

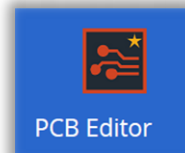
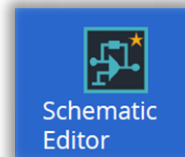
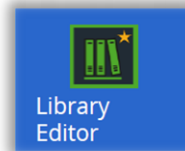
How-To-Automate eCADSTAR

Information about the structure of workspaces for correct automation with macros, user commands, a user-defined ribbon menu and an example of a practical definition structure.

Definition: Workspaces

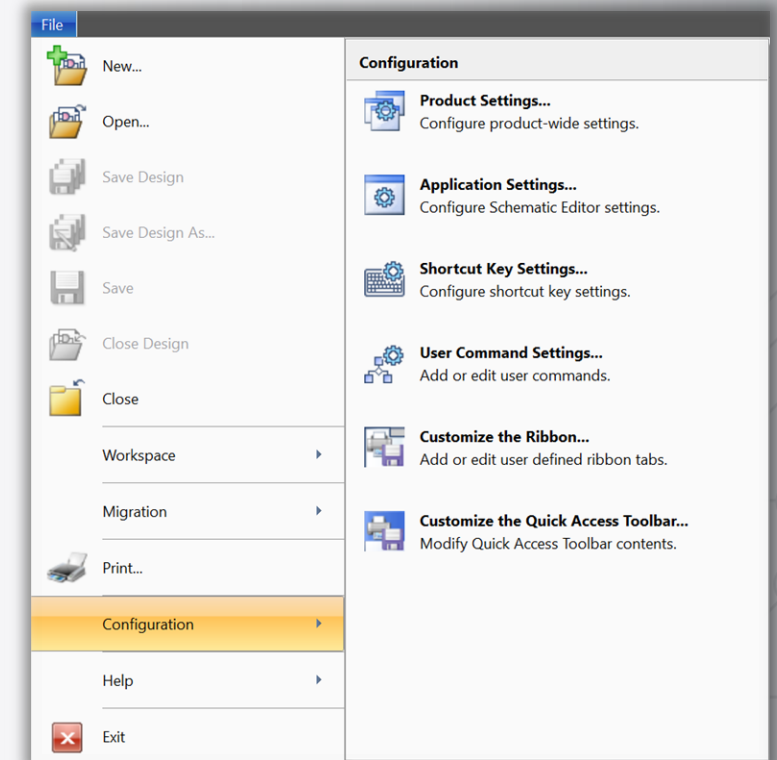
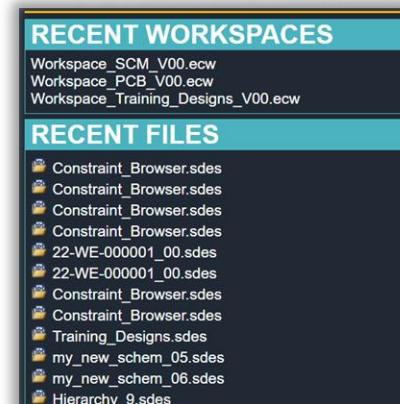
- **Workspace files contain the working environment of the entire eCADSTAR program, which has saved all settings that are required for working.** This way enables you to switch between different work environments or to use the different workspaces at the same time for different instances.
- This is can be helpful if you have to switch between different work environments from time to time.
 - This could be the case when switching between the guidelines of design offices and customer designs with special requirements. Or between the guidelines of different departments in a company.

One Workspace.ecw
can be used for all applications



Settings saved with Workspaces

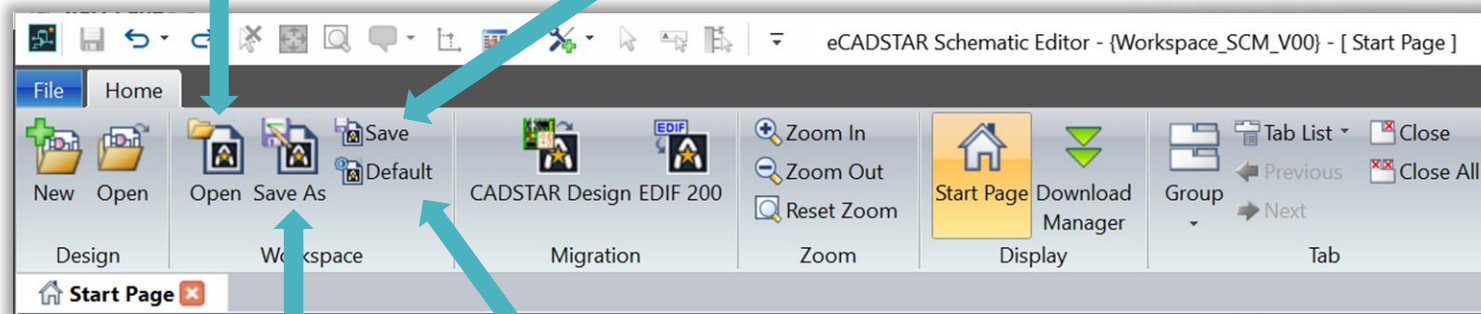
- All Product Settings
 - The only exception is the stored license, as this is a machine-specific setting.
- All Application Settings
- Custom Ribbons
- Custom Hotkeys
- Custom Quick Access Toolbar
- Recent Files
- Last Accessed Directories
- Windows size and position
 - Rule Editor
 - Tech Editor
 - M.O.O.



Open file browser to search for previous saved workspace.

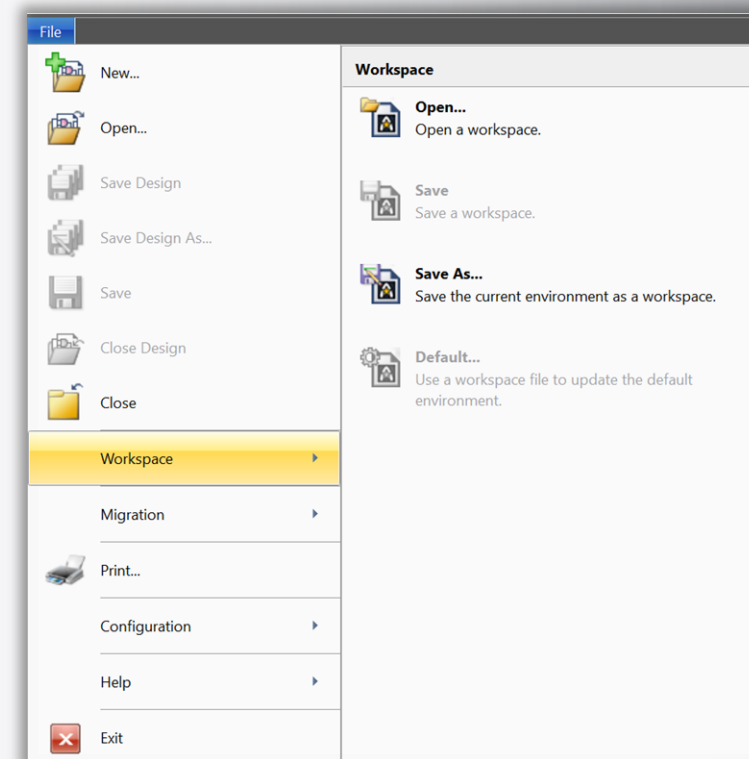
Will **save** any changes made to the opened workspace.

The same bottoms can be found on file menu workspace:



Save the current environment **as** a workspace and will it open a file browser to select location.

Set the current workspace as the **default** and start eCADSTAR with these settings from now on.



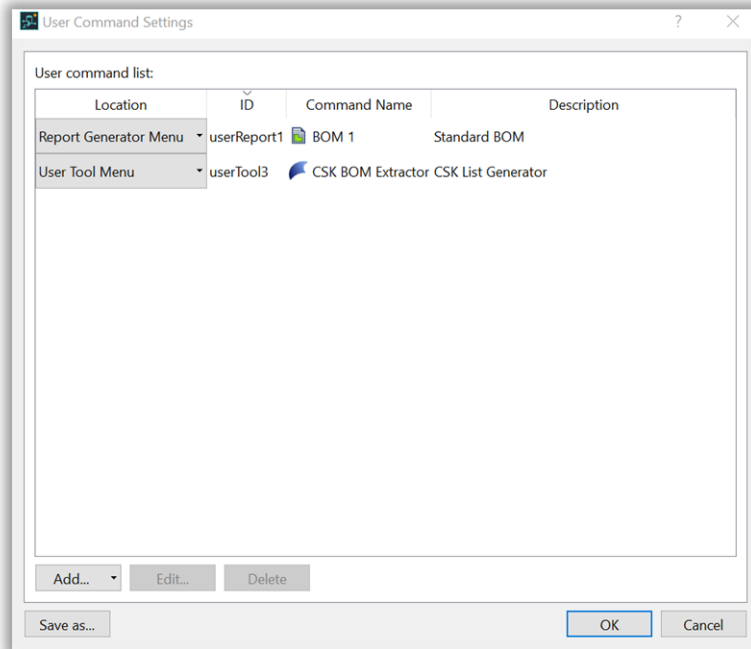
User Command - Setting Add User Tool



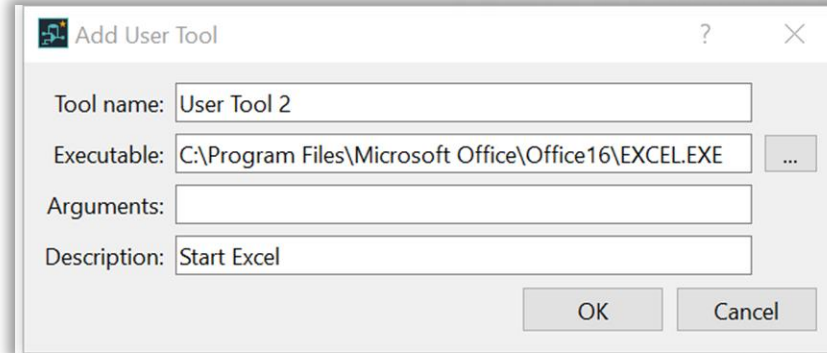
User Command Settings...
Add or edit user commands.

Add Microsoft Excel as user tool in
eCADSTAR

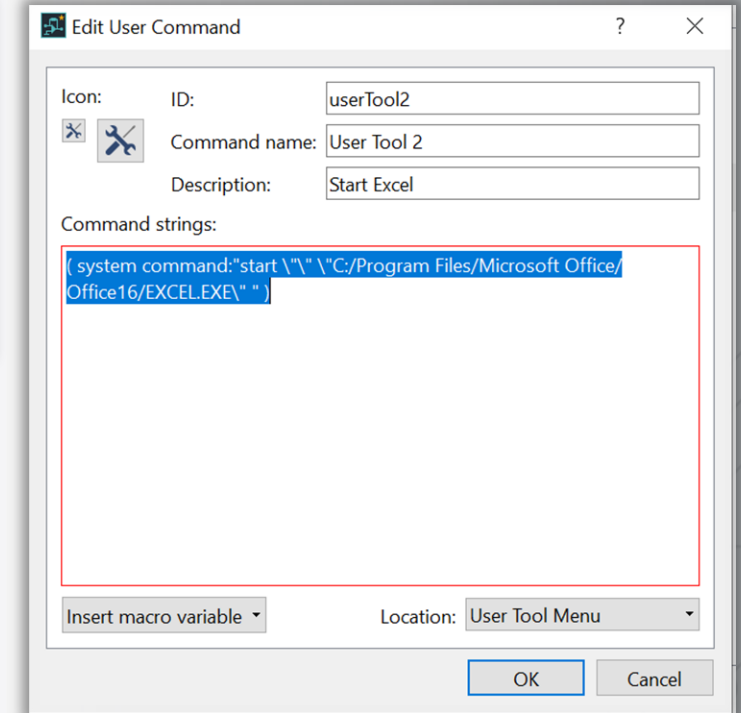
View / Select User Command



Add new User Command properties



Edit User Command



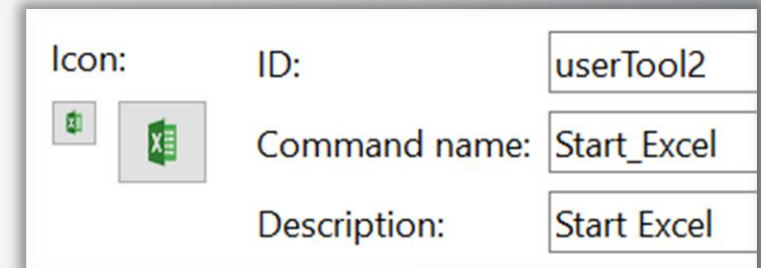
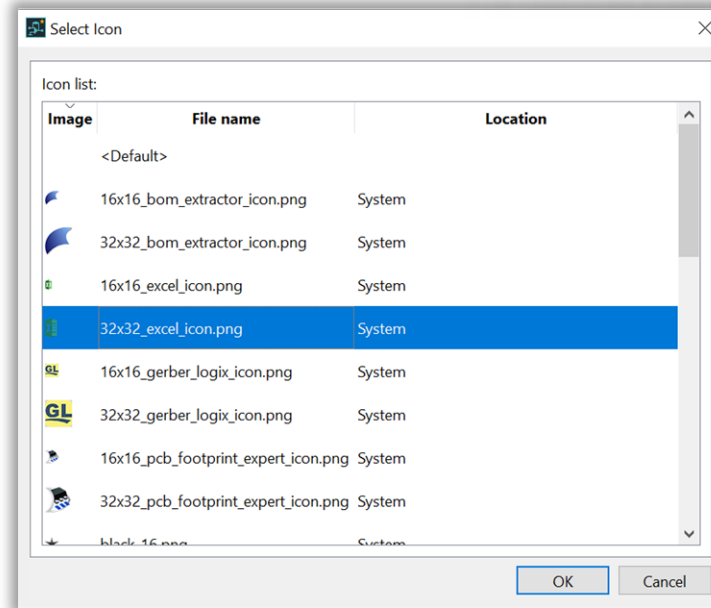
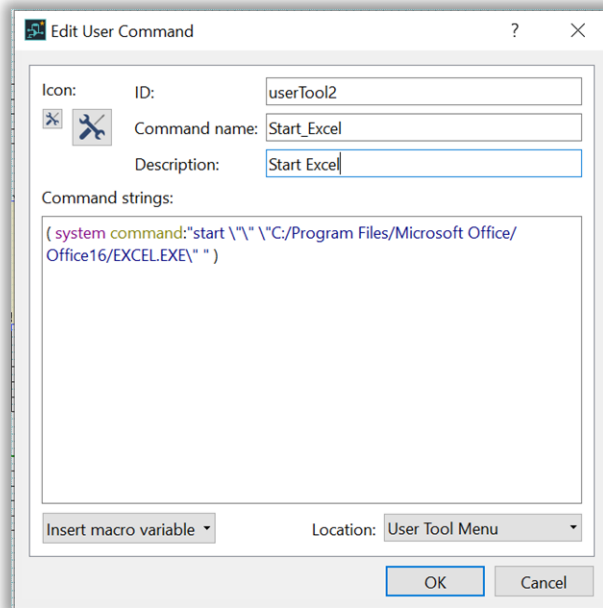
Custom
Macro
User Report
User Tool

Select the type of User Command

User Command - Select Icon

Click at the
small and large icon

Select a 16 x 16
and 32 x 32 application icon



System Path:

C:\Program Files\eCADSTAR\eCADSTAR 2021.0\system\gui\images\icons

User Path:


C:\Users\Kluwetach\AppData\Roaming\Zuken\eCADSTAR\2021.0\settings.ncs\gui\images\usericons

User Command - Set Appearance Location

Select the location

Location

Possible location are in

Icon:  ID: userTool2
Command name: Start_Excel
Description: Start Excel
Command strings:
(system command:"start \"\" \"C:/Program Files/Microsoft Office/Office16/EXCEL.EXE\" ")
Insert macro variable
Location: User Tool Menu

- User Tool Menu
- Custom
- Macro Menu
- Report Generator Menu
- User Tool Menu



Shortcut Key Settings...

