

A decorative background graphic consisting of a complex, interconnected wireframe mesh of grey lines, resembling a stylized, abstract landscape or a network structure. It spans the top and bottom of the slide, with a solid blue horizontal band cutting through the middle.

Guardians of the Electrical Galaxy

Robert Stein / Tiffany Bachmeier

Sr. Implementation Consulting Manager / Implementation Consultant

Join the conversation #AU2017



Class Summary

Are you responsible for all things electrical in your galaxy? If so, this class is for you. We'll cover all aspects of guarding your AutoCAD Electrical implementation. We'll cover symbol and database management, environment configuration, templates, standards, and best practices. We'll discuss planning out an implementation and upgrades. We are Groot!!

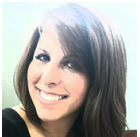


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Your AU Experts



Based in Novi, Michigan, **Robert Stein** manages a team of data management implementation consultants for Autodesk, Inc., focusing on data management. Prior to working for Autodesk, Robert worked as a designer, CAD manager, and consultant at a variety of companies. Robert has worked on a number of large-scale implementations and custom programming projects with Autodesk manufacturing products, including Inventor software, AutoCAD Electrical software, AutoCAD Mechanical software, and the Vault software family. Robert is in his 9th year as a presenter at Autodesk University.



Tiffany Bachmeier has been an Autodesk Consultant for the last decade. Her primary focus is as a technical consultant/instructor for AutoCAD Electrical, but she also focuses on AutoCAD, Inventor, and a variety of other products in the Autodesk family. She is an Autodesk Certified Instructor and she (and team) has won awards for developing a full line of online, live, instructor-led training classes for the Autodesk manufacturing products. Before becoming a consultant she earned her bachelor's degree from Michigan State University (MSU) and she worked in many different industries gaining valuable CAD experience, including electrical engineering, interior design/architecture, mechanical engineering, software engineering, and she was part of MSU's CAD Development Team. She started on AutoCAD R10 and has carried a strong passion for Autodesk products ever since.

Key Learning Objectives

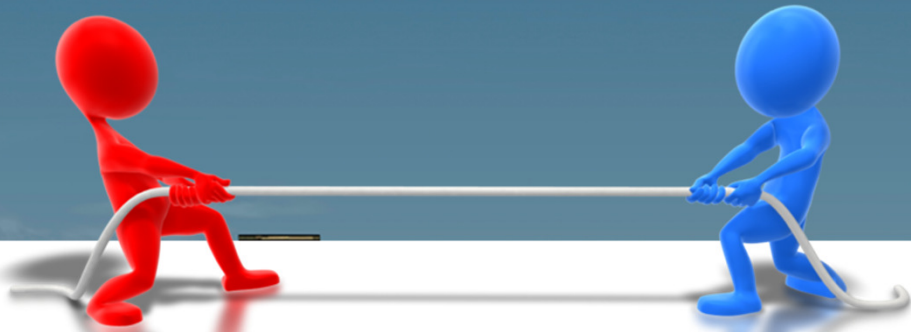
- At the end of this class, you will be able to:
 - Understand the AutoCAD Electrical Environment
 - Understand AutoCAD Electrical Methodologies
 - Discover AutoCAD Electrical Best Practices
 - Learn How to Deploy AutoCAD Electrical



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Where are you today?

- We know you are in the Venetian! 😏
- How many people have AutoCAD Electrical installed?
- How many people are using it but just using it as AutoCAD?
- How many people are using it but not sure they configured it correctly?
- How many people aren't using it yet but are here to learn more about it?



Implementation vs. Installation

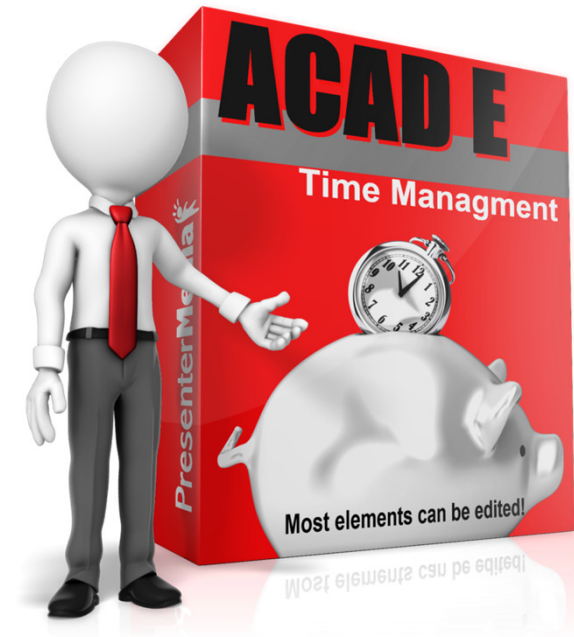


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Installation

When installing software you:

