

Configuring AutoCAD Electrical for Enhanced Productivity

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About the speaker

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Using AutoCAD since 1984, and AcadE since 1996. 21st year presenting at Autodesk Universities.

Wrote original AOTC training manuals for AutoCAD Electrical.



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Modifying the WD.ENV Environment File

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About the WD.ENV File

ABOUT THE WD.ENV FILE

Used as a startup and default path file.

Located in AeData folder.

Alternate project specific files can be used.

PATH ALIASES

%SL_DIR% - represents the base folder for the AutoCAD Electrical "Libs" folder.

%WD_DIR% - represents the base folder where the WD.ENV file is located. (Useful in shared environments.)

Note: Only one alias can be used per line in WD.ENV.

EDITING THE WD.ENV FILE

An external text editor such as Wordpad, Notepad, or Word must be used.

Format is:

Environment Code,Setting, Description

Anything following an asterisk (*) is a comment

```

.....
* Symbol Insertion and Library Paths
.....
WD_LIB,I:\CAD\AutoCAD Electrical\AeData\AU_Custom;%SL_DIR%\nfpa;%SL_DIR%\nfpa/1-;%SL_DIR%
WD_PNL,I:\CAD\AutoCAD Electrical\AeData\AU_Custom;%SL_DIR%\panel, AU Panel and panel layo
*WD_CIRCBUILDER_FHAM,"ace_circuit_builder.xls",Circuit Builder spreadsheet file name
WD_INSCOMPDLG,%WD_DIR%\AU_Custom, x:/some path/,to override starting path for INS SCHEM CO
WD_INSPDLG,%WD_DIR%\AU_Custom, x:/some path/,to override starting path for INS PNL COMP
WD_INSCKTDLG,%WD_DIR%\AU_Custom, x:/some path/,to override starting path for INS CKT file
WD_INBLOCKDLG,%WD_DIR%\AU_Custom, x:/some path/,to override starting subdir for Black Box P
*WD_PICKLIST,%WD_DIR%\%WD_LANG%\catalogs\wd_picklist.mdb,ins component from catalog list f
WD_USERCKTDIR,%WD_DIR%\AU_Custom, x:/some path/,default folder for "USER CKTS"

```

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Modifying the WD_M.dwg Block



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The WD_M and WD_PNLM Blocks

ABOUT THE WD_M.DWG AND WD_PNLM.DWG BLOCKS

These invisible blocks are inserted automatically in every AutoCAD Electrical drawing. Located at 0,0, they store the drawing settings on attributes. Use ATTDISP or ATTMmode to view block.

Use these to establish default drawing settings.

MODIFYING THE BLOCKS

Use the Drawing Properties and panel Configuration tools to modify the blocks within the drawings.

Use tools in the Project > Other Tools flyout, or the Wblock command to save or export the block.

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Title Block Setup & Update Tools



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Tools for Title Block Updates

GENERAL NOTES

Title block must be a block with attributes.

Any attribute names can be used.

Only one title block per drawing file.

Do not mix title blocks on both paper and model space.

PROJECT DESCRIPTION LINE ALIASES

Use the default_wdtitle.wdl file to replace generic project Line#s with descriptive alias names.

Alternate project specific files can be used.

TITLE BLOCK MAPPING

Project and Drawing data can be mapped to any attribute in the title block.

The tool automatically reads the attribute from your selected title block.

Multiple title blocks can be set up in the same file.

TITLE BLOCK UPDATES

Only 2 steps:

1. Select the attributes to be updated (*Hint: use the Save option.*)
2. Select the drawings to update.

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Project Reference Files

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Project Reference File Paths

PROJECT SPECIFIC FILES

Stored in the same folder as the project and named to match the project name.

PROJECT FOLDER DEFAULT FILES

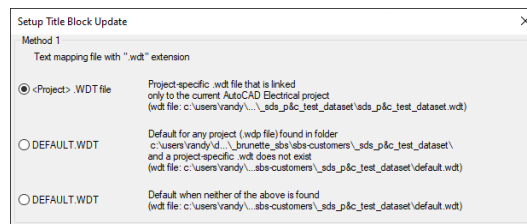
Stored in same folder as the project and named "default".

COMPANY DEFAULT FILES

Stored in shared folder in AutoCAD Electrical search path and named "default".

NOTES:

1. These naming and path options are used by almost all project reference files including the title block update files described earlier.
2. A shortcut to examples and descriptions of these options can be found in the first dialog box of the Title Block Setup tool.