Configure shortcut key settings.



Customize the Ribbon...

Add or edit user defined ribbon tabs.



Customize the Quick Access Toolbar...

Modify Quick Access Toolbar contents.

User Command - Setting Macro Variable


Insert macro Variable

Macro Variable Name

Variable Name

Environment Variable

Edit User Command

Icon: 

ID:

Command name:

Description:

Command strings:

```
( system command:"start \"\" \"C:/Program Files/Microsoft Office/Office16/EXCEL.EXE\" \" ")
```

Location:

OK

Cancel

Insert macro variable

Program Folder Path

Environment Variable...

Information File Path

Warning File Path

Error File Path

Design Data File Path

Design Data Folder Path

Cursor X Coordinates

Cursor Y Coordinates

`${binDirPath}`
`${env:System_Variable}`
`${warningFilePath}`
`${infoFilePath}`
`${errorFilePath}`
`${dsgnPath}`
`${dsgnDirPath}`
`${cursorPointX}`
`${cursorPointY}`

Environ...

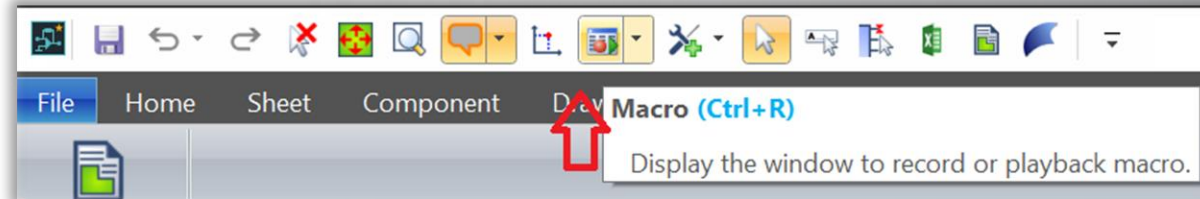
Environment variable name:

OK

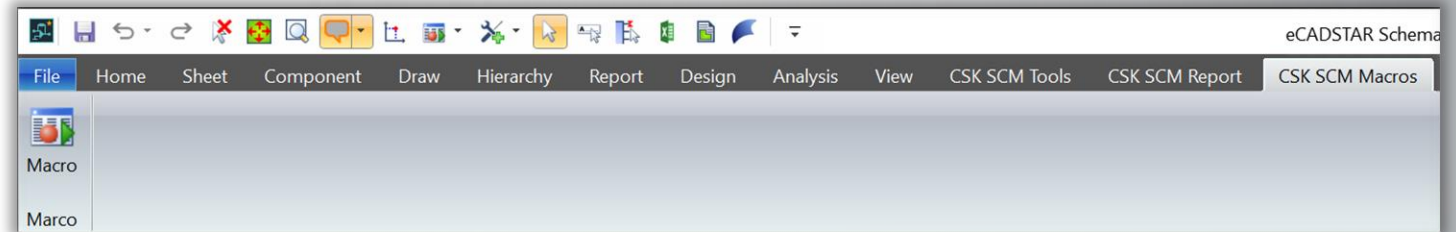
Cancel

User Command - Create Macro in SCM

Default Macro Menu location
inside the QAT:

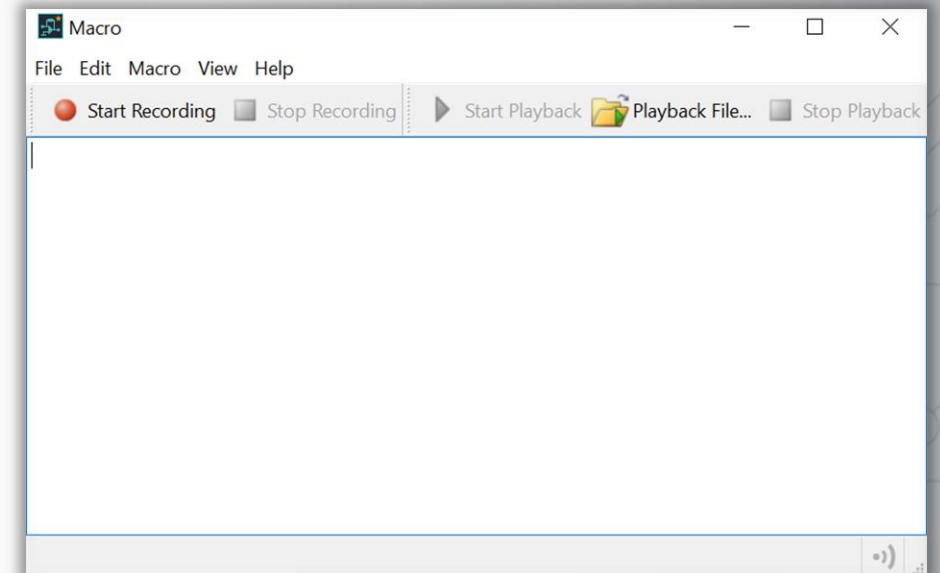


Possible location
at the Ribbon Menu:

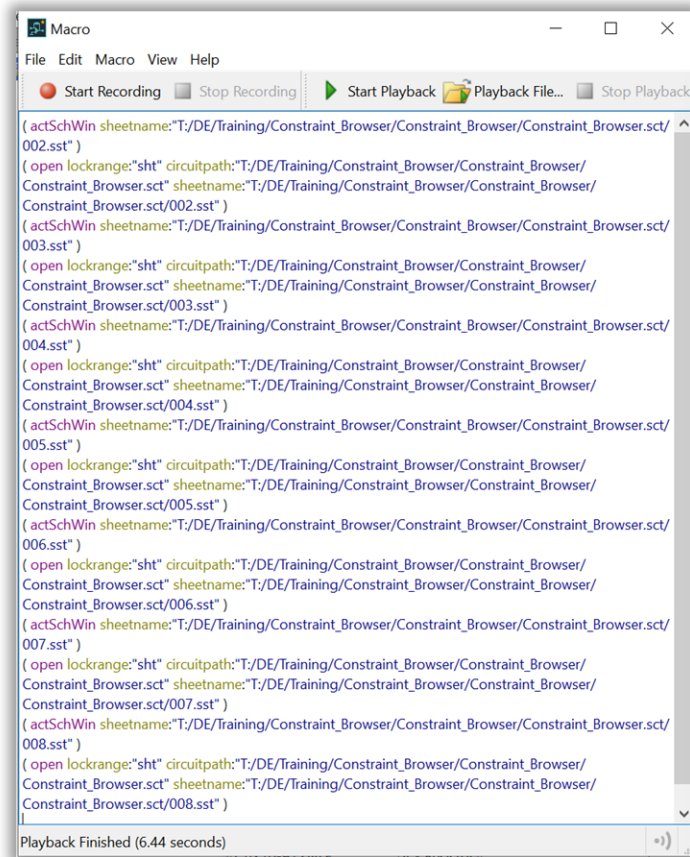


Note:

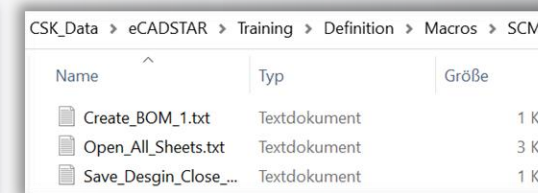
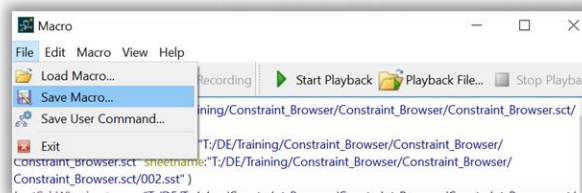
A macro file only records editing operations on a sheet editor; editing operations in a Component Browser are not recorded.



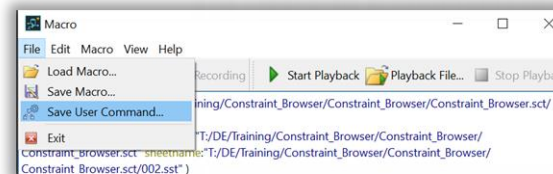
1. The recording is started with Start Recording.



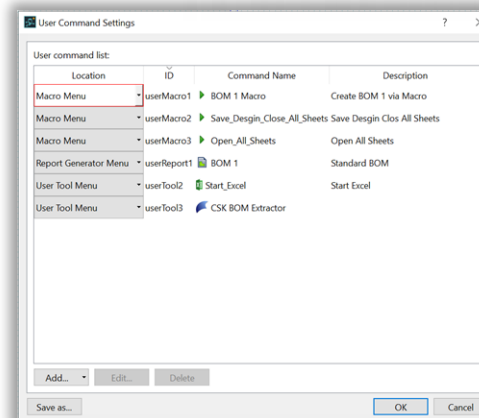
2a. Save the macro text file in the system directory.



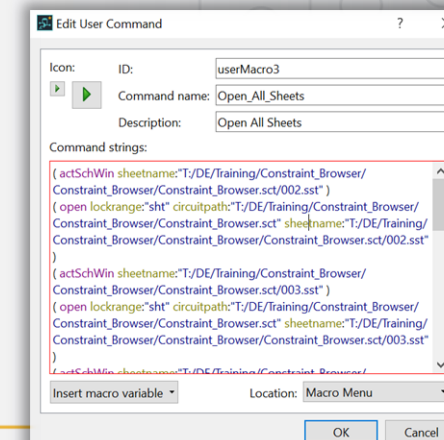
2b. Save the macro as a User Command.



3. A new user command is created.



4. Edit the new user command.

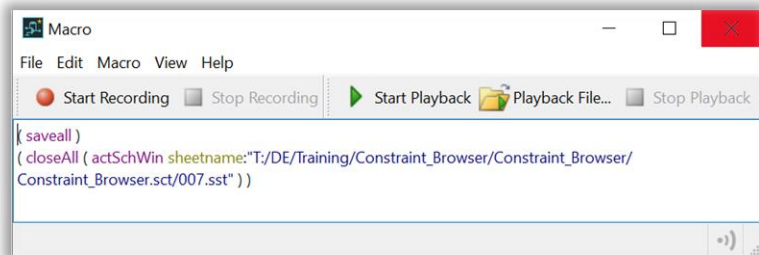


User Command - Macro

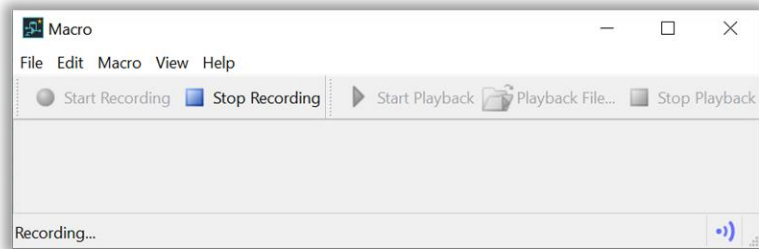
A macro to save the design and close all Sheets:



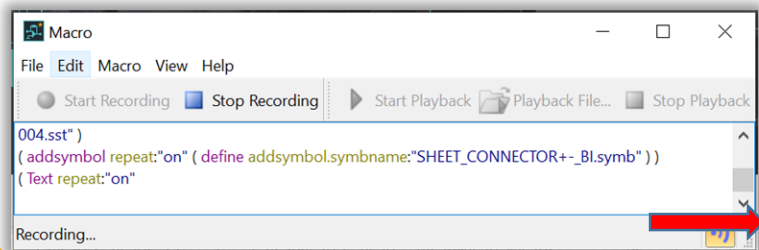
1. The recording is started with Start Recording.



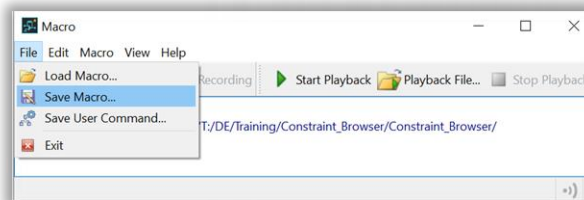
The recording stopped with Stop Recording.



View online Recording.

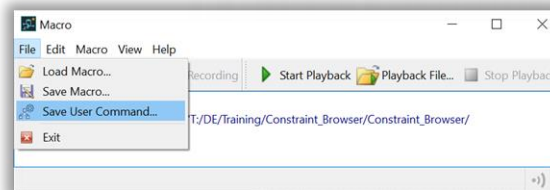


2a. Save the macro text file in the system directory.

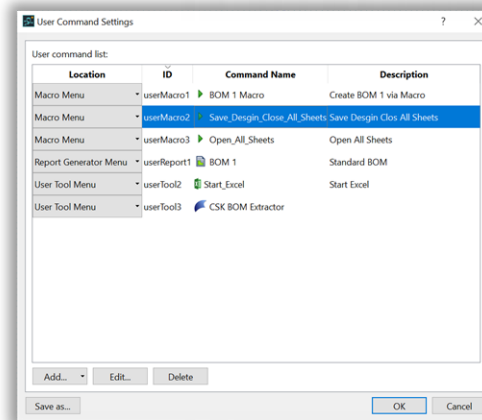


CSK_Data > eCADSTAR > Training > Definition > Macros > SCM		
Name	Typ	Größe
Create_BOM_1.txt	Textdokument	1 KB
Open_All_Sheets.txt	Textdokument	3 KB
Save_Desgin_Close_...	Textdokument	1 KB

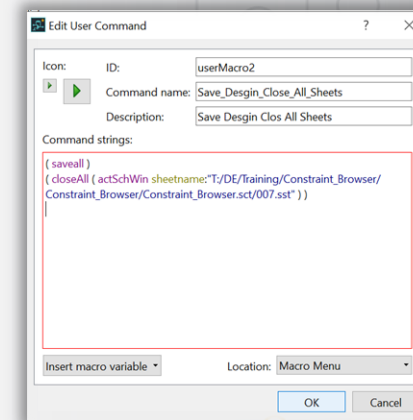
2b. Save the macro as a User Command.