- Put the disk or USB drive in or download
- Next step is to click install and follow the default prompts
- Lather, Rinse, and Repeat
- “Faster path”
 - Partial Productivity
 - Individual Installs
 - Out of the Box
 - Never the right path



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Implementation

With implementations you:

- Take a holistic view of the solution
 - Review example drawings, designs etc...
- Consider all locations
 - Users, Symbols, Catalogs, Standards, Wire Types, etc...
- Consider training and adoption approach
- Build a software deployment
- Consider a continual “user group”



The PLAN (tying it all together)



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AutoCAD Electrical Implementation Methodology

- Deployment & Implementation Prerequisites
 - Up-to-date working knowledge of vanilla AutoCAD
 - Have taken an AutoCAD® Electrical Essentials course at an Autodesk Authorized Training Center



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AutoCAD Electrical Implementation Methodology

- Deployment
 - Configure Deployment
 - Decide on which Symbol Libraries and Manufacturers to include from the lists provided
 - Decide which Symbol Library will be the Default
 - Decide on Installation and Search Paths for your ACADE Support Files (Network location vs. Local)
 - Create Deployment
 - Install on users' machines



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AutoCAD Electrical Implementation Methodology

- Implementation
 - Create Drawing Template(s)
 - Create/Define Wire Types
 - Define Standard Drawing Properties
 - Title block in Paper Space
 - Create Project Template(s)
 - Define Standard Project Properties
 - Decide what ACADE Support Files to utilize and create
 - Examples
 - Project Line Descriptions: default_wdtitle.wdl, Title Block Setup: default.wdt, etc...



AutoCAD Electrical Implementation Methodology

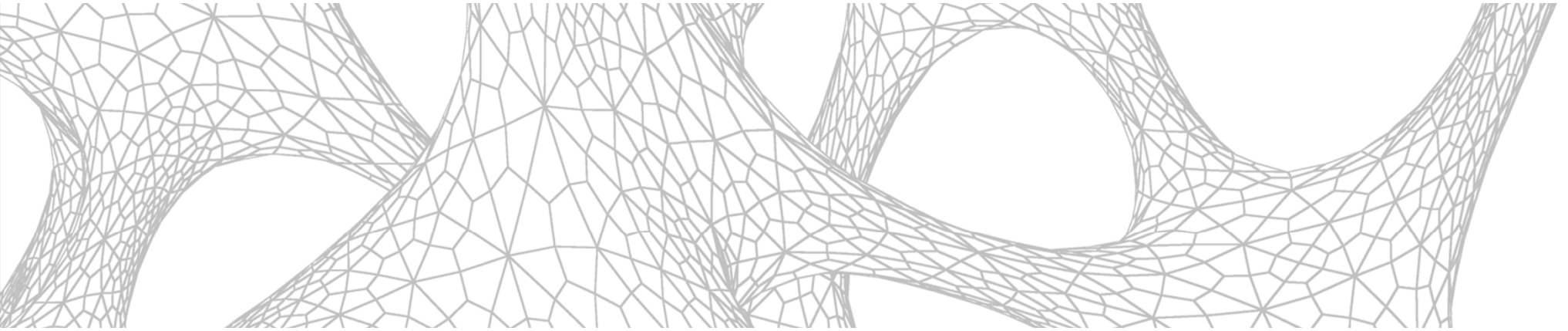
- Implementation
 - Create a complete Standard Project(s) to be used as a template for all future projects
 - Creation of custom schematic symbols
 - Add symbols to the Icon Menu
 - Creation of custom panel footprints
 - Update the Footprint Database
 - Create new part numbers in the Part Catalog Database
 - If you use your own company part numbers in association with Manufacturer catalog numbers, fill in the User Fields in the Part Catalog Database



AutoCAD Electrical Implementation Methodology

- Implementation Tips
 - Try to work as “out of the box” as you can with ACADE. It will make your implementation much smoother. (Even if it means, changing the way some of your symbols look, etc.)
 - Although your project files can access drawings from many different folders, it is a best practice to keep the project file, all of its drawings, and project-specific support files in the same place.





