

DgnXchange User Manual

Version 1.08
October 16, 2003
Tailor Made Software, Ltd

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Background

Introduction

DgnXchange is Tailor Made Software's converter from MicroStation Design (DGN) files to a wide variety of output file formats. DgnXchange converts both DGN 7 and DGN 8 files.

DgnXchange is a command line driven application. It will take a single MicroStation file and convert it to a single output file. Future additions will add the ability to convert multiple files at once, including file in various sub-directories in a directory tree.

DgnXchange currently supports Adobe Portable Document Format (PDF), AutoDesk Drawing Web Format (DWF), the Initial Graphics Exchange Specification (IGES), Hewlett-Packard Graphics Language (HPGL/2) and various raster formats (JPEG, TIFF, PNG).

DgnXchange is only available on Windows 32-bit operating systems. A Linux or UNIX version is not planned at this time.

Installation

Installation

DgnXchange is only available under Windows.

DgnXchange is usually shipped in a ZIP archive. This is because many companies have virus scanning software that will not allow .exe file attachments. You will need to extract the installation program from the Zip archive.

You will then locate and double-click the installer icon ("dgnxchange.exe").

When the first Installer wizard appears, proceed through the wizard panes and do the following:

- Pick the destination directory for the DgnXchange software installation, if you want to install the software in a directory other than the default.
- Agree to the terms of the end-user license agreement.
- Click Finish to conclude the installation.

You will then need to authorize the program. This is a two step process:

Run the program. This will display the Authorization Splash Screen. The Authorization Screen allows you to try the software or authorize a purchased copy. To authorize a purchased copy:

- Look for the "System Id" just above the "Name" field near the bottom of the screen.
- Send the five digit System Id to sales@tailormade.com
- We will send you back the Password. You will need to return to the Authorization Screen and enter:
 - User Name
 - Company Name
 - Password

Operation

Overview

DgnXchange is controlled via the use of an extensive set of command parameters. The parameters are entered from the command line. The use of the command line is detailed under "[Operation](#)".

Unlike previous Tailor Made Software programs, DgnXchange does not use an equal sign ("=") between the parameter name and value. Also, all parameter "names" in DgnXchange are only one character in length and case is important. For instance, "h" is history while "H" is Height.

List of Parameters

<u>i</u>	Input File/Directory Name
<u>o</u>	Output File/Directory Name
<u>t</u>	Color Table File Name
<u>l</u>	Log File Name
<u>f</u>	Output Format
<u>c</u>	Raster Compression
<u>g</u>	Group III/IV Compression
<u>b</u>	Bi-tonal output (Black and White only)
<u>y</u>	Greyscale output
<u>q</u>	Quiet Mode (No messages output)
<u>w</u>	Line Weight
<u>v</u>	Version
<u>h</u>	Program History
<u>H</u>	Drawing Height
<u>W</u>	Drawing Width
<u>S</u>	Drawing Size
<u>O</u>	Drawing Orientation
3	Warn if 3D file

Processing

Command Line Usage

The following is the basic DgnXchange command syntax:

`dgnxchange -i <INPUT FILE > -o <OUTPUT FILE> -f=<FORMAT>`

The main elements of every command are (1) the actions, and (2) any parameters that affect the output.

All command parameters are preceded by a dash (-). Some parameters will be noted as letters and others will be noted as numbers, while others (such as directory paths) will follow the dash with a space and then a text string—as shown in the previous example.

The actions in the above-noted example are indicated by the "-i", "-o" and the "-f", plus the three placeholders—as detailed here:

<INPUT FILE>	<p>This placeholder should be replaced with the name of the input (source) file—the .DGN-format file you want converted. If the input file is not in the same directory as DgnXchange, then the full or relative directory path must be entered—as shown here:</p> <pre>-i c:/MainDir/SourceDir/OrigFile.dgn</pre> <p>The -i is optional if this is the first parameter listed.</p> <p>If there are any spaces in the file name, the file name must be enclosed in quote marks (usually double quote marks on Windows and single quote marks on Linux/UNIX).</p>
<OUTPUT FILE>	<p>This should be the name of the output (resulting) file. If the output file is not to be created in the same directory as DgnXchange, then the full or relative directory path of the destination directory must be entered—as shown here:</p> <pre>-o c:/MainDir/DestDir/NewFile.jpg</pre> <p>The -o is optional if this is the second parameter listed and the input file was the first.</p> <p>This parameter is optional. If not listed, the output file name will default to the input file name with the proper extension for the output type.</p> <p>If there are any spaces in the file name, the file name must be enclosed in quote marks (usually double quote marks on Windows and single quote marks on Linux/UNIX).</p>
<FORMAT>	<p>This specifies the format of the output file.</p>