3. A new user command is created.



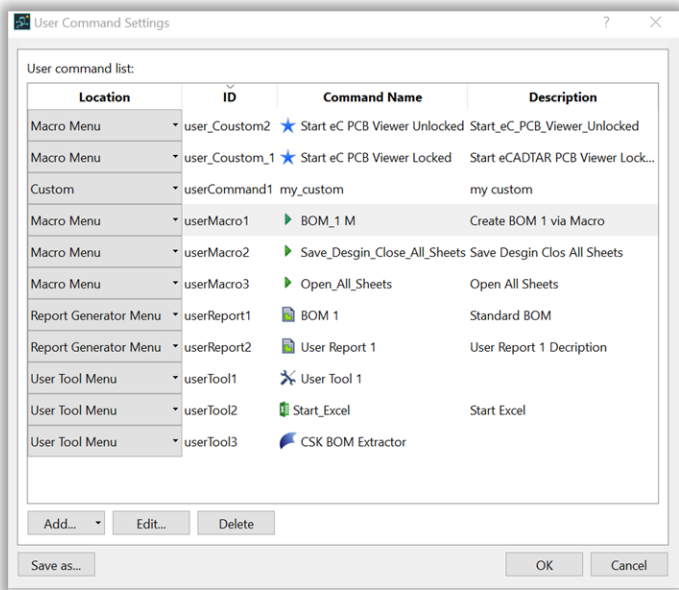
4. Edit the new user command.



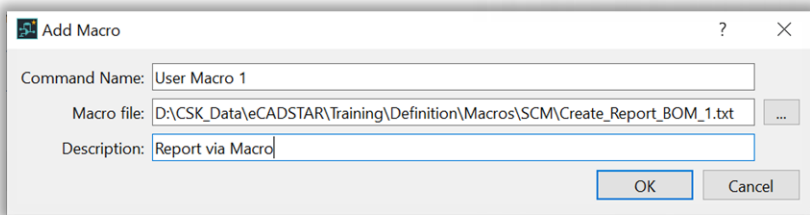
User Command - SCM use existing macro



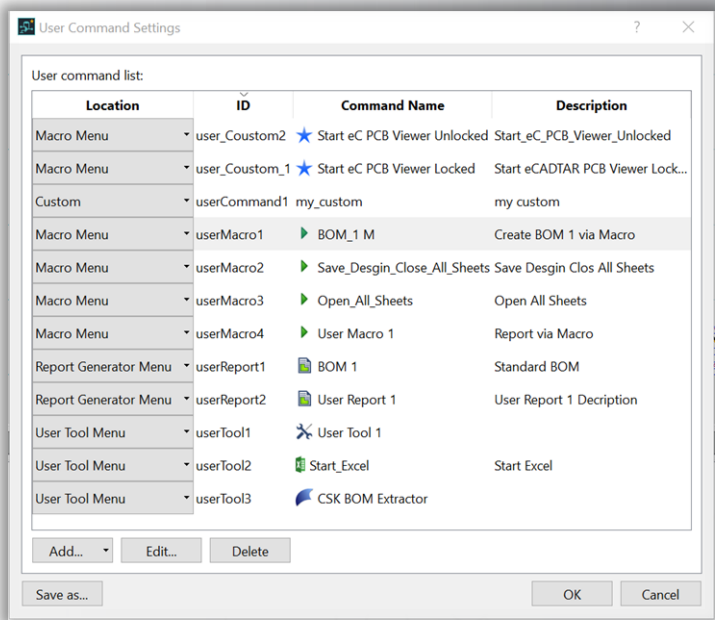
Add User Command:



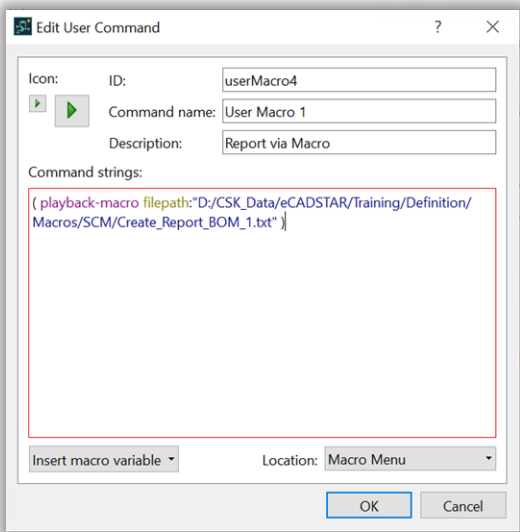
Select a Report:



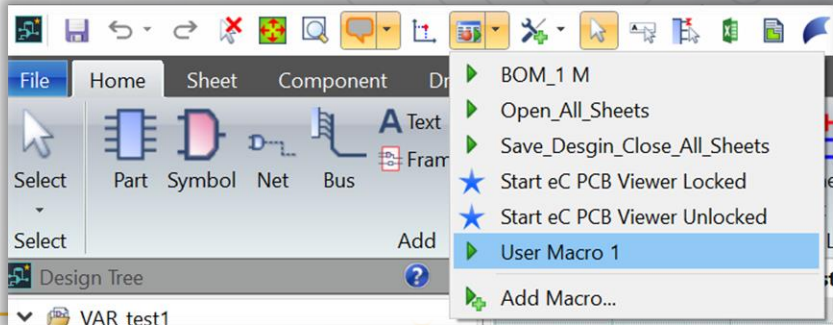
New User Command added:



Edit User Command added:



User new report icon:



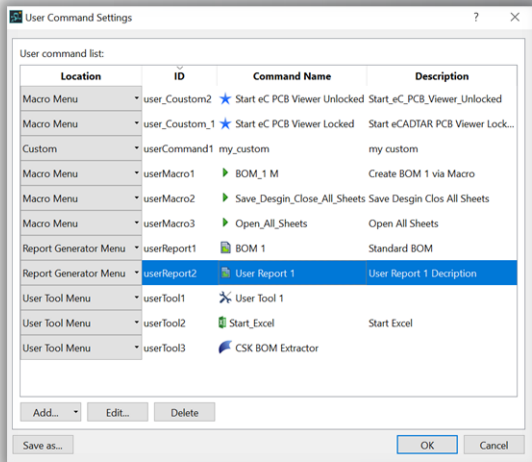
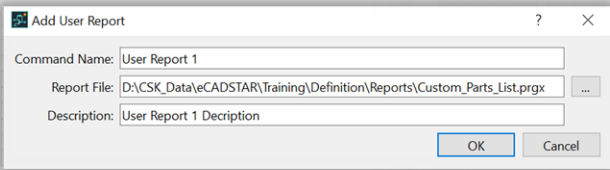
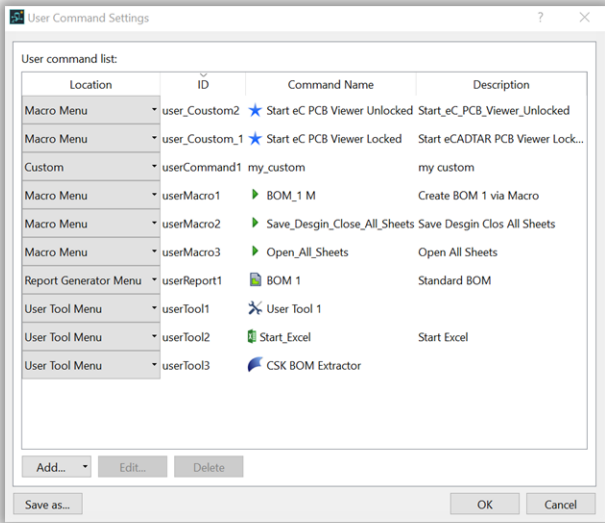
User Command - SCM use existing report



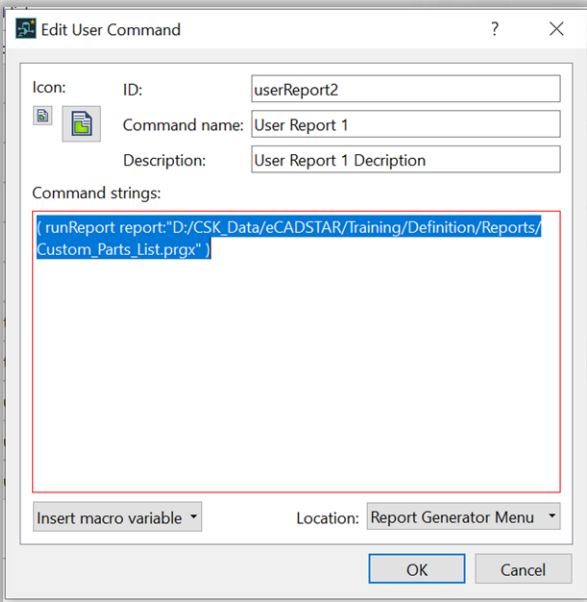
Add User Command:

Select a Report:

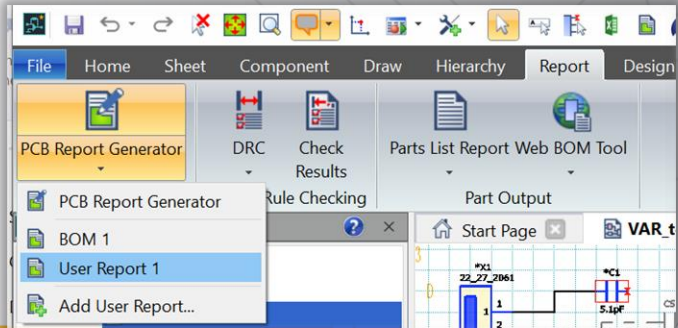
New User Command added:



Edit User Command added:



User new report icon:

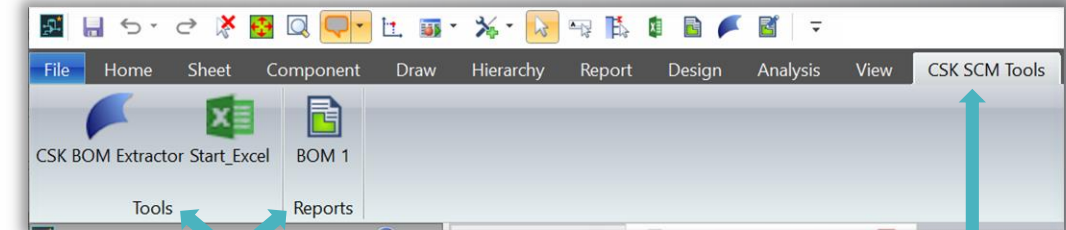
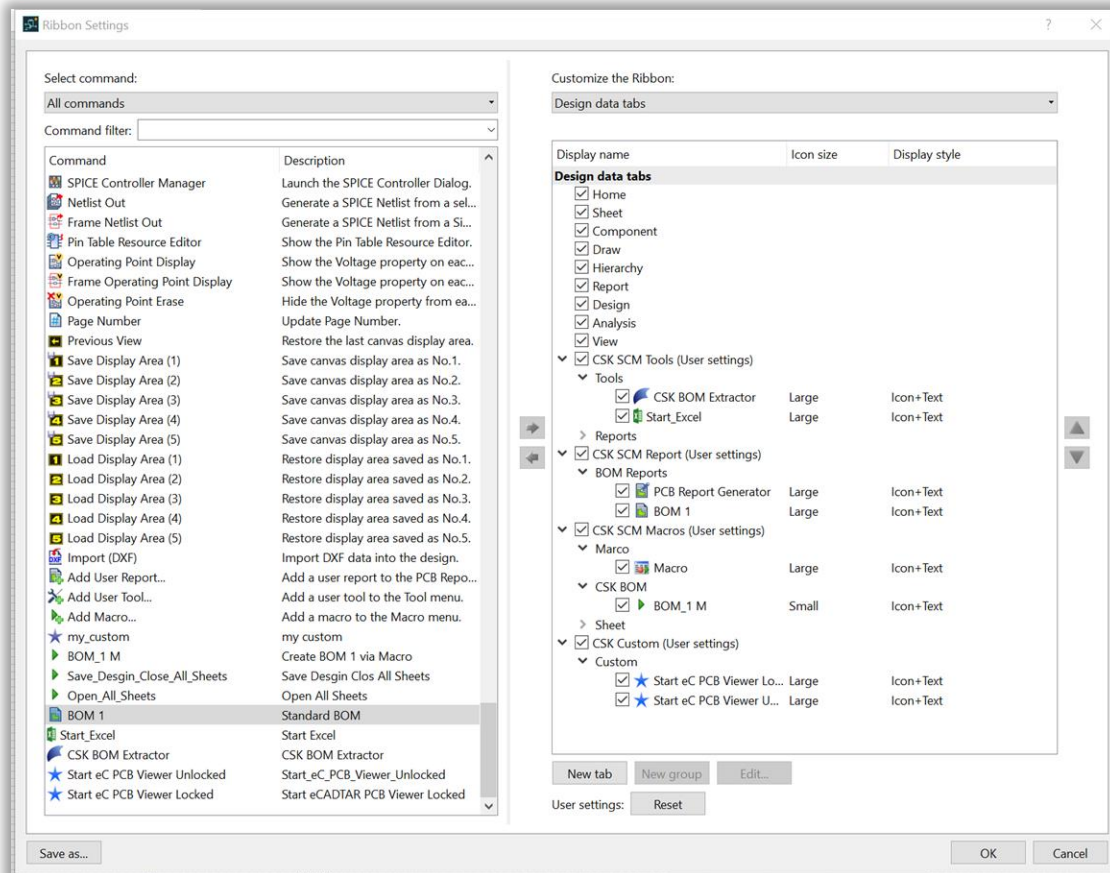


Ribbon Settings - Add new Item

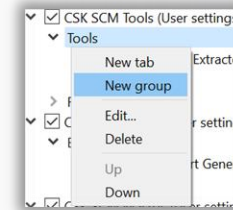


Customize the Ribbon...

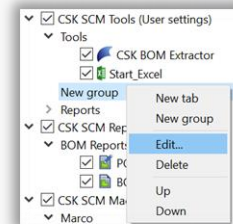
Add or edit user defined ribbon tabs.