Discover AutoCAD Electrical Paths



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Discover AutoCAD Electrical paths

- Symbol Block Libraries

- C:\Users\Public\Public Documents\Autodesk\AcadE {version}\Libs

- Insert Component Icon Menus

- C:\Users\{username}\AppData\Roaming\Autodesk\AutoCAD Electrical {version}\ {release}\{country code}\Support

- Catalog Database

- C:\Users\{username}\My Documents\Acade {version}\AeData \{country code}\Catalogs



Discover AutoCAD Electrical paths

- Support Directories
 - C:\Users\{username}\AppData\Roaming\Autodesk\AutoCAD Electrical {version}\ {release}\{country code}\Support
 - C:\Users\Public\Public Documents\Autodesk\AcadE {version}\Support\{country code}
 - C:\Program Files\Autodesk\ AutoCAD{version}\Acade\Support\{country code}
 - C:\Program Files\Autodesk\AutoCAD{version}\Acade\UserDataCache\{country code}\Electrical\UserSupport

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Discover AutoCAD Electrical Paths - Demo

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Customizing AutoCAD Electrical Support Files



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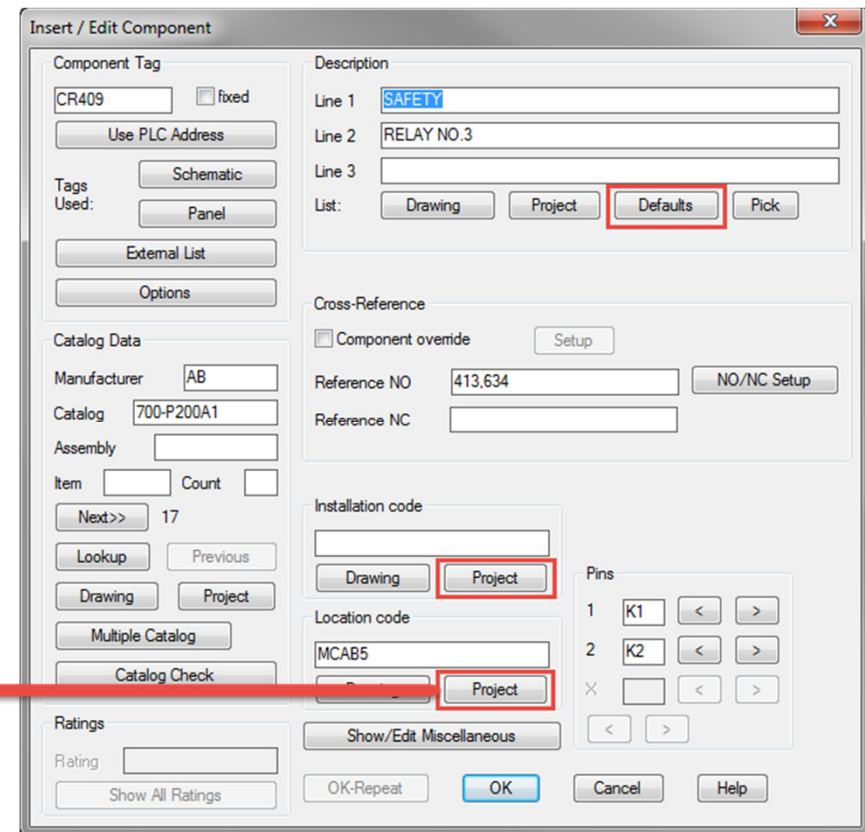
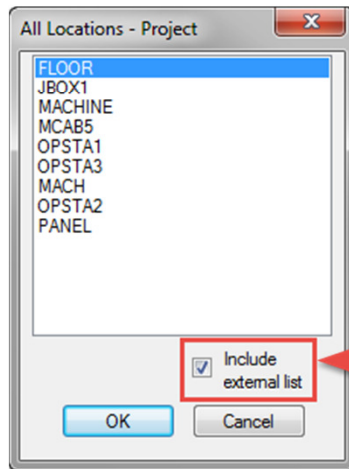
Customizing AutoCAD Electrical Support Files

- Multiple versions of these files can exist
- Search Sequence:
 - <project name>.<file extension> located in the same folder as the active .wdp file
 - DEFAULT. < file extension> located in the same folder as the active .wdp file
 - DEFAULT. < file extension> located in the Support Directories



