



## Macros in CAD is Games Play

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## 1. Introduction

With each passing release of AutoCAD and Bricscad, we find that more and more key press sequences are being assigned by the application to provide shortcut keys to standard application features. While it is possible to create custom shortcuts using the CUI, it is becoming increasingly difficult to do so without overriding a standard key sequence, or using more difficult key press sequences.

The table below gives a summary of the most common shortcuts used in AutoCAD and Bricscad. Note this is just some of the shortcuts, not all of them. A more complete list of possible shortcuts can be found in the e-book [Bricscad V11 for AutoCAD Users](#), by Ralph Grabowski. This e-book is currently available for free from the Bricscad website.

Shortcut Key	Description	Associated Command
F1	Opens Help for the active command	'HELP
F2	Switches between Text and Graphics window.	'TEXTSCR / 'GRAPHSCR
F3, Ctrl + F	Toggles running Object Snaps on/off.	OSNAP
F4, Ctrl + T	Toggles tablet mode on/off (digitisers only).	'TABMODE
F5, Ctrl + E	Cycles through Isometric planes	'ISOPLANE
F6, Ctrl + I	Cycles through Coordinate display modes	'COORDS
F7, Ctrl + G	Toggles Grid on/off	'GRID
F8, Ctrl + L	Toggles Ortho mode on/off	'ORTHO
F9, Ctrl + B	Toggles Snap mode on/off	'SNAP
F10	Toggles Polar Tracking	AUTOSNAP
F11	Toggles Object Snap Tracking	AUTOSNAP
Ctrl + 1	Toggles the display of the Properties Bar	PROPERTIES / PROPERTIESCLOSE
Ctrl + 2	Opens Drawing Explorer / Design Centre	EXPLORER
Ctrl + R	Cycles through viewports	'CVPORT
Ctrl + S	Saves the current drawing to disk.	QSAVE
Esc	Escapes (Cancels) out of the current command.	
Ctrl + Y	Redoes the previous command.	Redo
Ctrl + Z	Undoes the previous command.	U

## 2. Gameplay to the Rescue

An alternative method to creating quick key shortcuts is to use a programmable keyboard, or mouse. These devices have additional keys that can be assigned to custom macros. Now there aren't many of these types of devices available specifically for CAD, but due to the popularity of gaming you will find gaming keyboards and mice, such as the [Logitech G110 Keyboard](#), and [G700 Mouse](#) with such features. And because of the popularity of gaming these devices are relatively common, and cheap to purchase.



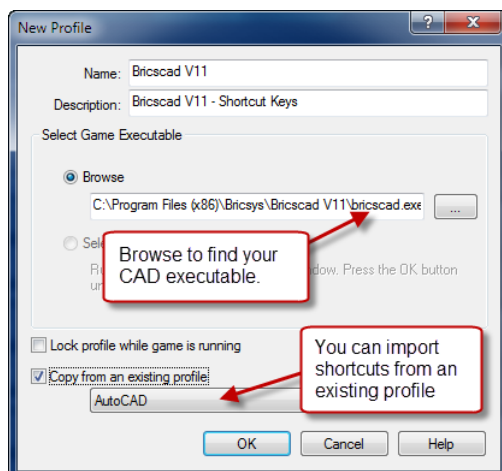
## 3. Configuration

We will use the [Logitech G110 Keyboard](#) to illustrate how you can configure one of these devices for CAD use. This keyboard was chosen as the macro keys are reasonably accessible for right handers, and the keyboard itself isn't too wild looking compared to some of the other ones that are out there.

1. With the keyboard successfully plugged in and the drivers loaded, launch the G-Series Key Profiler application. Then select Profile → New from the pull down menu to create a new key profile.



2. With the New Profile dialogue open, give your profile a name, and a description. Then use the Browse option to locate your CAD applications executable.



Note. If you have already created a shortcut profile for another CAD application you can use the “Copy from an existing profile” option to import it. This is also useful if you are upgrading to a new version of your CAD application.

## 4. Creating Macros

Having created your profile it's time to create some macros. There are several ways that you can do this with the Logitech key profiler; we will look at two of the easier methods.

### 4.1. Assign a Text Block

This method allows you to define one or more text strings that will be entered into your CAD application on pressing the selected custom key. This method is in effect much the same as running a script (in fact you could use this to launch a script). We will use this method to import a LAYOUT into our current drawing.

1. In the key profiler select which key you want to define. On selection a menu will appear, select “Assign Text Block”.

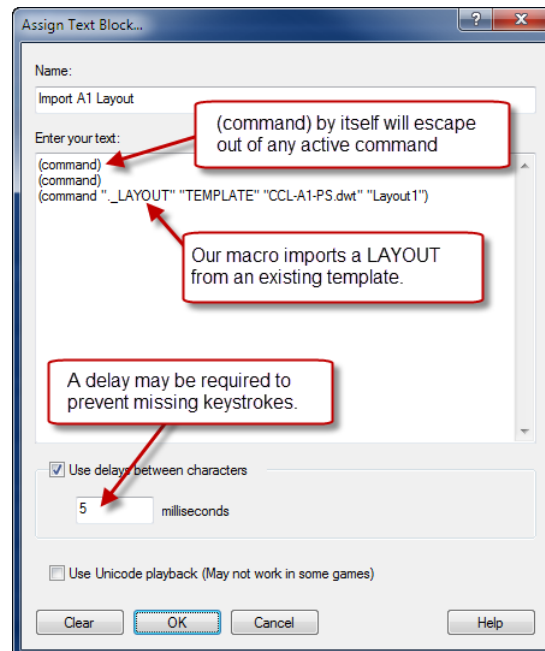


2. This will bring up a dialogue box allowing you to enter text as you would type it in your CAD application. In the following example I have used some AutoLISP for command entry. The first two (command) lines give the same result as pressing

escape on the keyboard. This will cancel any existing commands prior to running the macro. The macro is the last line in the text box.

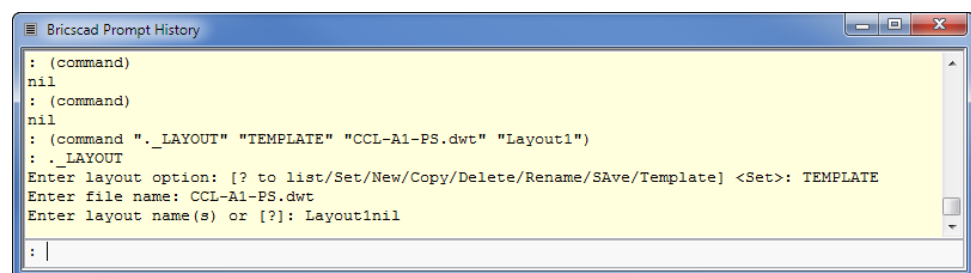
(command ".\_LAYOUT" "TEMPLATE" "CCL-A1-PS.dwt" "Layout1")

This runs the LAYOUT command to import a layout from an existing template into your current drawing.



Note. that your macro may require a delay; otherwise your application may miss some keystrokes.

3. Testing in your CAD application should give results similar to the following.



## 4.2. Assign a Macro

Assigning a macro allows you to record keystrokes in the same order as you press them. This option is slightly more difficult than the first one, as you have to press all the keys required in the correct order. You can edit after, but it's not as user friendly to do so. It is recommended to write down the sequence of commands first. We will use this method to insert a block.

1. In the key profiler select which key you want to define. On selection a menu will appear, select "Assign Macro → Create New Macro".

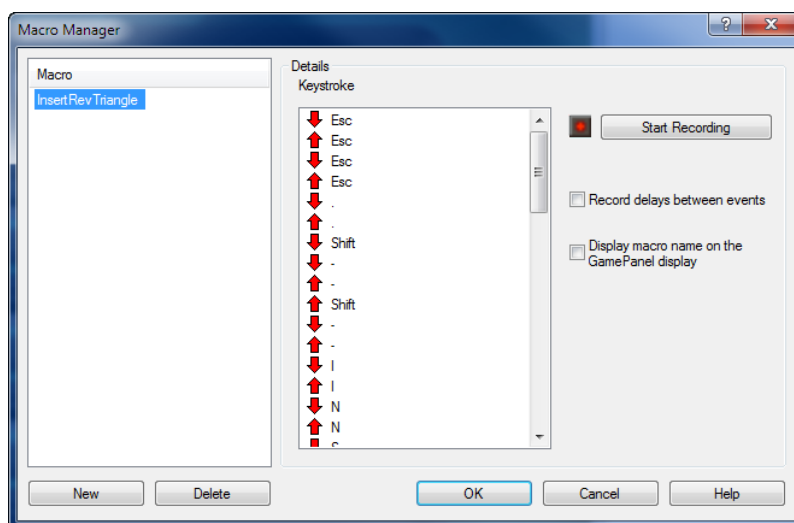


2. In the Macro Manager give your macro a name, then pick the Start Recording button. You then need to press the keystrokes in the exact order as your desired command string. In our case this would be:

```
<<Esc>> <<Esc>>
._-INSERT <<Enter>> "Your Block Name" <<Enter>> SC <<Enter>> 1 <<Enter>>
```

Note <<Esc>>, and <<Enter>> denote pressing these buttons on the keyboard.

On completion pick the Stop Recording button, edit the keystrokes captured if necessary, then pick the Ok button to save.





3. Testing in your CAD application should give results similar to the following.

```
Bricscad Prompt History
Cancel
:
Cancel
: ._.insert
? to list blocks in drawing/~ to open the file dialog/<Block to insert>: ccl-ga013
Units: Unitless      Conversion: 1
Multiple blocks/Scale/<Insertion point for block>: sc
Scale factor for block: 1
Multiple blocks/Scale/<Insertion point for block>:
Rotation angle for block <0>:
: |
```