1. Add new Group

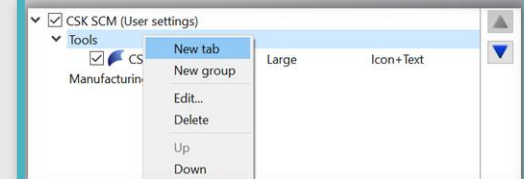


2. Name the Group

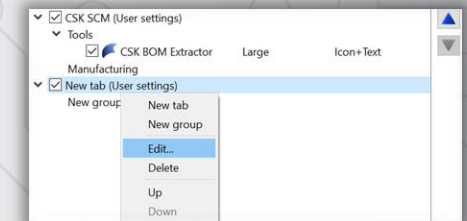


3. Enter Name

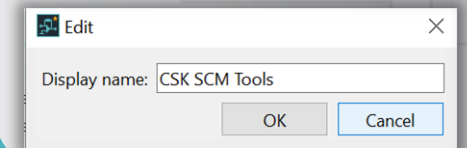
1. Add new Tab



2. Name the Tab



3. Enter Name



Ribbon Settings - Edit Item

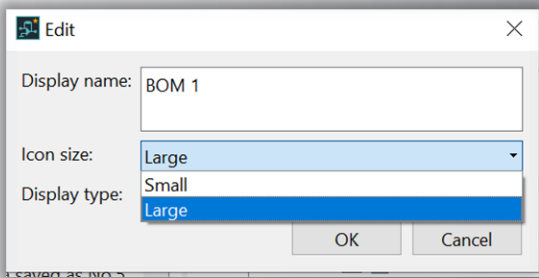
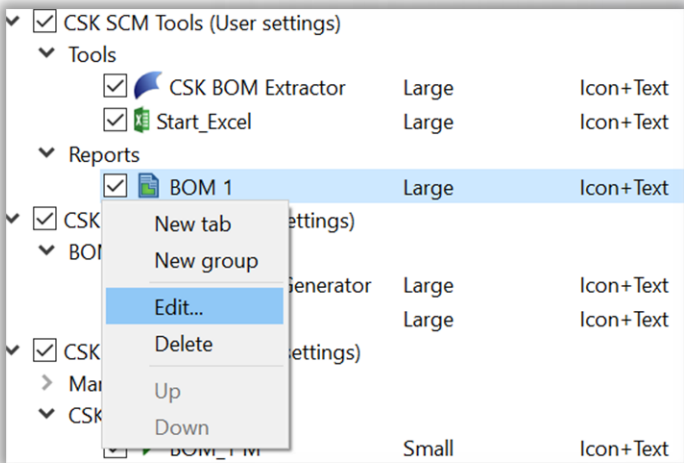
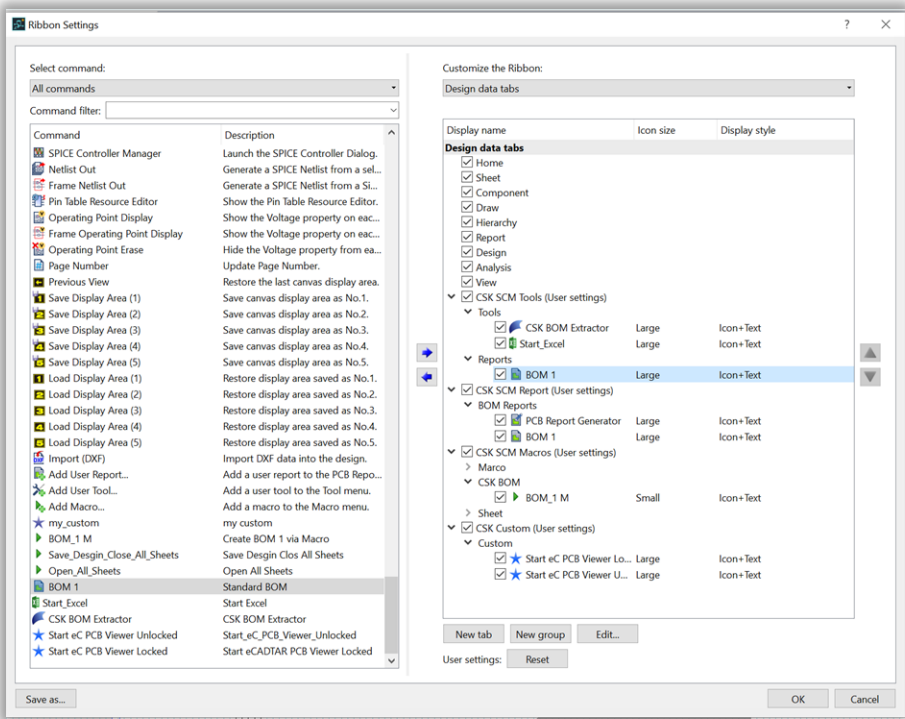


Customize the Ribbon...

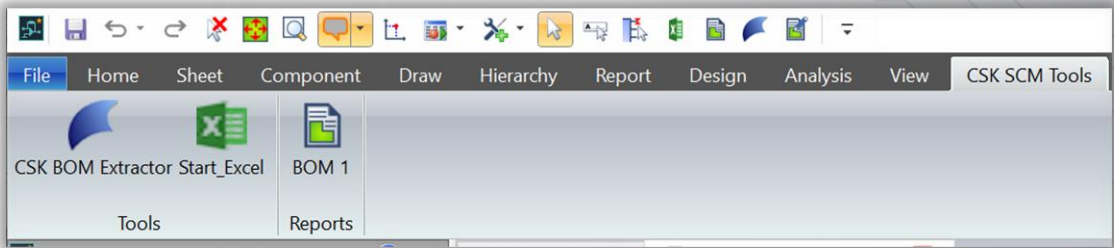
Add or edit user defined ribbon tabs.

Edit the Ribbon properties

- 1. Name the icon
- 2. Choose the icon size



The Ribbon appearance

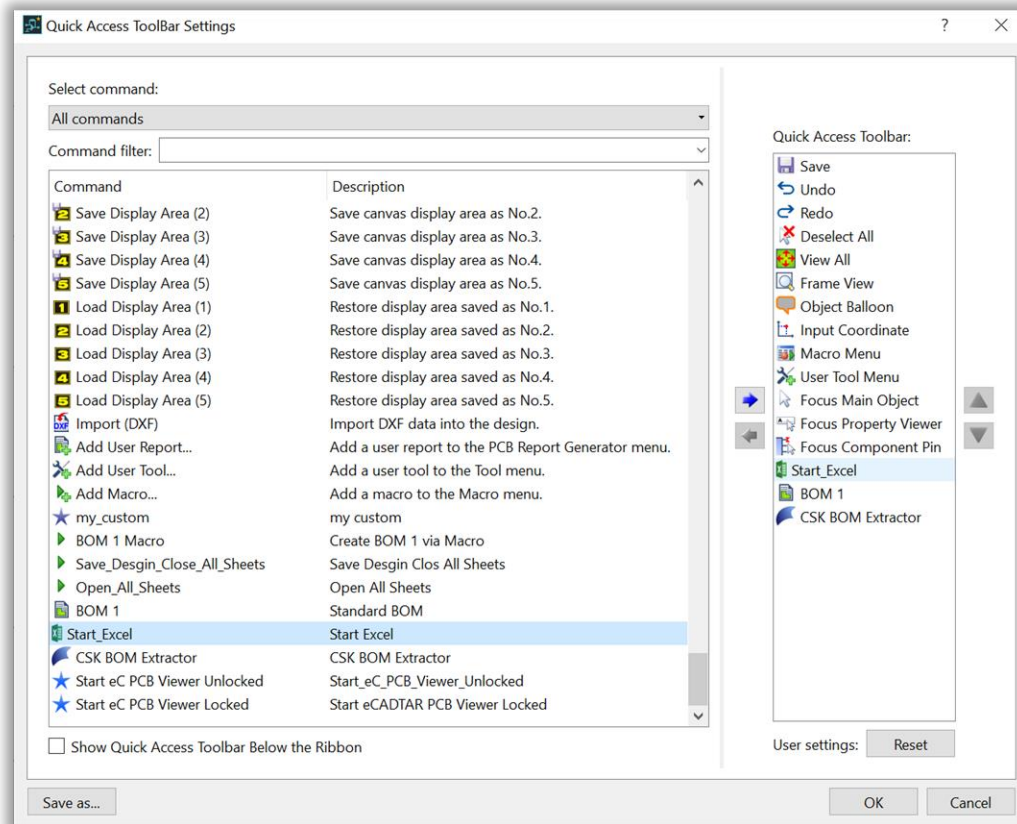


Quick Access Tool Bar - Settings

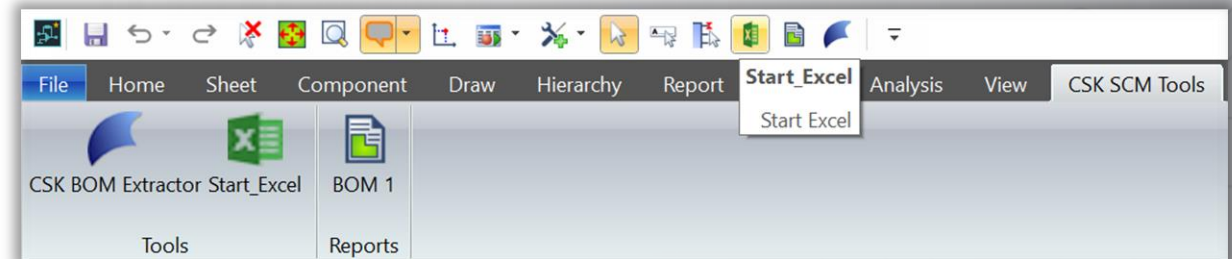


Customize the Quick Access Toolbar...
Modify Quick Access Toolbar contents.


Add the command to the Quick Access Tool Bar



The new command in the Quick Access Tool Bar:



Shortcut Key Settings



Shortcut Key Settings...

Configure shortcut key settings.

View/Select Key Mapping:

Add Key Mapping:

Edit Key Mapping:

Save Key Mapping:

Shortcut Key Setting

Shortcut key list:

Key	Command	Description
Space	Confirm	Confirm data or selection.
+	Zoom In	Zoom in to cursor position by fixed amount.
-	Zoom Out	Zoom out from cursor position by fixed amount.
C	Send	Send selection.
E	Rotate	Rotate when dragging.
F	Find	Find objects in the design.
G	Show Grid	Display grid.
M	Move	Move object to the specified position.
N	Next	Select another object overlapped with the selected obj...
P	Smooth Pan	Pan by dragging the mouse.
R	Rotate	Rotate object specifying the angle.
S	Snap	Snap to reference points.

Add...

Edit...

Delete

Save as...

Load from file

OK

Cancel

Add Key Mapping

Key: Shift+T

Command Filter:

Shortcut already used by:

Command	Description
Distribute Horizontally	Distribute Horizontally.
Distribute Horizontally by Specified Gap	Distribute Horizontally by Specified ...
Distribute Vertically	Distribute Vertically.
Distribute Vertically by Specified Gap	Distribute Vertically by Specified Gap.
Download Manager	Show the Download Manager.
DRC	Execute design rule checking.
DRC Settings	Launch the DRC Settings dialog.
Edit Block Symbol	Open selected block symbol for edit...
Find Variant Components	Find variant components.
Fit to Data	Fit sheet size around the schematic ...

OK

Cancel

Apply

Edit Key Mapping

Key: F

Command Filter:

Shortcut already used by: Find

Command	Description
Distribute Horizontally	Distribute Horizontally.
Distribute Horizontally by Specified Gap	Distribute Horizontally by Specified ...
Distribute Vertically	Distribute Vertically.
Distribute Vertically by Specified Gap	Distribute Vertically by Specified Gap.
Download Manager	Show the Download Manager.
DRC	Execute design rule checking.
DRC Settings	Launch the DRC Settings dialog.
Edit Block Symbol	Open selected block symbol for edit...
Find	Find objects in the design.
Find Variant Components	Find variant components.

OK

Cancel

Shortcut Key Setting

Shortcut key list:

Key	Command	Description
Space	Confirm	Confirm data or selection.
+	Zoom In	Zoom in to cursor position by fixed amount.
-	Zoom Out	Zoom out from cursor position by fixed amount.
C	Send	Send selection.
E	Rotate	Rotate when dragging.
F	Find	Find objects in the design.
G	Show Grid	Display grid.
M	Move	Move object to the specified position.
N	Next	Select another object overlapped with the selected obj...
P	Smooth Pan	Pan by dragging the mouse.
R	Rotate	Rotate object specifying the angle.
S	Snap	Snap to reference points.

Add...

Edit...

Delete

Save as...

Load from file

OK

Cancel

Load eCADSTAR defaults

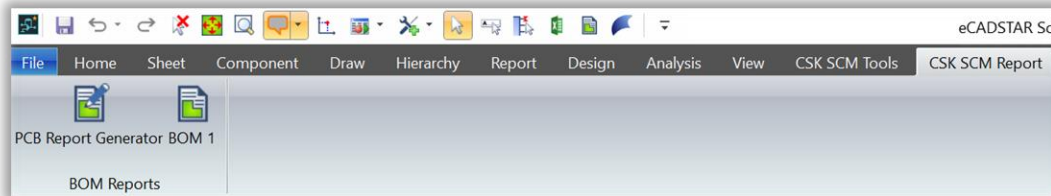
Load CADSTAR defaults

Load from...

