

## Welcome to Symbol Dynamics EXP 6.2

### ← Use the Bookmarks tab to the left to find the information you are looking for.

For the latest news and information about EXP, visit <https://www.expswp.com>.

All users should read the section “Release Notes”.

Users of earlier versions should read the sections “Changes” and “Migrating Files to EXP 6.2”.

### Optimizing the Screen Display of This Documentation

EXP uses Adobe Acrobat Reader to display all documentation and help content. If Adobe Acrobat Reader is not installed but Adobe Acrobat is installed, EXP uses Adobe Acrobat.

Please consider the following recommendations:

- Maximize the Adobe Acrobat Reader window.
- For the best reading experience in Adobe Acrobat Reader, press CTRL+L to display the documentation full screen. Press ESC to exit full-screen mode.
- Use a screen resolution of 1920 × 1080 or higher. This provides sufficient resolution so that most people can view an entire page and still have the text be legible. At lower screen resolutions, you may find it necessary to instruct Adobe Acrobat Reader to fit the text to the width of your screen. This makes the text very legible, but it means you will have to scroll to view the lower half of a page.

### Optimizing the Printing of This Documentation

The EXP documentation is formatted for a page size of 7.25 by 9.25 inches. If you want to print a portion of the documentation on Letter or A4 paper, be sure to configure the “Page Sizing & Handling” option in Adobe Acrobat Reader's Print dialog box to “Fit”. This option scales the documentation's page size to your printer's page size.

### Optimizing the Screen Display of EXP Documents

To make your EXP documents maximally legible on the screen, please consider zooming the document display using either of the following techniques:

- A. If your mouse has a wheel, hold down the CTRL key and roll the wheel away from you until the text reaches the desired size.
- B. If your mouse does not have a wheel, follow these steps:
  1. From the Options menu, choose Document (ALT, O, D).  
EXP will display the Document Options dialog box.
  2. In the Document Options dialog box, set the Zoom option.
  3. Choose the OK button.

## Getting Help

EXP provides extensive context-sensitive help. Help is available on menu items, dialog boxes, and other aspects of EXP. You can get help in the following ways:

### To get help on a menu item

Pull down the appropriate menu, move the selection bar to the item you want help on, and press F1. EXP will activate Adobe Acrobat Reader and jump to the page in the EXP User's Guide that discusses the selected menu item.

### To get help on a dialog box

Press F1 from within the dialog box. EXP will activate Adobe Acrobat Reader and jump to the page in the EXP User's Guide that discusses the dialog box.

### To display the help system's table of contents

From the Help menu, choose Help Topics (ALT, H, H).

–or–

Press F1.

### To search the help system for a particular word or phrase

1. From the Help menu, choose Help Topics (ALT, H, H).

–or–

Press F1.

EXP will activate Adobe Acrobat Reader.

2. From Adobe Acrobat Reader's Edit menu, choose Find.

–or–

Press CTRL+F.

Adobe Acrobat Reader will activate its Find box.

3. Type a word or phrase into the Find box and press ENTER.

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# Release Notes

## General Information

- EXP 6.2 uses the same document file format as EXP 6.1 and EXP 6.0. You can use EXP 6.1 or EXP 6.0 to edit a .wpx file saved by EXP 6.2.
- Because EXP 6.2/6.1/6.0 use a different document file format from earlier versions, documents saved by EXP 6.2/6.1/6.0 cannot be opened by earlier versions.
- EXP 6.2 can be installed at the same time as earlier versions. Because of the compatibility issue described in the section “How EXP Converts Graphics in Pre-EXP 5.1 Documents”, you may want to keep your earlier version installed so you can use it to print existing documents that contain EPS graphics until you have time to re-import the graphics using EXP 6.2/6.1/6.0.
- The keyboard commands recognized by EXP are listed in Appendix A of the EXP User's Guide.
- For the key sequences ALT+UP, ALT+DOWN, ALT+RIGHT, and ALT+LEFT, you must use the separate group of arrow keys and not the arrow keys on the numeric keypad.
- A sample of mathematics typeset by EXP is provided in Appendix D of the EXP User's Guide.

## LaTeX

### File Names

EXP fully supports long file names. A file or folder name can be up to 255 characters long and can contain any characters except the following:

```
\/:*?<>|"
```

Your implementation of LaTeX, however, may not support long file names, or may support long file names only if a file name does not contain certain characters such as { or }.

If your document contains graphics and your LaTeX implementation has restrictions on file names, you must take those restrictions into account when you instruct EXP to save the document as a LaTeX file. As described in the section “Conversion of Graphics” in Chapter 14 of the EXP User's Guide, EXP creates file names for graphics files by appending a four digit number to the base file name of the LaTeX file. If your LaTeX implementation only supports eight character file names and the document contains graphics, you are restricted to using only a four character long name for the LaTeX file. For example, you could not name the LaTeX file MyReport.tex because then EXP would create graphics file names of MyReport0000, MyReport0001, etc. which could not be processed by your LaTeX implementation. In such a situation, it is recommended you name the LaTeX file “main.tex” and save it in an empty folder. The path to the folder must also not contain any long folder names.

## Graphics

When preparing an EXP document for conversion to LaTeX, it is often best if all the graphics in the document were inserted from Encapsulated PostScript (EPS) files. You should also consider using the option “Use source graphics files (when possible)” in the dialog box “LaTeX Conversion Options: Graphics”. Read the section “Conversion of Graphics” in Chapter 14 of the EXP User's Guide. The file names of the EPS files must obey the file naming restrictions of your LaTeX implementation.

## Document Templates and Style Sheets

EXP provides six pairs of document templates and style sheets for creating LaTeX documents. Of these six pairs, only the pair for the LaTeX article document class has been adjusted for maximum WYSIWYG in EXP.

If you create a document based on the document template “LaTeX article 12pt” (which uses the LTXART2 style sheet), the document's appearance in EXP will be quite close to the actual LaTeX printed output.

