

DrawPerfect[®]

for IBM[®] Personal Computers
and PC Networks

1.1 Update Pages

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DrawPerfect 1.1 Update

The DrawPerfect 1.1 update packet contains a feature summary and update pages.

The feature summary is a handy reference to all the new features included in DrawPerfect 1.1 and can be placed at the beginning or end of your DrawPerfect manual.

The update pages include documentation of the new 1.1 features and either replace some of the pages in the 1.0 manual or are inserted as additional pages. To update your manual, follow the instructions below.

The pages listed below *replace* existing manual pages.

Remove the Following Manual Pages:	Replace with the Following Update Pages:
243 – 248	243 – 248
285 – 290	285 – 290
311 – 312	311 – 312
341 – 346	341 – 346
385 – 398	385 – 398
405 – 406	405 – 406
437 – 439	437 – 440
527	527
Glossary and Index	New Glossary and Index

The pages listed below are *added* to the existing manual.

Insert the Following Update Pages:

Insert pages 270a – 270b between manual pages 270 and 271.

Insert pages 458a – 458g between manual pages 458 and 459.

Insert page 510a between manual pages 510 and 511.

Insert pages 627 – 636 after manual page 626.

Installing the 1.1 update

Included in this package are the new program diskettes for DrawPerfect 1.1. The diskettes contain compressed files. In order to use the files, you must run the DrawPerfect Installation program. The Auto-Install Program guides you step-by-step through the DrawPerfect Installation process. If you are ready to install DrawPerfect, refer to the *Installation Instructions* card that came with your package.

**File
Compatibility**

If you are updating from DrawPerfect 1.0, the files that you created with 1.0 are fully compatible with DrawPerfect 1.1 and vice versa.

Keyboard Definitions

DrawPerfect 1.0 keyboard definitions are compatible with 1.1. However, if you use a 1.0 definition in version 1.1, the new 1.1 DrawPerfect features that are mapped to function keys (e.g., Search (F2), Replace (Alt-F2)) do not work. You can redefine the definition in 1.1 or select one of the new definitions shipped with DrawPerfect 1.1.

Feature Summary

DrawPerfect 1.1 offers several new and improved features designed to make your work more efficient. Most notable are the enhancements made to the Presentation feature. These enhancements include a Make Show option that lets you create a stand-alone (sometimes referred to as "run-time") presentation. You can freely copy these stand-alone presentations, with unlimited distribution rights.

What follows is a brief description of the new DrawPerfect features.

Align	The Align feature has been added to 1.1 to let you align one or more objects on the screen. You can align one object or a group of objects to the left, right, top, and/or bottom. Additionally, you can center one or more objects vertically, horizontally, or both. See <i>Align</i> under <i>Editing Actions</i> in <i>Edit Reference</i> for further information.
Assisted Mouse Movement	A new option has been added to the Setup menu. This option, called Assisted Mouse Pointer Movement, determines whether DrawPerfect moves the mouse pointer to the first selectable item when a menu is displayed.
Base Fonts	The number of base fonts shipped with DrawPerfect has been increased from 25 to 30. Broadway Engraved (uppercase only), Stencil (uppercase only), Old Town, Murray Hill, and Helvetica Simplex Monospaced are the names of the additional fonts. See <i>Font Attributes</i> in <i>Font Reference</i> for an illustration of the new fonts.
.DRS Modify Utility	The fonts shipped with DrawPerfect are stored in a file called WP.DRS. This file is quite large—over 700K. However, you can use the .DRS Modify Utility to delete unwanted fonts and tailor the .DRS file to your specific needs. See <i>Appendix T: .DRS Modify Utility</i> for further information.
Delete with Backspace	While drawing a line, you can now press Backspace to delete the last definition point you added.

**EPS
Import/Export**

The EPS format (Encapsulated PostScript) has been added to the list of graphics formats DrawPerfect can import and export. See *Appendix I: Import Formats* for further information.

**Expanded
Memory**

Since DrawPerfect uses all available conventional memory, no memory is available for other programs. However, if your computer is equipped with expanded memory, you can now use the `/w=cm,em` startup option to limit the amount of conventional memory and increase the amount of expanded memory DrawPerfect uses, providing conventional memory space for other programs. Simply enter `/w=cm,em` (where *cm* is the amount of conventional memory and *em* is the amount of expanded memory allocated to DrawPerfect). For example, `dr/w=120,512` means "Start DrawPerfect using 120K of conventional memory and 512K of expanded memory workspace."

DrawPerfect uses all available space in conventional memory and 87.5% of available expanded memory unless you use this option. (If you are running DrawPerfect under Shell, DrawPerfect uses 50% of available expanded memory unless you use the `/w` startup option.) If you do not have expanded memory, the expanded memory parameter is ignored. You can prevent the use of expanded memory using the `/ne` startup option. For more information on the `/w` and `/ne` startup options, see *Appendix Q: Startup Options*.

dr/32 Startup Option

The `/32` startup option has been added to DrawPerfect 1.1. This instructs DrawPerfect to use LIM 3.2 calls only. This helps DrawPerfect run on some expanded memory drivers that are not LIM 4.0 compatible.

**Expanded
Postscript
Printer Support**

If you use a postscript printer with DrawPerfect 1.1, you can print patterns. Also, if your postscript printer prints color, you can print the full 256 DrawPerfect colors.

Go To Keys

The Go To Keys feature is a new option added to Presentation. With Go To Keys, you can organize the files within your presentation into, for example, a computer tutorial. Simply enter the proper Go To commands that tell DrawPerfect which screen to display when the viewer presses predefined keys on the keyboard. You can then tie your screens together with prompts that say, for example, "Press 1 for more information about customer service." See *Go To Keys* under *Presentation* in *File Reference*.

Graph Import

DrawPerfect 1.0 lets you import spreadsheet files from PlanPerfect (versions 3.0 through 5.0), Lotus 1-2-3 (versions 1.0 through 2.x), and Microsoft Excel (versions 2.x). With DrawPerfect 1.1, you can also import files from Quattro, Quattro Pro, and version 3.0 of Lotus 1-2-3. You can import a block of cells (raw spreadsheet data) from any one of the supported formats or a graph description and its associated data from Lotus or PlanPerfect. A graph description includes not only the block of cells used to chart the graph, but also includes the attributes of the graph (e.g., fill color, fill pattern), the type of graph (pie, bar, line), and the titles and legends. See *Import* under *Graph Chart Options* in *Draw Reference* for more information.

Group/Ungroup

With the latest release of DrawPerfect, Group and Ungroup were added to the Edit menu. The Group feature lets you group together several displayed objects and edit them as one grouped object. With the Ungroup feature, you can separate a group of objects into individual items, then edit each individual object. See *Group and Ungroup* under *Editing Actions* in *Edit Reference* for more information.

Make Show

In the past, you needed DrawPerfect loaded on your computer to view a presentation. However, DrawPerfect 1.1 gives you the Make Show option which you can use to create a stand-alone (sometimes referred to as "run-time") presentation. Your presentation files, along with the necessary DrawPerfect program files, are copied to a diskette. This diskette can then be used in various computers to display your slide-show; the complete DrawPerfect program is not needed. See *Appendix S: Make Show* for more information.

Modifying Points

The ability to modify an existing object has been enhanced in DrawPerfect 1.1. You can now modify the shape of a line, box, polygon, or arrow by moving, adding, and deleting the points that define the object. Modify also lets you convert a polygon into a polyline and vice versa with the Open and Close features. See *Modifying Drawing Objects* in *Edit Reference* for more information.

Move (Ctrl-F4)

Similar to WordPerfect, Ctrl-F4 has been mapped as the Move function key. When you press **Move** (Ctrl-F4), a menu appears at the bottom of the screen asking if you want to move, copy, or

delete the selected object. Simply select the editing action you want to perform.

Mouse Support in Text Mode

While editing a text line or text window, you can move the cursor to a new position with a mouse. If you use a mouse, move the mouse arrow to where you want the cursor placed in the text, then click the left mouse button.

Page Options

Page Options is now an option on both the Setup: Initial Settings menu and the Options pull-down menu. You can use the Options menu to set the page options for the currently displayed drawing or you can use the Setup: Initial Settings menu to set the options for all subsequently created drawings. See *Page Options* in *Options Reference* for further information.

Paper Size/Type

Paper Size/Type has been added as an option on the Options pull-down menu and the Setup: Initial Settings menu. You can use the Options menu to set the paper size for the currently displayed drawing or you can use the Setup menu to set the paper size for all subsequently created drawings. If you use the Options menu to select the paper size, that paper size setting is stored with the drawing. Paper Size/Type allows you to select from several pre-defined sizes of papers and forms. If you can't find what you need, simply enter the information about the size of paper or form on which you want to print. DrawPerfect will automatically format your drawing so that it can be printed on the chosen form. See *Paper Size* in *Options Reference* for more information.

Presentation Advance Options

The number of presentation advance options (sometimes referred to as screen wipes) have been increased. Some of the new screen wipes include Snake, Scroll, Jigsaw, Weave, Pour, and Blinds. For more information, see *Presentation* in *File Reference*.

Printing Multiple Copies

When printing a graphic, you can tell DrawPerfect if you want multiple copies generated by DrawPerfect or by your printer. You can shorten printing time if you choose to have the printer generate the copies. See *Print* in *File Reference* for further information.

Rounded Box

A new drawing tool called Rounded Box has been added to the Draw menu. This tool lets you draw different size boxes with rounded corners.

Search and Replace	To assist you as you insert and edit text, DrawPerfect 1.1 offers two new text features, Search and Replace. You can use Search to quickly move to a word or phrase in your text line or text window. You can use Replace to search for and replace every occurrence of a word or phrase. See <i>Text</i> in <i>Draw Reference</i> for further information.
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Sheet Feeder	DrawPerfect now contains a Sheet Feeder option. If you use a sheet feeder with your printer, you can select the feeder on the Printer: Edit menu. See <i>Printer, Edit</i> in <i>File Reference</i> for more information.
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Slide Service	If you use a slide service, you should be aware that the SCODL format now supports top to bottom shading.
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Special Graphics Presentation Driver	Located on the Setup: Display menu is a new option called EGA Presentation Driver. This option, when set to Yes, speeds up the display of your drawings during a presentation. The driver allows two full pages to be stored in memory. This eliminates the on-screen drawing of each graphic. You can only use this feature if you have a display card that emulates EGA or VGA, with at least 256K of memory. See <i>Special Graphics Presentation Driver</i> under <i>Presentation</i> in <i>File Reference</i> for more information.
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Text Display	With DrawPerfect 1.1, text displays much faster on the screen. Additionally, the default setting for text display quality has been changed from medium to high.
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Text Pattern	Patterns as well as colors can be used to fill text characters. There are 64 different patterns from which you can select. See <i>Font Attributes</i> in <i>Font Reference</i> for more information.
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Text Screen Capture Utility	This new utility lets you convert an ASCII text file into a DrawPerfect .WPG file. The utility was designed to convert text files into .WPG graphics which you can use in a DrawPerfect presentation. See <i>Appendix U: Text Screen Capture Utility</i> for more information.
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Zoom	DrawPerfect 1.1 can zoom in twice as close as version 1.0.
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Welcome to DrawPerfect

It's a fact; the dust is getting thicker on those old photocopied handouts. Boring black and white reports are rapidly being replaced with colorful charts, stylistic graphs, and sleek slide shows.

Corporate as well as casual users are finding out that graphics do make a difference in the communication process. With vivid charts you can expect your points to be remembered and your meaning to be made clear. DrawPerfect, presentation graphics software produced by WordPerfect Corporation, is designed to create attractive, effective graphics that will improve communication and persuade audiences.

With DrawPerfect you can design overheads, enhance documents, create a variety of bar and line graphs, pie charts, and free form drawings in a short time. Once created, you can output your drawing to a dot matrix, laser or color printer, film recorder, plotter, or slide service bureau. Or you can use the DrawPerfect Presentation feature and sequence your drawings together in a slide show.

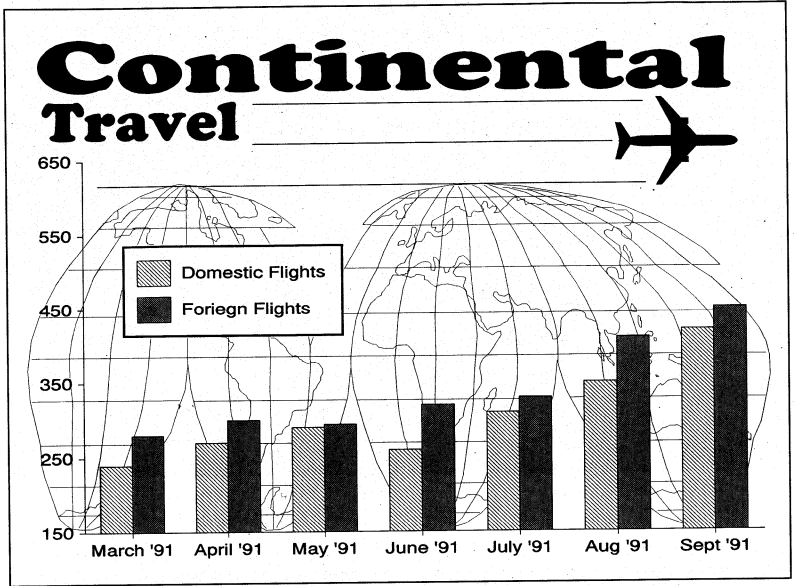
DrawPerfect is compatible with WordPerfect (versions 5.0 or later). You can design a graphic illustration with DrawPerfect, then retrieve your design into a WordPerfect document. In addition, with one keystroke you can switch between WordPerfect 5.1 and DrawPerfect with the Shell program that is provided.

The editing options of DrawPerfect allow you to rotate, delete, move, and copy objects. You can freehand draw, insert text, create charts and graphs, construct macros, and change fonts. You can also retrieve clip-art from the DrawPerfect Figure Library or from other graphics programs.

With DrawPerfect you can create professional graphics in less time than you thought possible; add WordPerfect, and desktop publishing capabilities are at your fingertips.

If you want an idea of the type of graphics DrawPerfect is capable of creating, take a moment and look at the illustrations displayed on the next few pages.

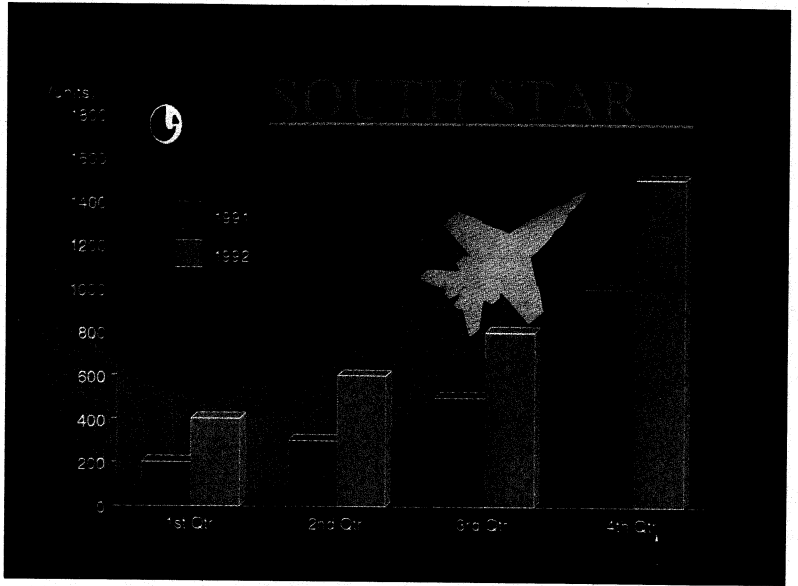
Sample DrawPerfect Output



This is a DrawPerfect image printed on an HP LaserJet Series II.



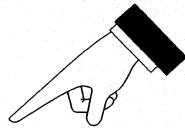
This is a DrawPerfect image produced from VideoShow.



This is a DrawPerfect image sent to the MAGICorp slide service.

DrawPerfect: Overview

- Presentation Graphics
 - Charts
 - Text
 - Figures
 - Drawing
- *Enhance your WP documents*



This is a DrawPerfect image printed on a Calcomp Color Master.

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Introduction to Getting Started

The *Getting Started* section of the manual will introduce you to DrawPerfect and the DrawPerfect manual. It is essential reading before moving on to the rest of the manual. It contains brief but basic information that will help you understand the program. *Getting Started* is divided into the following eight sections:

- *Registration* gives instructions on registering your DrawPerfect software package.
- *Starting DrawPerfect* describes the process of starting DrawPerfect on two disk drive and hard disk systems.
- *Using the Template and Quick Reference* explains the template and Quick Reference and how to use them.
- *Using the Manual* describes the manual's organization and explains how to follow the instructions.
- *Getting Help* explains some of the different help resources available to you.
- *Using the Keyboard* explains the functions of a few important keys you should know when using a keyboard with DrawPerfect.
- *Using a Mouse* lists the type of mice you can use with DrawPerfect.
- *Exiting DrawPerfect* shows you how to exit DrawPerfect.

Registration

Before you move on, take a moment to fill out and send in the Customer Registration card that came with your DrawPerfect package. Registering will make sure that you stay informed of the latest releases, and entitles you to customer support as well as the WordPerfect Corporation quarterly newsletter, *WPCorp Report*. Keep the upper portion of the registration form with your manual for quick reference to your license number.

In addition, the first time you start DrawPerfect you are asked to enter your registration number. Thereafter, the number you have entered is displayed in the main Help screen so that you can refer to it whenever you need it, such as each time you call Customer Support.

Starting DrawPerfect

Once DrawPerfect has been installed on your computer, you are ready to start the program.

Install DrawPerfect

Included in your package is the DrawPerfect Auto-Install Program, which guides you step-by-step through the DrawPerfect installation process. If you haven't yet installed DrawPerfect on your computer, refer to the *Installation Instructions* card that came with your package.

Hard Disk

To start DrawPerfect on a computer with a hard disk,

- 1 Turn on your computer and start DOS.

In most cases, the Disk Operating System (DOS) starts automatically when you turn on your computer. DOS is software that helps your computer communicate with DrawPerfect. DOS must be started before any other program can be used, including DrawPerfect. If you need further information, please see Appendix C: DOS and DrawPerfect and refer to your DOS manual.

- 2 At the DOS prompt, enter **cd\directory name** (directory name meaning the name of the directory where DR.EXE is located).

*DR.EXE is a file that helps you start DrawPerfect. You start DrawPerfect from the directory that contains DR.EXE. In most cases, the Installation Program will have copied DR.EXE to a directory called DR10, so you would type **cd\dr10** and then press **Enter**. DR.EXE will be used every time you start DrawPerfect and should not be deleted.*

- 3 Enter **dr**

*Remember, when you see Enter, type the required information (in this case, **dr**) and press Enter.*

Two Disk Drives

To run DrawPerfect on a two disk drive system, it is necessary that each of your drives be at least 720K or larger. If you are not sure whether your drives are at least 720K, please refer to your computer manual or contact your dealer.

To start DrawPerfect on a computer with a two disk drive system,

- 1 Start DOS. (See the paragraph on DOS in the *Hard Disk* section above.)
- 2 Insert the DrawPerfect diskette into drive A.
- 3 Insert the diskette on which you want to store your files into drive B.

4 Enter **b:** to change the default drive to B.

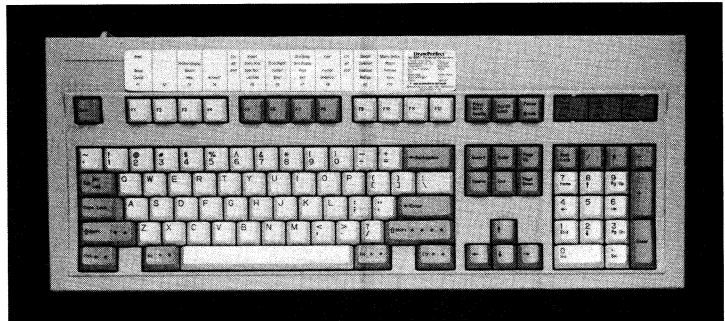
5 Enter **a:dr** to start DrawPerfect.

The DrawPerfect diskette contains all the files required to run the program. However, if you want to use Help, the alternate keyboard definitions, or any of the utility programs (e.g., Screen Capture Utility), you need to replace your data diskette in drive B with the Utilities/Help diskette.

Using the Template and Quick Reference

The keyboard template shows the DrawPerfect menu options you can access with the function keys. In your package, you received two templates corresponding to the standard and enhanced IBM keyboards.

Place the DrawPerfect template on your keyboard as shown in the photographs below.



All of the features listed on the template can also be found on the pull-down menus. Not all of the features used in DrawPerfect are found on the template.

If neither template fits your keyboard, return both of them along with the name and a photograph or rough sketch of the keyboard you are using to:

WordPerfect Corporation
1555 N. Technology Way
Orem, Utah 84057

WordPerfect Corporation may be able to provide a template that will fit your machine.

Quick Reference The Quick Reference is a card which lists the features in DrawPerfect and the keystrokes used to access those features.

Many DrawPerfect features can be accessed through the pull-down menus only. Other features can be accessed through the pull-down menus *and* through the template function keys. Therefore, depending on the feature, the Quick Reference keystrokes are listed as letters (representing the pull-down menus), as function keys (listed in parentheses), or as a combination of both. If both letters and function keys are listed, you can choose which way you want to access the feature.

Colors The template and Quick Reference card are color coded when they refer to function keys. The color key is as follows:

- | | |
|--------------|---|
| Black | Press the function key. |
| Blue | Hold down Alt and press the function key. |
| Green | Hold down Shift and press the function key. |
| Red | Hold down Ctrl and press the function key. |

A special section on the left side of the enhanced template, and at the bottom of the standard template, lists some features found on other parts of the keyboard.

To remind you which key corresponds with each color, colored stickers called “keycals” have been included in your package. If you want to use the keycals, peel them from the backing paper and place them on the corresponding keys (Shift=Green, Alt=Blue, Ctrl=Red) on your keyboard.

Function Keys Function keys provide one gateway to DrawPerfect features. Throughout this manual you will often see key names. The guide to using these keys is simple:

- If a key name appears by itself (F10), press the key.
- When the key names are separated by a hyphen (Shift-F10), hold down the first key while you press the second key.

Function keys work in different ways, and present you with different responses. Below are a few examples:

Feature	Function Key	How it Works
Stretch	Ctrl-F9	Turns the feature either on or off.
Print	Shift-F7	Presents a menu of options.
Center	Shift-F6	Begins a feature that is ended when Enter is pressed.
Save	F10	Requires entry of a filename.

The examples above refer to the original keyboard assignments. You can, if you want, change these assignments to suit your needs. For example, the Help feature is currently assigned to the F3 function key. You could change the assignment so that Help would be assigned to the F1 function key. For further information on keyboard assignments, see *Keyboard Layout* in *File Reference*.

Using the Manual

This section describes the manual's organization and explains how to follow the manual's instructions.

The Manual

Your approach to the DrawPerfect documentation depends on what you want to do and how much you already know. This manual is divided into several sections to make it easier to use.

The following list gives a brief description of each section:

Getting Started

Acquaints you with DrawPerfect. After a brief introduction, the main ideas behind DrawPerfect are discussed.

Basic Concepts

Presents information and concepts you need to understand in order to use DrawPerfect.

Learning

This self-guided tour of several graphics applications provides important insights into the purpose, design, and use of many DrawPerfect features. The files you need while going through the lessons in the Learning section are located on your Fonts/Utilities 2 diskette. To copy the learning files, you need to use the DrawPerfect Installation Program.

Reference

Within *Reference* are found eight smaller reference sections, each pertaining to a specific DrawPerfect pull-down menu. These eight sections are arranged alphabetically, as are the subsections found within each of them. The *Overview* subsections, however, will always appear first in each *Reference* section. The *Overview* subsections are introductions to the specific features, and can help you to understand the rest of the *Reference* section.

Appendix

The *Appendix* contains information regarding DrawPerfect files, fonts, and other technical information.

Glossary/Index

Contains a glossary of commonly used words and a complete index.

We are constantly improving our software and documentation. If there are suggestions you would like to make concerning either the software or documentation, send comments to:

WordPerfect Corporation
1555 N. Technology Way
Orem, Utah 84057

Please include the product name, the software version number and date, the manual version and date (see back of title page), and the name of the computer on which you are running DrawPerfect software. The software version and date can be found in the upper right corner of the help screen.

Menu Options

DrawPerfect incorporates mnemonics (memory aids) into its menu structure. These mnemonic menus are designed to provide intuitive access to menu options. When you are instructed in this manual to select an option (e.g., select **D**raw), the mnemonic letter is highlighted within the feature name.

Information about how to select options from the pull-down menus and from function key menus is included below.

Pull-Down Menus

In DrawPerfect, you can select features in the pull-down menus by using the arrow keys (↑,↓,→,←) and pressing Enter, or by using a mouse, if you have one connected to your computer. You can also select these features by typing the mnemonic letter that is highlighted in the feature name (e.g., **D** for **D**raw).

Function Keys

Earlier in this section, when you were introduced to function keys, you learned that some features, such as Print (Shift-F7), present you with a menu of options.

```
Print
1 - Print Drawing
2 - Print Window
3 - Presentation
4 - Drawing on Disk
5 - Control Printer
6 - View Drawing
7 - Initialize Printer

Options
S - Select Printer      HP LaserJet Series II
N - Winding             8"
M - Number of Copies   1
G - Graphics Quality   High
T - Text Prints Solid Black  No

Selection: 0
```

Whenever you are presented with one of these menus, there are three ways that you can select an option:

- Type the mnemonic letter that is highlighted in the option name (e.g., V for View Drawing).
- Type the option number, such as (1) for Print Drawing. (Use the numbers at the top of the keyboard as opposed to those on the number pad).
- Position the cursor on the option and click the left mouse button.

R.S.V.P.'s

As you use different features, DrawPerfect sometimes prompts you with a question. The question always gives you a default reply. For example, when you save a drawing, DrawPerfect asks "Save Drawing? Yes (No)."

The default reply is always listed outside of the parentheses and is accessed by pressing any key except the letter representing the non-default response. In the example above, pressing any key except **n** represents a Yes response. Pressing **n** represents a No response.

Getting Help

Should problems arise as you use DrawPerfect, help is available from several different sources.

Help Feature Selecting the Help pull-down menu (or pressing Help (F3)) displays on-screen information about specific DrawPerfect features. You can also use this feature to display a DrawPerfect template, an index of DrawPerfect features, or a topical guide which displays help according to various program applications (see *Help* in *Help Reference*).

Quick Reference The Quick Reference card lists all DrawPerfect features and the keystrokes used to access those features. While the Quick Reference does not provide detailed information on DrawPerfect features, it is helpful when you have forgotten or do not know how to access a particular feature.

Reference Manual This manual contains several tabbed sections that discuss DrawPerfect features in detail. The Learning section of the manual provides lessons which show you how DrawPerfect features may be used and combined for specific application. The Reference section discusses the function of each feature. A comprehensive index directs you to the information you need.

Customer Support DrawPerfect is backed by a customer support system designed to offer you fast, courteous service. If you need assistance beyond what the Help feature, Quick Reference, DrawPerfect manual, and your dealer can provide, follow these steps:

- Try to duplicate the problem, keystroke by keystroke, to see exactly what you did.
- Be at the computer and call Customer Support.

If you are within the United States, Puerto Rico, or the U.S. Virgin Islands, toll-free support is available by dialing:

(800) 541-5098

If you are in an area where the phone system does not handle toll-free numbers, you can access customer support by dialing:

(801) 226-8766

The phone company will charge you for the call if you use the 801 number.

Once you dial the support number, an Automated Attendant helps you reach the support group you need by providing one or two additional numbers to dial. If your question does not fall under any of the categories listed by the Automated Attendant, stay on the line after listening to the message, and an operator will be with you shortly.

The customer support department takes calls from 7 a.m. to 6 p.m. Mountain time for IBM personal computers and compatibles.

Before calling Customer Support, run the DRINFO file to gather information about your setup that Customer Support may need (see *Appendix G: Error Messages*).

If you purchased the product within the U.S. and would like to update it outside the U.S. and thereby receive free customer support and update notices locally, you will be charged \$150 or 25% of the local list price, whichever is greater.

Using the Keyboard

If you are using the keyboard, the following keys have special significance in DrawPerfect:

Arrow Keys

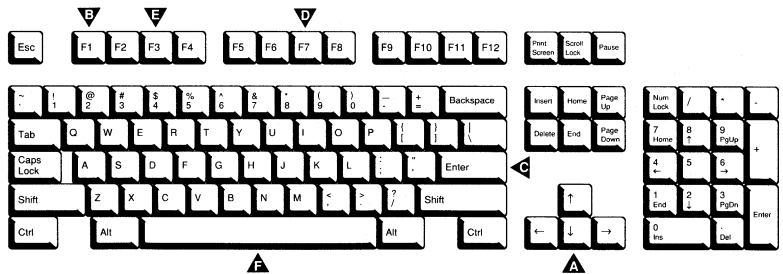
The Left and Right Arrows (←/→) move the cursor left and right; the Up and Down Arrows (↑/↓) move the cursor up and down. The longer you hold down an arrow key, the faster the cursor moves across the screen.

In addition, the Cursor Step number (displayed in the bottom right corner in parentheses) determines how far the cursor moves across the screen when you press an arrow key. You can change the number to 1, 10, or 25 by pressing Insert (Ins). The higher the number, the more the cursor moves.

Cancel

Cancel unselects objects or menu items you have selected. It also backs you out of features that display a message on the status line. For example, the Exit and Retrieve prompts can be canceled by striking Cancel once or twice. You can also use Cancel to restore objects you have deleted.

- ▲ ARROW KEYS
- ▲ CANCEL
- ▲ ENTER
- ▲ EXIT
- ▲ HELP
- ▲ SPACE BAR



Enter

This key is used to begin a drawing, add a joint to a line or polygon, select and unselect objects, or send a command to the computer. For example, when you save a file, you must type a filename, then press Enter.

Enter can also be used to accept a displayed value or default response.

Exit

The Exit (F7) key is used to exit DrawPerfect, back out of a menu option, and exit text or modify mode.

Help

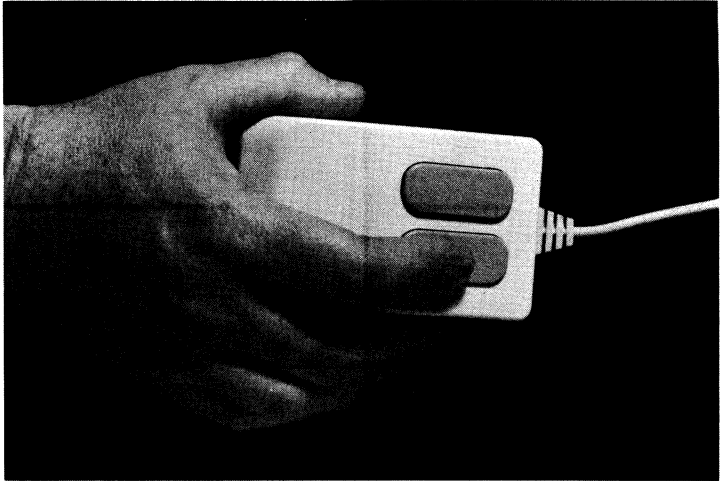
The Help (F3) key is used to display information on the screen about specific DrawPerfect features. In addition, this key can be used to display a topical guide, a DrawPerfect template, and a list of features that begin with a particular letter.

Space Bar

This key is used to perform editing actions or to insert space between text characters. For example, to perform an editing action such as Delete, DrawPerfect prompts you with the message "**Enter** Select/Unselect objects; **Space** Delete." This message means that you would use Enter to select the object (or area) you wanted, then press the Space Bar to complete the deletion.

Using a Mouse

A “mouse” is a device that connects to your computer. You can use the mouse to perform specific tasks while using DrawPerfect.



With few exceptions, DrawPerfect is designed to let the mouse work anywhere that keystrokes work. If you are using a mouse, make sure you have properly installed the software that came with it. For specific installation instructions, see the manual that came with your input device.

You indicate to DrawPerfect the type of mouse you are using via Setup (Shift-F1). The Mouse option on the Setup menu lists the mice compatible with DrawPerfect and allows you to select the one you want.

You can use the following mice with DrawPerfect:

- CH Products Roller Mouse (PS/2)
- CH Products Roller Mouse (Serial)
- IBM PS/2 Mouse
- Imisi Mouse, 2 button (Serial)
- Imisi Mouse, 3 button (Serial)
- Kensington Expert Mouse (PS/2)
- Kensington Expert Mouse (Serial)
- Keytronic Mouse (Bus)
- Keytronic Mouse (Serial)

- Logitech Mouse (Bus)
- Logitech Mouse (PS/2)
- Logitech Mouse (Serial)
- Microsoft Mouse (Bus)
- Microsoft Mouse (Serial)
- Mouse Driver (MOUSE.COM)
- Mouse Systems Mouse, 3 button (Serial)
- MSC Technology PC Mouse 2 (Serial)
- Numonics Manager Mouse
- PC-Trac Trackball (Serial)

The Mouse Driver (MOUSE.COM) option is actually a software program often termed a “driver” that comes standard with most mice. The driver is what lets your mouse work with your computer. If you are using a mouse that is not listed, select the Mouse Driver (MOUSE.COM).

For information about the functions of the mouse in DrawPerfect, see *Mouse Functions* in *File Reference*. For information about the different mouse setup options, see *Mouse Setup* in *File Reference*.

Exiting DrawPerfect

When you finish using DrawPerfect, you must exit before turning off the computer.

- 1 Press **Exit** (F7) to begin exiting DrawPerfect.
- 2 Press **y** to save the drawing, then enter a filename.

or

Press **n** to continue exiting without saving the drawing.

- 3 Press **y** to exit DrawPerfect.

When you see the DOS prompt (B>, etc.) on your screen, you have exited DrawPerfect. You may now turn off your machine or load another program.

Other Copies of DrawPerfect

When you start DrawPerfect after machine or power failure or after exiting improperly, an "Are Other Copies of DrawPerfect Currently Running? (Y/N)" message appears.

If you are not on a network or under Shell with another copy of DrawPerfect running, type **n**.

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Introduction to Basic Concepts

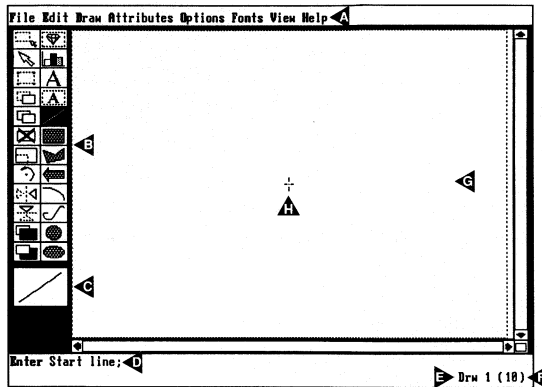
The *Basic Concepts* section of the manual will introduce you to the DrawPerfect screen, give you some information about a few functions, and outline for you some basic principles and concepts about DrawPerfect. The concepts discussed in this section are important to your understanding of the basic philosophy behind a graphics program. *Basic Concepts* is divided into the following eight sections:

- *Format of the DrawPerfect Screen* describes the screen menus, icons, and objects.
- *Cursor Movement* teaches you basic cursor movements and how to move the cursor with the keyboard and mouse.
- *Pull-Down Menus* explains how to access the pull-down menus with both the mouse and the keyboard.
- *DrawPerfect Concepts* presents basic concepts you need to understand to use DrawPerfect and the manual.
- *Definition Points* gives you explanations and illustrations of various DrawPerfect objects and their corresponding definition points.
- *Enter* describes the use and function of the Enter key.
- *DrawPerfect Pull-Down Menus* illustrates the layout of the eight pull-down menus.
- *DrawPerfect Icons* illustrates all the icons with their corresponding names.

Format of the DrawPerfect Screen

When you start DrawPerfect, the main working screen appears.

- ▲ PULL-DOWN MENUS
- ▲ ICONS
- ▲ STATUS BOX
- ▲ PROMPT LINE
- ▲ DRAWING (1 OF 2)
- ▲ CURSOR STEP
- ▲ DRAWING WINDOW
- ▲ CURSOR



Pull-Down Menus

The pull-down menus are used to access DrawPerfect commands and features.

Icons

The icons along the left side of the DrawPerfect screen represent the tools you can use to create graphics. The first column of icons (the column to the left) is editing tools. The second column of icons (the column to the right) is drawing tools. The tools are also listed as options on the Edit and Draw pull-down menus.

If you pull down the Edit or Draw menu you will notice how the order of the names matches the order of the icons. For example, Move is listed fourth on the Edit pull-down menu, and the fourth Edit icon is also Move. (Undelete, listed on the Edit pull-down menu, is not represented as an icon.)

You can select an icon by positioning the cursor on top of the icon and pressing Enter.

Included at the end of *Basic Concepts* is an illustration of the DrawPerfect icons.

Status Box

The status box at the bottom of the left side of the screen displays the object you select. The different attributes you select, such as color and line size, are depicted by the object in the status box.

Prompt Line	The prompt line is displayed below the status box. It gives you basic instructions as you perform tasks.
Status Line	The status line at the bottom of the screen displays messages and warnings from DrawPerfect. The filename of a saved drawing can also be displayed on the status line. The “Drw 1” or “Drw 2” message tells you which drawing screen you are in.
Cursor Step	<p>The Cursor Step number determines how far the cursor moves across the screen when you press an arrow key. You can change the number to 1, 10, or 25 by pressing Insert. The higher the number, the more the cursor moves.</p> <p>The Cursor Step number also affects the amount of a zoom or a pan. For example, if the number is set to 1, the zoom amount will be relatively small, whereas if the number is set to 25, the zoom amount will be much greater.</p>
Drawing Window	The drawing window is a clear area where you can use any of the DrawPerfect options to create and design graphics. You can move the cursor freely throughout the window.
Cursor	The cursor is a small plus sign (+) that points to your position on the screen. When you move the cursor outside of the drawing window, it changes to an arrow which you can use to point to a pull-down menu title or an icon. The cursor also changes to an arrow when you select objects.
Page Oriented Software	DrawPerfect is page oriented software, which means you design and save one page at a time. If you are a WordPerfect user (version 5.0 or later), you can save the page and then retrieve it into WordPerfect. The page can be a combination of bitmap and vector graphics, graphs and text, graphic images, etc.
Setup Feature	The Setup feature allows you to tailor some of the DrawPerfect settings to your specific needs. Changes made on the Setup menu remain in effect for the entire time you are in DrawPerfect and do not need to be reset each time you start the program. (For more information about Setup, see <i>Setup</i> in <i>File Reference</i> .)

Cursor Movement

The cursor (a solid “+”) indicates your position on the screen and moves when you use the arrow keys or move your mouse. When you select objects or move the cursor outside of the drawing window, the cursor changes to an arrow. You can use the arrow to point at and select icons, menu options, or objects.

Arrow Keys and Mouse

If you are using the keyboard, the Left and Right Arrows (←/→) move the cursor left and right; the Up and Down Arrows (↑/↓) move the cursor up and down. The Cursor Step number, displayed in the bottom right corner in parentheses, determines how far the cursor moves across the screen when you press an arrow key. You can change the number to 1, 10, or 25 by pressing Insert. The higher the number, the more the cursor moves.

If you press and hold down an arrow key, the cursor accelerates across the screen. For example, if you quickly tap the Left Arrow, the cursor moves only a small increment to the left. But if you hold down the Left Arrow, the cursor starts slowly but quickly picks up speed. You can adjust how quickly the cursor begins accelerating through the Cursor Keys option on the Setup menu.

If you are using a mouse, the cursor follows the mouse movement. You can adjust how fast the cursor responds to the mouse through Setup.

Home

You can press Home followed by an arrow key to move the cursor to an edge of the drawing window.

If you are inserting text in a text window or text line, press Home twice, then press Up Arrow (↑) to move the cursor ahead of any codes at the beginning of the text window or text line.

Go To

Go To moves the cursor to a specific place on the page. You can access Go To by pressing Ctrl-Home or by selecting Go To from the View pull-down menu. Then you can enter the X-axis location and the Y-axis location.

Pull-Down Menus

Displayed across the top of the DrawPerfect screen are eight titles which are used to access pull-down menus. The menus contain several options that allow you to select a drawing object, change the fill color or pattern, print and save files, display a graph, etc.

Included at the end of *Basic Concepts* is an illustration of the DrawPerfect pull-down menus.

Moving Through the Menus

The pull-down menus are designed for both the mouse user and the keyboard user.

If you are using a mouse:

To select an option from a pull-down menu with a mouse, move the cursor on top of the menu title you want and press the left mouse button. With the left button still pressed, drag the highlighted cursor to the item you want to select, then release the left button. If you drag the cursor over an item that has a submenu (>) symbol after it, the submenu is displayed.

If you are using the keyboard:

There are two ways to access the pull-down menus with the keyboard. The first way is probably the easiest. Simply press the bolded letter that is within the menu title you want, then press the bolded letter that is within the option name you want. For example, to select List Files, press **f**, then press **L**. If you select an option that has a submenu (>) symbol after it, the submenu is displayed. Press the bolded letter that is within the submenu option you want.

The second way to use the pull-down menus requires you to first press Alt to activate the menus. Move to the desired menu title by using the Left and Right Arrows (←/→). With the desired title highlighted, press Down Arrow (↓) or Enter to display the options. Use the Up and Down Arrows (↑/↓) to highlight the desired option. If the option has a submenu (>) symbol after it, the submenu is displayed. Use the Up and Down Arrows to move to the desired submenu option. With the desired option highlighted, press Enter.

If you want to exit the pull-down menus, but you still want to keep the menus active, press Cancel (F1). The last menu displayed remains highlighted. If you want to exit the pull-down menus completely, press Exit (F7).

Keyboard and Mouse Combined

If you are using a mouse, you can combine some of the keyboard and mouse procedures. For example, you can use the keyboard to press the highlighted letter of a menu title, use the mouse to move through the menu options, then use either the mouse or the keyboard to select an option.

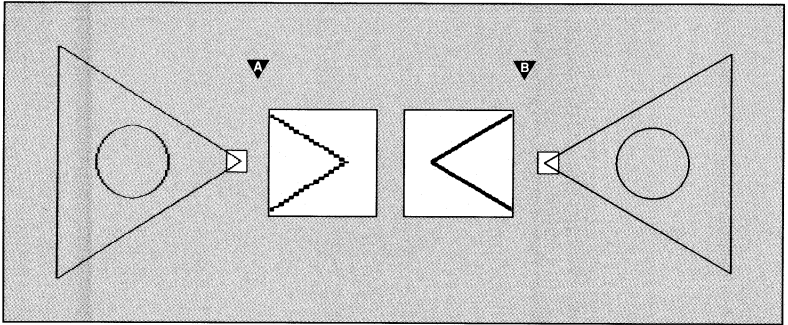
DrawPerfect Concepts

This section presents concepts you will need to understand in order to use this manual and DrawPerfect.

Bitmapped vs. Vector Graphics

There are two basic types of graphics used in software today—*bitmapped* and *vector*. In a program that uses bitmapped graphics, images are represented as a series of dots called *pixels*. In a program that uses vector (or object-based) graphics, images are represented as individual objects. For example, consider the following:

- ▲ BITMAPMED IMAGE
- ▲ VECTOR IMAGE

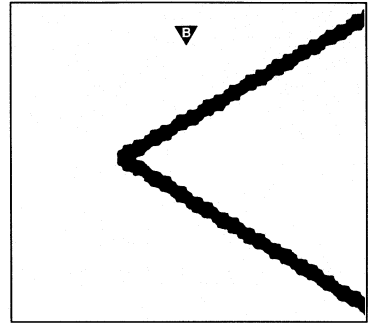
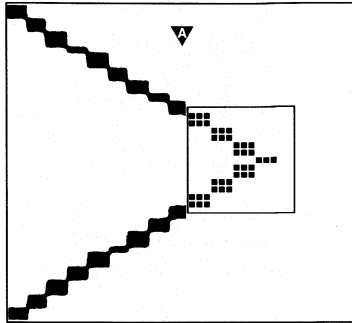


The image on the left was drawn in a bitmapped program; the image on the right was drawn in a vector-based program.

To a bitmapped program the image is just a group of dots. To a vector-based program the image is represented as two objects: a

triangle and a circle. When you enlarge the two images, they look like this.

- ▲ BITMAPMED IMAGE
- ▲ VECTOR IMAGE

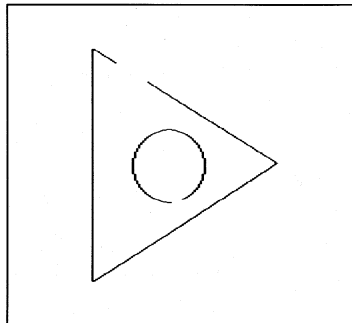


When a bitmapped image is enlarged, the resolution deteriorates and the image often appears jagged. When a vector image is enlarged, the resolution is maintained and the image appears smooth.

DrawPerfect uses vector (or object-based) graphics. Because vector software remembers each image as an object, it mathematically calculates what the image should look like and produces a much sharper image than bitmapped software.

Editing Images

There is a basic difference in the way you edit bitmapped and vector images. In a bitmapped image, you can edit each pixel independently. For example, you could delete a small piece of the circle and triangle, like this:



In vector graphics, editing actions must be performed on entire objects. For example, you can enlarge, move, or delete the triangle, but you cannot delete one of its sides. The triangle is a complete object and therefore is the smallest unit that may be edited.

Types of Objects

In DrawPerfect, there are four types of objects:

- Figure
- Chart
- Text
- Drawing

Figure

A Figure object is defined as *any* object retrieved through the Figure option on the Draw menu or through the Figure icon. For example, if you define a Figure box, then retrieve a pie chart into the box, the pie chart on your screen is now classified as a Figure. Most of the time, the Figure feature is used to retrieve images which were previously created with DrawPerfect, such as the Figure Library images, or images created with other graphics software.

You can edit a figure object as a whole (delete it, rotate it, size it, etc.), or you can edit the different objects that make up the figure. (See *Figure* in *Draw Reference* for more information on retrieving graphic images.)

Chart

DrawPerfect can generate different types of charts for you, such as pie charts, bar charts, and line graphs. When you retrieve these into your drawing screen, they are Chart objects. You can edit a Chart object as a whole (delete it, rotate it, size it, etc.), or you can edit the data point values which define it (e.g., change percentages in a pie chart). (For more information, see *Chart* in *Draw Reference*.)

Text

Text objects are lines or boxes into which you insert text. You can edit a text object as a whole (delete it, rotate it, size it, etc.), or you can edit the text itself (delete a word, insert a character, bold a phrase, etc.). (For more information, see *Text* in *Draw Reference*.)

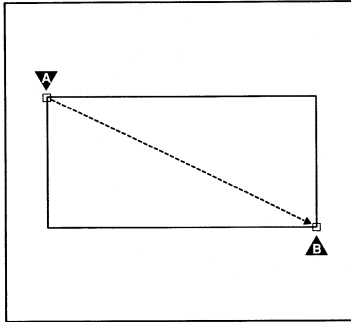
Drawing

Drawing objects are the tools with which you draw forms and images. There are eight kinds of drawing objects: Arc, Arrow, Box, Circle, Curve, Ellipse, Line, and Polygon.

Definition Points

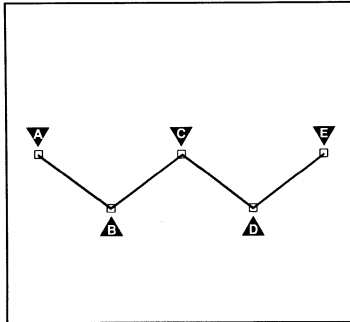
All objects are delimited by *definition points*. For example, a rectangle is defined by the *starting point* and the *ending point* of a diagonal line.

- ▲ STARTING POINT
- ◻ ENDING POINT



In addition to starting and ending points, definition points can also be “joints.” In this line there are five definition points, three of which are joints:

- ▲ STARTING POINT
- ◻ JOINT
- ▲ JOINT
- ◻ JOINT
- ▲ ENDING POINT



The definition points at which angles of the object are formed (or which otherwise define the object) are called *joints*. In a rectangle there are four joints. There are no joints in a circle. (For a diagram of the definition points and joints of each object type, see *Definition Points in Basic Concepts*.)

Once you understand how to use each of the objects in DrawPerfect, you will find creating presentation graphics easy and fun.

Selecting Objects

Throughout the manual you are told to “Select an Object.” Selecting an object simply means telling DrawPerfect which object you want to edit. There are two selection methods: Select Item and Select Area. Both selection options are listed on the pull-down Edit menu. You need to be familiar with both selection options in order to use DrawPerfect effectively. (For detailed information, see *Selecting Objects in Edit Reference*.)

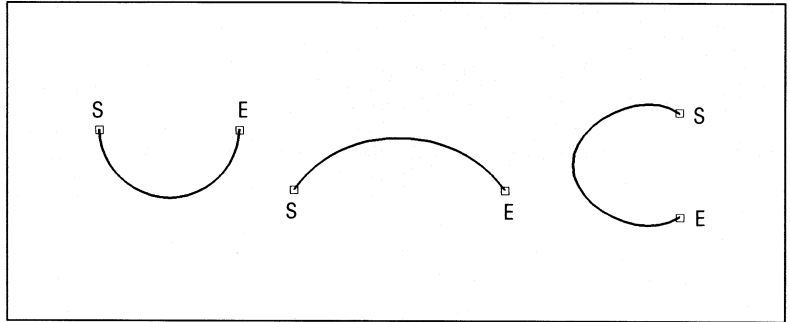
Definition Points

In order to use objects, you must know how they are defined by DrawPerfect. Below is a description of each type of object, and illustrations showing its definition points. In these illustrations, starting points are labeled **S**, ending points are labeled **E**, and joints are labeled **J**.

Drawing Objects

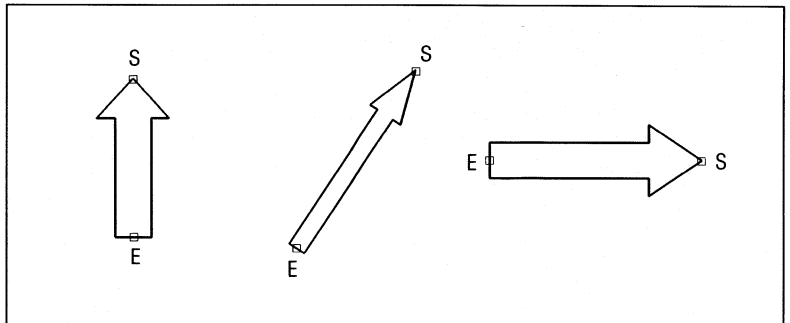
Arc

An Arc is a portion of a curve beginning at one point, terminating at another, and curving between the two points.



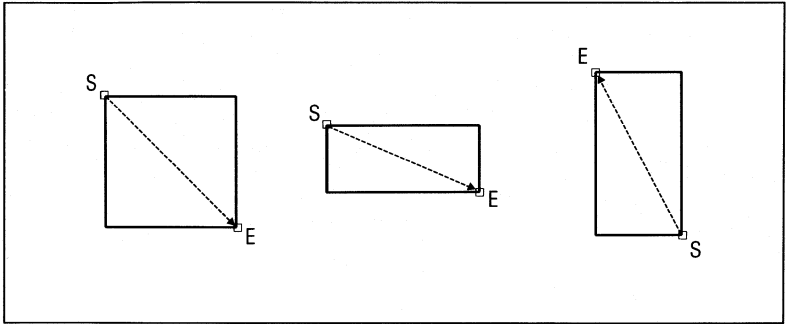
Arrow

An arrow is actually a special type of polygon (see illustration below), with its head at the starting point and its tail at the ending point.