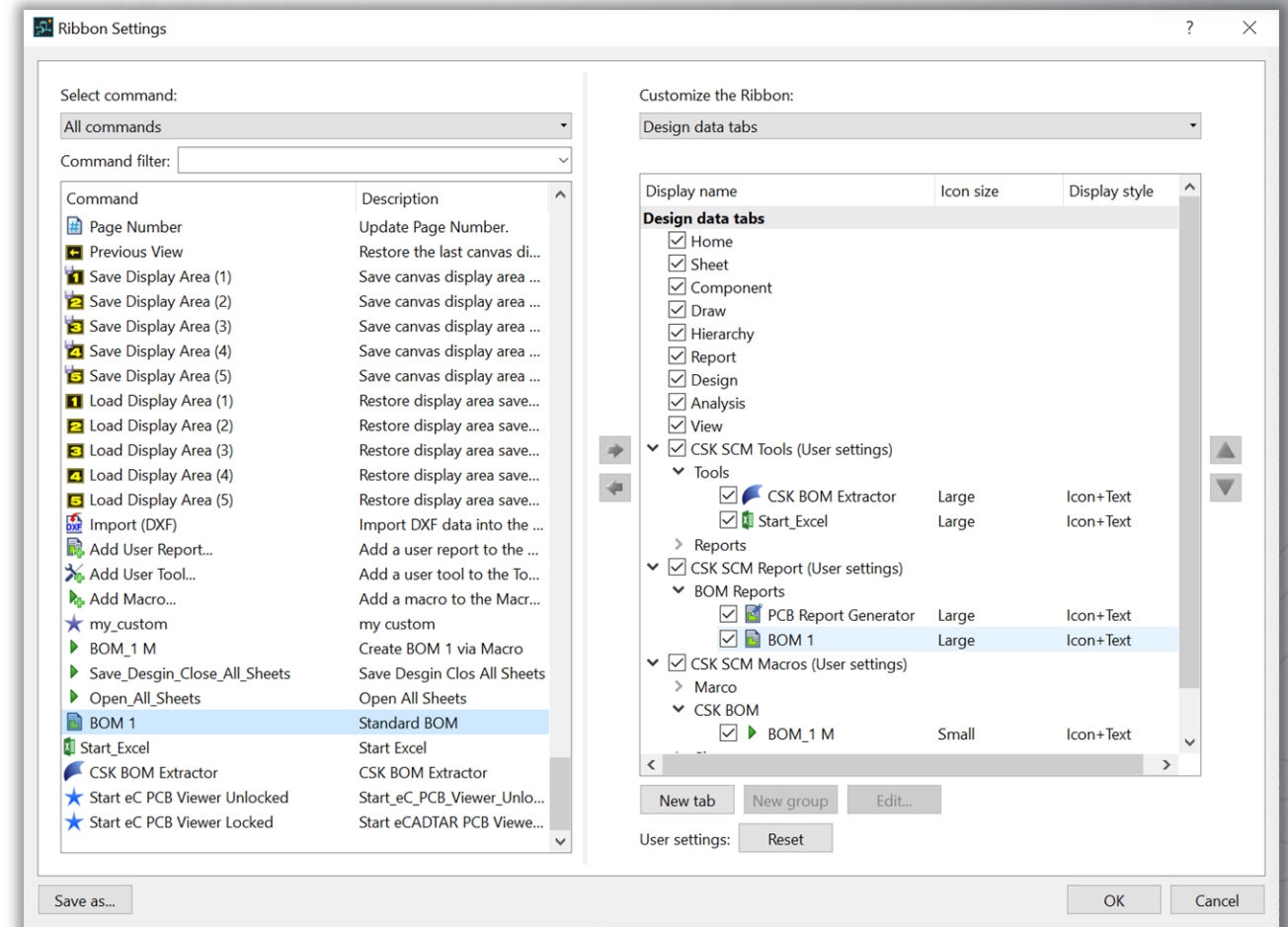
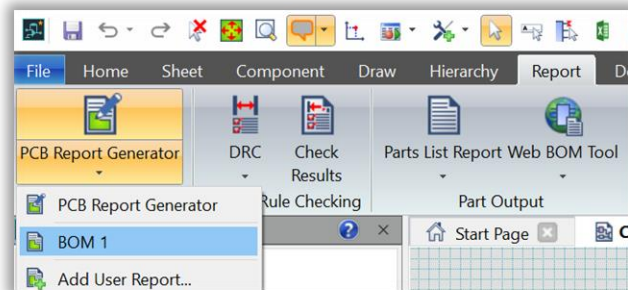
User Command - Report at the ribbon menu

Insert the new macros in the desired position in the ribbon menu.

The new report in ribbon menu:



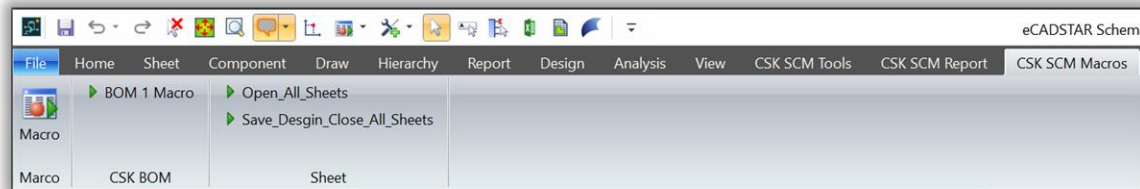
The new macros in the Report Group:



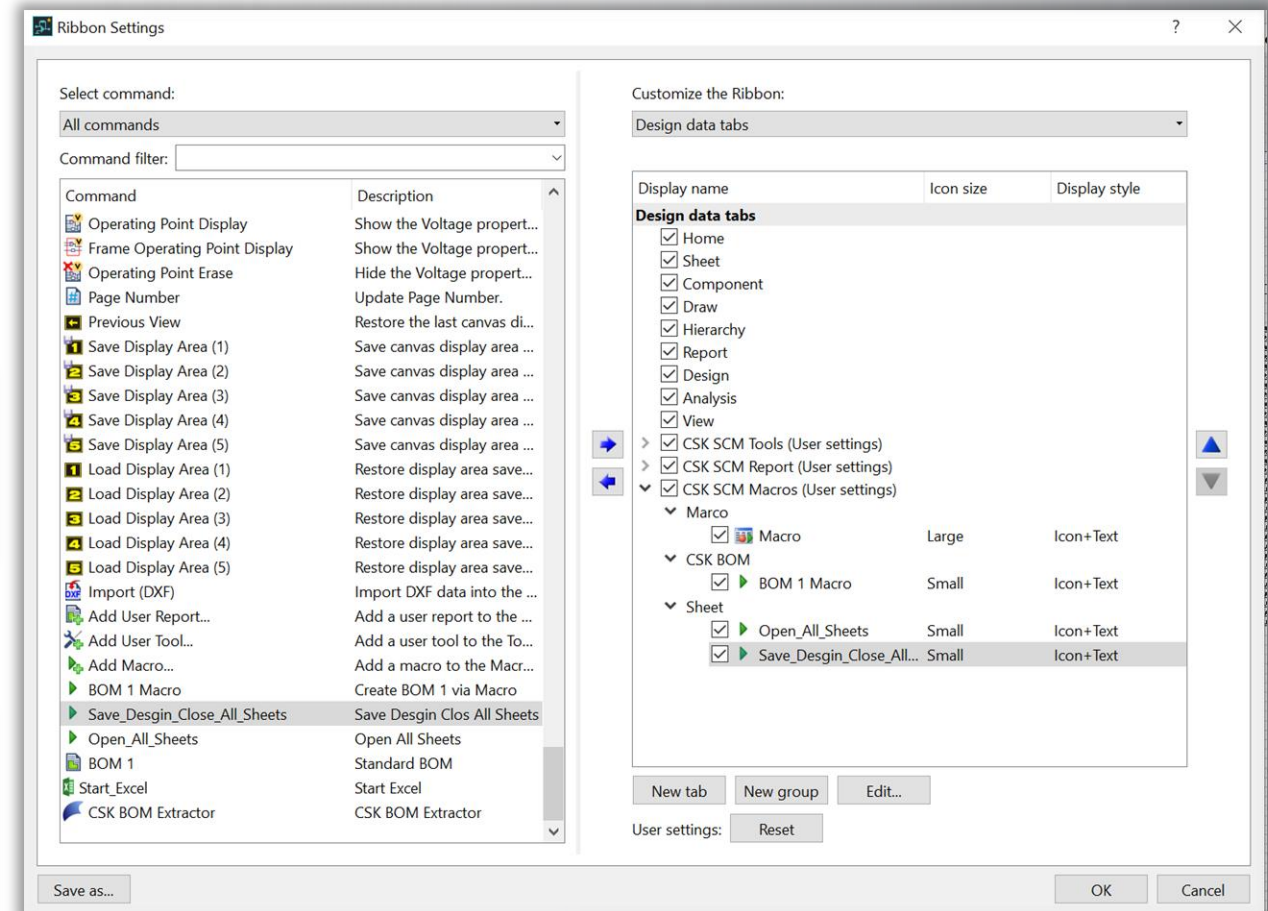
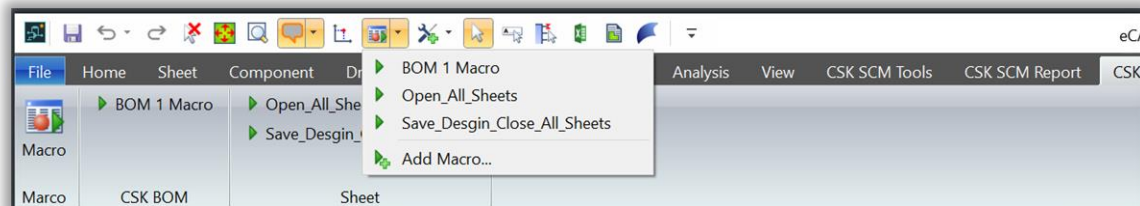
User Command - Macro at the ribbon menu

Insert the new macros in the desired position in the ribbon menu. A new group can also be created for a better overview.

The new macro in ribbon menu.



The new macros in the QAT Bar.



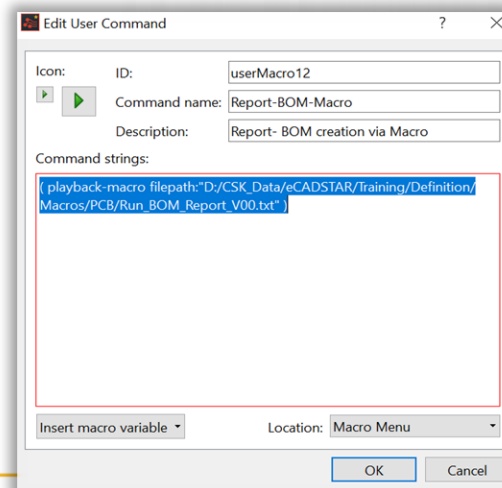
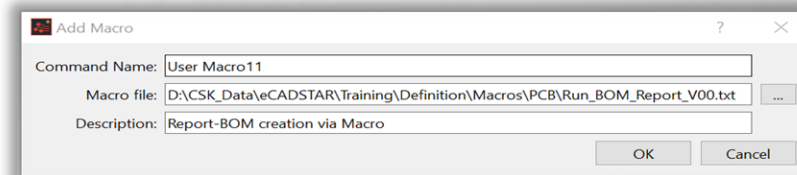
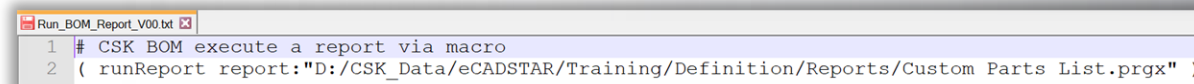
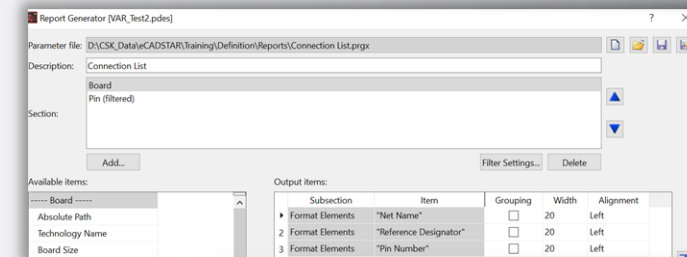
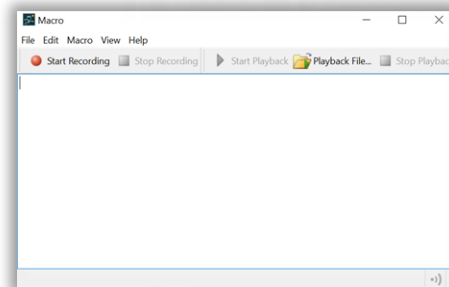
Macro Recording in PCB

Default Macro Actions outside of eCADSTAR cannot be recorded in the macro. As is the case with the report generator, for example.

The report can still be called as a macro. To do this, set up the required call line automatically according to the familiar pattern in the text editor

The user command is then created as usual.

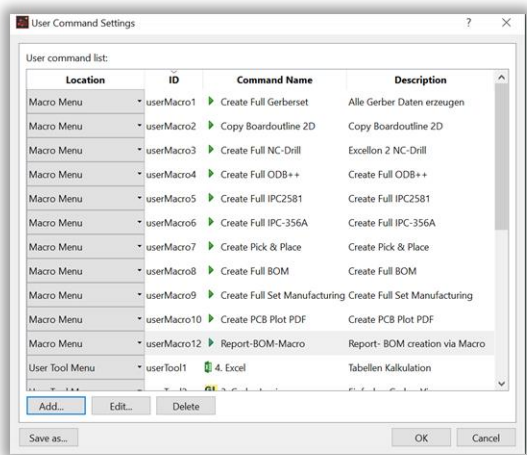
The internally required call line for the macro is created automatically by eCADSTAR.



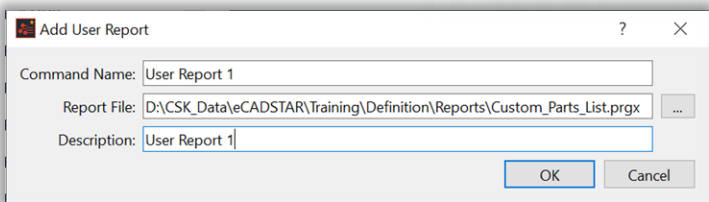
User Command - PCB use existing Report



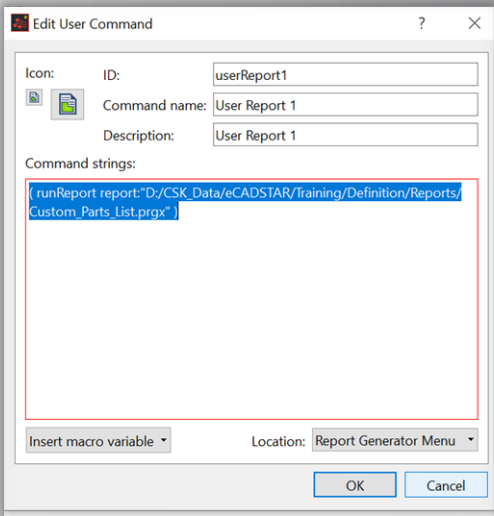
Add User Command:



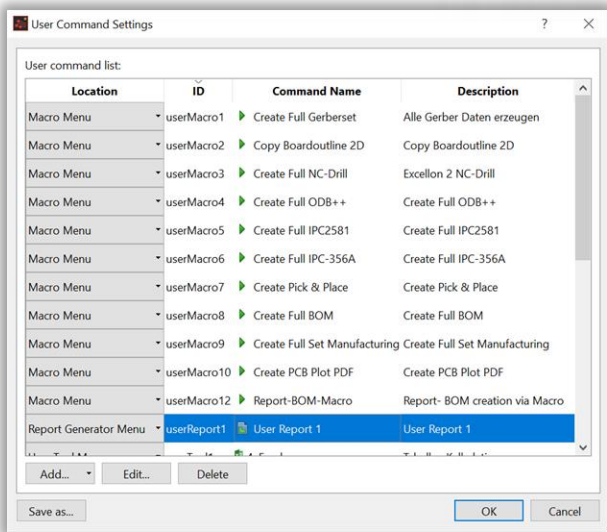
Select a Report:



New User Command added:



Edit User Command added:



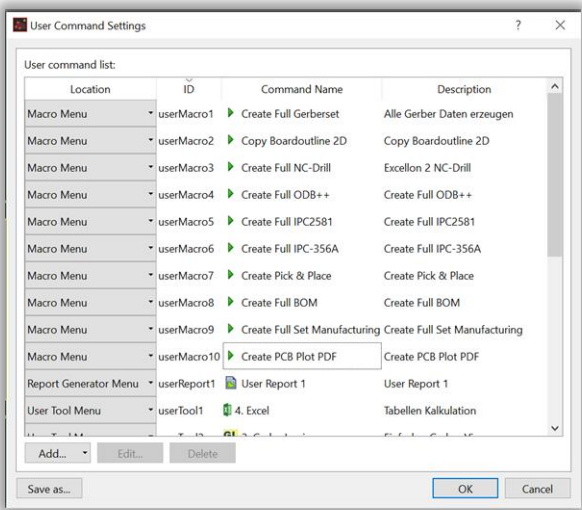
User new report icon:



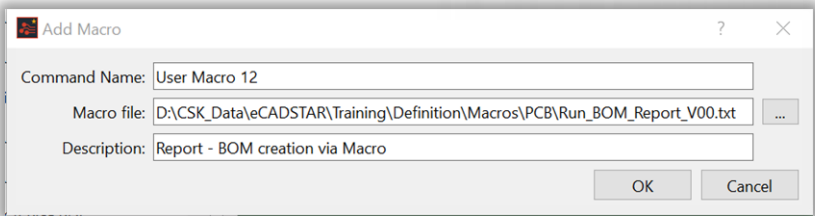
User Command - PCB use existing macro



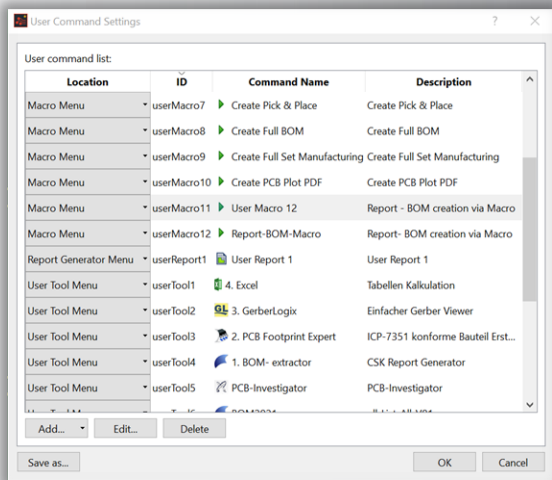
Add User Command:



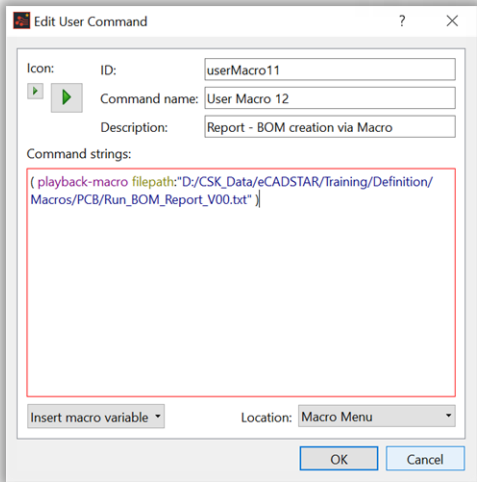
Select a Report:



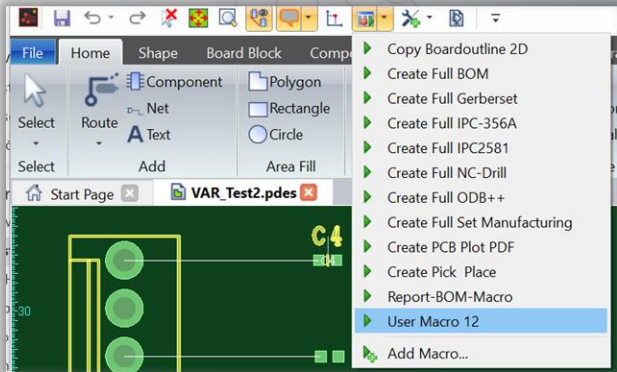
New User Command added:



Edit User Command added:

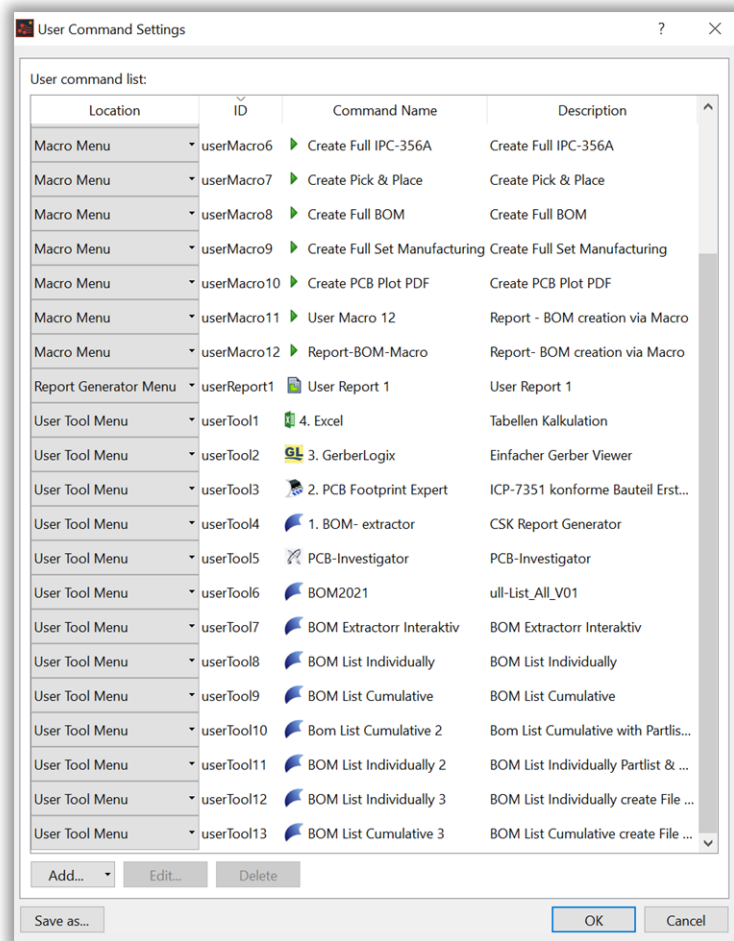


User new report icon:

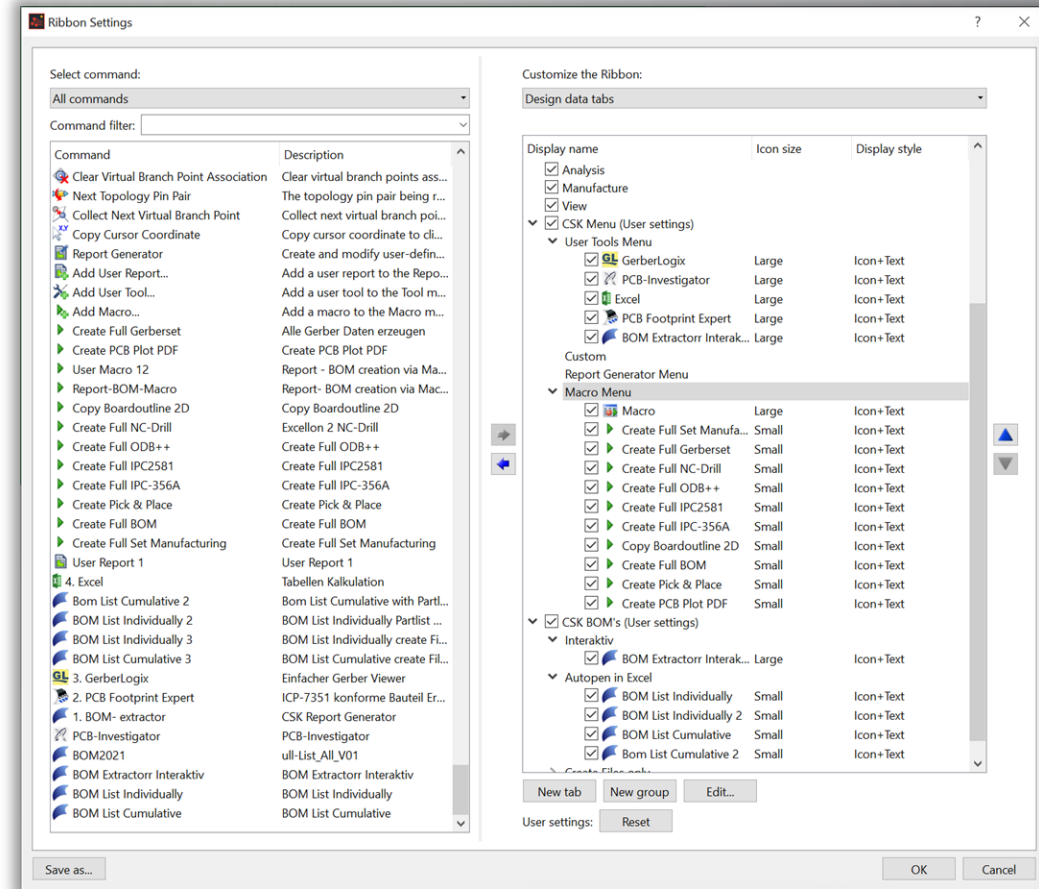


Ribbon Example - Setting in PCB

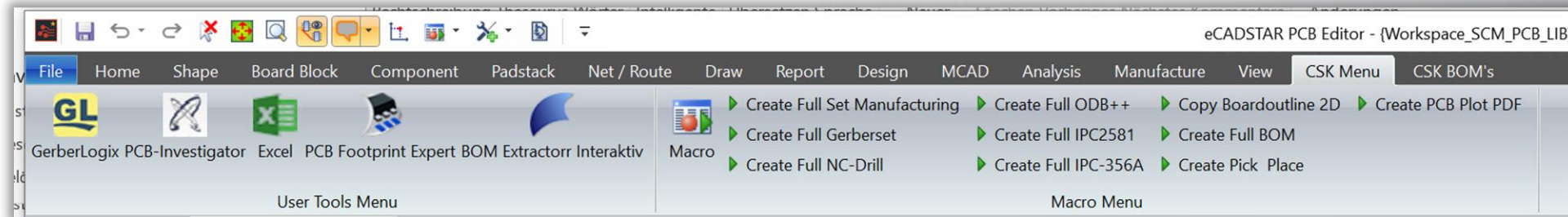
Exiting User Command:



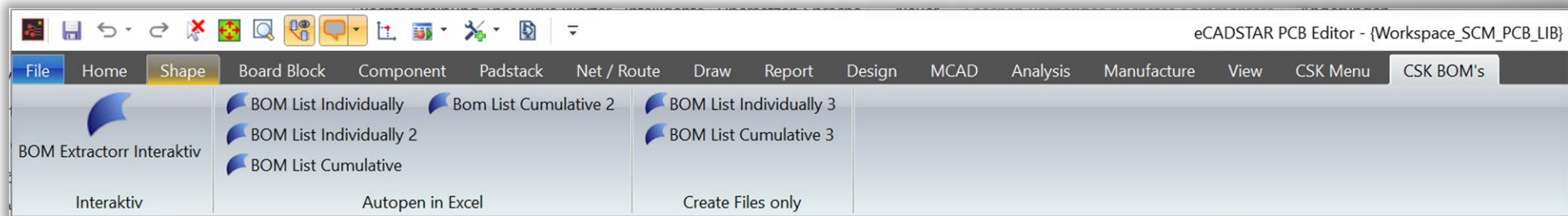
Inserting Commands into new tabs and/or groups in the ribbon menu:



Different Tools and Macros at one user Ribbon tab with two Groups:



One Tool at one user Ribbon tab with different tool arguments:



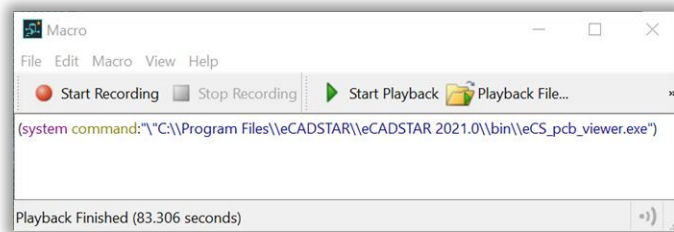
Add User Command - Custom Locked

In a locked state, you cannot use the eCADSTAR application until the external program is closed, or the process is ended in **Task Manager**.

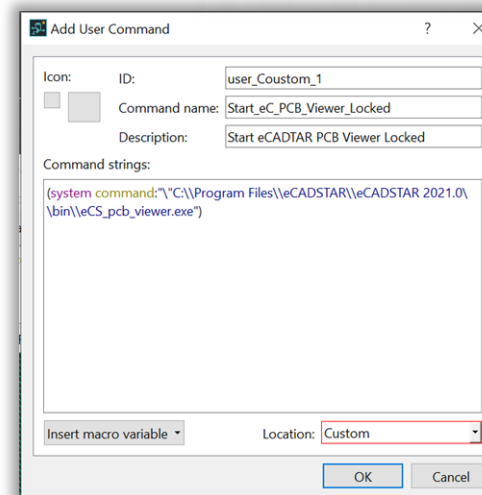
[System Command] [External Application Executable] [External Application Arguments/Parameter].