If you create a document based on one of the other five LaTeX-oriented document templates, everything will work correctly, but the document's appearance in EXP will not be as close to the actual LaTeX printed output as is possible. All the LaTeX-oriented style sheets currently use the same formatting as the LTXART2 style sheet.

## Changes

### EXP 6.2

- The installer for EXP 6.2 does not require you to enter serial numbers or authorization codes.

### EXP 6.1

- EXP now requires the 64-bit edition of Windows 11/10. Earlier versions of Windows are no longer supported. Also, the 32-bit edition of Windows 11/10 is not supported. Note that EXP itself is still a 32-bit application.
- There is an entirely new installation system that does not use any physical media such as USB flash drives or CD-ROM discs. Full installers for EXP 6.1 can be downloaded from the EXP website. Furthermore, all future improvements to EXP will be distributed as full installers rather than as service packs.
- There is a new design for the EXP application icon and the .wpx file icon. The new icon uses 24-bit color graphics whereas the earlier icon used 8-bit color graphics. The new icon provides renderings up to  $256 \times 256$  pixels whereas the earlier icon only provided renderings up to  $48 \times 48$  pixels.
- The default limit for the EXP graphics cache has been raised from 4 MB to 16 MB. This change provides better performance for higher resolution graphics.
- The EXP User's Guide has been completely updated for Windows 11/10.
- EXP now uses the term “serial number” whereas EXP 6.0 and EXP 5.1 used the term “authorization code”. The installer for EXP 6.1 accepts EXP 6.0 authorization codes as valid serial numbers.

## EXP 6.0 Service Pack 2

### General Improvements

- EXP 6.0 now supports high DPI monitors. This refers to any monitor for which the Windows display scaling is set to a value greater than 125%. The EXP 6.0 screen display is no longer blurry if the Windows display scaling is greater than 125%.

Display Scaling	Dots Per Inch (DPI)
100%	96
125%	120
150%	144
175%	168
200%	192

Traditionally, Windows applications have only supported screen resolutions of 96 DPI and 120 DPI. Note that EXP 6.0 does not currently support changing the Windows display scaling while EXP is running. You should exit EXP, change the Windows display scaling, and then restart EXP.

- Service Pack 2 improves the legibility of the numbers on the ruler.
- Service Pack 2 expands the widths of the Style, Typeface, and Font Size controls on the Format Panel. Longer names and sizes are now displayed fully.
- Service Pack 2 expands the width of the Typeface list in the Character Formatting dialog box. Longer typeface names are now displayed fully.
- EXP 6.0 now behaves correctly if the Windows Taskbar is positioned at the top or left of the monitor.
- Service Pack 2 fixes a rarely occurring problem in which the EXP window would be positioned off the screen upon application startup, thus making it impossible to interact with EXP.
- Service Pack 2 improves EXP's error reporting during application startup. Prior to Service Pack 2, EXP 6.0 would silently exit upon startup if the user's "Documents" folder was inaccessible. EXP 6.0 now always displays a message if an error occurs during application startup.

### Font Fixes

- EXP 6.0 now correctly fits together the pieces of the Hbrace delimiter box. Prior to Service Pack 2, a ClearType font smoothing issue could introduce tiny gaps between the pieces of the expandable horizontal brace.

### PDF

- When generating a PDF bookmark title for a heading, EXP 6.0 now supports the special spaces quad and qquad. EXP converts the quad space to three regular spaces and the qquad space to six regular spaces.

## LaTeX Conversion

- EXP 6.0 now converts the Math Mode sequences

`x[Roof] . [/Roof]`

and

`x[Accent] . [/Accent]`

to

`\dot{x}`

Prior to Service Pack 2, if the “.” symbol was a Math Mode period, EXP would improperly convert these sequences to

`\textoverset{.}{x}`



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## EXP 6.0 Service Pack 1

### Font Fixes

- At some point in the life of Windows 10, Microsoft made changes to the way that Windows displays TrueType fonts on the screen using font smoothing. Some EXP symbols do not look good with the new Windows 10 font rendering. One of the most notable problems is that the mathematical minus sign sometimes looks like a faint gray line. Whether or not this problem occurs depends on the screen resolution, the font scaling setting in Windows 10, and the document zoom level in EXP. Service Pack 1 corrects these symbol display problems.
- In all prior releases of EXP for Windows (3.0 through 6.0), there has been a small problem in that certain scalable symbols that are composed of multiple pieces do not quite fit together perfectly at all resolutions. For example, sometimes there would be a single pixel gap in between the pieces of the large parentheses. Most of these problems are corrected in Service Pack 1. There is still one remaining problem caused by ClearType font smoothing in Windows when applied to scalable horizontal symbols such as the Hbrace box. This remaining problem is corrected in Service Pack 2.

### Windows 10 Compatibility

- If the file EXP60.msi on your EXP 6.0 USB flash drive is dated between 2008 and 2011, Service Pack 1 fixes a problem that sometimes occurs in which EXP 6.0 thinks it is not installed properly after Windows 10 installs updates. If the file EXP60.msi on your EXP 6.0 USB flash drive is dated 2016 or later, you already have this fix.

## EXP 6.0

### New Capabilities

- You can now save EXP documents in PowerPoint® format. Note that you must have PowerPoint 2000 or later installed to use this feature. For details, read Chapter 17 of the EXP User's Guide.
- You can now copy EXP content to the clipboard and paste it into other programs as a scalable graphic. For details, read the section “Copying Content from EXP to Another Application” in Chapter 8 of the EXP User's Guide.
- You can now copy tabular data from Excel® to the clipboard and paste it into EXP as a table. For details, read the section “Pasting Tabular Data into EXP” in Chapter 8 of the EXP User's Guide.
- You can now use heading styles to create bookmarks in PDF files. Note that you must have Adobe® Acrobat® installed to use this feature. For details, read the section “PDF Bookmarks” in Chapter 16 of the EXP User's Guide.
- You can now print EXP documents with line numbers. The option “Print with line numbers” in the Document Options dialog box enables this feature.