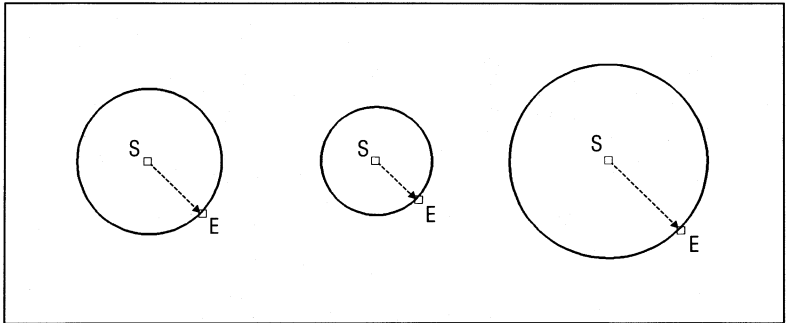
Box

A box is a four-sided figure with four right angles defined by the diagonal between opposite corners.



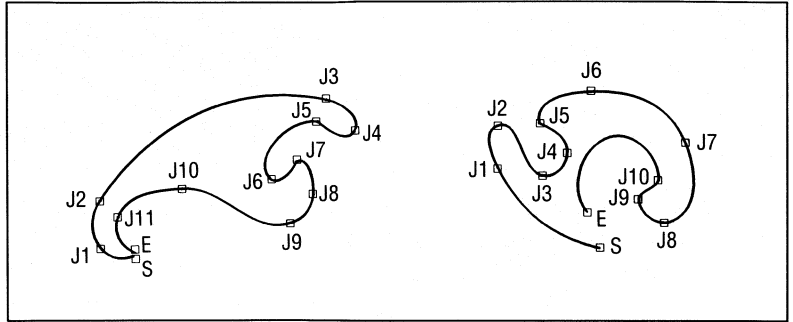
Circle

A circle is a perfectly round shape defined by a center point (starting point) and the vertical and horizontal distance traveled to the ending point.



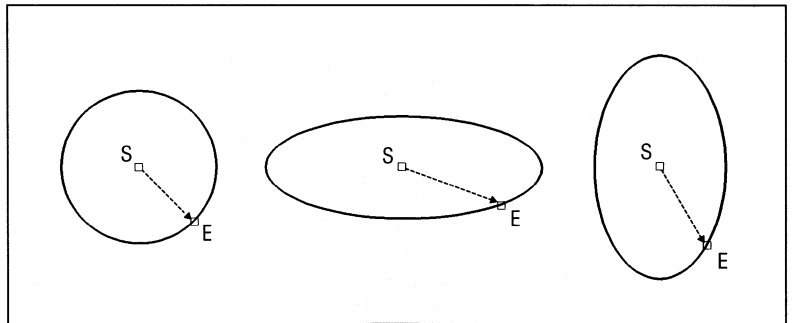
Curve

A curve is an open figure which is used to draw curved lines instead of straight.



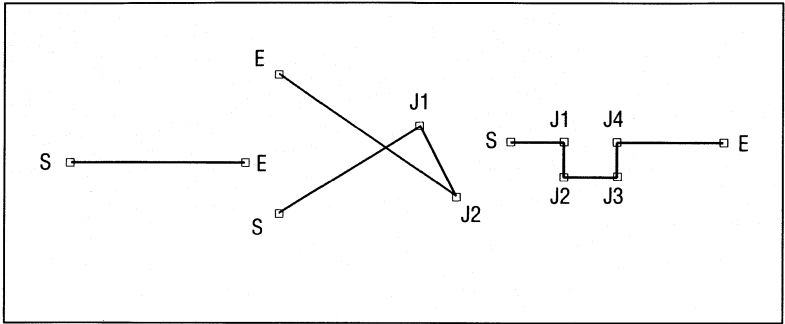
Ellipse

An ellipse is a circular or oval shape defined by a center point (starting point) and the vertical and horizontal distance traveled to the ending point.



Line

A line is a figure beginning at one point, which may pass through one or several other points (joints), and terminating at another point.



Polygon

A polygon is a multi-sided figure defined by the lines connecting three or more sequential points, where one side is the line between the starting and ending points.

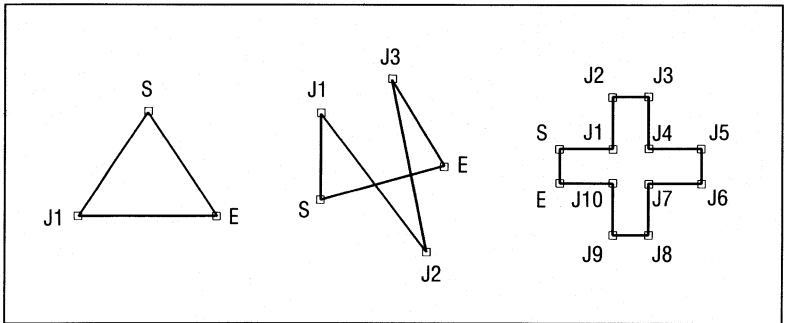


Figure Objects

Figure objects are images you retrieve which were previously created with DrawPerfect or other graphics software. The starting

and ending points of a diagonal line determine a figure's dimensions.

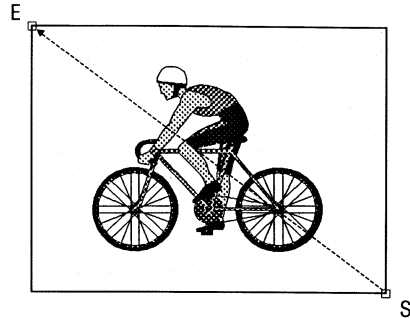
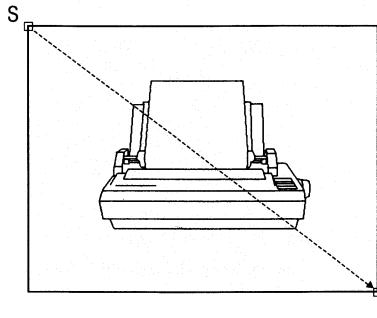
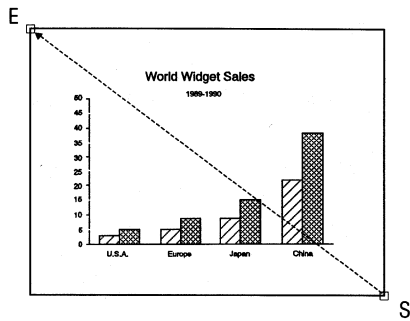
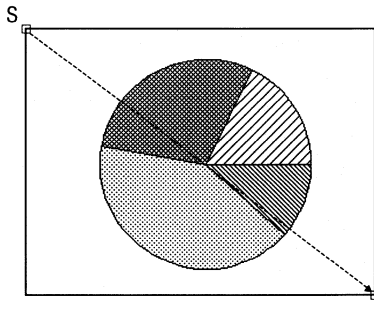


Chart Objects

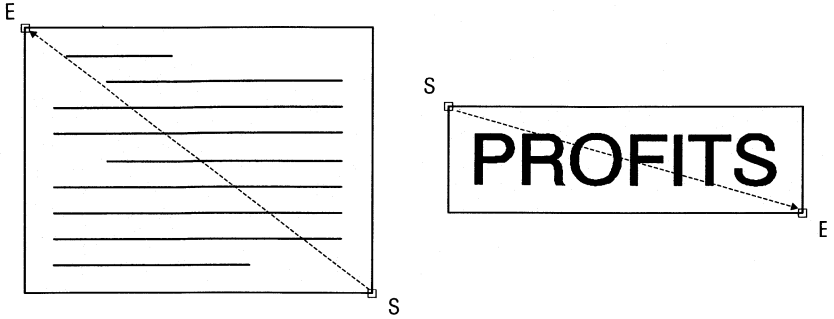
Any chart generated by DrawPerfect can be retrieved as a chart object. The starting and ending points of a diagonal line determine the size of the chart.



Text Objects

A text object is a box or line within which you can insert text. Like figures and graphs, the starting and ending points of a diagonal line determine the dimensions of the text box. A text

line is one line of text with the first character being the starting point and the last character being the ending point.



Enter

The Enter key is often illustrated as a ↵ or “Return” on the keyboard. Enter is used to begin and end a drawing operation, add a joint to a line or polygon, end lines of text, or send a command to the computer.

When you find the term “enter” in an instructional step in this manual, perform the task requested, then press Enter.

When you are positioned at a prompt or setting, pressing Enter accepts the currently displayed response or setting.

Return Codes

As you are typing text, a Soft Return code is inserted into your text when DrawPerfect wraps a line. A Hard Return code is inserted into your text when you press Enter. These codes can be seen in the lower-right corner of the screen as you move the cursor through the text in the text box.

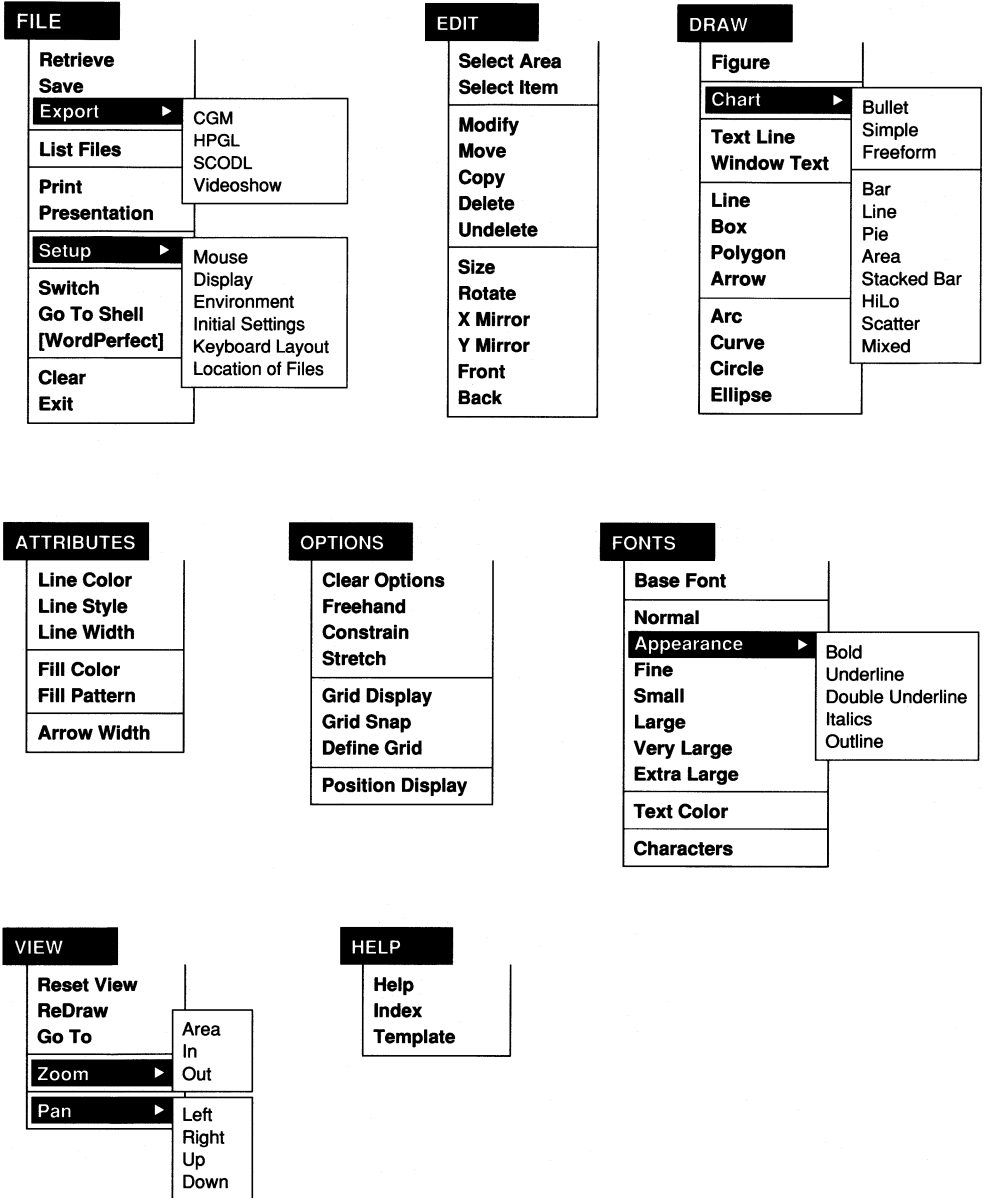
You can delete hard returns with Backspace or Delete.

Wrapping

When you insert text, you do not need to press Enter each time you reach the end of a text line as you do when using a typewriter. Instead, the cursor automatically returns or “wraps” when you reach the right edge of the text box.

If you do press Enter instead of letting the text wrap, your text does not reformat when changes are made.

DrawPerfect Pull-Down Menus



DrawPerfect Icons

	SELECT AREA
	SELECT ITEM
	MODIFY
	MOVE
	COPY
	DELETE
	SIZE
	ROTATE
	X MIRROR
	Y MIRROR
	FRONT
	BACK

	FIGURE
	CHART
	TEXT LINE
	WINDOW TEXT
	LINE
	BOX
	POLYGON
	ARROW
	ARC
	CURVE
	CIRCLE
	ELLIPSE

Introduction

The 12 lessons in this Learning section are designed to help you understand how to create and design a variety of graphics. Along the way you are introduced to many features of DrawPerfect; however, not all features or applications of the program can be covered in the lessons. By turning in *Reference*, you can find many of the answers you need.

Before beginning the lessons, you should have installed the program and read through *Getting Started* and *Basic Concepts*.

Lessons

The lessons begin by covering the fundamentals of DrawPerfect, and then branch out into specific areas of application. Whenever you see numbered steps in a lesson, you should use your computer and follow the instructions.

The following lessons are designed to be completed together:

- Lessons 2-3
- Lessons 6-7

Although the remaining lessons do not need to be worked through in any particular order, it might be beneficial to do so. For example, Lessons 6 through 11 are designed to help you create a slide show presentation.

Lesson 1	Fundamentals
Lesson 2	Drawing Objects
Lesson 3	Editing Actions
Lesson 4	Figures
Lesson 5	Selection Methods
Lesson 6	Bar Charts
Lesson 7	Bar Chart—Revision
Lesson 8	Pie Charts
Lesson 9	The Mousetrap
Lesson 10	Text Charts
Lesson 11	Special Techniques
Lesson 12	Figure Library Images

Mouse Functions

The mouse can be used with the lessons. For information about the functions of the mouse in DrawPerfect, see *Mouse Functions* in *File Reference*.

Creating Directories

By the time you are ready to start using DrawPerfect, you (or someone else) should have used the DrawPerfect Installation Program to install DrawPerfect and your printer, and you should know how to start the DrawPerfect program.

Hard Disk

If you are running DrawPerfect from a hard disk, make sure your default directory is C:\DR10LEARN before starting the lessons.

- 1 After starting DrawPerfect, press **List Files** (F5) and check the name of the directory at the bottom of your screen.

If you do not see "Dir C:\DR10LEARN*.*" displayed, then you need to change to the C:\DR10LEARN directory, or DrawPerfect will not be able to find the learning files.

- 2 Type an equal sign (=).
- 3 Type **c:\dr10learn** and press **Enter** to change to the LEARN directory.
- 4 Press **Enter** to display the list of files, then press **Exit** (F7) to return to the normal drawing screen.

If you copied the learning files to a directory other than C:\DR10LEARN, you need to type the name of that directory (instead of the LEARN directory) before pressing Enter in step 3.

You should now be ready to start the lessons.

Two Disk Drives

DrawPerfect can run from a hard disk or two disk drives. If you are running DrawPerfect from two disk drives, you need the following diskettes to do the lessons:

- DrawPerfect
- Utilities/Help

These diskettes were created when you installed DrawPerfect on your computer.

***Important:** To run DrawPerfect on a two disk drive system, it is necessary that each of your drives be at least 720K or larger. If you are not sure whether your drives are at least 720K, please refer to your computer manual or contact your dealer.*

The DrawPerfect diskette is used to start the DrawPerfect program. The Utilities/Help diskette includes the files you need for the lessons.

Each time you use the lessons, you need to make sure that you have started DrawPerfect, that the default drive is B, and that the Utilities/Help diskette is in drive B.

For example,

- 1 After starting DOS, insert the DrawPerfect diskette into drive A.
- 2 Insert the Utilities/Help diskette into drive B.
- 3 Enter **b:** to change the default drive to B.
- 4 Enter **a:dr** to start DrawPerfect.

After you are in DrawPerfect, check and make sure the default drive is B.

- 5 Press **List Files** (F5). If a “DirB:*.*” message is not displayed, type an equal sign (=), then enter **b:** to change the default drive to B.

If a “Dir B:*.*” message is displayed, you know that the default drive is B.

- 6 Press **Enter** to display all the files on the Utilities/Help diskette.
- 7 Press **Exit** (F7) to return to the normal drawing screen.

DrawPerfect Icons

Many DrawPerfect features can be selected three ways: by selecting the option name from the pull-down menu, by selecting the corresponding icon from the icon menu, or by pressing the appropriate function key. Throughout the lessons, pull-down and icon instructions are included. You can select which instruction step to follow.

The icon instructions also include an illustration of the icon in the left margin.

DrawPerfect Settings

Each copy of DrawPerfect is shipped with exactly the same settings for charts, margins, cursor speed, etc. These are known as the *default* settings of DrawPerfect.

The lessons are designed to work with the default settings of DrawPerfect. If you or someone else has used the Setup key (Shift-F1) to customize the default settings, some of the steps in the lessons may not work properly.

For example, all measurements (e.g., grid display, cursor position) are initially set to be displayed and entered in inches. If you change the default setting to centimeters, then each measurement you enter in a lesson will be converted to centimeters and the lesson will not work properly.

If a lesson is not working properly, and someone else installed your copy of DrawPerfect, check with that person to see if any of the default settings were changed.

Lesson 1: Fundamentals

This lesson introduces you to DrawPerfect. A series of steps teaches you about cursor movement and basic drawing actions.

Features

While working through this lesson, you are introduced to the following tasks:

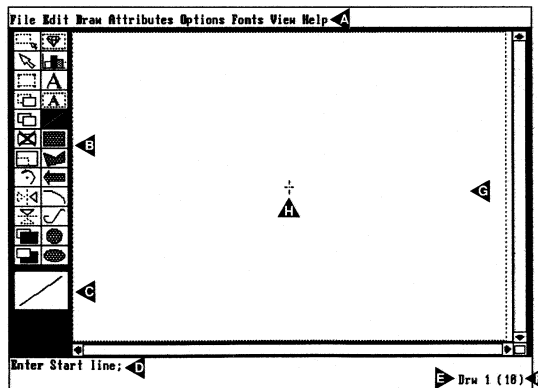
- Moving the cursor
- Drawing a line
- Deleting an object
- Redrawing the screen
- Restoring a deleted object
- Clearing the screen
- Displaying the Position Display message
- Displaying the grid
- Defining the grid
- Snapping to the grid

Before you begin, start DrawPerfect. The two methods for starting DrawPerfect (two disk drive and hard disk system), are explained in the *Introduction* (see *Introduction in Learning*).

1.1 Icons

When you start the program, the main working screen appears.

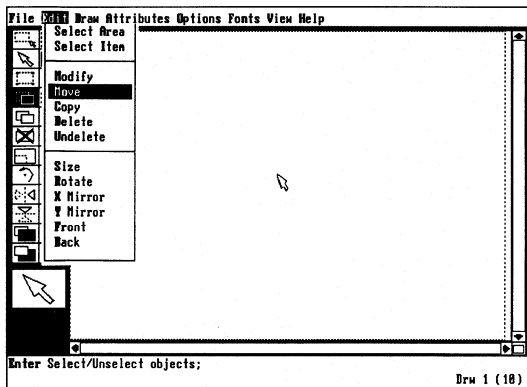
- ▲ PULL-DOWN MENUS
- ▲ ICONS
- ▲ STATUS BOX
- ▲ PROMPT LINE
- ▲ DRAWING (1 OF 2)
- ▲ CURSOR STEP
- ▲ DRAWING WINDOW
- ▲ CURSOR



Along the left side of the screen are two columns of icons. The first column (the one on the left) contains editing tools.

1 Select Edit to display the Edit menu.

Each name listed on the Edit menu (except Undelete) is also represented as an icon on the icon menu. The order of the names on the Edit pull-down menu corresponds to the order of the icons. For example, the fourth option on the pull-down menu is Move, and the fourth icon is Move.

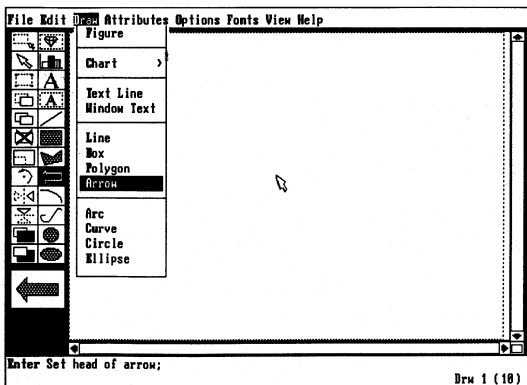


2 Press Exit (F7) to exit the Edit menu.

The second column (the one on the right) contains Drawing tools.

3 Select Draw to display the Draw menu.

Each name listed on the Draw menu is also represented as an icon on the icon menu. The order of the names on the pull-down Draw menu corresponds to the order of the icons. For example, the eighth option on the Draw pull-down menu is Arrow and the eighth icon is Arrow.



4 Press **Exit** (F7) to exit the Draw menu.

If you have any questions about the various screen items, see *Format of the DrawPerfect Screen* in *Basic Concepts*.

1.2 Moving the Cursor

The cursor is a small plus sign (+) that indicates your position on the screen. You move the cursor by either using the arrow keys (←, →, ↑, ↓), or by moving the mouse.

If you are using a mouse, see *Mouse Functions* in *File Reference* for information on how the mouse works in DrawPerfect.

- 1** Move the cursor around in the drawing window by pressing one or more of the arrow keys, or by moving your mouse.
- 2** Press **Home**, followed by an arrow key to move the cursor to an edge of the screen.
- 3** Move the cursor outside of the drawing window.

When the cursor is outside of the drawing window it changes to an arrow which you can use to point to a pull-down menu title or an icon.

If you are using the arrow keys, you can change how far the cursor moves by changing the cursor step number. The cursor step number is displayed in parentheses in the bottom right corner of the screen. You can change the number to 1, 10, or 25, by pressing **Insert**.

- 4** Press **Insert** (Ins) once to change the number to 1. Now tap the arrow keys a few times and notice how the cursor moves in smaller increments across the screen.
- 5** Press **Insert** twice to change the number back to 10.

Keep the cursor step feature in mind as you progress through the lessons. When you are asked to perform an editing task, such as moving an object, you can lower the number to 1. With a lower number, you can move objects in smaller increments across the screen, giving you more control.

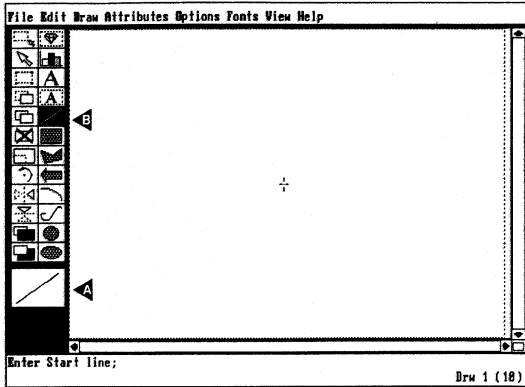
1.3 Drawing a Line

Before you can add an object to the screen, you need to tell DrawPerfect which object you want to add. For example, to add a line to the screen, you need to select the Line drawing tool. However, since DrawPerfect selects the Line tool automatically when you start the program, you do not need to go through the

selection process at this time. Check the status box and the icons to verify that Line is the current object selected.

▲ LINE TOOL

▲ LINE ICON

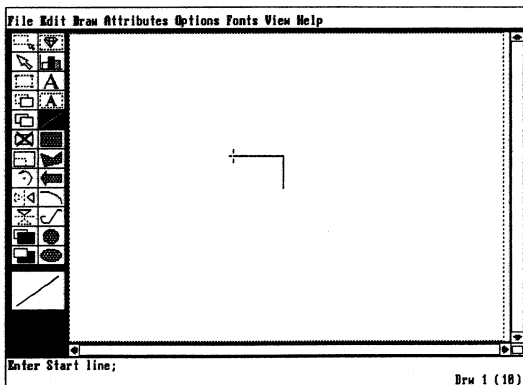


- 1 Move the cursor to the middle of the screen.
- 2 Press **Enter** to begin adding the line.

Notice the prompt line at the bottom of the screen. The prompt line lists basic instructions you can follow when you perform various actions.

- 3 Move the cursor up until the line is about one inch long.
- 4 Press **Enter** to add a joint, then move the cursor about two inches to the left and press **Enter** again.
- 5 Press the **Space Bar** to quit.

Your screen should look similar to the one illustrated below.



1.4 Deleting an Object

If you make a mistake and want to erase an object from the screen, you can use the editing action Delete.

- 1 Select **Edit** to display the Edit menu, then select **Delete**.

or



Move the cursor to the Delete icon and press **Enter**.

Notice how DrawPerfect switches the highlight from the Line icon to the Delete icon.

- 2 Place the cursor directly on the line you just added and press **Enter**.

Small boxes or *line markers* appear. These markers outline the shape of the line and tell you which object is “selected.”

- 3 Press the **Space Bar** to delete the line.

DrawPerfect erases the line from the screen.

1.5 Redrawing the Screen

After deleting the line, if you look in the bottom right corner of your screen, you will see the word “Redraw.” Redraw means that your screen may be displayed incorrectly and needs to be “redrawn.” Redrawing the screen is necessary periodically because as you edit, small object fragments or partially displayed objects appear.

Redraw is controlled by a DrawPerfect Setup option called Automatic Redraw While Editing. You can set this option to either Yes or No (No is the default). A Yes setting means that when you perform an editing action, such as deleting a line, DrawPerfect redraws the screen for you. Although some people prefer a Yes setting, most do not. A Yes setting increases your editing time because as you edit, DrawPerfect constantly redraws all displayed objects. This can be cumbersome if you have several objects displayed on the screen.

A No setting saves you editing time because *you* have control, not DrawPerfect, of when the screen is redrawn. You can redraw the screen three different ways.

1 Press **ReDraw** (F9).

or

Select **View** to display the View menu and then select **ReDraw**.

or

Move the cursor on top of the small box in the bottom right corner of the screen and press **Enter**.

As you go through the lessons, whenever you see the word “Redraw” on your screen, go ahead and press ReDraw.

1.6 Restoring a Deleted Object

Once you delete an object with DrawPerfect, you can always bring it back by using Undelete. Undelete is accessed either through Cancel or through the Edit menu.

1 Press **Cancel** (F1).

or

Select **Undelete** from the Edit menu.

The deleted line is displayed on the screen. Small markers are displayed on the object.

2 Select **Restore** to restore the line to the screen.

DrawPerfect can save up to three deletions. The saved deletions can be seen one at a time by selecting the Previous Deletion option.

Now that you have seen how easy it is to restore deleted objects, keep the Undelete feature in mind whenever you make a mistake and delete the wrong object. However, remember you can only recover objects that you erased with the action Delete.

1.7 Clearing the Screen

Before continuing to the next task, clear the screen.

1 Press **Exit** (F7) to let DrawPerfect know you want to clear the screen.

A message appears at the bottom of the screen asking if you want to save the drawing.

2 Type **n** (for no) to indicate that you do not want to save the drawing.

A second message appears at the bottom of the screen asking if you want to exit (leave) DrawPerfect.

3 Type **n** to clear the screen and stay in DrawPerfect.

1.8 Displaying the Position Display Message

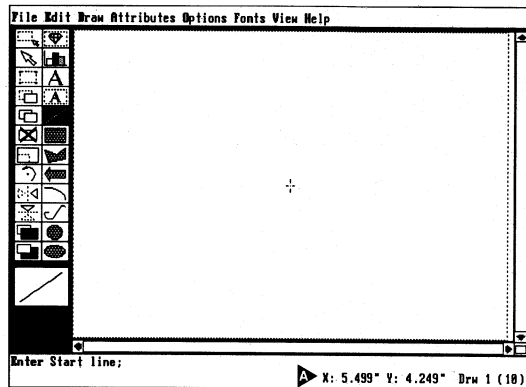
As you move the cursor around the screen, you might want to keep track of the current cursor position. The Position Display feature is a status line message that displays the location of the cursor.

1 Select **Options** to display the Options menu.

2 Select **Position Display**.

The Position Display message appears at the bottom of the screen.

 POSITION DISPLAY MESSAGE



Move the cursor around the screen and notice how the X and Y numbers change. The X refers to horizontal movement, the Y refers to vertical movement.

If you want to turn off Position Display, repeat steps 1 and 2 above.

You can change the unit of measure for the Position Display (from inches to centimeters, for example) through Setup (see *Units of Measure* in *File Reference*).

1.9 Displaying the Grid

The grid is a set of closely spaced dots, or reference points, which help you measure and align objects. The grid is especially helpful when you need to draw with precision and exactness. For example, the task of drawing a geometric shape, such as a five-pointed star, becomes simple when you use the grid points to guide you.

- 1 Select Options to display the Options menu.
- 2 Select Grid Display to display the grid.

1.10 Defining the Grid

The DrawPerfect grid is based on an X- and Y-axis: X being horizontal and Y being vertical. Each point on the grid is displayed at a specified measurement which you can define. This gives you flexibility to use the grid as you create a variety of designs in a variety of sizes.

The default setting for the grid point distance is .25". However, you can change the grid point distance by selecting the Define Grid option. Define Grid lets you change the following:

- The grid measurement for the X-axis.
- The grid measurement for the Y-axis.
- The display interval of the grid points.

Let's change the grid measurement for the X- and Y-axis from .25" to .50".

- 1 Select Options to display the Options menu.
- 2 Select Define Grid.

DrawPerfect displays the default X-axis measurement "Grid X: 0.25"," in the bottom left corner.

- 3 Enter the measurement .5.

DrawPerfect displays the measurement for the Y-axis "Grid Y: 0.5"" next to the Grid X measurement. Notice how DrawPerfect used the X-axis measurement (.5), for the Y-axis.

- 4 Press **Enter** to accept the .5" measurement for the Y-axis.

Now DrawPerfect displays the prompt "Display Interval: 2." The Display Interval is a feature that lets you define which grid points you want displayed on the screen.

For example, if the Display Interval is set at 4, every *fourth* grid point is displayed on the screen. Or, for example, if you set the Display Interval at 6, every *sixth* grid point is displayed. DrawPerfect calculates the display interval for you when you enter measurements for the X-axis, Y-axis, or both axes. Unless you specify a number for the display interval, DrawPerfect displays the grid at a one inch interval.

For example, if the X- and Y-axis are displayed at .25", DrawPerfect sets the display interval to 4. With a setting of 4, every fourth grid point is displayed on the screen, which means the display distance between grid points is 1 inch.

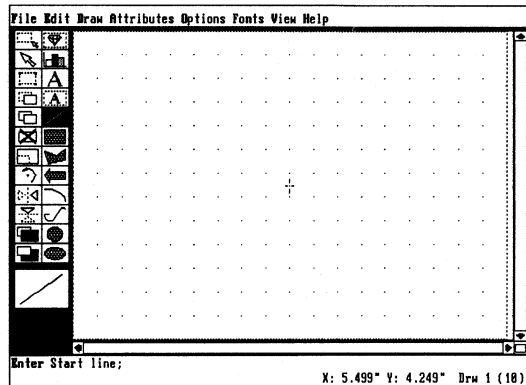
The size of the drawing window is smaller than the size of the printed page. Thus, grid points will appear closer together on the screen.

Let's display every grid point at the .50" setting by changing the Display Interval to 1.

5 Type **1** and press **Enter**.

Now a grid point is displayed both horizontally and vertically every half of an inch.

Your grid should look like the one illustrated in the screen below.



1.11 Snapping to the Grid

With the grid displayed at the .50" measurement, move the cursor around the screen. Notice how the cursor does not always fall on top of each grid point. If you were drawing a five-pointed star, it would be difficult to line up each star point with a grid point.

However, DrawPerfect contains a feature that lets you use the grid to align objects. The Snap feature, when turned on, forces all definition points of an object to coincide with a grid point.

To align the cursor with the grid points, turn on the Grid Snap feature.

- 1** Select **Options** to display the **Options** menu.
- 2** Select **Grid Snap** to automatically align the cursor to the grid points.

To see how DrawPerfect forces all definition points of an object to coincide with the grid points, draw a line.

- 3** Press **Enter** to begin adding the line.
- 4** Move the cursor in any direction and notice how the line snaps to that corresponding grid point.
- 5** Press **Enter** to add a joint to the line, then move the cursor to another grid point and press **Enter** again.
- 6** Press the **Space Bar** to quit.

The Snap feature will work whether or not the grid is displayed.

Now clear the screen.

- 7** Press **Exit** (F7) and type **n** twice.

When you clear the screen, DrawPerfect also clears all options. You should now be ready to continue to the next lesson.

Lesson 2: Drawing Objects

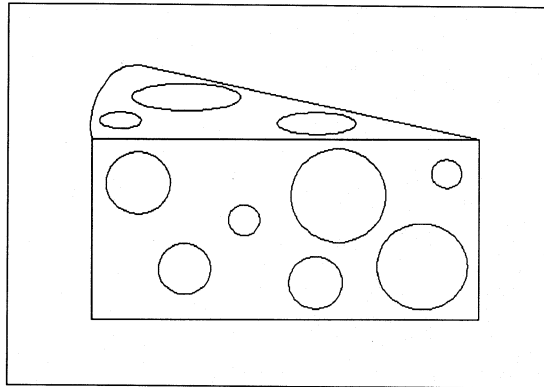
In this lesson you create a simple graphic image by using some of the basic drawing tools listed on the Draw pull-down menu.

Features

While working through this lesson, you are introduced to the following tasks:

- Drawing a line, polygon, ellipse, circle, and arc
- Displaying the print preview screen
- Printing a drawing
- Saving a drawing
- Displaying List Files

The object you will draw in this lesson is a slice of swiss cheese. After following a few simple steps, the cheese you draw should look like the one illustrated below.

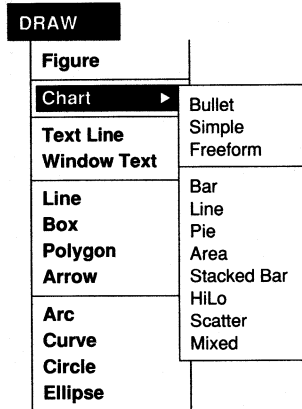


In DrawPerfect there are four types of objects: Figure, Chart, Text, and Drawing. The term “drawing objects” is applied to all the tools with which you create forms and images. There are eight drawing objects:

- Arc
- Arrow
- Box
- Circle

- Curve
- Ellipse
- Line
- Polygon

The pull-down Draw menu lists all of the Drawing objects as well as the other three types of objects (Chart, Text, and Figure).



To draw the cheese, you will be using Drawing objects.

2.1 Displaying the Grid

Before you begin drawing, you need to turn on the Grid display.

- 1 Select **Options** to display the Options menu.
- 2 Select **Grid Display** to display the grid.

You now have a set of reference points you can use to measure and draw the lines of the cheese. You do not need to change the default grid measurement of .25". However, to easily align the image with the grid points, you do need to turn on the Snap feature.

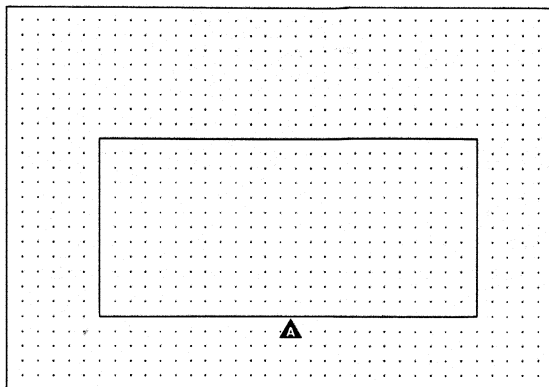
- 3 Select **Options** to display the Options menu.
- 4 Select **Grid Snap** to snap to the grid.

The letters "Snp" appear at the bottom of the screen indicating you have the Snap feature turned on.

2.2 Drawing a Polygon

The first step in creating the cheese is to draw the large rectangle that forms the shape of the image.

 RECTANGLE



We will use the Polygon tool to draw the rectangle.

1 Select **Draw** to display the Draw menu, then select **Polygon**.

or



Move the cursor to the Polygon icon and press **Enter**.

Notice how the object in the Status Box changes to a filled polygon. Unless you change the default setting, all enclosed objects (polygon, circle, box, arrow, and ellipse) are displayed with a filled pattern. To fill the polygon with a hollow pattern,

2 Select **Attributes** to display the Attributes menu.

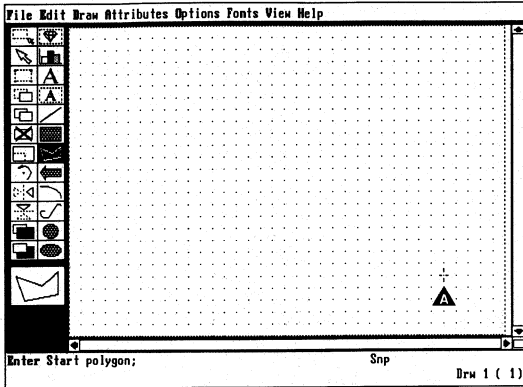
3 Select **Fill Pattern** to display the list of patterns.

The first sixteen available patterns are shown at the bottom of the screen.

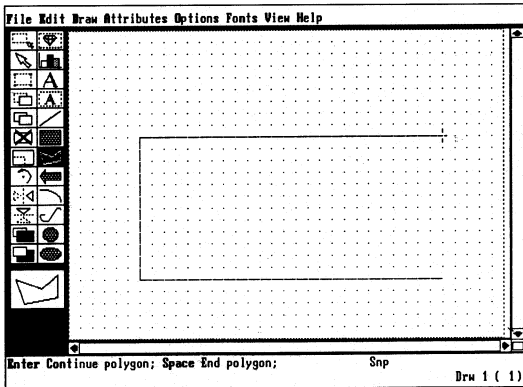
4 Enter **1** to create a hollow pattern in the polygon.

- 5 Position the cursor in the bottom right corner of the drawing window and press **Enter**.

A CURSOR
POSITION



- 6 Draw the bottom of the rectangle by moving the cursor to the left bottom corner. Now press **Enter** to go in a new direction.
- 7 Move the cursor about $2\frac{1}{2}$ inches straight up to create the left side of the rectangle. Now press **Enter** to go in a new direction.
- 8 Draw the top of the rectangle by moving the cursor to the right.



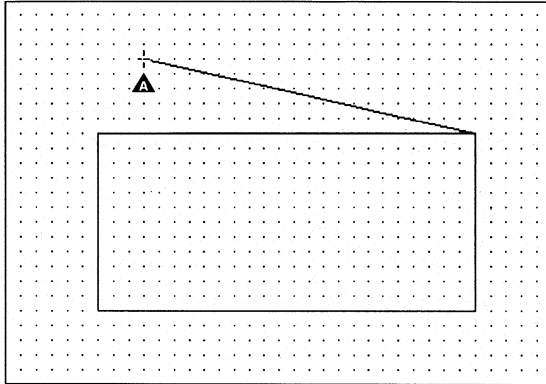
- 9 Make sure the top corner and bottom corner on the right side are even with each other, then press **Enter**.

- 10 Press the **Space Bar** and DrawPerfect completes the rectangle for you by drawing the connecting line between your starting point and ending point.

2.3 Drawing a Line

With the rectangle completed, you need to draw the diagonal line that forms the top of the cheese.

▲ DIAGONAL LINE



- 1 Select **Draw** to display the Draw menu, then select **Line**.

or

Move the cursor to the Line icon and press **Enter**.

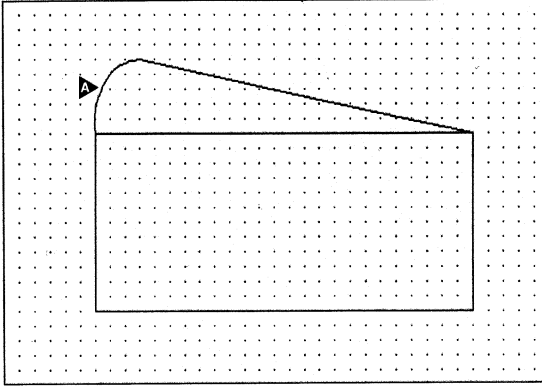
- 2 Position the cursor at the top right corner of the rectangle and press **Enter**.
- 3 To draw the line, move the cursor to the left and slightly up. When you have drawn a line about three-fourths the length of the cheese, press **Enter** and then the **Space Bar**.



2.4 Drawing an Arc

The next portion of the image that needs to be drawn is the arc that connects the rectangle with the diagonal line.

ARC



You create an arc by drawing a line between two defined points, then arcing the line any amount you want.

- 1 Select **Draw** to display the Draw menu, then select **Arc**.

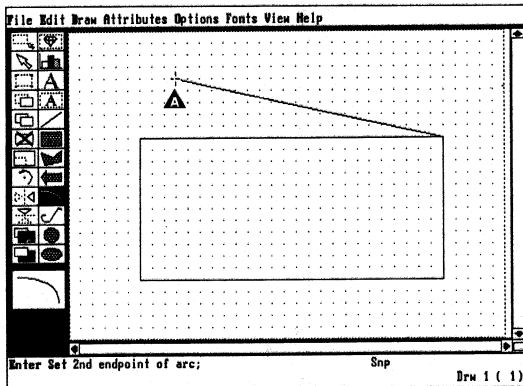
or

Move the cursor to the Arc icon and press **Enter**.

- 2 Position the cursor at the end of the diagonal line and press **Enter**.



CURSOR POSITION



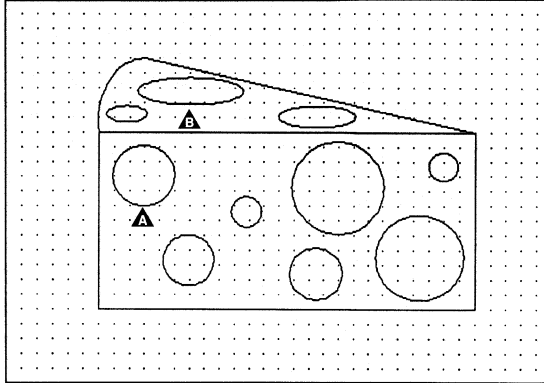
- 3 Draw the connecting line by moving the cursor down to the upper left corner of the rectangle and pressing **Enter**.

- 4 Move the cursor up and to the left a few grid points along the line to create an arc, then press **Enter**.

2.5 Drawing Circles

A circle is a perfectly round shape. Unlike ellipses, circles cannot be formed into oval shapes. If you look at the illustration below, you will notice that the base of the cheese is covered with circles and the top is covered with ellipses.

- ▲ CIRCLES
- ▲ ELLIPSES



The cheese you draw needs to look like the illustration above, with the circles and ellipses drawn the same size and positioned in the same place. You will be performing specific editing functions on the circles later on.

Before adding the circles, turn off Grid Snap.

- 1 Select **Options**, then select **Grid Snap**.

To add the circles,

- 2 Select **Draw** to display the Draw menu, then select **Circle**.

or



Move the cursor to the Circle icon and press **Enter**.

Look at the illustration above and select a circle that you want to draw.

- 3 Move the cursor into the base of the cheese to where the center of the circle should be and press **Enter**.

- 4 Move the cursor until the circle is the desired size and press **Enter** again.

Repeat steps 3 and 4 until you add all seven circles.

2.6 Drawing Ellipses



An ellipse is a circular or oval shape. To add the ellipses,

- 1 Select **Draw** to display the Draw menu, then select **Ellipse**.

or

Move the cursor to the Ellipse icon and press **Enter**.

- 2 Move the cursor into the top portion of the cheese to where the center of the ellipse should be and press **Enter**.
- 3 Move the cursor until the ellipse is the desired shape and size and press **Enter** again.

Repeat steps 2 and 3 until you add all three ellipses to the top of the image.

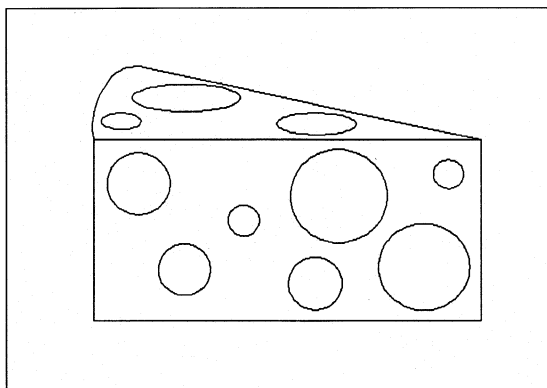
2.7 Previewing Your Drawing

Your drawing is finished. Compare the cheese you drew to the one illustrated at the beginning of this lesson; the two should look alike.

To see how the drawing will look when printed, let's view it in the preview screen.

The preview screen is a special screen that enlarges the object(s) to be viewed and eliminates all menu structures.

- 1 Select **File** to display the File menu.
- 2 Select **Print** to display the Print menu.
- 3 Select **View Drawing**.



While you cannot make any corrections to the drawing in the preview screen, you can return to the main editing screen, make the necessary changes, and then preview the drawing again before printing.

2.8 Printing the Drawing

The drawing is sent to the printer through the Print menu.

- 1 Press **Cancel** (F1) to return to the Print menu.
- 2 Select **Print Drawing** to send your drawing to the printer.

2.9 Saving the Drawing

With the drawing printed, you are ready to clear your screen with Exit. However, because you will use the cheese in a later lesson, you should save it before clearing the screen.

- 1 Press **Exit** (F7) and type **y** when you see the “Save Drawing? Yes (No)” message.

The “Drawing to be saved:” message is displayed on the status line at the bottom of the screen. Before a file can be saved with DrawPerfect, the file needs to be named.

- 2 Type **cheese** and press **Enter** to name the file in which the cheese will be saved.

After pressing Enter, DrawPerfect saves the drawing to disk. However, because you did not specify an extension with the filename (e.g., .WPG, .DRW, .CHT), DrawPerfect adds the extension .WPG. The drawing you just saved as “cheese” is actually named “CHEESE.WPG.” A .WPG extension classifies the image as a drawing.

However, when you retrieve the drawing, you do not need to include the .WPG in the filename.

After the drawing has been saved, DrawPerfect displays the exit message, asking if you want to exit the program.

- 3 Type **n** to stay in the program and have DrawPerfect clear the screen.

2.10 Displaying the Filename

Before finishing the lesson, use the List Files feature to verify that you saved the file correctly.

- 1 Select **File** to display the File menu.

- Select List Files, then press **Enter** to display a list of files on your disk.

```

12/05/89 10:37 Directory C:\DR10\
Drawing size: 20 Free: 2,650,352 Used: 3,589,859 Files: 87

<CURRENT> <DIR> .. <PARENT> <DIR>
ANIMALS . <DIR> 11/29/89 11:52 ARROWS . <DIR> 11/29/89 11:52
BUSINESS. <DIR> 11/29/89 11:52 COMPUTER. <DIR> 11/29/89 11:52
FLAGS . <DIR> 11/29/89 11:53 FLOW . <DIR> 11/29/89 11:53
GRAPHIC . <DIR> 11/29/89 11:53 MAPS . <DIR> 11/29/89 11:53
MILITARY. <DIR> 11/29/89 11:53 OBJECTS . <DIR> 11/29/89 11:54
PEOPLE . <DIR> 11/29/89 11:54 SPECIAL . <DIR> 11/29/89 11:54
SPORTS . <DIR> 11/29/89 11:54 SYMBOLS . <DIR> 11/29/89 11:55
TRANSPDR <DIR> 11/29/89 11:55 Q514R .VRS 4,866 10/31/89 10:18
AMBULANC.WPG 661 08/23/89 13:56 AN .VRS 6,041 11/06/89 14:39
BICYCLE.WPG 1,347 08/21/89 13:55 BOAT .WPG 393 08/10/89 16:18
BUS .WPG 657 08/23/89 14:00 CALDP011.PRS 10,894 11/27/89 16:14
CAR .WPG 549 08/23/89 15:18 CHEESE .WPG 691 12/05/89 10:30
DR .DRS 579,651 08/25/89 10:49 DR .EXE 300,016 11/16/89 16:30
DR .FIL 217,667 11/16/89 16:30 DR .MRS 5,656 11/15/89 07:10
DRHELP .FIL 33,692 10/04/89 17:23 DRHELP2 .FIL 40,314 10/04/89 10:03
DR(DR) .SET 2,078 12/05/89 09:07 DR(DR)US.LCN 16 11/09/89 09:19
DR(DR) .CHK 0 12/05/89 09:07 FIREMCHN.WPG 855 08/23/89 15:20
FX1003 .EXE 13,773 10/24/89 15:19 FXPFG .EXE 12,621 10/10/89 12:21

1 Retrieve; 2 Delete; 3 Move/Rename; 4 Print; 5 Short/Brief Display;
6 Look; 7 Other Directory; 8 Copy; F2 Name Search; E

```

While all the filenames on your screen may not be the same as those in the above illustration, you should be able to find the “CHEESE.WPG” filename. If the filename is not listed, you may need to press Down Arrow until the name scrolls onto the screen.

Notice that the size of the file (in bytes) and the date and time it was last saved are included with the filename.

- Press **Exit (F7)** to leave the list of files and return to the DrawPerfect screen.

You should now have a clear screen and be ready to continue to the next lesson.

Lesson 3: Editing Actions

Not only can you design and draw a multitude of graphic images with DrawPerfect, but you also have the freedom to edit those images to your liking—even images you did not create.

In this lesson you learn about some of the DrawPerfect editing features. You retrieve the swiss cheese image you created in Lesson 2, make a few changes to the image by using some of the editing options on the Edit menu, and then re-save the image on disk.

Features

While working through this lesson, you are introduced to the following tasks:

- Retrieving an image
- Deleting an object
- Moving an object
- Sizing an object
- Modifying an object

3.1 Retrieving the Cheese Image

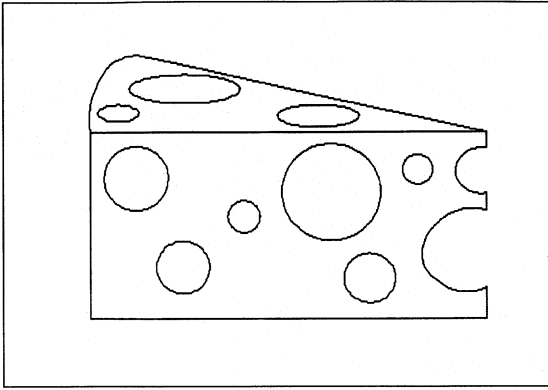
You can use List Files to retrieve an image from your disk.

- 1 Select **F**ile to display the File menu.
- 2 Select **L**ist Files, then press **E**nter to display a list of files on your disk.
- 3 Move the cursor to the CHEESE.WPG filename, then select **R**etrieve from the menu at the bottom of the screen.