(system command:"\"C:\\Program Files\\eCADSTAR\\eCADSTAR 2021.0\\bin\\eCS_pcb_viewer.exe")

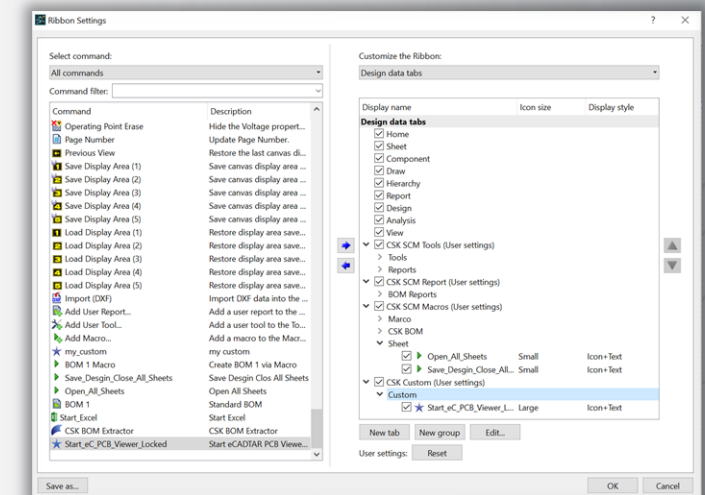
Macro content



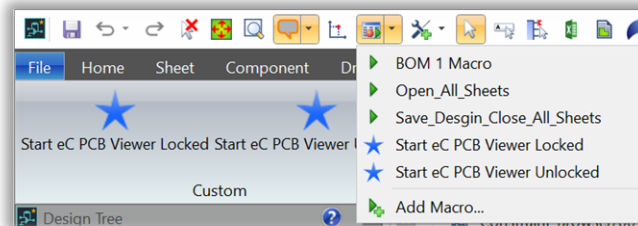
Save the macro as a User Command



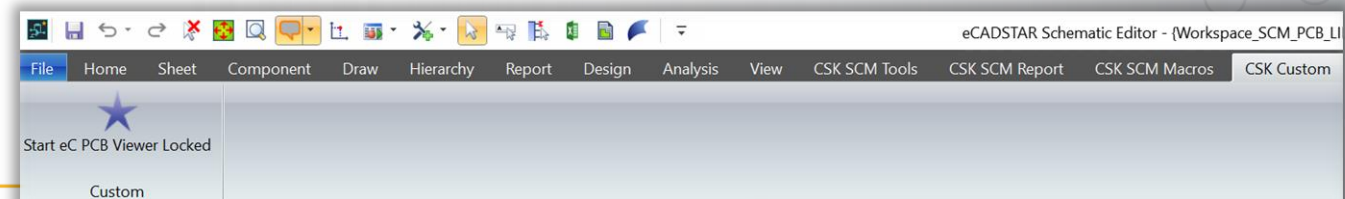
Add to Ribbon



Custom's are in the Marco Menu



In Ribbon



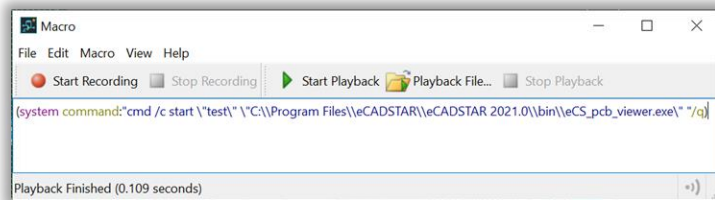
Add User Command - Custom Unlocked

To launch an external program in an unlocked state, the following format is used:

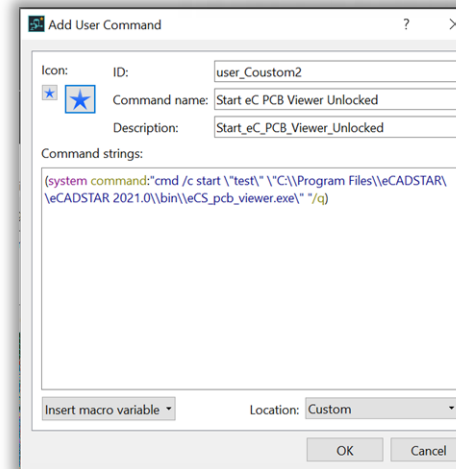
[System Command] [Command Parameter] [Command Argument] [Start Parameter] [Start Argument] [External Application Executable] [External Application Arguments/Parameter]

(system command:"cmd /c start \"test\" \"C:\\Program Files\\eCADSTAR\\eCADSTAR 2021.0\\bin\\eCS_pcb_viewer.exe\" \"/q)

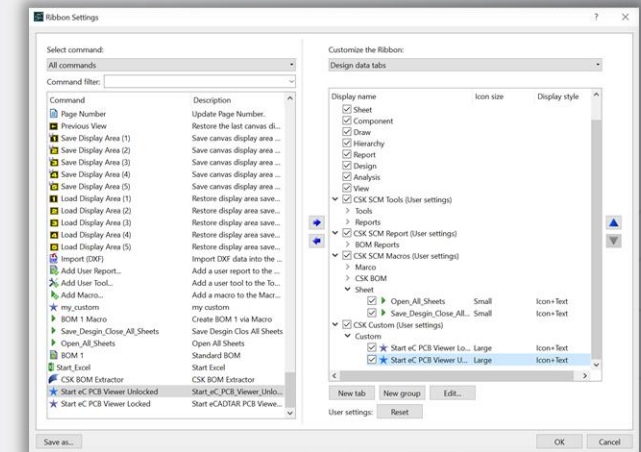
Macro content



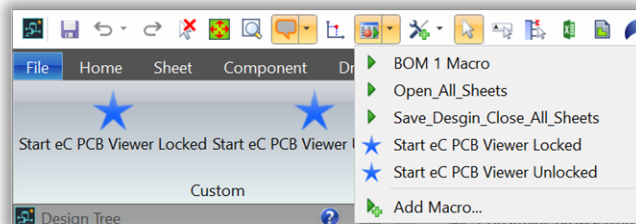
Save the macro as a User Command



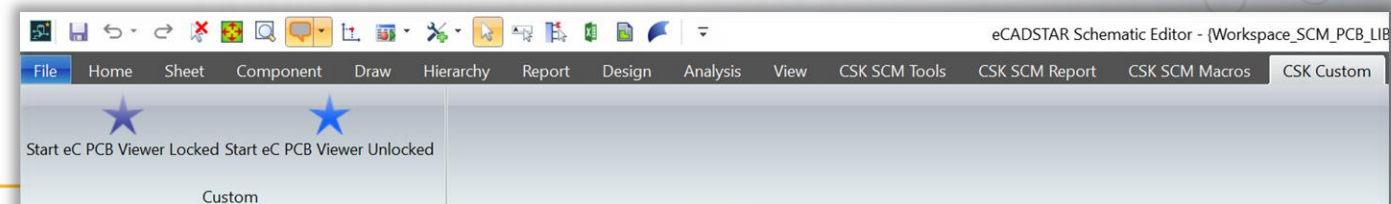
Add to Ribbon



Custom's are in the Marco Menu



In Ribbon



You can launch eCADSTAR applications from the command line by entering the following string:
"[eCADSTAR installation directory]\bin\eCS_pcb.exe [optional parameters]".

The following is an example which shows the complete path. The displayed quotation marks are required.

Start eCADSTAR **SCM Editor** = "C:\Program Files\eCADSTAR\eCADSTAR 2021.0\bin\eCS_scm.exe"

Start eCADSTAR **SCM Viewer** = "C:\Program Files\eCADSTAR\eCADSTAR 2021.0\bin\eCS_scm_viewer.exe"

Start eCADSTAR **PCB Editor** = "C:\Program Files\eCADSTAR\eCADSTAR 2021.0\bin\eCS_pcb.exe"

Start eCADSTAR **PCB Viewer** = "C:\Program Files\eCADSTAR\eCADSTAR 2021.0\bin\eCS_pcb_viewer.exe"

Start eCADSTAR **Library Editor** = "C:\Program Files\eCADSTAR\eCADSTAR 2021.0\bin\eCS_lib.exe"

Optional Parameters: Parameters can be appended to the end of the command line. This allows you to open workspaces, designs and macros when you launch eCADSTAR from the command line.

Workspace: The parameter, followed by the path of the workspace file, will open the workspace when the application is launched.

Playback: The parameter, followed by the path of the macro file, will play the macro when the application is launched.

File name / path: Specifying a file path will open the design that is specified in the file path.

When using all the parameters, the format of the command is as follows:

[File path to application] [-Workspace] [-playback (Macro)] [File path to design].

Each value should place between " " (Not only the keywords that begin with "-name:")

"C:\Program Files\eCADSTAR\eCADSTAR 2021.0\bin\eCS_lib.exe" **or** -app:ftped -object:"SOT363+-_N"

To launch eCADSTAR **PCB Editor** and a Workspace:

"C:\Program Files\eCADSTAR\eCADSTAR 2020.0\bin\ecs_pcb.exe"

-workspace:"C:\Users\public\eCADSTAR\eCADSTAR2020.0\Designs\DIY_Training\workspace.ecw"

To launch eCADSTAR **PCB Editor**, a Workspace and a Design:

"C:\Program Files\eCADSTAR\eCADSTAR 2020.0\bin\ecs_pcb.exe"

-workspace:"C:\Users\public\eCADSTAR\eCADSTAR2020.0\Designs\DIY_Training\workspace.ecw"

"C:\public\eCADSTAR\eCADSTAR2020.0\Designs\DIY_Training\PCB\Design1.pdes"

To launch eCADSTAR **PCB Editor**, a Workspace and a Design, and then Run a Macro*:

"C:\Program Files\eCADSTAR\eCADSTAR 2020.0\bin\ecs_pcb.exe"

-workspace:"C:\Users\public\eCADSTAR\eCADSTAR2020.0\Designs\DIY_Training\PCB\workspace.ecw"

-playback:"C:\Users\public\eCADSTAR\eCADSTAR2020.0\Designs\DIY_Training\PCB\macro.txt"

"C:\public\eCADSTAR\eCADSTAR2020.0\Designs\DIY_Training\PCB\Design1.pdes"

Note: Each command are separate with a space.

* Coming soon eCADSTAR 2021.1 autumn 2021

To launch eCADSTAR SCM Editor and a Workspace:

"C:\Program Files\eCADSTAR\eCADSTAR 2021.0\bin\ecs_pcb.exe"

-workspace:"C:\Users\public\eCADSTAR\eCADSTAR2020.0\Designs\DIY_Training\workspace.ecw"

To launch eCADSTAR SCM Editor, a Workspace and a Design*:

"C:\Program Files\eCADSTAR\eCADSTAR 2021.0\bin\ecs_pcb.exe"

-workspace:"C:\Users\public\eCADSTAR\eCADSTAR2020.0\Designs\DIY_Training\workspace.ecw"

"C:\Users\public\eCADSTAR\eCADSTAR2020.0\Designs\DIY_Training\PCB\Design1.pdes"

To launch eCADSTAR SCM Editor, a Workspace and a Design and then run a Macro*:

"C:\Program Files\eCADSTAR\eCADSTAR 2021.0\bin\ecs_pcb.exe"

-workspace:"C:\Users\public\eCADSTAR\eCADSTAR2021.0\Designs\DIY_Training\PCB\workspace.ecw"

-playback:"C:\Users\public\eCADSTAR\eCADSTAR2021.0\Designs\DIY_Training\PCB\macro.txt"

"C:\Users\public\eCADSTAR\eCADSTAR2020.0\Designs\DIY_Training\PCB\Design1.pdes"

Note: Each command are separate with a space.

* Coming soon eCADSTAR 2021.1 autumn 2021

External launch of the eCADSTAR Library Editor



To launch the Library Editor: "<installed path to eCS_lib.exe>"

To launch eCADSTAR Library Editor:

"C:\Program Files\eCADSTAR\eCADSTAR 2021.0\bin\eCS_lib.exe"
-libpath:"D:\CSK_Data\eCADSTAR\Training\Definition\Libraries\Library"

To open a specific part:

"C:\Program Files\eCADSTAR\eCADSTAR 2021.0\bin\eCS_lib.exe"
-libpath:"D:\CSK_Data\eCADSTAR\Training\Definition\Libraries\Library"
-app:parted -object:"part name"

To open a specific symbol:

"C:\Program Files\eCADSTAR\eCADSTAR 2021.0\bin\eCS_lib.exe"
-libpath:"D:\CSK_Data\eCADSTAR\Training\Definition\Libraries\Library"
-app:symed -object:"symbol name"

If the symbol uses an alternate you need to use

"C:\Program Files\eCADSTAR\eCADSTAR 2021.0\bin\eCS_lib.exe"
-libpath:"D:\CSK_Data\eCADSTAR\Training\Definition\Libraries\Library"
-app:ftped -object:"footprint name+_-alternate name"

To open specific footprint:

"C:\Program Files\eCADSTAR\eCADSTAR 2021.0\bin\eCS_lib.exe"
-libpath:"D:\CSK_Data\eCADSTAR\Training\Definition\Libraries\Library"
-app:ftped -object:"footprint name"

If the symbol uses an alternate you need to use:

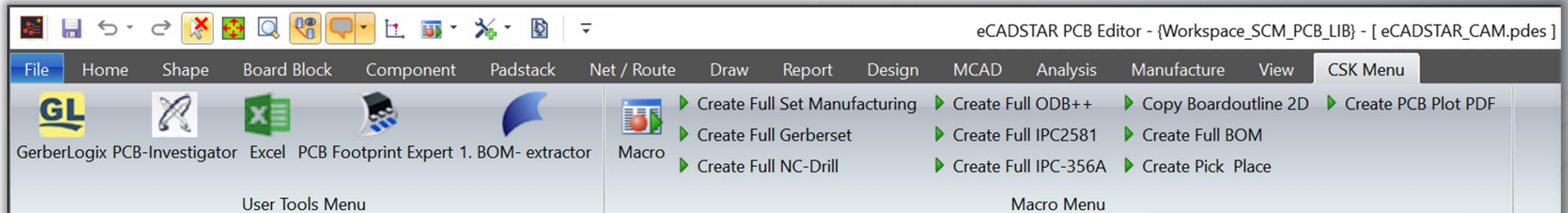
"C:\Program Files\eCADSTAR\eCADSTAR 2021.0\bin\eCS_lib.exe"
-libpath:"D:\CSK_Data\eCADSTAR\Training\Definition\Libraries\Library"
-app:ftped -object:"footprint name+_-alternate name"

Note: Each command are separate with a space.



Overview - Uses of automation

1. Use of the automation possibilities in eCADSTAR PCB.
2. All external tools should be called directly from the eCADSTAR interface.
3. All necessary production data should be automatically created individually or in groups.



In principle, there are no regulations on how the required eCADSTAR data is organized.

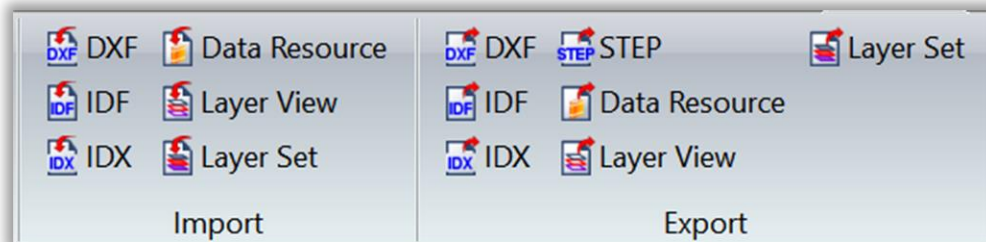
The structures shown here have currently developed over time in the context of many projects and are subject to constant optimization.

The library is the leading element for definitions, templates and settings.

All possible options are combined in groups and transferred to a directory structure.

