

# The CEDRA Corporation's COMMAND OF THE MONTH

A monthly information bulletin

December 2012

FEATURED COMMAND  
Exporting ArcMap  
Line Symbols w/ DXF



## Application Description

Those of you who have created DXF files know that line symbols in ArcMap have always been impossible to export. Point symbology can be exported, however, ArcMap line symbology is just not conducive to the DXF format.

Line symbology in ArcMap is stored in an entirely different manner than AutoCAD linetypes. As such, this makes the exporting of line symbology very difficult.

Recently we came up with an idea that goes a long way in helping to export ArcMap line symbology.

## The CEDRA Solution

To address the application described above, the [Line Symbol Mapping] command within the {CEDRA-ArcMap2DXF-Tools} toolbar, shown in Figure 1, was created.

Prior to performing an export with the [Create DXF File] command, the user can employ the [Line Symbol Mapping] command to assign specific AutoCAD linetypes to desired ArcMap layers and/or classifications. In so doing, when the [Create DXF File] command is employed, the command will know which linetype should be used for a particular layer or classification.

## Line Symbol Mapping Overview

The *Line Symbol Mapping* menu command provides the user the means to relate an ArcMap line symbol, which is

associated with a layer or a classification within a layer, to a specific AutoCAD linetype.

To relate an ArcMap line symbol to an AutoCAD linetype, CEDRA-AVcad employs the ASCII file titled *aclinetypes.txt*, which is included in the *cedra\avprjs* directory. The *aclinetypes.txt* file can be modified by the user with any text editing software, such as *Notepad*, or *WordPad*, to suit personal preferences. The *aclinetypes.txt* file contains a list of the available AutoCAD linetype names that can be used in the exporting process.

### Command Of The Month bulletin

*This month's issue discusses how to export ArcMap line symbols in a DXF file using the Line Symbol Mapping command.*

Specifically, the *Line Symbol Mapping* menu command enables the user to:

- define a line symbol mapping,
- create a line symbol mapping file and
- read a line symbol mapping file.

A line symbol mapping is nothing more than a layer name or classification name that is associated with an AutoCAD linetype name. An AutoCAD linetype name can be mapped to as many layer or classification names as desired.

In exporting ArcMap line symbols, the [Create DXF File] menu command searches

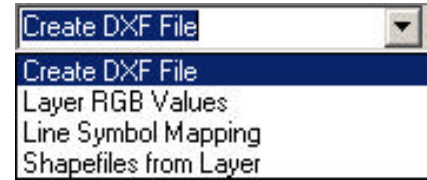


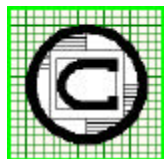
Figure 1  
CEDRA-ArcMap2DXF-Tools  
Combo Box

the list of line symbol mappings for a match on a layer name or a classification name. If a match is found, the AutoCAD linetype that is mapped to the layer or classification name is assigned to the layer that is exported.

As such, when the DXF file is opened, the layer will be drawn using the assigned AutoCAD linetype. Note that the AutoCAD LTSCALE command may need to be used to obtain the desired linetype effects, that is, the linetype pattern is visible.

The *aclinetypes.txt* file, a sample of which is shown in Table 1, is comprised of a list of names. The names which are specified in this file are AutoCAD linetype names. There is no limit to the number of AutoCAD linetype names that can be specified in this file.

Shown in Table 2 is a sample line symbol mapping file. Two entries appear per data line with the first entry being the name of the layer or classification as it would appear in the DXF file and the second entry being the name of the AutoCAD linetype assigned to the layer or classification.



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Table 1  
File aclinetypes.txt  
Available AutoCAD Linetype  
Names List

```

/*
/* LIST OF AVAILABLE
/* AutoCAD Linetypes
/*
/* This file is used to
/* map ArcMap Line Symbols
/* to specific AutocAD
/* linetypes
/*
ACAD_IS002W100
ACAD_IS003W100
ACAD_IS004W100
ACAD_IS005W100
ACAD_IS006W100
ACAD_IS007W100
ACAD_IS008W100
ACAD_IS009W100
ACAD_IS010W100
ACAD_IS011W100
ACAD_IS012W100
ACAD_IS013W100
ACAD_IS014W100
ACAD_IS015W100
BATTING
BORDER
BORDER2
BORDERX2
CENTER
CENTER2
CENTERX2
Continuous
DASHDOT
DASHDOT2
DASHDOTX2
DASHED
DASHED2
DASHEDX2
DIVIDE
DIVIDE2
DIVIDEX2
DOT
DOT2
DOTX2
FENCELINE1
FENCELINE2
GAS_LINE
HIDDEN
HIDDEN2
HIDDENX2
HOT_WATER_SUPPLY
PHANTOM
PHANTOMX2
TRACKS
ZIGZAG