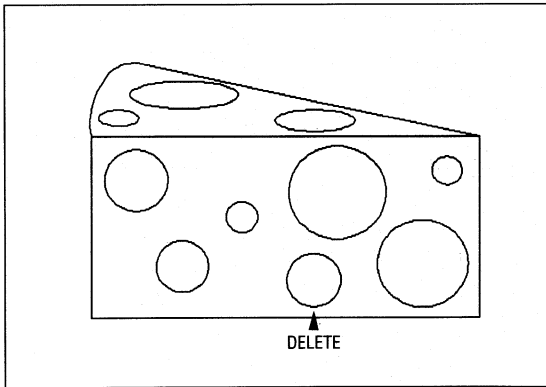
A copy of the file is retrieved to the DrawPerfect screen. This is only a copy; the original contents stay in the file on disk in case you want to start over again. The name of the file is displayed on the status line in the bottom left corner.

3.2 Deleting a Circle

DrawPerfect provides features to make editing an object a quick and easy task. The cheese you created in Lesson 2 needs some editing changes to make it appear like the illustration below.



The first change you need to make to the image is to delete one of the circles.



- 1 Select **Edit** to display the Edit menu, then select **Delete**.

or



Move the cursor to the Delete icon and press **Enter**.

- 2 Place the cursor on or inside the circle to be deleted and press **Enter**.

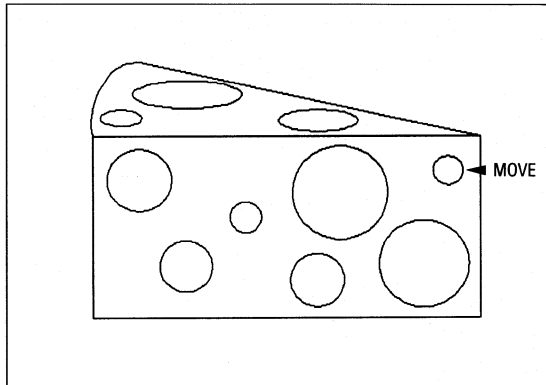
If DrawPerfect selects a circle or object other than the one you want, press Enter to unselect the object; press Enter again to select the correct object.

- 3 Press the **Space Bar** to delete the circle.

*Remember, if Redraw appears in the bottom right corner, press **ReDraw** (F9) to redraw the screen.*

3.3 Moving a Circle

The next editing change requires you to move a circle.



You need to move the circle a sufficient amount of space to the left so you will have enough room to create two arcs on the side of the cheese.

- 1 Select **Edit** to display the Edit menu, then select **Move**.

or



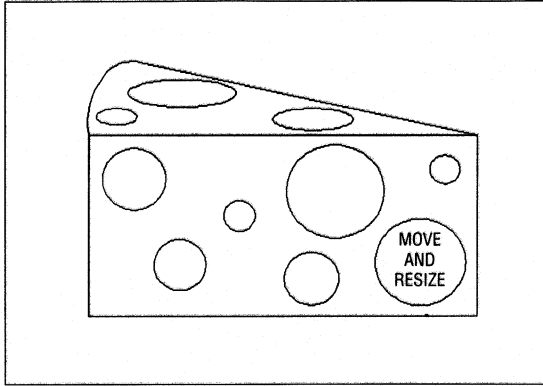
Move the cursor to the Move icon and press **Enter**.

- 2 Place the cursor on or inside the circle to be moved and press **Enter**.

- 3 Press the **Space Bar** to display the dashed box.
- 4 Move the dashed box to the left about $\frac{1}{2}$ inch. Press the **Space Bar** to move the circle.
- 5 Press **Enter** to unselect the circle.

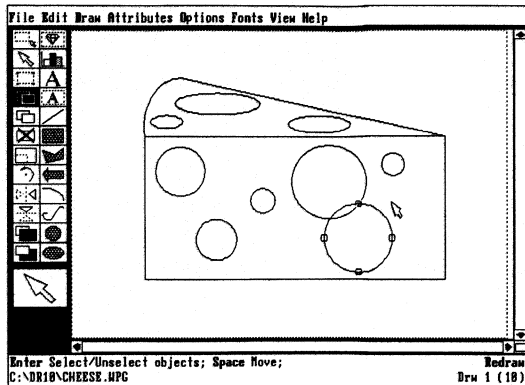
3.4 Moving and Sizing a Second Circle

For the next editing change, you need to use both Move and Size to move and resize a circle.



- 1 Place the cursor on or inside the circle to be moved and press **Enter**.
- 2 Press the **Space Bar** to display a dashed box.

- 3 Move the dashed box to the left about $\frac{1}{2}$ inch. Press the **Space Bar** to move the circle.



Notice how the circle now appears too big and crowded for its position (if you drew your circles close to or the same size as those in the lesson illustrations). To solve this problem, use **Size** to shrink the circle.

- 4 Select **Edit** to display the Edit menu, then select **Size**.

or

Move the cursor to the **Size** icon and press **Enter**.

- 5 Press the **Space Bar** to display the dashed box.
- 6 Use your mouse or cursor keys to shrink the size of the dashed box. Press the **Space Bar** again to accept the new size.
- 7 To unselect the circle, move the cursor on top of the circle and press **Enter**.

If you did not draw your circles the same as the lesson illustrations, you might need to use **Size**, **Move**, or **Delete** again on other circles.



3.5 Deleting the Rectangle

To create the two arcs on the side of the cheese, you need to delete the rectangle that forms the base of the cheese. You will then redraw the rectangle using the **Line** tool.

Before you begin, display the **Grid** and turn on **Grid Snap**.

- 1 Select **Options** to display the Options menu.
- 2 Select **Grid Display** to display the grid.

3 Select **Options** again to display the Options menu.

4 Select **Grid Snap** to snap to the grid.

The grid should be displayed at .25" inches with the Display Interval set at 1.

5 Select **Edit** to display the Edit menu, then select **Delete**.

or

Move the cursor to the Delete icon and press **Enter**.

6 Move the cursor to either the top, bottom, or one of the sides of the rectangle, making sure the cursor is directly on the line, then press **Enter**.

7 Press the **Space Bar** to delete the rectangle.

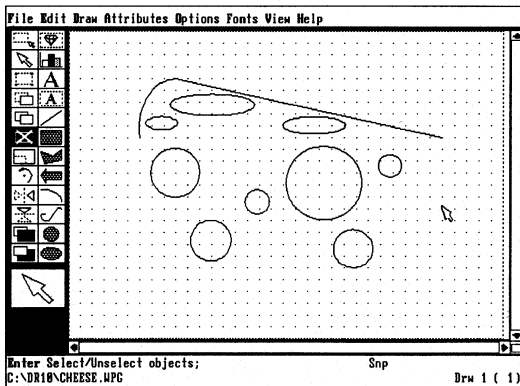
You may wonder why all four sides of the rectangle were deleted instead of only the one side on which your cursor was resting. DrawPerfect deleted each side because when you originally drew the rectangle you drew it as *one* polygon, *one complete object*. DrawPerfect is object-oriented software; only complete objects can be selected and edited.

If, however, you had drawn the rectangle using four separate lines, you could have selected and edited each line individually.



3.6 Redrawing the Rectangle

Now that you have deleted the rectangle, your drawing should look similar to the one illustrated below.



To redraw the rectangle, use the **Line** tool.

- 1 Select **Draw** to display the Draw menu, then select **Line**.

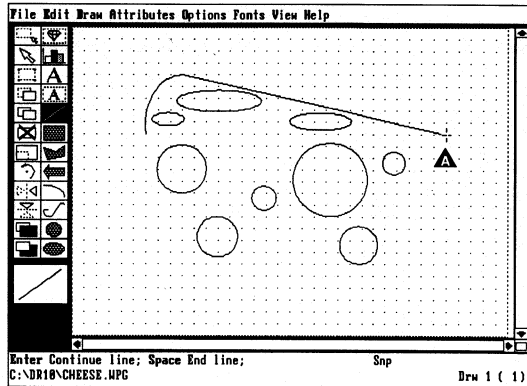
or

Move the cursor to the Line icon and press **Enter**.

Follow the steps below to redraw the top, left side, and bottom of the cheese exactly as it appeared before, but do not draw the right side.

- 2 Move the cursor to the upper right corner and press **Enter** to begin redrawing the rectangle.

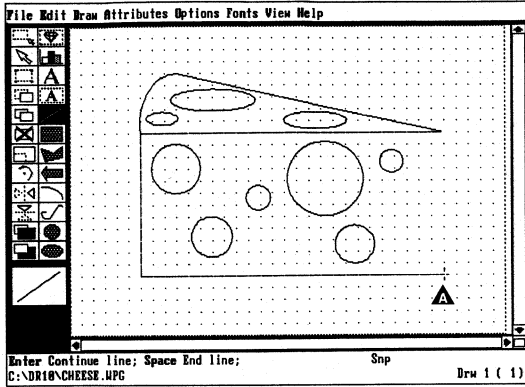
 CURSOR POSITION



- 3 Redraw the horizontal top line by moving the cursor to the upper left corner of the rectangle, then pressing **Enter**.
- 4 Redraw the vertical left side by moving the cursor down from the upper left corner to the lower left corner of the rectangle, then pressing **Enter**.
- 5 Redraw the bottom horizontal line by moving the cursor straight across from the bottom left corner to the bottom right corner, then pressing **Enter**. Do not press the Space Bar.

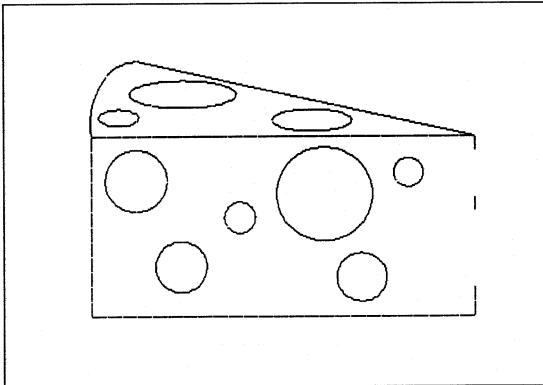
The cursor should now be in the bottom right corner of the screen.

▲ CURSOR POSITION



Because the next four steps (6-9) contain specific grid measurements, and the measurements of your cheese image may vary from the one in the illustrations, you may have to slightly adjust the following instructions.

By following the steps below, you create a broken line. The breaks in the line allow you to insert two arcs. The bottom break in the line should be bigger than the top. The line should look similar to the one illustrated below.



- 6** With your cursor in the bottom right corner, draw a short line by pressing **Enter**, then moving the cursor straight up about two grid points. Press **Enter**, then press the **Space Bar**.

- 7 Now count up approximately seven more grid points. Place the cursor on the seventh point and press **Enter** to begin drawing again.
- 8 Move the cursor up approximately three grid points to draw another short line. Press **Enter**, then the **Space Bar**.
- 9 Count up approximately four grid points. Place the cursor on the fourth point and press **Enter** to begin drawing again. When you reach the top of the cheese, press **Enter**, then the **Space Bar**.

3.7 Drawing the Arcs

To create the holes in the side of the cheese, you need to use the Arc tool.

- 1 Select **Draw** to display the Draw menu, then select **Arc**.

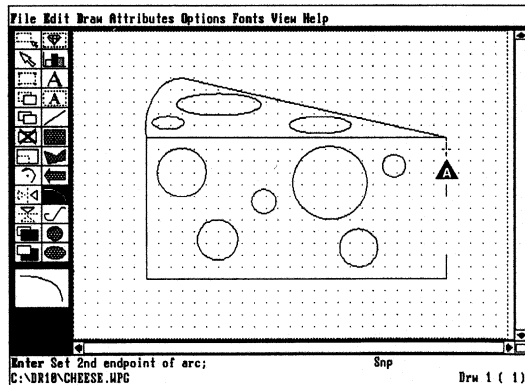
or

Move the cursor to the Arc icon and press **Enter**.

- 2 Move the cursor to the starting point of the short line you just drew, then press **Enter**.



▲ CURSOR POSITION

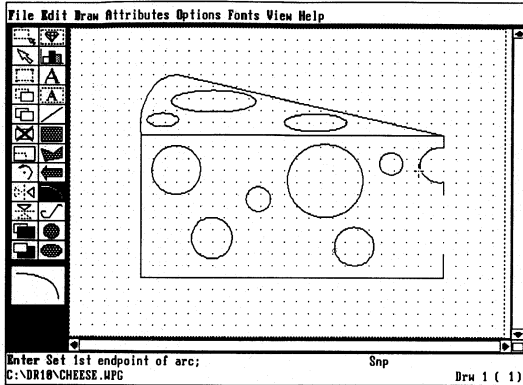


- 3 To begin drawing the arc, move the cursor downward to the place where the next short line begins, then press **Enter**.

The break should now be filled in with a dashed line.

- 4 To arc the line, move the cursor to the left and along the dashed line.
- 5 Press the **Space Bar** to end the arc.

The completed arc should look similar to the one illustrated below.



Repeat steps 3 through 5 to draw the second arc.

3.8 Modifying a Circle

If, after drawing an image, you decide you don't like a certain attribute such as the color, line width, line style, etc., you can change it.

Try adjusting the line width of a circle.

- 1 Select **Edit** to display the Edit menu, then choose the **Select Item** option.

or

Move the cursor to the **Select Item** icon and press **Enter**.

- 2 Place the cursor on or inside one of the circles and press **Enter**.
- 3 Select **Attributes** to display the Attributes menu.
- 4 Select **Line Width** to display 16 different line width options.
- 5 Enter the number of the line width you want.

If you decide you like the new line width, go ahead and change the width of a few more circles. If you do not like the new width and want to change it back to the original size, repeat steps 3 through 5 and select width 1.

3.9 Printing the Cheese

Now that the editing is complete, you can print the image.

- 1 Select **File** to display the File menu.
- 2 Select **Print** to display the Print menu.

- 3 Select **Print Drawing** to send the edited version of the cheese to the printer.

3.10 Replacing the File

Although the image on file and the edited copy on your screen are now different, they both have the same filename. Because the image in the file on disk is no longer needed, it can be replaced with the new edited version.

- 1 Press **Exit** (F7) and type **y** to save the edited image.

The name “CHEESE.WPG” appears next to the “Drawing to be saved:” message at the bottom of the screen. DrawPerfect always displays the name of the copy in case you want to use the same name when saving.

- 2 Press **Enter** to use the “CHEESE.WPG” name.

Because the “CHEESE.WPG” filename already exists, DrawPerfect asks if you want to replace the original image with the edited copy on the screen.

- 3 Type **y** to replace the original image with the edited version, then type **n** to stay in DrawPerfect.

The advantages of being able to work on a copy while keeping the original safely stored are important. And, once you are satisfied with the changes, it only takes a few keystrokes to replace the original version with the new edited copy.

Lesson 4: Figures

Included with every DrawPerfect package is a generous offering of clip-art figures. Over 500 images are cataloged in the Figure Library book and are also listed as files on the Figure Library diskettes. By using the Figure feature (and a little creativity and imagination) you will find hundreds of practical and fun uses for the diverse images.

In this lesson you learn how to retrieve a graphic image through the Figure feature, then edit the image with a few new editing actions. You also learn about a couple of features on the Options menu. If you are a WordPerfect 5.1 user, the last section of this lesson will be beneficial to you. It steps you through retrieving a DrawPerfect image into WordPerfect 5.1.

Features

While working through this lesson, you are introduced to the following tasks:

- Drawing a box with Constrain turned on
- Retrieving an image through the Figure feature
- Using Size with Stretch
- Using X Mirror and Y Mirror
- Rotating a figure
- Retrieving a DrawPerfect file into WordPerfect

4.1 Using Constrain

Suppose you are creating an illustration that requires you to draw a perfectly square box (all four sides being equal in length). When you draw the box, instead of analyzing the screen and trying to guess whether or not all four sides are exactly square, use the Constrain option.

Constrain allows you to draw a perfectly round circle, a square with four equal sides, horizontal lines, and vertical lines.

To see how the Constrain feature works, draw two boxes on your screen—one with Constrain turned off and one with Constrain turned on.

Let's draw the first box on the left side of your screen.

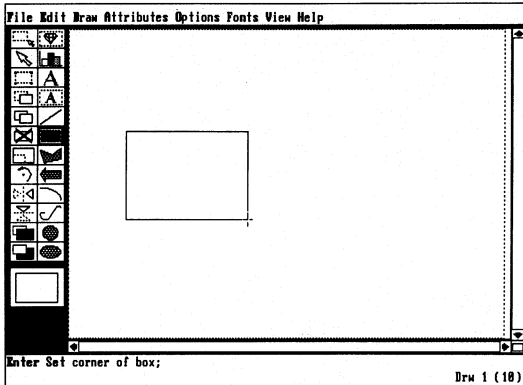
- 1 Select **Draw** to display the Draw menu, then select **Box** to begin drawing a box.

or



Move the cursor to the Box icon and press **Enter**.

- 2 Move the cursor to the left side of the screen to the desired starting point of the box, then press **Enter**.
- 3 Move the cursor to the desired ending point of the box. As you move the cursor, notice how you can create many various sizes of boxes and rectangles. DrawPerfect does not limit you to the size or shape of the box. Press **Enter** when the box is the shape you want.



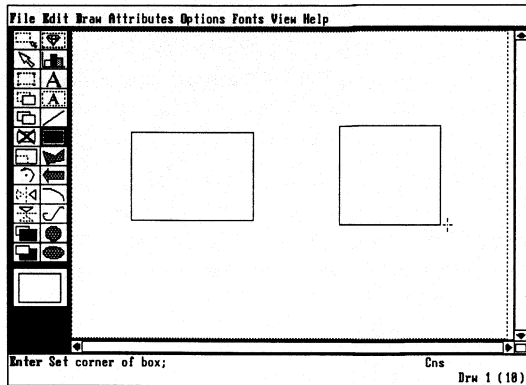
Now draw a box with Constrain turned on.

- 4 Select **Options** to display the Options menu.
- 5 Select **Constrain** to turn on the Constrain option.

The letters "Cns" appear at the bottom of the screen indicating you have the Constrain option turned on.

- 6 Move the cursor to the right side of the screen to the desired starting point of the box, then press **Enter**.
- 7 Move the cursor to the desired ending point of the box. As you move the cursor to the ending point, notice how

DrawPerfect only lets you draw a perfectly square box. Press **Enter** when the box is the size you want.



Now turn off Constrain.

8 Select **Options** to display the **Options** menu.

9 Select **Clear Options**.

The **Clear Options** feature clears, or turns off, all options on the **Options** menu you currently have selected. **Constrain** can also be turned off by selecting **Options** and then selecting **Constrain** again.

4.2 Clearing the Screen

Before continuing to the next task, clear the screen using the **Clear** feature.

1 Select **File** to display the **File** menu.

2 Select **Clear** and type **y** to clear the drawing.

The **Clear** option simply gives you a clean screen; it does not turn off or reset any options.

4.3 Figure Feature

The **Figure** feature lets you insert a graphic image anywhere on the page. You retrieve an image as a figure by defining a figure box, then entering the name of the file.

In a previous lesson you retrieved the cheese file through **List Files**. In this lesson you retrieve the cheese file through the **Figure** feature.

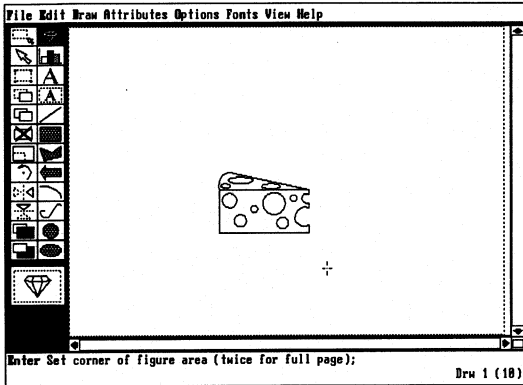
- 1 Select **Draw** to display the Draw menu, then select **Figure**.

or

Move the cursor to the Figure icon and press **Enter**.

Now you need to create a box into which you can retrieve an image. Create a box in the middle of the screen about 2 inches wide and 2 inches tall.

- 2 Define the figure box area by moving the cursor to the starting point and pressing **Enter**, then moving the cursor to the ending point and pressing **Enter**.
- 3 Notice that a “Drawing to be Retrieved” message appears on the status line. Type **cheese** and press **Enter** to retrieve a copy of the cheese image in the figure box.



4.4 Using Size with Stretch

As you learned in Lesson 3, the Size option allows you to shrink or enlarge an object. The *proportions* of the sized object are the same as the original *unless* the Stretch option is on. When Stretch is on, DrawPerfect stretches the object to fit the dimensions of the defined box.

Let's try resizing the cheese image on your screen using the Stretch option.

- 1 Select **Edit** to display the Edit menu, then select **Size**.

or

Move the cursor to the Size icon and press **Enter**.

- 2 Select **Options** to display the Options menu.



3 Select **Stretch**.

“Str” appears in the bottom right corner indicating that you have the Stretch option turned on.

4 To select the cheese, move the cursor on top of the cheese and press **Enter**. Line Markers appear and outline the shape of the object.

5 Press the **Space Bar** to display a dashed box around the cheese.

6 Use the arrow keys or a mouse and change the size of the dashed box. Press the **Space Bar** again to accept the new size.

7 Press **Enter** to unselect the cheese.

Depending on what size you make the dashed box, you can make the cheese look tall, skinny, short, fat—whatever you want.

Now clear the screen.

8 Press **Exit** (F7) and type **n** twice.

**4.5 Retrieving
a Mouse**

Included with the DrawPerfect package is a Figure Library book that illustrates and categorizes over 500 graphic images. The images are stored on the Figure Library diskettes.

All of the figures on the diskettes are located in files with the .WPG extension. The .WPG format is the internal graphics format of DrawPerfect and WordPerfect.

One of the images stored on the Figure Library 1 diskette is a mouse. If you look under the Animal category in your Figure Library book, you will see the MOUSE.WPG figure. The mouse figure has also been included with the learning files. To retrieve the mouse into a figure box,

1 Select **Draw** to display the Draw menu, then select **Figure**.

or

Move the cursor to the Figure icon and press **Enter**.

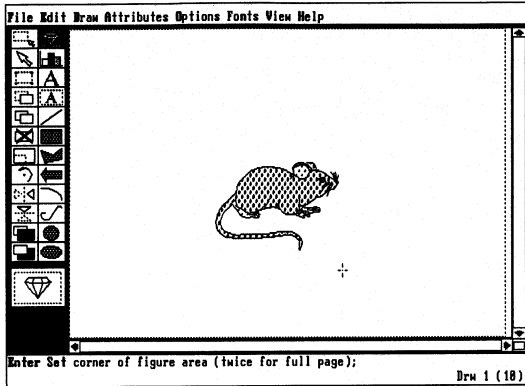
Create a box for the mouse about 2 inches wide and 2 inches tall in the middle of the drawing window.

2 Move the cursor to the starting point of the box and press **Enter**, then move the cursor to the ending point and press **Enter**.



- 3 Type **mouse** at the “Drawing to be retrieved” prompt, then press **Enter** to retrieve a copy of the mouse image in the box.

Even though the mouse image contains a .WPG extension in the filename, you do not need to type the extension. If no extension is specified, DrawPerfect automatically looks for the .WPG file.



Many of the Graphic Images included with DrawPerfect were originally created in color. If you have a monitor that is capable of displaying 16 or more colors, the mouse should appear in full color.

If you are using a monochrome monitor, the colors used on the mouse are remapped as patterns. All the figures on the Figure Library diskettes can be displayed on a monochrome monitor; however, if you shrink the figures down to a small size, you will lose some of the clarity.

4.6 Using Mirror

Now that you have retrieved the mouse figure, you are ready to use a few more editing features.

The Mirror option creates a reflected image. You can mirror an image on the X-axis (horizontal) or the Y-axis (vertical). If you mirror an image on the X-axis, the object is reflected to the right or left; on the Y-axis, the object is reflected up or down. To mirror the mouse on the X-axis,

- 1 Select **Edit** to display the Edit menu, then select **X Mirror**.

or

Move the cursor to the X Mirror icon and press **Enter**.

- 2 Place the cursor on top of the mouse and press **Enter**.

- 3 Press the **Space Bar** to mirror the mouse horizontally.

Repeat step 3 to flip the mouse back to its original state.

Now mirror the mouse on the Y-axis.

- 4 Select **Edit** to display the Edit menu, then select **Y Mirror**.

or

Move the cursor to the Y Mirror icon and press **Enter**.

- 5 Press the **Space Bar** to flip the mouse back to its original state.

- 6 Press **Enter** to unselect the mouse.



4.7 Rotating a Figure

Suppose you want to use the mouse in a chart or drawing, but the angle of the mouse is wrong for your design. Perhaps you need the mouse tipped slightly to the left or right. If you do not like the angle of an object, you can change it by using Rotate.

- 1 Select **Edit** to display the Edit menu, then select **Rotate**.

or

Move the cursor to the Rotate icon and press **Enter**.

- 2 Place the cursor on top of the mouse and press **Enter**.

- 3 Press the **Space Bar** to display a dashed box around the mouse.

- 4 Rotate the box using a mouse or the arrow keys. Press the **Space Bar** again to accept the new rotated position.

The center of an object functions as the anchor point when the object is being rotated.

- 5 To unselect the mouse, move the cursor on top of the mouse and press **Enter**.



4.8 Modifying the Mouse

Once an image has been retrieved into DrawPerfect through the Figure feature, you cannot make any editing changes directly to the image without first selecting Modify. If you wanted, you could

size, delete, move, copy, etc., the object as a whole (such as moving the mouse from the left side of the screen to the right), but you could not adjust the individual objects that make up the image without first selecting **Modify**.

Let's delete one of the whiskers on the mouse.

1 Select **Edit** to display the Edit menu, then select **Modify**.

or

Move the cursor to the **Modify** icon and press **Enter**.

2 Place the cursor on the mouse and press **Enter** to select the mouse.

3 Press the **Space Bar** to begin modifying the mouse.

To help you edit, the mouse is enlarged temporarily in the drawing window.

4 Select **Edit** to display the Edit menu.

5 Select **Delete**.

6 Move the cursor on top of one of the mouse's whiskers and press **Enter**.

If DrawPerfect selects the wrong object, press **Enter** to unselect the object; press **Enter** again to select the correct object.

7 Press the **Space Bar** to delete the whisker.

8 Press **Exit** (F7) to exit the figure editing mode and return the mouse to its original size.

9 To unselect the mouse, move the cursor on top of the mouse and press **Enter**.

Modify lets you make all kinds of creative editing changes. If you wanted, you could shrink the mouse's ear, change its eye color, rotate its tail, etc.

If you had retrieved the mouse to the DrawPerfect screen using **Retrieve** (Shift-F10), it would not be necessary to select **Modify** before performing an editing action. For more information, see *Figure in Draw Reference*.

4.9 Retrieving into WordPerfect 5.1

If you are a WordPerfect 5.1 user, you can select the **WordPerfect** option from the **File** menu to transfer the on-screen drawing into WordPerfect. Once the drawing is transferred into WordPerfect 5.1, you can select a WordPerfect option called "DrawPerfect" to transfer the drawing back into DrawPerfect.

There are a few requirements you must meet in order to transfer images between the two programs. They include the following:

- You must use WordPerfect 5.1, DrawPerfect 1.0, and Shell 3.0.
- DrawPerfect and WordPerfect need to be listed and running as options on the Shell menu.
- The macros, WPTODRAW.SHM and DRAWTOWP.SHM must reside in your default shell directory (the directory where SHELL.EXE resides).

If you do not meet all of the above requirements, then the WordPerfect option listed on the File menu is displayed in brackets (e.g., [WordPerfect]). The brackets indicate the option is unavailable. Once the requirements are met, the brackets are removed.

For information about the Shell program and the WPTODRAW.SHM and DRAWTOWP.SHM shell macros, see the Shell Reference Guide.

To transfer the on-screen drawing from DrawPerfect into WordPerfect 5.1,

- 1** Select **File** to display the File menu.
- 2** Select **WordPerfect** to begin the transfer process.

The drawing is saved to the clipboard, WordPerfect is started, and the main WordPerfect editing screen appears.

DrawPerfect and WordPerfect are able to transfer drawings back and forth with the help of the Shell. The Shell program contains a feature called “the clipboard” which can be used to temporarily store information and move information between programs. You can retrieve the figure or leave the figure in the clipboard.

At the bottom of the WordPerfect editing screen is a menu. Let’s choose option 1, Retrieve Figure, and retrieve the mouse into the WordPerfect Graphics Editor.

- 3** Select **Retrieve Figure** to retrieve the mouse image.

The figure is retrieved into WordPerfect and the Graphics Editor screen appears.

4.10 Retrieving into DrawPerfect

Notice that “DrawPerfect” appears as the sixth option in the Graphics Editor menu. When you select DrawPerfect, the on-screen image is saved to the clipboard, DrawPerfect is started, and the image is retrieved.

- 1** Select **DrawPerfect**.

You should now be back in DrawPerfect.

There are many advantages that come with the integration of WordPerfect and DrawPerfect. One of the biggest advantages is the editing ability you gain when you transfer an image from WordPerfect into DrawPerfect. While in DrawPerfect, you can change the colors or the size of an image, add some text, draw a few objects, or even change the shape of a line.

In addition, you can design graphics in DrawPerfect, import them into WordPerfect, and enhance headers, footers, newsletters, documents, reports, etc.

Lesson 5: Selection Methods

As you use different editing features to alter various objects on your screen, you may wish for a feature that allows you to perform one editing action on several objects at the same time. Or you may wish for an option that will let you perform intricate work on small areas, such as deleting an eyelash or drawing small leaves on a tree.

In this lesson you learn about a selection method which lets you select and edit more than one object at a time. You also learn how you can use the options on the View pull-down menu to enlarge, shrink, or move an object for detailed editing.

Features

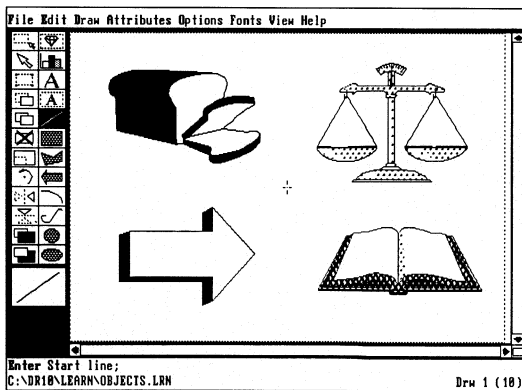
While working through the lesson, you are introduced to the following tasks:

- Using Select Area
- Opening the second drawing screen
- Zooming in and out from an object
- Panning an object across the screen
- Resetting the screen
- Using the scroll bars

5.1 Retrieving the Objects File

Before beginning this lesson, you need to retrieve one of the learning files to the screen.

- 1 Select **File** to display the File menu.
- 2 Select **Retrieve** and type **objects.lrn** and press **Enter** to retrieve the objects to the screen.



Four objects (a loaf of bread, an arrow, a book, and a scale) should be displayed on the screen.

5.2 Using Select Area

As you have learned in the previous lessons, to perform almost all editing actions you first need to select an object on which you want to use the action. Up to this point, you selected an object by placing the cursor on the object and pressing Enter. This is called Select Item and is the DrawPerfect default setting.

If, however, you want to select more than one object at a time, you can do so by using Select Area. With Select Area, you do not select individual objects one at a time, instead you define an area. Then every object that falls completely within that defined area is subject to the action you perform.

The procedure for defining an area is similar to defining a figure box. Let's use Select Area and move two of the objects, the loaf of bread and the arrow, to the second drawing screen.

- 1 Select **Edit** to display the Edit menu, then choose **Select Area**.

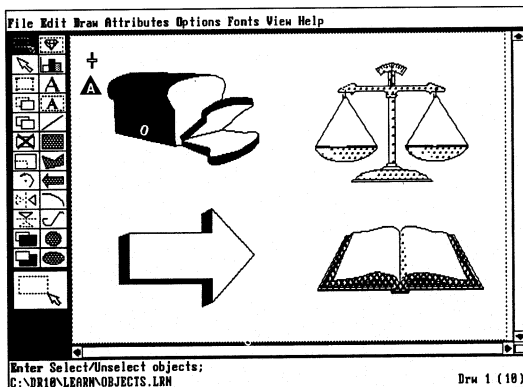
or

Move the cursor to the **Select Area** icon and press **Enter**.

- 2 Move the cursor to the top left corner of the bread and press **Enter**.

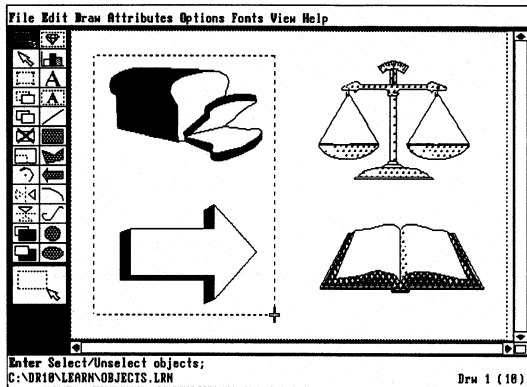


▲ CURSOR POSITION



- 3 Move the cursor down to the bottom right corner of the arrow to define the area.

Both the bread and the arrow must fall entirely within the defined area or DrawPerfect will not select them.



4 Press **Enter** to select the objects. DrawPerfect displays line markers on the two objects indicating that they have been selected.

5 Select **Edit** to display the Edit menu, then select **Move**.

or

Move the cursor to the Move icon and press **Enter**.

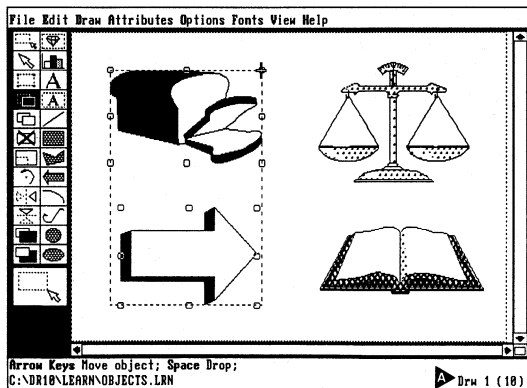
A dashed box appears around the two objects.



5.3 Opening the Second Drawing Screen

Until now, you have been using the DRW 1 (Drawing 1) screen to draw. Right now you are probably in the DRW 1 screen.

▲ DRW 1



Open the second drawing screen and retrieve the bread and the arrow.

- 1 Press **Switch** (Shift-F3) to open the second screen.

The dashed box now appears in the second drawing window. You can press the Space Bar to recover the objects in their current position, or you can move the dashed box and then press the Space Bar.

- 2 Press the **Space Bar** to recover the objects.

With the second drawing screen, you can edit drawings easily by using Switch.

5.4 Exiting the Second Drawing Screen

Now let's exit the second drawing screen and return to the two remaining objects in the DRW 1 screen.

- 1 Press **Exit** (F7) and type **n** to indicate that you do not want to save the drawing.
- 2 Type **y** to exit the second drawing screen and return to DRW 1.

5.5 Using Zoom Area

With the two remaining objects displayed, you are ready to learn about some of the options on the View menu. The first option we will use is Zoom.

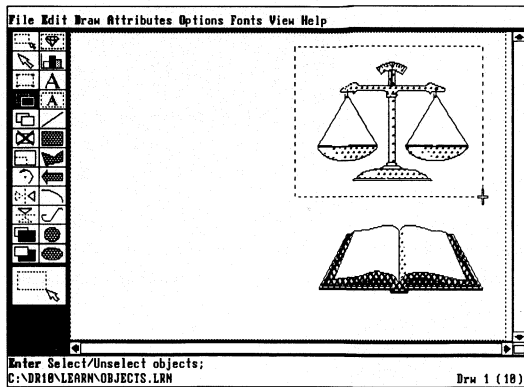
There are three options listed on the Zoom submenu: Area, In, and Out. The first option, Area, lets you magnify all objects within a defined area.

- 1 Select **View** to display the View menu.
- 2 Select **Zoom** to display the Zoom submenu.
- 3 Select **Area** to begin defining a zoom area.

To define the scale as the area you want to zoom in on,

- 4 Move the cursor to the top left corner of the scale and press **Enter**.

- 5 Draw a dashed box around the entire object by moving the cursor to the bottom right corner of the scale.



- 6 Press **Enter** to zoom in on the scale.

Follow steps 1 through 6 above and zoom in on the scale again except this time define only a *section* of the scale, rather than the entire scale, as the zoom area.

With a small section magnified, you can easily perform any intricate editing action. It is important to remember, however, that the size of the scale has not been changed; only your vantage point has changed.

5.6 Resetting the View

Now reset the scale to its original size and position by using the Reset View option.

- 1 Select **View** to display the View menu.
- 2 Select **Reset View** to return the drawing to its original size.

You can also use the Reset View option to redraw the screen whenever you see the word "ReDraw" in the bottom right corner. The only difference between the Reset View option and the ReDraw option is that Reset View will literally reset the page and take you out of a zoom and/or pan, whereas ReDraw will leave you in a zoom and/or pan.

5.7 Zooming In

Because you may not always want to define a specific area to zoom in on, DrawPerfect provides a Zoom In feature you can use

to magnify *all* the objects currently on the screen. Zoom in on the book and the scale.

- 1 Select **View** to display the View menu.
- 2 Select **Zoom** to display the Zoom submenu.
- 3 Select **In** to zoom in on both objects on the screen.

Now reset the view of the DrawPerfect page. You can reset the view by either selecting the Reset View option from the View menu as you did in task 5.6, or you can press Go To twice.

- 4 Press **Go To** (Ctrl-Home) twice to reset the view of the DrawPerfect page.

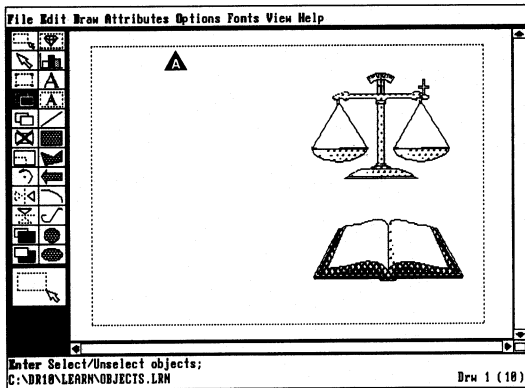
5.8 Zooming Out

The final Zoom feature DrawPerfect provides for you is Zoom Out. Use the Zoom Out command to shrink all objects currently on the screen.

- 1 Select **View** to display the View menu.
- 2 Select **Zoom** to display the Zoom submenu.
- 3 Select **Out** to zoom out from the two objects on the screen.

Notice the dashed box that appears around the objects.

▲ DASHED BOX



The dashed box represents the four sides of the page. This serves as a reminder of your present vantage point.

- 4 Press **Go To** (Ctrl-Home) twice to reset the page.

5.9 Page Up/Page Down Commands

By using the Page Up and Page Down commands, you can access Zoom In and Zoom Out without going through the View pull-down menu.

- 1 Press **Page Down** (PgDn) a few times to shrink the objects.
- 2 Now press **Page Up** (PgUp) a few times to enlarge the objects. Do not reset the page.

5.10 Panning the Objects

The Pan feature is another option you can use to change your view of the objects on the screen. Pan gives you the ability to move an object to the left, right, up, or down when you are using Zoom. You must currently be zoomed in on an object for Pan to work.

- 1 Select **View** to display the View menu.
- 2 Select **Pan** to display the Pan submenu.
- 3 Select **Left** to pan the objects on the screen to the left.

Repeat steps 1 through 3 above a few times and try panning the objects in different directions.

5.11 Arrow Keys

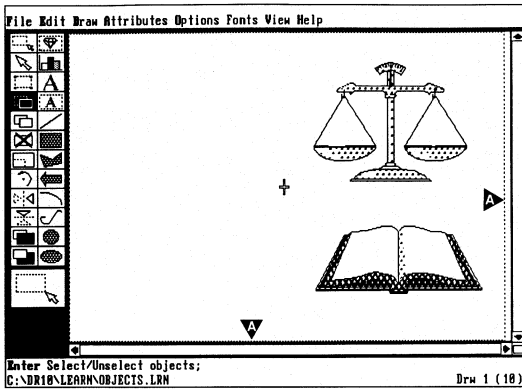
Another way to access the Pan command without going through the View menu is to use the arrow keys with Ctrl.

- 1 Press **Ctrl-Left Arrow** (←) to pan the image to the left.
- 2 Press **Ctrl-Right Arrow** (→) to pan the image to the right.
- 3 Press **Ctrl-Down Arrow** (↓) to pan the image down.
- 4 Press **Ctrl-Up Arrow** (↑) to pan the image up.
- 5 Press **Go To** (Ctrl-Home) twice to reset the page.

5.12 Scroll Bars

The Scroll Bars, located along the bottom and right side of the drawing window, provide you with another way of accessing the Pan command.

▲ SCROLL BARS



Let's try panning the images on the screen using the Scroll Bars.

- 1 Press **Page Up** twice to enlarge the objects.
- 2 Place the cursor on top of one of the small arrows in the Scroll Bars and press **Enter**.
- 3 Press **Enter** to pan the image again.

The Scroll Bars show you how much page area is visible on the screen and how much page area is scrolled outside of your view. Notice the section of the Scroll Bar that is filled in with a pattern. This represents the amount of page area that is scrolled outside of the drawing window.

Now Reset the page.

- 4 Press **Go To** (Ctrl-Home) twice to reset the page.

5.13 Go To

One way of moving the cursor to a specific location is by using the mouse and/or the arrow keys. DrawPerfect also provides a Go To feature that performs the same task. The Go To feature is especially helpful when you are constructing a macro and need to position the cursor in a specific location (see *Macros* in *File Reference*).

- 1 Select **View** to display the View menu.
- 2 Select **Go To**.

3 Enter the number **1.5** for the X-axis.

4 Enter the number **7** for the Y-axis.

The cursor should now be in the upper left corner of the screen.

**5.14 Clearing
the Screen**

Now clear the screen.

1 Select **File** to display the File menu.

2 Select **Clear** and type **y** to clear the screen.

You are now ready to continue to Lesson 6.

Lesson 6: Bar Chart

One of the most effective ways to communicate information is through visual aids—organizing your ideas into charts, diagrams, and text. DrawPerfect is designed as a presentation graphics package that can help you produce professional-looking handouts and overheads for any presentation.

In this lesson you create a simple bar chart that documents the sales of humane mousetraps over a four-year period. The chart is part of the “Building a Better Mousetrap” presentation you are preparing for the Acme Pest company.

Features

While working through this lesson you are introduced to the following tasks:

- Creating a bar chart
- Modifying a bar chart
- Saving a bar chart

6.1 Defining the Chart Area

Before you begin filling in the data for your bar chart, you need to define an area on the screen where you want the chart placed.

- 1 Select **Draw** to display the Draw menu.
- 2 Select **Chart** to display the Chart submenu, then select **Bar** to begin creating a Bar chart.

or

Move the cursor to the Chart icon and press **Enter**.

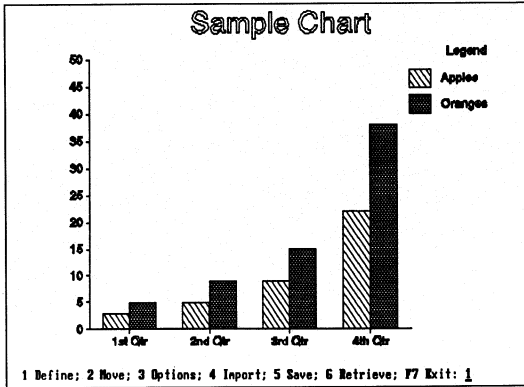


You cannot specify a chart type (e.g., bar, line, pie) if you select the Chart icon. The current chart type illustrated within the icon is the type of chart DrawPerfect begins creating. To create a different type, follow steps 1 and 2 above. Once a new type is specified, the icon changes.

- 3 Move the cursor into the drawing window, then press **Enter** twice to define the entire DrawPerfect window as the chart area.

6.2 Displaying the Graph Screen

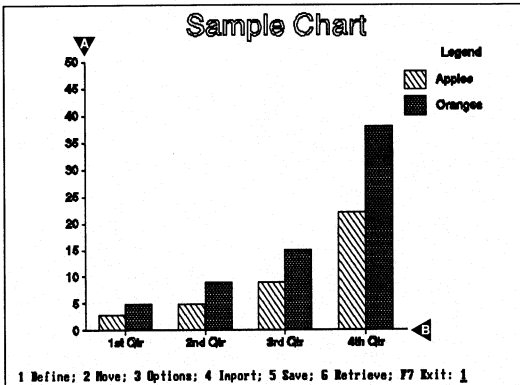
You are now placed in the Graph Edit screen where a sample bar chart is displayed for you.



The Graph Edit screen is the place where you preview and edit the charts you create before retrieving them to the DrawPerfect screen.

All DrawPerfect charts, except pie charts, are created using an X- and Y-axis. The line running horizontally across the screen is called the X-axis; the vertical line is called the Y-axis.

- ▲ Y-AXIS
- ▲ X-AXIS



At the bottom of the Graph Edit screen is a menu. This menu, which is called the Graph Edit menu, lets you change and move the elements of the chart to make it appear just how you want.

6.3 Displaying the Graph Data Screen

To begin defining your bar chart, select the Define option.

1 Select Define.

You are now placed in the Graph Data screen. It is divided into two sections: the Title List above and the Item List below.

▲ TITLE LIST

▾ ITEM LIST

Define: Graph Data				
Title :	Sample Chart			
Subtitle :				
Legend :	Legend			
X-Label :				
Y-Label I :				
Y-Label II :				
Legend	1 1st Qtr	2 2nd Qtr	3 3rd Qtr	4 4th Qtr
Apples	3	5	9	22
Oranges	5	9	15	38

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

While in the Graph Data screen, you can use the arrow keys or Tab/Shift-Tab to move the cursor to different options. Use Backspace to delete the current text entry if you make a mistake. Enter moves you down to the next item and lets you edit options. Also, if you press Home Left Arrow (←) or Home Right Arrow (→) the cursor moves to the end or beginning of the row of data. Detailed instructions on cursor movement within graph screens can be found in *Graph Chart Options* in *Draw Reference*.

If you are using the mouse, the left and right mouse buttons function the same way as when you are in other DrawPerfect menus. The right button performs the same function as Exit (F7). This exits you out of menu options. The left button lets you select and enter menu options. By holding down the left button, you can highlight the various option names as you move the cursor around the screen. When you release the left button, the cursor moves to the option name currently highlighted.

6.4 Adding the Title List Information

Your cursor should be resting on the S of the word "Sample." Let's begin filling in the information.

1 To insert the chart title, type **Reasons for Trap Selection** and press **Enter**. You can type over the existing text.

2 To include a label for the left Y-axis, use Down Arrow (↓) and move the cursor down into the Y-Label L (L stands for left) row.

3 Type **Number of Traps Sold** and press **Enter**.

In a later step, we will rotate the Y-Label L so it is displayed vertically along the Y-axis.

You are now finished entering the information in the Title List. The next step is to enter the legend names and numbers in the Item List.

6.5 Adding the Item List Information

The Item List lets you enter the legend names, the data for your chart, and the X-axis names. First, let's enter the legend names and data.

1 Press **Clear** (F1) to clear the current data from the screen, then type **y** at the "Clear all current data? No (Yes)" prompt.

The Clear option clears all data in the Item List; the title and Y-Label L name, which are in the Title List, remain on the screen.

2 Move the cursor past the Y-Label R into the area under the word "Legend."

3 Type **Quick** and press **Enter**.

Now enter the second and third legend names.

4 Type **Effective** and press **Enter**.

5 Type **Humane** and press **Enter**.

You should now have three legend names displayed on the screen.

Define: Graph Data				
Title : Reasons for Trap Selection				
Subtitle :				
Legend : Legend				
X-Label :				
Y-Label L: Number of Traps Sold				
Y-Label R:				
	1	2	3	4
Legend				
Quick				
Effective				
Humane				
-				

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

Let's go ahead and fill in the data for column 1.

- 6 Press **Right Arrow** (→) once to move the cursor across to column 1. Press **Up Arrow** (↑) three times to move the cursor up three spaces. The cursor should be in the space directly across from the legend name "Quick."
- 7 Type **990** and press **Enter**, type **760** and press **Enter**, then type **590** and press **Enter**.

There should now be three numbers entered in column 1. Check the screen below to make sure you entered the numbers correctly.

Define: Graph Data				
Title : Reasons for Trap Selection				
Subtitle :				
Legend : Legend				
X-Label :				
Y-Label L: Number of Traps Sold				
Y-Label R:				
Legend	1	2	3	4
Quick	990			
Effective	760			
Hunane	590			
	-			

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

Finish entering the data for your chart by filling in the numbers for columns 2, 3, and 4.

- 8 Press **Right Arrow** (→) once to move the cursor across to column 2. Press **Up Arrow** (↑) three times to move the cursor up three spaces. The cursor should be in the space directly across from the number "990."
- 9 Type **920** and press **Enter**, type **790** and press **Enter**, then type **660** and press **Enter**.
- 10 Press **Right Arrow** (→) once to move the cursor across to column 3. Press **Up Arrow** (↑) three times to move the cursor up three spaces. The cursor should be in the space directly across from the number "920."
- 11 Type **820** and press **Enter**, type **800** and press **Enter**, then type **780** and press **Enter**.
- 12 Press **Right Arrow** (→) once to move the cursor across to column 4. Press **Up Arrow** (↑) three times to move the cursor

up three spaces. The cursor should be in the space directly across from the number “820.”

- 13** Type **710** and press **Enter**, type **780** and press **Enter**, then type **990** and press **Enter**.

Check your screen with the one illustrated below—the two should look alike.

```

Define: Graph Data
Title : Reasons for Trap Selection
Subtitle :
Legend : Legend
X-Label :
Y-Label I: Number of Traps Sold
Y-Label II:

```

Legend	1	2	3	4
Quick	990	920	820	710
Effective	760	790	800	780
Humane	590	660	780	990
				-

```

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

```

Each number you entered in the four columns represents a different bar on your chart.

Now you are ready to enter the last group of information—the X-axis names. The space directly below the column numbers is used to enter the X-axis names.

- 14** Move the cursor to the “cell” (the blank area) under the 1 of column 1, then type **1987** and press **Tab**.

▲ X-AXIS NAMES

```

Define: Graph Data
Title : Reasons for Trap Selection
Subtitle :
Legend : Legend
X-Label :
Y-Label I: Number of Traps Sold
Y-Label II:

```

Legend	1	2	3	4
Quick	990	920	820	710
Effective	760	790	800	780
Humane	590	660	780	990
	1987	-		

```

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

```

The cursor should now be in the blank area below the 2 of column 2.

15 Type **1988** and press **Tab**.

The cursor should now be in the blank area below the 3 of column 3.

16 Type **1989** and press **Tab**.

The cursor should now be in the blank area below the 4 of column 4.

17 Type **1990** and press **Enter**.

Define: Graph Data				
Title : Reasons for Trap Selection				
Subtitle :				
Legend : Legend				
X-Label :				
Y-Label L: Number of Traps Sold				
Y-Label R:				
Legend	1	2	3	4
Quick	998	928	828	718
Effective	768	798	888	788
Humane	598	668	788	998

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

6.6 Displaying the Graph Data Options Screen

You are finished entering the data in the Graph Data screen. Now you need to switch to a different screen, the Graph Data Options screen, and finalize the details of your chart such as color, style, rotation, font size, etc.

1 Press **Data Options (F4)** to display the Graph Data Options screen.

This screen, like the Graph Data screen, is divided into the Title List and the Item List.

