

There are two requirements for the program. One is the format of files to import, the primary focus of this help document. The other one is the video card of the PC.

Video Card

While not exactly a requirement, more recent video card technology is recommended. Older PCs may not display the graph properly. This has to do with the requirements of the open source software used for the display. If you have any issues with the display, it is most likely due to the video capabilities. Not much can be done other than to use a system with a more video card technology.

File Formats

The first version of WinSurfacePlot was designed to import a CSV file created by WinPCD for horizontal or vertical plane model data. A valid CSV file can also be created manually by building the CSV from separate files as long as the format is that which is required. It is described in the next section.

Version 1.1.0.1 introduced a second file format for data importation. This is a CSV file that is a list of design angles and the corresponding files for those design angles. This is much easier to create manually than the complete file version. The format of the CSV must have only a comma or tab as separator between angle and file path. Full pathnames are required for the individual SPL files to import. An example is in a later section.

Complete File Format (e.g. WinPCD export)

The first rows prior to data can be text for comments. The only requirement is that the first character be a “*”.

The file format required for data is straightforward. It's a Comma Separated Value (csv) file. WinPCD will export a file in this format as an option each time that you run a surface plot calculation, horizontal or vertical. However, as a simple csv file, you can manually create them from other sources. The separator does not actually have to be a comma, it can also be white space (space or tab). The easiest way to create a file is to cut/paste individual measurement files into a spreadsheet, one column per measurement with the first column containing the frequency data.

The default search when opening a surface plot file is with the extension csv, but it can be anything that you care to use, txt, etc. You'll have to do the usual change to the file open dialog box that comes up to find other file extension types.

This data was taken from one of the TestData files. The first column is required and is a list of all frequency points to be plotted. The data columns must correlate to the columns in this row with the angle of the measurement at which you took each one set appropriately in the first row.

The number of data columns can vary, but must be in pairs by angle. A pair of columns is magnitude and phase for an angle. If you open a sample file in a spreadsheet program such as Excel or OpenOffice Calc, this is how it may appear (in part). I recommend that you name your files with enough detail to be able to identify the source of the data later.

Sample Partial File

Frequency	-90	-90	-85	-85	-80
20.2873150622	66.2940417323	-1.8782289315	66.2940543407	-1.8482153803	66.294089448
20.594974896	67.3628145797	-1.9159942134	67.3628317726	-1.8855249211	67.3628724513
20.9073004321	68.3433922689	-1.9588141594	68.3434137983	-1.9278823194	68.3434598182
21.2243624265	69.2935210194	-2.0164620854	69.293547532	-1.9850607419	69.2935995644
21.5462327083	70.1264269087	-2.083968143	70.1264585991	-2.0520902808	70.1265168382
21.8729841958	70.9703363881	-2.1579756052	70.9703733729	-2.125613994	70.9704379815
22.204690913	71.7101505921	-2.2368770262	71.7101929085	-2.2040244472	71.7102639296
22.5414280068	72.3898736399	-2.317860676	72.3899213184	-2.2845096527	72.3899988001
22.8832717635	72.9677225994	-2.4016814331	72.9677757888	-2.3678243946	72.9678598778
23.2302996262	73.484183399	-2.4878785008	73.4842422824	-2.4535077763	73.4843331756
23.5825902127	74.04191488	-2.5741612839	74.0419793831	-2.5392690347	74.0420770674
23.9402233328	74.4634157611	-2.6583909997	74.4634859636	-2.6229694052	74.4635905022
24.3032800068	74.8764277787	-2.7428077751	74.8765038858	-2.7068488265	74.8766155212
24.6718424836	75.2542146595	-2.8267724489	75.2542967891	-2.7902680063	75.2544156653
25.0459942594	75.5952147481	-2.9088811946	75.5953025583	-2.8718229483	75.595428363

File of Files Format

Most design and measurement software packages can export text files in the commonly used format (often as an FRD extension). The file extension doesn't matter for the data, of course, but the data is usually the same from one package to the next.

This "file of files" (list file) format was created to allow easier use with other software or with WinPCD if some other angles are desired for creating a surface plot, since the one built in is fixed in number and angle step frequency.

The list file can be located in any folder since full file paths are required for the SPL files to import, but it will probably be easier to keep track of the data files by putting this file in the same folder as the SPL files.

Any number of comment lines may be included in the list file.

The format is CSV, two columns,. The first column is the angle, the second column is the full file path address. The range allowed is -90 to +90 degrees in integers. If accidental duplication(s) occurs, the program will pop up a message, but will discard all but the first one and continue. The angle data can be in any order. The CSV separator can be a comma, space or tab. A sample is shown below. Variations on the text that are still valid are shown.

The sample file, as the file path is written in the CSV file, must be copied to [C:\temp](#) to run as is. The SPL files can be copied somewhere else, but the CSV file will have to be edited to update to the changed folder.

Sample Partial File

* This is an example file with variations to show line formats that will still be valid.

* The first line below has a tab with no comma.

-90 C:\temp\H -90.frd

-80, C:\temp\H -80.frd

-85, C:\temp\H -85.frd

-75, C:\temp\H -75.frd

-70, C:\temp\H -70.frd

-65, C:\temp\H -65.frd

-60, C:\temp\H -60.frd

-55, C:\temp\H -55.frd

-50, C:\temp\H -50.frd

-45, C:\temp\H -45.frd

-40, C:\temp\H -40.frd

-35, C:\temp\H -35.frd

-30, C:\temp\H -30.frd

-25, C:\temp\H -25.frd

-20, C:\temp\H -20.frd

-15, C:\temp\H -15.frd

-10, C:\temp\H -10.frd

-5, C:\temp\H -05.frd

 0, C:\temp\On-Axis.frd

 05, C:\temp\H 05.frd

10, C:\temp\H 10.frd

15, C:\temp\H 15.frd

20, C:\temp\H 20.frd

25, C:\temp\H 25.frd

30, C:\temp\H 30.frd

35, C:\temp\H 35.frd

40, C:\temp\H 40.frd

45, C:\temp\H 45.frd

50, C:\temp\H 50.frd

55, C:\temp\H 55.frd

60, C:\temp\H 60.frd

65, C:\temp\H 65.frd

70, C:\temp\H 70.frd

75, C:\temp\H 75.frd

80, C:\temp\H 80.frd

85, C:\temp\H 85.frd

90, C:\temp\H 90.frd