### Fonts

- EXP now provides 81 new symbols. To view the new symbols, open the document “New Symbols.wxp” located in the following folder:

C:\Program Files (x86)\Symbol Dynamics\EXP 6.2.x

- EXP's font size list now provides more choices.
- You can now enter the text characters Ź and ž using the names Zhacek and zhacek.
- EXP no longer lists Asian vertical-layout fonts, which EXP has never supported anyway.

### General

- EXP now provides 16 additional colors:



- EXP now provides many new styles in the Normal style sheet. For details, read the section “The Styles of the Normal Style Sheets” in Chapter 7 of the EXP User's Guide.
- EXP now provides the “My EXP Files” folder hierarchy so you can manage all your EXP files separately from those of other users. For details, read the section *The “My EXP Files” Folder* in Chapter 1 of the EXP User's Guide.

### Improved Functionality

- EXP now provides a unified documentation/help system based on Adobe PDF. All EXP documentation is now available from the Help menu. Note that you must have Adobe Acrobat Reader or Adobe Acrobat installed to view the documentation.

- EXP now has an improved right-click menu.
- EXP now enables you to create documents for the A4 paper size easily. The toolbar button New now selects automatically between the “Normal” and “Normal - A4” document templates.
- The Save As dialog box now changes the filename extension automatically when you change the “Save as type” control.
- When the default unit is Inch, the ruler now snaps to the nearest 1/8" instead of the nearest 1/16".
- The behavior of the ruler for units other than Inch has been improved.
- Show codes mode is now more readable.
- The layout of controls in dialog boxes has been modified to conform to contemporary design standards.

### **Operating System Feature Support**

- EXP now has improved compatibility with Windows Vista.
- EXP now has improved compatibility with Microsoft's ClearType technology used to make text more readable on LCD monitors.

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## EXP 5.1 Service Pack 4

### Bug Fixes

- After EXP 5.1 was released, Microsoft released a security update for Windows XP that altered the way Windows processed Encapsulated PostScript (EPS) graphics. Because of this change, versions of EXP 5.1 prior to Service Pack 4 are unable to print EPS graphics correctly. Only the EPS preview image, if any, is printed. EXP 5.1 Service Pack 4 supports the new behavior of Windows and restores the ability to print EPS graphics. Note that this fix to EXP only applies to newly imported EPS graphics. If you have existing documents that contain EPS graphics, you need to re-import those graphics. For information on how to do this quickly for multiple graphics, read the section “Using Linked Graphics” in Chapter 10 of the EXP User's Guide.
- Versions of EXP 5.1 prior to Service Pack 4 contain a very minor scaling problem when rendering an EMF graphic. The rightmost and bottommost coordinates in the EMF image are not displayed. Service Pack 4 for EXP 5.1 corrects this problem.

### Improved Functionality

- All versions of EXP for Windows prior to EXP 5.1 Service Pack 4 can update at most 4,096 AutoNum codes per document. Service Pack 4 for EXP 5.1 raises this limit by a factor of sixteen to 65,536 codes per document. Note that this change does not affect the WXP file format. A document containing more than 4,096 AutoNum codes can still be opened with earlier versions of EXP 5.1.

## EXP 5.1 Service Pack 3

### Bug Fixes

- Versions of EXP 5.1 prior to Service Pack 3 may exit Print Preview mode if the document contains Enhanced Metafile (EMF) graphics. Under certain circumstances, Windows incorrectly reports to EXP that it was unable to display an EMF graphic when in fact the graphic was displayed properly. EXP 5.1 Service Pack 3 ignores the erroneous error report and remains in Print Preview mode.

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## EXP 5.1 Service Pack 2

### Bug Fixes

- Versions of EXP prior to EXP 5.1 Service Pack 2 contain numerical inaccuracies in the logic that displays tick marks and default tab stop positions on the ruler. In certain cases, tick marks or default tab stop positions are not displayed in exactly the correct locations. These inaccuracies have been corrected in EXP 5.1 Service Pack 2.

### Graphics

- EXP now supports GIF graphics files.
- EXP now supports TIFF graphics files that use LZW compression.

### Improved Functionality

- EXP now enables you to change the zoom level using the mouse wheel. If you hold down the Control key while rotating the mouse wheel, you can increase or decrease the current document's zoom level.
- EXP now supports the mouse wheel in Print Preview. By rotating the mouse wheel, you can move to the next or previous page.

## EXP 5.1.0.1

### Bug Fixes

- EXP 5.1 contains a bug in the logic that displays control codes (Show Codes), page numbers, automatic numbers, and footnote marks. This bug is fixed as of EXP 5.1.0.1.
- In EXP 5.1, there is a problem with the “Repair Installation” option for EXP in Control Panel's Add/Remove Programs dialog box. If the EXP51.exe file gets repaired, the user's authorization code is removed from the system. This problem is fixed as of EXP 5.1.0.1.

### LaTeX Conversion

- The LaTeX converter in versions of EXP prior to 5.1.0.1 contains logic that forces paragraphs tagged as “Normal”, “Heading”, or “Declaration” to structure level 1 (the outermost structure level). As of version 5.1.0.1, that logic has been removed. EXP now respects the user's setting of structure level in all cases.

## EXP 5.1

### Bug Fixes

- Versions of EXP prior to 5.1 contain a bug in the Insert Movie command. On some Windows systems, the first frame of the movie that is inserted into the document is all black. This bug has been fixed and the first frame is now processed correctly.