TITLE LIST
ITEM LIST

Refine: Graph Data Options				Display Color Font	Not.	
Title	: Reasons for Trap Selec	Yes	<input type="checkbox"/>	HP Helv 48	0	
Subtitle	:	No	<input type="checkbox"/>	HP Helv 25	0	
Legend	: Legend	Yes	<input type="checkbox"/>	HP Helv 16	Vert.	
X-Label	:	No	<input type="checkbox"/>	HP Helv 16	0	
Y-Label L:	Number of Traps Sold	Yes	<input type="checkbox"/>	HP Helv 16	0	
Y-Label R:	:	No	<input type="checkbox"/>	HP Helv 16	0	
Default	:		<input type="checkbox"/>	HP Helv 16	0	
Legend	Color Style	Type	Size	Axis	Color Font	Not.
Quick		Bar	N/A	Left	HP Helv 16	0
Effective		Bar	N/A	Left	HP Helv 16	0
Hunane		Bar	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0

Arrows Move; Enter Edit; F1 Clear; F4 Data; Ctrl-F5 Inport; F7 View;

6.7 Changing the Font Size

The first option you need to change is the font size of the title.

- 1 Move the cursor into the Title row and to the Font column.

TITLE ROW
 FONT COLUMN

Refine: Graph Data Options				Display Color Font	Not.	
Title	: Reasons for Trap Selec	Yes	<input type="checkbox"/>	HP Helv 48	0	
Subtitle	:	No	<input type="checkbox"/>	HP Helv 25	0	
Legend	: Legend	Yes	<input type="checkbox"/>	HP Helv 16	Vert.	
X-Label	:	No	<input type="checkbox"/>	HP Helv 16	0	
Y-Label L:	Number of Traps Sold	Yes	<input type="checkbox"/>	HP Helv 16	0	
Y-Label R:	:	No	<input type="checkbox"/>	HP Helv 16	0	
Default	:		<input type="checkbox"/>	HP Helv 16	0	
Legend	Color Style	Type	Size	Axis	Color Font	Not.
Quick		Bar	N/A	Left	HP Helv 16	0
Effective		Bar	N/A	Left	HP Helv 16	0
Hunane		Bar	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0
		None	N/A	Left	HP Helv 16	0

Arrows Move; Enter Edit; F1 Clear; F4 Data; Ctrl-F5 Inport; F7 View;

- 2 Press **Enter** to display a list of fonts. DrawPerfect highlights the current font. Press **Enter** to select the highlighted font.
- 3 To enlarge the font, type **45** and press **Enter**.

The third row in the Title List contains the settings for a legend. A legend is a short list of information that explains the symbols on a chart. For example, most maps contain a legend that explains

the mileage measurement, different highway classifications, population symbols, etc.

To add a legend to your bar chart, you do not need to change any settings. The default legend display setting is “Yes.”

6.8 Rotating the Y-Label

The rotation of the left Y-Label needs to be changed to 90 degrees.

- 1 Move the cursor into the Y-Label L row and over to the Rot column.
- 2 Type **90** and press **Enter** to display the label vertically along the Y-axis.

Your screen should look like the one illustrated below.

Define: Graph Data Options		Display	Color	Font	Rot.			
Title	: Reasons for Trap Selec	Yes	■	MP Helv 45	0			
Subtitle	:	No	■	MP Helv 25	0			
Legend	: Legend	Yes	■	MP Helv 15	Vert.			
X-Label	:	No	■	MP Helv 16	0			
Y-Label L:	Number of Traps Sold	Yes	■	MP Helv 16	90			
Y-Label R:	:	No	■	MP Helv 16	0			
Default	:		■	MP Helv 16				
Legend	Color	Style	Type	Size	Axis	Color	Font	Rot.
Quick	■	▨	Bar	N/A	Left	■	MP Helv 16	0
Effective	■	▨	Bar	N/A	Left	■	MP Helv 16	0
Hunane	■	▨	Bar	N/A	Left	■	MP Helv 16	0
	■	▨	None	N/A	Left	■	MP Helv 16	0
	■	▨	None	N/A	Left	■	MP Helv 16	0
	■	▨	None	N/A	Left	■	MP Helv 16	0
	■	▨	None	N/A	Left	■	MP Helv 16	0
	■	▨	None	N/A	Left	■	MP Helv 16	0
	■	▨	None	N/A	Left	■	MP Helv 16	0
	■	▨	None	N/A	Left	■	MP Helv 16	0
	■	▨	None	N/A	Left	■	MP Helv 16	0
	■	▨	None	N/A	Left	■	MP Helv 16	0
	■	▨	None	N/A	Left	■	MP Helv 16	0
	■	▨	None	N/A	Left	■	MP Helv 16	0
	■	▨	None	N/A	Left	■	MP Helv 16	0

Arrows Move; Enter Edit; F1 Clear; F4 Data; Ctrl-F5 Inport; F7 View;

6.9 Color and Style Options

You are now finished entering the information for your bar chart. There are, however, color and style options listed in the Graph Data Options screen that you can alter if you desire.

There are three Color columns displayed in the Graph Data Options screen. The first Color column, displayed in the Title List (at the top of the screen), changes the text color of the title, subtitle, legend, etc. The second Color column, displayed in the Item List (at the bottom of the screen on the left side), changes the fill color within the bars of the chart. The third Color column,

displayed in the Item List (at the bottom of the screen on the right side), changes the text color of the legend names.

- A 1ST COLOR COLUMN
- B 2ND COLOR COLUMN
- C 3RD COLOR COLUMN
- D STYLE COLUMN

Legend		Color	Style	Type	Size	Axis	Color Font	Font	Not.
Quick				Bar	N/A	Left		NP Helv 16	0
Effective				Bar	N/A	Left		NP Helv 15	0
Hunane				Bar	N/A	Left		NP Helv 15	0
				None	N/A	Left		NP Helv 15	0
				None	N/A	Left		NP Helv 15	0
				None	N/A	Left		NP Helv 15	0
				None	N/A	Left		NP Helv 15	0
				None	N/A	Left		NP Helv 15	0
				None	N/A	Left		NP Helv 15	0
				None	N/A	Left		NP Helv 15	0
				None	N/A	Left		NP Helv 15	0
				None	N/A	Left		NP Helv 15	0

Arrows Move; Enter Edit; F1 Clear; F4 Data; Ctrl-F5 Inport; F7 View;

The Style column, displayed in the Item List, changes the fill pattern within the bars of the chart.

If you want to change any of the default settings for color or style, move the cursor to the appropriate column and press Enter to display a menu of options at the bottom of the screen. Enter the number of the color or style you want.

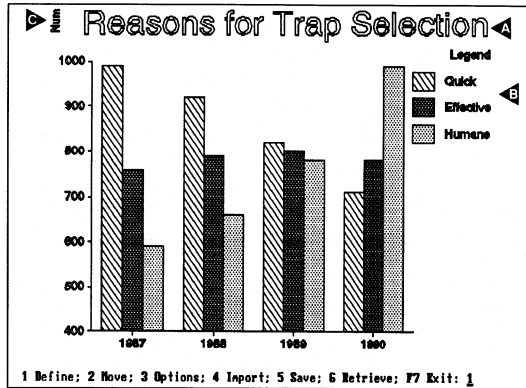
6.10 Moving Elements of the Bar Chart

Now let's retrieve the bar chart to the Graph Edit screen where you can perform some final editing changes.

- 1 Press View (F7) to view the chart.

While in the Graph Edit screen, you are allowed to move different elements of your chart. For example, you can change the position of the graph title, the legend, and the Y-Label L title.

- ▲ GRAPH TITLE
- ▲ LEGEND
- ▲ Y-LABEL L



At the bottom of the screen is a list of menu options from which you can select.

- 2 Select **M**ove from the menu.

Small letters appear by every item on the graph that can be moved.

- 3 Type **e** to move the Y-Label.

or

If you are using a mouse, move the cursor on top of the Y-Label and click the left mouse button.

A plus sign (+) appears on the screen next to the Y-Label.

- 4 Use the arrow keys and move the plus sign down until the Y-Label is centered vertically along the Y-axis, then press **Enter**.

or

Use the mouse and move the cursor to where you want the Y-Label, then click the left mouse button.

Repeat steps 3 and 4 if the Y-Label is still not centered.

If you want to move the title, follow steps five and six below.

5 Type **a** to move the title.

or

If you are using a mouse, move the cursor on top of the title and click the left mouse button.

6 Use the arrow keys and move the plus sign to where you want the title placed, then press **Enter**.

or

Use the mouse and move the cursor to where you want the title, then click the left mouse button.

If you want to move the legend, follow steps seven and eight below.

7 To move the legend, type **c**.

or

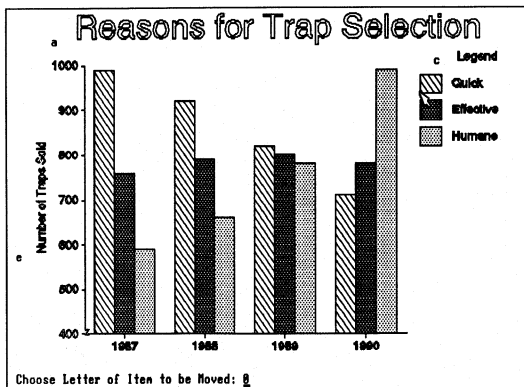
If you are using a mouse, move the cursor on top of the legend and click the left mouse button.

8 Use the arrow keys and move the plus sign to where you want the legend placed, then press **Enter**.

or

Use the mouse and move the cursor to where you want the legend, then click the left mouse button.

Your bar chart should look similar to the one illustrated below.

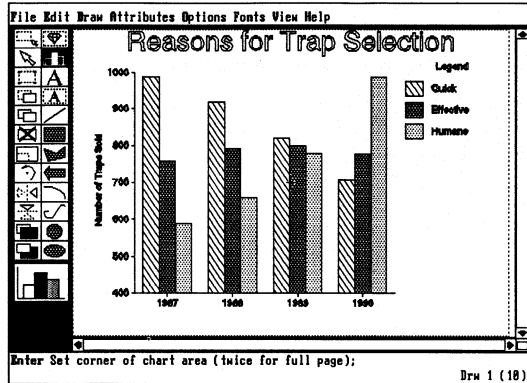


9 Press **Exit** (F7) to exit editing mode.

If you notice a mistake and need to edit the spelling of a name, a number, etc., select **Define** from the menu and you are again placed in the Graph Data Options screen where you can make changes.

With the graph edited, you are now ready to return to the DrawPerfect screen.

- 10 Press **Exit** (F7) and type *y* at the “Insert chart in current drawing? Yes (No)” prompt.



6.11 Modifying the Chart

Once a chart has been transferred to the DrawPerfect screen, you cannot make any changes, such as adding another statistic or deleting a legend name, without first selecting the editing action **Modify**.

Modify lets you switch back into the Graph screens and make alterations. Let's change the legend name “Effective” to “Sanitary.”

- 1 Select **Edit** to display the Edit menu, then select **Modify**.

or

Move the cursor to the **Modify** icon and press **Enter**.

- 2 Place the cursor on the chart and press **Enter** to select the chart.
- 3 Press the **Space Bar** to modify the chart.
- 4 You are placed in the Graph Edit screen. Select **Define** to return to the Graph Data Options screen.



- 5 Move the cursor to the “E” of the word “Effective.” Type **Sanitary** and press **Enter**.
 - 6 Press **View** (F7) to return to the Graph Edit screen.
 - 7 Press **Exit** (F7) and type **y** to save the changes and return to the DrawPerfect screen.
 - 8 Press **Enter** to unselect the chart.
-

6.12 Saving the Chart

Because the chart will be used in the next lesson, you need to save it.

- 1 Press **Exit** (F7), type **y** to save the chart, then enter **bchart** to create a file for the chart.
- 2 Type **n** to clear the screen and stay in DrawPerfect.

Lesson 7: Bar Chart – Revision

The bar chart you created in Lesson 6 is ready for display. All the required elements are present—the data, the text, the bars, etc. However, once displayed, the chart will most likely be forgotten by your audience. There is nothing unusual or striking about it; it looks like most other bar charts. With DrawPerfect, however, you can turn your ho-hum chart into something notable by adding a few enhancements. You can add clip-art, a line of text, an arrow, a colored background, an original drawing, or any number of items.

In this lesson you retrieve the chart you created in Lesson 6 and learn how to add text and arrows. These additions will help emphasize the significant points you want your audience to remember.

Features

While working through this lesson, you are introduced to the following tasks:

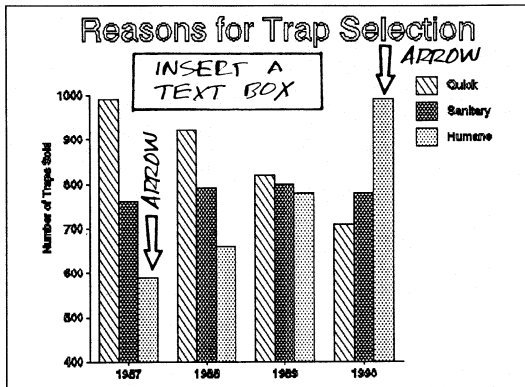
- Adding a window of text
- Changing fonts
- Modifying text
- Adding arrows

7.1 Retrieve the Bar Chart

The bar chart you retrieve in this lesson is the same one you created in Lesson 6.

- 1 Select **File** to display the File menu.
- 2 Select **Retrieve** and enter **bchart** to retrieve the chart.

With a copy of the bar chart on the screen, you are ready to begin adding a few enhancements. Checking the edited chart below, you can see where a window of text should be entered and where two arrows should be positioned.



7.2 Adding Text

To add text to your chart, you first need to define a text window into which you will insert the text. You will be adding one sentence that is thirteen words long. Try to allocate enough space in your text window for the entire sentence; otherwise, you may have to resize the window.

- 1 Select **Draw** to display the Draw menu, then select **Window Text**.

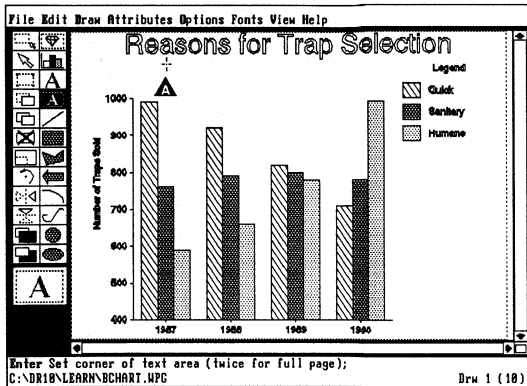
or



Move the cursor to the Window Text icon and press **Enter**.

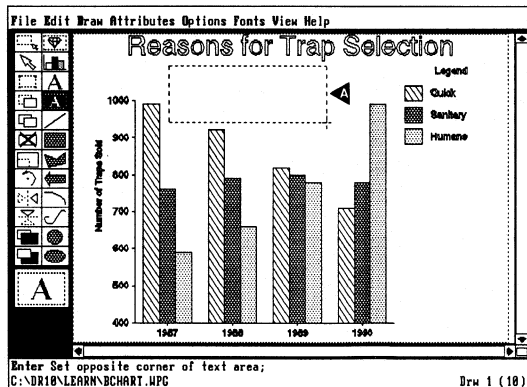
- 2 Position the cursor in the blank area below the chart title (as illustrated below).

A CURSOR POSITION



- 3 Press **Enter** to begin defining the text window. Try to create a window about 1 inch wide and about 2½ inches long.

A TEXT WINDOW



- 4 Move the cursor to the ending point of the window and press **Enter**.

You are now ready to insert the text. However, you need to change the size of the base font first. The Base Font menu can be used to quickly select different styles and sizes of fonts. Let's type the sentence using a 20-point WP Helvetica font.

- 5 If you are using the keyboard, press **Alt** to activate the pull-down menus, then select **Fonts** to display the Fonts menu.

or

If you are using a mouse, select the Fonts pull-down menu.

- 6 Select **Base Font** to display the Base Font menu.

A list of the DrawPerfect fonts is displayed on the screen.

- 7 Press **Enter** to accept WP Helvetica as the base font.

- 8 Enter **20** to define the point size.

Before you begin typing, you need to be aware of a DrawPerfect setup option called Text Quality While Editing. This option, located on the Display: Setup menu, lets you determine the quality at which text is displayed on the screen.

You can choose to display text in low, medium, or high quality. The default setting is medium. A medium setting means that text is displayed in an outline format. Or in other words, the text you type will not be a true Helvetica 24-point font. It will be a simplified version. You can see the actual Helvetica font when you preview the drawing in the print preview screen, in the presentation screen, or when you print the page. With the text displayed at a lower resolution, you can type and edit the text quicker.

- 9 Type the following text without pressing Enter:

Sales of humane traps increased from

7.3 Using Bold

Now turn on the Bold feature to highlight the number 590.

- 1 Press **Bold** (F6) to begin bolding.
- 2 Type **590** and press **Bold** again to end bolding.
- 3 Type **in 1987 to**

Turn on the Bold feature again to highlight the number 990.

- 4 Press **Bold** (F6) to begin bolding.
- 5 Type **990** and press **Bold** (F6) to end bolding.
- 6 Type **in 1990.** to finish the sentence.

If the sentence does not fit inside the text window you defined, DrawPerfect scrolls the text upward, outside of the window. To change the size of the window, follow steps 7 through 10 below.

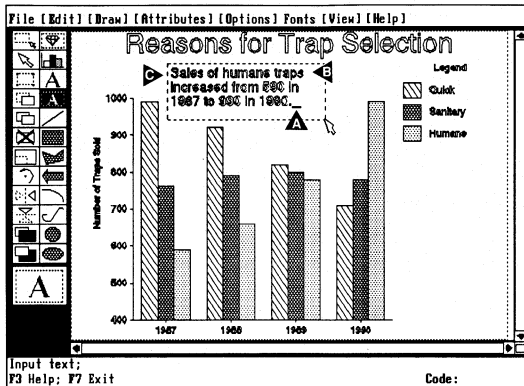
- 7 Press **Format** (Shift-F8) to resize the text window.

- 8 Select ReSize Window.
- 9 Enlarge the text window, then press **Enter**.
- 10 Press **Up Arrow** once or twice until DrawPerfect rewrites the missing text.

Any text that was previously scrolled outside of the text window is rewritten inside the newly formatted window.

There are three things you may have noticed while typing the sentence.

- ▲ CURSOR
- ▲ WORD WRAPPING
- ▲ GRAPHICS FONT



First, the cursor moves ahead of the text as you type, or backward if you are using Backspace to erase a mistake. The cursor indicates the place where the next character will be typed.

Second, when a text line reaches the right side of the window, the cursor returns to the left side of the window. This automatic return is referred to as “word wrapping.”

Third, DrawPerfect displays and prints graphics fonts. Graphics fonts differ from character-based fonts in that graphics fonts are actually small graphic images made up of lines and curves. The kind of fonts you can reproduce with DrawPerfect *does not* depend on the fonts your printer can reproduce. When you send a DrawPerfect page to your printer, the printer interprets the text as graphics (lines and curves), and is thereby able to print a large variety of fonts.

- 11 Press **Exit** (F7) to finish entering text.

Notice how the dashed lines of the text window disappear.

7.4 Modifying Text

Once you exit a text window you cannot make any changes such as adding a word or deleting a sentence without first selecting the editing action **Modify**. **Modify** lets you go back into the text window and make changes.

Let's go back into the text window and insert the word "mouse."

- 1 Select **Edit** to display the Edit menu, then select **Modify**.

or

Move the cursor to the **Modify** icon and press **Enter**.

- 2 Place the cursor anywhere on the sentence and press **Enter** to select the text.
- 3 Press the **Space Bar** to begin modifying the text.

Brackets appear around all the pull-down menu names except **File** and **Fonts**. The brackets indicate which menus are inaccessible while modifying text.

- 4 Move the cursor between the words "humane" and "traps" and type **mouse**.
- 5 Press **Exit** (F7) when you are finished.
- 6 To unselect the text, move the cursor on top of the sentence and press **Enter**.



7.5 Drawing a Box

To set off the sentence from the rest of the chart, draw a box around the text.

- 1 Select **Draw** to display the Draw menu, then select **Box** to draw a box.

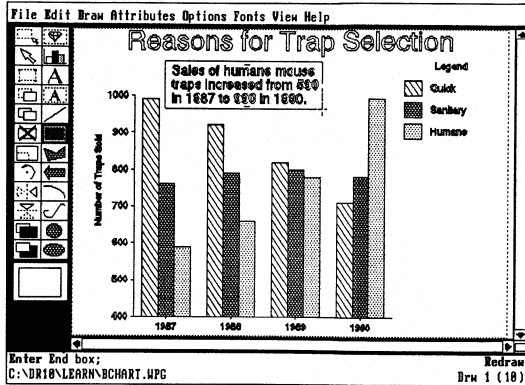
or

Move the cursor to the **Box** icon and press **Enter**.

- 2 Select **Attributes** to display the Attributes menu.
- 3 Select **Fill Pattern** to display a menu of fill patterns.
- 4 Enter **1** to create a hollow pattern in the box.
- 5 Position the cursor at the top left corner of the text and press **Enter**.



- 6 Draw a box around the text, then press **Enter** to quit.



7.6 Selecting the Arrow Option



Now that you have inserted the text, let's add two arrows to the graph.

- 1 Select **Draw** to display the Draw menu, then select **Arrow**.

or

Move the cursor to the Arrow icon and press **Enter**.

Before drawing the arrows, change the Arrow Width.

- 2 Select **Attributes** to display the Attribute menu.
- 3 Select **Arrow Width** to display a menu of 16 different arrow widths.

The DrawPerfect default setting for Arrow Width is option number 12. Let's make the width smaller.

- 4 Type **6** and press **Enter**.

The arrow is displayed in the status box as it will appear when printed.

7.7 Monochrome Monitor

If you have a monochrome monitor, fill the arrow with the solid pattern.

- 1 Select **Attributes** to display the Attributes menu.
- 2 Select **Fill Pattern** to display a menu of different fill patterns.
- 3 Enter **2** to fill the arrow.

7.8 Color Monitor

If you have a color monitor, you can change the fill color.

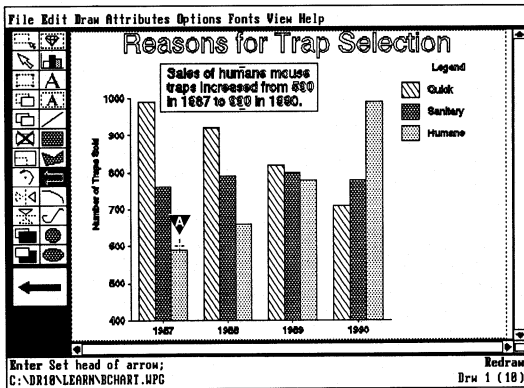
- 1 Select **Attributes** to display the Attributes menu.
- 2 Select **Fill Pattern**, then enter **2** to fill the arrow with a solid pattern.
- 3 Select **Attributes** to display the Attributes menu again.
- 4 Select **Fill Color** to display a menu of different fill colors.
- 5 Select **Next** or **Previous** to see additional colors available for your monitor.
- 6 Enter the number of the color you want.

7.9 Adding Two Arrows

To add the first arrow to the chart,

- 1 Position the cursor on top of the 1987 Humane bar. This is the place where the head of the arrow will be.

▲ CURSOR POSITION

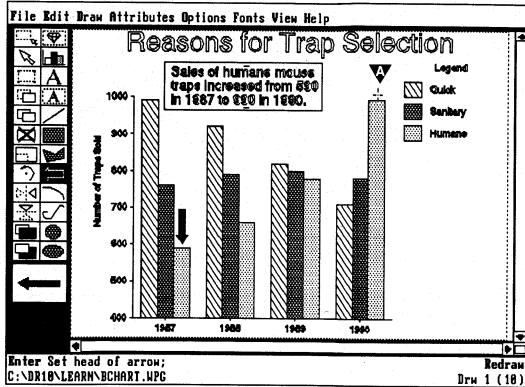


- 2 Press **Enter** to begin drawing the arrow.
- 3 Move the cursor straight up until you have drawn a small arrow.
- 4 Press **Enter** to finish the arrow.

To add the second arrow to the chart,

5 Position the cursor on top of the 1990 Humane bar.

▲ CURSOR POSITION

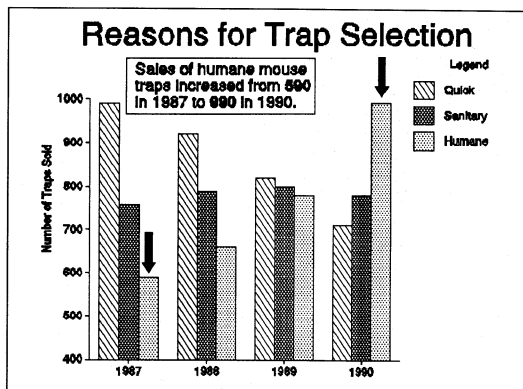


Follow steps 2 through 4 above.

7.10 Previewing the Chart

Now view the finished chart in print preview. The Preview screen gives you a good representation of what the chart will look like when printed.

- 1 Select **File** to display the File menu.
- 2 Select **Print** to display the Print menu.
- 3 Select **View Drawing**.



You should see the full page displayed on the screen.

- 4 Press **Exit** (F7) until you return to the DrawPerfect screen.

7.11 Printing and Saving the Chart

You are ready to print and save the edited chart.

- 1 Select **P**rint from the File menu.
- 2 Select **P**rint Drawing to print the chart.
- 3 Press **E**xit (F7), type **y** to save the chart, then press **E**nter to replace the old drawing file with the edited version.
- 4 Type **n** to clear the screen and stay in DrawPerfect.

Lesson 8: Pie Charts

One of the more popular types of charts used today is the pie chart. Pie charts are divided into individual slices with each slice representing a part of a whole.

In this lesson you create a simple pie chart that documents the market share of Acme Pest and other mousetrap manufacturers. The chart is the second piece of material you are preparing to use in your presentation for the Acme Pest Company.

Features

While working through this lesson you are introduced to the following tasks:

- Creating a pie chart
- Retrieving a graphic image into a chart
- Printing a pie chart

8.1 Defining the Chart Area

To begin inserting data for a pie chart, you need to select **Pie** from the **Chart** submenu, then define an area on the screen where you want the pie chart placed.

- 1 Select **Draw** to display the **Draw** menu.
- 2 Select **Chart** to display the **Chart** menu.
- 3 Select **Pie** to create a **Pie** chart.
- 4 Move the cursor into the drawing window, then press **Enter** twice to define the entire **DrawPerfect** window as the chart area.

8.2 Adding the Title

As soon as you press **Enter** the second time, the **Graph Edit** screen appears. A sample pie chart is displayed for you. Let's begin creating your pie chart by selecting the **Define** option from the **Graph Edit** menu.

- 1 Select **Define**.

You are placed in the **Graph Data** screen. Your cursor should be resting on the **S** of the word "Sample."

- 2 To insert the title, type **Major Mousetrap Manufacturers** and press **Enter**.

Now erase the data from the **Item List**.

- 3 Press **Clear** (**F1**), then type **y** at the "Clear all current data? No (Yes)" prompt.

8.3 Adding the Legend Names

There are five legend names that need to be added to the screen. To add the first name,

- 1 Move the cursor down past the Subtitle, Legend, X-Label, and Y-Labels into the area under the word "Legend."

▲ CURSOR POSITION

Define: Graph Data				
Title :	Major Mousetrap Manufacturers			
Subtitle :				
Legend :	Legend			
X-Label :				
Y-Label L:				
Y-Label R:				
	1	2	3	4
Legend				
▲				

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

- 2 Type **Pests-R-Us**, then press **Enter** to move down to the next row.

Your cursor should be in the blank area below "Pests-R-Us." Go ahead and enter the remaining four legend names.

- 3 Type **Acme Pest** and press **Enter**.
- 4 Type **ABC Rodent** and press **Enter**.
- 5 Type **TNT Traps** and press **Enter**.
- 6 Type **Other** and press **Enter**.

Your screen should look like the one illustrated below.

Define: Graph Data				
Title : Major Mousetrap Manufacturers				
Subtitle :				
Legend : Legend				
X-Label :				
Y-Label L:				
Y-Label R:				
Legend	1	2	3	4
Pests-R-Us				
Acme Pest				
ABC Rodent				
TNT Traps				
Other				
-				

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

To create the “slices” within your pie chart, you need to enter the appropriate numbers in column 1.

7 Press **Right Arrow** (→) to move across to column 1, then press **Up Arrow** (↑) five times to move the cursor five spaces up. The cursor should be in the space directly across from “Pests-R-Us.”

Enter the first number.

8 Type **35** and press **Enter**.

Define: Graph Data				
Title : Major Mousetrap Manufacturers				
Subtitle :				
Legend : Legend				
X-Label :				
Y-Label L:				
Y-Label R:				
Legend	1	2	3	4
Pests-R-Us	35			
Acme Pest	-			
ABC Rodent				
TNT Traps				
Other				

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

Now enter the four remaining numbers.

9 Type **40** and press **Enter**.

10 Type 15 and press **Enter**.

11 Type 7 and press **Enter**.

12 Type 3 and press **Enter**.

Your screen should look like the one illustrated below.

Define: Graph Data				
Title :	Major Mousetrap Manufacturers			
Subtitle :				
Legend :	Legend			
X-Label :				
Y-Label L:				
Y-Label R:				
Legend	1	2	3	4
Pests-R-Us	25			
Acne Pest	48			
ABC Rodent	15			
TNT Traps	7			
Other	3			
	-			

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

Each number entered in column 1 represents a slice of the pie.

8.4 Displaying the Graph Data Options Screen

You are finished entering data in the Graph Data screen. Now switch to the Graph Data Options screen and change the display of the title and legend.

- 1 Press **Data Options (F4)** to switch to the Graph Data Options screen.

Define: Graph Data Options						
Title :	Major Mousetrap Manufa	Yes	■	WP	Helv	48
Subtitle :		No	■	WP	Helv	25
Legend :	Legend	Yes	■	WP	Helv	16
X-Label :		No	■	WP	Helv	16
Y-Label L:		No	■	WP	Helv	16
Y-Label R:		No	■	WP	Helv	16
Default :			■	WP	Helv	16
Legend	Color	Style	Type	Size	Axis	Color Font
Pests-R-Us	■	□	Pie	N/A	Left	■ WP Helv 16 0
Acne Pest	■	□	Pie	N/A	Left	■ WP Helv 16 0
ABC Rodent	■	□	Pie	N/A	Left	■ WP Helv 16 0
TNT Traps	■	□	Pie	N/A	Left	■ WP Helv 16 0
Other	■	□	Pie	N/A	Left	■ WP Helv 16 0
	■	□	None	N/A	Left	■ WP Helv 16 0
	■	□	None	N/A	Left	■ WP Helv 16 0
	■	□	None	N/A	Left	■ WP Helv 16 0
	■	□	None	N/A	Left	■ WP Helv 16 0
	■	□	None	N/A	Left	■ WP Helv 16 0
	■	□	None	N/A	Left	■ WP Helv 16 0
	■	□	None	N/A	Left	■ WP Helv 16 0
	■	□	None	N/A	Left	■ WP Helv 16 0
	■	□	None	N/A	Left	■ WP Helv 16 0

Arrows Move; Enter Edit; F1 Clear; F4 Data; Ctrl-F5 Inport; F7 View;

8.5 Changing the Font Size

The first item you should change while in the Graph Data Options screen is the font size of the title.

- 1 Move the cursor into the Title row and to the Font column.
- 2 Press **Enter** to display the list of DrawPerfect fonts. Press **Enter** again to accept the current highlighted font.
- 3 To enlarge the point size, type **45** and press **Enter**.

8.6 Color and Style Options

You are finished entering the information you need for your pie chart. There are, however, color and style options listed in the Graph Data Options screen that you can alter if you desire.

The first Color column, displayed in the Title List (at the top of the screen), changes the text color of the title, subtitle, legend, etc. The second Color column, displayed at the bottom of the screen on the left side, changes the fill color of the pie slices. The third Color column, displayed at the bottom of the screen on the right side, changes the text color of the legend names.

- ▲ 1ST COLOR COLUMN
- ▲ 2ND COLOR COLUMN
- ▲ 3RD COLOR COLUMN
- ▲ STYLE COLUMN

Refine: Graph Data Options		Display Color Font		Bot.	
Title :	Major Mousetrap Manufa	Yes	MP Helv 45	0	
Subtitle :		No	MP Helv 25	0	
Legend :	Legend	Yes	MP Helv 16	Vert.	
X-Label :		No	MP Helv 16	0	
T-Label L:		No	MP Helv 16	0	
T-Label R:		No	MP Helv 16	0	
Default :		No	MP Helv 16	0	
Legend	Color	Style	Type Size Axis	Color Font	Bot.
Pests-R-Us	■	▨	Pie N/A Left	MP Helv 16	0
Acne Pest	■	▩	Pie N/A Left	MP Helv 16	0
ABC Rodent	■	▧	Pie N/A Left	MP Helv 16	0
TNT Traps	■	▦	Pie N/A Left	MP Helv 16	0
Other	■	▥	Pie N/A Left	MP Helv 16	0
	■	▤	None N/A Left	MP Helv 16	0
	■	▣	None N/A Left	MP Helv 16	0
	■	▢	None N/A Left	MP Helv 16	0
	■	□	None N/A Left	MP Helv 16	0
	■	■	None N/A Left	MP Helv 16	0
	■	▤	None N/A Left	MP Helv 16	0
	■	▣	None N/A Left	MP Helv 16	0
	■	▢	None N/A Left	MP Helv 16	0
	■	□	None N/A Left	MP Helv 16	0
	■	■	None N/A Left	MP Helv 16	0

Arrows Move; Enter Edit; F1 Clear; F4 Data; Ctrl-F5 Import; F7 View;

The Style column, displayed in the Title List, changes the fill pattern within the pie slices.

If you want to change any default settings for color or style, move the cursor to the appropriate column and press **Enter** to display a menu of options at the bottom of the screen. Enter the number of the color or style you want.

8.7 Displaying the Values

Before editing the chart, switch to the Graph Options screen and insert one final command.

- 1 Press **View** (F7) to exit the Graph Data Options screen and view the chart in the Graph Edit screen.
- 2 Select **Options** to display the Graph Options screen.

Graph Options:							
1 - Display Values							No
2 - Graph Orientation/3D							Vertical, Normal
3 - Fill Style							Both
4 - Proportional Pie							No
5 - Bar Configuration							Normal
6 - Representation Line							Lines Only
							Markers Only
7 - Display the Y Axes Separately							No
8 - Alternate X Names							No
9 - Axes	Type	Scaling	Stack	Gridlines	From zero	Format	
Y Axis Left	Linear	Automatic	No	No	No	General	
Y Axis Right	Linear	Automatic	No	No	No	General	
X Axis	Linear	Automatic	N/A	No	No	General	
Selection: 8							

Most of the options on this screen are used to edit the way specific graph types are displayed.

- 3 Select **Display Values**.
- 4 Type **y** to display the values.

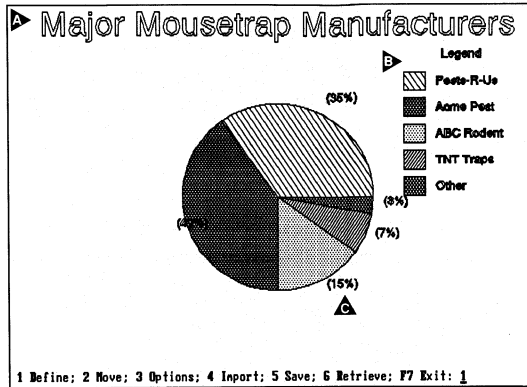
Now all the numbers you entered in column 1 in the Graph Data screen will be displayed on the chart.

8.8 Moving Elements of the Pie Chart

- ▲ CHART TITLE
- ▲ LEGEND
- ▲ VALUES

To preview and edit the chart,

- 1 Press **Exit** (F7) to display the Graph Edit screen.



You may want to change the position of the chart title, legend, and displayed values.

- 2 Select **Move** from the menu below.

Small letters appear by every item on the chart that can be moved.

- 3 Type **a** to move the title.

or

If you are using a mouse, move the cursor on top of the title and click the left mouse button.

A small plus sign (+) appears on the screen next to the title.

- 4 Use the arrow keys and move the plus sign until the title is centered horizontally, then press **Enter**.

or

Use the mouse and move the cursor to where you want the title, then click the left mouse button.

If you want to move the Legend,

- 5 Type **c**.

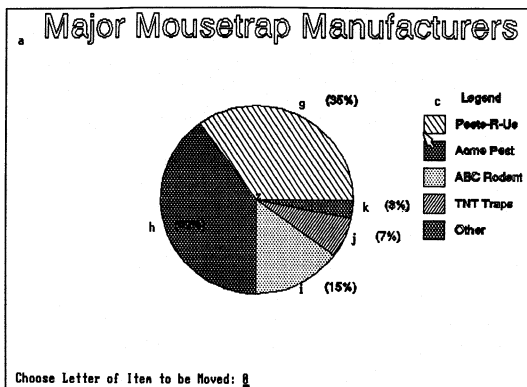
or

If you are using a mouse, move the cursor on top of the legend and click the left mouse button.

- 6** Move the plus sign down and to the right so the legend is centered vertically along the right side of the chart, then press **Enter**.

or

Use the mouse and move the cursor to where you want the legend, then click the left mouse button.



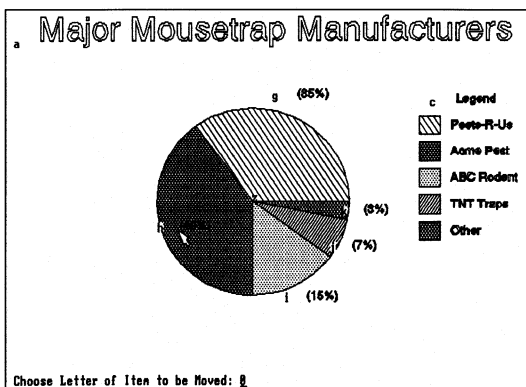
Now move one of the pie chart values.

- 7** Type **g** to move the number 35.

or

If you are using a mouse, move the cursor on top of the number 35 and click the left mouse button.

- 8** Move the number outside of the pie chart, then press **Enter**.



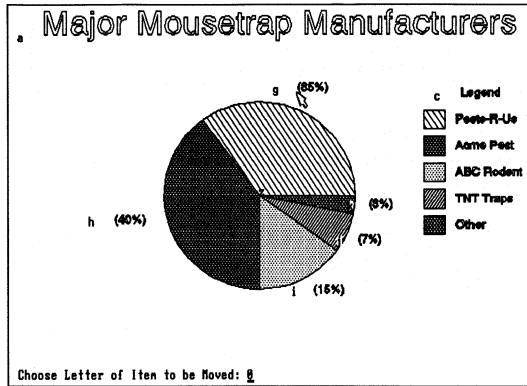
To move the remaining values,

- 9 Type **h** to move the 40; type **i** to move the 15; type **j** to move the 7; type **k** to move the 3.

or

If you are using a mouse, move the cursor on top of the number you want to move and click the left mouse button.

Try to place the numbers in the positions illustrated below.



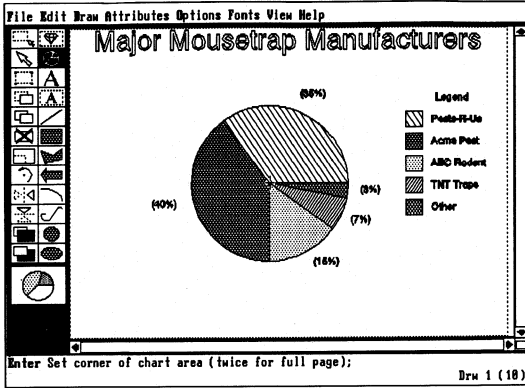
- 10 When you finish moving the different chart components, press **Exit (F7)**.

8.9 Returning to the DrawPerfect Screen

With the chart edited, you are ready to return to the DrawPerfect Screen.

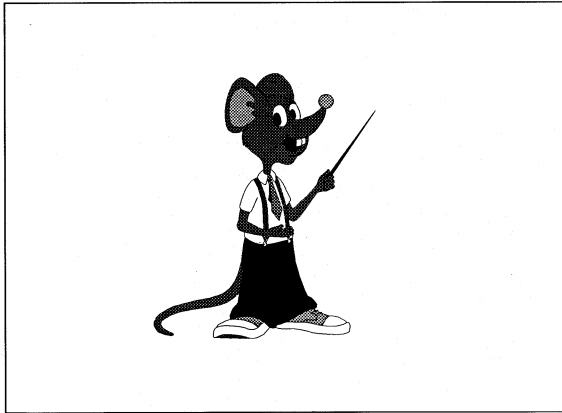
- 1 Press **Exit (F7)** and type **y** at the “Insert chart in current drawing? Yes (No)” prompt.

The chart is transferred to the DrawPerfect screen.



8.10 Adding a Graphics Figure

Now let's add a mouse figure in the bottom left corner of the chart.



- 1 Select **Draw** to display the Draw menu, then select **Figure**.

or

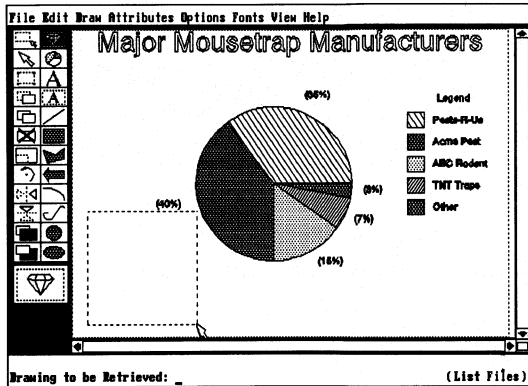
Move the cursor to the **Figure** icon and press **Enter**.

- 2 Create a box about the same size as the one illustrated below by moving the cursor to the starting point of the figure box



and pressing **Enter**, then moving the cursor to the ending point of the box and pressing **Enter** again.

▲ FIGURE BOX



3 At the “Enter Filename” message, enter the name **mouse3.lrn**.

A mouse pointing at the Acme Pest pie slice should now be displayed on the screen.

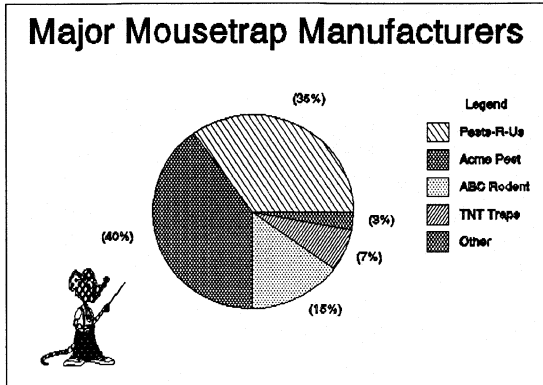
The mouse was originally drawn in color. Thus, if you are using a color monitor, the mouse should appear clearly.

If you are using a monochrome monitor, the colors used on the mouse are remapped as patterns. Thus, you may have difficulty seeing some of the small details on the mouse, such as the individual fingers and toes. However, when printed, the mouse will appear clearly.

8.11 Previewing the Chart

Before printing the chart, preview it in the preview screen.

- 1 Select **Print** from the **File** menu, then select **View Drawing**.



- 2 Press **Cancel** (F1) to return to the **Print** menu.

8.12 Printing and Saving the Chart

To print and save the pie chart,

- 1 Select **Print Drawing** to print the chart.
- 2 Press **Exit** (F7) and type **y** to save the chart.
- 3 Type **pchart** and press **Enter** to name the file in which the pie chart will be saved.
- 4 Type **n** to stay in the program and have DrawPerfect clear the screen.

The chart is printed, stored on disk, and you are ready to continue to the next lesson.

Lesson 9: The Mousetrap

If you have completed Lessons 6 through 8, you should have a pie chart and a bar chart printed and saved on disk.

In this lesson you create the third piece of material you need for your presentation—a drawing of a humane mousetrap.

Features

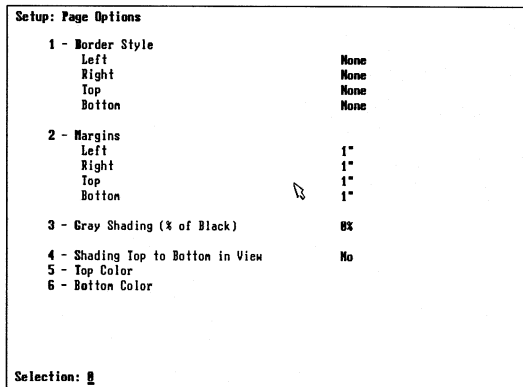
While working through this lesson, you are introduced to the following tasks:

- Creating a border
- Changing the margins
- Changing the base font
- Inserting a text line
- Editing figures
- Drawing arrows

9.1 Creating a Border

One way of creating a border on a page is to draw each side individually using the Line tool. However, DrawPerfect contains a feature that allows you to generate a page border quickly and easily.

- 1 Select **File** to display the File menu.
- 2 Select **Setup** to display the Setup submenu.
- 3 Select **Initial Settings**.
- 4 Select **Page Options** to display the different border options.



The options on this screen allow you to set border style, outside margin space, grey shading, and shading in print preview.

- 5 Select **B**order Style, then type **S** four times to define a single border.

Borders are not visible in the main DrawPerfect screen. However, once a drawing is printed, the borders are visible.

9.2 Changing the Margins

The DrawPerfect default setting for margin width is 1 inch. For the mousetrap illustration, you need to change the setting to $\frac{1}{2}$ inch.

- 1 Select **M**argins, then type **.5** four times to define a $\frac{1}{2}$ inch margin.

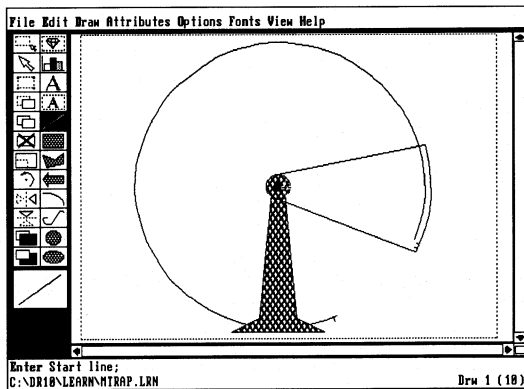
The new border and margin settings remain in effect each time you start DrawPerfect.

- 2 Press **Exit** (F7) twice to return to the DrawPerfect screen.

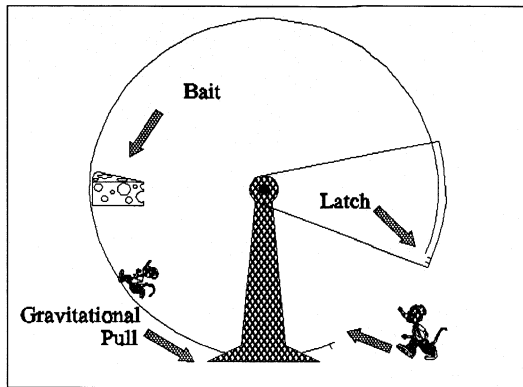
9.3 Retrieving the Mousetrap

An illustration of a humane mousetrap has been prepared for you as part of the “Building a Better Mousetrap” presentation; however, it needs some final editing.

- 1 Select **F**ile to display the File menu.
- 2 Select **R**etrieve and enter **mtrap.lrn** to retrieve the mousetrap.



By comparing the illustration above with the illustration below, you can see where text, arrows, and three graphic images (two mice and a piece of cheese) need to be added to the mousetrap.



9.4 Retrieving the Cheese Image



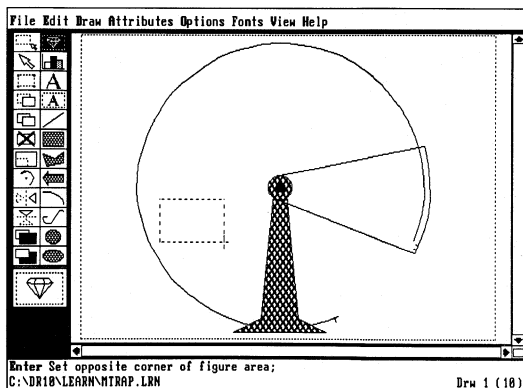
First let's use the Figure feature and retrieve the swiss cheese image you created in Lessons 2 and 3.

- 1 Select **Draw** to display the Draw menu, then select **Figure**.

or

Move the cursor to the Figure icon and press **Enter**.

- 2 Position the cursor inside the mousetrap on the left side of the circle. Define a small figure box about the same size as the one illustrated below.



- 3 At the “Drawing to be Retrieved” prompt, enter the name **cheese** to retrieve a copy of the cheese in the box.

If the cheese image is not resting flush against the left side of the circle, use the action Move to change its position.

- 4 Select **Edit** to display the Edit menu, then Select **Move**.

or

Move the cursor to the Move icon and press **Enter**.

- 5 Place the cursor on top of the cheese and press **Enter**.

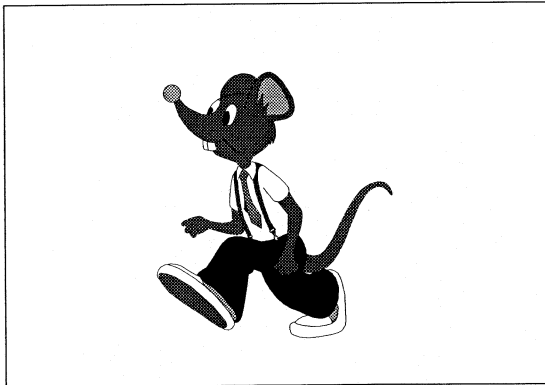
- 6 Press the **Space Bar** to display the dashed box. Move the box until the left side of the dashed box is touching the side of the circle, then press the **Space Bar** again.

- 7 Move the cursor on top of the cheese and press **Enter** to unselect the image.



9.5 Retrieving the Mice

Included with the learning files are two illustrations of mice (MOUSE1.LRN and MOUSE2.LRN) which you need to retrieve into the mousetrap illustration. MOUSE1.LRN is illustrated below.



This mouse should be placed outside the opening of the mousetrap.

- 1 Select **Draw** to display the Draw menu, then select **Figure**.

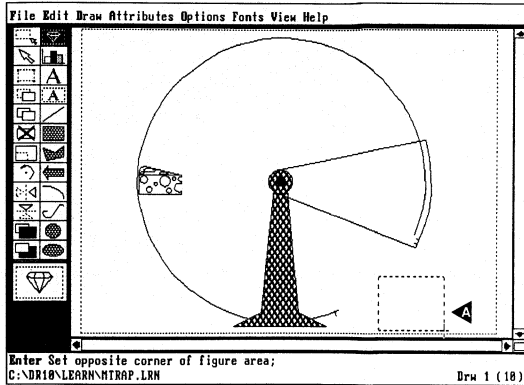
or

Move the cursor to the Figure icon and press **Enter**.

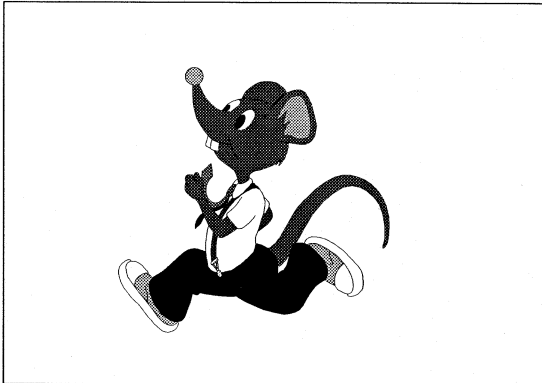


- 2 Move the cursor in front of the trap opening and define a small figure box.

A FIGURE BOX



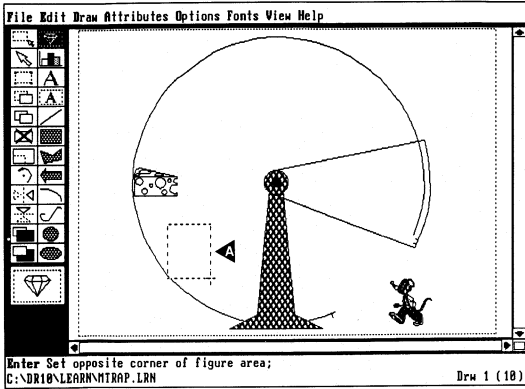
- 3 Enter the name **mouse1.lrn** to retrieve the first mouse figure. The mouse on your screen should appear as if it is entering the trap opening. Now retrieve the second mouse.



This mouse should be placed inside the trap.

- 4 Move the cursor inside the trap and define another small figure box a short distance below the cheese.

A FIGURE BOX



- 5 Enter the name **mouse2.lrn** to retrieve the second mouse figure.

At this point you probably need to use the actions Rotate and Move to adjust the second mouse. Use Rotate to rotate the mouse so he looks like he is headed up to eat the cheese; select Move to move the mouse so his front foot is touching the circle.

- 6 Select **Edit** to display the Edit menu, then select **Rotate**.

or



Move the cursor to the Rotate icon and press **Enter**.

Before rotating the mouse, let's turn on the Position Display message.

In Lesson 1 you learned that the Position Display message tells you the location of the cursor. In addition, the Position Display message can tell you the number of degrees an object is rotating.

Previously you turned on the display message by selecting Position Display from the Options menu. This time, however, let's use the function keys to turn on the display message.

- 7 Press **Position Display** (Alt-F3) to turn on the display message.
- 8 Place the cursor on top of the mouse and press **Enter**.
- 9 Press the **Space Bar** to display the dashed box.

A "Rotation Angle: 0" message appears at the bottom of the screen.

10 Rotate the dashed box. The Rotation Angle message changes with the degree of rotation. Press the **Space Bar** when you finish rotating the mouse.

11 Press **Position Display** (Alt-F3) to turn off the message.

The Rotation Angle message is especially helpful when you need to rotate an object an exact measurement.

Now use Move to move the mouse closer to the circle. Try to position the mouse so his front foot is touching the circle.

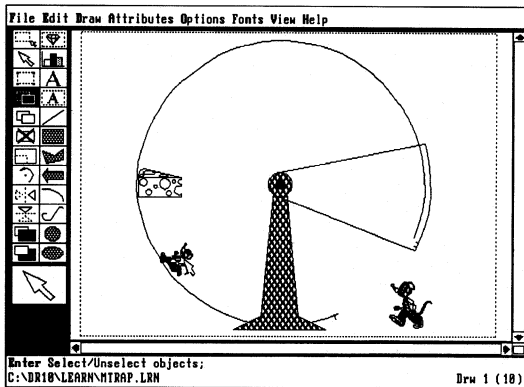
12 Select Edit to display the edit menu, then select Move.

or

Move the cursor to the Move icon and press **Enter**.

13 Press the **Space Bar** to display the dashed box, move the box, then press the **Space Bar** again.

14 To unselect the mouse, move the cursor on top of the mouse and press **Enter**.



If you do not like the placement of the mice, try using Move and Rotate again or any of the different editing actions to modify your mice.

9.6 Adding the Arrows

The next step to creating your mousetrap is to add four arrows.

1. Select **Draw** to display the Draw menu, then select **Arrow**.

or

Move the cursor to the Arrow icon and press **Enter**.

If you have a monochrome monitor and the arrow that appears in the status box is not filled or is filled with a pattern, follow steps 2 through 4 below to fill in the arrow.

2. Select **Attributes** to display the Attribute menu.
3. Select **Fill Pattern** to display a menu of different fill patterns.
4. Type **2** then press **Enter** to fill the arrow.

If you have a color monitor, you can change the fill pattern by following steps 2 through 4 above, and/or you can change the color of the arrow by following steps 5 through 8 below.

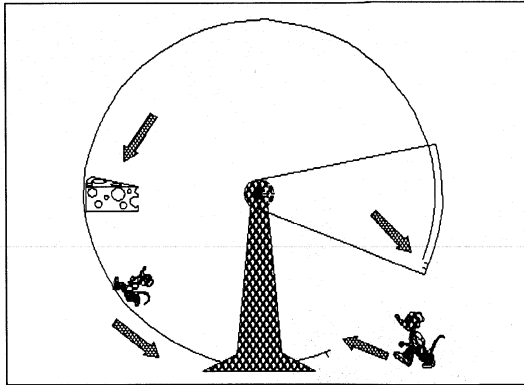
5. Select **Attributes** to display the Attribute menu.
6. Select **Fill Color** to display a menu of different fill colors.
7. Select **Next** or **Previous** to see additional colors.
8. Enter the number of the color you want.

Before drawing the arrows, decrease the arrow width.

9. Select **Attributes** to display the Attribute menu.
10. Select **Arrow Width** to display a menu of 16 different arrow widths.
11. Enter **7** as the arrow width.



Follow steps 12 and 13 below and draw the four arrows in the same position and as close in size as the ones in the illustration below.



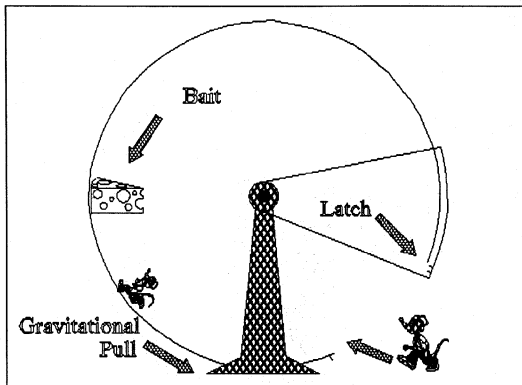
12 Place the cursor where the arrow head should be, then press **Enter**.

13 Draw the tail of the arrow, then press **Enter** when it is the correct size.

Repeat steps 12 and 13 above for all four arrows.

9.7 Inserting the Text

With the arrows completed, you are ready to add the text. There are three different text phrases you need to insert in the mousetrap: **Bait**, **Latch**, and **Gravitational Pull**.



Since the text phrases are short, defining a text window is unnecessary. DrawPerfect contains a Text Line feature that lets you type in one line of text without defining a window.

1 Select **Draw** to display the Draw menu, then select **Text Line**.

or

Move the cursor to the Text Line icon and press **Enter**.

2 Position the cursor where “Bait” should be inserted and press **Enter**.

Before you type the word “Bait,” let’s change the base font using the function keys instead of the Fonts pull-down menu.

3 Press **Font** (Ctrl-F8) to display the font menu.

4 Select **Base Font**.

A list of the available DrawPerfect fonts is displayed on your screen.

5 Use the cursor keys to highlight the WP Roman font.

6 Type **S** to select the font, then enter **28** as the point size.

Now insert the word “Bait.”

7 Type the word **Bait** and press **Enter**.

To insert the other two phrases, “Gravitational Pull,” and “Latch,” you do not need to redefine the base font and size.

8 Move the cursor to the place where the word “Latch” should be inserted.

9 Press **Enter**, type **Latch** and press **Enter** again.

To insert the last line of text,

10 Move the cursor to the bottom left corner of the screen to the place where the words “Gravitational Pull” should be inserted.

11 Press **Enter**, type **Gravitational** and press **Enter** again.

Move the cursor to the place where “Pull” should be inserted.

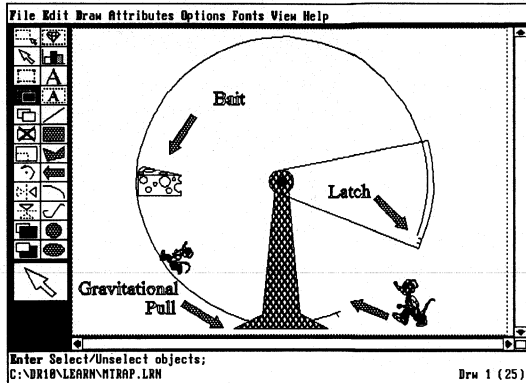
12 Press **Enter**, type **Pull** and press **Enter** again.

*If the message “Font too large to fit in window” appears, your cursor is too close to the edge of the drawing window. Move the cursor a small amount away from the bottom of the drawing window and press **Enter** to begin your text line again.*

You can use **Move** if you want to reposition the words.

A

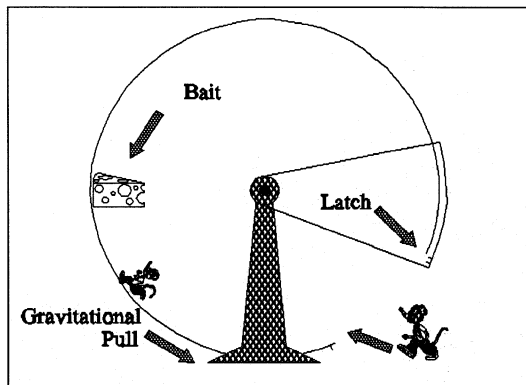
Your completed mousetrap should look similar to the one illustrated below.



9.8 Printing the Mousetrap

The mousetrap is now ready to send to the printer.

- 1 Select **File** to display the File menu.
- 2 Select **Print**, then select **View Drawing** to display the mousetrap in the preview screen before sending it to the printer.



- 3 Press **Cancel (F1)** to return to the Print menu.
- 4 Select **Print Drawing** to print the mousetrap.
- 5 Press **Exit (F7)** and type **y**.

- 6** Type **mtrap** for the filename, then press **Enter** to save the file.
 - 7** Type **n** to stay in DrawPerfect and clear the screen.
-

9.9 Deleting the Border

At the beginning of this lesson you entered the Setup menu and selected a new border setting. This setting will remain in effect each time you start DrawPerfect. However, because you do not need a border for the remaining lessons, it is necessary to go back into the Setup menu and change the border setting to None.

- 1** Select **File** to display the File menu.
- 2** Select **Setup** to display the Setup submenu.
- 3** Select **Initial Settings**.
- 4** Select **Page Options** to display the different border options.
- 5** Select **Border Style**, then type **N** four times to delete the single border.

You are now ready to continue to Lesson 10.

Lesson 10: Text Chart

Text charts are important devices used in a presentation. They are useful as an agenda, for listing company goals, explaining the advantages of a certain product, etc. They vary in form, yet their function is almost always the same: to emphasize one or more significant points.

DrawPerfect provides you with three different text chart formats: Bullet, Simple, and Freeform. Each format is listed as a chart option on the Chart submenu.

In this lesson you create a bulleted text chart that explains the benefits of the Humane Mousetrap. Then you create an introductory illustration for a slide show. These two pieces of material are the last items you need for your presentation.

Feature

While working through this lesson, you are introduced to the following tasks:

- Selecting a bulleted chart
- Inserting text into a bulleted chart
- Deleting and creating bullets for your chart
- Creating an introductory illustration

10.1 Defining the Text Chart Area

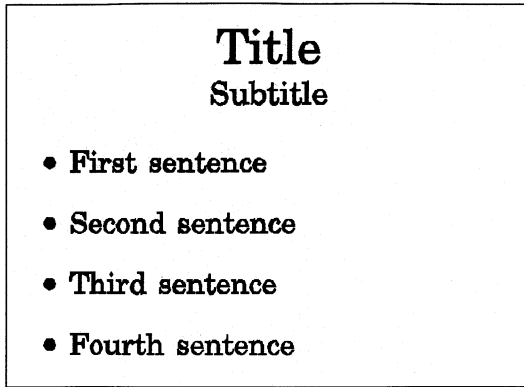
Before you begin inserting text into your text chart, you need to define an area on the screen where you want the chart placed.

- 1 Select **Draw** to display the Draw menu.
- 2 Select **Chart** to display the Chart submenu.
- 3 Select **Bullet** to create a bulleted text chart.
- 4 Move the cursor into the drawing window, then press **Enter** twice to define the entire DrawPerfect window as the chart area.

10.2 Creating the Text Chart

Once you select and define an area for your chart, your cursor is placed in the top left corner of the screen. DrawPerfect allocates

the top line of a text chart to the title, the second line to the subtitle, and the space below the subtitle to the body of the chart.



Let's begin creating your bulleted text chart by selecting a base font.

- 1 If you are using the keyboard, press **Alt** to activate the pull-down menus, then select **Fonts**.

or

If you are using a mouse, select the **Fonts** pull-down menu.

- 2 Select **Base Font** to display the **Base Font** menu.
- 3 Move the highlighted bar to the **WP Century Schoolbook** font and type **S** to select the font.
- 4 Press **Enter** to accept the current font size.
- 5 Type **Advantages:** and press **Enter** once.

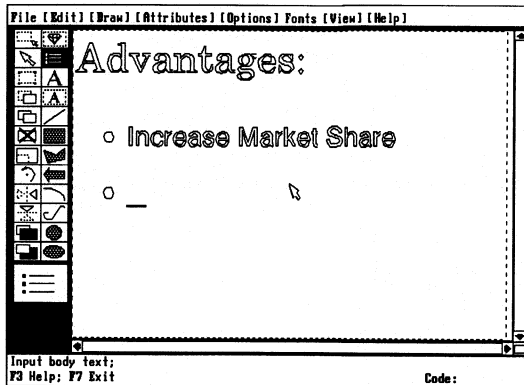
Your cursor is now resting at the starting point for the subtitle. However, a subtitle is not needed for your chart.

- 6 Press **Enter** again to bypass the subtitle and move down to the first line of the text body.

After you press **Enter**, DrawPerfect generates the first bullet of the chart and positions the cursor at the beginning of the first sentence.

- 7 Type **Increase Market Share** and press **Enter** twice to begin a second bulleted sentence.

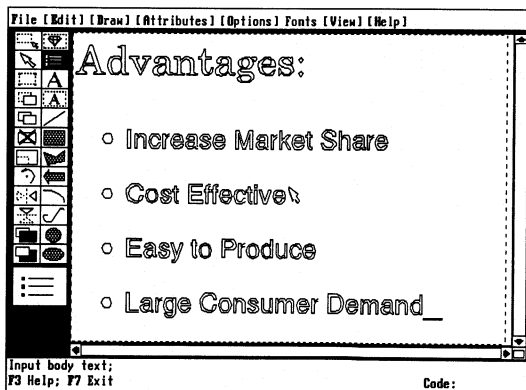
Notice that the font size of the phrase you just typed is smaller than the font size of the title. DrawPerfect decreases the font size approximately 20 points for the body of the chart. For example, if the title was 60-point, the body of the chart would be 40-point. Compare your chart with the one illustrated below.



Now finish typing the last three sentences of your chart.

- 8 Type **Cost Effective** and press **Enter** twice to begin a third bulleted sentence.
- 9 Type **Easy to Produce** and press **Enter** twice to begin a fourth bulleted sentence.
- 10 Type **Large Consumer Demand**

Your chart should now look like the one illustrated below.



10.3 Deleting the Bullets

The type of bullets DrawPerfect placed in front of your four sentences is one of the more common types used in a text chart. However, you are not restricted to using only this type. You can use words, numbers, symbols, or graphic images as bullets. To insert a different type of bullet, you can either delete the original bullets and then retrieve the kind you want, or you can define a bullet type through Setup (see *Initial Settings* in *File Reference*).

Let's delete the round bullets and replace them with a graphic image.

- 1 Move your cursor directly under the fourth bullet and press **Delete** (Del).
- 2 Move your cursor directly under the other bullets, one at a time, and press **Delete** (Del).
- 3 Press **Exit** (F7) to exit the text chart mode.

10.4 Inserting the Bullets

We will use the cheese you created in Lessons 2 and 3 as bullets for your text chart. Retrieve the cheese and position it in front of the first sentence.

- 1 Select **Draw** to display the Draw menu, then select **Figure**.

or

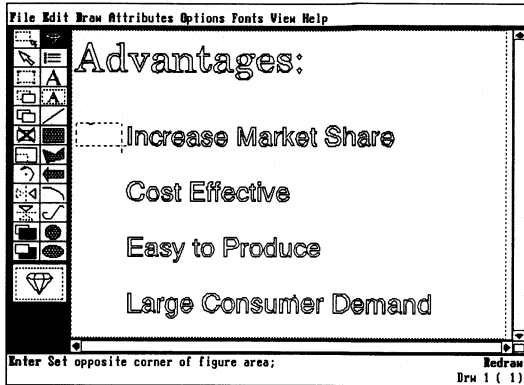
Move the cursor to the Figure icon and press **Enter**.

You need to create a small figure box directly in front of the first sentence.



- 2 Move the cursor to the starting point of the figure box and press **Enter**.

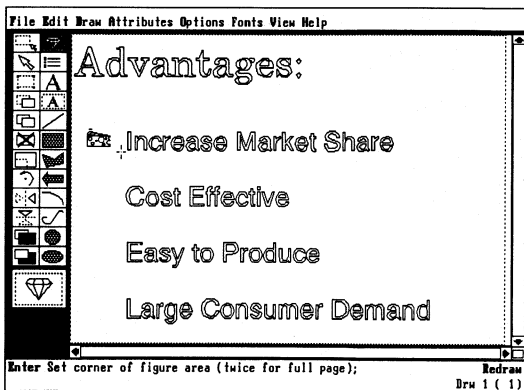
Define a figure box about the same size as the one illustrated below.



- 3 Move the cursor to the ending point of the figure box and press **Enter**.
- 4 At the "Drawing to be retrieved" message, enter the filename **cheese**.

If you gave the cheese you created a different filename, enter that name.

The cheese image should now be displayed on the screen in front of the first sentence.



10.5 Copying the Cheese

Instead of using the Figure feature three more times to retrieve the cheese in front of the other sentences, use Copy.

- 1 Select **Edit** to display the Edit menu, then select **Copy**.

or

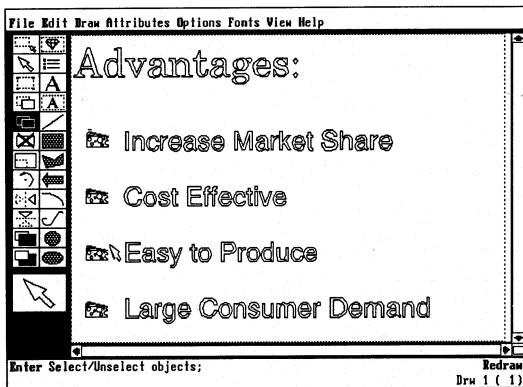
Move the cursor to the Copy icon and press **Enter**.

- 2 Position the cursor on top of the cheese and press **Enter**, then press the **Space Bar**.
- 3 Move the dashed box straight down until it is in front of the second sentence. Press the **Space Bar** to retrieve the cheese.

Now use Copy again to copy both of the cheese figures which are in front of sentences one and two, to the space in front of sentences three and four.

- 4 Position the cursor on top of the first cheese and press **Enter**.
- 5 Now press the **Space Bar** to display the dashed box that encompasses both cheese images.
- 6 Move the dashed box in front of sentences three and four, then press the **Space Bar** to retrieve the cheese images.
- 7 Press **Cancel (F1)** to unselect the cheese images.

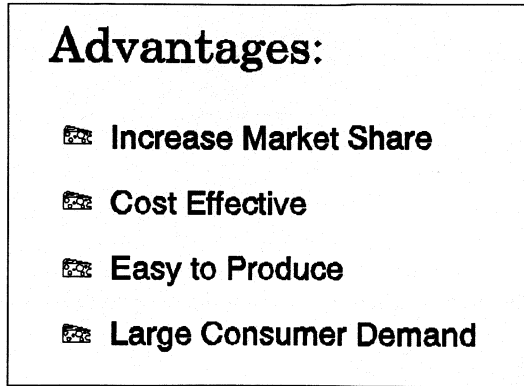
Your screen should now look similar to the one illustrated below.



10.6 Previewing the Chart

With all of the text inserted and the graphic images in place, the chart is ready to be previewed and printed.

- 1 Press **Print** (Shift-F7) and select **View Drawing**.



- 2 Press **Cancel** (F1) to return to the **Print** menu.
- 3 Select **Print Drawing** to print the chart.
- 4 Press **Exit** (F7), then type **y** to save the page.
- 5 Type **tchart** and press **Enter**.
- 6 Type **n** to clear the screen.

10.7 Creating a Title Illustration

In Lesson 11 you will be sequencing your bar chart, pie chart, mousetrap, and text chart into a slide show presentation for the Acme Pest Company.

However, you are missing one piece of material for your slide show—a title illustration. A title illustration is designed to capture the viewer's attention and is usually placed at the beginning of a presentation. In the next few steps, you will create a title illustration.

To begin creating your illustration, you need to retrieve the Acme Pest logo.

- 1 Select **Draw** to display the **Draw** menu, then select **Figure**.

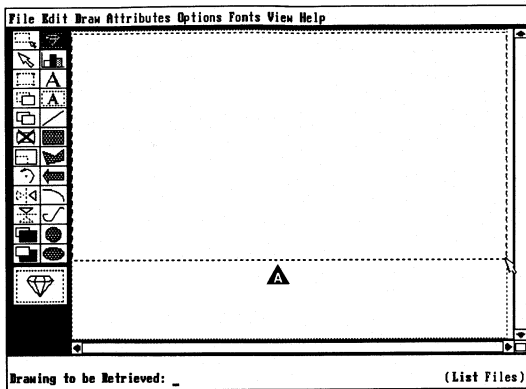
or

Move the cursor to the **Figure** icon and press **Enter**.

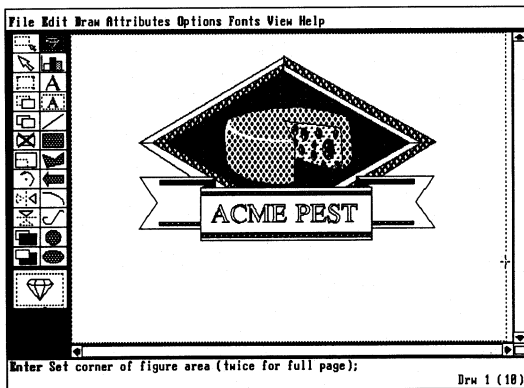


- 2 Define a large figure box in the upper three-fourths of the screen (see the illustration below).

A FIGURE BOX



- 3 At the “Drawing to be retrieved” prompt, enter **logo.lrn** to retrieve the Acme Pest logo.



Depending on the positioning of your figure box, you may need to use Move to move the logo up or down.

Now insert the word “Presents” below the logo.

- 4 Select **Draw** to display the Draw menu, then select **Text Line**.

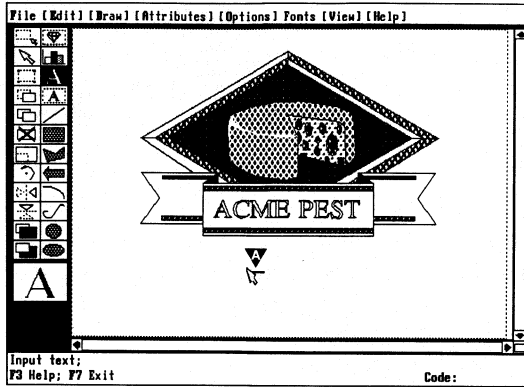
or

Move the cursor to the Text Line icon and press **Enter**.

A

- 5 Move the cursor below the logo under the “c” of “Acme” and press **Enter**.

▲ CURSOR POSITION



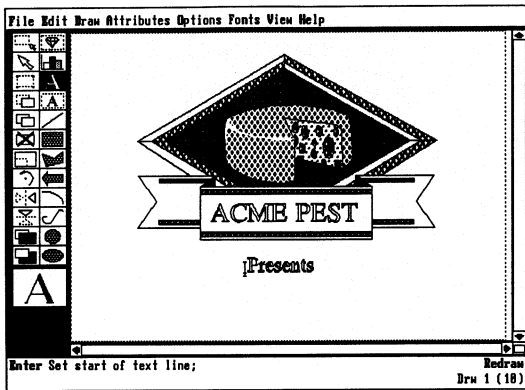
Before you begin typing, change the base font.

- 6 If you are using the keyboard, press **Alt** to activate the pull-down menus, then select **Fonts**.
or
If you are using a mouse, select the **Fonts** pull-down menu.
- 7 Select **Base Font** to display the Base Font menu.
- 8 Move the highlighted bar to the **WP Roman** font and type **S** to select it.

9 Enter the number **30** as the point size.

10 Type **Presents** and press **Enter**.

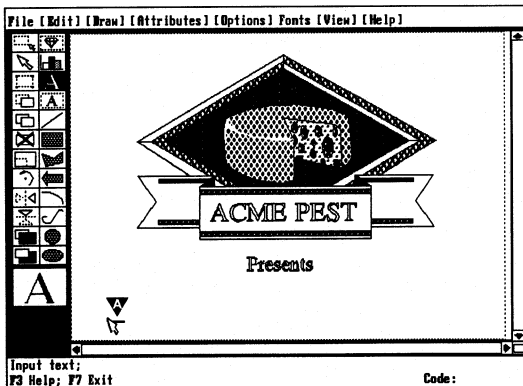
Your screen should look like the one illustrated below.



Now let's finish the illustration by typing in the phrase, "The Humane Mousetrap" at the bottom of the screen.

11 Move the cursor to the left corner of the screen. Leave about $\frac{1}{4}$ " space between the cursor and the bottom of the screen, then press **Enter**.

▲ CURSOR POSITION



Before you begin typing, you need to change the base font.

- 12 If you are using the keyboard, press **Alt** to activate the pull-down menus, then select **Fonts**.

or

If you are using the mouse, select the **Fonts** pull-down menu.

- 13 Select **Base Font** to display the **Base Font** menu.
- 14 Move the highlighted bar to the **WP Roman Bold** font and type **S** to select the font.
- 15 Enter **50** as the point size.

*If the message "Font too large to fit in window" appears, that means your cursor is too close to the edges of the drawing window. Press **Exit** (F7) to return to the drawing screen, then press **Exit** again to exit text mode. Move the cursor a small amount away from the bottom and the side of the drawing window. Press **Enter** to begin your text line again, then repeat steps 12 through 15 above.*

- 16 Type **The Humane Mousetrap** and press **Enter**.

Now let's turn on the **Stretch** option and size the words, "The Humane Mousetrap." This will make the text look "tailored" for your illustration.

- 17 Select **Options**, then select **Stretch**.
- 18 Select **Edit** to display the **Edit** menu, then select **Size**.

or

Move the cursor to the **Size** icon and press **Enter**.

- 19 Select the text by moving the cursor on top of the text and pressing **Enter**.
- 20 Press the **Space Bar** to display the dashed box.
- 21 Use the cursor keys or a mouse and increase the height of the box a small amount, then press **Enter**.



22 Press **Cancel** (F1) to unselect the text.



You are now finished with the introductory illustration. However, we have included a few optional steps below which you can complete if you want. Steps 23 through 31 guide you through creating a “shadow” behind “The Humane Mousetrap.” With the shadowing technique, you can transform plain text into something eye-catching. If you have a monochrome monitor, the optional steps will not work. All monochrome users should skip down to task 10.8.

To create a shadow behind “The Humane Mousetrap,”

23 Select “The Humane Mousetrap” by moving the cursor on top of the text and pressing **Enter**.

24 Select **Edit** to display the Edit menu, then select **Copy**.

or

Move the cursor to the **Copy** icon and press **Enter**.

A dashed box appears around the text.

*If you are using the arrow keys to move the cursor, press **Insert (Ins)** until you change the cursor step to 1.*

25 Create a copy of the text by moving the dashed box up and to the right about 1/16 of an inch (the amount of movement should be very small), then pressing **Enter**.

A copy of “The Humane Mousetrap” is placed on top of the original. To create a shadow effect, you need to change the color of the copy.





26 Select **Edit**, then select **Modify**.

or

Move the cursor to the **Modify** icon and press **Enter**.

27 If you are using the keyboard, press **Alt** to activate the pull-down menus, then select **Fonts**.

or

If you are using a mouse, select the **Fonts** pull-down menu.

28 Select **Text Color**, then enter the number of the color you want.

The copy changes to the color you selected.

29 Press **Exit** (F7) to exit text mode

30 Press **Cancel** (F1) to unselect the text.

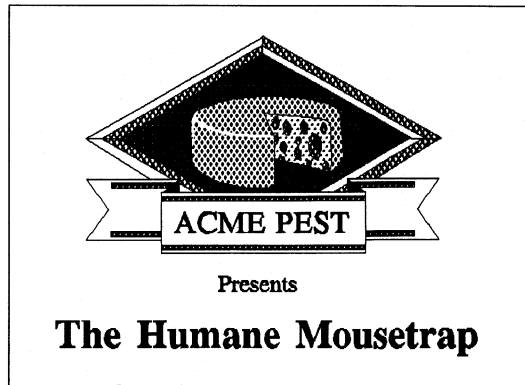
31 Press **ReDraw** (F9) to redraw the screen.

Because the setup option “Text Quality While Editing” is set to medium, not high, the shadow you just created is displayed in a simplified format. To see the actual Shadow, follow step 1 below.

10.8 Previewing the Illustration

With all of the text inserted and the logo in place, the illustration is ready to be previewed and printed.

1 Press **Print** (Shift-F7) and select **View Drawing**.



2 Press **Cancel** (F1) to return to the **Print** menu.

3 Select **Print Drawing** to print the Illustration.

4 Press **Exit** (F7) and type **y** to save the drawing.

5 Type **intro** and press **Enter**.

6 Type **n** to clear the screen.

While DrawPerfect includes some powerful features for creating professional-looking charts and illustrations, it is a good idea to use only 2 or 3 fonts and to use graphics in a meaningful way.

Lesson 11: Special Techniques

The greatest amount of information available on any single DrawPerfect feature can be found in the DrawPerfect Reference Manual. The purpose of the ten previous lessons was not to explain every DrawPerfect feature in detail, but to provide you with a basic working knowledge of the features most used in DrawPerfect.

In this lesson, we'd like to share with you some insights and special techniques that you might find valuable when using DrawPerfect.

Features

While working through this lesson, you are introduced to the following tasks:

- Displaying the Acme Pest Presentation
- Creating a macro
- Editing text codes
- Displaying Status Line options
- Changing Units of Measure
- Getting Help

11.1 Defining the Preview Screen Colors

One of the main tasks in this lesson is putting together and displaying the Acme Pest Presentation. Before you display the presentation, you need to turn on the shading feature. This feature is used to shade the screen where your charts and drawings appear.

Shading the preview screen is not, however, recommended for a monochrome monitor. On a monochrome monitor, shading may make some of the illustrations difficult to see. If you are using a monochrome monitor, we suggest that you skip this task and begin with task 11.2.

- 1 Select **F**ile to display the File menu.
- 2 Select **S**etup to display the Setup submenu.
- 3 Select **I**nitial Settings.
- 4 Select **P**age Options.
- 5 Select **S**hading Top to Bottom in View and type **y** for yes.

Now you need to define the colors for the View screen. First you define a band of color for the top of the screen, then a band of color for the bottom. Between the top and bottom colors,

DrawPerfect displays several different tints or shades of the two defined colors.

For example, if you define white as the top color and black as the bottom color, the color in the preview screen progressively shifts from white, to light gray, medium gray, and then dark gray, until the tint matches the black color at the bottom.

- 6** Select **Top Color** and a menu of different colors appears at the bottom of the screen. Enter the number of the color you want.
- 7** Select **Bottom Color** and another color menu appears. Enter the number of the color you want.
- 8** Press **Exit** (F7) until you return to the DrawPerfect screen.
- 9** Select **Print** from the File menu, then select **View Drawing** to view the Preview screen colors.
- 10** Press **Exit** (F7) until you return to the DrawPerfect screen.

If you don't like the colors you selected, follow steps 1 through 7 above to select new ones.

11.2 Displaying the Acme Pest Presentation

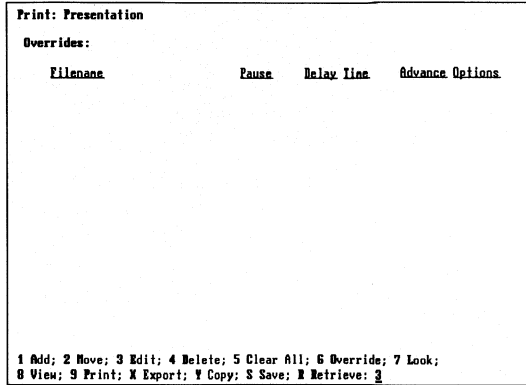
Instead of trying to display a series of graphics through a stack of overhead transparencies, large poster-size paper, or black and white printed material, many presenters in business are turning to a new kind of demonstration: the slide show. Slide shows give the presenter the ability to display a variety of graphics, one at a time, on a large screen monitor or display.

DrawPerfect contains a slide show feature called Presentation. This feature allows you to list the filenames of graphic illustrations you want displayed in a slide show. You can define the amount of time you want each illustration displayed, and you can select the type of screen wipe you want to use. You can go forward to the next slide and backward to the previous slide. There are many options from which you can select.

In Lessons 6 through 10, you created five pieces of illustrative material (a bar chart, a pie chart, a text chart, a mousetrap, and a title illustration) to be used in a presentation for the Acme Pest Company. Now let's use the Presentation feature and organize the material into a slide show.

- 1** Select **File** to display the File menu.

2 Select Presentation to display the Presentation screen.



The Presentation menu should now be displayed at the bottom of your screen. The options on this menu let you add a drawing to your slide show, delete a drawing, edit a drawing, etc. To add your first drawing, the introductory illustration, to the slide show,

3 Select Add.

You are now placed in the Presentation: Edit screen, where you are given four options from which you can select. The first option you should select is Filename.

4 Select **Filename** to enter the filename of the illustration you want to add to your slide show.

5 Type **intro** and press **Enter** to add the Acme Pest introductory illustration.

Let's skip options two and three and select the fourth option, Advance Option.

6 Select Advance Option.

Sometimes referred to as screen wipes, the transitions listed in the Advance Option menu at the bottom of the screen let you move from one illustration to the next in a variety of ways. You can erase the screen from the right side, left side, top, or bottom, or you can fade out, overlay one drawing on top of another, etc. There are 14 different types of transitions.

7 Select Fade.

8 Press **Exit (F7)** to return to the Presentation screen.

Your intro file is now listed as the first file in your slide show.

Print: Presentation

Overrides:

Filename	Pause	Delay Time	Advance Options
LEARN\INTRO.HFC	Manual	8	Fade

1 Add; 2 Move; 3 Edit; 4 Delete; 5 Clear All; 6 Override; 7 Look;
8 View; 9 Print; X Export; Y Copy; S Save; R Retrieve: 3

Now add your bar chart to the slide show. DrawPerfect will add the file directly below the intro file.

9 Select Add.

10 Select **F**ilename, then enter the name **bchart** to add your bar chart.

11 Select Advance Option, select **I**n, then press **Exit** (F7).

Now add your pie chart to the slide show.

12 Select Add.

13 Select **F**ilename, then enter the name **pchart** to add your pie chart.

14 Select Advance Option, select **U**p, then press **Exit** (F7).

Now add the mousetrap to the slide show.

15 Select Add.

16 Select **F**ilename, then enter the name **mtrap** to add the mousetrap.

17 Select Advance Option, select **T**op-Out, then press **Exit** (F7).

Now add the text chart to the slide show.

18 Select Add.

19 Select **F**ilename, then enter the name **tchart** to add the text chart.

20 Select Advance Option, select **R**ight, then press **Exit** (F7).

You are now finished entering all the filenames for your slide show.

Print: Presentation			
Overrides:			
Filename	Pause	Relay Line	Advance Options
LEARN\INTRO.WPC	Manual	0	Fade
LEARN\BCHART.WPC	Manual	0	In
LEARN\PCCHART.WPC	Manual	0	Up
LEARN\TRAP.WPC	Manual	0	Top-Out
LEARN\TCHART.WPC	Manual	0	Right

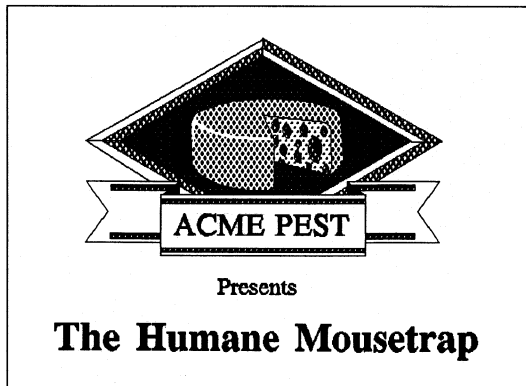
1 Add; 2 Move; 3 Edit; 4 Delete; 5 Clear All; 6 Override; 7 Look;
8 View; 9 Print; X Export; Y Copy; S Save; R Retrieve; Z

Let's start the presentation.

21 Move the cursor to the top of the Presentation screen so the first name, the Intro file, is highlighted.

DrawPerfect begins the presentation with the current highlighted file and cycles down through the list.

22 Select View to begin the slide show.



The intro file is displayed on the screen.

If you are using the keyboard, you can advance to the next screen by pressing Enter, Page Down, or the Space Bar. If you are using

a mouse, you can advance to the next screen by pressing the right mouse button.

23 Press the appropriate key or mouse button and advance to the next screen.

You can go backward to the previous screen by pressing Page Up if you are using the keyboard, and by pressing the left mouse button if you are using a mouse.

24 Cycle through the rest of the slide show by pressing the appropriate key or mouse button.

After the last illustration is displayed, you are placed back in the Presentation screen. Let's exit and save the presentation.

25 Press **Exit** (F7) and type **y** to save the presentation.

26 Enter **acmepest** to name the presentation.

DrawPerfect adds a .DRP (DrawPerfect Presentation) to the filename.

27 Press **Exit** (F7) until you return to the DrawPerfect screen.

You can play back the presentation anytime by going into the Presentation screen, selecting **Retrieve**, and entering "AcmePest." You do not need to include the .DRP extension in the filename.

11.3 Creating a Macro

While using DrawPerfect you may find yourself repeating certain tasks several times. For example, you may display and snap to the Grid two or three times a day; or you might want to draw with an extra thick line instead of a thin one.

Instead of repeating the keystrokes over and over to perform the tasks, you can define a macro to perform the task for you.

A macro is a special DrawPerfect feature that lets you record keystrokes in a file that can be used repeatedly. The macro can even be assigned to a key on the keyboard.

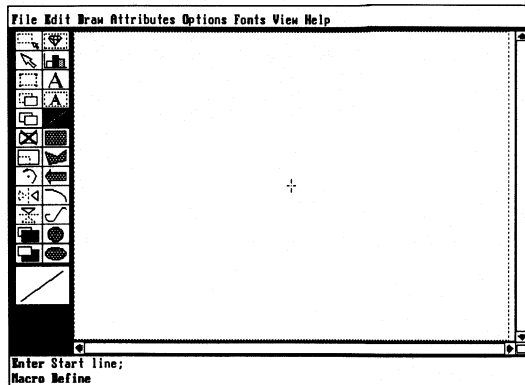
Try creating a macro that displays the Grid and then snaps to the Grid.

1 Press **Macro Define** (Ctrl-F10) to begin defining a macro.

2 Hold down **Alt** and type **g** to assign the macro file to Alt-G.

3 When you see the "Description:" message, enter **Displays the grid and snaps to the grid.**

A “Macro Define” message appears at the bottom of the screen, letting you know that DrawPerfect is ready to record every key you press.



- 4 Select **Options**, then select **Grid Display**.
- 5 Select **Options**, then select **Grid Snap**.
- 6 Press **Macro Define** (Ctrl-F10) to end defining the macro.

Let's clear the screen and test the macro you've created.

- 7 Press **Exit** (F7) and type **n** twice to clear the screen.

Because your macro is assigned to Alt-G on the keyboard, all you need to do is press those keys to display and snap to the grid.

- 8 Hold down **Alt** and type **g** to start the macro.

The Grid should now be on the screen.

The amount of macros and the different combinations you can define with the DrawPerfect macro feature are endless. Macros that change your drawing object, color or pattern, or macros that print the page and then clear the screen, are all helpful and save time.

11.4 Editing Text Codes

When you are in text mode, DrawPerfect inserts codes every time you press bold, underline, indent, or change the way the characters are displayed.

DrawPerfect *hides* these codes so the text on the screen appears much like the printed page. However, when the cursor is directly on a code you inserted into your text, the code will appear next to the word “Code:” in the bottom right corner of the screen.

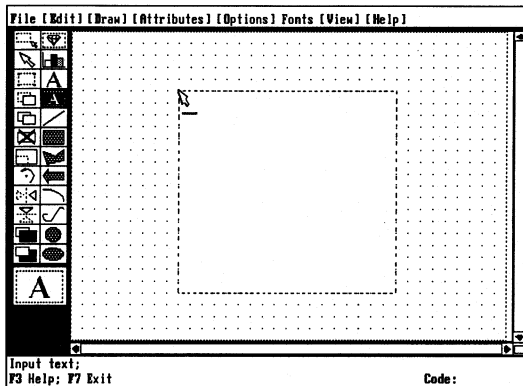
You can edit and view the codes by typing a line of text (with codes) then moving the cursor back through the sentence.

- 1 Select **Draw** to display the Draw menu, then select **Window Text** to create a text window.

or

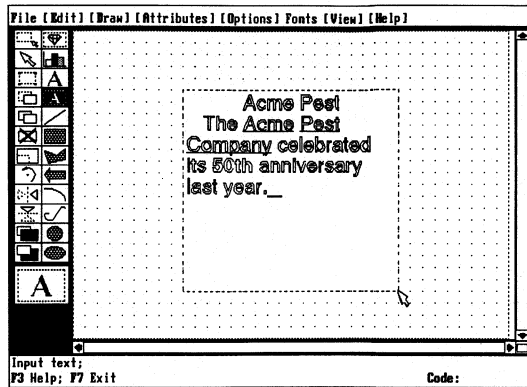
Move the cursor to the Window Text icon and press **Enter**.

- 2 Define a large text window on the screen by pressing **Enter** at the starting point, moving to the ending point, and pressing **Enter** again.



- 3 With the cursor in the top left corner of the box, press **Center** (Shift-F6). Type **Acme Pest** and press **Enter** to end the line.
- 4 At the beginning of the second line, press **Tab** and type **The**
- 5 Now press **Underline** (F8) to begin underlining the next three words of the sentence. Type **Acme Pest Company** and press **Underline** again to end underlining.
- 6 Continue the sentence by typing **celebrated its**
- 7 Now press **Bold** (F6) to bold the next word. Type **50th** and press **Bold** again to end bolding.
- 8 Finish the sentence by typing **anniversary last year**. Do *not* press Exit (F7).

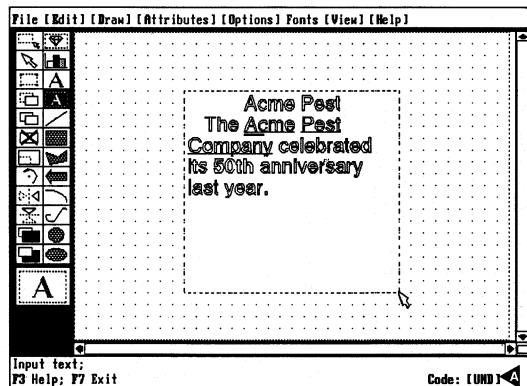
Your screen should now look similar to the one illustrated below.



The sentences you typed have four codes: Bold [BOLD], Center [Ctr], Tab [Tab] and Underline [UND]. Each code tells DrawPerfect exactly what to do when displaying or printing the text.

- 9 Move the cursor to the underlined "A" of "Acme." If the code [UND] is not displayed next to the word "Code:" move the cursor one space to the right or left and it will appear.

▲ UNDERLINE CODE



- 10 Press **Delete** (Del) to delete the code.

Move the cursor through the rest of the text. When the cursor encounters a code, the code appears in the bottom right corner.

- 11 Press **Exit** when you are finished editing the text.

11.5 Units of Measure

Whenever you need to use a different measurement for the page on your screen, you can use Units of Measure. This feature lets you change the measurements shown for the Grid display and the Position Display message.

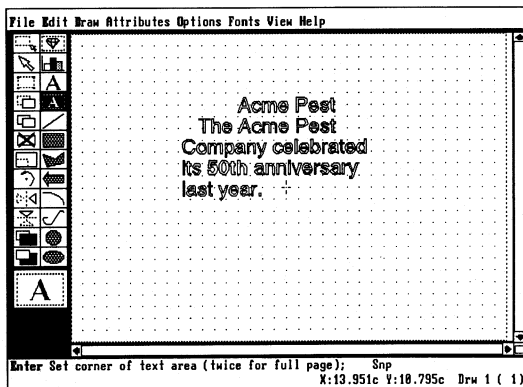
For example, you could use centimeters for measuring rather than inches.

- 1 Select **File** to display the File menu.
- 2 Select **Setup** to display the Setup submenu.
- 3 Select **Environment** to display the Environment menu.
- 4 Select **Units of Measure**.
- 5 Select **Position Display** and type **c** for centimeters.
- 6 Press **Exit (F7)** to return to the DrawPerfect screen.

Now turn on the Position Display message.

- 7 Select **Options** to display the Options menu.
- 8 Select **Position Display** to turn on the message.

Notice that the Position Display message is now displaying measurements in centimeters.



11.6 Getting Help

DrawPerfect provides a method of getting information that is as close as your keyboard. Help is like having a quick reference manual at your fingertips. You can turn to Help for a list of features and keystrokes, a brief explanation of each feature, a

keyboard template, or even a Topical Guide that gives you information about specific tasks, such as creating text charts.

If you are running DrawPerfect from two disk drives, you need to make sure the Utilities/Help diskette is in drive B before continuing the lesson. The Help files are located on the Utilities/Help diskette.

For example, you can immediately display a reference page about the use of a function key.

- 1** Select **Help** to display the Help menu.
- 2** Select **Help**.
- 3** Press **Grid Display** (Alt-F7) and information about Grid Display is listed on the screen.
- 4** Press **Enter** (or the **Space Bar**) to exit Help.

If you have forgotten how to access a feature, for example, Timed Backup, use the Index option.

- 5** Select **Help** to display the Help menu.
- 6** Select **Index**, then type the letter **b** to display a list of all the features that start with the letter "B."

A list immediately appears with Timed Backup and the menu options and/or keystrokes you need to press to use the feature.

- 7** Press **Enter** (or the **Space Bar**) to exit Help.

You can also use Help to display the keyboard template.

- 8** Select **Help** to display the Help menu.
- 9** Select **Template** to display the keyboard template.
- 10** Press **Enter** (or the **Space Bar**) to exit Help.

If you want to perform a specific task, such as creating a slide show, but have forgotten some of the steps, use the Topical Guide feature. The Topical Guide lists all the basic steps you need to follow when performing a certain task.

- 11** Select **Help** to display the Help menu.
- 12** Select **Help**, then type a question mark (?) to display a list of tasks.
- 13** Select **Slide Presentations** and a reference page is displayed explaining the steps involved in creating a slide show.
- 14** Press **Enter** (or the **Space Bar**) to exit Help.

If you have forgotten what Constrain does, use the Topical Guide feature to display a page of reference information.

- 15** Select **H**elp to display the Help menu.
- 16** Select **H**elp, then type a question mark (?) to display a list of tasks.
- 17** Select **U**sing the DrawPerfect menus.
- 18** Select **P**ull-down menus.
- 19** Select **O**ptions to display a page of information explaining not only **C**onstrain, but all the options on the **O**ptions menu.

As you can see, **H**elp is quite flexible and provides a variety of information. If you want a reminder as to how **H**elp works, simply press the **H**elp key or select **H**elp from the Help menu.

Lesson 12: Figure Library Images

After you become more familiar with the features of DrawPerfect, you will probably want to do a little experimenting with the clip-art.

In this lesson we'd like to show you a sample of some of the illustrations you can create using the Figure Library Images and DrawPerfect. By reviewing the examples we have included, and with a little imagination, you will come up with many uses for the figure library images.

In this lesson you are shown several illustrations which demonstrate different ways to use the clip-art. You need to be familiar with DrawPerfect and its functions in order to follow the general instructions listed below each illustration.

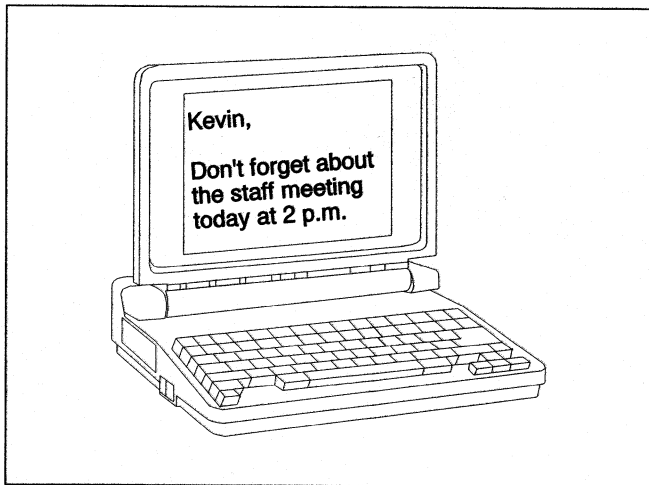
Features

While working through this lesson, you are introduced to the following:

- Combining two or more Figure Library images
- Combining text with Figure Library images
- Using Figure Library images with charts

12.1 Overlaying Text

Below is an example of how you can insert text on top of a Figure Library image. If you look carefully through the Figure Library book, you will notice several images with blank spaces into which you can insert text.



- 1 Select **Figure** from the Draw menu and define the entire DrawPerfect window as a figure box.
- 2 Retrieve the LAPTOP.WPG image.
- 3 Create a window of text on the laptop screen. Select **Base Font** from the Fonts menu, then select the WP Helvetica font. Enter **26** as the point size.
- 4 Type the text you want. Don't worry if the text slants off the laptop screen; you can rotate it later.
- 5 Select **Rotate** from the Edit menu and rotate the text into the laptop screen. If needed, select **Move** and center the text within the laptop screen.

12.2 Using a Graphic Device

The Graphic Devices category in the Figure Library book provides you with borders, backgrounds, and banners that let you create many different images, serious or humorous. Below is an example of how you can combine two related images with text and end up with an eye-catching illustration.



- 1 Select **Figure** from the Draw menu and define the entire DrawPerfect window as a figure box.
- 2 Retrieve the DEVICE-4.WPG image.

- 3 Select **Base Font** from the Fonts menu, then select the WP Cooper Black Bold font. Enter **26** as the point size. Use the Text Line feature and type **This Week's Movie** at the top of the page.
- 4 Begin another text line in the middle of the page. If you have a monochrome monitor, type **Vertigo** using a 45-point WP Cooper Black Bold font. If you have a color monitor, use the same font, but change the text color to a dark blue, then type **Vertigo**.
- 5 Press **Format** (Shift-F8) and use the kerning features to kern the letters of Vertigo.
- 6 Use the Window Text feature and define a text window at the bottom of the page. Select the WP Cooper Black Bold font again, except change the point size back to 26. Use Center (F6) to center the text. Type **Starring** on the first line, **Kim Novak** on the second line, and **James Stewart** on the third line.
- 7 Select **Figure** from the Draw menu and define a small figure box below "This Week's Movie." Retrieve the MOVIECAM.WPG image into the box. If necessary, use Move and/or Size to adjust the movie camera.

12.3 Using a Background

The picture below utilizes one of the six different background images.



- 1 Select **Figure** from the draw menu and define the entire DrawPerfect window as a figure box. Retrieve the BKGRND1.WPG image.
- 2 Use the Text Line feature and type **Conference in Hawaii** using a 60-point WP BrushScript font.
- 3 Create a large text box in the blank area on the right side of the screen. Type the remaining four lines of text using a 36-point WP BrushScript font.

Another common use of a background is to place a graph (such as the rate of city crime) on top of a related background (such as a city background).

12.4 Using a Map

This picture demonstrates how you can use a map, a few lines of text, and a border to create an announcement.

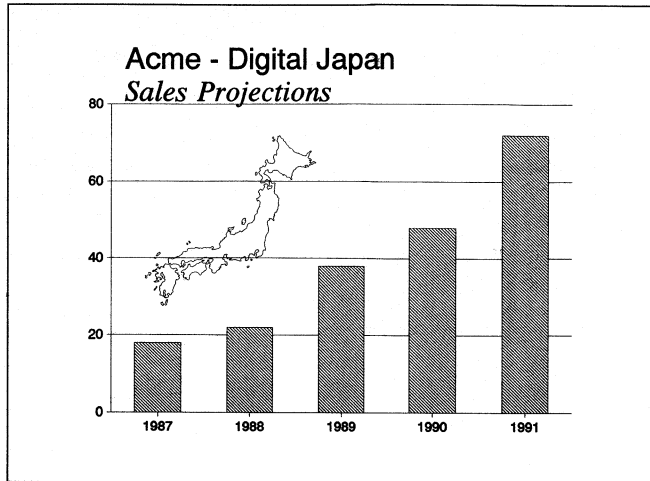


- 1 Select **Figure** from the Draw menu and define the entire screen as a figure box. Retrieve the BORDER-3.WPG figure.
- 2 Define another figure box on the left side of the page and retrieve the AUSTRALIA-M.WPG figure.
- 3 Use the Text Line feature and type **New Corporate Headquarters** using a 42-point WP Roman Italic font.
- 4 Use Text Line again and type the additional four text lines using a 34-point WP Roman Italic font. You may need to use Move to center the four lines on the page.

- 5 Select **Figure** from the Draw menu and define a small figure box for the star. Retrieve the STAR-4.WPG figure.

12.5 Combining Maps and Charts

The picture below illustrates how you can overlay a chart on a map.



- 1 Select **Chart** from the Draw menu, then select **Bar**. Press **Enter** twice to define the entire DrawPerfect window as the chart area.
- 2 Select **Define**, then press **Clear (F1)** to clear all data in the Graph Data screen.

Now enter the data for the chart.

- 3 Move to column 1 and enter **17**; enter **24** in column 2; enter **37** in column 3; enter **50** in column 4; enter **70** in column 5.
- 4 Enter the first X-axis name by typing **1987** below the 1 of column 1. Enter the remaining X-axis names by typing **1988** in column 2, **1989** in column 3, **1990** in column 4, and **1991** in column 5.
- 5 Switch to the Graph Data Options screen by pressing **Data Options (F4)**. Enter the name **Acme-Digital Japan** for the title. Move to the Font column and change the title font to 26-point WP Helvetica.

- 6** Enter the text **Sales Projections** for the subtitle. Change the subtitle font to 45-point WP Roman Italic Bold. Change the display of the legend to “No.”
- 7** Press **View** (F7), then select **Options**. Select **Axes, Y Axis Left, Scaling, and Manual**. Enter **80** as the maximum value, **0** as the minimum value, and **20** as the increment value.
- 8** Select **Grid Lines** to display grid lines on your chart.
- 9** Press **Exit** (F7) to exit the Graph Options screen. Select **Move**, then type **z** to move the entire chart down a small amount. Now use **Move** to move the title and subtitle to the left side of the chart.
- 10** Select **Save**, then select **Chart as WPG file**. Enter a name for your chart and press **Exit** (F7). Type **n** at the “Insert chart in current drawing?” prompt.

It is necessary to save the chart as a .WPG file if you want to edit the individual chart components the same way you would edit a drawing. Saved as a .WPG file, the chart is defined as a collection of different objects. Each object (or chart component) can be edited separately. For example, you can rotate a name (e.g., 1990).

If you do not save the chart as a .WPG file, editing actions such as move or delete can only be performed on the entire chart (such as moving the chart from the left side of the screen to the right); however, you can select **Modify**, return to the Graph screens, and edit the data, names, fill patterns, etc.

- 11** Use **Retrieve** (Shift-F10) to retrieve the chart you just created. If you don't like the placement of the title, X-axis names, subtitle, etc., you can use **Move** to move any of the chart components.
- 12** Select **Figure** from the **Draw** menu and define a figure box for the map of Japan. Retrieve the JAPAN-M.WPG figure. If necessary, use **Move** and **Rotate** to adjust the map.

12.6
Manipulating
Text and
Clip-art

You can customize your illustrations by using the options listed on the Options menu. In the picture below, the Stretch option was used to stretch the balloons and the word "Sale."



- 1 Select **Base Font** from the Fonts menu, then select **WP Bodoni Bold** font. Enter **45** as the point size.
- 2 Use the **Text Line** feature and type **Once-A-Year** at the top of the page, **SALE** in the middle of the page, and **June 15, 16, & 17** at the bottom of the page. If needed, center the text lines on the page with **Move**.
- 3 Select **Stretch** from the Options menu. Select **Size** from the **Edit** menu. Select "SALE" by moving the cursor on top of the word and pressing **Enter**. Now use **size** and **stretch** to reshape "SALE."
- 4 Select **Figure** from the **Draw** menu and define a figure box on the left side of the screen for the balloons. Retrieve the **BALLOONS.WPG** image. Select **Copy** from the **Edit** menu and copy the balloons from the left side to the right side of the screen. Turn off **Stretch**.

12.7 Using Clip-art as Symbols

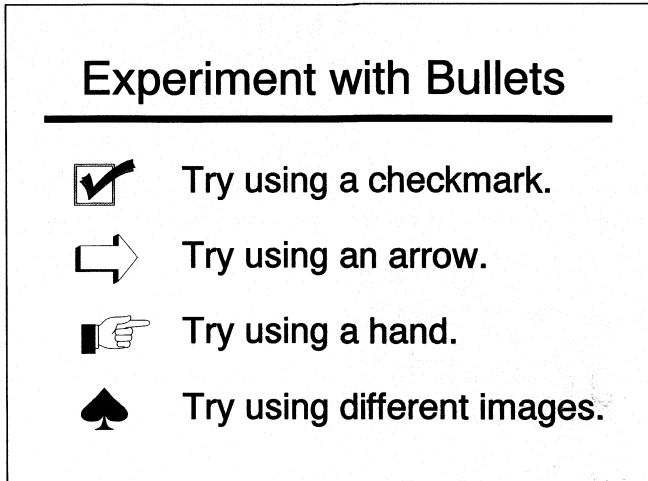
You will find that using clip-art to visually summarize your statements will help your audience remember your points. This example shows how you can use images to symbolize phrases.



- 1 Create a text window at the top of the screen using the Window Text feature. Select **Base Font** from the Fonts menu, then select **WP Century Schoolbook**. Enter **45** as the point size. Type **Benefits of an Effective Marketing Strategy** in the text box.
- 2 Select **Line** from the Draw menu and line width **5** from the Attribute menu. Draw a thin line from the left to the right side of the page.
- 3 Create a second text box on the right half of the screen using the Window Text feature. Use the same **WP Century Schoolbook** font, except change the point size to **30**. Type **Increases Company Revenue, Increases Public Awareness, and Increases Product Sales**. Be sure the sentences are spaced and centered correctly.
- 4 Select **Stretch** from the Options menu. Use the **Figure** feature and define a figure box in front of the first sentence. Retrieve the **COINS.WPG** image into the box. Define two more figure boxes in front of the remaining two sentences and retrieve the **NEWS.WPG** image in the second box and the **PACKAGE.WPG** image in the third box. Turn off **Stretch**.

12.8 Creating Bullets

A bullet chart is one of the most common types of text charts. Many of the clip-art images can be used in place of the typical round bullet. The images add interest to your text chart as well as underscore the importance of an idea.

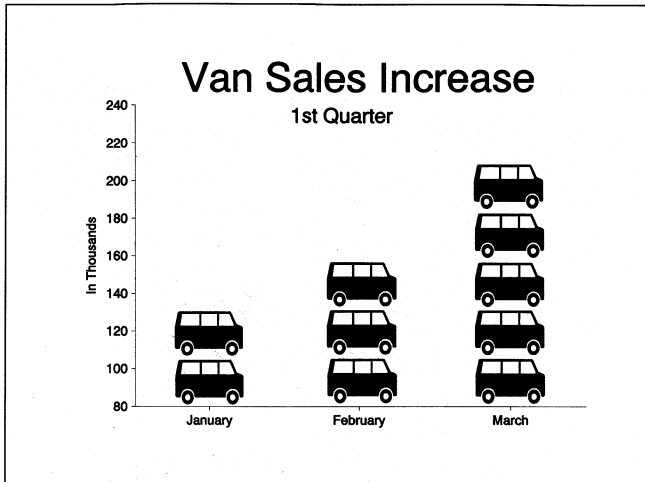


The illustration above shows you some of the figures you can use as bullets. However, it is best when you create a text chart to use only *one* figure for all of your bullets.

- 1 Select **Chart** from the **Draw** menu, then select **Bullet**. Press **Enter** twice to define the entire **DrawPerfect** window as the chart area.
- 2 Type the title, subtitle, and sentences you want for your chart.
- 3 Before exiting the text chart, move the cursor underneath each bullet and press **Delete** to delete the bullets **DrawPerfect** generated. Now press **Exit** (F7) to exit the text chart.
- 4 Select **Figure** from the **Draw** menu and define a figure box in front of the first sentence. Retrieve the figure you want to use as a bullet. Now use **Copy** to insert the same figure in front of the remaining sentences.
- 5 If desired, draw a thick line or a filled box below the title.

12.9 Creating Picture Bars

You can enhance a standard bar chart by using a clip-art image in place of the bars. This is sometimes referred to as a pictograph.



- 1 Select **Chart** from the **Draw** menu, then select **Bar**. Press **Enter** twice to define the entire DrawPerfect window as the chart area.
- 2 Select **Define**, then press **Clear** (F1) to clear all data in the Graph Data screen.

Now enter the data for the chart.

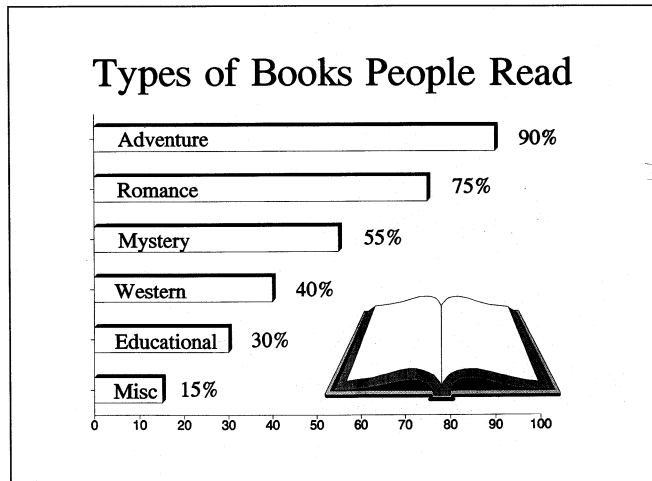
- 3 Move to column 1 and enter **130**; enter **160** in column 2; enter **210** in column 3. Enter **January**, **February**, and **March** in the spaces designated for the X-axis names.
- 4 Switch to the Graph Data Options screen by pressing **Data Options** (F4). Enter the text **Van Sales Increase** for the title. Move to the Font column and change the title font to 50 point WP Helvetica. Enter the text **1st Quarter** for the subtitle. Change the subtitle font to 30 point WP Helvetica.
- 5 Change the display of the legend to "No." Enter the text **In Thousands** for the Y-Label L name, then rotate the Y-Label L 90 degrees.
- 6 Press **View** (F7), then select **Options**. Select **Axes**, **Y Axis Left**, **Scaling**, and **Manual**. Enter **240** as the maximum

value, **80** as the minimum value, and **20** as the increment value.

- 7** Press **Exit** (F7) to exit the Graph Options screen. If necessary, use **Move** to move the title, subtitle, and Y-Label L.
- 8** Select **Save**, then select **Chart** as **WPG** file. Enter a name for your chart and press **Exit** (F7). Type **n** at the "Insert chart in current drawing?" prompt.
- 9** Retrieve the chart you just created using **Retrieve** (Shift-F10). If you don't like the placement of the title, X-axis names, subtitle, etc., you can use **Move** to move any of the chart components.
- 10** Turn the **Stretch** option on. Select **Figure** from the **Draw** menu and define a small figure box within the top half of the January bar. Retrieve the **VAN.WPG** figure. Use **Copy** to copy the van within the rest of the bars. Select **Delete** and delete the bars of the chart.

12.10 Combining Clip-art with Charts

This example demonstrates how you can use a clip-art image to strengthen the chart design as well as the chart subject matter.



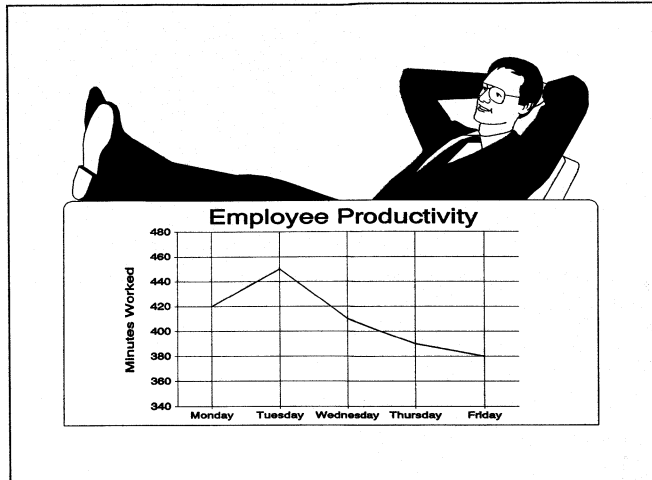
- 1** Select **Chart** from the **Draw** menu, then select **Bar**. Press **Enter** twice to define the entire DrawPerfect window as the chart area.
- 2** Select **Define**, then press **Clear** (F1) to clear all data in the Graph Data screen.

Now enter the data for the chart.

- 3** Move to column 1 and enter **15**; enter **30** in column 2; enter **40** in column 3; enter **55** in column 4; enter **75** in column 5; and enter **90** in column 6.
- 4** Switch to the Graph Data Options screen by pressing **Data Options** (F4). Enter the text **Types of Books People Read** for the title. Move to the Font column and change the title font to 50-point WP Roman. Change the display of the subtitle and legend to “No.”
- 5** Change the fill pattern of the bars on your chart by moving down to the first row in the Style column and selecting fill style 1.
- 6** Press **View** (F7), then select **Options**. Select **Graph Orientation/3-D, Horizontal**, then **3-Dimensional**.
- 7** Select **Axes, Y Axis Left, Scaling, and Manual**. Enter **100** as the maximum value, **0** as the minimum value, and **10** as the increment value.
- 8** Press **Exit** (F7) to exit the Graph Options screen. Use the **Move** option to move the title if necessary. Select **Save**, then select **Chart as WPG file**. Enter a name for your chart and press **Exit** (F7). Type **n** at the “Insert Chart in current drawing?” prompt.
- 9** Retrieve the chart you just created using **Retrieve** (Shift-F10). If you don’t like the placement of any chart components, use **Move** to move the item(s).
- 10** Using a 24-point WP Roman font and the **Text Line** feature, insert the book types (e.g., **Western**) in the 6 bars. Use **Move** if necessary to align the words. Now type the numbers at the end of the bars using the **Text Line** feature.
- 11** Select **Figure** from the **Draw** menu and define a figure box for the book. Retrieve the **BOOK.WPG** figure. If necessary, use **Move** and **Size** to adjust the book.

12.11 Overlaying a Chart

By overlaying a chart on a related clip-art image, you can strengthen the impact of your data.



- 1 Select **Chart** from the **Draw** menu, then select **Line**. Press **Enter** twice to define the entire DrawPerfect window as the chart area.
- 2 Select **Define**, then press **Clear (F1)** to clear all data in the Graph Data screen.

Now enter the data for your chart.

- 3 Move to column 1 and enter **420**; enter **450** in column 2; enter **410** in column 3; enter **390** in column 4; and enter **380** in column 5.
- 4 Move to the blank area under the 1 of column one and enter **Monday**. Enter the remaining X-axis names (Tuesday through Friday) in columns 2 through 5.
- 5 Switch to the Graph Data Options screen by pressing **Data Options (F4)**. Enter the text **Employee Productivity** as the title. Move to the Font column and change the title font to 40 point WP Helvetica.
- 6 Change the display of the subtitle and legend to "No." Enter the text **Minutes Worked** for the Y-Label L name. Move to the Font column and change the font to 20-point WP Helvetica, then rotate the label 90 degrees.

- 7 Move the cursor to the Default row. Change the font for the default items (X-axis names and Y-axis numbers) to 20-point WP Helvetica. Move down to the first row of the Size column and select line width 3.
- 8 Press **View** (F7), then select **Options**. Select **Axes**, **Y Axis Left**, then **Grid Lines**. Select **X Axis** and **Grid Lines** again. Now select **Scaling**, then **Manual**. Enter **480** as the maximum value, **340** as the minimum value, and **20** as the increment value.
- 9 Press **Exit** (F7) twice. Use **Move** to move the title and the Y-Label. Select **Save**, then select **Chart** as WPG file. Enter a name for your chart and press **Exit** (F7). Type **n** at the "Insert chart in current drawing?" prompt.
- 10 Use the **Figure** option on the **Draw** menu, define the entire **DrawPerfect** screen as a figure box, then retrieve the **FEETON.WPG**. figure. Turn on the **Stretch** option. Use **Size** to shrink the width of the image and enlarge the height.
- 11 Use the **Figure** option again and define a figure box in the blank area of the figure. Retrieve the chart you just created. Use **Move** if necessary to center the chart.

12.12 Retrieving the Presentation

We've organized the preceding illustrations in this lesson into one presentation file. You can retrieve the file while in the Presentation screen, and view each illustration in slide show format. To retrieve the file and view the illustrations,

- 1 Select **File** to display the File menu.
- 2 Select **Presentation** to display the Presentation screen.
- 3 Select **Retrieve** and enter the name **present.lrn**

The 11 filenames should now be displayed on the screen.

Print: Presentation

Overrides:

Filename	Pause	Delay Time	Advance Options
LAPTOP.LRN	Manual	0	In
VERTIGO.LRN	Manual	0	Right
HAWAII.LRN	Manual	0	Left
NEUCORP.LRN	Manual	0	Up
JAPAN.LRN	Manual	0	Down
SALE.LRN	Manual	0	Right-Out
MARKET.LRN	Manual	0	Right-In
BULLETS.LRN	Manual	0	Top-Out
VANSALES.LRN	Manual	0	Top-In
BOOKS.LRN	Manual	0	In
EMPLOYEE.LRN	Manual	0	Out

1 Add; 2 Move; 3 Edit; 4 Delete; 5 Clear All; 6 Override; 7 Look;
8 View; 9 Print; X Export; Y Copy; S Save; R Retrieve; Z

- 4 Move the cursor to the top filename (LAPTOP.LRN) and select View to begin the slide show.

The first illustration, the laptop computer, is displayed on the screen. To advance to the next screen if you are using the keyboard, press Enter, Page Down, or the Space Bar. To advance to the next screen if you are using a mouse, press the right mouse button.

- 5 Cycle through the rest of the slide show by pressing the appropriate key or button.

After the last illustration is displayed, you are placed back in the Presentation screen. Exit the screen without saving the presentation.

12.14 Retrieving into WordPerfect

If you are a WordPerfect user, you should be aware that the DrawPerfect clip-art images are compatible with WordPerfect, version 5.0 or later. Below is an example of how you can use

THE AUTUMN VOICE

Monday, September 25, 1989 A Golden Years Weekly

Alert: Retirement may be hazardous to your health.

Fitness for the 80s A recent study conducted by the Institute of Health and Wellness shows that older adults who engage in an exercise program during their 60s and 70s far better in their 80s.

AGE & EXERCISE

INSTITUTE OF HEALTH AND WELLNESS

Exercise	60s	70s	80s
Bicycling	25	30	20
Walking	40	65	75
Jogging	30	35	15

Bicycling
The key to sticking with an exercise program is finding one that is enjoyable. For older adults, this means developing a program that is not only fun, but also safe. In order to avoid injury, the older adult should choose a low-impact activity. For many, the answer is the bicycle.

One of the most accessible forms of exercise, a bicycle can be ridden in all kinds of weather and at any time of the day. A 20-minute to 30-minute ride three times a week is a sufficient cardiovascular workout. This can either be done on a conventional or stationary bicycle.

This represents the most popular aerobic exercises among healthy 80-year-olds. The participants of the survey have engaged regularly in an exercise program throughout the last 20 years.

Octogenarians who have practiced a ritual of healthy eating and regular exercise for a number of years demonstrated higher energy levels and fewer health complaints than their sedentary counterparts. Since more and more older adults are expected to celebrate their 65th and 80th birthdays, it seems advantageous to exercise now.

According to gerontologist Dr. Dan Mayron, 10% of all Americans will be octogenarians by 1995. "Living in the 80s can be trying," he said. "We should do everything we can to prepare ourselves for old age, since the majority of us will live very long lives. One of the best ways to prepare ourselves is to exercise now. It doesn't really matter what kind of exercise program we choose, just as long as we're active."

Walking
The least expensive and most popular form of recreation among older adults is walking.

Walking requires no equipment. It can be done almost anywhere, at any time. Done at a brisk pace, walking improves circulation and invigorates the heart.

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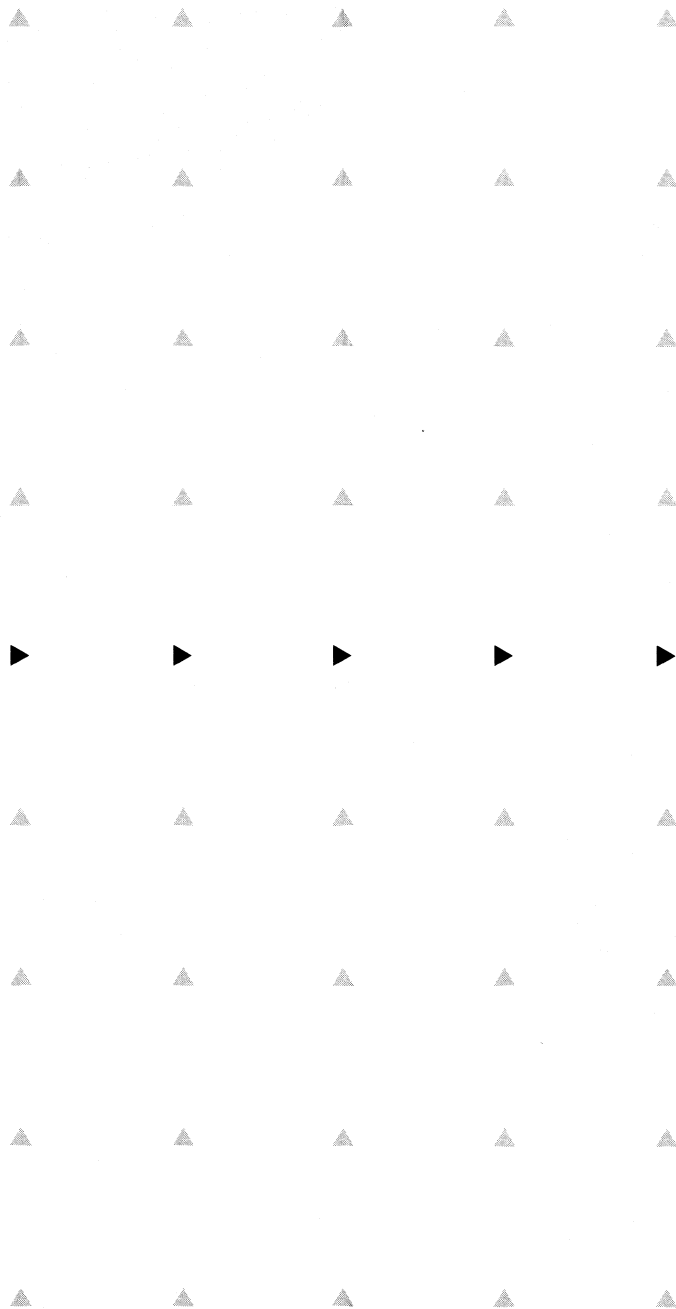
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Attributes Overview

The options on the Attributes pull-down menu let you change the attributes of the drawing objects you use. For example, you can draw with thin lines or thick ones. Or you can fill a box with one of many different colors or patterns.

ATTRIBUTES	
Line Color	
Line Style	
Line Width	
Fill Color	
Fill Pattern	
Arrow Width	

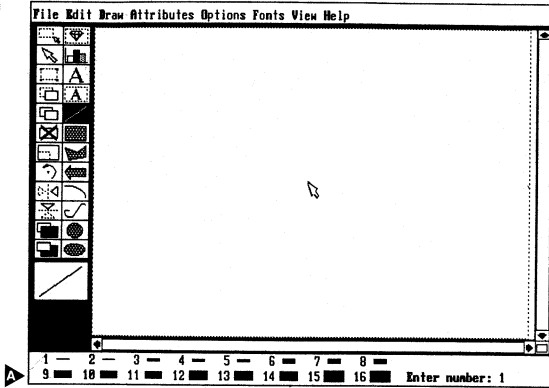
Selecting Attributes

The attributes you can use are divided into three categories: Line, Fill, and Arrow. Line attributes affect the outline of any drawing object. Fill attributes affect the interior space defined by boxes, arrows, ellipses, circles, and polygons. Arrow attributes affect the width of the arrow.

You can set the attributes you want before you draw the object. If you want to change the attribute of an existing object, you can do so by choosing the Select Item or Select Area option (see *Modifying Drawing Objects in Edit Reference*).

Once you select an attribute from the Options menu, a menu appears containing options from which you can choose. For example, the Line Width menu contains 16 different line width options.

▲ LINE WIDTH MENU



The number of the current setting (e.g. the current line width number) is also displayed in the menu.

Color Attributes

The colors used in DrawPerfect are taken from the Standard IBM Color Palette.

If you select either a line or fill color for your drawing that your monitor is not capable of displaying, DrawPerfect will match the color you select to one of your monitor colors (or a pattern if you are using a monochrome monitor). However, you can print the color on a device capable of reproducing it.

In order to see the colors on the screen or on your printed output, you must have a monitor capable of displaying it or an output device (printer, plotter, etc.) capable of producing it.

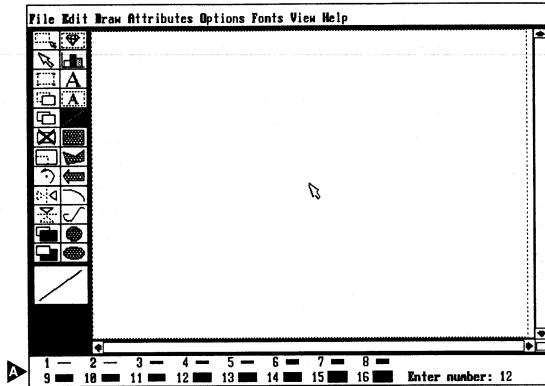
Arrow Width

There are 16 available arrow widths with which you can draw. To change the arrow width currently in use,

- 1 Select Attributes to display the Attribute menu.
- 2 Select Arrow Width on the Attributes menu.

Sixteen available arrow widths are displayed at the bottom of the screen.

▲ ARROW WIDTH MENU



When you see the width you want,

- 3 Select the width by either entering the number that is to the left of the width, or by moving the cursor on top of the width and pressing **Enter**.
- 4 Draw the arrow.

The sample arrow width that appears in the status box is the actual width the arrow will be printed. However, you can always size and stretch the arrow to a different width.

Included in *Appendix D: DrawPerfect Attributes* is an illustration of the different arrow widths.

Fill Attributes

Fill Attributes consist of two options: Fill Color and Fill Pattern.

Fill Color and Pattern

To change the color or pattern currently in use,

- 1 Select Attributes to display the Attribute menu.
- 2 Select **Fill Color** or **Fill Pattern** on the Attributes menu.

The first 16 available colors or patterns are shown at the bottom of the screen.

To see additional colors or patterns, select **Next** or **Previous**.

There are 64 available patterns and 256 available colors; however, only 16 colors or patterns may be displayed on the menu at any given time.

If you select a fill color that your monitor is not capable of displaying, DrawPerfect will match the color you select to one of your monitor colors, (or a pattern if you are using a monochrome monitor).

On a two-color device (e.g., monochrome display or a printer that prints black and white), solid colors are converted to patterns. On a multiple-color device (e.g., EGA 16-color monitor or a color postscript printer), colors are matched to the closest on-screen color and the closest printer color.

When you see the color or pattern you want,

- 3 Select the color or pattern by either entering the number that is to the left of the color or pattern, or by moving the cursor on top of the color or pattern and pressing **Enter**.
- 4 Draw the object.

All fill patterns, except pattern 1, can be combined with a fill color.

In order to see the fill color on the screen or on your printed output, you must have a monitor capable of displaying it and an output device (printer, plotter, etc.) capable of producing it.

Included in *Appendix D: DrawPerfect Attributes* is an illustration of the different fill patterns.

Line Attributes

The Line Attributes consist of Line Color, Line Style, and Line Width.

Line Color

To change the line color currently in use,

- 1 Select **Attributes** to display the Attribute menu.
- 2 Select **Line Color** from the Attributes menu.

The first 16 available colors are shown at the bottom of the screen. To see additional colors, select **Next** or **Previous**. There are 256 colors from which you can select.

When you see the color you want,

- 3 Select the color by either entering the number that is to the left of the color, or by moving the cursor on top of the color and pressing **Enter**.
- 4 Draw the object.

In order to see the color on the screen or on your printed output, you must have a monitor capable of displaying it and an output device (printer, plotter, etc.) capable of producing it.

Line Style

There are 16 line styles available for drawing.

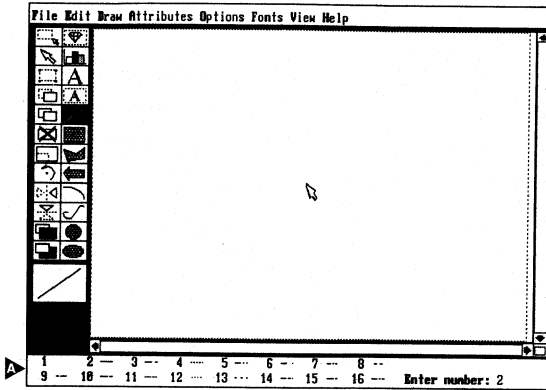
To change the line style currently in use,

- 1 Select **Attributes** to display the Attribute menu.
- 2 Select **Line Style** on the Attributes menu.

Sixteen available line styles are displayed at the bottom of the screen. Line style 1 will let you draw invisible lines. You can

use this style for objects that have a fill pattern or color. Do not use this style for lines or other drawing objects without using a fill pattern.

▲ LINE STYLE MENU



When you see the style you want,

- 3** Select the line style by either entering the number that is to the left of the style, or by moving the cursor on top of the style and pressing **Enter**.
- 4** Draw the object.

Included in *Appendix D: DrawPerfect Attributes* is an illustration of the different line styles.

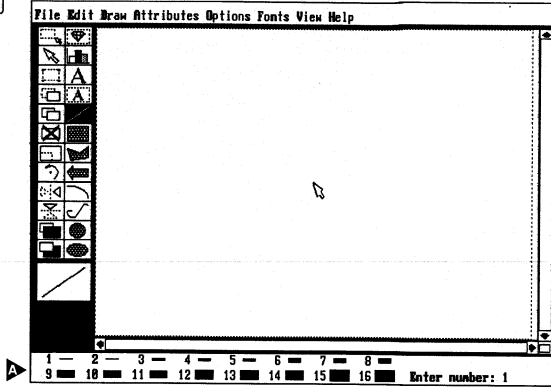
Line Width

There are 16 line widths available for drawing. To change the line width currently in use,

- 1** Select **Attributes** to display the **Attributes** menu.
- 2** Select **Line Width** on the **Attributes** menu.

Sixteen available line widths are displayed at the bottom of the screen.

A LINE WIDTH MENU

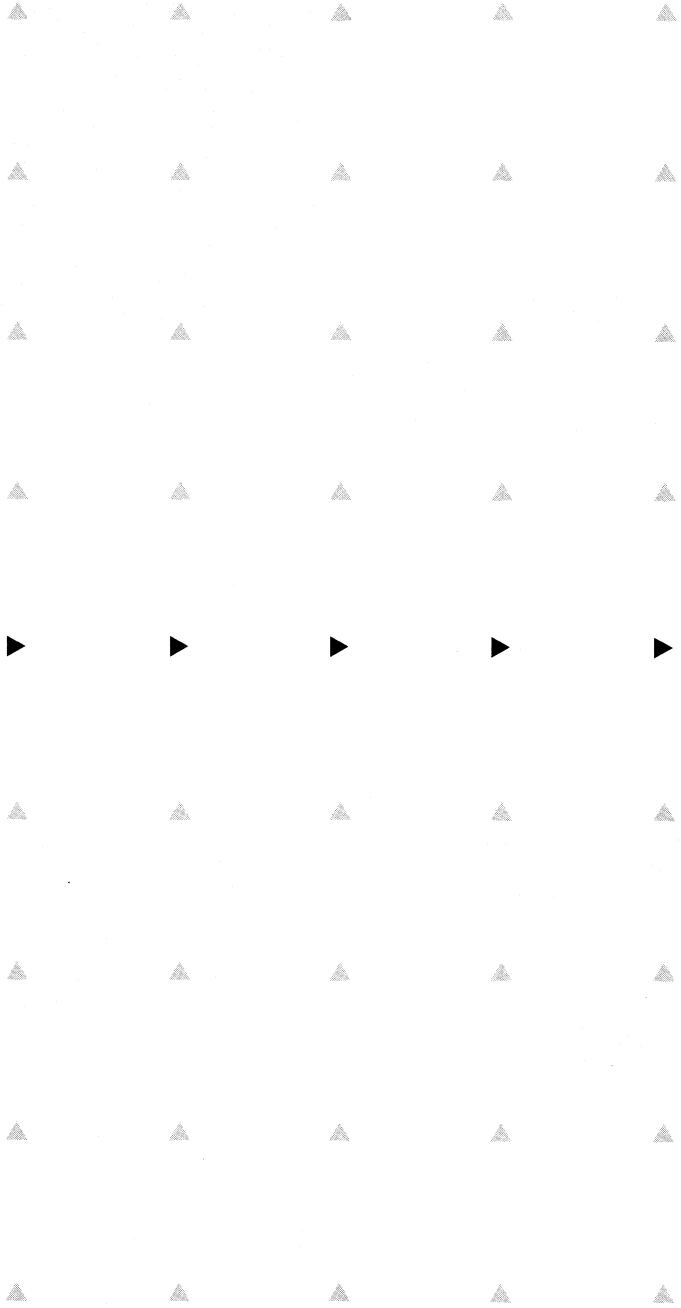


When you see the width you want,

- 3** Select the line width by either entering the number that is to the left of the width, or by moving the cursor on top of the width and pressing **Enter**.
- 4** Draw the object.

The sample line width that appears in the status box is the actual width that will be printed. When you draw an object with the selected width, the line width on the screen may appear slightly smaller or larger than what appears in the status box. This occurs because the line width on the screen is displayed in relative proportion to the size of the drawing screen.

Included in *Appendix D: DrawPerfect Attributes* is an illustration of the different line widths.

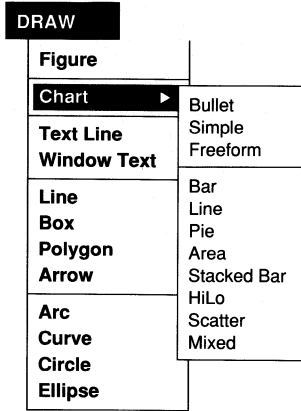


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Draw Overview













The pull-down Draw menu lists the four kinds of objects available in DrawPerfect: Figure, Chart, Text, and a fourth kind defined as Drawing objects. Drawing objects are objects with which you draw and consist of: Line, Box, Polygon, Arrow, Arc, Curve, Circle, and Ellipse.



Drawing Icons

All four types of objects can be selected from either the Draw pull-down menu or from the Icon menu. There are two columns

of icons along the left side of the screen; the second column (the one on the right) contains the Drawing icons.

	FIGURE
	CHART
	TEXT LINE
	WINDOW TEXT
	LINE
	BOX
	POLYGON
	ARROW
	ARC
	CURVE
	CIRCLE
	ELLIPSE

The order of the names on the Draw pull-down menu corresponds to the order of the icons. For example, the fifth option on the Draw pull-down menu is Line, and the fifth drawing icon is Line.

To select an icon, place the cursor on top of the icon and press **Enter**.

Once you select an object, either through the Draw pull-down or icon menu, you can *draw*, or add, that object to the screen. If you want to edit an object, select an editing action from the edit menu. You cannot have both an editing action and a drawing tool selected at the same time.

Figure Objects

The Figure feature lets you insert a graphic image anywhere on the DrawPerfect page. You can use the figure feature to retrieve images previously created with DrawPerfect or other graphics programs.

Chart Objects

With the Chart feature, you can display data in a variety of graph charts or text charts. Any chart generated by DrawPerfect can be inserted anywhere on the page. You can also import spreadsheet data and create a chart using Lotus 1-2-3, Microsoft Excel, and PlanPerfect spreadsheets.

Text Objects Use the Text Line or Window Text feature to insert text on the screen in a variety of fonts and sizes. You can also import WordPerfect files (version 5.0 or later) and DOS (ASCII) text.

Drawing Objects Drawing objects are the tools with which you create graphic images. There are eight drawing objects:

- Line
- Box
- Polygon
- Arrow
- Arc
- Curve
- Circle
- Ellipse

The default drawing object is Line. The default, however, can be changed to any other object you prefer through Setup. (See *Initial Settings* in *File Reference*).

**Filename
Extensions**

Once you start adding objects to the screen, you can save them in a file. You can include up to 8 characters followed by an optional period and up to 3 more characters (e.g., COMPUTER.WPG) in the filename for your drawing.

If you do not specify an extension (e.g., .WPG) for your drawings, DrawPerfect adds the .WPG extension to all figures and drawings you create and save. When you retrieve your drawings, you do not need to include the .WPG extension in the filename.

Chart

DrawPerfect contains two different categories of charts from which you can select: Text charts and Graph charts. Text charts are created by inserting text characters into a DrawPerfect-specified format. There are three different types of text charts: Bullet, Simple, and Freeform. Graph charts are created by inserting numbers, names, and titles into a specified format. There are eight different types of graph charts: Bar, Line, Pie, Area, Stacked Bar, HiLo, Scatter, and Mixed.

Each chart type has characteristics that may suit it to particular kinds of data more than others. You need to decide which chart type would be most appropriate for your data.

This section introduces you to the different charts and the chart selection process. For information on other functions of the Chart feature and submenus of the Chart menu, see *Text Charts, Creating*; *Graph Charts, Creating*; or *Graph Chart Options in Draw Reference*.

Selecting a Chart Type



To select a chart type and location,

- 1 Select **Draw** to display the Draw menu, then select **Chart** to display the Chart submenu.
- 2 Select the desired chart type from the Chart submenu (See *Text Chart Options* or *Graph Chart Options* below).

*You can also select Chart by moving the cursor to the Chart icon and pressing **Enter**. However, you cannot specify a chart type (e.g. bar, line, pie) if you select the Chart icon. The current type illustrated within the icon is the type of chart DrawPerfect begins creating. To change chart types, follow steps 1 and 2 above.*

DrawPerfect displays the type of chart you are creating in the Status Box. In addition, the chart icon changes to reflect the type of chart you selected.

Now define an area on your page where you want the chart placed.

- 3 Move the cursor to the starting point of the chart area and press **Enter**. Move the cursor to the ending point of the chart area and press **Enter**.

or

Move the cursor into the drawing window and press **Enter** twice to define the entire DrawPerfect page as the chart area.

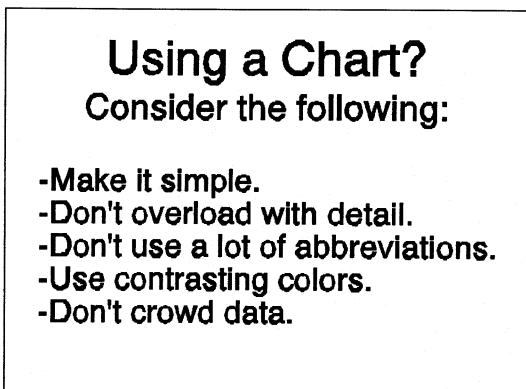
If you selected a Text chart, type the information you want included in your chart. See *Text Charts, Creating* in *Draw Reference* for information about inserting text in a text chart.

If you selected a Graph chart, the Graph screen appears and you can continue creating the chart. See *Graph Chart Options* in *Draw Reference* for information about the Graph screen options.

Text Chart Options

A DrawPerfect text chart can be divided into three basic parts:

- Title
- Subtitle
- Body



The title is the main heading on the chart and is usually displayed in a large font. DrawPerfect reserves the space at the top of the chart for the title.

The subtitle is the subheading positioned below the title and is usually displayed in a slightly smaller font than the title. DrawPerfect allocates the second line of the text chart for the subtitle.

The body consists of one or more words or sentences positioned below the title and subtitle. The font size of the body is usually 20 points smaller than the title. DrawPerfect allocates the space below the subtitle for the body.

The default text type is Helvetica. The default text sizes are 60-point for the title, 30-point for the subtitle, and 40-point for the body. You can change the font size as well as the font type through the Font menu. Changes made through the Font menu

only affect the text chart currently being created. You can, however, use the Setup menu and tailor the text chart to your specific needs by changing the *default* font size and type.

The default settings remain in effect each time you start DrawPerfect. See *Initial Settings* in *File Reference* for information on changing the default chart settings.

Bulleted Chart

Use a bulleted chart when you want to draw attention to the text contained within the body of the chart. The graphic device, or “bullet,” at the front of each word or sentence helps to emphasize important points.

Today's Agenda	
September 25	
• Orientation	9-10 a.m.
• Class	10-12 noon
• Lunch	12-1 p.m.
• Sales Seminar	1-4 p.m.

Simple Chart

Use a simple chart when you want to center all the text on the chart. Simple charts are used frequently as announcements, warnings, or bulletins.

World Widget Corp.
Invites You to Attend
The Year-End Festival
Friday December 21
From 8:00 to 11:00 p.m.
Grand Ballroom
Lakeshore Hotel
RSVP

Freeform

Use a freeform chart when you want to use a less structured chart format. You can define which items on the chart are centered, where they are placed, etc.

Q & A Forum

Questions & Answers About Design

ITEMS FOR DISCUSSION:
Using color
Using illustrations and photographs
Using different typefaces
Using logos, headers, and symbols
Using charts and graphs

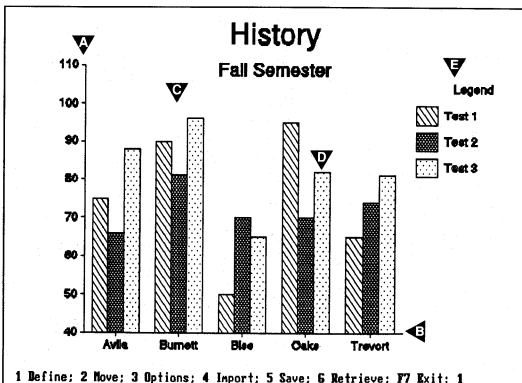
Graph Chart Options

Most graph charts in DrawPerfect can be divided into five basic parts:

- X-axis
- Y-axis
- Components
- Items
- Legend

All DrawPerfect charts, except pie charts, are created using an X- and Y-axis. The line running horizontally across the screen is called the X-axis; the vertical line is called the Y-axis.

- ▲ Y-AXIS
- ▲ X-AXIS
- ▲ COMPONENTS
- ▲ ITEMS
- ▲ LEGEND



Components of a chart are specific categories of information (i.e., months of the year, students on a grade ledger). In a typical chart, each component is represented by a *hash mark* on the X-axis.

Items of a chart are individual pieces of information (i.e., a bar on a bar chart, a point on a line chart) that belong with a component. For example, if you were charting test scores for a semester, each student's name would be a component, and each test score for that student would be an item on the chart.

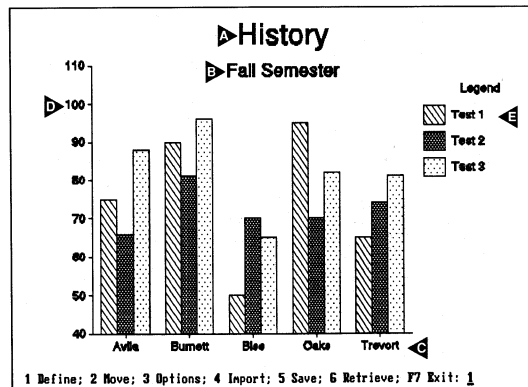
Each component can have as many as 12 items, each of which will appear above that component's hash mark.

Each item in an *item group* contains the same fill pattern (on a bar or area chart) or follows the same line (on a line chart).

A *legend* is used to show what each item group represents.

The Chart feature includes options that let you do things such as create a title and subtitle, assign names to components, adjust the range and increment values (scaling) of the Y-axis, and add legend names.

- ▲ TITLE
- ▲ SUBTITLE
- ▲ NAMES
- ▲ Y-AXIS INCREMENTS
- ▲ LEGEND NAMES

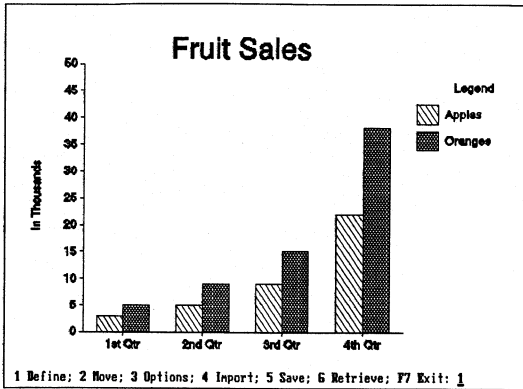


Once you define items, they become the default item definitions until you redefine them, select Clear (F1), or exit DrawPerfect.

Bar

Use a bar chart when you want to compare quantities and show a variation between components. Each quantity, or value, is represented as a bar; the height of the bar representing the value.

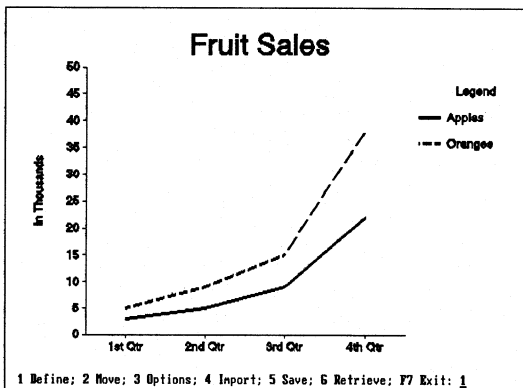
Most bar charts are set up to compare one variable over a space of time.



Line

Use a line chart when you want to show a trend or a change over time. Line charts emphasize the rate of change rather than the amount of change.

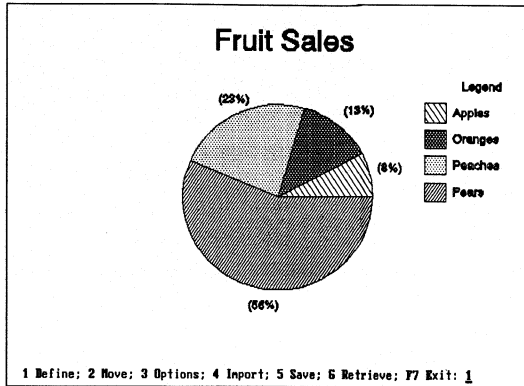
A line chart consists of a number of points plotted on the chart with straight lines connecting the points.



Pie

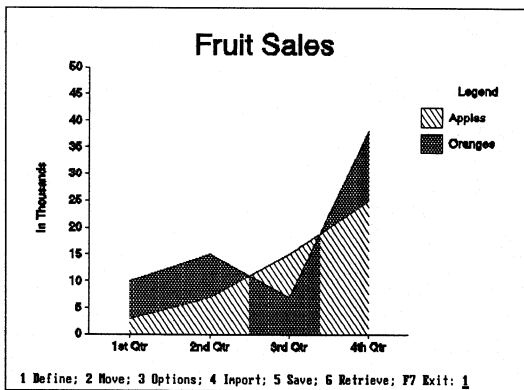
Use a pie chart when you want to show relationships of parts to a whole. Pie charts are divided into individual slices, each slice representing a part of a whole. Some example uses of pie charts

are budget breakdowns, company expenses, and percentage of market share.



Area

An area chart is basically the same as a line chart except that the area under each line is filled with a specified pattern and/or color. An area chart tends to emphasize the amount of change, whereas a line chart emphasizes rate of change.

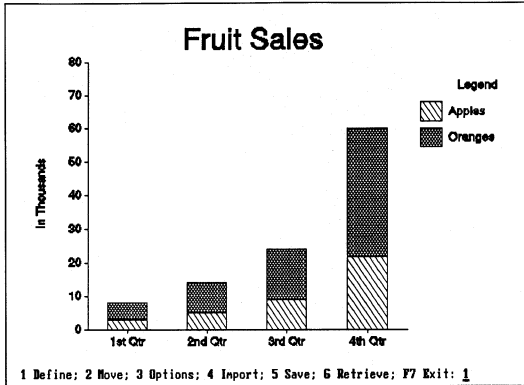


In an area chart, the color and/or fill pattern of the item with the lowest value is displayed in front of every other item. As soon as a different item has the lowest value on the chart, its color/pattern is displayed in front.

In the screen above, the sales of oranges drops lower than the sales of apples between the second and third quarter. Thus, orange sales is displayed in front of apple sales between those points.

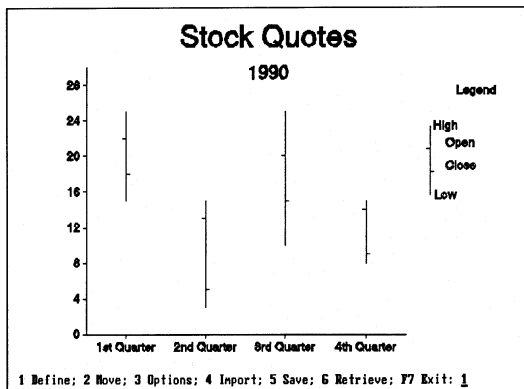
Stacked Bar

A stacked bar chart is similar to the bar chart except that each item is displayed *stacked* on top of the previous item, with the total height representing the sum of all the items.