Customizing AutoCAD Electrical Support Files

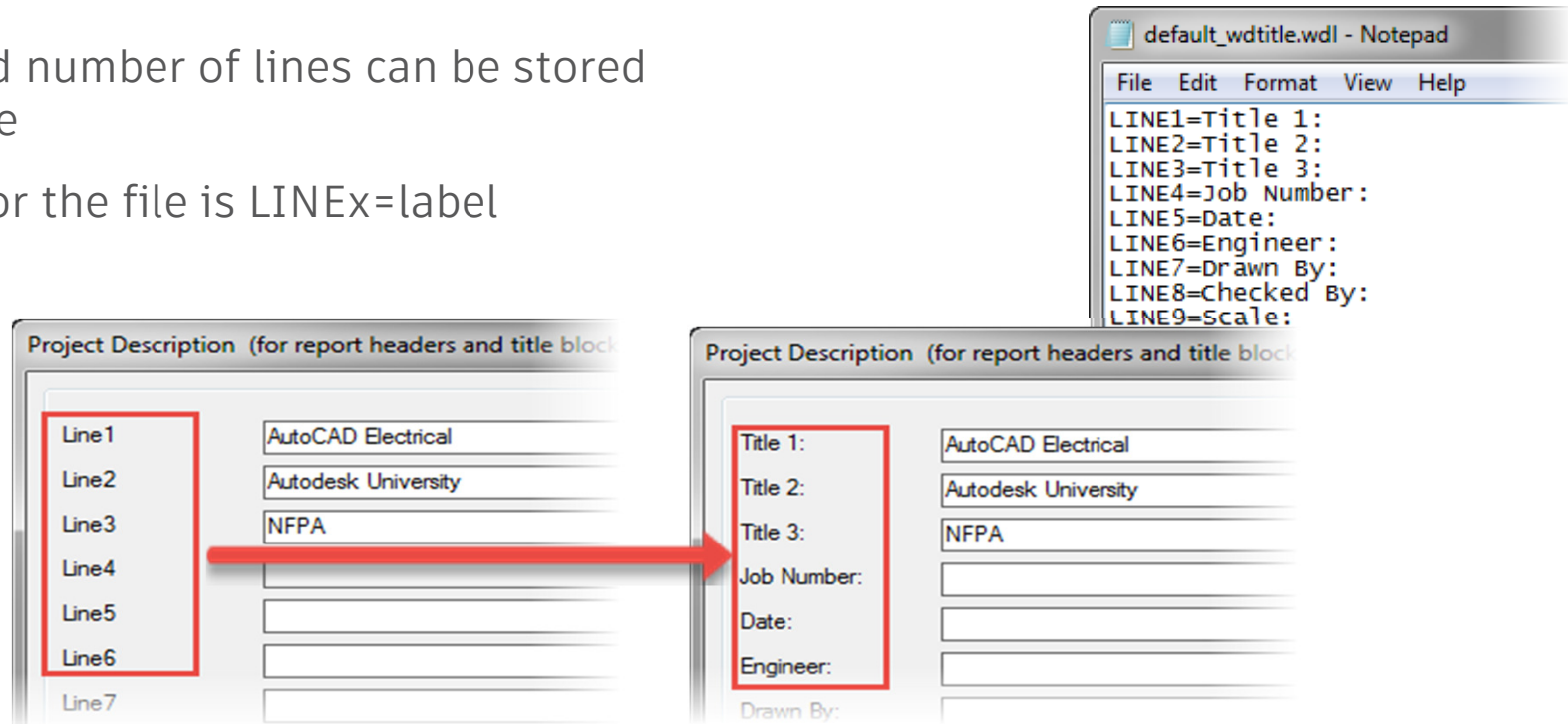
- Component References Files
 - Description File: wd_desc.wdd
 - Installation Codes: default.inst
 - Location Codes: default.loc



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Customizing AutoCAD Electrical Support Files