### Fonts

- EXP now provides 40 new symbols. To view the new symbols, open the document “New Symbols.wxp” located in the following folder:

C:\Program Files (x86)\Symbol Dynamics\EXP 6.2.x

- The quality of EXP's TrueType symbol fonts has been improved slightly.
- The file and typeface names of EXP's TrueType symbol fonts have changed. The following table lists the new names:

<b>File Name</b>	<b>Typeface Name</b>
EXPCYR.TTF	EXP Cyrillic
EXPCYRB.TTF	EXP Cyrillic Bold
EXPSYMA.TTF	EXP Symbol A
EXPSYMA.B.TTF	EXP Symbol A Bold
EXPSYMB.TTF	EXP Symbol B
EXPSYMB.B.TTF	EXP Symbol B Bold
EXPSYMC.TTF	EXP Symbol C
EXPSYMC.B.TTF	EXP Symbol C Bold
EXPSYMX.ttf	EXP Symbol X
EXPSYMX.B.ttf	EXP Symbol X Bold

### General

- The WXP file format used to store EXP documents is now more robust. Upon opening a document, EXP is now able to detect common Internet file transfer problems instantly.
- The file “Keyboard Macros.ekm” is now stored on a per-user basis. This enables each EXP user of a computer to have their own set of keyboard macros.
- The General Options dialog box now provides the following new options:
  - Always create new document
 

This option controls whether EXP automatically creates a new document when you start EXP.
  - Maximize document windows
 

This option controls whether EXP maximizes the window of a document that is created/opened when no other documents are open.



- The General Options dialog box no longer provides the option “Set Options When Importing Graphics”. This option applied to the now defunct ImageStream software, which was removed from EXP. For further information, read the section “About the Removal of ImageStream”.
- The Document Options dialog box now provides an option to view the document at 144 DPI. This resolution corresponds to two pixels per point.
- The maximum number of undo steps has been increased to 16384. The default number of undo steps is now 128.
- The ANSI characters that were formerly called “masculine” and “feminine” are now called “ordmasculine” and “ordfeminine”.

## Graphics

- 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. For further information, read the section “How EXP Imports Bitmap Graphics”.
- EXP now supports the Windows Enhanced Metafile (EMF) graphics format.
- EXP now supports the Portable Network Graphics (PNG) graphics format.
- EXP now contains new built-in software for importing Encapsulated PostScript (EPS) files. This new software results in more robust and more accurate handling of EPS graphics.
- EXP now provides better support for EXIF JPEG graphics files produced by digital cameras.
- EXP now supports a wider variety of Windows Bitmap (BMP) graphics.
- The Change Link dialog box now provides a Browse button that makes it much easier to update a graphic's link. For information about graphics links, read the section “Using Linked Graphics” in Chapter 10 of the EXP User's Guide.
- The Change Link dialog box now supports changing a link to point to a graphics file of a different graphics type.
- The maximum size of the graphics cache is now 256 MB. The default size of the graphics cache is now 4 MB. For information about the graphics cache, read the section “The Graphics Cache” in Chapter 10 of the EXP User's Guide.
- EXP now uses the Windows Media Player to play AVI movies.
- EXP no longer supports the following vector/metafile graphics formats:
  - CGM
  - Corel CDR
  - DXF
  - HPGL

Lotus PIC  
Macintosh PICT  
Micrografx DRW

In earlier versions of EXP, these graphics formats were supported through the use of the now defunct ImageStream software, which was removed from EXP. For further information, read the section “About the Removal of ImageStream”.

The preferred mechanism for incorporating vector/metafile graphics in EXP documents is to use the Windows Enhanced Metafile (EMF) format. This usually involves simply copying the graphic to the clipboard using the graphics application and then pasting the graphic into an EXP document.

## LaTeX

- The LaTeX converter can now handle much larger paragraphs, tables, matrices, and equation lists.
- The LaTeX converter now supports the LaTeX “graphicx” package.
- The LaTeX converter now provides more sophisticated logic for exporting graphics from an EXP document to LaTeX. For further information, read the section “Conversion of Graphics” in Chapter 14 of the EXP User's Guide.
- The dialog box “LaTeX Conversion Options: Graphics” provides the following new options:
  - Generate `\includegraphics` macro for graphicx package
  - Use source graphics files (when possible)
  - Export JPEG as BMP
  - Export PNG as BMP
  - Export EMF as WMF
- The dialog box “LaTeX Conversion Options: Graphics” no longer provides the following options:
  - Export All Graphics As Encapsulated PostScript  
This option is no longer provided because it was implemented using the now defunct ImageStream software, which was removed from EXP. For further information, read the section “About the Removal of ImageStream”.
  - Use Original Encapsulated PostScript Files  
This option is superseded by the option “Use source graphics files (when possible)”.
  - Configure EPS Export Filter  
This option is no longer provided because it worked in concert with the option “Export All Graphics As Encapsulated PostScript”, which was itself removed.

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## Operating System Feature Support

- EXP now provides a sophisticated installation management system that utilizes Microsoft's Windows Installer. This software management system provides robust support for installation, installation repair, and uninstallation.
- EXP now supports Windows XP visual styles/themes.
- EXP now has improved support for the folder "My Documents".

## Spelling Checker

- EXP now uses a different spelling checker engine from earlier versions. The vendor of the earlier spelling checker engine went out of business.
- EXP now provides dictionaries for the following languages: English, French, German, Italian, Spanish.
- The Spelling Checker Options dialog box provides the following new options:
  - Ignore words in UPPERCASE
  - Ignore Internet URLs and e-mail addresses
  - Ignore repeated words
- The Spelling Checker Options dialog box no longer provides the option "Flag unusual hard-hyphen compound errors". This option was specific to the former spelling checker engine used by earlier versions of EXP.
- EXP now stores exclude dictionaries on a per-user basis. The filenames of exclude dictionaries have also changed from earlier versions. Read the section "Excluding Words from the Main Dictionary" in Chapter 8 of the EXP User's Guide.

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## About the Removal of ImageStream

EXP versions 3.0 through 5.0.2 included third-party graphics import software called ImageStream. The ImageStream software was used by EXP to import the following graphics formats:

- Adobe Illustrator
- CGM
- Corel CDR
- DXF
- HPGL
- Lotus PIC
- Macintosh PICT
- Micrografx DRW
- PostScript

The ImageStream software is now defunct and has been removed from EXP.

An extensive search was conducted to try and find a high-quality, reasonably-priced alternative to ImageStream. Unfortunately, no such alternative was found. The alternatives were either of mediocre quality or of such a price that EXP's price would have had to be increased significantly.