Examples

To customize the conversion of any output files, you can type additional parameters following the "-o" entry. For example, you may want to customize output as detailed here:

```
-- Convert a .DGN file to .JPG (for Web viewing)
-- Resize this image to 640x480
-- Set up the page orientation as "landscape"
```

If so, type the additional parameters as shown here:

```
DgnXchange -i <SOURCE_FILE.DGN> -o <RESULTING_FILE.JPG > -f JPG -W
640 -H 480 -r LANDSCAPE
```

Another example shows the additional parameters needed to accomplish the following:

```
-- Convert a .DGN file to .DWF for display in CADViewer
```

```
DgnXchange -i <SOURCE_FILE.DGN> -o <NEW_FILE.DWF> -f DWF
```

Operation

You can configure a process on your server that makes use of DgnXchange in two ways:

1. process single files or collections of files in a single session
2. use a kron-type application to run DgnXchange at set times to scan a particular folder/directory and automatically convert all files loaded into this folder—storing the converted images in a designated destination directory.

You should note down a list of files you want to convert, record the exact directory pathways for source and destination directories, and have some idea of which custom parameters you'd like to apply to the conversion process. (Complete information on the parameters can be reviewed in "[Command Parameters](#)").

The basic operation is:

1. Enter the command and all relevant [parameters](#)
2. Press Return/Enter to start the conversion process.
3. When the conversion is complete, the terminal window will display a status message.
4. Repeat this process to convert other files at this time.

Parameters

Black and White

PARAMETER	
Purpose	b This parameter selects Black and White only mode. Output will be Black on a White background
Example	-g
Values	1 or Black and White only nothing 0 Normal Color mode
Default	0 - Normal color mode
Use	All formats

Color Table File

PARAMETER	
Purpose	t This parameter defines the color table file name.
Example	-c "c:\temp files\color_table.tbl"
Default	color.tbl
Use	With all graphic formats

Compression

PARAMETER	
Purpose	c This parameter controls the compression used for certain file formats
Example	-c RLE
Values	RLE Run Length Encoded PAC PacBits BIN Binary ASC Ascii
Use	DWF: Uses BIN and ASC TIFF: Uses RLE and PAC

Drawing Size

PARAMETER	
Purpose	S This parameter defines the "paper" size for certain vector formats
Example	-S C
Values	A - US A size B - US B size

	C - US C size D - US D size E - US E size A0 - DIN A0 size A1 - DIN A1 size A2 - DIN A2 size A3 - DIN A3 size A4 - DIN A4 size A5 - DIN A5 size
Default	A
Used By	PDF, PS, EPS, HPGL, HPGL/2

Drawing Orientation

PARAMETER	O
Purpose	This parameter defines how the drawing is fit on the "paper" for certain vector formats
Example	-O 1
Values	0 - Calculate best fit 1 - Force to portrait (taller than wide) 2 - Force to landscape (wider than tall)
Default	0
Used By	PDF, PS, EPS, HPGL, HPGL/2

GreyScale

PARAMETER	y
Purpose	This parameter selects Greyscale mode. Output will be shades of Grey on a White background.
Example	-y
Values	1 or nothing Greyscale mode 0 Normal Color mode
Default	0 - Normal color mode
Use	Most raster formats

Group Type

PARAMETER	g
Purpose	This parameter controls the compression group for certain forms of TIFF output

Example	-g 3	
Values	0	No compression
	3	Group 3 Compression
	4	Group IV Compression
Use	TIFF	

History

PARAMETER	h
Purpose	This parameter lists the various versions of DgnXchange and major items that changed with each version. This is a purely informational parameter
Example	-h
Note	If this parameter is used all other parameters are ignored and the program execution will stop after the history is given.

Input File

PARAMETER	i
Purpose	This parameter defines the input file name.
Notes	You can use wildcards to perform multiple file conversions. * will match any remaining character(s). ? will match any given character.
Example	-i "c:\temp files\my file.dgn" -i c:\temp*.dgn
Use	With all graphic formats

Line Width

PARAMETER	w
Background	MicroStation does not use absolute line widths. Instead each entity has a width from 0-31. This represents the number of pixels wide the representation of the entity should be. Zero is used to designate the thinnest line possible on the output device.
Purpose	Defines the width of each step (0-31).
Values	Depends on the format
Default	0

Use	All output formats
Example	-w 0.5
	Will multiply each step value by 0.5 to get the appropriate width. So a line with a DGN width of 4 will have an output width of 2. 0.5 seems to work well for PDF files.

