

TommySoftware® DXF->T3G Version 1.10

1. Usage

1.1 Execution

A TommySoftware® file converter can be started either directly or from within a TommySoftware® application. The usage is equal in both cases.

The program does not require any parameter, but optionally, a path can be supplied, that will be used as the standard setting in the file selector boxes. The TommySoftware® applications automatically pass the current standard path for drawings (e.g. "C:\WINCAD3\DRAWING").

To be able to call the converter from within a TommySoftware® application, it has to be copied into a specific directory. This is, depending on the application, the directory "SYSTEM\CONVERT" oder "CONVERT" inside the applications's directory. You can call the convert afterwards using the CONVERT DRAWING command in the FILE menu of the application.

Otherwise, you can start the program from within the File Manager or the Program Manager of Windows.

1.2. Handling

To convert a single file, select the CONVERT FILE command in the FILE menu or press the key F2. First a file selector box appears, where you have to enter the name of the DXF file to be converted. Then another file selector box appears, where you must enter the name that the produced T3G file shall receive.

After the file name input, the conversion starts. In the lower right corner of the window, the number of converted lines of the DXF file is displayed. A short beep sounds when the conversion is finished.

To convert a complete directory, select the CONVERT DIRECTORY command in the FILE menu or press the key F3. First a file selector box appears, where you have to select the directory that contains the DXF files to be converted. Then another file selector box appears, where you must select the directory into which the produced T3G files shall be stored.

ATTENTION! When converting a complete directory, files within the target directory might be overwritten without warning! In order to avoid trouble, create a new directory to be used as the target directory.

After the directory name input, the conversion starts. In the lower right corner of the window, the number of converted files and, separated by a slash, the number of converted lines of each DXF file is displayed. A short beep sounds when the conversion is finished.

1.3. Parameters

When converting a DXF file into a T3G file, there are several parameters to set:

Origin The origin position determines to which position of the page the origin of the DXF file has to be set to.

Page format The page format settings is used to determine the origin position relative to the page borders. This setting is stored in the produced T3G file.

Unit of the DXF drawing

Most international DXF drawings use the unit [inch] as the standard unit. But some DXF files were designed using [mm] or another unit. As the DXF header does *not* contain any information about the used unit, this unit should be stated here in order to allow a correct translation into the T3G coordinates.

If the unit is neither [inch] nor [mm], you can state a custom unit by entering the definition of that unit in millimeters (e.g. 914.4 for [yard]). This custom unit can also be used to scale the drawing: If you enter 2.0, a drawing based in [mm] will be enlarged by the factor 2.0. If the drawing is based on [inch], enter 5.08 (2×2.54) in order to enlarge the drawing by factor 2.0.

Standard font In addition to the name of the standard font, you can enter a width calibration. This value result in a horizontal scaling of the font.

The standard font in DXF files is about 1.33 times wider than the standard font in T3G files (DINDRAFT). Therefore, this value should normally be set to 1.33.

Drawing area: White / Black

This settings determines, wether the converted drawing is to be displayed on white or

black drawing area. Depending on this setting, the color 7 of the DXF file is either translated to black or white.

Inheritance by: Layers / Blocks

This setting determines which type of inheritance is to be translated during the conversion. It can be either BYLAYER or BYBLOCK. It is not possible to translate both inheritance types at the same time.

2. Conversion features

When converting a DXF file into a T3G file, all relevant definitions of line patterns, layers and blocks (including their attributes) are maintained. The names of these objects stay unchanged.

As the T3G format can only handle two-dimensional data at the moment, the Z-coordinates supplied to any other object will be ignored. Objects that are pure 3-D-objects will be converted into equivalent 2-D-objects.

Texts within DXF files are translated into single-line text objects. Different font styles will not be translated, any text will use the standard font.

3. Important file formats

The TommySoftware® conversion programs can handle several different file formats, that can normally be distinguished by their file name extension. Following a short description of the most important file extensions:

- DXF** The DXF-Format was initially used by the CAD-System AutoCAD® (registered trademark of Autodesk Inc.). It became a standard and can be read and/or written by most of the CAD and graphic applications.
DXF files cannot handle filled area that are more complex than quadrangles. Due to this reason, most applications do not export any fillings, or they have to "emulate" complex areas using triangles and quadrangles.
The DXF file format is frequently changing, because each new release of the CAD system stated above results in more or less extensive changes in the file format. Although this change is necessary for progress, it makes it nearly impossible to be up-to-date.
- MPG** The format MPG 1.0 is used by all graphical applications of TommySoftware®. It is compact and easy to read. Complex filled areas can be described using lines and Bézier curves. The only restriction is the lack of block definitions.
- TVG** The format TVG 1.0 is used by TommySoftware® WINCAD® Release 1. It is mainly equivalent to the MPG format, so both can be converted to each other without any loss of information.
- TVL** The format TVL 1.0 is used by most of TommySoftware®'s applications for storing libraries. Its internal structure is similar to MPG and TVG.
- T2G** The format TVG 2.0 is used by TommySoftware® WINCAD® Release 2. Is is the successor of the TVG format and was extended by block definitions and external references. Furthermore, filled areas can now also be described using circular arcs in addition to lines and Bézier curves.
T2G files are more compact than TVG files. Having the same information content, T2G files use only 70% of the storage in average.
- T2L** The format TVL 2.0 is also used by TommySoftware® WINCAD® Release 2. It is used to store libraries. Its internal structure is similar to T2G.
- T3G** The format TVG 2.0 is used by TommySoftware® WINCAD® Release 3. Is is the successor of the T2G format and was extended by erasers and groups.
T3G files are even more compact than T2G files.
- TAX** The format TAX 3.0 is also used by TommySoftware® WINCAD® Release 3. It contains the same information as TVG 3.0 does, but instead of binary data, it uses a textual representation that can be viewed and changed with any text editor. As a result, a drawing in TAX format is normally slightly larger than an equivalent T3G file.
- T3L** The format TVL 3.0 is also used by TommySoftware® WINCAD® Release 3. It is used to store libraries. Its internal structure is similar to T3G.
- VEK** The format VEK 1.0 is used by the vector graphic program MegaPaint® ST since Version 2.3 on the Atari ST. It features complex areas and groups similar to the MPG format.

We wish you success using our applications and this conversion program!

Your TommySoftware® Team.

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