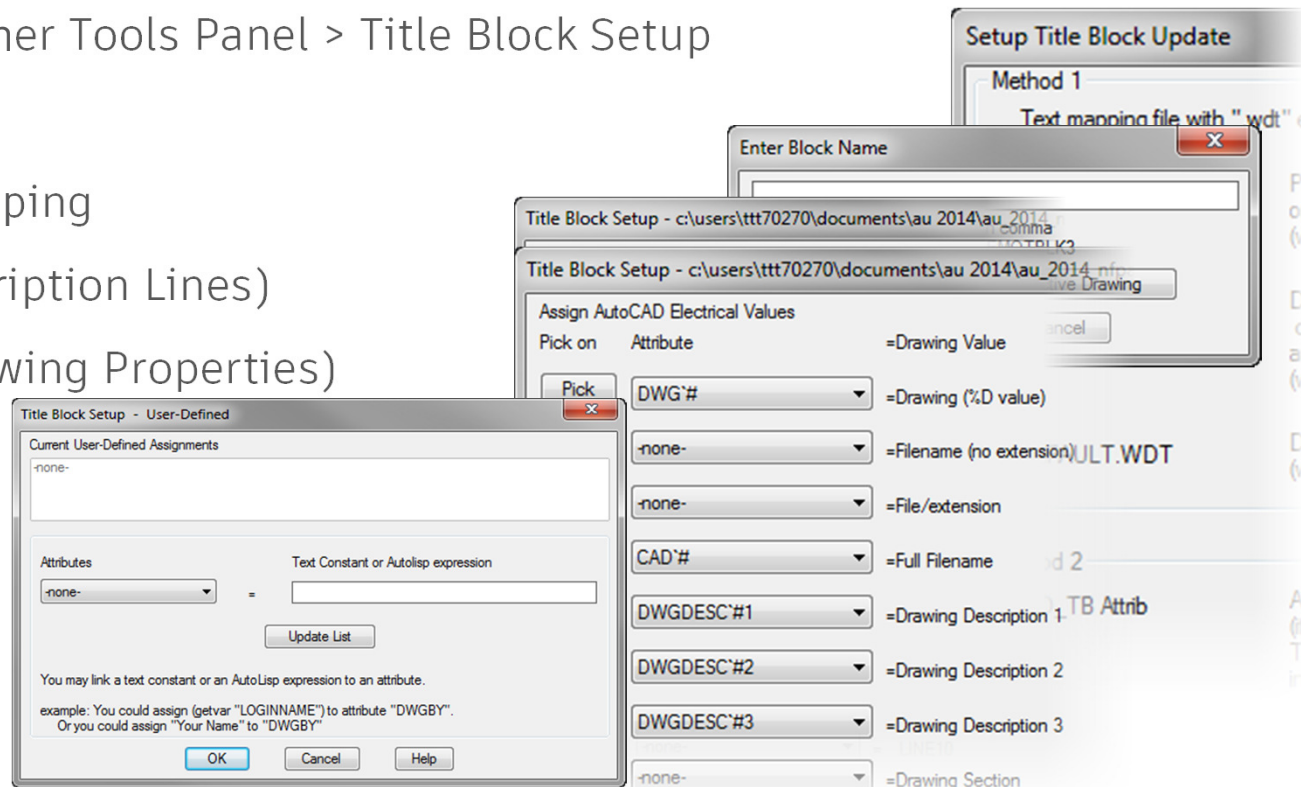
- Project Description Line Labels
 - Customized WDL file
 - Unlimited number of lines can be stored in this file
 - Format for the file is LINEx=label



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Customizing AutoCAD Electrical Support Files

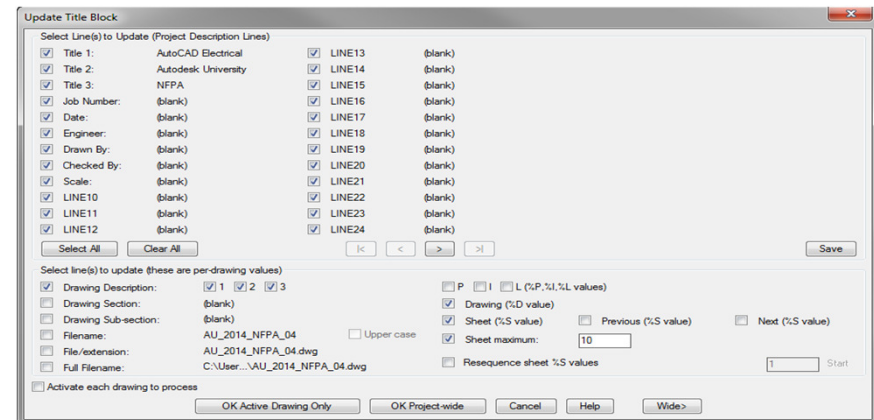
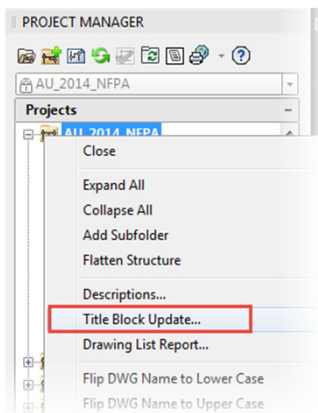
- Updating Title Block Attributes
 - Ribbon: Projects Tab > Other Tools Panel > Title Block Setup
 - Choose Type of Mapping
 - Choose Titleblock for Mapping
 - Map Project Values (Description Lines)
 - Map Drawing Values (Drawing Properties)
 - Map User Defined Values