Log File Name

PARAMETER	l
Purpose	This parameter defines the log file name.
Notes	If this parameter is omitted then messages will only be output to the screen. If this parameter is defined then messages will be output to both the screen (depending on the value of -q (quiet)) and to the log file
Example	-l "c:\temp files\my log.log"
Use	With all graphic formats

Output File

PARAMETER	o
Purpose	This parameter defines the output file name.
Notes	This parameter is ignored if wildcards were used in the input file name .
Example	-o my_output.dwf
Use	With all graphic formats

Output Format

PARAMETER	f														
Purpose	This parameter defines the file type for the output file.														
Example	-f DWF														
Values	<table> <tr> <td>DWF</td> <td>Drawing Web Format</td> </tr> <tr> <td>PDF</td> <td>Portable Document Format</td> </tr> <tr> <td>PS</td> <td>Adobe Postscript</td> </tr> <tr> <td>EPS</td> <td>Adobe Encapsulated Postscript</td> </tr> <tr> <td>IGES</td> <td>Initial Graphics Exchange Specification</td> </tr> <tr> <td>PLT</td> <td>HP-GL and HPGL/2 *</td> </tr> <tr> <td>JPEG, JPG</td> <td>Joint Photographers Expert Group</td> </tr> </table>	DWF	Drawing Web Format	PDF	Portable Document Format	PS	Adobe Postscript	EPS	Adobe Encapsulated Postscript	IGES	Initial Graphics Exchange Specification	PLT	HP-GL and HPGL/2 *	JPEG, JPG	Joint Photographers Expert Group
DWF	Drawing Web Format														
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PLT	HP-GL and HPGL/2 *														
JPEG, JPG	Joint Photographers Expert Group														

	PNG	Portable Network Graphics
	TIFF	Tagged Input File Format
	CCITT	TIFF Group IV
	CALS	CALS Raster (type depends on version parameter)
	PSD	Photoshop
	SUN, RAS	Sun Bitmap Format
	WPG	Word Perfect Graphics
	PCX	ZSoft PCX
	GEM	Digital Research GEM
	IFF	Interchange File Format
	MAC	MacPaint
	MSP	Microsoft Paint
	XBM	X Bitmap
	ITG	Intergraph Raster
	XPM	X PicMap
	XWD	X-Windows Dump
	BMP	Windows Bitmap
	OS2	OS/2 Bitmap
	WMF	Windows Metafile (Raster only)
	TGA	TARGA Bitmap
	PCT	MacPICT
	PBM	Portable Bitmap Utilities
	PGM	Portable Greymap Utilities
	PPM	Portable Pixmap Utilities
	AWD	Microsoft AWD Fax
	FAX	Generic Fax
	WFX	WinFAX
	?	List all output formats
Use	With all graphic formats	

Parameter List

PARAMETER	
Purpose	? This parameter lists all of the parameters that are valid for DgnXchange. This is a purely informational parameter
Example	-?
Note	If this parameter is used all other parameters are ignored and the program execution will stop after the parameter list is given.

Quiet

PARAMETER	q
Purpose	This parameter controls whether messages are output to the screen or not.
Example	-q
Default	Off - all messages output to the screen
Use	With all graphic formats

Raster Height

PARAMETER	H
Purpose	This parameter defines the height, in pixels, of the raster image.
Example	-W 7500
Default	5000

Raster Width

PARAMETER	W
Purpose	This parameter defines the width, in pixels, of the raster image.
Example	-W 7500
Default	5000

Version

PARAMETER	v						
Purpose	This parameter sets the output file version to be created.						
Example	-v 4						
Default	None						
Use	<table> <tr> <td>DWF</td> <td>3, 4 or 5</td> </tr> <tr> <td>PDF</td> <td>3, 4 or 5</td> </tr> <tr> <td>HPGL</td> <td>1 or 2</td> </tr> </table>	DWF	3, 4 or 5	PDF	3, 4 or 5	HPGL	1 or 2
DWF	3, 4 or 5						
PDF	3, 4 or 5						
HPGL	1 or 2						

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