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Batch Conversion

MicroStation V8

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Introduction

Batch Convert is a utility that was first delivered with MicroStation V8 (08.00.01.xx). It is an application that may be used to convert individual files, groups of files, or entire folders of files from any of the supported design formats to any supported format (DGN, DWG, and DXF).

Currently the supported formats include the MicroStation V7, MicroStation V8, MicroStation cell libraries, AutoCAD DWG, AutoCAD DXF (AutoCAD 11/12 – 2007/2008 DWG files) IGES, STEP, CGM, XMT, SAT, and XTL formats.

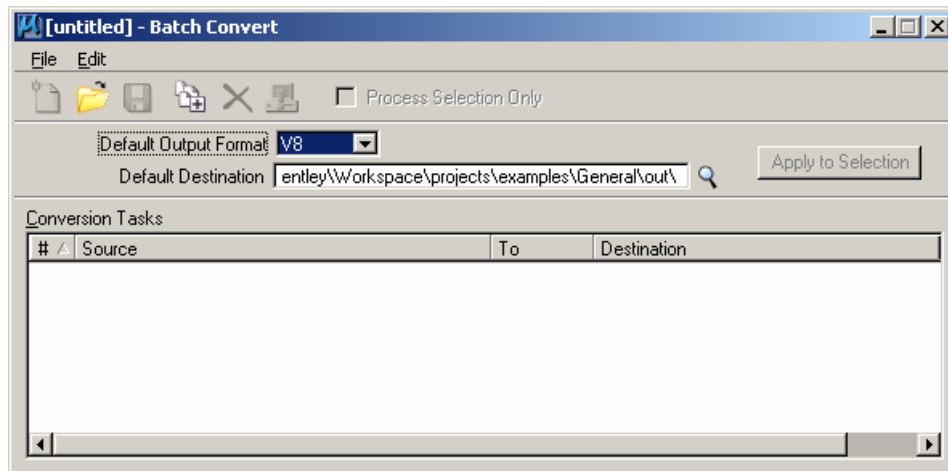
The conversion process may be performed using the files as they were created or by applying remapping “rules” to control conversion of levels, fonts, linestyles, colors, or weights in any combination. The remapping environment provides a robust set of criteria that may be used to govern how the remapping is applied to the elements in the source file. With remapping applied to a conversion, the user can control the attributes of the elements in the output file.

This session will guide you through the usage of the Batch Convert utility, including remapping, to control the conversion from one CAD format to another. You will learn more about:

- How to invoke the Batch Convert utility
- Set up the Batch Convert job
- Save / Recall a Batch Convert Job file
- Batch Convert Log File
- Processing the Batch Convert job
- Apply Batch Convert options to control element attributes
- Run the Batch Convert utility from a Command Prompt
- Use Batch Convert to apply **“your”** CAD standards

The MicroStation V8 Batch Conversion Utility

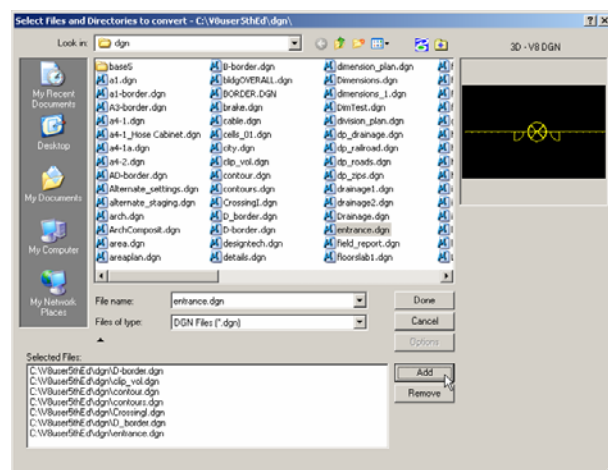
Batch Convert is located on the Utilities pulldown menu. To start the Batch Convert application, select Utilities > Batch Converter from MicroStation's Main Menu.



Setting up a Batch Conversion

The following will guide you through setting up a Batch Convert Job.

