

## Missing Ampersands

Like “`(FindWindow (), whichWindow);`” having no ampersand (&) before “`whichWindow`”. That one will cause a crash - not just a debugger error, when you get past compile and link.

Speaking of ampersands... Toolbox calls requiring the “address of” operator (ampersand, or ‘&’), like `SetRect` and lots of other QuickDraw calls, are best handled (as I’ve said) for the whole file when the first one is encountered.

**CTools™** only takes care of converting the ‘@’ which was already in the Pascal program. Almost ALL Pascal I’ve seen has no spaces before the first paren of a call. This is to your advantage in the translation process. Suppose you’re doing “`SetRect`” missing ampersands...

You want “Whole Words” checked so you don’t mess up “`OffsetRect`”. But you also want “Ignore Case” checked in case there are instances or “`setrect`” or “`SETrect`” or some such. Fix all that can be fixed with each correction you do.

Find “`SetRect (`” and replace with “`SetRect (&`”. See? We added a space before the paren. Why? Well, if you do Replace All, it won’t matter. But if you replace one at a time (Replace, Find Again) you have to be careful not to go past where you started, thus creating more editing to handle the over correction. It will find “`SetRect(&`” and fix it with “`SetRect (&&`”. See? With the space after the paren it won’t redo one already done.

So I always add the space between the call and its paren, especially when using Command G/H. Besides, it’s proper punctuation in English!

(The “`CopyBits`” and “`CopyMask`” will drive you crazy if you translate *Stella Obscura* by John Calhoun! `CopyBits` needs 4 ampersands. As I recall, there were 90 `CopyBits` calls in *Stella Obscura* - probably 45 `CopyMask` calls! I can probably set up some built in macros to handle some of these.)

In my **KodeKeys** macros, I use the single ‘.’ key on the numeric keypad section of the keyboard to type an ampersand. That way I don’t have to use the shift key. One hand on the mouse and one finger on the other hand on that key and I can knock these things in like nobody’s business.