EXP continues to support the Encapsulated PostScript graphics format through new high quality graphics import software that is built into EXP. Adobe Illustrator files are also supported, though as Encapsulated PostScript files. EXP does not interpret PostScript or Adobe Illustrator files as did the ImageStream software (with mixed success).

## EXP 5.0.2

### Bookmarks

- The maximum length of a bookmark name has been increased from 19 characters to 51 characters.
- The maximum number of bookmarks in a document has been increased from 1,024 to 16,384.

### Bug Fixes

- Versions of EXP prior to 5.0.2 contain a bug in the LaTeX converter's handling of the `\psfig` and `\includegraphics` macros. This bug is fixed in EXP 5.0.2.
- In EXP 5.0, there is a bug related to color handling when importing some 24-bit bitmap graphics files. This bug is fixed in EXP 5.0.2.
- Versions of EXP prior to 5.0.2 contain a bug in the handling of paragraph borders in certain situations. This bug is fixed in EXP 5.0.2.
- In EXP 5.0, there is a bug in the Insert Movie command that causes EXP to crash on Windows NT4/2000/XP systems. This bug is fixed in EXP 5.0.2.

### Fonts

- EXP 5.0.2 includes updated EXP fonts that are compatible with Adobe Acrobat 4.0. Previously, these updated fonts were available as a separate download.
- EXP 5.0.2 supports the euro symbol. The EXP name for the euro symbol is "euro".

### Graphics

- EXP now supports the "BitFields" subformat of the Windows Bitmap (BMP) graphics format. Windows NT4/2000/XP use this subformat on 16-bit and 32-bit displays when copying the screen to the clipboard in response to the Print Screen key being pressed.
- The maximum allowable resolution of a bitmap graphic has been increased from 832 DPI to 4,096 DPI.

### Improved Functionality

- EXP now updates the display in real-time as the thumb box on the vertical and horizontal scroll bars is moved.
- EXP now enables you to right-click in a document to obtain a popup context menu.
- The maximum line length has been increased from 4,096 bytes to 16,384 bytes. This means that it is now possible to create much larger tables, matrices, and multiline equations.
- The layout and positioning of the controls in some dialog boxes has been improved.

## Operating System Feature Support

- EXP now supports resizable Open and Save As dialog boxes.
- EXP now supports the enhanced Open and Save As dialog boxes with the “Places” bar.
- EXP now supports the mouse wheel.
- EXP now supports 65 new types of paper.

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## Migrating Files to EXP 6.2

### Introduction

This section outlines the steps necessary to migrate files from an installation of an earlier version of EXP to an installation of EXP 6.2.

Before proceeding to migrate your EXP files, read the section *The “My EXP Files” Folder* in Chapter 1 of the EXP User’s Guide.

After you have migrated all your files from your previous version to EXP 6.2, you can uninstall the previous version. Note that EXP 6.2 can coexist with earlier versions of EXP so it is not necessary to uninstall the previous version if you don’t want to.

### Migrating Files From EXP 6.1

No migration work is required. EXP 6.2 and EXP 6.1 use the same locations for files.

### Migrating Files From EXP 6.0

No migration work is required. EXP 6.2 and EXP 6.0 use the same locations for files.

## Migrating Files From EXP 5.1

In this section, the term <oldhome> refers to the folder in which EXP 5.1 was installed. If you used the default folder offered by the EXP 5.1 Setup program, the <oldhome> folder will be:

C:\Program Files\Symbol Dynamics\EXP 5.1

- If you stored personal documents (.WXP files) in the folder “<oldhome>”, copy them to the folder “My EXP Files”.
- If you stored user dictionaries (.UD files) in the folder “My Documents”, copy them to the folder “My EXP Files\System”.
- If you defined any keyboard macros, copy the file “Keyboard Macros.ekm” from the EXP 5.1 Application Data directory to the folder “My EXP Files\System”. The EXP 5.1 Application Data directory is:

Windows Version	EXP 5.1 Application Data Directory
98	C:\Windows\Application Data\Symbol Dynamics\EXP\5.1
NT 4.0	C:\WINNT\Profiles\UserName\Application Data\Symbol Dynamics\EXP\5.1
2000/XP	C:\Documents and Settings\UserName\Application Data\Symbol Dynamics\EXP\5.1
11/10/8/7/Vista	C:\Users\UserName\AppData\Roaming\Symbol Dynamics\EXP\5.1

- If you created any document templates, copy them from the folder “<oldhome>\Document Templates” to the folder “My EXP Files\Document Templates”.
- If you modified the Normal document template, copy the file Normal.wxp from the folder “<oldhome>\Document Templates” to the folder “My EXP Files\Document Templates”.
- If you created any new style sheets, copy them from the folder “<oldhome>\Styles” to the folder “My EXP Files\Styles”.
- If you modified the Normal style sheet, copy the file Normal.ess from the folder “<oldhome>\Styles” to the folder “My EXP Files\Styles”. *After you copy the file, it is very important that you rename the file to something other than Normal.ess (you must retain the .ess extension).* The reason for this advice is that EXP 6.0 adds many new styles to the Normal style sheet that your old version will not contain. If you have EXP documents that rely on your customized version of the EXP 5.1 Normal style sheet, update those documents to refer to the style sheet using its new name.
- If you created any new Insert files in the folder “<oldhome>\Insert”, copy them to the folder “My EXP Files\Insert”.
- If you created any new EXP-LaTeX tag files in the folder “<oldhome>\LaTeX”, copy them to the folder “My EXP Files\LaTeX”.
- If you created any exclude dictionaries (.EXC files), copy them from the folder “My Documents” to the folder “My EXP Files\System”.