1. The first step in using the Batch Convert utility is to set up a Batch Conversion **Job**. The Default Output Format is selected along with a Default Destination folder. If the folder does not exist, it will be created when the Batch Convert job is processed.
2. Next the conversion **tasks** are selected by clicking on the Add Files or Directories icon. This will open a file selection dialog.



Select the files desired and click the Add button. When the desired list for conversion has been created, click the Done button to return to the Batch Convert dialog.

3. If desired, the Source, To, or Destination may be modified. This includes adding a standard file filter.

For example, if you wanted to convert all the files in the directory and its subdirectories, the source column entry would read:

```
d:\prj007625\*\
```

If you want to convert all the files with the extension .ROW from directory d:\prj007625\ and its subdirectories, the source column entry would read:

```
d:\prj007625\*\*.row
```

Notes on the use of Batch Convert:

- Different rows can have different output formats and destination directories.
- The order of conversion is indicated by the sequence number column (which has the heading "#").
- Rows can be removed from the conversion table using either the *Remove Conversion* selection in the *Edit menu*, or the *Remove* icon.
- Conversions can be sorted by any of the columns, but the *Edit menu* options that modify the order are enabled only when sorting by the "#" column in ascending order.
- If DWG or DXF files are involved as source files, the settings accessed through the *DWG Open Options* selection on the *Edit menu* are used.
- If any files are to be output in those formats, the settings accessed through the *DWG Save Options* selection on the *Edit menu* are used.
- The *Log file Options* selection on the *Edit menu* is used to set a log file and to specify whether it should be emptied prior to conversion processing.

Saving and recalling Batch Convert jobs

If you plan to perform file format conversions more than once, you should consider saving your batch convert setup as a "job." To do this, click the Save Batch Convert Job icon or select the Save option from the File menu. The default extension for batch conversion job files is .bcnv. Once you have saved a batch conversion job, you can recall it by clicking on the Open Batch Convert Job icon or selecting Open from the File menu. The DWG open and save options, the log file name and all conversion tasks are saved to the batch conversion job file. The batch conversion job file is a text file similar to Windows initialization files and can be edited with a text editor, if desired.

```

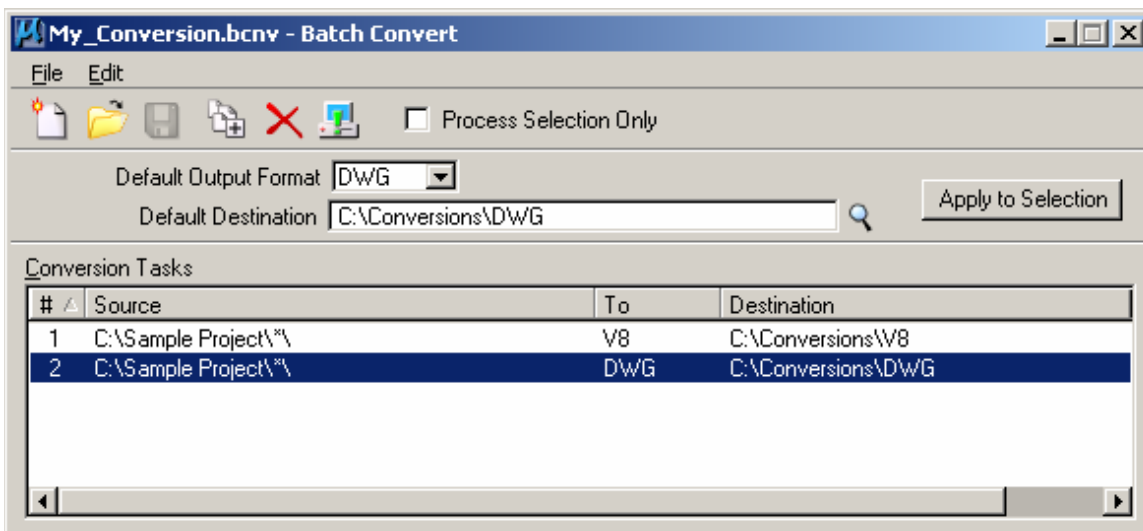
My_Conversion.bcnv - Notepad
File Edit Format View Help
[DEFAULTDESTINATIONDIR=C:\Documents and Settings\All Users\Application
Data\Bentley\workspace\projects\examples\General\out\]
[DEFAULTDESTINATIONFILETYPE=V8]
[LOGFILE=_USTN_OUT:batchprocess.log]
[CLEARLOGFILE=1]
[SETTINGS=dwgopenGlobals]
  designBackgroundColor.red=0
  designBackgroundColor.green=0
  designBackgroundColor.blue=0
  sheetBackgroundColor.red=255
  sheetBackgroundColor.green=255
  sheetBackgroundColor.blue=255
  dgnSeedFile=C:\Documents and Settings\All Users\Application
Data\Bentley\workspace\system\seed\transeed.dgn
  archEngUnitsMode=1125
  decimalUnitsMode=1000
  normalCellMode=0
  flags.openPaperSpaceAs2D=0
  flags.openModelSpaceAs2D=0
  flags.disableUnitsDialog=0
  flags.setAxisLockFromOrthoMode=0
  flags.disallowLogicalNameFromXRefBlockNames=0
  flags.useWeightMap=1
    
```

