

# Script Writing

## AutoCAD Electrical

A script file is an ASCII text file that contains a set of command line instructions for AutoCAD to follow with no interaction required by the user. AutoCAD script files have a file extension of “.scr”.

A script does one thing and one thing only: it mimics what is entered at the keyboard. Anything you enter in AutoCAD that shows up on the “*Command:*” line prompt can be put into a script file.

AutoCAD and therefore AutoCAD Electrical can run the majority of their commands from the *Command* line without the requirement of “pop-up” dialogue boxes. This means that multiple commands can be grouped together in a script and run on an individual drawing, selected drawings or an entire project.

A major part of writing scripts is to understand how a command operates and what key inputs move the command to the next stage. Even typing Z (for zoom) at the command prompt will give several options such as W (window), E (extents), D (dynamic) etc

Most AutoCAD and AutoCAD Electrical commands have dialogues which basically mean a “pop-up” box appears when the command is initiated yet the majority of commands can have their “pop-up” dialogues turned off.

AutoCAD itself has variables that turn off the majority of file and command dialogues:

- Type *FILEDIA* at the command prompt and set to 0 to turn off file dialogue boxes (Open & Save cmd’s)
  - Type 1 to re-enable
- Type *CMDDIA* at the command prompt and set to 0 to turn off command dialogue boxes
  - Type 1 to re-enable

Furthermore, depending on AutoCAD version, a command may have its dialogue box “turned off” by typing a “-” or an “\_” (depending on command and version of AutoCAD) preceding the command name e.g. “PURGE” = “-PURGE” = “\_PURGE”.

Because AutoCAD Electrical is project based consisting of multiple drawings within a project, the advantage of being able to run scripts has a far greater benefit than normal generic AutoCAD and can automate your design process far more than other CAD requirements/departments such as your mechanical counterparts.



Let's say in this example we need to do the following:

- Make *Layer 0* current
- Perform *Zoom Extents*
- Perform an *Audit* to fix any potential errors
- Perform a *Purge Blocks*

Try typing each command at the "*Command:*" line to get used to how to define it correctly

The normal command for layers is LAYER

However, if we now proceed the command with a "-". The ↵ signifies a carriage return.

```
-LAYER↵
```

You are then shown a series of options on the *Command:* line. Looking at the capital letters of each option, you have as an example M = Make, S = Set, F = Freeze etc so the next option would be SET

```
S↵
```

Giving the command option of "Enter layer name to make current". Entering 0 will make 0 the current layer

```
0↵
```

And finally, to finish the command off we now need to enter an additional carriage return

```
↵
```

So, the entire command is:

```
-LAYER↵  
S↵  
0↵  
↵
```

We can now move on to Zoom Extents

```
Z↵  
E↵
```

However, the *Zoom* command is one of only a few commands within AutoCAD that do not follow normal convention. You can type Z at the command prompt but you can't type Z within a script as it will halt the script stating that Z is an unrecognised command. In this instance we must type the full command "ZOOM"

```
ZOOM↵  
E↵
```

...and then Audit

```
AUDIT↵  
Y↵
```

...and then Purge

```
-PURGE↵  
B↵  
*↵  
N↵
```

Putting all the commands together we now have a script of:

```
-LAYER↵  
S↵  
Q↵  
↵  
ZOOM↵  
E↵  
AUDIT↵  
Y↵  
-PURGE↵  
B↵  
*↵  
N↵
```

We can open the text window (select F2 on your keyboard) to review the steps:

```

AutoCAD Text Window - plc08.dwg
Edit
Command: -LAYER
Current layer: "0"
Enter an option [?/Make/Set/New/Rename/ON/OFF/Color/Ltype/LWeight/TRansparenc
Enter layer name to make current or <select object>: 0
Enter an option [?/Make/Set/New/Rename/ON/OFF/Color/Ltype/LWeight/TRansparenc
Command: Z
ZOOM
Specify corner of window, enter a scale factor (nX or nXP), or
[All/Center/Dynamic/Extents/Previous/Scale/Window/Object] <real time>: e
Command: AUDIT
Fix any errors detected? [Yes/No] <N>: y

Auditing Header

Auditing Tables

Auditing Entities Pass 1
Pass 1 2600 objects audited
Auditing Entities Pass 2
Pass 2 2600 objects audited
Auditing Blocks
16 Blocks audited

Auditing AcDsRecords

Total errors found 0 fixed 0
Erased 0 objects

Command: -PURGE
Enter type of unused objects to purge [Blocks/DEtailviewstyles/Dimstyles/Grou
Enter name(s) to purge <*>: *
Verify each name to be purged? [Yes/No] <Y>: n
Deleting block "VP1--W".
Deleting block "VP1D-AW".
Deleting block "VP1W--".
Deleting block "VP1W--L".
Command: |
    
```

**Running the script on your project (N.B. You must be in one of your current active projects drawings)**



From the *Project* ribbon tab, select **Utilities**

Select  *Run command script file*

Select

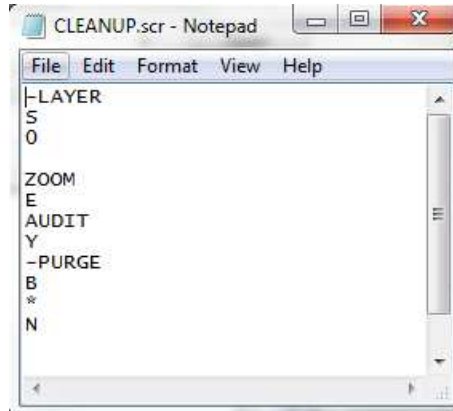
*Right click* on any existing script and select *Copy*

*Right click* and *Paste* the copy into the same directory location

*Right click* over the copied file and *Rename* to a different name e.g. "CLEANUP"

*Right click* over the file to *Open* in Notepad

Remove any existing text and replace with the script defined above (the `\r` represents a carriage return ONLY)



Select *File > Save*

*Close* Notepad

*Highlight* the script from the available one sand select

Select

Select  *Project*

Select

Select Select 

Obviously, a script can be far more complex than the above where you may even create wires and insert symbols!

AutoCAD Electrical also has a full API (advanced programming interface) which is defined in the Electrical Help

Another way to create a script file is to copy the command history from the command line into *Notepad*. Then edit the text file and strip out what's not needed. i.e.

- AutoCAD's command line prompts
- Responses

An empty line is equivalent to pressing "Enter" on your keyboard, so leave those empty lines in!

It may take you a couple of goes to get your script to run. Use the text window (F2) to see how far your script ran before it stopped. Make any changes necessary in the .scr file and retry.