

DXF48 – Drawing Interchange File Reader/Writer/Plotter for HP48G/GX

v. 1.8 by P. Teixeira

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The DXF™ format is a tagged data representation of all the information contained in an AutoCAD® drawing file. AutoCAD and DFX are registered trademarks of Autodesk.

1. INSTALLATION

To install DXF48v18.LIB in your HP48G/GX, do the following:

1. Transfer DXF48v18.LIB to the HP48G/GX.
2. Recall the library to the stack and press n STO, where n is the desired RAM port (n=0 if you have a '48G). After storing the library, you can purge the original copy to save memory.
3. Turn the HP 48 off, then on or perform a warm start (ON+C). This adds DXF48 to your library menu.

To remove DXF48v18.LIB:

Put the library ID (n: 935) in the stack and type: DUP DETACH PURGE. If an error occurs, perform a warm start (ON+C) and run again the removal commands.

2. OVERVIEW

DXF48 is a program for the HP48G/GX that allows the user to read, write and plot an ASCII drawing interchange file (DXF). DXF48 only deals with 2D ASCII DXF files containing LINE, POINT, ARC and CIRCLE entities. Other entities are discharged and they are not treated. The z coordinate is always considered equal to zero. DXF versions from AutoCAD R12, R14, 2000 are supported.

3. LIBRARY COMMANDS

3.1 →DXF

Level 1	→	Level 1
		DXF string

Converts a list of points into an ASCII DXF containing only the ENTITIES section. The file can be read in DXF48 or in a PC program such as AutoCAD. An input form is used to read the points. The fields are:

FILE

- List of the points to be converted into a DXF.
- Valid object types are:
 - Real Array [[1 2] [3 4] [5,6] [7,8]]
 - Complex Array [(1,2) (3,4) (5,6) (7,8)]
 - List with Complex numbers { (1,2) (3,4) (5,6) (7,8) }

LAYER

- Definition of layer name ("0" by default).
- Valid object type: string
- Note that the maximum is 8 characters.

TYPE

- Entities output type selection.
- If "LINE" is selected, the program will connect the points.

Checking is made to the input data and some error messages are displayed.

3.2 DXF→

Level 1	→	Level 1
DXF string		(selected output)

Export an ASCII DXF file into different formats. The available output formats are:

Array (Pts)

- Points XY coordinates in a real array.
- If the entity is a CIRCLE or an ARC, only the XY coordinates of the center are outputted.

CXV Format (Pts)

- The same as "Array (Pts)" but in a format which can be read in spreadsheet in your computer.
- To read the file in your computer, download the file to your computer and put the extension "csv" in the file. Double click to open the file. (To get the right results, make sure that the decimal separator in your computer is set to ".").

CSV Format

- Detailed output of the DXF in a format which can be read in a spreadsheet.
- Outputted information:
 - POINT** - XY coordinates of the point.
 - LINE** - initial and final points XY coordinates.

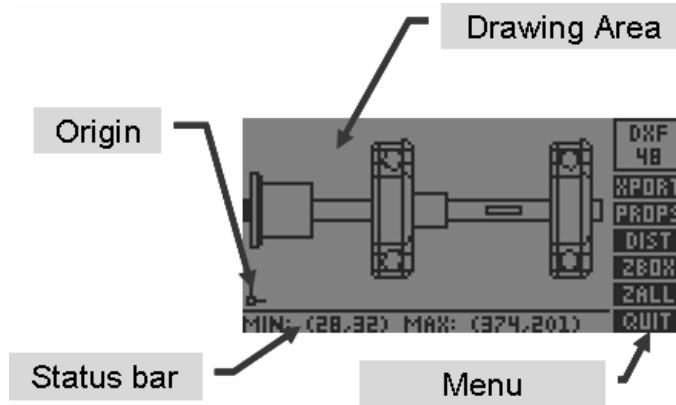
ARC - XY coordinates of the center, radius, initial and final angle.

CIRCLE - XY coordinates of the center and radius.

3.3 PLOT

Level 1	→	Level 1
DXF string		(selected output)

Plots a ASCII DXF file containing valid entities. A DXF string must be placed in stack and, after decoding, a graphical interface is showed.



By default, the bottom left corner and the upper right corner XY coordinates of the drawing area are displayed in the status bar. The commands listed in the right side of the screen (Menu) are accessible by the softkeys (A, B, C, D, E and F). The available commands are:

XPORT (softkey A)

Exports the displayed DXF file into different formats (like the "**DXF→**" command). Additionally, exports the current drawing area as a GROB image. The result from this command is placed into the stack.

PROPS (softkey B)

Gives information about the displayed DXF: Number of entities, Minimum XY value and Maximum XY value. If a property is selected, the same is placed into the stack.

DIST (softkey C)

Returns the distance between two selected points. The point selection is done using a cursor on the screen. To move the cursor, use the arrows keys and ENTER to pick the point. The resulting calculated distance is displayed in the status bar and is also placed in the stack.

ZBOX (softkey D)

Makes a zoom to a selected area. The area selection is done by using a cursor on the screen. To move the cursor, use the arrows keys and ENTER to pick the point.

ZALL (softkey E)

Makes a zoom to show all the entities in the screen.

QUIT (softkey F)

Exit the application, with confirmation.

ON

Exit the application, without confirmation.

3.4 ABOUTDXF48

Level 1	→	Level 1

Display information about the program.

4. TIPS

4.1 How to reduce a DXF file size done by a CAD program, in order to read in the DXF48?

Open the DXF using a text editor (as for example Notepad). Find the word "ENTITIES" in the text and remove all the information above " 0 SECTION 2 ENTITIES". Save the file.

4.2 How to create a DXF using points coordinates that are in a spreadsheet?

Copy the two columns containing the X and Y coordinates. Paste it into a text editor (as for example Notepad). Save the file and upload it into your HP48.

In the HP48, recall the file to the stack and type: **OBJ→ { n 2 } →ARRY** where n is the number of points. Now using the **→DXF** command you can create your DXF.

6. BUGS

No known bugs.

7. ACKNOWLEDGEMENTS

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