Note:

If you batch convert drawings using similar parameters but with different source drawing files, you can save a Batch Convert Job File with the basic parameters set up but without any drawings listed. You would then have a Batch Convert “seed file” to use when creating new batch conversions.

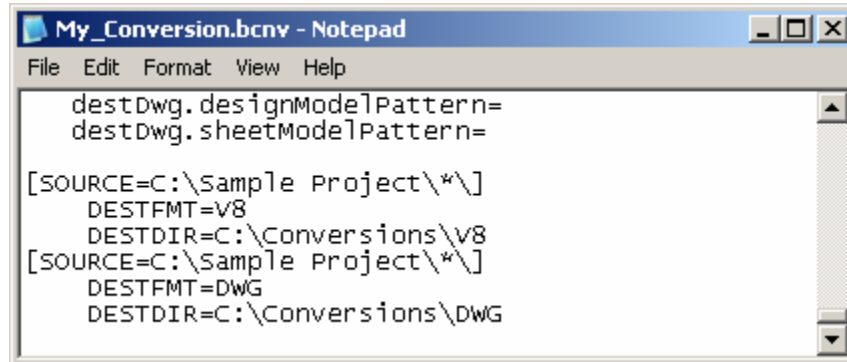
It is also possible to specify multiple formats to save to. This can be set up when creating the project. The same Conversion Task (input) may be listed multiple times with different Default Output Formats and Default Destination folders.

The multiple selections may be accomplished graphically in the dialog as illustrated:



or

by editing the Batch Convert Job File (.bcnv) with a text editor.



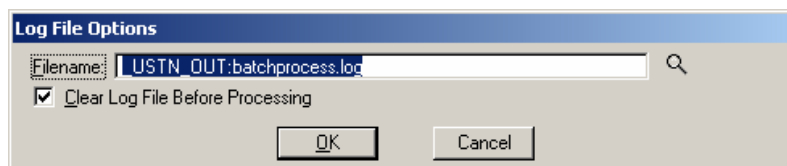
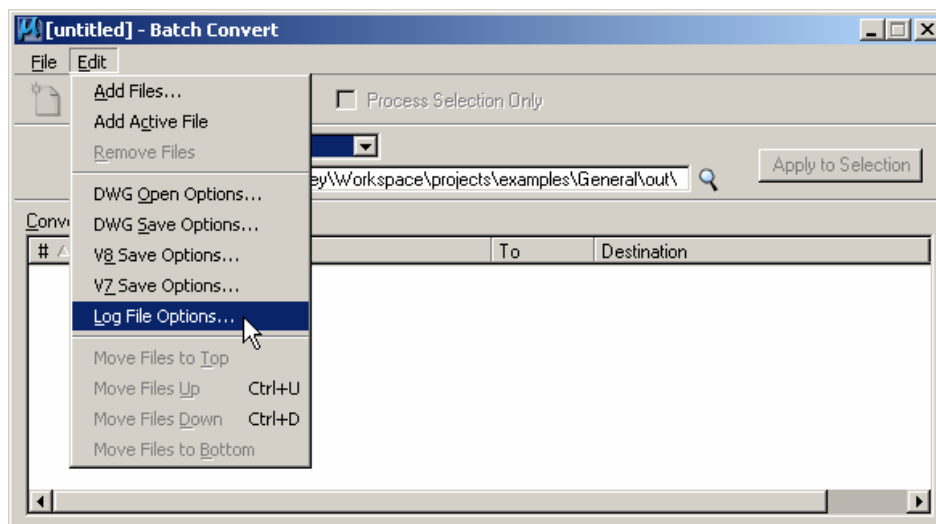
```

destDwg.designModelPattern=
destDwg.sheetModelPattern=

[SOURCE=C:\Sample Project\*\]
  DESTFMT=V8
  DESTDIR=C:\Conversions\V8
[SOURCE=C:\Sample Project\*\]
  DESTFMT=DWG
  DESTDIR=C:\Conversions\DWG
  
```

The Batch Convert Log File

A Batch Convert Log File is a useful tool to track the success of your Batch Convert project. The Log file may be configured by selecting *Edit > Log File Options* and selecting a path and file to write to.



Processing the Batch Convert job

When the batch conversion job is set up as desired, the conversion process can be started by clicking on the Process Batch Convert Job icon or selecting *File > Process...* from the main menu. If you want to convert only a portion of the job, select the rows that are to be processed and turn on the Process Selections Only toggle.

When the conversion is started, a dialog appears displaying a list of the files to be converted and the progress of the overall conversion job (Figure 4).

Notes on Processing Batch Conversion jobs

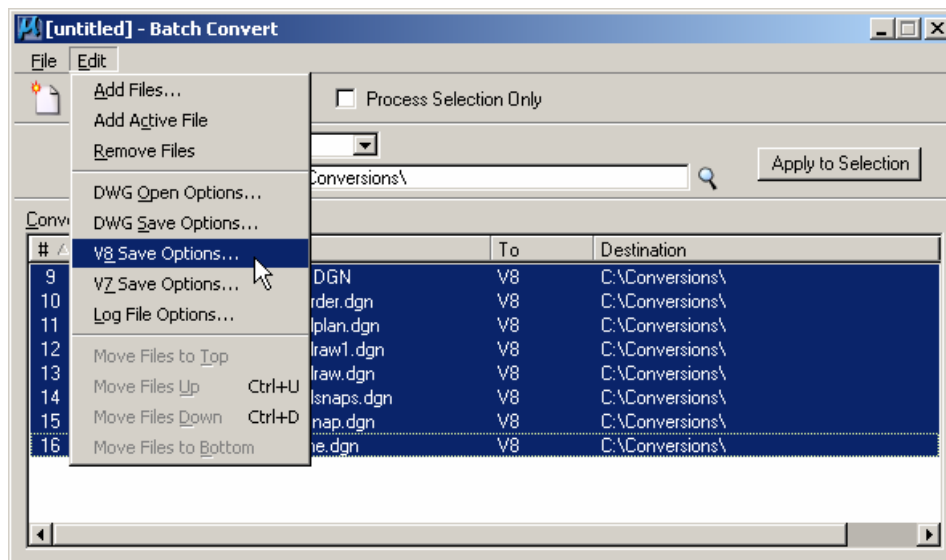
- If the source format is the same as the output format, the source file is simply copied from the input location to the output directory.
- When feasible, Batch Convert uses the source file name for the output file. When the source is in MicroStation/J or MicroStation V8 format and the output is an AutoCAD file, the output extension is automatically set to *.dwg* or *.dxf* as appropriate. If there are multiple files with the same root name (differing only in extension) in the source directory, the extension is incorporated into the output file name. This is due to the fact that all AutoCAD files must have the *.dwg* or *.dxf* extension.
- Batch Convert checks to see if the output file exists, and, if so, whether it is the same date as the source file. If so, it does not bother to convert or copy the source file to the output.
- The file time of the output file is set to match the file time of the input. This feature makes it feasible to run the batch conversion application for a job frequently, updating the output versions of only those source files that have changed. It also makes it possible to restart a batch conversion job. When the destination file is up to date, the Status column indicates that fact.
- When the conversion process is started, the *Convert* button automatically changes to "*Pause*." Clicking *Pause* directs Batch Convert to pause after converting the current file. The button then changes to *Resume*. The application never stops in the middle of converting a file.
- If MicroStation/J or MicroStation V8 files are being converted to AutoCAD files, and the *Save References As DWG/DXF* toggle in the *DWG Save Options* is turned ON, then the references of each file are processed, as well as the master file. In certain instances, this results in the automatic conversion of some files that are in the batch conversion job before they are reached in the table. In such a case, the Status column will change to *Already Converted* when the batch conversion process reaches such a file.
- When the conversion process is finished, the *Convert / Pause / Resume* button changes to read *Done*, and the *Cancel* button is disabled. Clicking *Done* closes the dialog.
- Clicking the *Cancel* button stops the batch convert job after the current file is finished.
- As files are converted, the status of the conversion is displayed in the Status column, and the time required for the conversion or copy is displayed in the Time column.
- Details about the conversion process are written to the log file. This log file can be opened using any text editor, such as Notepad.

- When the conversion process ends, the log file table can be sorted by any column. In particular, it can be quite useful to sort by the Status or Time fields.

Apply Batch Convert options to control element attributes

Batch conversion can be a very useful tool to “*simply*” convert from one format to another, but you may often find that it is necessary to *control* the conversion process. This is the function of Batch Convert Options. Batch Convert Options are provided for the following:

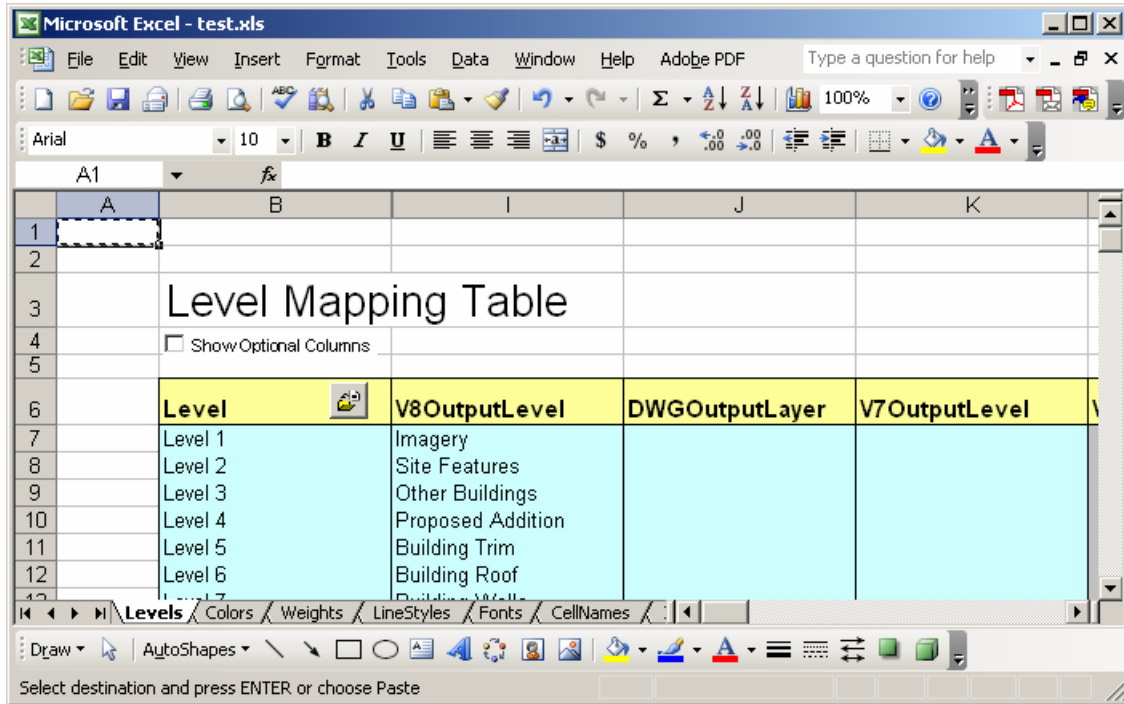
- DWG Open Options
- DWG Save Options
- V8 Save Options
- V7 Save Options



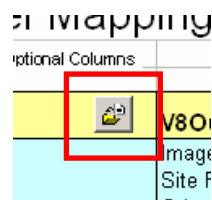
There are many similarities between the different options. In general, you may control the mapping of levels, fonts, line styles, colors, line weights, and cell names as well as DWG specific settings such as DWG / DXF version, unit designation, and a DWG Seed File.

MicroStation V8 uses a Comma Separated Value (CSV) file to control the remapping of design graphics. CSV files may be applied to V7, V8, and DWG file formats during conversions. A CSV file is a text file with “columns” of information where each column is separated by a comma. It is possible to edit CSV files with any text editor but Excel is especially handy! When the file is opened with Excel, there are macros to make the set up of the remapping easier. The CSV, when opened, will look like any other XLS file.

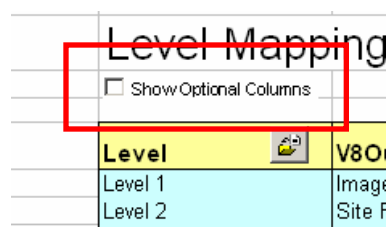
When configuring remapping, each remap category will be located on separate tabs within Excel. The graphical editing environment of Excel simplifies the configuration of the remap.



The remapping operations let you change the value of an element parameter in the converted by establishing a “search” and a “substitution” when the search criteria are met. For example, when configuring levels it is possible to populate the values by selecting the button to obtain values from the open drawing file.



It is also possible to refine the search by displaying additional “qualifiers” using the Show Optional Columns toggle.



By refining the search through the use of remapping qualifiers, it is possible to be very specific for the item being located. This would allow text or dimensions to be manipulated separately from line work that exist on the same level in the input file.

The primary keys (level, colors, etc.) as well as the qualifiers and output actions also support special values called keywords. Keywords are special values that may be used to help control the search for elements.

Some examples of keywords are:

- %match
- %bylevel
- %drop
- %unmapped

An example of a keyword used in the remapping environment might be used to control converting colors in a V7 DGN to ByLevel color in a V8 DGN.

Color	V7OutputColor	V8OutputColor	DWGC
1		%bylevel	
2		%bylevel	
3		%bylevel	
4		%bylevel	
5		%bylevel	
6		%bylevel	
7		%bylevel	

Run the Batch Convert utility from a Command Prompt

The batch conversion application can be run from a Command Shell. To use Batch Convert in this mode, first create and save a batch conversion job in the manner described. Next, open a Command Prompt.

Start > Programs > Accessories > Command Prompt

From the Command shell prompt, enter the command:

```
ustation -wbatchconvert -i[path to Batch Convert Job File.bcnv]
```

For example:

```
ustation -wbatchconvert -iC:\Sample_Proj\sample.bcnv
```

Use Batch Convert to apply “your” CAD standards

When converting your drawings, it is possible to apply a remapping environment to perform a “**standards check**” during the conversion. This is accomplished by creating a “specs checker” remapping CSV file to look for elements that were defined correctly in the input file and pass them through the conversion normally while elements that fail the check are moved to a special level or color.

The rules for the “*standards check*” CSV file may be pulled from your level library by exporting the level definitions to a CSV file. This data may then be copy/pasted from the level definitions data into the “*standards check*” CSV file.

This method allows a file to be searched for elements that match (or can match) design standards and move those that do not to a combination of attributes (level, and/or color, and/or style, and/or weight) to make them easy to isolate and deal with.

Remember, the general rule is: garbage in, garbage out (GIGO)!



Remember, Garbage In – Garbage Out!