```

Table 2  
Sample  
Line Symbol Mapping File

```

L_OPL, DASHED
Class_0, CENTER
Class_1, GAS_LINE
Class_2, Continuous
Class_3, TRACKS
Class_4, DASHDOT

```

### Line Symbol Mapping Operation

To use this tool command, the user should:

- 1 **Click** at the {CEDRA-ArcMap2DXF-Tools} [Line Symbol Mapping] menu command to display the choice list of Figure 2. The selection made here will denote the menu command's mode of operation.
- 2 **Scroll** down in the *Item List*: data field, and **select** the:
  - **Define Line Symbol Mapping** option to denote that line symbol mappings are to be defined and/or modified.
  - **Export Line Symbol Mapping File** option to denote that existing line symbol mappings are to be exported to an ASCII based file.
  - **Import Line Symbol Mapping File** option to denote that an existing line symbol mapping file is to be imported.
- 3 **Click** at the **OK** button, to continue,  
or

**click** at the **Cancel** button to abort the command.

Having clicked at the *OK* button, the command branches to operate in the desired mode of operation.

#### A. Define Line Symbol Mapping

Under this mode of operation, the user is able to define and/or modify line symbol mappings. Once the mode of operation has been specified, a horizontal dialog box similar to that shown in Figure 3 will appear.

Two columns are presented in the dialog box with the left-most column containing the name of the layer or classification to be processed. The right-most column denotes the AutoCAD linetype name that is to be mapped to the layer or classification. The order of the layer and classification names is identical to that shown in the ArcMap Table of Contents. However, the name of the layer or classification will be displayed as how it would appear in the DXF file, which may vary from how it appears in the Table of Contents.

Note that only the name of polyline layers will appear in this dialog box. A maximum of 10 rows will appear at a time in the dialog box. If there are more than 10 layers or classifications to be processed, multiple pages will be presented. The **Back** button in the dialog box can be used to return to a previous page, while the **OK** button can be used to advance to the next page. Clicking the **OK** button at the display of the last page will terminate the command.

