All2dxf creates a DXF text style called STANDARD. This style then references a font file, by default, txt.shx. One can specify any a different SHX font file name from the options menu.

The font file, txt.shx (or whatever SHX file is specified from the command line) must reside in the directory with the all2dxf execs or no text will be output. all2dxf requires The SHX file in order to compute insertion points for text.

DXF File Characteristics

DXF files always define layer 0, even if there is no data on this layer.

The DXF file created by all2dxf will be flat - i.e. no blocks since the allegro plot file is flat.

The DXF file has no units - however it will appear to be 1000X too big to users who are accustomed to working in inches unless the scale option is used.

Log File Output

all2dxf writes a log file to disk, input_file_name.log, that records the important information about the translation. This file can be viewed with any text editor or by clicking on the View Report File. button.

Sample File

Artwork has created a sample Allegro plot file called test_pat.plt that illustrates the handling of text and Allegro "figures." You can see how different layers are supported and how text slant is supported.

Previewing Translation Results

The allvu program enables one to view/plot IPF files even if you are unable to view IPF or DXF. As part of the translation process, all2dxf creates a format known as .vu which is Artwork's internal database format.

We then launch our general purpose viewer, known as vu2d, and pass it the .vu file. This is what happens if you have checked the Launch Viewer checkbox.

A screen shot of the viewer with the test_pat.plt sample file is shown below: