

## SYBEX Bonus Chapter

# Just Enough AutoCAD<sup>®</sup> 2006

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## Bonus A: Preparing Drawings for Transfer or Export

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## Bonus A

# Preparing Drawings for Transfer or Export

Just about every design project is a collaborative effort that requires you to share your files. You may even have to share your files with users in another part of the country or the world. You need to know how to best package or convert your drawings to a format that your project associates can use.

AutoCAD provides a wide variety of options for preparing and exporting your drawing files. Even if you are not exporting your drawings to a different file format, you will need to combine support files with the .dwg files you send to others. AutoCAD also provides options if you need to send drawings to non-CAD users. For non-CAD users, you can export your files to other graphic file formats such as Windows Metafiles, Encapsulated PostScript, or JPEG.

This chapter provides information on ways to prepare or export your drawings for others to use. Here's what you'll find here:

- ◆ Using eTransmit to Package Drawings
- ◆ Converting Drawings to PDF
- ◆ Converting Drawings to DWF
- ◆ Converting Drawings to other Formats
- ◆ Exporting High-Resolution Raster Images

## Using eTransmit to Package Drawings

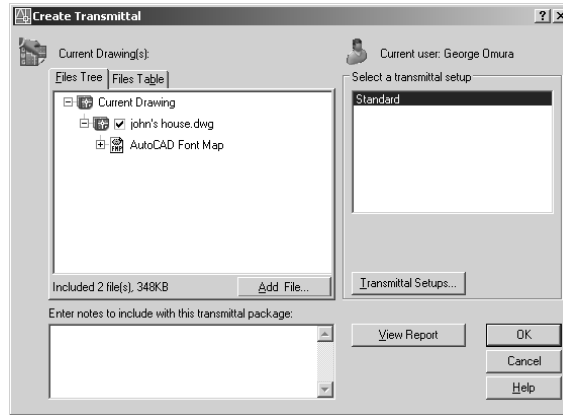
A typical AutoCAD drawing file depends on many external files to produce a drawing. If you use the standard fonts, linetypes, and hatch patterns, you can usually get by with sending just the .dwg file of your drawing along with any Xref files that are attached to it. But frequently, offices develop their own set of custom linetypes and use fonts that may not be on every computer system. If you have drawings that use custom resources such as these, you will want to make regular use of AutoCAD's eTransmit feature.

**TIP** You can use eTransmit to save your AutoCAD file to an earlier version, which is a common requirement when sharing files with other offices.

## How eTransmit Works

eTransmit collects all your project drawings and their resource files into a single archive package. You can create a .zip file or an executable .zip file or just isolate project files in a folder system. A report file is included that describes the files included with the eTransmit package.

1. In AutoCAD, open a file you intend to send to someone; then choose File > eTransmit to open the Create Transmittal dialog box. In the dialog box, you see a tree structure listing of the files that are included in the transmittal.



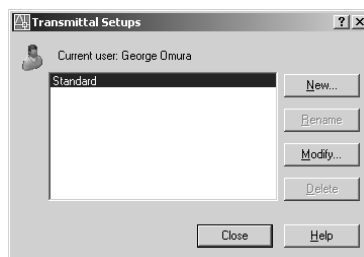
2. To add more files to the transmittal than are shown in the list, click the Add File button to open a file dialog box.
3. To remove files, click the plus sign to expand the listed items; then remove the checkmark that appears next to the file you want to exclude. You can also use the File Table tab to view the files as a simple list.

**WARNING** If you've edited the file before you choose File > eTransmit, you will see a message telling you that you must save the drawing before continuing.

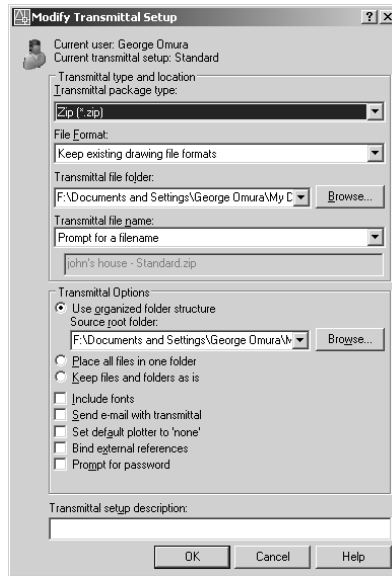
4. To enter notes to include with this transmittal package, click in the Enter Notes To Include With This Transmittal Package input box and enter a description or other note.

If you need to set up the type of file or file location for your eTransmit package, do the following:

1. In the Select A Transmittal Setup group, click the Transmittal Setups button. You'll see the Transmittal Setups dialog box.

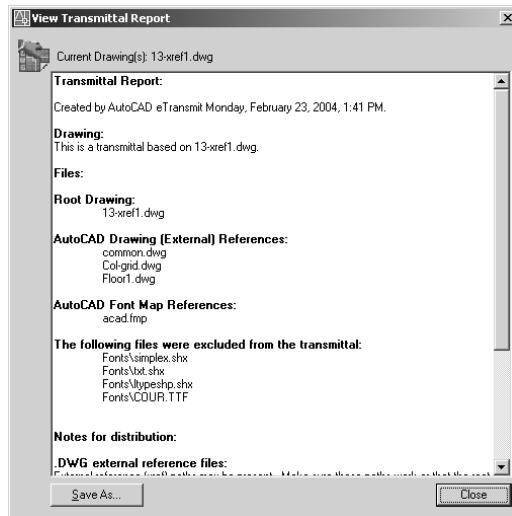


2. Click the Modify button to open the Modify Transmittal Setup dialog box.



3. In the Transmittal Package Type drop-down list, select the format for your collection of files. You can create a Zip or self-extracting executable archive, or you can save the files in a folder. If you choose the Zip or executable option, you can also add a password by turning on the Prompt For Password option near the bottom of the dialog box. The person receiving the transmittal file must then enter a password to extract the files. If you choose the Folder option, you can tell AutoCAD where to place the files by clicking the Browse button. For this exercise, choose the Folder option in the Transmittal Package Type list.
4. Click the Browse button to open the Specify Location Folder dialog box. This is a typical AutoCAD file dialog box that you can use to select a location for you files. You can use the Create New Folder tool to create a new folder for your files. You'll want to keep your transmittal files in a separate location from other files. Once you select a location, you return to the Create Transmittal dialog box.
5. When you've set up your transmittal, click OK in the Modify Transmittal Setup dialog box, and then click Close in the Transmittal Setups dialog box.
6. Finally, you can preview the report file by clicking the Report tab.

The eTransmit report describes the files in your eTransmit package. It also alerts you to required support files that eTransmit was unable to find.



After you have set up eTransmit for your drawings, you can click OK in the Create Transmittal dialog box; AutoCAD then proceeds to collect the files into an archive folder or a Zip file. Once eTransmit has completed its work, you can send the resulting .zip or .exe file over the Internet or use another medium such as a CD to store the drawings.

If you find that you use a handful of eTransmit settings regularly, you can create and save transmittal setups and give them names in the Transmittal Setups dialog box. This allows you to have multiple transmittal options so you don't have to set up eTransmit each time a different situation arises.

## The eTransmit Options

A number of options are available for configuring the transmittal setup. The following gives a run-down of those options:

**Transmittal File Name** This option is not available if you select Folder as the transmittal package type. Transmittal File Name lets you specify whether you are prompted for a filename or whether AutoCAD creates a filename for you. Prompt For A File Name is self-explanatory. The other two options, Increment File Name If Necessary and Overwrite If Necessary, offer predefined filenames based on the transmittal style and main drawing name.

**File Format** This option lets you select between the AutoCAD 2004/LT 2004 and AutoCAD 2000/LT 2000 file formats in case your recipient requires an earlier version.

**Use Organized Folder Structure** This option preserves the folder structure for the files in the transmittal. This can be important when Xref and other files are located across several folder locations. If the person receiving your files cannot open Xref files properly, try using this option

when you re-send your transmittal files. This option will create new folders when required for fonts, plot configuration files, and sheet set files. Note that Sheet Set data files (DTS) are placed in the root folder of the transmittal. Also, AutoCAD will attempt to preserve paths up to one level above the root path of the drawings.

**Place All Files In One Folder** This option is self-explanatory.

**Keep Files And Folders As Is** This option preserves the entire folder structure for the files in the transmittal.

**Send E-Mail With Transmittal** This option lets you send an e-mail transmittal with the files included as an attachment. This option streamlines the transmittal process by opening an e-mail dialog box that allows you to enter a message and select a recipient for your transmittal.

**Set Default Plotter To 'None'** The type of printer you've set up for your files is stored with the drawing file. This option removes any reference to printers or plotters that you have set up for the drawing. By using this option, you can avoid confusion for the person receiving the transmittal drawings when they try to print.

**Bind External References** You can bind external references to the drawings that contain them if it is not important for the recipient to maintain the external references as separate drawings. This can help reduce the number of files in your transmittal, which in turn will reduce any confusion regarding the files you've sent.

**Prompt For Password** This option lets you password protect the transmittal file. If you click the Password button, you are presented with a dialog box that lets you enter a password and confirm it. The person receiving the transmittal file must then enter this password to extract the files.

**Transmittal Setup Description** This option lets you include a brief description of the current transmittal setup.

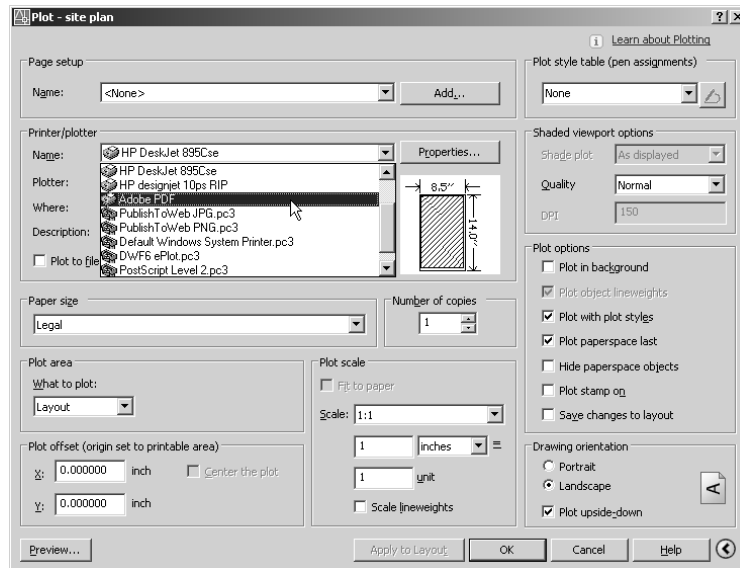
## Converting Drawings to .pdf

If you are sending drawings to someone for review and the recipient doesn't care whether they can edit the drawing, you might want to use Adobe Acrobat to generate files in the .pdf file format. Files in the .pdf format are an excellent choice because they are so common and nearly everyone who uses the Internet has a .pdf reader installed on their computer. Certainly most business users will have a .pdf reader.

**TIP** The latest version of the Adobe Acrobat 7.0 Pro PDF reader offers a distance, perimeter, and area tool that lets you get a rough measurement of scaled drawings. Many AutoCAD-specific features are built into Pro 7, such as support for layers and red-line notation.

Adobe Acrobat 7.0 Professional has features that are designed specifically for AutoCAD users; unfortunately, these special features are not yet implemented for the latest version of AutoCAD.

Before you can create .pdf files, you will need to purchase and install the full version of Adobe Acrobat 7, not the free version, which is only a reader. Once installed, you will see Adobe PDF as a printer option in the Plot dialog box of AutoCAD.



Select the Adobe PDF printer option and then select a paper size and other options as described in Chapter 11. When you proceed with the print job by clicking OK, you will be asked for a filename and location for your .pdf file.

## Converting Drawings to .dwf

Although the .pdf file format is arguably the most trouble-free format to use, it requires some extra work if you have more than one drawing in a set. With .pdf, you will have to print each sheet individually and then use the Adobe Acrobat Pro application to combine the separate sheets into a single file.

You can avoid this process, plus have drawings that will show more detail when you zoom in, if you use the Autodesk .dwf file format. The .dwf format is like the .pdf format in that it produces a compact, portable read-only file. The recipient of your .dwf file will have to download a reader from the Autodesk site, but this isn't any more difficult than obtaining the Acrobat reader from the Adobe site.

The .dwf file format also offers some features not available in the .pdf format. With the .dwf viewer, you can zoom in to much more detail on a drawing. If you have the Autodesk DWF Composer application, you can annotate drawings with red mark comments and then transfer these comments to AutoCAD. Red marks can also be cataloged and stored for future reference. DWF Composer also allows you to obtain accurate drawing information such as distance and area calculations and attribute data. Finally, if you have included hyperlinks in your drawing, the .dwf format will preserve them. You can then use the Hyperlink feature to link parts of drawings within a .dwf set.

## Creating a .dwf File from the Plot Dialog Box

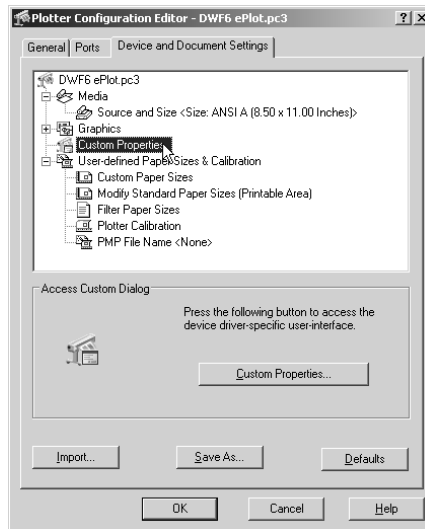
If you only need to create a DWF file of a single sheet, you can use the Plot dialog box, since it is a simple and familiar procedure as the following exercise demonstrates:

1. Open a file you want to convert to .dwf and then choose File ➤ Plot.
2. In the Plot dialog box, select DWF6 ePlot.PC3 from the Name drop-down list.
3. Set up the rest of the plot options as if you were printing to paper. (See Chapter 11 for more on setting up your printer options.)
4. Click OK in the Plot dialog box to proceed with the creation of the .dwf file.

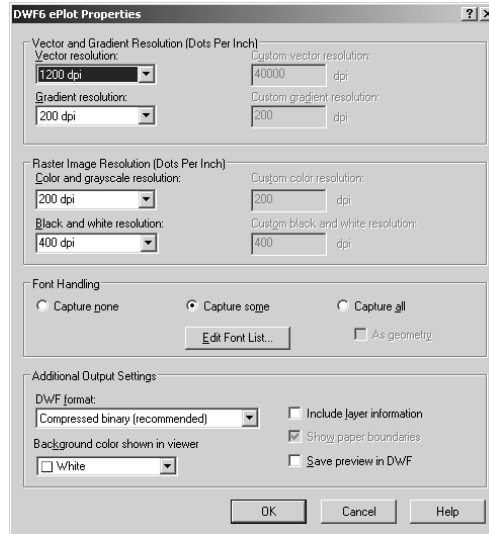
## CONFIGURING THE .DWF OUTPUT

In addition to the settings in the Plot dialog box, you can make some special configuration adjustments to the .dwf plotter configuration file. Here is where to find those configuration settings.

1. Choose File ➤ Page Setup Manager, select a setup from the Page Setups list in the Page Setup Manager dialog box, and then click Modify to open the Page Setup dialog box.
2. Make sure the DWF6 ePlot PC3 configuration file is listed in the Name list box of the Printer/Plotter group.
3. Click the Properties button to the right of the Name drop-down list to open the Plotter Configuration Editor dialog box.
4. Make sure the Device And Document Settings tab is selected; then click the Custom Properties listing.



- Click the Custom Properties button that appears in the lower half of the dialog box to open the DWF Properties dialog box. In this dialog box, you can set the resolution, format, and background color and paper boundary for your .dwf file. You can also specify whether to include layer and font information.



- Click OK after selecting your settings. The Plotter Configuration Editor dialog box opens again. Once you've set the custom properties, you can save any new settings under the DWF6 ePlot .PC3 file, or you can create a new DWF6 PC3 plot configuration file. To save any setting changes, click the Save As button and select the PC3 file in which you want to save the settings.
- Click OK in the Plotter Configuration Editor dialog box to return to the Page Setup dialog box.
- Click OK to exit the Page Setup dialog box.

After you select your custom configuration settings in step 5, you needn't open the Plotter Configuration Editor dialog box again the next time you plot a .dwf file. If you save your new settings as a new PC3 file, you can select it from the File drop-down list in the Plotter Configuration group. You needn't reenter the custom settings.

## Converting a Set of Drawings into a .dwf File

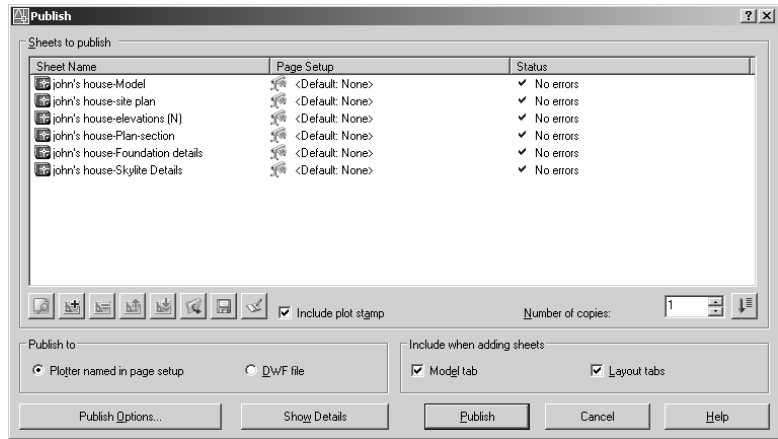
If you need to combine multiple drawing sheets into a single .dwf file, you can use the Publish feature in AutoCAD. Publish lets you select a set of layouts or model tabs and combine them into one .dwf file that contains multiple pages.

If you choose File > Publish, you'll see the Publish Drawing Sheets dialog box shown in Figure A.1.

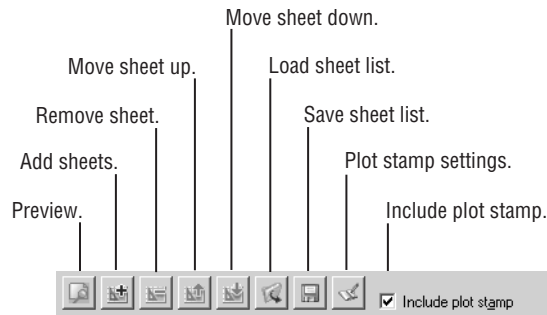
Notice that the dialog box lists all the layouts from the current file in its main list box, including Model tab. (See Chapter 11 for more on layouts.)

You can right-click and select Remove An Item From The List or click the Remove Sheets button just below the list of sheets. If you want to add a layout to the list, including those from another file, you can right-click in the list and select Add, or click the Add Sheet button below the list as shown in Figure A.2.

**FIGURE A.1**  
The Publish Drawing  
Sheets dialog box



**FIGURE A.2**  
The Publish Drawing  
Sheets dialog box toolbar



Besides adding and removing items from the list of tabs to be published, you have a number of other options to help you customize the way you print your set of drawings. Table A.1 lists and describes those options. Refer to Figure A.2 for the location of the button options.

**TABLE A.1:** The Publish Drawing Sheets Dialog Box Options

OPTION	PURPOSE
Preview	Lets you see a print preview of an item from the list.
Add Sheets	Adds sheets to the list. Sheets can be layouts or model tabs from other drawings not currently open.
Remove Sheets	Removes sheets from the list.
Move Sheet Up	Moves a selected item up the list.
Move Sheet Down	Moves a selected item down the list.

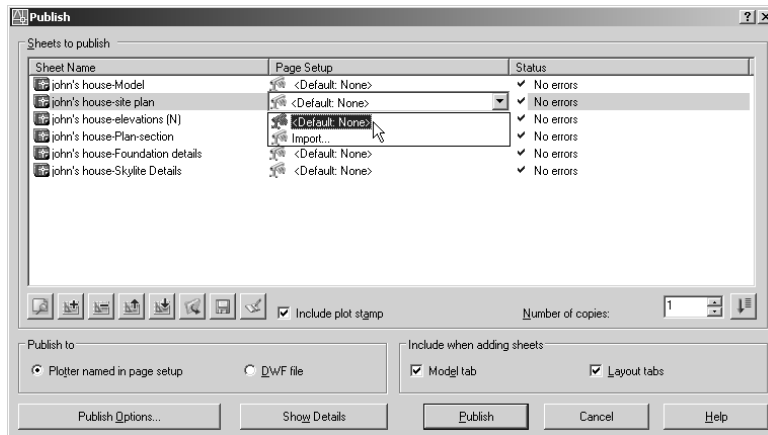
**TABLE A.1:** The Publish Drawing Sheets Dialog Box Options (*CONTINUED*)

OPTION	PURPOSE
Load Sheet List	Loads a saved sheet list.
Save Sheet List	Saves the current sheet list along with its settings.
Plot Stamp Settings	Opens the Plot Stamp Settings dialog box where you can set up plot stamps. See Chapter 11 for more on plot stamps.
Include Plot Stamp	Turns on the Plot Stamp feature.
Number Of Copies	Controls the number of copies of sets.
Publish Order	Lets you reverse the print order of the listed sheets.
Publish To	Lets you determine whether to print to a .dwf file or the default printer for the Page Setup for each sheet.
Include When Adding Sheets	Lets you filter out model or layout tabs when adding sheets from other drawings.

**TIP** The Publish To option lets you print to an alternate file type, such as PDF or HPGL/2 r. To do this, however, you must first set up a page setup for each layout that indicates the file type you want to print to, be it Adobe PDF or HPGL/2. See Chapter 11 for more on page setups.

### APPLYING SHEET SETUPS TO ITEMS IN THE LIST

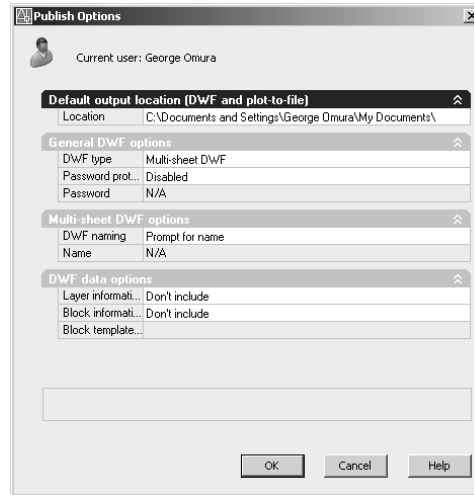
You might notice that the Sheets To Publish list in the Publish dialog box includes a Page Setup column. If you select an item in the list, the Page Setup column becomes a drop-down list for the selected item.



If you have a page setup you want to apply to one or all of the items in the list, you can use this drop-down list to select the setup. By default, AutoCAD applies the existing layout settings for items in the list.

### CONTROLLING WHERE .DWF PRINT FILES GO

You can also control where Publish places the .dwf file by opening the Publish Options dialog box.



This dialog box also lets you specify whether to plot individual .dwf files for each sheet in the list or to combine them into one file. Table A.2 lists and describes the groups in this dialog box.

**TABLE A.2:** The Publish Options Dialog Box Options

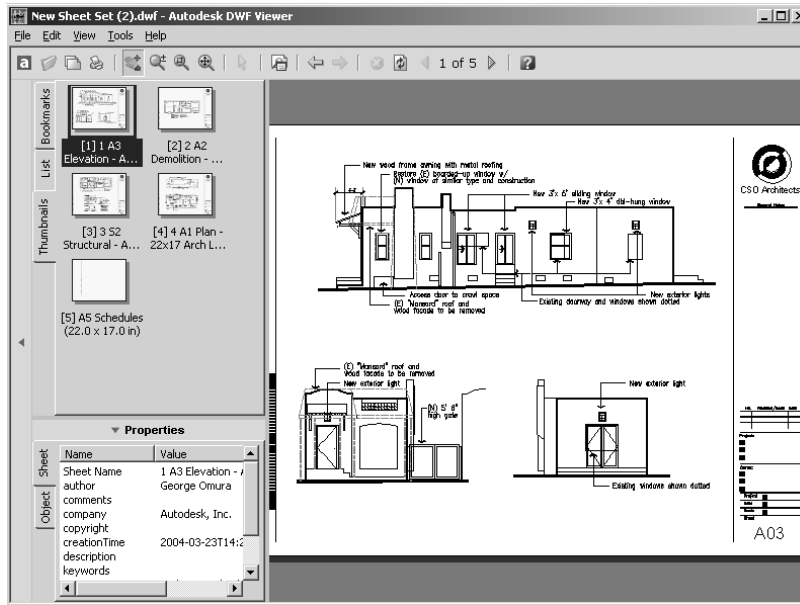
OPTION GROUP	PURPOSE
Default Output Location	Offers options for the location for .dwf files.
General DWF Options	Offers a choice between a multisheet .dwf file, which combines multiple sheets into one file, or single-sheet .dwf files, which creates a file for each sheet. You can also turn password protection and specify a password.
Multi-Sheet DWF Options	Lets you specify a default name for your .dwf files or have AutoCAD prompt you for a name for each .dwf file.
DWF Data Options	Lets you include layer, block to block template information in the .dwf.

## Viewing .dwf Files

AutoCAD offers the DWF View program to allow anyone to view .dwf files. If you have AutoCAD, it is installed automatically in your system. You can get a free copy from the Autodesk website.

To use DWF View to view .dwf files, follow these steps:

1. Choose Start > Programs > Autodesk > Autodesk DWF Viewer.
2. Choose File > Open, and then locate and open the .dwf file you created earlier. The .dwf file appears with a view of the first sheet in the set displayed in the right side.



3. You have a set of thumbnail views in the panel to the left. Click each thumbnail to view the different sheets in the set.

Once you've opened a .dwf file, you can use the Pan and Zoom tools in the DWF View toolbar to view the drawing. If you need a hard copy, you can print the current view by choosing File > Print.

## Converting Drawings to Other Formats

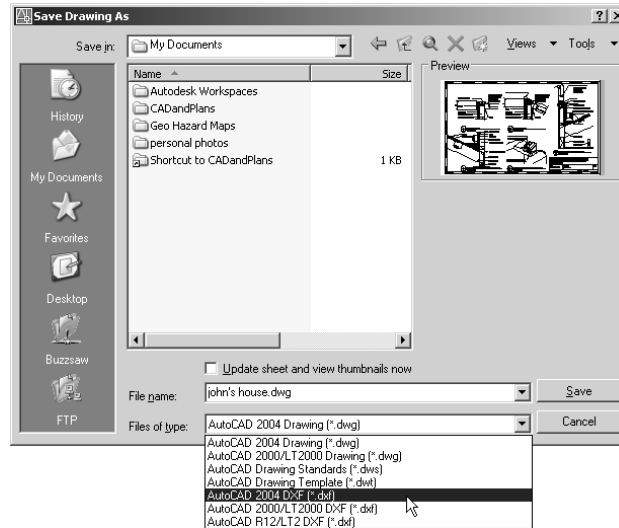
Sometimes it's helpful to be able to export your drawings into other formats. For example, you might want to render a floor plan in Adobe Illustrator or some other drawing program. You can get the best-quality image exported from AutoCAD by using the EPS or Windows Metafile (.wmf) format for Illustrator-like programs. Or you might want to convert a drawing to a 3D format for analysis or rendering.

This section looks at some of the ways AutoCAD lets you export files into other formats so you can take advantage of a wider range of editing and viewing options.

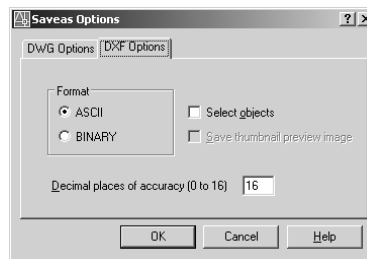
## CONVERTING TO .DXF

Every now and then, you might need to export your drawing to a format that other CAD programs can read. The .dxf format is fairly common, and most other CAD programs can read it.

There's no mystery in exporting to .dxf. Choose File > Save As to open the Save Drawing As dialog box, and then select the appropriate .dxf format from the Files Of Type drop-down list at the bottom of the dialog box.



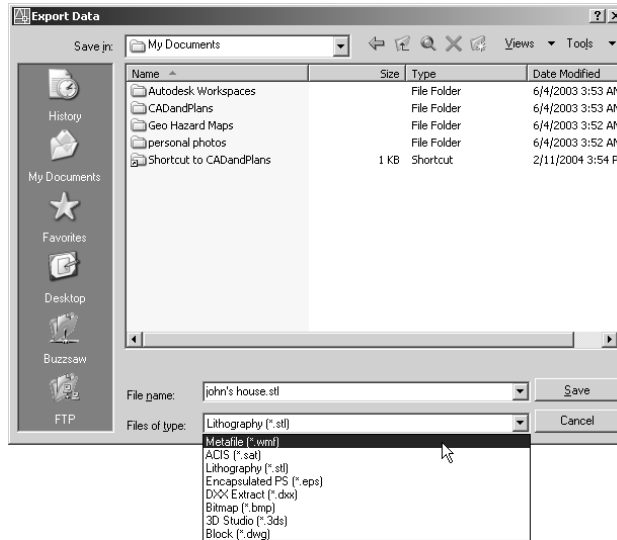
You can choose from several .dxf options, including one for version 12 of AutoCAD. You also have some additional options you can apply to the exported .dxf file. Choose Tools > Options from the Save Drawing As dialog box to open the Saveas Options dialog box. Select the DXF Options tab to view the DXF options.



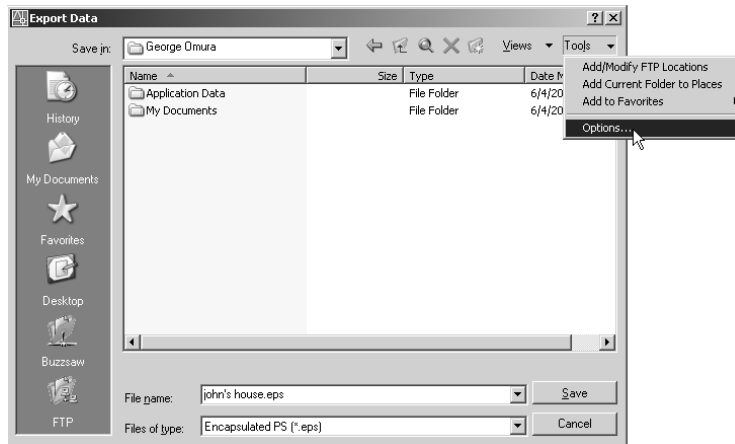
From here you can specify whether the file is standard ASCII or binary. You can also specify whether AutoCAD prompts you to select portions of your drawing instead of exporting the whole drawing. You can even set the decimal place accuracy of the exported file, though you will probably want to keep it at the default value of 16.

### EXPORTING PARTS OF DRAWINGS USING THE EXPORT OPTION

AutoCAD also includes an Export option that offers a variety of file types to choose from. Choose File > Export to open the Export Data dialog box. You can then specify the file type using the Files Of Type drop-down list. Table A.3 lists the file types and describes their use.



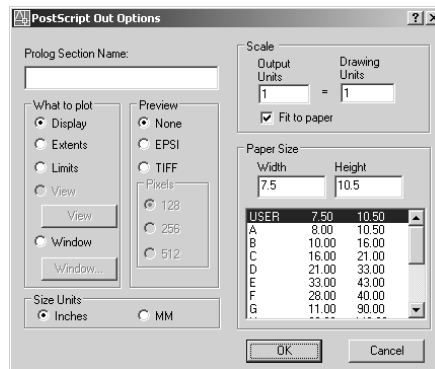
Each of these export options will prompt you to select a part of your drawing. The Encapsulated PS option offers additional options when you choose Tools > Options from the Export Data dialog box.



**TABLE A.3:** The Export file types

FILE TYPE	TYPICAL USE
Metafile (*.wmf)	Common file format for transfer to other graphics programs
ACIS (*.sat)	3D file format for analysis
Encapsulated PS (*.eps)	PostScript format for Illustrator or other PostScript editors
DXX Extract (*.dxx)	Attribute extraction file format
Bitmap (*.bmp)	Common bitmap file format for rough black-and-white images
3D Studio (*.3ds)	3D Studio format for 3D modeling and rendering
Block (*.dwg)	AutoCAD drawing format for saving portions of a file

This opens the PostScript Out Options dialog box in which you can select the area of the drawing to export as well as a drawing size.



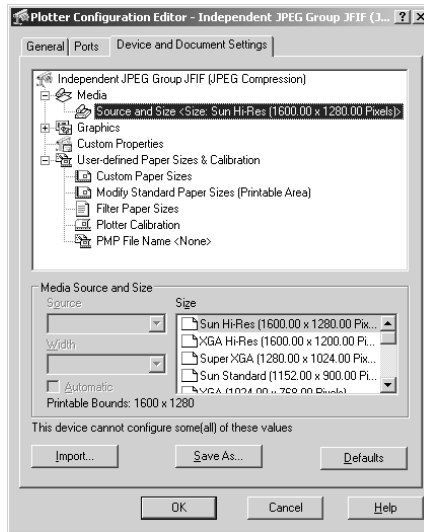
## Exporting High-Resolution Raster Images

The Export option allows you to export to the bitmap file format, but the results are quite poor. If you need a high-resolution bitmap equivalent of your drawing, you can set up an AutoCAD printer as a raster file output device. (Raster is another term for bitmap.) This way, you can use AutoCAD's print feature to "print" a raster or an image file.

First, you need to use the Add-A-Plotter Wizard to set up a raster printer.

1. Choose Tools > Wizards > Add A Plotter.
2. On the Begin screen, choose Next, and then choose My Computer.

3. On the Plotter Model screen, select Raster File Formats from the Manufacturers list, and then select the type of raster file you want to use from the Models list. For example, you can choose Independent JPEG Group JFIF (JPEG Compression). This is one of the more universal file types.
4. Skip the Import PCP or PC2 screen and the Ports screen.
5. Enter a name for your raster output printer on the Plotter Name screen.
6. On the Finish screen, click the Edit Plotter Configuration button to open the Plotter Configuration Editor dialog box.



7. Click the Source And Size listing that appears in the large list box in the top of the dialog box. A list of options appears in the Size list box in the lower-right corner of the dialog box.
8. Click Custom Paper Sizes from the large list box at the top of the dialog box. The options change in the lower half of the dialog box.
9. Click the Add button to start the Custom Paper Size Wizard.
10. Click the Start From Scratch radio button, and then click Next to open the Media Bounds screen.
11. Enter a height and width in pixels for your image file, and then click Next to open the Paper Size Name screen. Enter a name that best describes the size of the image file, and then click Next to open the File Name screen.
12. Enter a name for the Plotter Model Parameters file. This file stores specific setting information about the plotter. Click Next when you are finished.
13. On the Finish screen, click Finish. The Plotter Configuration Editor dialog box opens again. Click OK, and then click Finish in the Add-A-Plotter Wizard.

Once you've created a raster plotter, you can create a raster file version of your drawing using the AutoCAD Plot feature. Choose File > Plot, and then in the Plot dialog box, select the raster output device from the Name drop-down list of the Printer/Plotter group. You can then proceed to plot your drawing, but instead of paper output, you'll get a raster file.

## **Summary**

As you've seen from this chapter, many file formats are available for export from AutoCAD, and if AutoCAD doesn't support the exact file format you need, you can usually find a program that can convert one of the files that AutoCAD does produce. But chances are, you won't have to go beyond what AutoCAD offers to get the type of file you need.