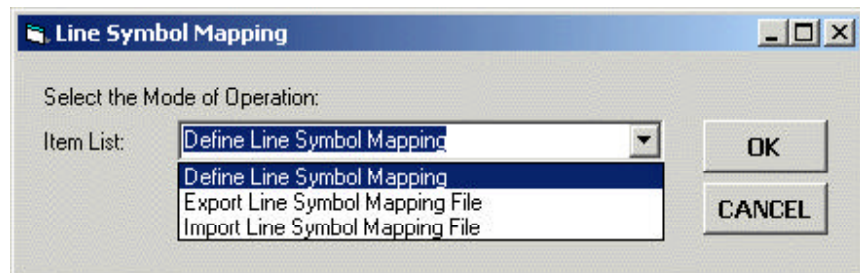


Figure 2  
Mode of Operation Dialog Box

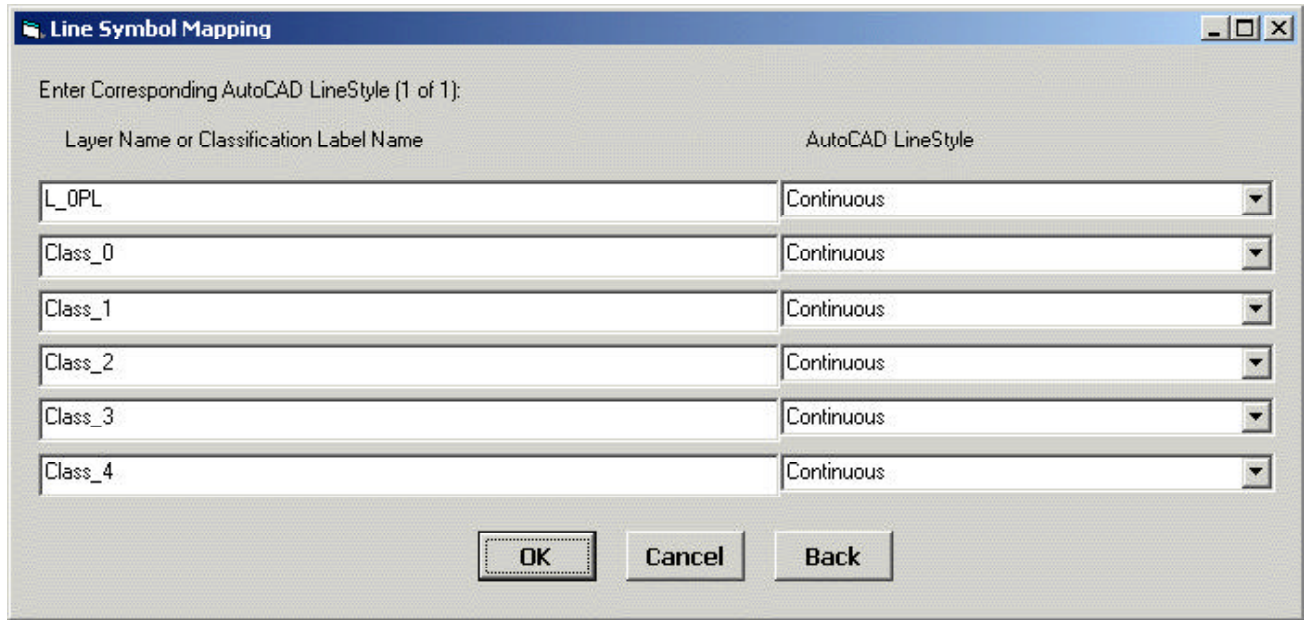


Figure 3  
Define Line Symbol Mapping Dialog Box

- 4 Scroll down in the *AutoCAD LineStyle:* data field for the desired layer or classification name, and select the desired AutoCAD linetype name. The names which appear in this choice list are the names in the same order as they appear in the *aclinetypes.txt* file discussed at the beginning of this section.
- 5 Click at the **OK** button, to terminate the command or continue to the next page if one exists, or click at the **Cancel** button to abort the command, or click at the **Back** button to return to the previous page, if one exists.

Having clicked at the *OK* button, the command stores in memory the line symbol mappings. As such, when this option is invoked again, the command will remember the previous mappings. To save or store the mappings to disk, the *Export Line Symbol Mapping File* option must be selected. If this is not done, the mappings will be lost upon exiting ArcMap.

**B. Export Line Symbol Mapping File**

Under this mode of operation, the user is able to create an ASCII based file containing the line symbol mappings that have been defined. If no line symbol mappings have been established, the warning message of Figure 4 will be displayed.

If the user has established line symbol mappings, the dialog box shown in Figure 5 will be displayed.

- 4 Enter in the *Filename:* data field the full path name of the line symbol mapping file to be created, or accept the default filename, or click on top of the **File Folder** icon to display a conventional file selection window, navigate to the desired directory where the new file to be created is to be located, enter the desired name of the new file, and then click at the **Save** button to return to the dialog box of Figure 5.