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Customizing AutoCAD Electrical Support Files

- Updating Title Block Attributes throughout the project
 - Right click on Project Name in Project Manager and select Title Block Update
 - Select attributes to be updated
 - Select whether this is Drawing Wide or Project Wide



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Thinking from the get go



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```
wd.env - Notepad
File Edit Format View Help
* AutoCAD Electrical - project environment settings.
* Format is: env code,setting,description (separated by commas)
* The setting value, if a path, can be fully hard-coded or can include one
* of the following aliases:
*
* %PF_DIR% = base executable install folder
* (example: "C:\Program Files\Autodesk\AutoCAD 2014\Acade\")
* (corresponds with global GBL_WD_BASEINSTALL)
*
* %DS_DIR% = base "documents and Settings" folder
* (example: "C:\Users\{username}\AppData\Roaming\Autodesk\AutoCAD Electrical")
* (corresponds with global GBL_WD_DOCSETBASE)
*
* %WD_DIR% = base folder where "wd.env" is located
* (example: "C:\Users\{username}\Documents\AcadE 2014\AeData\")
* (corresponds with global GBL_WD_DOCSETBASE)
```



Discovering the WD.env



```
* Program executable, dialog, and support files
*****
WD,%PF_DIR%/support/%WD_LANG%/AutoCAD Electrical dialog files, xls templates, and other
*****
* User temp file folder, CANNOT shared with other users
*****
WD_USER,%DS_DIR%/user/,AutoCAD Electrical user temp file folder
*****
* Symbol Insertion and Library Paths
*****
WD_LIB,%SL_DIR%/jic125;%SL_DIR%/jic125/1-;%SL_DIR%/pneu_iso125;%SL_DIR%/pid;%SL_DIR%/hyc
WD_PNL,%SL_DIR%/panel, panel layout symbol library base folder
*WD_CIRCBUILDER_FNAM,"ace_circuit_builder.xls",Circuit Builder spreadsheet file name
```



Discover the WD.ENV file

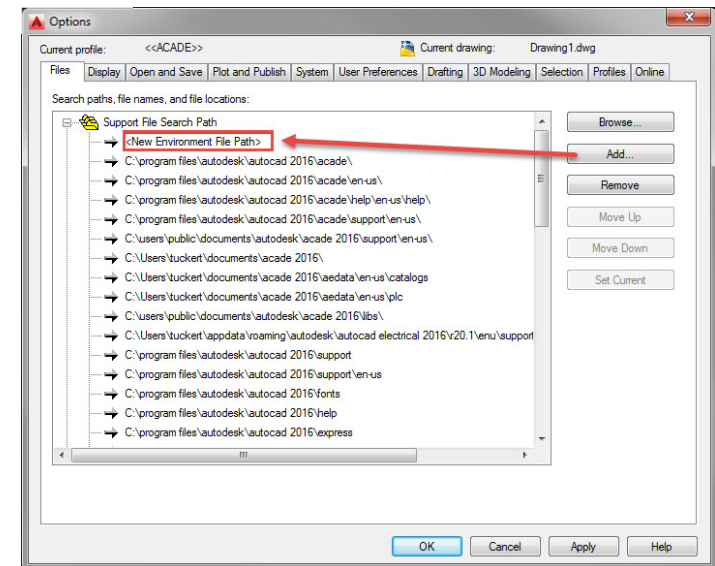
- Provides the default search paths when the software searches for reference files or directory locations
- Project-specific wd.env files
 - Copy the wd.env file and rename it to <projectname>.env
- Edit via an external ASCII editor such as Notepad