CSK_Data > eCADSTAR > Training > Definition	
Name	Typ
Batch_Files	Dateiordner
BOM-Extractor	Dateiordner
Configuration	Dateiordner
Documentation	Dateiordner
Libraries	Dateiordner
Macros	Dateiordner
Manufacturing_Devices	Dateiordner
Manufacturing_Output	Dateiordner
Manufacturing_Output_Empty	Dateiordner
Mapping	Dateiordner
Reports	Dateiordner
Settings	Dateiordner
Workspace	Dateiordner

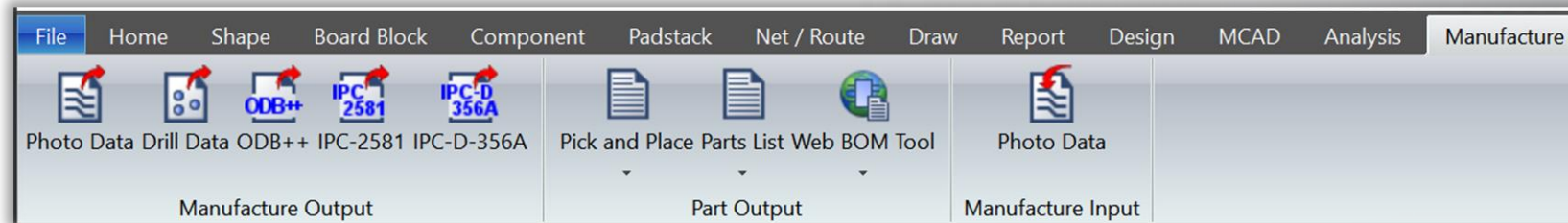
You can find these import and export settings in the Design Tab:



It is recommended to use the same settings also in your definition structure:

eCADSTAR > Training > Definition > Settings

Name	Typ
CSK	Dateiordner
Data_Resource	Dateiordner
DXF	Dateiordner
IDF	Dateiordner
IDX	Dateiordner
Layer_Set	Dateiordner
Layer_View	Dateiordner
STEP	Dateiordner



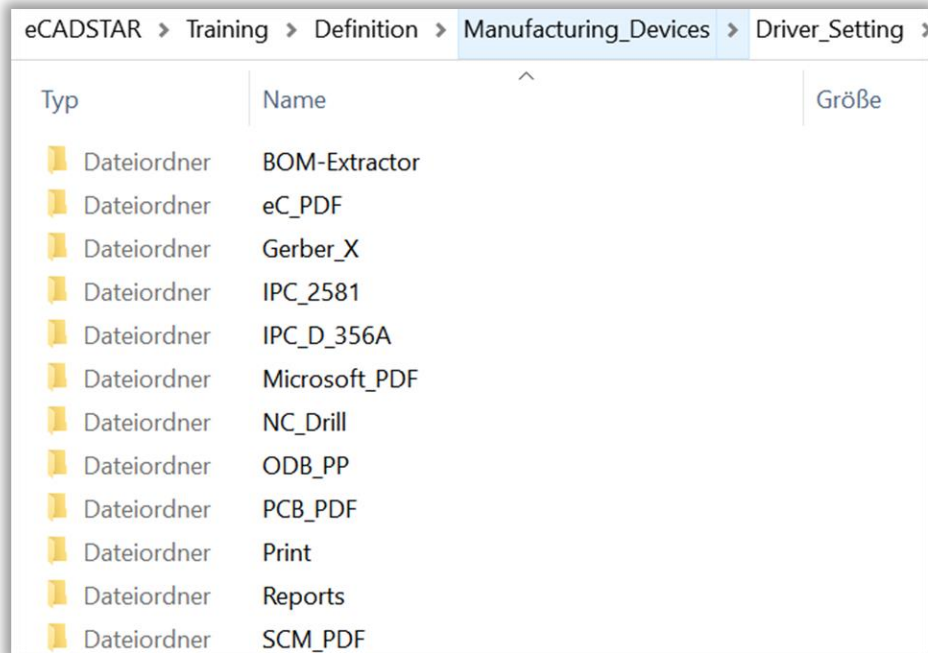
Each of these manufacturing issues has its own settings. The Driver Definition directory contains the various device drivers (for creating the Gerber data or drilling data).

eCADSTAR > Training > Definition > Manufacturing_Devices > Driver_Definition

Name	Typ	Größe
excellon.table	TABLE-Datei	
Excellon2.ncf	NCF-Datei	
gerber.ncf	NCF-Datei	
gerber.table	TABLE-Datei	
gerberx.ncf	NCF-Datei	

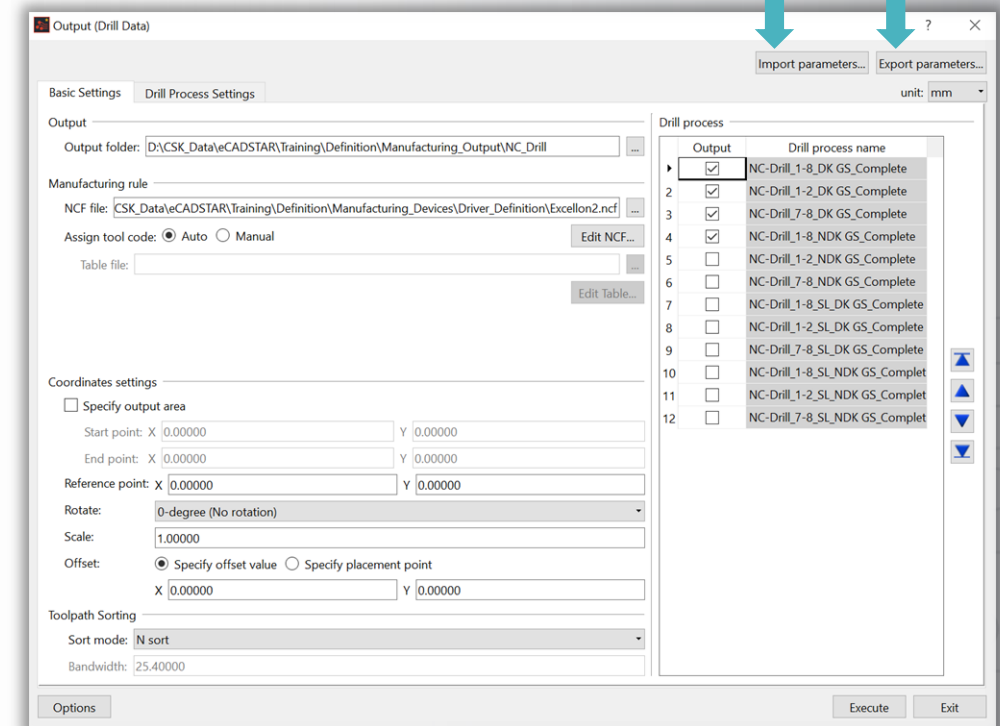
All manufacturing tasks can be predefined. So that standardized documents are created.

The output definitions:



Typ	Name	Größe
Dateiordner	BOM-Extractor	
Dateiordner	eC_PDF	
Dateiordner	Gerber_X	
Dateiordner	IPC_2581	
Dateiordner	IPC_D_356A	
Dateiordner	Microsoft_PDF	
Dateiordner	NC_Drill	
Dateiordner	ODB_PP	
Dateiordner	PCB_PDF	
Dateiordner	Print	
Dateiordner	Reports	
Dateiordner	SCM_PDF	

For each output format the necessary settings:



Output (Drill Data)

Basic Settings | Drill Process Settings

unit: mm

Output folder: D:\CSK_Data\@CADSTAR\Training\Definition\Manufacturing_Output\NC_Drill

Manufacturing rule

NCF file: CSK_Data\@CADSTAR\Training\Definition\Manufacturing_Devices\Driver_Definition\Excellon2.ncf

Assign tool code: ☒ Auto ☐ Manual

Table file:

Coordinates settings

☐ Specify output area

Start point: X 0.00000 Y 0.00000

End point: X 0.00000 Y 0.00000

Reference point: X 0.00000 Y 0.00000

Rotate: 0-degree (No rotation)

Scale: 1.00000

Offset: ☒ Specify offset value ☐ Specify placement point

X 0.00000 Y 0.00000

Toolpath Sorting

Sort mode: N sort

Bandwidth: 25.40000

Drill process

Output	Drill process name
<input checked="" type="checkbox"/>	NC-Drill_1-8_DK_GS_Complete
<input checked="" type="checkbox"/>	NC-Drill_1-2_DK_GS_Complete
<input checked="" type="checkbox"/>	NC-Drill_7-8_DK_GS_Complete
<input checked="" type="checkbox"/>	NC-Drill_1-8_NDK_GS_Complete
<input type="checkbox"/>	NC-Drill_1-2_NDK_GS_Complete
<input type="checkbox"/>	NC-Drill_7-8_NDK_GS_Complete
<input type="checkbox"/>	NC-Drill_1-8_SL_DK_GS_Complete
<input type="checkbox"/>	NC-Drill_1-2_SL_DK_GS_Complete
<input type="checkbox"/>	NC-Drill_7-8_SL_DK_GS_Complete
<input type="checkbox"/>	NC-Drill_1-8_SL_NDK_GS_Complet
<input type="checkbox"/>	NC-Drill_1-2_SL_NDK_GS_Complet
<input type="checkbox"/>	NC-Drill_7-8_SL_NDK_GS_Complet

Options | Execute | Exit

A separate output directory is selected for each output format:

eCADSTAR > Training > Definition > Manufacturing_Output >		
Name	Typ	Größe
Batch	Dateiordner	
BOM	Dateiordner	
BOM-Extractor	Dateiordner	
Gerber_X	Dateiordner	
IPC_2581	Dateiordner	
IPC_D_356A	Dateiordner	
Microsoft_PDF	Dateiordner	
NC_Drill	Dateiordner	
ODB_PP	Dateiordner	
PCB_PDF	Dateiordner	
PCB_Plot_PDF	Dateiordner	
Pick_and_Place	Dateiordner	
Print	Dateiordner	
SCM_PDF	Dateiordner	

As a rule, this structure is complete or in a reduced form with or without variants created and used in the respective design project directory:

eCADSTAR > Training > Definition > Manufacturing_Output > Gerber_X		
Name	Größe	Typ
Board_Outline Constraint_Browser.fph	2 KB	FPH-Datei
Board_Outline Constraint_Browser.fpl	4 KB	FPL-Datei
Bottom_Assembly Constraint_Browser.fph	82 KB	FPH-Datei
Bottom_Assembly Constraint_Browser.fpl	4 KB	FPL-Datei
Bottom_Electrical Constraint_Browser.fph	91 KB	FPH-Datei
Bottom_Electrical Constraint_Browser.fpl	9 KB	FPL-Datei

eCADSTAR > Training > Definition > Manufacturing_Output > NC_Drill		
Name	Größe	Typ
NC-Drill_1-2_DK Constraint_Browser.fdl	4 KB	FDL-
NC-Drill_1-2_DK Constraint_Browser.fdr	1 KB	FDR-
NC-Drill_1-2_DK Training_Designs.fdl	4 KB	FDL-
NC-Drill_1-2_DK Training_Designs.fdr	1 KB	FDR-
NC-Drill_1-8_DK Constraint_Browser.fdl	4 KB	FDL-

In eCADSTAR, macros for the automation of repetitive tasks are very often created.

The macros directories:

eCADSTAR > Training > Definition > Macros		
Name	Typ	Größe
Library	Dateiordner	
Manufacturing	Dateiordner	
PCB	Dateiordner	
SCM	Dateiordner	
add2dboa_v00.txt	Textdokument	2 KB
FF1.txt	Textdokument	1 KB
Gerber X.txt	Textdokument	1 KB
testmakro.txt	Textdokument	1 KB
View All.txt	Textdokument	1 KB

Whether it is a single directory or different directories depends on the number of macros. In the course of time there will be more and more macros, so it makes sense to create a structure from the start.

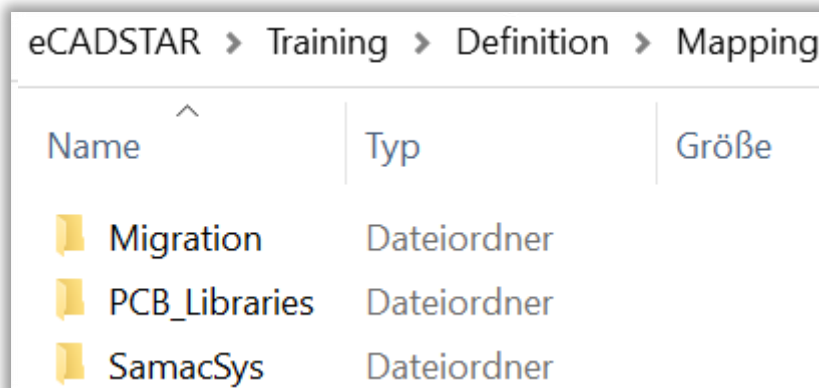
Macro content:

```
( export-photo  
prmf:"D:\\CSK_Data\\eCADSTAR\\Training\\Defi  
nition\\Manufacturing_Devices\\Driver_Setting\\G  
erber_X\\8-Layer\\Gerber_X_8-Layer_V00.photo"  
exec )
```

Mapping is needed for a correct classification of layers and all information of migration.

Whether it is a single directory or different directories depends on the number of mapping files. In the course of time there will be more and more mapping files, so it makes sense to create a structure from the start.

The mapping directories:



The content of a mapping file:

The screenshot shows the 'Library Mapping' dialog box with the file path 'ta\eCADSTAR\Training\Definition\Mapping\PCB_Libraries\eCADSTAR_DIY_PCB_Show_Map.libmap'. The 'Footprint Layer Mapping' section contains a table with 17 rows of mappings.

	Source Layer Name	Layer Type	Destination Layer Name	Action
1	COND-A	Conductor	Top_Elec	Map to Top_Elec.
2	COND-INNER	Conductor	Inner	Map to Inner.
▶	COND-B	Conductor	Bottom_Elec	Map to Bottom_El
4	RESIST-A	Solder resist	Top_Resist	Map to Top_Resist
5	RESIST-B	Solder resist	Bottom_Resist	Map to Bottom_R
6	COMPAREA-A	Component area	Top_Placement	Map to Top_Placer
7	COMPAREA-B	Component area	Bottom_Placement	Map to Bottom_Pl
8	SYMBOL-A	Symbol mark	Top_Silk	Map to Top_Silk.
9	SYMBOL-A1	Symbol mark	Top_Assembly	Map to Top_Asser
10	METAL-A	Metal mask	Top_Paste	Map to Top_Paste.
11	METAL-B	Metal mask	Bottom_Paste	Map to Bottom_Pe
12	HOLE	Hole	Hole	Map to Hole.
13	PROHIBIT_COMPONENT	Inhibit	Top_Component_Keepout	Map to Top_Comp
14	PROHIBIT_TRACKS	Inhibit	Top_Track_Keepout	Map to Top_Track_
15	PROHIBIT_VIAS	Inhibit	Top_Via_Keepout	Map to Top_Via_K
16	PROHIBIT_TRACKS_VIAS	Inhibit	Bottom_Track_and_Via_Keepo	Map to Bottom_Tr
17	PROHIBIT_VIA_HOLE	Inhibit	Bottom_Via_Keepout	Map to Bottom_Vi

ANY QUESTIONS?



info@csl.de



+49 431 32132-40



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