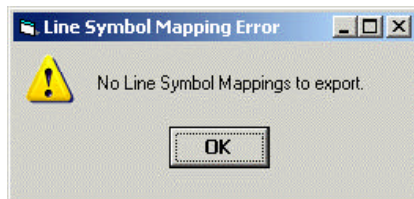


Figure 4  
No Line Symbol Mappings Defined  
Warning Message

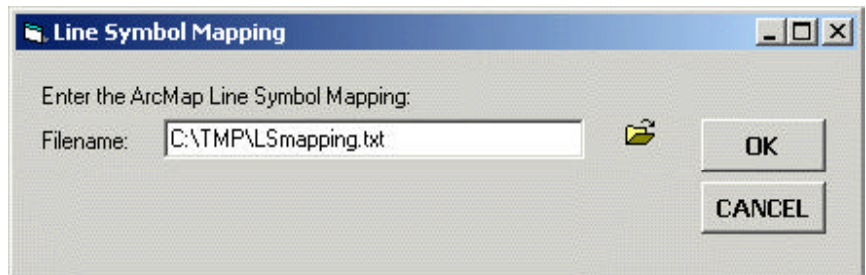


Figure 5  
Export Line Symbol Mapping File

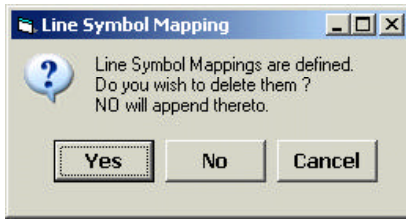


Figure 6  
Existing Line Symbol Mappings  
Defined Query

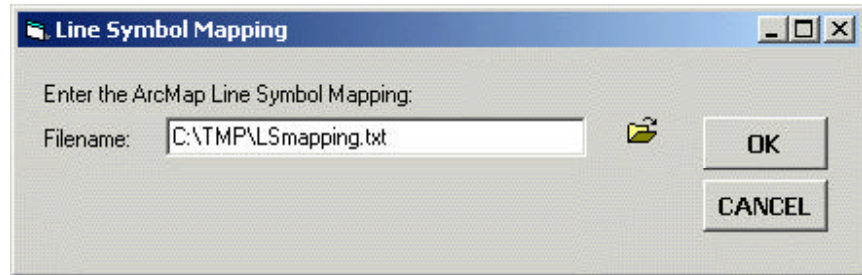


Figure 7  
Import Line Symbol Mapping File

- 5 Click at the **OK** button, to create the line symbol mapping file, or click at the **Cancel** button to abort the command.

Having clicked at the *OK* button, the command processes all of the defined line symbol mappings and writes the information to the specified file. Upon completion of the processing, a message stating how many line symbol mappings were processed will appear in the status bar area. Table 2 contains a sample of what the contents of this file would look like.

### C. Import Line Symbol Mapping File

Under this mode of operation, the user is able to import or read an ASCII based file containing line symbol mappings. If line symbol mappings have been established, the query message of Figure 6 will initially be displayed. If this is not the case, a dialog box similar to that shown in Figure 7 will appear where the user should proceed to Step 5, otherwise:

- 4 Click at the **Yes** button, to indicate that the existing line symbol mappings are to be overwritten, or click at the **No** button to indicate that the line symbol mappings in the line symbol mapping file are to be added to the existing line symbol mappings, or click at the **Cancel** button to abort the command.

- 5 Enter in the *Filename:* data field the full path name of the line symbol mapping file to be imported, or accept the default filename, or click on top of the **File Folder** icon to display a conventional file selection window, navigate to the directory where the desired file to be read is located, enter the name of the existing file, and then click at the **Save** button to return to the dialog box of Figure 7.

- 6 Click at the **OK** button, to import the line symbol mapping file, or click at the **Cancel** button to abort the command.

Having clicked at the *OK* button, the command reads the line symbol mapping definitions and stores them in memory. Upon completion of the processing, a message stating how many line symbol mappings were read, as well as how many total line symbol mappings are defined, will appear in the status bar area.

### Notes

- a. Any files modified by the user in the `\cedra\avprjs` folder should be copied into another folder as a backup. When updates are installed, these files may be overwritten by the installation program. As such, the user should maintain a backup of any files that are modified in the `\cedra\avprjs` folder.

- b. If a linetype does not draw as expected when the DXF file is opened, try using the `LTSCALE` command with a different value or reload the linetype file from disk.
- c. The following AutoCAD commands: `MKSHAPE`, `SHAPE` and `MKLTYPE` can be used to create a custom linetype from within AutoCAD.

### Summary

As with the exporting of ArcMap point symbols, the exporting of ArcMap line symbology has been a long time item on our development list. The addition of the [Line Symbol Mapping] command goes a long way in being able to export ArcMap line symbology in an efficient manner. We are pleased to have made the enhancement and hope our users find it as useful as we do.

Users with a software support agreement should check with The CEDRA Corporation on how to obtain a software update so as to be able to utilize this new functionality.

As always, users who have a need for functionality that is not presently available in CEDRA software should feel free to forward these requests to CEDRA, as well as, any other comments or suggestion you may have.

*If you have a request for Command Of The Month, feel free to phone, fax or e-mail your request to The CEDRA Corporation.*