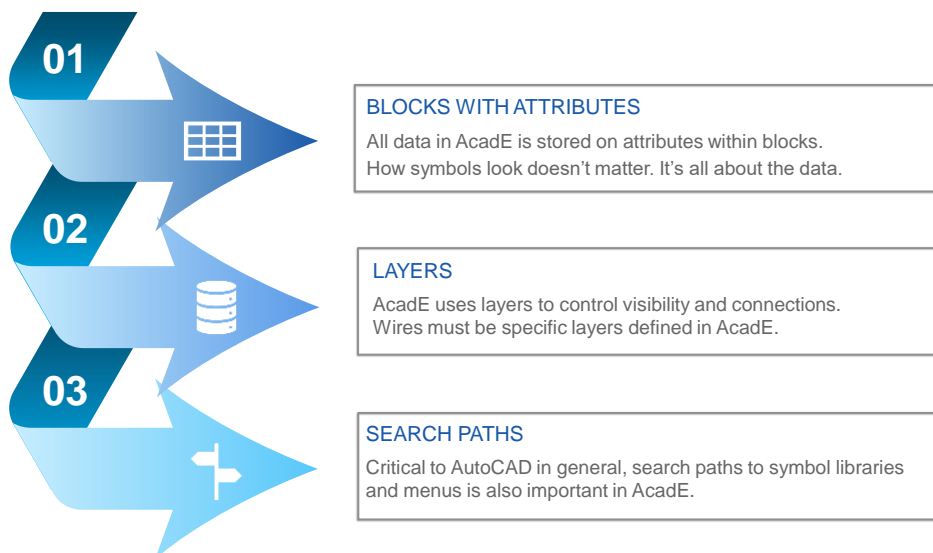


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Troubleshooting

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Core Concepts of AutoCAD Electrical



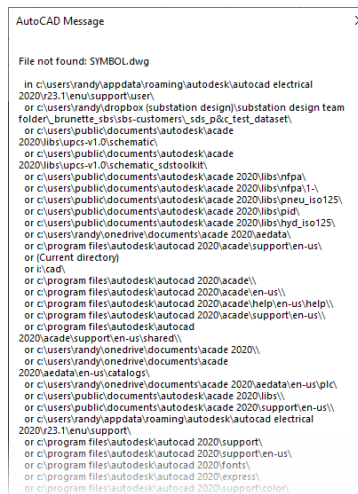
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Search Paths

AutoCAD Electrical adds several additional search paths to those of standard AutoCAD.

1. First is the full path name if used.
2. User subdirectory.
(C:\Users\{username}\AppData\Roaming\Autodesk\AutoCAD Electrical {version}\{release}\{country code}\Support\User)
3. Folder where the active project file (WDP) is located.
4. Next are the paths AutoCAD Electrical toolset support folders.
5. Finally, the AutoCAD paths defined under Options > Files > Support Files Search Path

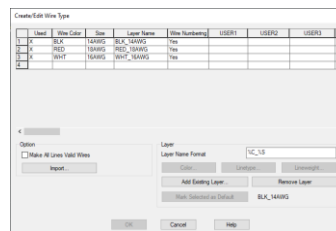
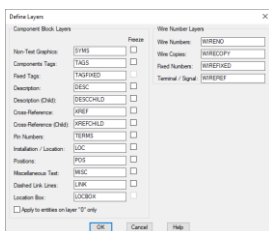
1. This search path can be searched after Step 1, by setting WD_ACADPATHFIRST in the WD.ENV file.



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Layers

In addition to the standard use fullness of layers in AutoCAD, the use of specific layers in AutoCAD Electrical provide several capabilities to the software. Several examples are shown.



When creating blocks, move all entities to layer 0. When inserting the block using the Insert Component command (Icon Menu), entities will be moved to layers as set in Drawing Properties.

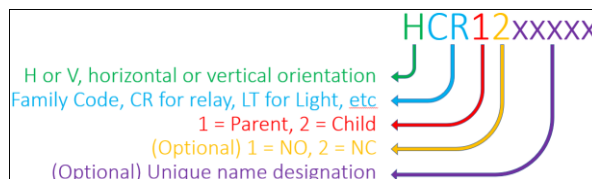
Definition of a wire in AutoCAD Electrical is a line, on a layer listed in the Create/Edit Wiretype dialog box. Both parts must be followed for Electrical to recognize a wire and provide connectivity data. (It might look like a wire, but not actually BE a wire.)

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Block Naming

The first four or five follow a specific convention in AutoCAD Electrical. The convention is used in several ways.

- The first character determines orientation.
- The second and third characters determine the family for the catalog lookup, among other things. This can be overridden using the WDBLKNAME attribute.
- The fourth determines Parent (1), or Child (2) and which editing dialog box is used.
- The fifth determines Normally Open (1) or Closed (2). This is used by the Toggle NO/NC command. (*Some industries uses this functionality for toggling Left and Right facing symbols.*)



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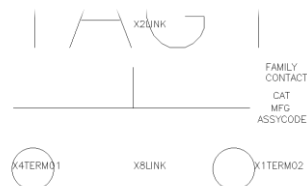


Blocks With Attributes

AutoCAD Electrical requires attributes to have specific names to provide desired functionality.

- The only **required** attribute is the "TAG" attribute.
- MFG and CAT are needed for Bill of Material data.
- X?TERM## attributes are needed for wire connection data.
 - ? Is a number defining wire direction.
 - ## are the unique identifying number for the attribute.