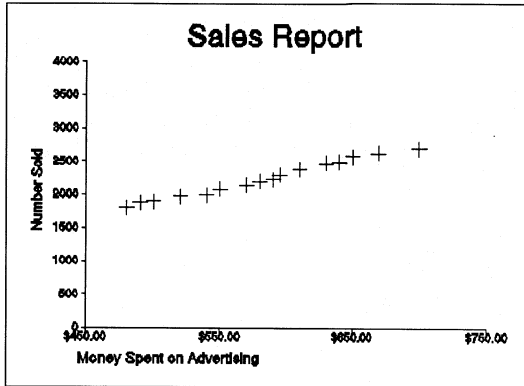
HiLo

HiLo charts are used to represent the high, low, open, and close quotes for a stock. A solid line connects the high and low quotes for the time period, and hash marks on that line indicate the opening and closing quotes.



Scatter

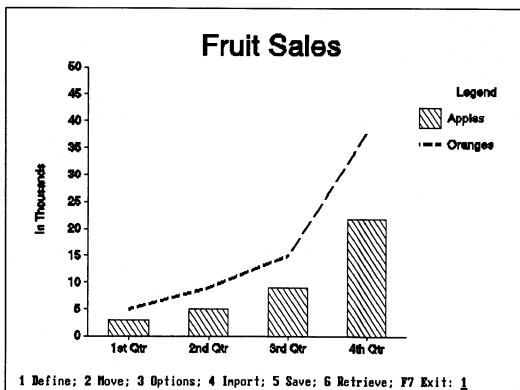
A scatter chart plots the interception points between one set of X values and one or more sets of Y values. Unlike the other chart types, the X-axis of a scatter chart represents a range of values (like the Y-axis), and points on the chart are *plotted* using X and Y values as chart *coordinates*.



The scatter chart above shows you that when more money was spent on advertising, sales increased.

Mixed

A mixed chart is a combination of two or more charts. Use this chart when you want to illustrate two or more different types of data.



Drawing Objects

There are eight Drawing objects in DrawPerfect: Line, Box, Polygon, Arrow, Arc, Curve, Circle, and Ellipse. You draw these objects by selecting them from either the pull-down menu or from the icons which are displayed along the left side of the screen.

For information and examples of how DrawPerfect defines the eight Drawing objects, see Definition Points in Basic Concepts.

You can fill the enclosed objects (box, polygon, arrow, circle, and ellipse) with patterns and/or colors. You can change the line width, color, or style of all the objects. The options on the Attributes menu are used to set line and fill attributes.

Below are the DrawPerfect default settings for line, fill, and arrow attributes.

Line Color	Black
Line Style	Solid
Line Width	Width 1
Fill Color	Black
Fill Pattern	Pattern 7
Arrow Width	Width 12

You can change the default settings through the Setup menu (see *Initial Settings* in *File Reference*).

For information about changing the attributes of an object as you draw, see *Attributes Reference*.

You can change the attributes of an object after you have added it to the screen by choosing the Select Item or Select Area option. You can also move the points of a line, box, arrow, or polygon by selecting Modify (see *Modifying Drawing Objects* in *Edit Reference*).

The prompt line, located directly below the drawing window, gives specific instructions for adding each object. You cannot draw past the borders of the drawing window.

Adding Circles and Ellipses



To add a circle or ellipse to the screen,

- 1 Select **Draw** to display the Draw menu, then select **Circle** or **Ellipse**.

*You can also select Circle or Ellipse by moving the cursor to the Circle or Ellipse icon and pressing **Enter**.*

- 2 Move the cursor to the starting point of the circle or ellipse, then press **Enter**.
- 3 Move the cursor until the circle or ellipse is the desired shape or size and press **Enter** to quit.

Adding Lines and Curves



To add a line or curve to the screen,

- 1 Select **Draw** to display the Draw menu, then select **Line** or **Curve**.

*You can also select Line or Curve by moving the cursor to the Line or Curve icon and pressing **Enter**.*

- 2 Move the cursor to the starting point of the line or curve and press **Enter**.
- 3 Add one or more joints by moving in a new direction and pressing **Enter**.
- 4 Move the cursor to the ending point, press **Enter**, then press the **Space Bar** to quit.

If you want to draw only horizontal or vertical lines, turn on the Constrain option (see *Constrain* in *Options Reference*).

Adding Boxes



To add a box to the screen,

- 1 Select **Draw** to display the Draw menu, then select **Box**.

*You can also select Box by moving the cursor to the Box icon and pressing **Enter**.*

- 2 Move the cursor to the starting point of the box and press **Enter**.
- 3 Move the cursor until the box is the desired size and press **Enter** to quit.

If you want to draw only square boxes, turn on the Constrain option (see *Constrain* in *Options Reference*).

Adding Arrows



To add an arrow to the screen,

- 1 Select **Draw** to display the Draw menu, then select **Arrow**.

*You can also select Arrow by moving the cursor to the Arrow icon and pressing **Enter**.*

- 2 Move the cursor to where you want the head of the arrow placed and press **Enter**.

- 3 Move the cursor to where you want the tail of the arrow placed and press **Enter**.
-

Adding Polygons



A polygon is a multi-sided object, such as a five-pointed star. You create polygons one side at a time. DrawPerfect draws the last polygon line connecting the starting and ending points. To add a polygon to the screen,

- 1 Select **Draw** to display the Draw menu, then select **Polygon**.
*You can also select Polygon by moving the cursor to the Polygon icon and pressing **Enter**.*
- 2 Move the cursor to the starting point and press **Enter**.
- 3 Add two or more joints to the polygon by moving the cursor in a new direction and pressing **Enter**.
- 4 Press the **Space Bar** to quit.

DrawPerfect draws the last polygon line which connects the starting and ending points.

Adding Arcs



An arc is a portion of a curve. You create an arc by drawing a line between two points and then arcing the line. To add an arc to the screen,

- 1 Select **Draw** to display the Draw menu, then select **Arc**.
*You can also select Arc by moving the cursor to the Arc icon and pressing **Enter**.*
- 2 Move the cursor to the starting point and press **Enter**.
- 3 Move the cursor to the ending point and press **Enter**.
- 4 Arc the line by moving the cursor along the line between the starting and ending points.
- 5 Press **Enter** to end the arc.

Figure

The Figure feature lets you insert a graphic image anywhere on the DrawPerfect page. You can use the figure feature to retrieve an image that has been created with DrawPerfect or another graphics program (see *Appendix I: Import Formats*).

A figure is defined as *any* object retrieved either through the Figure option on the Draw menu or the Figure icon. A figure can be a chart, a sentence, a drawing object (such as a polygon), a scanned image, or a combination of all four. Any object you create can be defined as a figure. For example, if you retrieve a pie chart onto the screen using Figure, the pie chart is classified as a figure.

The Figure feature is most used, however, to retrieve images created with DrawPerfect (such as the images in the Figure Library book) or images created in another graphics program.

You need to be aware, however, that in addition to retrieving an object as a figure, you can also retrieve an object as a file. The way you edit a figure differs from the way you edit a file.

Retrieved as a Figure



If an object is retrieved as a figure, it is considered one object. For example, let's say you drew one circle and one box and then saved the circle and box in a file. If you retrieve the two objects using the Figure feature, the circle and box are no longer classified as two separate objects but are grouped together as one object within the Figure box.

If you want to do any kind of editing on a figure, such as changing a fill pattern or deleting a line, you must select **Modify** from the Edit menu *first*. Otherwise, any editing action you perform is performed on the entire object. For example, you can rotate, enlarge, or delete the whole object, but without first selecting **Modify**, you cannot delete, move, copy, etc., the different objects that make up the figure.

To retrieve an object as a figure,

- 1 Select **Draw** to display the Draw menu, then select **Figure**.

*You can also select Figure by moving the cursor to the Figure icon and pressing **Enter**.*

- 2 Move the cursor to the starting point of the figure box, press **Enter**, then move the cursor to the ending point of the figure box and press **Enter** again.

or

Move the cursor into the drawing window and press **Enter** twice to define the entire DrawPerfect window as a figure box.

- 3 Enter the filename of the object you want to retrieve. (You will need to enter a complete pathname if the file is not in your default directory.)

After specifying a filename for the figure, DrawPerfect determines the format of the file and retrieves the object into the box. If the object was not created in DrawPerfect or a supported program, an error message is displayed. (See *Appendix I: Import Formats* for a complete list of programs DrawPerfect supports.)

If the message “ERROR: File Not Found” appears, either you entered the filename incorrectly, or the file does not exist in your default directory or the directory you specified. DrawPerfect lets you try again. If you cannot remember the name of the file, press List Files (F5) to check the directory and file name.

You can also use List Files to retrieve a figure. Press List Files (F5) after you define a figure box, move the cursor to the file you want to retrieve, then select **Retrieve**. See *List Files* in *File Reference* for more information about List Files.

Retrieved as a File

If an object is retrieved as a file, it is considered a collection, or a file, of different objects. For example, if an object was originally created using two ellipses, one box, and three polygons, it would be considered a file of six drawing objects. Since DrawPerfect defines the object as six different objects, you can move, delete, and adjust each one of the six objects without selecting **Modify**.

To retrieve an object as a file,

- 1 Select **File** to display the File menu.
- 2 Select **Retrieve** from the File menu.

*You can also access the Retrieve feature by pressing **Retrieve** (Shift-F10).*

- 3 Enter the name of the file you want to retrieve. (You will need to enter a complete pathname if the file is not in your default directory.)

If the message “ERROR: File Not Found” appears, either you entered the filename incorrectly, or the file does not exist in your default directory or the directory you specified. DrawPerfect lets

you try again. If you cannot remember the name of the file, press List Files (F5) to check the directory and file name.

You can also use List Files to retrieve a file. Press List Files (F5), move the cursor to the file you want to retrieve, then select **Retrieve**. See *List Files* in *File Reference* for more information about List Files.

File vs Figure

If you retrieve an object to the screen using Retrieve or List Files without defining a figure box, the object is displayed the same size and in the same location as it was originally drawn. However, if you retrieve an object as a figure, you can define any size box and position it anywhere on the page. When you want to superimpose images on top of each other, use the Figure feature. This feature gives you the power to place one image on top of another in an orderly way.

Figure Library

Included with DrawPerfect is a Figure Library book that contains over 500 graphic images. You can use the images alone or mix them with text, graphs, and drawings. You can add the figure art to proposals, documents, and newsletters, or to other materials where figures, diagrams, logos, and pictures are needed.

Retrieving an Image

The graphic images are located on the Figure Library diskettes. All of the figures on the diskettes are located in files with a .WPG extension. The .WPG format is the internal graphics format used by DrawPerfect and WordPerfect.

Hard Disk

If you want to retrieve a graphic image from the Figure Library, and you copied the Figure Library files onto your hard disk, simply enter the name of the figure file you want retrieved. Be sure to include the full pathname (e.g., C:\DR10\ANIMALS\DOG.WPG). See the *Figure Library* book for a complete listing of all figures and their names.

Unless you specify a different directory, DrawPerfect searches in the default directory for the Figure Library files. If you installed the Figure Library files in a directory other than your default directory, be sure to include the full pathname when you try to retrieve a graphic image. Through the Location of Files feature you can specify a directory from which DrawPerfect should retrieve graphic images (see *Location of Files* in *File Reference*).

If you have not copied the Figure Library files to your hard disk but would like to, use the DrawPerfect Installation Program. Copying all of the Figure Library files to your hard disk, however, will take up a lot of your computer memory. If you do not want to copy the Figure Library files to your hard drive, see *Two Disk Drives* below for instructions on accessing the graphic images.

Two Disk Drives

If you are running DrawPerfect from two disk drives, insert one of the Figure Library diskettes into drive B (or the drive that is not running DrawPerfect), then enter the name of the image you want to retrieve (see the *Figure Library Book* for a complete listing of all figures and their names).

Be sure to include the name of the disk drive where you put the Figure Library diskette and the name of the directory where the image is located (for example, B:\ANIMALS\DOG.WPG). Once the image is retrieved and on the screen, you can remove the Figure Library diskette from the disk drive.

Monochrome vs Color Monitors

Most of the Figure Library images were created with color. If you have a monitor capable of displaying 16 or more colors, the figures should appear clearly and in color on your screen.

If you retrieve an image that contains a color your monitor does not display, DrawPerfect matches the color in the image with a similar color supported by your monitor. You can, however, print the original color if you have a printer capable of reproducing it.

If you have a monochrome monitor, the colors used within the images are remapped to patterns. You may discover if you shrink an image, that the outline of the image becomes somewhat blurred. However, when printed, the image appears clearly.

When you print the Figure Library images on a printer that prints black and white, all colors are remapped as patterns. The figures in the Figure Library booklet were created in DrawPerfect and then printed on an HP LaserJet Series II printer to give you a realistic idea of what the figures look like when printed.

WordPerfect User

If you are a WordPerfect user (version 5.0 or later), you can retrieve the Figure Library images into WordPerfect through the Graphics feature. Consult your WordPerfect documentation for information about retrieving Graphics.

In addition, you can retrieve into WordPerfect any DrawPerfect drawing you create. You can retrieve a drawing by saving the

image on disk, or by saving it to the Shell clipboard. See *WordPerfect* in *File Reference* for information on transferring DrawPerfect files into WordPerfect 5.1 via the clipboard.

Graph Chart Options

Once you have selected the type of chart you want and have defined an area on the page where you want the chart displayed, you are placed in the Graph Edit screen. An example chart, which corresponds to the chart type you selected from the Draw menu, is displayed.

You can turn off the sample data and bypass the Graph Edit screen by selecting the Sample Chart Data option on the Initial Drawing Settings menu under Setup; see Initial Settings in File Reference.

At the bottom of the Graph Edit screen is a menu. This menu, which is called the Graph Edit menu, contains options that let you change and move the elements of the chart to make it appear just how you want it.

The options on the Graph Edit menu are described below.

Throughout this section the terms "item" and "component" are used. See Chart in Draw Reference for an explanation of these terms.

Define

Selecting this option displays the Graph Data screen, which gives options for editing specific elements in the graph.

Graph Data Menu

At the bottom of the Graph Data screen is the Graph Data Menu. Information about the menu options is found below.

Arrow Keys

If you are using the keyboard, the arrow keys let you move around the screen (see *Cursor Movement* below).

Enter

Enter lets you edit the current option name (see *Cursor Movement* below).

Clear

The Clear (F1) option lets you erase the data in the Item List. The Item List data includes the X-axis names, legend names, and all data in the columns. Clear does not erase the information listed at the top of the screen (e.g., title, subtitle, legend).

If you want to clear the title, subtitle, etc., return to the Graph Edit screen by pressing View (F7), then press Reset (F1).

When you press Reset, the titles, legend, and X- and Y-Labels are deleted.

Data Options

You can press Data Options (F4) from the Graph Data screen and display the Graph Data Options screen. The Graph Data Options screen contains options which let you change the color, font, point size, and rotation for each text element. From the Graph Data Options screen, you can switch back to the Graph Data screen by pressing Data (F4).

*You can also press **Switch** (Shift-F3) to switch between the Graph Data and the Graph Data Options screens.*

Import

You can import worksheet data by pressing Import (Ctrl-F5). Selecting Import from this menu is the same as selecting Import from the Graph Edit menu (see *Import* below).

View

You can press View (F7) to exit to the Graph Data screen and view your chart.

Unless you change them, the DrawPerfect default settings are used for the Graph feature. Once you create a graph, the new settings are used as the default settings until you change them, select Reset on the Graph Edit menu, or exit DrawPerfect.

You can change the DrawPerfect default settings for the Graph feature through Setup; see Initial Settings in File Reference.

Cursor Movement

If you are using the keyboard, you should be aware that in both the Graph Data and Graph Data Options screens (see *Graph Data Screen* and *Graph Data Options Screen* below), the following keys work in special ways:

Arrow Keys

Moves the cursor to the next option in the direction of the arrow.

Tab/Shift-Tab

Tab moves the cursor to the right one option. Shift-Tab moves the cursor to the left one option.

Backspace

Deletes the current entry.

End

Moves the cursor to the last option in the current line.

Enter

Moves the cursor down to the next option after a data entry. You can also use Enter to edit the current option.

Go To (Ctrl-Home)

Moves the cursor to the top left corner of the screen.

If you create or edit a graph within a macro, always include the Go To Home keystroke before changing settings on the Graph Data or Graph Data Options screens. This ensures that the macro starts from the same position each time.

Page Up (PgUp)

Moves the cursor to the top left of the screen.

Page Down (PgDn)

Moves the cursor to the bottom left of the screen.

Home Left or Right Arrow (Ctrl-←/→)

Moves the cursor to the beginning or end of the row of data on the screen.

Mouse Function

The mouse works in the following ways in both the Graph Data and Graph Data Options screens.

Right Mouse Button

The right mouse button performs the same function as Exit (F7). This cancels you out of entering or editing a menu name. It also exits you out of a menu.

Left Mouse Button

The left mouse button lets you select menu options. By holding down the left button, you can move a highlighted bar around the screen. When you release the left button, the cursor moves to the option name currently highlighted.

In addition, you can move the on-screen arrow to the option you want to edit by moving the mouse. Clicking the left button moves the cursor to the option name.

Center Mouse Button

The center button on a three-button mouse performs the same function as the Cancel key (F1).

Both Right and Left Mouse Buttons

If you have a two-button mouse, you can press both the right and left mouse buttons at the same time to perform the same function as the Cancel key (F1).

X-Label

The name entered here is displayed in the lower-left corner of the screen (in a typical graph) as a label for the X-axis.

Y-Label Left and Y-Label Right

The name entered as the Y-Label Left is displayed in the upper-left corner of the screen as the first Y-axis label. If you have two Y-axes in a graph, enter a name for Y-Label Right to label the second Y-axis. This is displayed above the right Y-axis.

Item List

You can enter or edit names and numbers in the Item List.

Legend Names

If you include a legend title in the Title List at the top of the Graph Data screen, and the legend display is turned on (see *Display* under *Graph Data Options screen* below), the legend names you add here are displayed in a separate legend showing the color and/or fill pattern of each item.


To add or edit a legend name,

- 1 Move the cursor to the Legend column and enter the legend name.

X-Axis Names

The space directly below the column numbers is used to enter the names you want assigned to the components (hash marks) on the X-axis. For example, in the graph below March, April, and May are all X-axis names.

 X-AXIS NAME

Define: Graph Data				
Title : Sample Chart				
Subtitle :				
Legend : Legend				
X-Label :				
Y-Label L:				
Y-Label R:				
Legend	1	2	3	4
	March 	April	May	-

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

To enter an X-axis name,

- 1 Move the cursor into the blank area or “cell” under the column number and enter the X-axis name.

X-axis names can be up to 30 characters. You should enter the same number of names as there are components (or hash marks) along the X-axis of the graph.

The Names option has no effect on pie graphs or scatter graphs with an X-axis.

Numbered Columns

Each numbered column on the Graph Data screen represents an individual item on a chart, such as a point on a line graph, a bar on a bar chart, etc.

For specific examples of how to enter data into the columns, see *Graph Charts, Creating in Draw Reference*.

Graph Data Options Screen

The Graph Data Options screen is displayed when you select Define from the Graph Edit menu and then press Data Options (F4). This screen, like the Graph Data screen, is divided into the Title List and the Item List. You can press Data (F4) and return to the Graph Data screen.

- ▲ TITLE LIST
- ▲ ITEM LIST

Define: Graph Data Options

Title :	Sample Chart	Display Color	Yes	<input type="checkbox"/>	MP Helv 48	0
Subtitle :	No	Font	Yes	<input type="checkbox"/>	MP Helv 25	0
Legend :	Legend		Yes	<input type="checkbox"/>	MP Helv 16	Vert.
X-Label :	No		No	<input type="checkbox"/>	MP Helv 16	0
Y-Label L :	No		No	<input type="checkbox"/>	MP Helv 16	0
Y-Label R :	No		No	<input type="checkbox"/>	MP Helv 16	0
Default :			No	<input type="checkbox"/>	MP Helv 16	0

Legend	Color	Style	Type	Size	Axis	Color	Font	Rot.
<input type="checkbox"/>	<input type="checkbox"/>	None	N/A	Left	<input type="checkbox"/>	MP	Helv 16	0
<input type="checkbox"/>	<input type="checkbox"/>	None	N/A	Left	<input type="checkbox"/>	MP	Helv 16	0
<input type="checkbox"/>	<input type="checkbox"/>	None	N/A	Left	<input type="checkbox"/>	MP	Helv 16	0
<input type="checkbox"/>	<input type="checkbox"/>	None	N/A	Left	<input type="checkbox"/>	MP	Helv 16	0
<input type="checkbox"/>	<input type="checkbox"/>	None	N/A	Left	<input type="checkbox"/>	MP	Helv 16	0
<input type="checkbox"/>	<input type="checkbox"/>	None	N/A	Left	<input type="checkbox"/>	MP	Helv 16	0
<input type="checkbox"/>	<input type="checkbox"/>	None	N/A	Left	<input type="checkbox"/>	MP	Helv 16	0
<input type="checkbox"/>	<input type="checkbox"/>	None	N/A	Left	<input type="checkbox"/>	MP	Helv 16	0
<input type="checkbox"/>	<input type="checkbox"/>	None	N/A	Left	<input type="checkbox"/>	MP	Helv 16	0
<input type="checkbox"/>	<input type="checkbox"/>	None	N/A	Left	<input type="checkbox"/>	MP	Helv 16	0
<input type="checkbox"/>	<input type="checkbox"/>	None	N/A	Left	<input type="checkbox"/>	MP	Helv 16	0
<input type="checkbox"/>	<input type="checkbox"/>	None	N/A	Left	<input type="checkbox"/>	MP	Helv 16	0
<input type="checkbox"/>	<input type="checkbox"/>	None	N/A	Left	<input type="checkbox"/>	MP	Helv 16	0
<input type="checkbox"/>	<input type="checkbox"/>	None	N/A	Left	<input type="checkbox"/>	MP	Helv 16	0
<input type="checkbox"/>	<input type="checkbox"/>	None	N/A	Left	<input type="checkbox"/>	MP	Helv 16	0
<input type="checkbox"/>	<input type="checkbox"/>	None	N/A	Left	<input type="checkbox"/>	MP	Helv 16	0

Arrows Move; Enter Edit; F1 Clear; F4 Data; Ctrl-F5 Inport; F7 View;

Title List

With the options in the Title List you can add or edit a title or name; change the color, font, and point size for a title or name; and change the rotation of the text.

Default

The Title List in the Graph Data Options screen contains one element that the Graph Data screen does not—Default.

The Default settings are used to change the color for the X-axis, Y-axis, X-axis names, Y-axis names, and the outline line color of the legend boxes and the bars on a bar chart.

You can also use Default to change the font of the Y-axis and X-axis names.

There is an option on the Setup menu under Initial Drawing Settings called Font/Axis Color which you can select if you want to change the default color of the Y- and X-axes, as well as the default font of the Y- and X-axes names (see *Initial Settings* in *File Reference*).

Text

You can enter or edit text in the Title List of the Graph Data Options screen just like you can in the Graph Data screen.

Display

Use this option if you do or do not want the name, title, or Legend displayed in the graph. Press Enter with the cursor on the Display option, then type **y** (or press Enter) to display the item, or type **n** to not display it.

If the Display option for the Legend is set to “No,” the legend names you add in this screen or in the Graph Data screen are displayed next to the first occurrence of each item.

Color

If you have a color monitor, you can change the color in which the text is displayed. You can also change the fill color. For example, you can change the color inside a bar in a bar chart. If you have a monochrome monitor, you can change the color, but it will show up as a pattern on the screen. However, the color will print with a color printer. To change the color of an item,

1 Press **Enter** with the cursor in the “Color” column.

The first 16 available colors appear at the bottom of the screen. There are 256 available colors displayed via the **Next/Previous** options. However, in order to see the color on the screen or on your printed output, you must have a monitor capable of displaying it and/or an output device (printer, plotter, etc.) capable of producing it.

- 2 Select the color by either entering the number that is to the left of the color, or by moving the cursor on top of the color and pressing **Enter**.

To change the color of the X- and Y-axis, the names along the X- and Y- axis, and the legend names, select the Default option in the Title List; see Default above.

Font

This option lets you change the font or point size for any text element listed in the Title List. Unless otherwise specified, DrawPerfect uses the default graph font and point size to display and print all text in a graph.

- 1 Press **Enter** with the cursor in the Font column to display the Base Font list.
- 2 Move the cursor to the desired font.

or

Leave the cursor on the current font if you just want to change the point size.

- 3 Press **Enter** to select the font.
- 4 Enter a point size.

Point sizes can range from .1 to 499 points. However, the very small and very large point sizes can be impractical. Experiment to find which point sizes work best for you. A 72-point font is 1" high. The fonts available depend on the display resource file (.DRS) you are using. More fonts are available with a hard drive system than with a two disk drive system. The larger .DRS file (WP.DRS) is loaded onto your hard disk during installation. The smaller .DRS file (WPSMALL.DRS) was created for use with a two disk drive system.

Rotation

This option lets you *rotate* a name counterclockwise with the first letter in the name serving as the *anchor*. To rotate a name, enter the number of degrees you want it rotated.

For example, if you enter **90** for the degrees of rotation, the name will be vertical, with the first letter of the name at the bottom. If you enter **270**, the name will be vertical, but with the first letter at the top.

The Rotation option for the Legend is used differently than for the other graph elements. Pressing Enter with the cursor on the Rotation column for Legend displays a menu at the bottom of the screen. You can select Vertical, Horizontal, or Float.

The Vertical setting (the default) displays the legend with the legend names *stacked*. If you select Horizontal, the entire legend is displayed on one line, with each legend name following the previous one from left to right.

With both the Vertical and Horizontal settings, space is reserved to the right of the graph so the legend does not overlap another graph element. (The graph may be condensed.) If you select Float, however, the graph is displayed at its normal size, even if the legend overlaps other elements. Floating legends are always vertical.

You can move the legend with the Move option on the Graph Edit menu (see Move below).

Item List

You can enter and edit the item names and change the appearance of each item. If an option displays an “N/A” message, the option is “Not Applicable” to that item, and the setting cannot be changed.

Color

The Item List contains two color columns. The first column (the one on the left) is used to change the fill color for the pie, bar, and area graphs. The second column (the one on the right) is used to change the color of the legend names. These Color options are used the same way as the Color option in the Title List (see Color above).

Style

DrawPerfect provides 64 different fill styles for the pie, bar, and area graphs, as well as several line and marker styles for the line and scatter graphs. A style is automatically assigned to each item when you create a graph. To change an item fill style,

1 Press **Enter** with the cursor in the Style column.

A Style menu appears at the bottom of the screen. Select **Next** or **Previous** to scroll through the menu, displaying more fill styles.

- 2 Select the fill style by either entering the number that is to the left of the style, or by moving the cursor on top of the style and pressing **Enter**.

This option has no effect on HiLo graph components.

Type

This option lets you change the graph type for an item. This is especially useful for combining two or more graph types. Of the graphs created on an X- and Y-axis, only the scatter graph which has an X-axis cannot be combined with any other graph, because the X-axis of a scatter graph represents a range of values (like the Y-axis).

See Chart in Draw Reference for an explanation of graph types.

An axis-based graph (any graph with an X- and Y-axis) cannot be combined with a pie graph. However, you can display an axis-based graph and a pie graph side by side. You do this by defining all the items that are axis-based on one Y-axis and all the items that are pie graph types on the other Y-axis (see *Axis* below).

In this situation, the two graphs will be displayed separately regardless of the "Display the Y Axes Separately" setting (see Graph Options Screen below).

To change an item graph type,

- 1 Press **Enter** with the cursor in the Type column to display the Type menu at the bottom of the screen.

or

With the cursor in the Type column, type the number of the option you want.

- 2 Select an item type.

Two options on the Type menu are not found on the Chart pull-down menu—XPie and None. Select XPie to have a slice of a pie graph exploded (pulled away from the rest of the pie). Select None if you do not want an item displayed.

Size

This option applies only to those graphs containing lines and/or markers. To change the width of a line or size of a marker,

- 1 Press **Enter** with the cursor in the Size column.

A size menu appears at the bottom of the screen.

- 2 Select the size you want by entering the number that is to the left of the size, or by moving the cursor on top of the size and pressing **Enter**.

Axis

DrawPerfect lets you create a second Y-axis on the right side of the graph. You can then assign items to the Y-axis on the left or the Y-axis on the right.

All items are originally graphed using the Y-axis on the left. To assign items to the right Y-axis, press **Enter** with the cursor on the **Axis** option, then select **Right (2)**. You can also change to **Left** or **Right** by typing **1** or **2** with the cursor on the **Axis** option.

The scaling (range and increments) of each Y-axis is independent of the other and is determined by the items assigned to each. This is most useful for bar graphs with only two items whose value ranges are quite different. By assigning one item to the left Y-axis and the other to the right Y-axis, you can show a more exact display of the smaller of the two items. The item (bar) assigned to the left axis is displayed on the left of each component, while the item assigned to the right axis is displayed to the right.

*You can display the two Y-axes separately (thereby displaying two separate graphs) by selecting **Display the Y-Axes Separately** on the **Graph Options** screen (see **Graph Options Screen** below).*

If the item has a **Type** setting of “**Sctr**” (**Scatter**), pressing **Enter** with the cursor on the **Axis** option displays a menu at the bottom of the screen. The options let you assign a scatter graph item to the left Y-axis, the right Y-axis, or the X-axis. The item assigned to the X-axis is used for the X-axis scaling and X values (see *Scatter* under *Chart* in *Draw Reference*). Only one item can be assigned to the X-axis at one time (all other items assigned to the X-axis are ignored).

Font

This option lets you change the font or point size for the Legend names. This option is used the same way as the **Font** option in the **Title List** (see *Font* above).

Rot

When the **Legend Display** is set to “**No**,” the legend names you add are displayed next to the first occurrence of each item. For example, if you had the legend name “**Apples**,” the word “**Apples**” would be displayed next to the first bar representing apples.

You can use the rotate option to rotate the Legend names when the Legend display is set to "No." This option is used the same way as the Rotation option in the Title List (see *Rotation* above).

When you finish editing the Graph Data Options screen, you can either press Data (F4) to return to the Graph Data screen, or press View (F7) to return to the Graph Edit screen.

Move

This option lets you move major elements in a graph.

- 1 Select **M**ove from the Graph Edit menu.

A lowercase letter appears next to those elements that can be moved.

- 2 Type the letter of the element you want to move (type **z** to move the entire graph).

or

If you are using a mouse, move the cursor on top of the element you want to move and click the left mouse button.

If two graphs are displayed, type y to move the graph on the left or type z to move the graph on the right.

A pointer (+) appears to the left of each element. The horizontal line within the pointer represents the bottom or base line of the item to be moved.

- 3 Using the arrow keys, move the pointer to the desired location.

or

If you are using a mouse, move the cursor to where you want the element positioned.

- 4 Press the **Space Bar** or **Enter** to move the element to the new location.

Repeat steps 2 through 4 above with each element you want to move.

- 5 Press **Exit** (F7) or **Enter** to display the Graph Edit menu.

Options

Selecting this feature displays the Graph Options screen, which lets you change the appearance of the axes along with several graph formats (graph orientation, alternate X names, etc.).

Graph Options:							
1 - Display Values				No			
2 - Graph Orientation/3D				Vertical, Normal			
3 - Fill Style				Both			
4 - Proportional Pies				No			
5 - Bar Configuration				Normal			
6 - Representation Line				Lines Only			
Scatter				Markers Only			
7 - Display the Y Axes Separately				No			
8 - Alternate X Names				No			
9 - Axes	Type	Scaling	Stack	Gridlines	From zero	Format	
Y Axis Left	Linear	Automatic	No	No	No	General	
Y Axis Right	Linear	Automatic	No	No	No	General	
X Axis	Linear	Automatic	N/A	No	No	General	
Selection: 8							

The options on this screen are described below.

Display Values

Select this option, then type **y** or **n** to change the Display Values setting to “Yes” or “No.” If the setting is “Yes,” the values of the items are displayed next to the items in the graph. The values are displayed vertically, starting from the bottom.

Pie graph item values are displayed as percentages of the pie.

Graph Orientation/3-D

This option lets you change the way a graph is displayed.

1 Select **Graph Orientation** from the Graph Options menu.

The first two options displayed apply only to axis-based graphs.

2 Select **Vertical** to display the graph vertically.

or

Select **Horizontal** to display the graph horizontally.

If you select **Horizontal**, the X-axis and Y-axis are reversed.

After you select **Vertical** or **Horizontal**, two more options are displayed.

3 Select **Normal** to display a graph normally.

or

Select **3-Dimensional** to give a graph a three-dimensional effect.

The 3-Dimensional setting has no effect if the bars in a bar graph are overlapped (see Bar Configuration below). This setting will cancel an exploded pie (X-Pie) type setting (see Type under Graph Data Options Screen above).

Fill Style

This option lets you specify whether pie, bar, and area graphs should be displayed with color only, fill style (pattern) only, or both.

- 1 Select **Fill Style**.
- 2 Select **Color Only**, **Pattern Only**, or **Both**.

Proportional Pies

If you have two pie graphs displayed on the screen (see *Pie* under *Chart* in *Draw Reference*), you can use this option to display the sizes of the two pies in relative proportion. Select this option, then type **y** or **n** to change the Proportional Pies setting to “Yes” or “No.”

If the setting is “Yes,” the pies are displayed in accurate proportion with up to a 75% difference between the pies.

Bar Configuration

This option is used to change the way the bars appear in a bar graph.

- 1 Select **Bar Configuration**.
- 2 Select **Overlapped** to display each bar (item) partially in front of the next. The bars will be somewhat wider with this option selected, but will occupy the same amount of space because of the overlapping.

or

Select **Normal** to display the bars normally (side-by-side).

or

Select **Spaced** to display the bars with a small amount of space between each bar.

This setting does not affect the spacing between components (hash marks); it merely alters the spacing of the bars above each hash mark.

Representation

With this option, you can specify whether line and scatter graphs should be displayed with lines only, markers only, or both.

- 1 Select **R**epresentation.
- 2 Select **L**ine or **S**catter.
- 3 Select **L**ines Only, **L**ines and **M**arkers, or **M**arkers Only.

Display the Y Axes Separately

Select this option, then type **y** or **n** to change the setting to “Yes” or “No.” If the setting is “Yes,” the right Y-axis and the items assigned to it are displayed in a separate graph. In other words, two normal axis-based graphs are displayed side by side.

If you have not created a second Y-axis (see Axis under Graph Data Options Screen above), this option has no effect on the graph.

Alternate X Names

Use this option to alternate the length of the hash marks on the X-axis, and thereby change the positioning of the X-axis names. This can be very useful if there are many components in the graph and not enough room for the names.

- 1 Select **A**lternate **X** Names.
- 2 Type **y** to display the “Alternate Every:” message.

or

Type **n** to turn off Alternate X Names.

If you typed **y** in step 2,

- 3 Enter a number.

For example, if you enter **2**, every second hash mark will be longer, and the name will be displayed lower than the others.

Axes

This option lets you change certain characteristics of the axes in axis-based graphs.

- 1 Select **A**xes.
- 2 Select the axis you want to edit.
- 3 Select an option, then enter any necessary information (see the Axes options described below).
- 4 Press **Exit** (F7) twice to redisplay the normal Graph Options screen.

A description of each Axes option is given below.

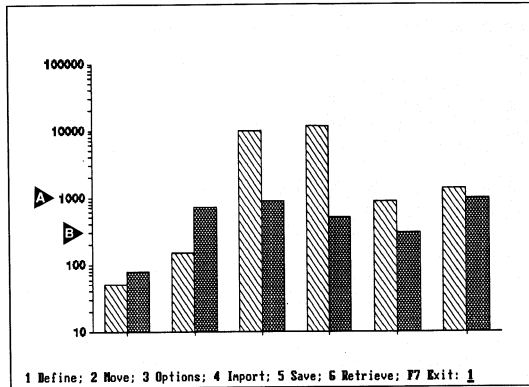
Type

Select Type to toggle the axis setting between “Linear” and “Log.”

This option applies to the X-axis if you have defined an X-axis for a scatter graph; otherwise it applies to the Y-axis only.

In a normal graph, the Y-axis is scaled linearly (in equal increments). With logarithmic (Log) incrementation, each major increment is exponentially related to the previous.

- A** MAJOR INCREMENTS
- B** MINOR INCREMENTS



The major increments on a log axis are always a base of 10 raised to a positive integer exponent (10¹, 10², 10³, etc.). Each minor increment represents one tenth of the value between major increments. In the graph above, the minor increments between \$100 and \$1000 are \$200, \$300, \$400, etc. The uneven spacing of the minor increments is due to the logarithmic function used to create the axis scaling.

Zero and negative values cannot be displayed with a Log type Y-axis. However, you can combine Y-axis types by setting one Y-axis to Log and the other to Linear.

Scaling

When you create a graph, DrawPerfect determines the axis scaling (maximum value, minimum value, and increments) from the values you include in the graph. This option lets you manually change the scaling of the Y-axes (or the X-axis if you are defining a scatter graph).

- 1** Select Scaling.

2 Select **Manual** to enter new scaling values.

or

Select **Automatic** to have DrawPerfect create the scaling for you.

If you selected **Manual** in step 2,

3 Enter the maximum value.

4 Enter the minimum value.

5 Enter the increment value.

Stack (Y-axis only)

The **Stack** option applies to all graphs except HiLo or Pie Charts and can only be changed when editing a Y-Axis. Selecting **Stack** toggles the setting between “Yes” and “No.” If a graph is stacked (“Yes”), each item of a component is displayed *stacked* on top of the previous item, with the total height representing the sum of all the items for that component.

For example, suppose the first component of a bar graph contains two items, the first with a value of 200 and the second with a value of 300. The first bar ends at the 200 mark on the Y-axis, which becomes the zero value for the next bar. The next bar is displayed between the 200 and 500 marks.

Grid Lines

Selecting this option toggles the **Grid Lines** setting between “Yes” and “No.” If the setting is “Yes,” grid lines are displayed from left to right or up and down on the graph, originating at the Y-axis or X-axis hash marks.

Graph From Zero

Selecting this option toggles the **Graph From Zero** option between “Yes” and “No.” If the setting is “Yes,” the minimum value for the selected axis is zero (if **Scaling** is set to “Automatic”). If the setting is “No,” DrawPerfect calculates a minimum axis value that is below the minimum item value, but is not necessarily zero.

This option applies to the X-axis only if you are defining a scatter graph. Otherwise, it applies only to the Y-axis.

Because the log of zero is not defined, the **Graph from Zero** setting has no effect if you have selected **Log** as the type (see *Type* above).

If your graph includes positive and negative items, the zero line is moved up to become the starting point for both items. If your graph includes only negative numbers, zero is the maximum point of the graph.

Format

Selecting this option changes the way numbers are displayed on the graph. You can alter the format of the numbers on the Y-axis.

You can use Format with an X-axis only if an X-axis has been defined for a scatter graph.

For more information about Format, see *Graph Charts, Format* in *Draw Reference*.

When you finish editing the features on the Graph Options screen, press View (F7) to return to the Graph Edit screen.

Import

The Import feature instructs DrawPerfect to extract information from a spreadsheet file and include it in a DrawPerfect graph.

You can import files from PlanPerfect (versions 3.0 through 5.0), Lotus 1-2-3 (versions 1.0 through 3.0), Microsoft Excel (versions 2.x), and Quattro and Quattro Pro.

To import a spreadsheet file,

- 1 Select **Import** from the Graph screen.

or

Press **Import** (Ctrl-F5) if you are in the Graph Data screen.

- 2 Type **y** to clear all current data and proceed with the import procedure.

or

Type **n** if you want to keep your data and stop the import.

- 3 Select **Filename**, then enter the filename of the spreadsheet file you want to import. Unless the spreadsheet file is in your default directory, you must enter the full pathname of the file.

After you enter a filename in step 3 above, DrawPerfect searches the spreadsheet file for a graph description. If it finds one, the Range default is displayed as <Graph>. This indicates that a graph description was found and can be imported. If no graph description is found, DrawPerfect displays the range as <Spreadsheet>. See *Range* below for more information about a graph description.

If you enter the name of a file that is not in a supported format, DrawPerfect displays the "Incompatible file format" error message.

You can also press **List Files** (F5) after selecting **Filename**, then enter a pathname to display the files in a directory. Selecting

Retrieve from the List Files screen selects the highlighted file as the file to be imported.

- 4 Select **Range**, then enter the range (or block) of cells in the spreadsheet file you want to import.

You can press **List Ranges** (F5) after selecting **Range** to display the ranges and/or graph description files you have defined in your spreadsheet file. Moving the cursor to one of these ranges and pressing **Enter** selects that range as the range of cells to be imported.

More information on the Range Option can be found under *Range* below.

At this point, options one and two should be set and the Spreadsheet: Import menu should look something like the following:

Graphing: Import Data		
1 - Filename	E:\GRADES.FLN	
2 - Range	<Spreadsheet>	A1:J41
3 - ASCII Column Delimiter	Spaces	
4 - Exchange Column / Row	No	
5 - Perform Import		

Selection: 8

If you are importing ASCII text, you can select option three, ASCII Column Delimiter. This option lets you separate ASCII text with tabs or spaces.

The fourth option, Exchange Column/Row, switches the data in rows to columns and the data in columns to rows. The exchange process is performed when you import the data; it does not alter the data in your spreadsheet.

- 5 Now select **Perform Import** to import the spreadsheet file into DrawPerfect.

While the spreadsheet file is being imported, an "Importing Spreadsheet" prompt is displayed on the status line. During this

time, DrawPerfect searches for and imports the specified information.

You can import the spreadsheet data to varying locations on the Graph Data screen by changing the position of the cursor. Data is retrieved at the current cursor position.

Range

A worksheet is composed of rows and columns of information. Wherever a row and column intersect, a “cell” is created. Cells are places that can hold numbers, text, and formulas.

The range (or block) of cells is a rectangular region on your spreadsheet file defined by the cell at the upper-left corner of the range and the cell at the lower-right corner of the range. When you enter a range for the Import feature, you are telling DrawPerfect which rectangular block of cells you want to import.

A single block of cells, however, is not the only type of data the range feature can be used to import. You can also import a graph description and its associated data from a PlanPerfect or Lotus spreadsheet. A graph description includes not only the block of cells used to chart the graph, but also includes the attributes of the graph such as fill color, fill pattern, title, and legend.

If you created a graph while defining your PlanPerfect or Lotus spreadsheet, the range is displayed as <Graph>. This indicates a graph description. If no graph description is found, DrawPerfect displays the range as <Spreadsheet>.

If you use PlanPerfect, you can create a graph description by defining a spreadsheet, defining a chart, then saving the spreadsheet. Do not save the chart as a .GDF file or a .WPG image; simply save the spreadsheet and the chart description is saved with it.

With the range defined as <Graph>, you can import a graph into DrawPerfect. The graph will display the same fill patterns, titles, legends, etc., as the original. With the range defined as <Spreadsheet>, you can import a range of cells (without a graph description) by entering the two numbers representing the upper left and lower right cells. Acceptable ways of entering a range allow for a colon, a period, or two periods between the beginning and ending cells of a range. For example, in the PlanPerfect 5.0

file shown below, the blocked range can be represented as A1:C5, A1..C5, or A1..C5.

- ▲ CELL A1
- ▲ CELL C5

	B	C	D	E	F	G
1	TOTAL SALES					
2	Sales	Overhead	Profit			
3	April	85,000.00	12,040.00	73,000.00		
4	May	86,345.00	13,980.00	72,365.00		
5	June	94,430.00	14,781.00	79,649.00		
6						
7	TOTAL		▲ B	225,014.00		
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
	Calc					
A10	-					

After you select **Range** from the Import menu, you can enter the numbers as described above or a range name.

If you don't know the range or you simply want to look at the different spreadsheet ranges, press List Ranges (F5) and a Range box appears. These are ranges and/or graph descriptions that you may have defined in your spreadsheet program. The Name column tells you the name of the range. The Reference column tells you the specific coordinates of the cells within the range.

With the list of ranges displayed in the Range box, you can use Up and Down arrows (↑/↓) to move the cursor through the ranges, or you can begin typing letters to move the cursor to the name of a range that matched those letters. When the cursor is on the range you want to import, press **Enter**.

If you enter an invalid range, DrawPerfect displays the "Invalid name or reference" error message.

GDF

The GDF option lets you save or retrieve a Graph Description File (GDF). A graph description is a file that contains all the settings found on the Graph Data, Graph Data Options, and Graph Options screens, including title list names. The .GDF file is compatible with PlanPerfect 5.0.

To save or retrieve a Graph Description File,

- 1 Select **GDF** from the Graph Edit menu.

- 2 Select **Save GDF** to save a Graph Description File.

or

Select **Retrieve GDF** to retrieve a Graph Description File.

When you retrieve a graph description, you do not need to include the .GDF extension. When you save a graph description, DrawPerfect adds a .GDF extension to the filename.

WPG

The **WPG** option lets you save a DrawPerfect graph as a WordPerfect **WPG** graphics file.

If you select this option, the image of the chart on the screen is saved, rather than the settings for the chart. By saving the chart as a .WPG file, you can retrieve the chart to the main drawing window and edit individual chart components as you would any other drawing file. You can edit text, move a line, change a fill pattern, etc. For example, you can convert a standard bar chart into a pictograph by deleting the bars on the chart and substituting a clip-art image in their place. See *Lesson 12* in *Learning* for an example of a pictograph.

- 1 Select **WPG** from the Edit menu.
- 2 Enter the name of the **WPG** file you want to save.

Once you save a chart as a .WPG file, then retrieve the chart to the drawing window, you cannot go back into the Graph screens and make editing changes.

Exit

Select this option to exit the Graph Edit screen and return to the DrawPerfect screen. If you want to retrieve the chart to the DrawPerfect screen, type **y** at the "Insert chart in current drawing?" prompt. If you type **n**, you are returned to the DrawPerfect screen without retrieving the graph.

Graph Charts, Creating

The process of creating a graph chart in DrawPerfect is simple. Just select the type of chart you want from the Draw pull-down menu, then enter your data. However, the method of entering data differs slightly depending on the type of chart you are creating. For example, the way you enter data for a pie chart differs from the way you enter data for a bar chart.

Using DrawPerfect you can create the following eight types of graph charts:

- Bar
- Line
- Pie
- Area
- Stacked Bar
- HiLo
- Scatter
- Mixed

This section explains how to enter data to create the eight basic types of graph charts listed above. Also included are instructions for creating two charts side by side.

For information about the various graph chart options, see Graph Chart Options in Draw Reference. For information about the various types of graph charts, see Chart in Draw Reference.

Graph Data Screen



To create a graph chart,

- 1 Select **Draw** to display the Draw menu, then select **Chart** to display the Chart menu.
- 2 Select a chart type from the Chart submenu.

*You can also select Chart by moving the cursor to the Chart icon and pressing **Enter**. However, you cannot specify a chart type (e.g. bar, line, pie) if you select the chart icon. The current chart type illustrated within the icon is the type of chart DrawPerfect begins creating. To change chart types, follow steps 1 and 2 above.*

- Define an area where you want the chart positioned by moving the cursor to the starting point and pressing **Enter**, then moving the cursor to the ending point and pressing **Enter**.

or

Define the entire drawing window as the chart area by moving the cursor into the drawing window and pressing **Enter** twice.

You are now placed in the Graph Edit screen.

- Select **Define** to display the Graph Data screen.

▲ COLUMN

Define: Graph Data				
Title : Sample Chart				
Subtitle :				
Legend : Legend				
X-Label :				
Y-Label L:				
Y-Label R:				
Legend	1 1st Qtr	2 2nd Qtr	3 3rd Qtr	4 4th Qtr
Apples	3	5	9	22
Oranges	5	9	15	38

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

Each numbered column in the Graph Data screen represents the individual item on a chart, such as a point on a line graph, a bar on a bar chart, etc.

- Enter the data you want displayed in your chart (see *Graph Chart Types* below).

Graph Chart Types

There are eight different types of graph charts. Information about how to input data for the different types is found below. For detailed information about the different graph options, see *Graph Chart Options* in *Draw Reference*.

Bar

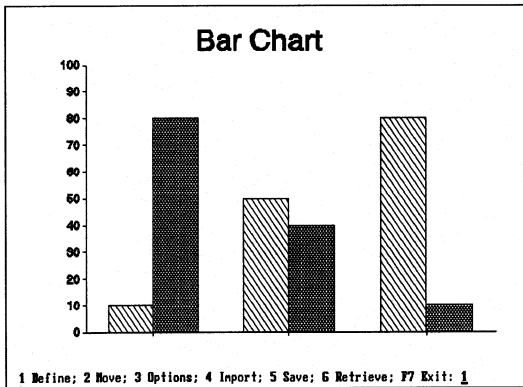
Each numbered column represents a hash mark on the X-axis of a bar chart. Numbers in each row are displayed as bars with the same color or fill pattern above separate hash marks.

For example, if you enter the numbers 10 and 80 in column one, 50 and 40 in column two, and 80 and 10 in column three, the Graph Data screen should look like the one illustrated below.

Define: Graph Data				
Title : Bar Chart				
Subtitle :				
Legend : Legend				
X-Label :				
Y-Label L:				
Y-Label R:				
Legend	1	2	3	4
	10 80	50 40	80 10	

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

The sample bar chart should look like the one illustrated below.



Line

A line graph consists of a number of points plotted on the graph with straight lines connecting the points. Each number in a row becomes a point on the line, and each row becomes a line.

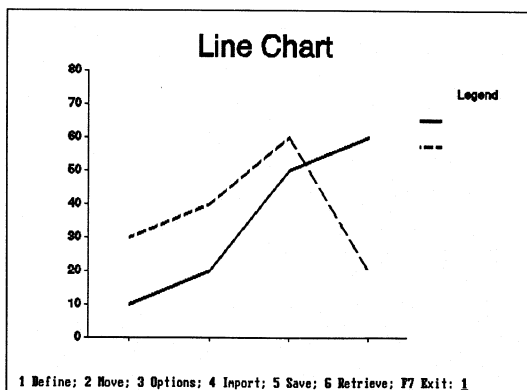
For example, if you enter the numbers 10 and 30 in column 1; 20 and 40 in column 2; 50 and 60 in column 3; and 60 and 20 in

column 4; the Graph Data screen should look like the one illustrated below.

Define: Graph Data				
Title :	Line Chart			
Subtitle :				
Legend :	Legend			
X-Label :				
Y-Label L:				
Y-Label R:				
Legend	1	2	3	4
	10	20	50	60
	30	40	60	20

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

The line graph should look like the one illustrated below.



You can define as many as 12 lines with up to 6,000 points on each line.

Pie

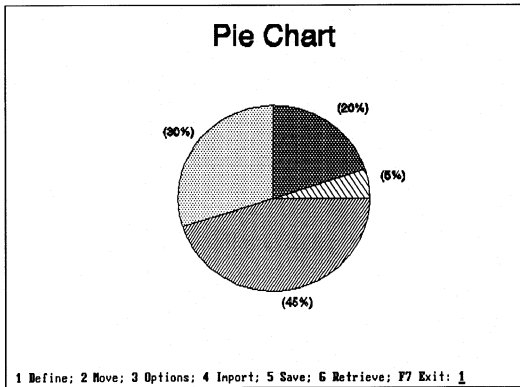
The pie chart is different than all the other DrawPerfect charts because data for a pie chart is entered vertically. Each number in the column becomes a slice of the pie chart.

For example, if you enter 5, 20, 30, and 45 in column 1, the Graph Data screen should look like the one illustrated below.

Define: Graph Data				
Title : Pie Chart				
Subtitle :				
Legend : Legend				
X-Label :				
Y-Label L:				
Y-Label R:				
Legend	1	2	3	4
	5		-	
	20			
	30			
	45			

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

The pie chart should look like the one illustrated below.