```
wd.env - Notepad
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* (example: "C:\Users\{username}\AppData\Roaming\Autodesk\AutoCAD Electrical")
* (corresponds with global GBL_WD_DOCSETBASE)
*
* %WD_DIR% = base folder where "wd.env" is located
* (example: "C:\Users\{username}\Documents\Acade 2014\Aedata\")
* (corresponds with global GBL_WD_DOCSETWDBASE)
*
* %SL_DIR% = base folder for "Libs" symbol library subfolder
* (example "C:\Users\Public\Documents\Autodesk\Acade 2014\Libs\")
* (corresponds with global GBL_WD_BASELIBS)
```

Location of the WD.ENV file

- The default installation location for the wd.env file is:
 - Windows Vista/7/8:
 - C:\Users\{username}\Documents\Acade {version}\AeData
- Path to the ENV file stored in the wd_load.lsp file
 - Windows Vista/7/8:
 - C:\Program Files\Autodesk\ AutoCAD {version}\Acade
 - If you move the ENV you have to update it's location in the wd_load.lsp
 - Alternative: add the new path to the ENV as the top path in the Support File Search Path in the Options DB





Discover the WD.ENV file - DEMO

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Discovery AutoCAD Electrical Intelligent Blocks

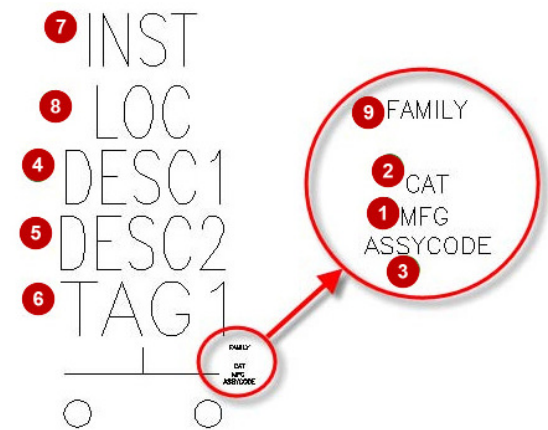


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Discover AutoCAD

Electrical intelligent blocks

- Vanilla AutoCAD block with specifically named attributes
- Use the Symbol Builder to turn existing vanilla ACAD blocks into ACADE intelligent blocks
- A specific naming convention is used to enable certain automation features



1 3 5
HPB12M
2 4



Discover AutoCAD Electrical intelligent blocks - DEMO

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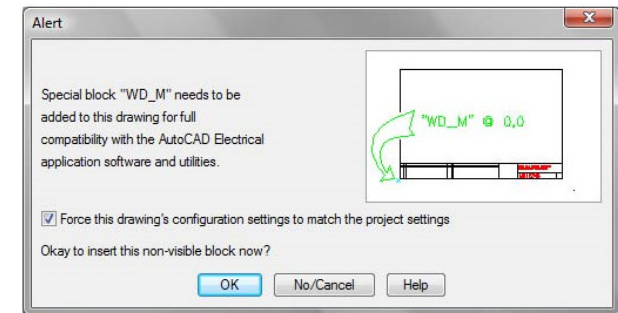
Discover the WD_M Block

- Most of the drawing properties settings are saved in this invisible block
- Located at the Origin (0,0,0) of every ACADE drawing
- WD_PNLM Block
 - Stores the drawing configuration settings specifically for the panel drawing properties
- Both WD_M & WD_PNLM can exist in the same drawing
- Make sure these are present in your Template drawings

R
%N
WIRES
WIRENO
WIRECOPY
WIREFIXED
R
%F%N
TAGS
XREF
DESC
TERMS
LOC
POS
MISC
XREFCHILD
DESCCHILD

Discover the WD_M Block

- Whenever a command is started, AutoCAD Electrical checks for the existence of this block in the drawing and reads the configuration settings for the command from the attributes.
- If the block file does not exist in the drawing, AutoCAD Electrical prompts you to automatically insert it before the command is executed.



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Discover the WD_M Block - DEMO

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**ACADE TRIVIA
CHALLENGE**

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What are 3 of the top customizable support files in AutoCAD Electrical with explanations?

- Component Description File (wd_desc.wdd)
- Location / Installation Files (default.loc / default.inst)
- Project Line Labels File (default_wdttitle.wdl)
- Title Block Mapping File (default.wdt)

**What is the difference between
Installation and *Implementation*?**

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