## Migrating Files From EXP 5.0

In this section, the term <oldhome> refers to the folder in which EXP 5.0 was installed. If you used the default folder offered by the EXP 5.0 Setup program, the <oldhome> folder will be:

C:\Program Files\EXP 5.0

- If you stored personal documents (.WXP files) in the folder “<oldhome>”, copy them to the folder “My EXP Files”.
- If you stored user dictionaries (.UD files) in the folder “<oldhome>”, copy them to the folder “My EXP Files\System”.
- If you defined any keyboard macros, copy the file “Keyboard Macros.ekm” from the folder “<oldhome>” to the folder “My EXP Files\System”.
- If you created any document templates, copy them from the folder “<oldhome>Document Templates” to the folder “My EXP Files\Document Templates”.
- If you modified the Normal document template, copy the file Normal.wxp from the folder “<oldhome>\Document Templates” to the folder “My EXP Files\Document Templates”.
- If you created any new style sheets, copy them from the folder “<oldhome>\Styles” to the folder “My EXP Files\Styles”.
- If you modified the Normal style sheet, copy the file Normal.ess from the folder “<oldhome>\Styles” to the folder “My EXP Files\Styles”. *After you copy the file, it is very important that you rename the file to something other than Normal.ess (you must retain the .ess extension).* The reason for this advice is that EXP 6.0 adds many new styles to the Normal style sheet that your old version will not contain. If you have EXP documents that rely on your customized version of the EXP 5.0 Normal style sheet, update those documents to refer to the style sheet using its new name.
- If you created any new Insert files in the folder “<oldhome>\Insert”, copy them to the folder “My EXP Files\Insert”.
- If you created any new EXP-LaTeX tag files in the folder “<oldhome>\LaTeX”, copy them to the folder “My EXP Files\LaTeX”.
- If you created an exclude dictionary (SPEN.EXC) in the folder “<oldhome>\System”, copy it to the folder “My EXP Files\System” and rename it to “EXP Exclude Dictionary - English (USA).exc”.

## Migrating Files From EXP 4.0

In this section, the term <oldhome> refers to the folder in which EXP 4.0 was installed. If you used the default folder offered by the EXP 4.0 Setup program, the <oldhome> folder will be:

C:\EXP40

- If you stored personal documents (.WXP files) in the folder “<oldhome>”, copy them to the folder “My EXP Files”.
- If you created any new document templates, copy them from the folder “<oldhome>\DOCTEMPL” to the folder “My EXP Files\Document Templates”.
- If you modified the Normal document template, copy the file NORMAL.WXP from the folder “<oldhome>\DOCTEMPL” to the folder “My EXP Files\Document Templates”.
- If you created any new style sheets, copy them from the folder “<oldhome>\STYLES” to the folder “My EXP Files\Styles”.
- If you modified the Normal style sheet, copy the file NORMAL.ESS from the folder “<oldhome>\STYLES” to the folder “My EXP Files\Styles”. *After you copy the file, it is very important that you rename the file to something other than Normal.ess (you must retain the .ess extension).* The reason for this advice is that EXP 6.0 adds many new styles to the Normal style sheet that your old version will not contain. If you have EXP documents that rely on your customized version of the EXP 4.0 Normal style sheet, update those documents to refer to the style sheet using its new name.
- If you created any new Insert files in the folder “<oldhome>\INSERT”, copy them to the folder “My EXP Files\Insert”.
- If you created any new EXP-LaTeX tag files in the folder “<oldhome>\LATEX”, copy them to the folder “My EXP Files\LaTeX”.
- If you created an exclude dictionary (SPEN.EXC) in the folder “<oldhome>\SYSTEM”, copy it to the folder “My EXP Files\System” and rename it to “EXP Exclude Dictionary - English (USA).exc”.
- It is recommended that you **not** use user dictionaries (.UD files) created by EXP 4.0 with EXP 6.0.

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## Migrating Files From EXP 3.0

In this section, the term <oldhome> refers to the folder in which EXP 3.0 was installed. If you used the default folder offered by the EXP 3.0 Install program, the <oldhome> folder will be:

C:\WINEXP

- If you stored personal documents (.WXP files) in the folder “<oldhome>\WXP”, copy them to the folder “My EXP Files”.
- If you created an exclude dictionary (SPEN.EXC) in the folder “<oldhome>”, copy it to the folder “My EXP Files\System” and rename it to “EXP Exclude Dictionary - English (USA).exc”.
- It is recommended that you **not** use user dictionaries (.UD files) created by EXP 3.0 with EXP 6.0.

## Graphics Formats

EXP can import graphics that are stored in the following graphics formats:

- Adobe Illustrator
- Encapsulated PostScript
- GIF
- JPEG File Interchange Format
- PCX
- Portable Network Graphics
- TIFF
- Truevision Targa
- Windows Bitmap
- Windows Enhanced Metafile
- Windows Metafile

These graphics formats fall into three categories:

### Bitmap Graphics

The picture is represented as a two-dimensional array of colored dots.

- GIF
- JPEG File Interchange Format
- PCX
- Portable Network Graphics
- TIFF
- Truevision Targa
- Windows Bitmap

### Vector Graphics

The picture is represented geometrically as a series of line segments and curves.

- Adobe Illustrator

### Metafile Graphics

The picture is represented using one or both of the bitmap and vector techniques.

- Encapsulated PostScript
- Windows Enhanced Metafile
- Windows Metafile

## How EXP Imports Bitmap Graphics

When EXP imports a bitmap graphic into a document, EXP stores the graphic in either the JPEG or PNG format, depending on the original format of the graphic.

- If the graphic is imported from a JPEG file, EXP inserts the JPEG file data into the document without modification.
- If the graphic is imported from a PNG file, EXP inserts the PNG file data into the document without modification.
- If the graphic is imported from any other bitmap graphics format, EXP converts the graphic to the PNG format and then inserts the PNG data into the document. The PNG format uses a lossless compression scheme.
- If the graphic is pasted from the clipboard, EXP converts the graphic to the PNG format and then inserts the PNG data into the document. If the graphic is a photographic image, it is usually preferable to store the image in a JPEG file and then import the JPEG file into EXP. For photographic images, the JPEG format provides superior compression compared to the PNG format.

