

KEYBOARD MACROS

The default keyboard macro file is located in your main DataCAD directory in the **\Support Files** folder. The file is called DCADWIN.MCR. Open this file with any plain text (ASCII) text editor. I usually just use the Windows Notepad program, but any text editor will do. Just make sure that you always save the file as a plain text file, with no formatting. Do not use a word processor like Word for Windows, which will save a formatted document rather than one with plain text.

Here is roughly what you should see when you open your DCADWIN.MCR file. Note that your file will not look exactly the same as this one since it is my own, highly customized file. The standard DCADWIN.MCR file is pretty boring, and you wouldn't learn as much from it, so that's why we're using my .MCR file here.

<pre> A^:^S7^F1^S0^:^F3^F7^S5^S0^S0^S6^S2^ B^:^S5^F4^ C^:^S8^S9^S7^ D^:^S5^S1^S8^S0^ E^:^F3^F1^S8^\$^S0^S0^: F^:^S3^F8^: G^:^F2^ H^:^S2^F4^F8^F5^F0^F1^F8^S0^F2^F8^F3^F0^F2^S9^ I^:^S1^\$^S8^S0^ J^:^F0^F3^F1^S1^h^X^F1^S0^h^X^F1^a^S7^S3^F1^h^h^ ^6\$^0\$^ ^3\$^0\$^\$^\$^:~^F0^F3^S1^\$^ ^10\$^0\$^:~ ^3\$^0\$^\$^\$^:~^F0^F3^S1^\$^ ^10\$^0\$^:~ K^:~F8^ L^:~S7 M^:~S5^S1^S3^ N^ O^:~F8^F1^S7^F3^ P^:~S5^ Q^:~F2^S6^F1^S0^ R^:~F9^F4^F1^\$^ S^:~F5^ T^:~S6 U^M^UNLOCK\$^F0^S0^S0^ V^:~F0^S6^S7^S6^ W^:~F9^F7^ X^:~F0^S8^F1^S2^\$^ Y^:~F3^F9^S0^F6^S7^S7^S7^S7^S7^S7^S7^S7^S7^S5^S4^S3^S2^S1^F0^F9^F8^F7 ^F6^F5^F4^F3^F2^F1 Z^V^S5^S5^ </pre>	<pre> A= Create arrows with specific settings B= Set new plot scale C= Open Clip Cube menu D= Display current MSP sheet E= Turn off layer of entity under cursor F= Toggle Perpendicular Snapping on/off G= Open Goto View menu H= Selection set; mask by color I= Identify / Set All J= Insert door using specific settings K= Open Group menu L= Linetype menu M= Lay out current detail in MSP window N= New Drawing (Windows standard) O= Explode dimension by area P= Open Print/Plot menu Q= Reset GotoView 1 with current view R= Open Reference File Manager S= Stretch menu T= Text menu U= Unlock all layers with UNLOCK macro V= Change entity to match current settings W= Weld Line X= Change text / Contents Y= Create a new layer & prompt for name Z= Create new GotoView </pre>
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The first, capital letter of each line corresponds to the letter you will press (in combination with the **ALT** key) to accomplish a specific action (since there are only 26 letters in the English alphabet, you can only have a maximum of 26 Alt-key shortcuts). Everything that follows the letter tells DataCAD what do when these keys are pressed.

The following is a list of symbols and commands to be used to the right of the shortcut letter [A, B, etc.]. These are also the same codes used in the **A** "Action Line" when creating custom Toolbars).

- ; (semicolon) go to the DataCAD 2D EDIT menu
 - :
 - ^ (colon) go to the DataCAD 2D UTILITY menu
 - ^ (caret) a required separator between each command
 - Fx** (where x is a number) corresponds to the appropriate Function key to press if you were "walking" through the DataCAD menus to execute a desired DataCAD function.
 - Sx** (where x is a number) corresponds to the appropriate SHIFT-Function key to press if you were "walking" through the DataCAD menus to execute a desired function.
 - \$** Same as pressing the **Enter** key.
 - A blank space between carets (like this ^ ^) is DataCAD's Immediate Mode Command for a keyed-in coordinate (for inputting distances or angles); the same as if you pressed the **Space** bar while in DataCAD.
 - M= Toolbox Macro:** After the letter+caret [A^, B^, etc.] add the **M^**, the path to the DataCAD toolbox, then the name of the macro, followed by the **\$** sign, as follows (you can skip the path if the macro is in the default **\Macros** folder).
 - ALT+#** Extended Character Codes: By using the combination of the Alt-key + a two or three digit number (see the list below) you can get DataCAD to access a few more menu options, and to do a few more tricks as well. There are some commands that cannot be accessed in other ways, ESPECIALLY TOGGLED (on/off) menu options, like 185, 186, 204 & 205.
- To enter them:** while holding down the **Alt** key, press the **numbers** from the list below, on the **NUMBER PAD** of you **KEYBOARD**. This is important; it won't work with the numbers across the top of the keyboard! An alpha-numeric character or some other strange looking character may appear in the DCADWIN.MCR file. That's OK; leave it. It's just the ASCII character displayed by that particular combination of keys.

ALT+# - EXTENDED CHARACTER CODES

0031-Extents	0090-Set Z Base/Ht.	0190-Symbol Explode On	0241-AllCaps On
0032-[SPACE BAR]	0091-Grid 1 Display On/Off	0191-Symbol Explode Off	0242-AllCaps Off
0033-2D/3D View 1	0092-Clean T-Int. On/Off	0192-Symbol Dynamic Rotate On	0243-Object Viewer
0034-Load Symbol	0093-Grid 2 Display On/Off	0193-Symbol Dynamic Rotate Off	0244-Virtual Snapping On
0035-2D/3D View 3	0094-[SEPARATOR]	0194-Turn Template Off	0245-Virtual Snapping Off
0036-[ENTER]	0095-Set Overshoot	0195-Geometry/Offset Dynamic On	0246-Filled Arrow Heads On
0037-2D/3D View 5	0096-Reference Point	0196-Geometry/Offset Dynamic Off	0247-Filled Arrow Heads Off
0038-2D/3D View 7	0097-Architect	0197-2D Dynamic On	0248-Refresh XREFs
0039-Layer Search On/Off	0098-Tangents	0198-2D Dynamic Off	0249-Re-load XREFs
0040-2D/3D View 9	0099-Copy	0200-Message Off	0250-Turn Offset Perpendicular On
0041-2D/3D View 10	0100-Dimension	0201-Message On	0251-Turn Offset Perpendicular Off
0042-2D/3D View 8	0101-Erase	0202-Fence	0252-Turn Hatch Type Locked On
0043-Big Cursor On/Off	0102-Set Line Spacing	0203-Set Z-Offset Symbol	0253-Turn Hatch Type Locked Off
0044-Delete Last Entity	0103-Grids	0204-And Copy On	
0045-Overshoot On/Off	0104-Hatch	0205-And Copy Off	
0046-Undelete Last Entity	0105-Digitizer	0206-Snap Aperture On	
0047-WindowIn	0106-3DEdit	0207-Snap Aperture Off	
0058-Utility	0107-Color	0209-Arrow Left	
0059-Edit	0108-Layers	0210-Arrow Right	
0060-Delete Last Group	0109-Move	0211-Arrow Up	
0061-Walls On/Off	0110-Object Snap	0212-Arrow Down	
0062-Undelete Last Group	0111-Ortho Mode On/Off	0213-ClipCube On	
0063-Identify 3D Coord.	0112-Previous View	0214-ClipCube Off	
0064-2D/3D View 2	0113-Line Type Select	0215-Layer Search On	
0065-Append Sel. Set On/Off	0114-Rotate	0216-Layer Search Off	
0066-Tangents	0115-Set Snap Grid Size	0218-Page Up	
0067-Copy	0116-Template	0219-Page Down	
0068-Dimension	0117-Regen. Display List	0220-Window/Door by Sides	
0069-Erase	0118-2D/3D Goto Views	0221-Window/Door by Center	
0070-Forced File Save	0119-Set Line Weight	0222-Associative Hatch On	
0071-Grids	0120-Snap Grid On/Off	0223-Associative Hatch Off	
0072-Hatch	0121-3D Views	0224-Associative Dimension On	
0073-Identify	0122-Set Z Base/Ht.	0225-Associative Dimension Off	
0074-3D Entity	0124-Cap Walls On/Off	0226-2D Polygon = Polygon	
0075-Color	0126-SnapPnt	0227-2D Polygon = Rectangle	
0076-Layers	0176-Entity	0228-Wall Cap On	
0077-Macros	0177-Group	0229-Wall Clean on	
0078-Object Snap	0178-Area	0230-Wall Cap/Clean Off	
0079-Ortho Mode On/Off	0179-Abs. Cart.	0231-Draw Jamb On	
0080-Previous View	0180-Rel. Cart.	0232-Draw Jamb Off	
0081-Line Type Select	0181-Abs. Polar	0233-3D Dynamic On	
0082-Rotate	0182-Rel. Polar	0234-3D Dynamic Off	
0083-Edit Sets	0183-Menu Off	0235-Plot Preview On	
0084-Template	0184-Menu On	0236-Plot Preview Off	
0085-Regen. Display List	0185-Walls On	0237-TextScale On	
0086-3D Views	0186-Walls Off	0238-TextScale Off	
0087-Set Line Weight	0187-Walls by Center	0239-Old QuickShader	
0088-Object Snap Menu	0188-Walls by Sides	0240-Direction/Distance	
0089-Hide	0189-Function keys on w/o redraw		

These codes only work for Toolbars (not keyboard shortcuts). Type the numbers just as you see them:

1000-2D Polygon Vertex On
1001-2D Polygon Vertex Off
1002-2D Polygon Diameter On
1003-2D Polygon Diameter Off
1004-2D Polygon Inscribe On
1005-2D Polygon Inscribe Off
1006-2D Polygon Rectangle On
1007-2D Polygon Rectangle Off
1008-Polyline Rectangle On
1009-Polyline Rectangle Off
1010-Symbol Browser On
1011-Symbol Browser Off
1012-Jamb In On
1013-Jamb In Off

Let's use one of the shortcuts shown in the .MCR file above as an example to see how it works. This keyboard macro will turn Perpendicular Object Snapping On or Off:

```
F^:AS3^F8^:^
```

The "**F**" means you would press the ALT and F keys together on the keyboard to invoke this macro.

The ":" tells DataCAD to go to the UTILITY menu.

The "**S3**" means you would press the **SHIFT** and **F3** keys together (**ObjSnap**).

The "**F8**" means you would press the **F8** key (**Perpendicular**).

The ":" tells DataCAD to go back to the UTILITY menu.

To see how it works, go into DataCAD and press the same keys as those shown in the macro (**Utility** menu, **S3**, **F8**, and :).

V= 1000-series Extended Character Codes

These codes appear in the Extended Character Codes list, and only work with Toolbars.

[Vertex On]
Hint=Set 2D Polygon Vertex On
Icon=2DVERTEXON
V=1000

L= Internal Function Code

Unlike the Keyboard Action Codes, these codes are single numbers (2, 41, 101, 138, etc.) that access only a specific DataCAD function. You cannot string together multiple numbers, as you can with the Keyboard Action Codes. DataCAD LLC is always adding more, but here are the ones that I currently know about.

INTERNAL FUNCTION CODES

1-2DEdit,Move	44-2DCurves,3-PointCircle	87-3DEntity,Slabs	130-Indevelopment
2-2DEdit,Copy	45-2DMove,Drag	88-3DEntity,Polygons,Horizontal	131-PasteMetafilefromClipboard
3-2DEdit,Rotate	46-2DCopy,RectangularArray	89-3DEntity,Slabs,Horizontal	132-Tools,Spelling
4-2DEdit,Mirror	47-2DCopy,CircularArray	90-3DEntity,Polygons,Rectangle	133-Indevelopment
5-2DEdit,Stretch	48-2DCleanup,Fillets	91-3DEntity,Slabs,Rectangle	134-Indevelopment
6-2DEdit,Enlarge	49-2DCleanup,Chamfer	92-3DEntity,Polygons,Vertical	135-Unused
7-2DEdit,Identify	50-2DCleanup,1-LineTrim	93-3DEntity,Slabs,Vertical	136-Unused
8-2DEdit,Change	51-2DCleanup,2-LineTrim	94-3DEntity,Polygons,Inclined	137-Unused
9-2DEdit,Erase	52-2DCleanup,WeldLine	95-3DEntity,Slabs,Inclined	138-Unused
10-2DEdit,Cleanup	53-2DCleanup,T-Intersection	96-3DPolygons/Slabs,Voids	139-PasteBitmapfromClipboard
11-2DEdit,Architect	54-2DCleanup,L-Intersection	97-3DPartial	140-Insert, Bitmap from File
12-2DEdit,Polygons	55-2DArchitect,DoorSwing	98-3DEdit, Move	141-LayerManager
13-2DEdit,Curves	56-2DArchitect,Windows	99-3DEdit, Copy	142-WallStyleManager
14-2DEdit,Text	57-2DArchitect,CutWall	100-3DEdit, Rotate	143-XClip
15-2DEdit,LineType	58-2DGeometry,Divide	101-3DEdit, Enlarge	144-Insert, Stamp
16-2DUtility,Hatching	59-2DGeometry,Intersection	102-3DEdit, Erase	145-160Unused
17-3DEdit	60-2DGeometry,Tangents	103-3DEdit, Stretch	161-EditSymbolFields
18-2DUtility,Zoom	61-2DSelectionSets	104-3Dedit, Change	162-SaveSymbol
19-2DUtility,DisplayScale	62-3DViews	105-3Dedit, Explode	163-SymbolRotationOn/Off
20-2DUtility,Geometry	63-3DViews,Elevation	106-3Dedit	164-ReplaceSymbol
21-2DUtility,GoToView	64-3DViews,Controls	107-3Dentity	165-SaveSymbol
22-2DUtility,Grids	65-3DViews,EditPlane	108-Quick Shader	166-EnlargeSymbol
23-2DUtility,Layers	66-3DViews,PlaneSnap	109-Linear Dimension	167-SymbolReports
24-2DUtility,Templates	67-3DViews,SetPerspective	110-Layer On/Off	168-CreateSymbolAttribute
25-2DUtility,Settings	68-3DViews,WalkThrough	111-Layer Name	169-Hyperlink
26-2DUtility,Measures	69-3DViews,SetOblique	112-Layer Delete	170-Edit Symbol Attribute
27-2DUtility,Print/Plot	70-3DViews,GoToView	113-File/Import	171-2DEdit,Erase,Partial
28-2DUtility,Dimensions	71-3DViews,Savelmage	114-File/Export	172-2DEdit,Polygons,Rectangle
29-2DUtility,Display	72-3DViews,ClipCube	115-Unused	173-2DEdit,Text,Arrows
30-2DUtility,ObjectSnap	73-3DEdit,Hide	116-Toolbox	174-3DEntity,DropMesh
31-2DUtility,Freehand	74-3DEntity,3DLines	117-Renderstar	175-3D Ruled Surface
32-2DEdit,Group	75-3DEdit,Settings	118-Template Menu	176-3D TIN Surface
33-FileI/O	76-3DEntity,Blocks	119-Undo	177-3DEdit,Mirror
34-2DUtility,Directory	77-3DEntity,VerticalCylinders	120-Redo	178-XClip
35-2DCurves,2-PointArc	78-3DEntity,HorizontalCylinders	121-Insert, XREF	179-InsertSelf-XREF
36-2DCurves,3-PointArc	79-3DEntity,Cones	122-Paste from Clipboard	
37-2DCurves,CentralAngleArc	80-3DEntity,TruncatedCones	123-Cut to Clipboard	
38-2DCurves,CentralAngleArc	81-3DEntity,Spheres	124-Copy to Clipboard	
39-2DCurves,CentralChordArc	82-3DEntity,Tori	125-SelectionSets	
40-2DCurves,TangentArc	83-3DEntity,MeshSurfaces	126-Paste Text from Clipboard	
41-2DCurves,Ellipse	84-3DEntity,RevolvedSurfaces	127-Indevelopment	
42-2DCurves,RadiusCircle	85-3DEntity,Markers	128-Indevelopment	
43-2DCurves,DiameterCircle	86-3DEntity,Polygons	129-Indevelopment	

C= Display a New Toolbar

This is used to have DataCAD display a new toolbar in place of the current one. After the C=, add the name of the new toolbar, minus the .DTB file extension.

[Signature 3D Toolbar] ← Tool button name
Hint=3D Toolbar ← Tool button hint
Icon=SIGNATURE3D ← Icon name (minus the .BMP file extension)
C=Signature3D ← New Toolbar name (minus the .DTB file extension)

B= Symbols and Templates

Load a folder or template into the symbol browser via an icon. Use the following syntax in your toolbar (.DTB) file.

To open a FOLDER...

[Browse_Folder]

Hint=Browse for drawing notation symbols.

Icon=Drawing_Symbols_Icon

B=c:\program files\DataCAD\symbols\drawing\
or

[Browse_Folder]

Hint=Browse for drawing notation symbols.

Icon=Drawing_Symbols_Icon

B=symbols\drawing\

To open a TEMPLATE...

[Open_Template]

Hint=Open drawing notation template.

Icon=Drawing_Template_Icon

B=c:\program files\DataCAD\templates\drawing.tpl
or

[Open_Template]

Hint=Open drawing notation template.

Icon=Drawing_Template_Icon

B=templates\drawing.tpl

Note: The .TPL extension is required to open a template. Otherwise DataCAD assumes you are browsing a symbol folder.

P= Launch External Application

A new toolbar code has been added for launching external applications. You can now use the new "P" code to launch an external program (such as WordPad) from a DataCAD toolbar icon. To launch an external program from a DataCAD toolbar, use the following syntax.

[Launch_WordPad]

Hint=Launch WordPad

Icon=WordPad_Icon

P=c:\program files\windows nt\accessories\wordpad.exe

If the external program supports command line parameters, you can include them as well. The following example launches WordPad and automatically opens my_document.txt.

[Open_My_Document]

Hint=Launch WordPad and open My_Document.txt

Icon=My_Document_Icon

P=c:\program files\windows nt\accessories\wordpad.exe ←Run this program

c:\my_documents\my_document.txt ←Open this file

Creating Icon Buttons

To create icons all you need a graphics program that can show you each pixel, enlarged, so that you can edit each one individually. And it must be able to allow you to easily pick one of the standard 256 colors supported by DataCAD. I have found Paint Shop Pro to be a good one, and it's shareware, to boot.

I find the best way to make a new icon is to start with an existing one, then to edit it as you see fit. So find an existing icon in the DataCAD \Support Files\Toolbars directory that is similar to the new one you want to create. Start your graphics program and open the .BMP button image. Make sure you use the **Save As** function and give your new icon a new name. Make sure the size of the icon, in pixels, matches your own icon buttons (16x16, 24x24, 36x36).

CTRL Key Shortcuts

Like the Alt-key keyboard macros, you can also modify the shortcuts accessed by the Ctrl key. The difference is that you can only access options that are in the DataCAD Menu Bar, and you can't string any commands together. The file that controls all this is located in your main DataCAD directory in the **\Support Files** folder, and is called **DCADWIN.MNU**. Open this file with any plain text (ASCII) text editor (NOTE: the .MNU format changed in DataCAD 11, which is what we are using here).

Here are some of the standard DataCAD **Ctrl+Key** shortcuts. The italic text are commands which are unique to DataCAD, and not one of the Windows standards.

Ctrl + B	<i>Batch Plot</i>
Ctrl + C	Copy
Ctrl + E	<i>Clipboard Select (use before Ctrl+X or Ctrl+C)</i>
Ctrl + N	New drawing
Ctrl + O	Open drawing
Ctrl + S	Save
Ctrl + P	Printer menu
Ctrl + V	Paste
Ctrl + W	<i>Turn the multi-view windows ON or OFF</i>

Any of the above shortcuts can be customized by the user, but you should refrain from editing the standard Windows shortcuts, lest you really confuse someone else using your computer. If you open the file with a plain text editor like Windows Notepad, the beginning of the file will look like this (emphasis added):

```
File||Display File menu options
New|Ctrl+N|Create new file
Open|Ctrl+O|Open existing file
Close||Close current file; prompt to save changes
Close All||Close all open files; prompt to save changes
Save|Ctrl+S|Save changes to current file
Save As...|Ctrl+Shift+S
```

The lines starting with the SINGLE vertical pipes (|) represent commands that can be accessed with **Ctrl+key** combinations. The DOUBLE vertical pipes (||) are programmer's "comment" tags, so that everything after the two pipes is ignored by DataCAD; they are there for your convenience so that you know what that line is doing. Likewise, the SINGLE pipes AFTER a command (like |**Ctrl+S**|Save...), will also cause DataCAD to ignore the text after the second pipe.

Example: In the dropdown DataCAD menus in the Menu Bar at the top of the screen you will see the word "Save" under the File menu option. To the right of the word "Save" is the text "Ctrl+S". This line in the DCADWIN.MNU file controls this option:

```
Save|Ctrl+S|Save changes to current file
```

[Note on Casing: The letter pressed with the **Ctrl** key is not case sensitive. The function will work whether you press **Ctrl+S** or **Ctrl+s**.]

Now let's customize one of these existing options. In the .MNU file find the line that says:

```
2-Line Wall||Draw two-line walls, and change it to
2-Line Wall|Ctrl+2|Draw two-line walls
```

By adding "**Ctrl+2**" between the pipes, pressing those keys will now run DataCAD's **Architect/2 Line Walls** option.

NOTE: You must close and restart DataCAD for new .MNU shortcuts to begin working.

Try to keep your shortcuts mnemonic. For instance, **O** is for Open, **S** is for Save, etc. It will make your shortcuts far more useful if they are easy to remember. And you can only have ONE of each letter in the DCADWIN.MNU file. If DataCAD sees a duplicate, it will disregard the second instance. Remember also that you can only customize menu text that is part of the original DCADWIN.MNU file, so you cannot add your own.

Some characters and keys work with these shortcuts, and others don't. You will have to experiment to find the less standard ones that will work. Here are some interesting combinations that do work:

```
Ctrl+[
Shift+Ctrl+F12
Ctrl+5
```

Yet this does NOT work:

```
Shift+Ctrl+/
```