(Lines might be wires and look like they are connected to symbol, but without the wire connection attribute, the connection data is not generated.)



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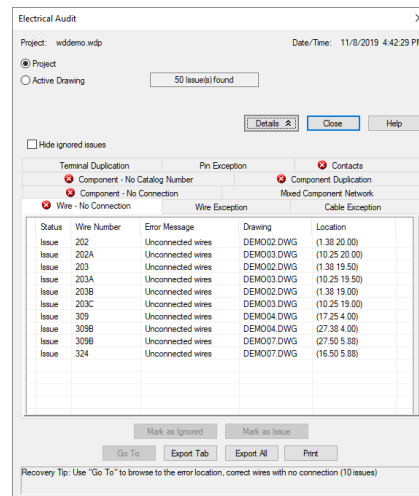


Electrical Audit

The Electrical Audit tool checks for 10 common drafting issues in your project.

- Only categories with red X report issues.
- GoTo provides “Surf” functionality while the dialog remains open.
- Use the Mark as Ignored option for issues flagged issues that are correct as drawn.
 - Ignored issues are saved for future reports.
 - Ignored issues can be hidden or displayed.

(Use this tool as one of final checks before release of project. Found Issues should be 0.)



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Data Logging

Document the steps needed to repeat an error using a built-in data logging tool. Here are the steps:

1. At command line, enter LOGFILEON.
2. At command line, enter AEONLISPDEBUG
3. Repeat the steps that cause the error.
4. At command line, enter AEOFFLISPDEBUG.
5. At command line, enter LOGFILEOFF.
6. At command line, enter LOGFILENAME. *(Note this)*
7. Locate file from above and send to support.

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Bonus Round

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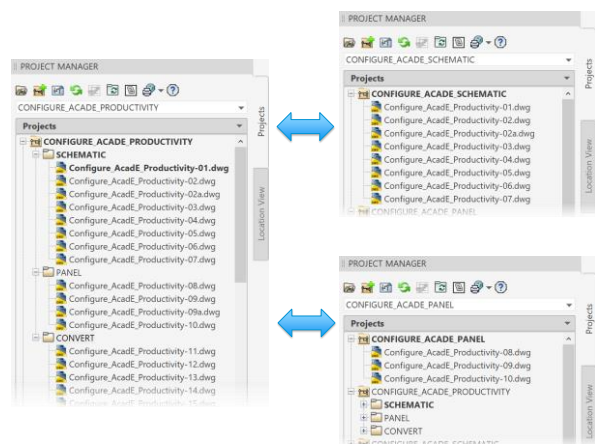
Using Sub-Projects

OVERVIEW

- Drawings can belong to multiple projects.
- Last edit process overwrites previous edits.
- Use to work project-wide without affecting master project.

KEY POINTS

- Keep all project files and drawings in the same folder.
- One master project will contain all drawings.
- Sub-projects will contain smaller partial groups of the same drawings and should be mainly self-contained.
- Use the master project to synchronize data, such as signal codes between all drawings.



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Creating Script Files

OVERVIEW

Scripts are simple text files containing a series of commands as if entered at the command line.

KEY POINTS

- “-” commands bypass dialog boxes.
- Use CMDDDIA and FILEDDIA to turn off display of some dialog boxes. Turn back on at end of routine.
- One line in script equals one entry on command line.

```

Layer_Colors.scr - Notepad
File Edit Format View Help
|-layer
color
30
misc,tags,pmisc,ptag,qcontr,qva
color
52
wireref,wire_dest,wirecopy
color
6
terms,wirefixed
color
140
loc
color
62
wireref_dest
color
3
wireno

zoom
extents
grid
on
gridstyle
1
snap
on
snap
.0625
save

```

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Linking to an Alternate Icon Menu

GENERAL NOTES

You can use the icon menu to switch to different icon menus.

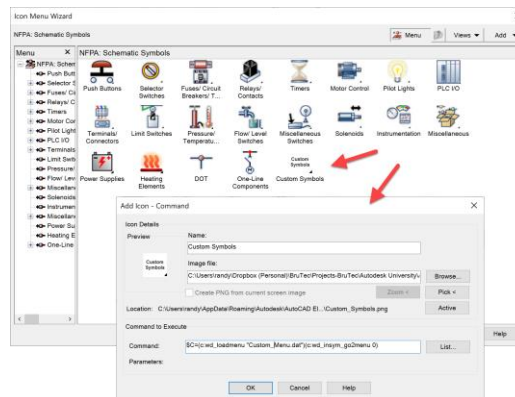
CODING REQUIRED:

Use “Command” option when creating icon.

For command to execute, enter the following:

```
$C=(c:wd_loadmenu "{special_menu}.dat")(c:wd_insym_go2menu 0)
```

Be sure to create icon in alternate menu to return to original menu.



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Any questions?

**Please, please, please
fill out class evaluations.**

**Remember,
the correct
answer is...**

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Awesome!

Thank You

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