## How EXP Imports Encapsulated PostScript Graphics

When EXP imports an Encapsulated PostScript (EPS) graphic into a document, EXP constructs a multi-format Windows Enhanced Metafile (EMF) that represents the graphic and then inserts the multi-format EMF into the document. A multi-format EMF contains two representations of a graphic: one in PostScript format, the other in regular EMF format. When Windows prints a multi-format EMF on a PostScript printer, Windows sends the embedded PostScript data to the printer. When Windows renders a multi-format EMF on a non-PostScript device, Windows renders the embedded EMF graphic.

The multi-format EMF that EXP constructs contains the original PostScript data from the EPS file along with an EMF version of the EPS file's preview image. EPS files can optionally contain a preview image in either the TIFF or the Windows Metafile format. EXP converts both types of preview image to the EMF format and then embeds the resulting preview EMF in the multi-format EMF. If an EPS file does not contain a preview image, EXP constructs a preview EMF that draws a gray rectangle with the filename of the EPS file centered in the middle.

## How EXP Converts Graphics in Pre-EXP 5.1 Documents

When EXP opens a document that was created with a version of EXP prior to version 5.1, EXP converts the format of any graphics in the document.

### Files created with EXP 3.0 through EXP 5.0.2

EXP versions 3.0 through 5.0.2 stored all graphics in either Windows Bitmap or Windows Metafile format. These graphics are converted as follows:

- All Windows Bitmap graphics are converted to Portable Network Graphics (PNG) format. This usually results in a very significant reduction in the size of the graphic. Because the PNG format uses lossless compression, no other changes occur to the graphic.
- All Windows Metafile graphics are converted to Windows Enhanced Metafile (EMF) format. This can cause a modest increase in the size of the graphic. The reason for the size increase is that the Windows Metafile format is 16-bit oriented whereas the EMF format is 32-bit oriented.

There is one negative side-effect of this conversion: if the Windows Metafile graphic was produced by importing an Encapsulated PostScript (EPS) file, the embedded PostScript data is lost during the conversion. This means that the EPS file's preview image will be printed on PostScript printers. EXP uses a standard operating system function in Windows to perform the Windows Metafile to EMF conversion and it seems Microsoft did not implement the logic necessary to handle special multi-format Windows Metafiles.

The solution to this problem is to re-import the EPS file using EXP 6.x/5.1. You can either reinsert the graphic, or, preferably, use EXP's Edit Links command. Here are the steps necessary to re-import a graphic using the Edit Links command:

1. Click the graphic to select it.
2. From the Edit menu, choose Links (ALT, E, L).

EXP will display the Edit Links dialog box. If the graphic is linked, the graphic will be selected in the Edit Links dialog box. If the graphic is not linked, you cannot use the Edit Links command to re-import the graphic. In this case, you have no choice but to reinsert the graphic. This has the negative side-effect of causing any formatting applied to the graphic to be lost.

3. Choose the Update button.

EXP will close the Edit Links dialog box and then re-import the graphic. If an error occurs, it might be because the EPS file is no longer located in the same folder (or stored with the same filename) as it was when it was first inserted into the document. In this case, use the Change Link button in the Edit Links dialog box to adjust the link's folder and filename as necessary.

For further details about linked graphics, read the section “Using Linked Graphics” in Chapter 10 of the EXP User's Guide.

### **Files created with EXP for DOS**

EXP versions prior to version 2.0 did not support graphics. EXP versions 2.0 and 2.1 stored graphics in special graphics library files. When EXP 6.x/5.1 opens an EXP 2.x document, it reads the graphics from the graphics library and converts the graphics to Portable Network Graphics (PNG) format. This usually results in a significant reduction in the size of the graphics. Because the PNG format uses lossless compression, no other changes occur to the graphics.

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## Notes on Using Bitmap Graphics

- If possible, it is usually preferable to create a graphic in the Windows Enhanced Metafile (EMF) format rather than a bitmap format. EMF graphics can describe an image more compactly and have the added benefit of yielding optimal output regardless of resolution. Bitmap graphics often consume larger amounts of storage and lose quality when scaled.
- If you paste a bitmap graphic from the clipboard into an EXP document, EXP converts the graphic to the PNG format and then inserts the PNG data into the document. If the graphic is a photographic image, it is usually preferable to store the image in a JPEG file and then import the JPEG file into EXP. For photographic images, the JPEG format provides superior compression compared to the PNG format.
- If you use another application to copy a bitmap graphic to the clipboard and then use EXP to paste the graphic into a document, be aware of the following issue. Some applications place on the clipboard a redundant Windows Enhanced Metafile representation of the graphic in addition to the Windows Bitmap representation. In such a situation, if you paste the graphic into EXP using the regular Paste command, EXP will retrieve the Windows Enhanced Metafile representation in preference over the Windows Bitmap representation. In most situations, that behavior is desirable. In this particular situation, however, it is not desirable. To get around this problem you must use EXP's Paste Special command to paste the data format called "Graphic (Device Independent Bitmap)".

## Notes on Using Vector/Metafile Graphics

- If you use a graphics application to copy a vector/metafile graphic to the clipboard and then use EXP to paste the graphic into a document, be aware of the following issue. Some graphics applications place text on the clipboard in addition to the Windows Enhanced Metafile representation of the graphic. The text is simply the text contained in the graphic. In such a situation, if you paste the graphic into EXP using the regular Paste command, EXP will retrieve the text in preference over the Windows Enhanced Metafile representation. In most situations, that behavior is desirable. In this particular situation, however, it is not desirable. To get around this problem you must use EXP's Paste Special command to paste the data format called "Graphic (Enhanced Metafile)".



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## Memory/Storage Considerations

When you create a graphic and insert it into an EXP document, memory and disk space are required in a number of ways:

- Disk space is required to store the graphics file created by your graphics application.
- Memory is needed to store the graphic in the EXP document. When you save the document to disk, additional disk space is required.
- Memory is needed for the EXP graphics cache. The amount of memory EXP uses for its graphics cache is configurable. For details, read the section “The Graphics Cache” in Chapter 10 of the EXP User's Guide. It is not a simple procedure to calculate the amount of memory a given graphic will require in the graphics cache. It depends on aspects of your Windows display driver.

