

## EXP FOR WINDOWS, VERSION 5.1 A SOFTWARE REVIEW

DONN E. MILLER-KERMANI  
*Florida Institute of Technology*  
*Department of Mathematical Sciences*  
*Melbourne, FL 32901, USA*  
*E-mail: dkermani@fit.edu*

(Received November, 2003; Revised November, 2003)

The latest version of EXP is finally available. For those of you unfamiliar with EXP, it is the best WYSIWYG (what you see is what you get) scientific software program on the market. It allows one to easily type and modify scientific documents without having to compile and recompile over and over for final output. This is an update from the last release back in 2001 from Brooks/Cole. EXP is now distributed by Symbol Dynamics, LLC ([www.expswp.com](http://www.expswp.com)). This is not a major update but does make revisions to quite a few areas, namely, graphics. The main environment of the program looks and functions the same as version 5.0 and 5.02.

Below are listed a few of the changes from the previous versions of EXP.

- EXP now has 40 new symbols. These give the program much more versatility. Samples of the new symbols are:

Five different widths for tildes.

Four different widths for hats.

Two new Greek symbols,  $\varkappa$  and  $F$ .

Seven new binary operations:  $\bigcirc$ ,  $\boxplus$ ,  $\boxminus$ ,  $\boxtimes$ ,  $\boxdiv$ ,  $\boxtimes$ , and  $\boxdiv$ .

Eight new relations:  $\triangleleft$ ,  $\triangleright$ ,  $\sqsubset$ ,  $\supseteq$ ,  $\sqsupset$ ,  $\triangleleft$ ,  $\triangleright$ .

Eight new arrow relations:  $\Leftarrow$ ,  $\Rightarrow$ ,  $\curvearrowright$ ,  $\Uparrow$ ,  $\Downarrow$ ,  $\curvearrowleft$ ,  $\cup$ ,  $\circ$ .

Miscellaneous:  $\top$ ,  $\square$ ,  $\perp$ ,  $\partial$ ,  $\cup$ ,  $\delta$  and  $\checkmark$ .

- New improved help system that has an easier navigation and font.
- The ImageStream software capability to import has now been removed. Brooks-Cole, who used to own EXP, had a license with the ImageStream vendor for inclusion of the ImageStream software with EXP. Since ImageStream is now no longer developed and EXP is now owned by Symbol Dynamics, it no longer will be able to be used with EXP. However, EXP now supports Windows Enhanced Metafile

(EMF), Portable Network Graphics (PNG), Encapsulated PostScript (EPS), Windows Bitmap (BMP), and JPEG files. Files no longer supported by EXP are: CGM, Corel CDR, DXF, HPGL, Lotus PIC, Macintosh PICT, and Micrograx DRW files.

- The maximum size of the graphics cache is now 256 MB.
- EXP now uses the Windows Media Play to play AVI movies.
- The LaTeX converter now supports the LaTeX "graphicx" package.
- Supports Windows XP visual styles/themes.
- New spell checker.
- Provides dictionaries for English, French, German, Italian, and Spanish.
- EXP now stores all bitmap graphics in a document in a compressed form. This greatly reduces the size of EXP documents that contain bitmap graphics such as screen captures or photographic images.

These are just a few of the features of the new version.

As far as the functionality of the program, it is one of the best WYSIWYG programs on the market to date. I have been an avid EXP user since version 2.0 and use it for almost everything. The ability to easily save a document to LaTeX format is great however, there are some key things one must remember.

- To copy the style files associated with the EXP to LaTeX conversion process into the appropriate directory in LaTeX. Otherwise, the file will not compile using LaTeX.
- When supplying your LaTeX file, you must also include these style files otherwise the person on the other end, will not be able to compile your document. If the appropriate files are not available during compilation, it can be very frustrating for other users who do not have EXP.
- Try not to use hmoves within the document as EXP cannot convert them to LaTeX commands.
- Always compile your file in LaTeX to ensure that the file has been converted properly.
- Be careful when typing your formulas in EXP in order not to use text instead of math mode within an equation. During conversion, the code `"/text "` is input for those characters (including blank spaces) which LaTeX does not like when compiling.

As for EXP's keyboard macro system, it is stated that it provides the following features:

Macros are recorded on-the-fly. You do not write macro scripts or use external programs to define or execute macros.

The keystroke sequences can be assigned from 1 to 32 keystrokes long.

Each macro is assigned a name that can be used to document the purpose of the macro.

There is no limit to the size of a macro.

Initially, I had trouble with the macro system. It could just be me, but I found it difficult to understand the instructions of how to set up a macro from the help menu. I have never used the “pause” key on my keyboard; so when the instructions stated to press “pause,” I had no idea where that was (by the way, it is on the top rows of keys, third key from the right of the F12). I also found that when I tried to name or “assign” a name to a macro, that I could not. The first one was easy, but subsequent ones would not work. I am sure there was probably something I was not doing correctly but after several attempts, I gave up. Within the macro itself, I found that my arrow keys did not work the way they should. Again, this could just be me, but it was very frustrating. In my opinion, if I have to keep trying or ask someone for assistance, then it makes the macro system quite difficult and therefore not worth my time. I have never been a fan of macros anyway, so it is no big deal to me. But for those who like macros, it is not an easy undertaking by any means. However, after receiving an example of how to program a macro from the author, it turned out to be easy to do. Perhaps an example should be included within the help section in future versions of EXP.

Another issue is finding and replacing mathematical text. It is easy to find and replace regular text but I have not been able to figure out how to find and replace mathematical text. I have tried to copy a symbol to the clipboard but it did not help to replace it with a math symbol as you cannot copy two things to the clipboard. One solution is to use the “Text Library” option which is a little cumbersome just for a single character and thus is not as convenient as the one in EXP for DOS. If you are replacing more complicated math expressions, then the Text Library option allows you to see the Find and Replace expressions before performing the actual operation.

I do wish that the old fashioned (DOS) way of only having one key to push to perform certain tasks was still in effect rather than pressing two to three pull-down menus. For example, if you would like to center an equation, in the DOS version of EXP you simply hit F1 and typed in the commands pressed enter, and viola. Now, you must hit F5 to enter a box such as hcenter, F4 to enter symbols, F6 to enter a delimiter box such as braces or brackets, F7 for a template such as summation, and F8 to enter a function such as arccos. On the one hand, this is good for those who do not know the technical terms for the various symbols, they can just highlight them and they are inserted but it can be quite cumbersome to those who type quickly and have to hit many different keys in order to make an equation. There are built-in keyboard shortcuts that require no macro programming such as CTRL+SHIFT+LEFTBRACKET to make a bracket delimiter box. One can find the shortcuts by simply pressing F5 or F6, and the popup menus include the list of keyboard shortcuts for the menu. A complete list of keyboard shortcuts can be found in the help system under the user’s guide and Appendix A-Keystrokes.

Since EXP is now Windows-based, it makes life much easier for many who do not have technical expertise in LaTeX. EXP gives the freedom of being able to manipulate formulas and formatting of documents much easier than LaTeX, Microsoft Word or WordPerfect. With a couple of pull-down menus and keystrokes, any novice can make an exemplary scientific document. As a user of TeX, AMSTeX, LaTeX, Word, WordPerfect as well as EXP, I can honestly say, nothing compares to EXP. It is overall one of the

easiest scientific software packages available on the market today.