You can discover how much memory a graphic is consuming in an EXP document by clicking on the graphic (or by positioning the cursor directly before the graphic) and then pressing ALT, R, G. EXP will display the Format Graphic dialog box. The Information section of the dialog box displays the number of bytes required to store the graphic in the document.

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## Details Concerning Individual Formats

### Adobe Illustrator

#### Filename Extension(s)

ai

#### Type

Vector

#### Summary

This is the native format of the Adobe Illustrator application.

#### Notes

- EXP imports Adobe Illustrator files in exactly the same manner as it imports Encapsulated PostScript files.

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## Encapsulated PostScript

### Filename Extension(s)

eps

### Type

Metafile

### Summary

This format is the standard by which PostScript graphics are incorporated into documents.

### Notes

- If an EPS file contains either a TIFF or a Windows Metafile preview image, EXP imports the file in such a way that the preview image is rendered on non-PostScript devices but the original PostScript data is sent to PostScript printers.
- If an EPS file does not contain a preview image, EXP imports the file in such a way that a gray rectangle containing the filename is rendered on non-PostScript devices but the original PostScript data is sent to PostScript printers.
- For further details, read the section “How EXP Imports Encapsulated PostScript Graphics”.

## GIF

### Filename Extension(s)

gif

### Type

Bitmap

### Summary

This format is one of the standard graphics formats used on the World Wide Web. The GIF format is widely supported. GIF files use a lossless compression scheme.

### Notes

- EXP imports a GIF file by first converting the graphic to the PNG format and then by inserting the PNG data into the document.
- Because GIF files do not contain resolution information, EXP assigns the graphic a default resolution.

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## JPEG File Interchange Format

### Filename Extension(s)

jpg, jpeg, jfif

### Type

Bitmap

### Summary

This format was developed by the Joint Photographic Experts Group for the storage of photographic images. JPEG files use a lossy compression scheme.

### Notes

- EXP imports a JPEG file by inserting the original JPEG file data into the document. EXP does not alter the compression of the JPEG image in any way.
- If a JPEG file specifies a resolution for the image, EXP uses that resolution. Otherwise, EXP assigns the image a default resolution.
- EXP also supports EXIF files containing JPEG compressed images. EXIF files are produced by digital cameras.

## PCX

### Filename Extension(s)

pcx

### Type

Bitmap

### Summary

This format is widely supported by Paintbrush-style programs. PCX files use a lossless compression scheme.

### Notes

- EXP imports a PCX file by first converting the graphic to the PNG format and then by inserting the PNG data into the document.
- If a PCX file specifies a resolution for the image, EXP uses that resolution. Otherwise, EXP assigns the image a default resolution.

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## Portable Network Graphics

### Filename Extension(s)

png

### Type

Bitmap

### Summary

This format is intended for widespread use as a mechanism for storing bitmap graphics using lossless compression.

### Notes

- EXP imports a PNG file by inserting the original PNG file data into the document.
- If a PNG file specifies a resolution for the graphic, EXP uses that resolution. Otherwise, EXP assigns the graphic a default resolution.

## TIFF

### Filename Extension(s)

tif, tiff

### Type

Bitmap

### Summary

This format is widely supported on almost all computer platforms. TIFF is the most full-featured bitmap format. TIFF files can use either a lossless compression scheme or a lossy compression scheme.

### Notes

- EXP imports a TIFF file by first converting the graphic to the PNG format and then by inserting the PNG data into the document.
- If a TIFF file specifies a resolution for the graphic, EXP uses that resolution. Otherwise, EXP assigns the graphic a default resolution.



## Truevision Targa

### Filename Extension(s)

tga

### Type

Bitmap

### Summary

This format was designed for use with image capture hardware. Targa files use a lossless compression scheme.

### Notes

- EXP imports a Targa file by first converting the graphic to the PNG format and then by inserting the PNG data into the document.
- Because Targa files do not contain resolution information, EXP assigns the graphic a default resolution.

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## Windows Bitmap

### Filename Extension(s)

bmp, dib

### Type

Bitmap

### Summary

This is the native bitmap format of Microsoft Windows. Windows Bitmap graphics are usually uncompressed but they may use a lossless compression scheme.

### Notes

- EXP imports a Windows Bitmap graphic by first converting the graphic to the PNG format and then by inserting the PNG data into the document.
- If a Windows Bitmap graphic specifies a resolution, EXP uses that resolution. Otherwise, EXP assigns the graphic a default resolution.
- EXP supports both compressed and uncompressed Windows Bitmap graphics.
- Some programs create Windows Bitmap graphics that contain incorrect information. EXP rejects any Windows Bitmap graphic that does not conform to Microsoft's specification.

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## Windows Enhanced Metafile

### Filename Extension(s)

emf

### Type

Metafile

### Summary

This is the native metafile format of Microsoft Windows.

### Notes

- EXP imports a Windows Enhanced Metafile graphic by inserting the EMF data into the document.
- Some EMF files were produced by converting older WMF files to the newer EMF format. The vast majority of these converted EMF files contain the older WMF data in a hidden comment record. EXP detects this old WMF data and removes it. This explains why inserting an EMF graphic into EXP often reduces the size of the EMF data.
- If a Windows Enhanced Metafile graphic contains text, the text's font(s) must be installed on the Windows system in order for the graphic to be displayed correctly. It is strongly recommended that you only use standard Windows TrueType fonts if portability of your graphics is important. When Windows renders an Enhanced Metafile graphic that uses a font that is not installed, Windows substitutes another font. Sometimes the substituted font will look satisfactory and other times it will not.

## Windows Metafile

### Filename Extension(s)

wmf

### Type

Metafile

### Summary

This is the native metafile format of the old 16-bit versions of Microsoft Windows.

### Notes

- EXP imports a Windows Metafile graphic by first converting the graphic to the Windows Enhanced Metafile (EMF) format and then by inserting the EMF data into the document.
- EXP requires Windows Metafile files to be in the Placeable Metafile Format.