Area

An area graph is similar to a line graph except that the area under each line is filled with a specified pattern and/or color. Each number in a row becomes a point on the line, and each row becomes a line.

For example, if you enter the numbers 10 and 20 in column 1; 20 and 40 in column 2; 50 and 80 in column 3; and 70 and 90 in

column 4; the Graph Data screen should look like the one illustrated below.

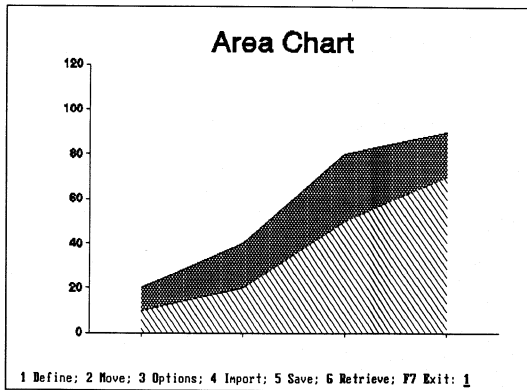
Define: Graph Data

Title : Area Chart
 Subtitle :
 Legend : Legend
 X-Label :
 Y-Label L:
 Y-Label R:

Legend	1	2	3	4
	18	28	58	78
	28	48	88	98

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

The area graph should look like the one illustrated below.



You can define as many as 12 lines with up to 6,000 points on each line.

Stacked Bar

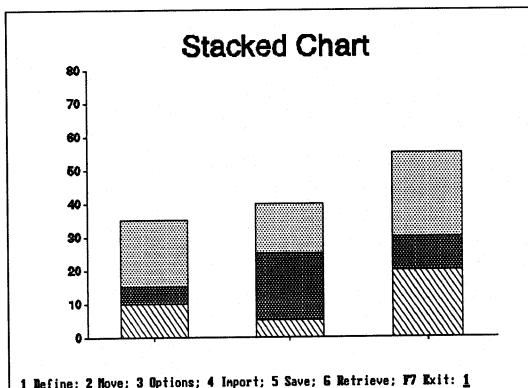
A stacked bar chart is similar to the bar chart except that each item is displayed *stacked* on top of the previous item, with the total height representing the sum of all the items.

For example, if you enter 10, 5, and 20 in column 1; 5, 20, and 15 in column 2; and 20, 10, and 25 in column 3; the Graph Data screen should look like the one illustrated below.

Define: Graph Data				
Title : Stacked Chart				
Subtitle :				
Legend : Legend				
X-Label :				
Y-Label L:				
Y-Label R:				
Legend	1	2	3	4
	10	5	20	
	5	20	10	
	20	15	25	

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

The stacked bar chart should look like the one illustrated below.



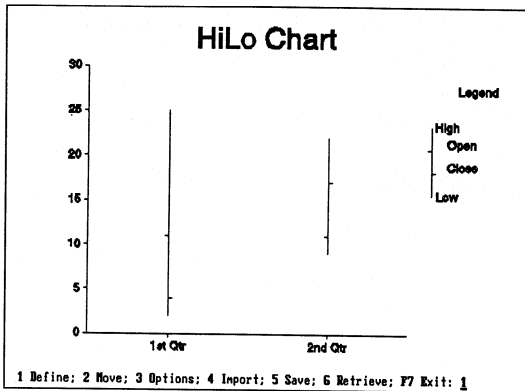
HiLo

HiLo graphs are used to represent the high, low, open, and close quotes for a stock. They can also be used to represent price changes in precious metals and other financial information. A solid line connects the high and low quotes for the time period, and *hash marks* on the line indicate the opening and closing quotes.

HiLo data is read in blocks of four columns. To create a hilo graph you need to enter data horizontally in at least four columns

to graph high, low, opening, and closing quotes. The data in the first column represents the high quote; the data in the second column represents the low quote; the data in the third column represents the opening quote; the data in the fourth column represents the closing quote.

The hilo chart illustrated below shows you the high, low, opening, and closing quotes of two stocks. Eight columns of data were used to graph this particular hilo chart. The data in columns 1-4 was used to graph the first stock quote. The data in columns 5-8 was used to graph the second stock quote.



DrawPerfect reads every four columns as one hilo block.

Scatter

A scatter graph shows the interception points of one set of X values and one or more sets of Y values. The numbers or values listed on the X-axis are used with the values on the Y-axis, and points on the graph are *plotted* using X and Y values as graph *coordinates*.

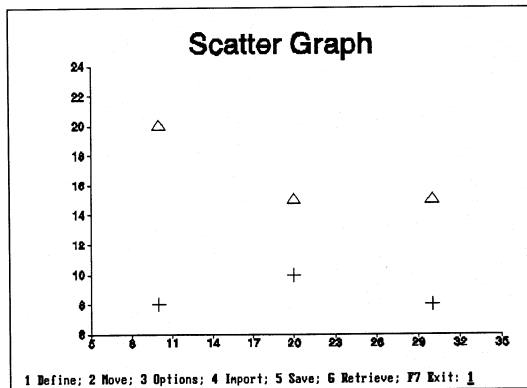
To create a scatter graph, you need to enter two or more rows of data in the Graph Data screen. After entering your data, you need to switch to the Graph Data Options screen by pressing Data Options (F4). Now define one row of values to be used to scale the X-axis, and one or more row of values to be used to scale the Y-axis.

For example, if you enter 8, 20, and 10 in column 1; 10, 15, and 20 in column 2; and 8, 15, and 30 in column 3; the Graph Data screen should look like the one illustrated below.

Define: Graph Data				
Title : Scatter Graph				
Subtitle :				
Legend : Legend				
X-Label :				
Y-Label I:				
Y-Label II:				
Legend	1	2	3	4
	8	10	8	
	20	15	15	
	10	20	30	

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

If you define the third row of numbers (numbers 10, 20, and 30) as the X-axis, the scatter graph should look like the one illustrated below.



DrawPerfect pairs each Y value with its corresponding X value and plots the resulting point with a marker on the graph. The process is repeated for additional sets of Y values using the same X values, but with a different style of marker for each set. DrawPerfect can plot up to 6,000 point pairs.

When inputting rows of data as sets of Y values in the Graph Data screen, if you include more Y values in one row than in another row, the extra Y values are ignored.

Mixed

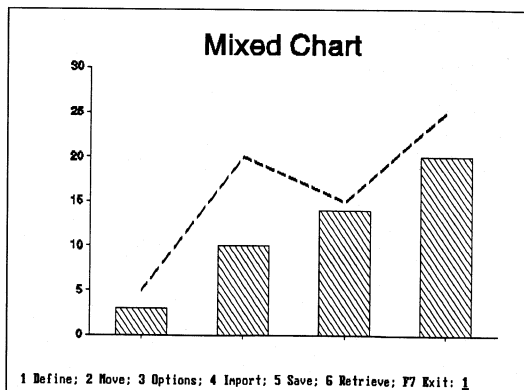
A mixed chart is a combination of one or more charts.

For example, if you enter 3 and 5 in column 1; 10 and 20 in column 2; 14 and 15 in column 3; and 20 and 25 in column 4; the Graph Data screen should look like the one illustrated below.

Legend	1	2	3	4
	3	10	14	20
	5	20	15	25

Arrows Move; Enter Edit; F1 Clear; F4 Data Options; Ctrl-F5 Inport; F7 View;

If you press Data Options (F4), move to the Type column, and define the first row of data (3, 10, 14, 20) as a bar chart and the second row of data (5, 20, 15, 25) as a line chart, the mixed chart should look like the one illustrated below.



The key to creating a mixed chart is defining the chart type in the Graph Data Options screen. In the illustration above, Bar was selected as the type for the first row of data and Line was selected as the type for the second row of data. Keep in mind that for each row of data you enter in the Graph Data screen, you also need to specify a chart type in the corresponding row in the Graph Data Options screen.

Of the graphs created on an X- and Y-axis (which includes all charts except pie), only the scatter graph which has an X-axis cannot be mixed with any other.

An axis-based graph cannot be combined with a pie graph. However, you can display an axis-based graph and a pie graph side by side. See *Displaying Charts Side by Side* below.

**Displaying
Charts
Side by Side**

DrawPerfect lets you display two charts side by side on the page. However, the process for displaying two pie charts versus two axis-based charts differs slightly.

Two Pie Charts

If you want to create two pie charts displayed side by side, enter the data for the first pie in the first column, then enter the data for the second pie in the second column.

Only columns one and two can be used to input data for pie charts.

Pie and Axis-Based Charts

To display a pie chart and an axis-based chart side by side, enter your data, then define all the items that are axis-based on one Y-axis and all the items that are pie chart types on the other Y-axis. (There is a left and a right Y-axis.)

Two Axis-Based Charts

To display two axis-based charts side by side, you need to define all the items for one chart to the right axis and all the items for the other chart to the left axis. Then you need to move to the Graph Options screen, select the Display the Y Axes Separately option, and type y for “Yes.”

Graph Charts, Format

Format allows you to change the way numbers are displayed in a graph chart. You can display the numbers along the Y-axis as percent values, currency, with or without commas, etc.

You can use Format with an X-axis only if one has been defined for a scatter graph.

To change the number format for an axis, you need to be in the Graph Options screen (see *Graph Chart Options* in *Draw Reference*).

- 1 Select Axes.
- 2 Select the axis you want to edit.
- 3 Select Format.
- 4 Select a Format option, then, if requested, enter any necessary information.
- 5 Enter a new divisor value at the “Divisor Value:” message.

or

Press **Enter** to keep the default value of 1.

Format Options

Information about the format options is found below.

General

This is the default setting for displaying numbers. Numbers are displayed with as much precision as possible (up to eight significant digits) given the amount of space along the axis. Scientific notation is used if the number is too wide for the allotted space (see *Scientific* below for an example of scientific notation). No commas are used, and negative numbers are displayed with minus signs (-).

Currency

Numbers are displayed as currency, with a currency character(s) placed before the number. The default setting uses a dollar sign (\$) as the currency character, a comma (,) as the thousands separator, and a period (.) as the decimal separator.

The currency character is not in a fixed position, but floats according to the length of the number. Two digits are displayed after the decimal point, and negative numbers are displayed within parentheses.

A *greater than* symbol (>) is displayed at the right end of the number if the space along the axis is not wide enough to display the entire number.

Integer

Numbers are displayed as *counting* numbers (e.g., 1,2,3,4), and are rounded when necessary to eliminate decimals. Negative numbers are displayed with minus signs.

Fixed

Numbers are displayed with the number of decimal places you set. The thousands separator is not displayed. When you select Fixed, you are asked to enter the number of decimal places you want displayed. If a number has fewer decimal places than you set, the empty decimal places are filled with zeros. Negative numbers are displayed with minus signs.

Percent

Numbers are displayed as percent values with the percent character (%). When you select Percent, you are asked to enter the number of digits you want to the right of the decimal point. For example, if you set the number of digits at 2, then .09527 is displayed as 9.53%.

When entering numbers in your chart that are formatted with percent, you can simply enter the numbers as they would be displayed (e.g., 9.5 instead of .095). You do not need to type the percent character.

Scientific

Numbers are displayed in scientific notation. When you select Scientific, you are asked to enter the number of digits you want to the right of the decimal point.

For example, if you entered **2** for the number of digits in a graph, the number **3,450,000** would be converted to the scientific notation of **3.45e+06**. If, however, you had entered **0** for the number of digits, the resulting scientific notation would be **3e+06** (read 3 times 10 to the 6th power).

Comma

This option works like the Fixed option, but commas are used for thousands separators and negative numbers are displayed within parentheses.

Other

The Other option contains three successive menus from which you can select various options.

The first menu (1 Floating; 2 Fixed; 3 Scientific) contains options that deal with decimal placement. The second menu (1 Minus Sign; 2 Parenthesis; 3 CR/DR Symbols) deal with the display of negative numbers. The third menu (1 Currency; 2 Percent) contains options that deal with the display of special characters. There is an additional option, "Commas? (Y/N) No" that appears in the third menu after selecting either Currency or Percent.

Below are descriptions of each of the options on the three Other menus.

Floating

Floating does not align decimal points and uses as many digits as necessary to show full precision of the number.

Fixed

Fixed aligns decimal points and lets you enter the number of digits to the right of the decimal point. Empty decimal places are filled with zeros.

Scientific

Scientific displays numbers using scientific notation, letting you enter the number of digits to the right of the decimal point.

Minus Signs, Parentheses, CR/DR Symbols

Negative numbers can be indicated by a minus sign, parentheses, or with a DR following each negative number (and a CR following positive numbers).

Currency, Percent

Currency character(s) can be set just to the left of numbers or left justified, or numbers can be converted to percents and a percent sign inserted.

Commas

This option displays numbers greater than or equal to 1,000 with commas. Type **y** or **n** to turn the feature on or off.

Divisor Value

After you have selected a format option, you are requested to enter a Divisor Value. All numbers on the axis are divided by the divisor value before they are displayed. This can be especially useful for abbreviating long numbers. For example, if you enter **1000** as the divisor value, the value **4200** will be displayed as **4.2** on the axis.

Text

The Text feature can be used to insert text anywhere on the DrawPerfect page. You can type one line of text or define a window of text, and use any of the text features to create the style you want.

Add Text



There are two types of text objects you can add to the screen: a text line and a text window. With the text line option, you add one line of text. With the text window option, you define an area or a window into which you insert text.

- 1 Select **Draw** to display the Draw menu and select **Text Line** to add one line of text or select **Window Text** to define a window into which you insert text.

*You can also select Text Line or Window Text by moving the cursor to the Text Line or Window Text icon and pressing **Enter**.*

- 2 If you are adding a line of text, move the cursor to the place where you want to begin your text and press **Enter**.

or

If you are adding a window of text, move the cursor to the starting point of the text window, press **Enter**, then move the cursor to the ending point of the window and press **Enter** again; or press **Enter** twice to define the entire DrawPerfect screen as a text window.

*Small brackets are placed around the pull-down menus you cannot use while in text mode. To activate the two accessible menus, press **Alt** if you are using the keyboard, or move the cursor to the menu name and press **Enter** if you are using a mouse.*

- 3 If you are adding a line of text, type the text you want inserted in your line. You can only add one line.

or

If you are adding a window of text, type the text you want inserted into the box.

- 4 Press **Exit** (F7) to exit text mode.

After you define the starting point of a text line or the points of a text window, a help prompt appears at the bottom of the screen. If you press **Help** (F3), a text menu appears. As you insert text,

you can select from the various text options which allow you to add a bolded phrase, center a line, use a different font, etc.

If you want to add text on top of an object, consider the color of the object and text. Colored text will “disappear” if you try to combine it with an object of the same color. (You can change the text color through the Fonts pull-down menu.)

Retrieving WordPerfect Text

While in a text line or text window, you can add a WordPerfect text file (version 5.0 or later) to DrawPerfect through Retrieve. To retrieve a WordPerfect file, define a text window or line, then press **Retrieve** (Shift-F10). At the “File to be Retrieved:” prompt, enter the WordPerfect filename.

WordPerfect codes which are unavailable in DrawPerfect (e.g., columns, footnotes, etc.) are ignored. You can import a WordPerfect file which contains up to 1,500 characters.

Retrieving from the Clipboard

You can also retrieve text that has been saved to the Shell clipboard. To retrieve a file saved to the clipboard, define a text window or line, then press **Shell** (Ctrl-F1). A message appears asking if you want to retrieve the clipboard file. Type **y** and the contents of the clipboard are retrieved. (For more information about the clipboard, see the *Shell Reference Guide*).

Retrieving DOS Text

You can retrieve an ASCII DOS text file into DrawPerfect through Retrieve. To retrieve an ASCII file, define a text box or line, press **Retrieve** (Shift-F10), and at the “File to be Retrieved:” prompt, type the ASCII filename.

IBM native characters, such as foreign or line-draw characters, will be converted to the equivalent DrawPerfect extended characters. If an equivalent character is not available, the pound sign (#) will be inserted.

Typing in Text Mode

Although the computer keyboard looks much like a typewriter keyboard, there are many differences between typing on a typewriter and typing in the DrawPerfect text mode.

Word Wrap

One of the differences between a typewriter and DrawPerfect is *word wrap*. When you are typing in a text window, DrawPerfect

automatically returns the cursor when it reaches the right side of the window. You should not press Enter until you get to the end of a paragraph or short line of text.

Tabs

Tabs have been preset for approximately every five characters. When you want to move to the next tab setting, press Tab to insert a tab. [Tab] is inserted into your text and is seen by the printer as an exact measurement. You cannot change the tab settings.

Insert vs Typeover

DrawPerfect uses the Insert mode as the main form of editing. This means that when you move the cursor into existing text and begin typing, the existing text is moved to the right as new text is inserted. The alternative is to type over the existing text. Pressing the Insert (Ins) key changes DrawPerfect to typeover mode; pressing Insert again returns DrawPerfect to insert mode.

When Typeover is on, a "Typeover" message appears in the bottom right corner of the screen. Characters are replaced and codes are pushed in front of the text as you type.

Pressing Backspace in the typeover mode moves the cursor to the left one character, replacing the character with a space.

Cursor Movement

The cursor is a pointer that indicates where text will be entered. There are many ways to move the cursor.

Arrow Keys

The arrow keys can be used to move the cursor a character at a time (Left and Right Arrows (←/→)) through a text line or text window, or a line at a time (Up and Down Arrows (↑/↓)) through a text window.

End

End moves the cursor to the end of the line.

Home

You can press Home followed by an arrow key to move the cursor to the beginning (before any codes) or end of the text in a text line or window.

Word Left/Right

Word Left (Ctrl-Left Arrow (←)) and Word Right (Ctrl-Right Arrow (→)) move the cursor to the beginning of the previous word (Word Left) or the beginning of the next word (Word Right).

Editing Text

Text can be edited in two different ways: as one complete object, or as individual text characters within the text line or window. Once you finish inserting text, and you exit text mode, the text line or window is considered one object and you cannot edit the individual text characters without first selecting Modify from the Edit menu (see *Modifying Text* in *Edit Reference*).

You do not have to select Modify if you want to edit the text object as a whole, such as rotating it or moving it from the left side of the page to the right.

Text Attributes

DrawPerfect provides you with various attributes you can add to your text. For example, you can bold a phrase, center a line, flush right a word, etc. These attributes can only be added to your text as you type. You cannot change attributes for existing text, such as changing an italicized word into a bolded word. You can delete the italics attribute code to return the text to normal; however, to bold the word, you have to delete it then retype it with the bolded attribute.

The rest of this section discusses the different text attributes available. The attributes are organized alphabetically.

Bold

Bolded text is printed darker than normal text. When you want to bold text on your screen and at the printer,

- 1 Press **Bold** (F6) to turn on Bold.
- 2 Type the text.
- 3 Press **Bold** again to turn off Bold.

or

Press Right Arrow (→) to move beyond the bold code.

You can unbold text by deleting the Bold On or Bold Off code.

Center

The Center feature lets you center a line of text between the left and right sides of a text line or text window.

To center a line of text,

- 1 Move the cursor to the left side of the text window or text line.
- 2 Press **Center** (Shift-F6) to move the cursor to the center of the line.
- 3 Type the text you want centered.
- 4 Press **Enter** to end centering.

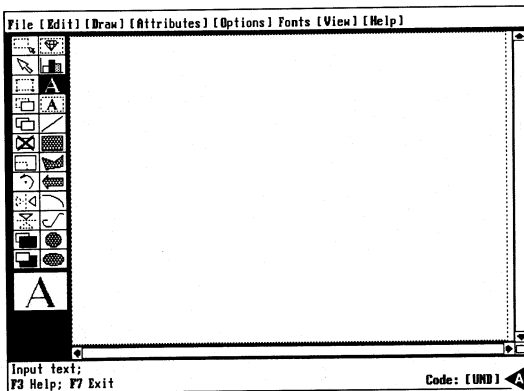
If the cursor is not resting against the left side of the box or line, or if it is preceded by a tab or more than one space, the text is centered at the cursor position.

Codes

Codes are commands that tell DrawPerfect what to do. DrawPerfect places codes in the text when you change the way text looks, such as bolding or underlining.

DrawPerfect *hides* these codes so the text on the screen appears like the printed page. However, when the cursor is directly on a code you inserted into your text, the code will appear next to the word "Code:" in the bottom right corner of the screen.

▲ CODE



For example, when you press Underline (F8), an Underline On code [UND] is entered at the cursor. Text is underlined until Underline is pressed again and an Underline Off code [und] is inserted. If you move the cursor to the exact place where you started or ended underlining, the code [UND] or [und] appears next

to the “Code:” word. The exact location of the code is helpful if you want to delete it or make a change to the text.

The following is a list of the DrawPerfect codes that may appear.

[BOLD]	Bold
[Cntr]	Center
[Dbl Und]	Double Underline
[Flsh Rt]	Flush Right
[HRt]	Hard Return
[Indent]	Indent
[Italc]	Italics
[Lt Kern]	Left Kern
[Outln]	Outline
[Rt Kern]	Right Kern
[SRt]	Soft Return
[Tab]	Tab
[UND]	Underlining

Date

The Date feature inserts the current date into your text window or text line. You can format the date to be displayed in a variety of ways. You can also insert the time of day with or without the date.

This feature does not display the right date and/or time if the computer clock is not set correctly.

To insert the current date into your text,

- 1 Move the cursor to the place where you want the date inserted.
- 2 Press **Date** (Shift-F5) to insert the date at the cursor position.

For information about changing the format of the date, see *Date* in *File Reference*.

Delete Codes

You can delete codes as you move through your text. Although the codes are not visible in the text line or text window, as you move the cursor through your text and encounter a code, the code is displayed in the bottom right corner next to the word “Code:”.

To delete a code,

- 1 Move the cursor to the place where you started or ended a code. If you are unsure as to the exact code position, move the cursor a few spaces forward or backward until the code appears in the bottom right corner next to the word “Code:”.
- 2 Press **Delete** (Del) to delete the code.

Delete Text

There are several features available for deleting text from your text window or line. All of them also delete any DrawPerfect codes within the text you delete.

Backspace

Backspace deletes the character to the left of the cursor.

Delete

Delete deletes the character at the cursor.

Delete Word

Delete Word (Ctrl-Backspace) deletes the word at the cursor. If the cursor rests on a space, Delete Word deletes the word to the left of the cursor.

Delete to End of Line

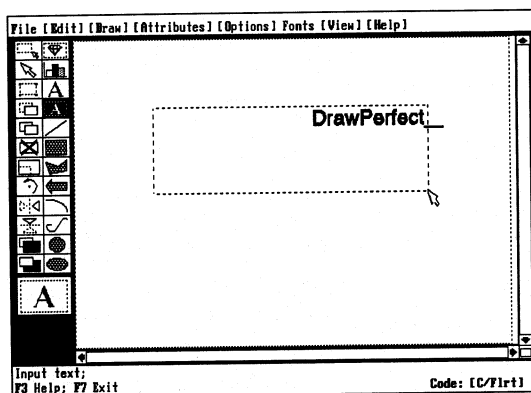
Delete to End of Line (Ctrl-End) deletes text and codes from the cursor to the end of the line.

Delete to End of Text Window

Delete to End of Text Window (Ctrl-PgDn) deletes codes and text from the cursor to the end of the window.

Flush Right

The Flush Right feature lets you align one or more lines of text flush against the right side of the text window or text line.



To flush text to the right while you type,

- 1 Press **Flush Right** (Alt-F6).
- 2 Type the text you want at the right side of the box.

- 3 Press **Enter** to end the flush right.

Flush Right codes are placed at the beginning and end of the line. Because text typed within these codes takes priority over text typed from the left side of the box, text typed to the left of these codes may disappear from the screen.

Format

Format lets you reformat the size of the text window and kern text characters.

ReSize Window

The ReSize Window option on the Format menu lets you enlarge or shrink your text window while inserting text characters. This option is especially helpful when you underestimate the amount of space you need for your text.

To resize the text window,

- 1 Press **Format** (Shift-F8) to display the Format menu.
- 2 Select **ReSize Window** to resize the text window.
- 3 Resize the dashed window to the size you want, then press **Enter**.

You can only resize a window of text; you cannot resize a line of text. If you press **Format** while typing in a line of text, the **ReSize Window** option does not appear.

Kern Left/Right

On the printed page, certain letter pairs appear to have more space between them than others because of the shape and slant of each letter. If you would like to reduce or increase the space between these letters, DrawPerfect offers a kerning feature.

▲ UNKERNED LETTER
PAIRS

▲ KERNED LETTER
PAIRS

TYPOGRAPHY



TYPOGRAPHY



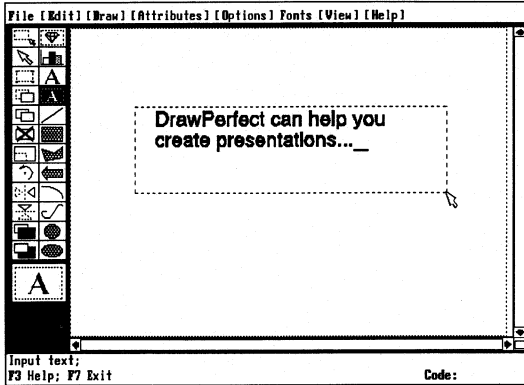
With DrawPerfect you can eliminate or add white space between characters by selecting the **Left Kern** or **Right Kern** options on the **Format** menu.

- 1 Move the cursor under the text character you want to move.
- 2 Press **Format** (Shift-F8) to display the Format menu.
- 3 Select **Left Kern** or **Right Kern**.

DrawPerfect moves the text character to the left or right a small amount.

◆Indent

You can use the ◆Indent feature to indent an entire paragraph or sentence from the left side of the text window or text line. Your sentence or paragraph will indent one tab stop each time you press ◆Indent.



- 1 Press ◆Indent (F4) to begin indenting.
- 2 Type the text.
- 3 Press **Enter** to end indenting.

The tab stops, which are used for indenting, cannot be altered. They are preset to tab in approximately five font characters.

Press Tab when you only want the first line of a paragraph indented.

To indent existing text, position the cursor at the beginning of the paragraph and press Indent.

Replace

You can use Replace to search for and replace every occurrence of a word or phrase. Suppose, for example, you have created a presentation for Cook Construction only to discover the correct spelling is *Cooke*.

To use Replace, your cursor must be within a text line or text window.

1 Press **Replace** (Alt-F2).

You are asked if you want to confirm each replacement.

2 Type **y** to replace with confirmation, or type **n** to replace without it (see *Confirming Replacements* below).

3 Type what you want to replace (commonly referred to as the *search string*), then press **Search** (F2).

4 Type the replacement, then press **Search**.

or

Press **Search** without entering a replacement to delete every occurrence of the search string.

DrawPerfect searches forward from the cursor for every occurrence of the search string.

Capitalization

DrawPerfect is not case sensitive. In a search string, lowercase and uppercase characters match both lowercase and uppercase. For example, *jim* will find *Jim*, and *Jim* will find *jim*.

Confirming Replacements

When you want to be absolutely certain of each replacement, you can use Replace with Confirm by typing **y** in step 2 above. DrawPerfect then stops at each occurrence of the search string and pauses, letting you indicate whether or not to replace it. DrawPerfect then moves on to the next occurrence of the search string.

Search Keys

Once you are at a Search prompt, you can press **Search** (F2), or **Search** (Shift-F2), to continue the search (in steps 3 and 4 above). However, these keys have no effect on the direction of the search.

Words

When you are replacing a particular word, press the **Space Bar** to include spaces before and after the word. Otherwise, the Replace

will affect any occurrences of that word even when it is found in other words. For example, insert spaces before and after the word *the* to replace *the* only when it appears alone, and not in such words as *these*, *therefore*, and *other*.

Search

You can use Search to quickly move to a word or phrase in your text line or text window. To use Search, your cursor must be within a text line or text window.

- 1 Press a Search keystroke (see *Search Directions* below).
- 2 Type the characters you want to find (commonly referred to as the search string).
- 3 Press the Search keystroke to begin the search.
- 4 After the cursor stops at the first match, press the Search keystroke twice to continue the search.

For example, with the cursor at the beginning of a text window in which you mention Cooke Construction, you can press **♦Search** (F2), type **cooke**, then press **♦Search** again to move the cursor to the first occurrence of Cooke Construction. You can then continue pressing **♦Search** twice to move forward to every occurrence of Cooke Construction until you find the exact reference you want.

Capitalization

DrawPerfect is not case sensitive. In a search string, lowercase and uppercase characters match both lowercase and uppercase. For example, *jim* will find *Jim*, and *Jim* will find *jim*.

Search Directions

To search from the cursor forward, press **♦Search** (F2). To search from the cursor backward, press **◄Search** (Shift-F2). Once you have typed a search string, you can press **♦Search** (F2), or **◄Search** (Shift-F2) to perform the search.

Words

When you are searching for a particular word, press the **Space Bar** to include spaces before and after the word. Otherwise, the Search will include any occurrences of that word even when it is found in other words. For example, insert spaces before and after the word *the* to replace *the* only when it appears alone, and not in such words as *these*, *therefore*, and *other*.

Tab

Tabs have been preset for approximately every five characters. When you want to move to the next tab setting, press **Tab** to insert a tab. The [Tab] code is inserted into your text and is seen by the printer as an exact measurement. You cannot change the tab settings.

Underline

You can underline or double underline text as you type. To underline as you type,

- 1 Press **Underline** (F8) to turn on underlining.
- 2 Type the text you want underlined.
- 3 Press **Underline** to turn off underlining.

or

Press **Right Arrow** (→) to move beyond the Underline Off code.

*Underline can also be accessed by pressing **Font** (F6), selecting Appearance, then selecting Underline.*

Double Underlining

To double underline text as you type,

- 1 Press **Alt** to activate the pull-down menus, then select **Fonts** to display the Fonts menu.

or

If you are using the mouse, click on the Fonts menu.

*You can also access the Font menu by pressing **Font** (Ctrl-F8).*

- 2 Select **Appearance** to display the Appearance submenu.
- 3 Select **Double Underline**.
- 4 Type the text you want double underlined.

5 Press **Right Arrow** (→) to move beyond the Double Underline Off code.

or

Press **Alt** to activate the pull-down menus, then select **Fonts** to display the Fonts menu. Select **Normal** to turn off all attributes.

or

Repeat steps 1 through 3 to turn off Double Underline.

Text Charts, Creating

The DrawPerfect Text Chart feature generates formats for three different types of text charts: Bullet, Simple, and Freeform. Once you select a text chart format and define an area on the page where you want the chart placed, you are ready to begin inserting the text.

This section discusses the three different types of text charts, how to create them, and a few basic principles that apply to the three chart types.

Text Chart Fonts

DrawPerfect allocates the top line of a text chart to the title, the second line to the subtitle, and the space below the subtitle to the body of the chart. You can have three different types of fonts in your chart—one for the title, one for the subtitle, and one for the text body.

The default font settings include: Helvetica 60-point for the title, Helvetica 30-point for the subtitle, and Helvetica 40-point for the text body. DrawPerfect uses the default sizes as a template or guideline for sizing and displaying the fonts in your chart. The size of your text chart area determines the size of the font. For example, if you define the entire window as the chart area, DrawPerfect uses a point size for the title close to the default point size (60-point). However, if you define half the drawing window as the chart area, DrawPerfect would produce a 30-point font for the title.

You can change the default fonts through Initial Drawing Settings on the Setup menu (see Initial Settings in File Reference).

Of course, you can always change the font size and font type to whatever you want by selecting the Base Font option from the Fonts menu (see *Font Attributes in Fonts Reference*).

Selecting a Chart Type

To select a text chart type and location,

- 1 Select **Draw** to display the Draw menu, then select **Chart** to display the Chart submenu.
- 2 Select the desired text chart type (see *Text Chart Options* below).

- 3 Move the cursor to the starting point of the chart area and press **Enter**. Move the cursor to the ending point of the chart area and press **Enter**.

or

Move the cursor into the drawing window and press **Enter** twice to define the entire DrawPerfect window as the chart area.

Text Chart Options

There are three types of text charts: Bullet, Simple, and Freeform. Information about all three types is included below.

Bulleted Text Chart

Use a bulleted chart when you want to draw attention to the text contained within the body of the chart. The graphic device, or “bullet,” at the front of each word or sentence helps to emphasize important points.

Today's Agenda	
September 25	
• Orientation	9-10 a.m.
• Class	10-12 noon
• Lunch	12-1 p.m.
• Sales Seminar	1-4 p.m.

Once you select and define an area for a bulleted chart, your cursor is placed in the top left corner of the chart box.

- 1 Type the title of the chart and press **Enter**.

The text of a bulleted chart is not centered (although you can use the Center feature).

- 2 Type the subtitle of the chart and press **Enter** once to move down to the first line of the text body.

When you press Enter to move down to the text body, a “bullet” is created. The cursor is positioned to the right of the bullet.

Through the Initial Drawing Settings feature on the Setup menu you can define the type of bullet you want DrawPerfect to display. The Compose feature (Ctrl-v or Ctrl-2) is used with the Initial Drawing Settings feature to let you insert a variety of bulleted characters (see *Characters in Fonts Reference*).

- 3 Now type the body of the text chart. Press **Enter** twice at the end of each line to move down to the next bulleted item.
- 4 Press **Exit** (F7) when you are finished typing the text.

Simple Text Chart

Use a simple chart when you want to center all the text lines on the chart. Simple charts are used frequently as announcements, warnings, or bulletins.



Once you select and define an area for a simple chart, your cursor is placed in the center of the top line in the chart box.

- 1 Type the title of the chart and press **Enter**.

The title of a Simple text chart is centered, along with the subtitle and all text lines.

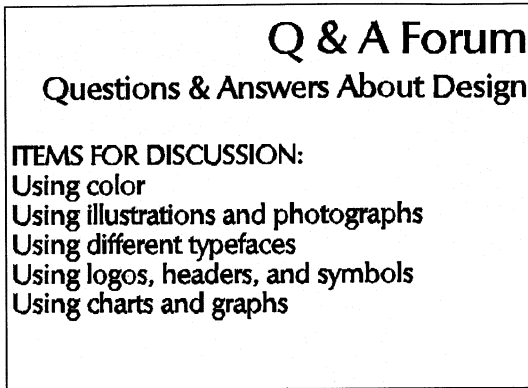
- 2 Type the subtitle of the chart and press **Enter** once to move down to the first line of the text body.

You can press **Enter** again if you want space between the subtitle and the text body.

- 3 Now type the body of the text chart. Press **Enter** at the end of each line to move down to the next item.
- 4 Press **Exit** (F7) when you are finished typing the text.

Freeform Text Chart

Use a Freeform chart when you want to use a less structured chart format. You can define which items on the chart are centered, where they are placed, etc.



Once you select and define an area for a Freeform chart, your cursor is placed in the top left corner of the chart box.

- 1 Type the title of the chart and press **Enter**.
- 2 Type the subtitle of the chart, then press **Enter** to move down to the first line of the text body.

You can press Enter again if you want to add space between the subtitle and the text body.

- 3 Now type the body of the text chart. Press **Enter** at the end of each line to move down to the next item.
- 4 Press **Exit** (F7) when you are finished typing the text.

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Edit Overview

There are 13 items on the Edit menu.

EDIT	
Select Area	
Select Item	
Modify	
Move	
Copy	
Delete	
Undelete	
Size	
Rotate	
X Mirror	
Y Mirror	
Front	
Back	

Selecting Objects

Before you can edit an object, you need to tell DrawPerfect which object you want to edit. The first two options on the Edit menu, Select Area and Select Item, let you select the object you want to edit.













Select Item lets you select one object at a time. Select Area lets you define an area, then every object that falls completely within the defined area is subject to the editing action you perform.

Editing Actions

The 11 options listed below Select Area and Select Item are editing actions you can select and use.

You can choose an editing action by selecting the option from the pull-down menu or by using the icons along the left side of the DrawPerfect page. Each name listed on the Edit menu (except Undelete) is also represented as an icon in the icon menu.

There are two columns of icons. The first column (the one on the left) contains representations of the different editing actions.

	SELECT AREA
	SELECT ITEM
	MODIFY
	MOVE
	COPY
	DELETE
	SIZE
	ROTATE
	X MIRROR
	Y MIRROR
	FRONT
	BACK

*Undelete is not represented as an icon, but can be accessed either through the Edit menu or by pressing **Cancel** (F1).*

The order of the names on the pull-down menu corresponds to the order of the icons. For example, the fourth option on the pull-down is Move, and the fourth icon is Move.

To select an icon, place the cursor on top of the icon and press **Enter**.

After you select a menu option, whether it be through the pull-down or icon menu, DrawPerfect highlights the appropriate icon.

Editing Actions

When you start DrawPerfect, you can begin adding objects to the screen. Once you have added an object, you can select one of the actions on the Edit menu and edit the object. (For information about adding objects to the screen, see *Drawing Objects* in *Draw Reference*.)

Each of the actions on the Edit menu is explained below.

Modify



The Modify feature lets you make changes to existing objects. There are four types of objects in DrawPerfect: Figure, Chart, Text, and Drawing objects—all of which are listed on the Draw pull-down menu. (The term “drawing objects” is applied to the eight drawing tools: Line, Box, Polygon, Arrow, Arc, Curve, Circle, Ellipse.)

The modify process differs depending on the type of object you are modifying. For more information on modifying objects, see the appropriate section in *Edit Reference* (*Modifying Figures*, *Modifying Charts*, *Modifying Text*, and *Modifying Drawing Objects*).

Move and Copy



The Move and Copy features let you move or copy one or more object(s). You can also move and copy one or more object(s) from the first drawing screen (DRW 1) to the second drawing screen (DRW 2) and vice versa.

Move removes the object from the current position on the page and places it in the space you designate; *Copy* leaves the object in its current position and places a copy of the object in the space you designate.

When you want to move or copy an object,

- 1 Select **Edit** to display the Edit menu.
- 2 Select **Move** or **Copy** from the Edit menu.

*You can also select Move or Copy by moving the cursor to the Move or Copy icon and pressing **Enter**.*

- 3 Select the object(s) you want to move or copy. (For more information, see *Selecting Objects* in *Edit Reference*.)
- 4 Press the **Space Bar** to display a dashed box around the object(s). Move the dashed box to where you want to place the object(s), then press the **Space Bar** again to retrieve it.

If you are moving the cursor with the arrow keys, you can move in bigger or smaller increments by pressing **Insert**. When you press **Insert**, the number in the bottom right corner of the screen changes to 1, 10, or 25. The higher the number, the more the cursor moves when an arrow key is pressed.

Delete



The Delete feature lets you delete one or more object(s) on the screen. Delete removes the objects from the page and saves it in the Undelete buffer (see *Undelete* below).

To delete an object,

- 1 Select **Edit** to display the Edit menu.
- 2 Select **Delete** from the Edit menu.

*You can also select Delete by moving the cursor to the Delete icon and pressing **Enter**.*

- 3 Select the object(s) you want to delete. (For more information, see *Selecting Objects* in *Edit Reference*.)
- 4 Press the **Space Bar** to delete the object.

or

Press **Backspace** to delete the object.

Undelete

Up to three deletions are saved by DrawPerfect as a safety margin against error. A deletion is any one or group of graphic object(s) (Figure, Chart, Text, and Drawing) erased while using the action Delete. There is no limit to the number of objects saved per deletion.

*Undelete is not represented as an icon, but can be accessed either through the Edit menu or by pressing **Cancel** (F1).*

When you want to retrieve deletions,

- 1 Select **Edit** to display the Edit menu, then select **Undelete**.

*You can also access the Undelete feature by pressing **Cancel** (F1).*

The object(s) you last deleted is displayed on the screen. Small markers (or boxes) appear on the object(s).

- 2 Select **Restore** to restore the object(s).

or

Select **Previous Deletion** until the object(s) you want restored is displayed, then select **Restore** to restore the object(s).

When new objects are erased on your page, the oldest deletion is removed from memory. If there is no more room in memory or on disk to save a deletion, the following question appears:

“Delete without saving for Undo? No (Yes)”

If you want to delete the object(s) without being able to undelete the object(s) later, type **y**. Type **n** to cancel the deletion.

Size

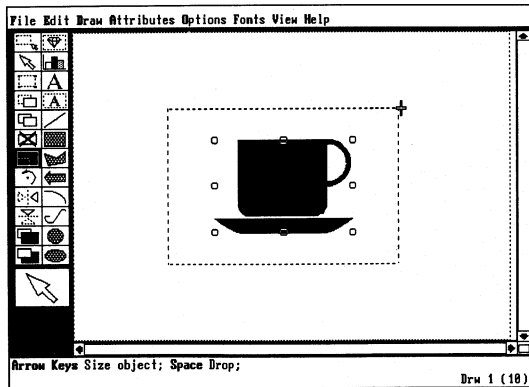


The Size feature lets you change the size of an object.

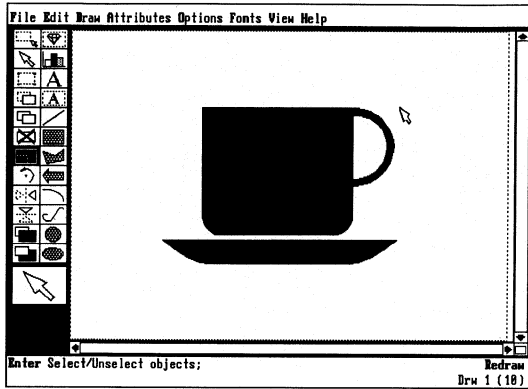
- 1 Select **Edit** to display the Edit menu.
- 2 Select **Size** from the Edit menu.

*You can also select Size by moving the cursor to the Size icon and pressing **Enter**.*

- 3 Select the object(s) you want to size. (For more information, see *Selecting Objects in Edit Reference*.)
- 4 Press the **Space Bar** to display the dashed box.
- 5 Use the cursor keys or the mouse to change the size of the dashed box.



- 6 Press the **Space Bar** to change the object to the size of the box.



The proportions of the sized object will be the same as the original unless the stretch option is on (see *Stretch* in *Options Reference* for more information).

If you are moving the cursor with the arrow keys, you can size an object in bigger or smaller increments by pressing Insert. When you press Insert, the number in the bottom right corner of the screen changes to 1, 10, or 25. The higher the number, the more the cursor moves when an arrow key is pressed.

Rotate



The rotate feature lets you select an object and rotate it in any direction.

To rotate an object,

- 1 Select **Edit** to display the Edit menu.
- 2 Select **Rotate** from the Edit menu.

*You can also select Rotate by moving the cursor to the Rotate icon and pressing **Enter**.*

- 3 Select the object(s) you want to rotate. (For more information, see *Selecting Objects* in *Edit Reference*.)
- 4 Press the **Space Bar** to display the dashed box.
- 5 Rotate the dashed box to the new position. Press the **Space Bar** again to accept the new rotated position.

Instead of manually rotating the dashed box to its new position, you can also rotate the object by entering the number of degrees you want the object to rotate. For example, you can enter **45** to rotate the object 45 degrees.

If you want DrawPerfect to display the number of degrees of rotation, turn on the Position Display message (see *Position Display* in *Options Reference*). When you rotate an object with the Position Display message on, DrawPerfect displays the amount of rotation through the “Rotation Angle” prompt located at the bottom right corner of the screen.

If you are moving the cursor with the arrow keys, you can rotate an object in bigger or smaller increments by pressing Insert. When you press Insert, the number in the bottom right corner of the screen changes to 1, 10, or 25. The higher the number, the more the object rotates when an arrow key is pressed.

X and Y Mirror



The Mirror feature creates a reflected image of drawings, figures, charts, and text objects. You can mirror an image either on the X-axis or the Y-axis. If you mirror an image on the X-axis, the object is reflected to the right or left. If you mirror an image on the Y-axis, the object is reflected up or down.

To mirror an object,

- 1 Select **Edit** to display the Edit menu.
- 2 Select **X Mirror** or **Y Mirror** from the Edit menu.

*You can also select X Mirror or Y Mirror by moving the cursor to the X Mirror or Y Mirror icons and pressing **Enter**.*

- 3 Select the object(s) you want to mirror. (For more information, see *Selecting Objects in Edit Reference*.)
- 4 Press the **Space Bar** to mirror the object(s).

Front and Back



If you have two or more objects overlapping or directly on top of each other, you can use the Front option to move an object to the front, or you can use the Back option to move an object to the back.

To move an object to the front or back,

- 1 Select **Edit** to display the Edit menu.
- 2 Select **Front** or **Back** from the Edit menu.

*You can also select Front or Back by moving the cursor to the Front or Back icons and pressing **Enter**.*

- 3 Select the object(s) you want to move. (For more information, see *Selecting Objects* in *Edit Reference*.)
- 4 Press the **Space Bar** to move the object(s).

Align

The Align feature lets you select one or more objects on the screen and align them in several directions. You can align one object or a group of objects to the left, right, top, and/or bottom. For example, if you select Align Left, all the left sides of the selected objects will be lined up together. You can also center one or more objects vertically, horizontally, or both vertically and horizontally.

To align one or more objects,

- 1 Select the object(s) you want to align. (For more information, see *Selecting Objects* in *Edit Reference*.)
- 2 Select **Edit** to display the Edit menu.
- 3 Select **Align** to display the Align submenu, then select a direction. If you select **Center**, an additional menu is displayed; select **Left/Right**, **Top/Bottom**, or **Both**.

There is a difference in the way DrawPerfect aligns one object and the way it aligns multiple objects. If you have one object selected, DrawPerfect aligns the object with the page borders. For example, Align Left would align an object with the left side of the drawing window.

If you have multiple objects selected, DrawPerfect aligns the objects in relation to one another. For example, if you have two arrows on the screen, one in the upper-left corner and one in the middle, you can determine the alignment area by drawing an imaginary box which encompasses both arrows. The space within the box is the area in which the arrows will be aligned.

Group and Ungroup

The Group and Ungroup features let you convert a figure into a file and vice versa. It is important to understand the difference between a figure and a file because the editing capabilities differ between the two.

A *figure* is edited as one object. You can move, size, delete, and adjust the object as a whole (such as moving it from the left side of the page to the right), but you cannot edit the individual objects that make up the figure (unless you select **Modify**). A figure is created when you retrieve a drawing to the screen through the **Figure** feature. For example, let's say you drew a circle and a box, then saved them in a file. If you retrieve the two objects

using the Figure feature, the circle and box are grouped together as one object within the figure box.

A *file* is edited as several different objects. You can move, size, delete, and adjust each object within the file without selecting Modify. A file is created when you retrieve a drawing through the Retrieve feature. For example, if you drew an object using two ellipses and two boxes, then retrieved the drawing to the screen using Retrieve (Shift-F10), it would be considered an ungrouped file of four drawing objects.

If you need more information about Figures and Files, see Figure in Draw Reference.

Grouping Objects

With Group, you can create a figure from a file by grouping together two or more displayed objects. This gives you the ability to edit several objects simultaneously. For example, you can group a box, circle, and polygon together, then size the three objects at the same time.

To group objects,

- 1 Select **Edit** to display the Edit menu, then choose **Select Item**.
- 2 Select the objects you want to group. (For more information, see *Selecting Objects* in *Edit Reference*.)
- 3 Select **Edit** to display the Edit menu, then select **Group**.

The objects are grouped together. The grouped objects display “markers” that form a box outline.

Ungrouping Objects

With Ungroup, you can create a file from a figure by ungrouping two or more displayed objects. For example, if you retrieve a Figure Library image to the screen using the Figure feature, the image is grouped together as one item within the figure box. However, you can use Ungroup to separate the figure into several objects. Once you ungroup an object, it is considered a file and can be edited as a file.

To ungroup an object,

- 1 Select **Edit** to display the Edit menu, then choose **Select Item**.
- 2 Select the object you want to ungroup. (For more information, see *Selecting Objects* in *Edit Reference*.)
- 3 Select **Edit** to display the Edit menu, then select **Ungroup**.

Each object within the file displays “markers.”

Modifying Charts



You can modify graph charts by changing the names, numbers, fill patterns, or other data you entered while in the Graph screens.

To modify text charts, see Modifying Text in Edit Reference.

This section discusses how to modify a graph chart which has been retrieved through Retrieve (Shift-F10) or List Files (F5). See *Modifying Figures in Edit Reference* for information on how to Modify a chart which has been retrieved through the Figure feature. (The modify procedure differs for a chart retrieved through the Figure feature.)

To modify a chart,

- 1 Select **Edit** to display the Edit menu, then Select **Modify**.

*You can also select Modify by moving the cursor to the Modify icon and pressing **Enter**.*

- 2 Select the chart you want to modify. (For more information, see *Selecting Objects in Edit Reference*.)

- 3 Press the **Space Bar** to modify the chart.

You are now placed in the Graph Edit screen. You can move to the other Graph screens and make the changes you want. After editing the chart,

- 4 Press **Exit** (F7) to exit the Graph Edit screen. DrawPerfect asks you "Save edit changes to chart? Yes (No)." Type **y** to save the changes and return to the DrawPerfect screen.

- 5 Press **Enter** to unselect the chart.

If you saved the chart as a .WPG file, you cannot return to the Graph screens and make editing changes. You can, however, edit the individual items within the chart as you would any other drawing file. For example, if you save a bar chart as a .WPG file, then retrieve the chart through Retrieve, you can select Delete and delete the bars, or use Move and move the title.

Modifying Drawing Objects



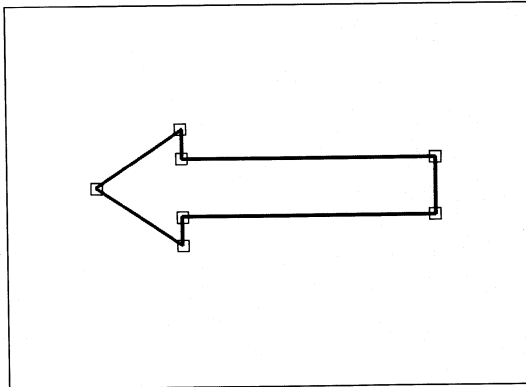
The term “drawing objects” is applied to the eight drawing tools: Line, Box, Polygon, Arrow, Arc, Curve, Circle, and Ellipse.

This section discusses how to modify a drawing object within a file (not within a figure). A file is any drawing which has been retrieved through Retrieve (Shift-F10) or List Files (F5), or which has been ungrouped using the Ungroup option on the Edit menu. (See *Group and Ungroup* under *Editing Actions* in *Edit Reference* for more information about Ungroup.) If you are unsure what the difference is between a figure and a file, see *Figure* in *Draw Reference*.

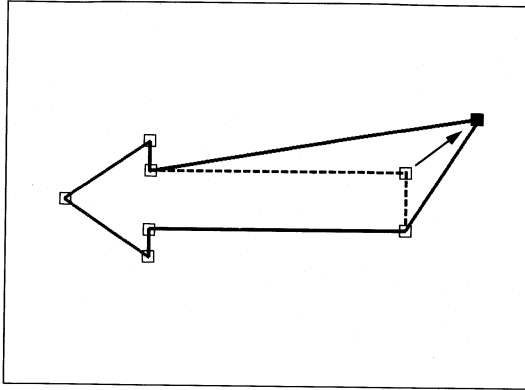
See *Modifying Figures* in *Edit Reference* for instructions on how to modify a drawing object which is part of a figure. (The modify procedure differs for a drawing object that is within a figure.)

Modifying Points You can modify the shape of a line, box, polygon, or arrow by moving, adding, and deleting the points that define the object.

For example, suppose you drew the following arrow.

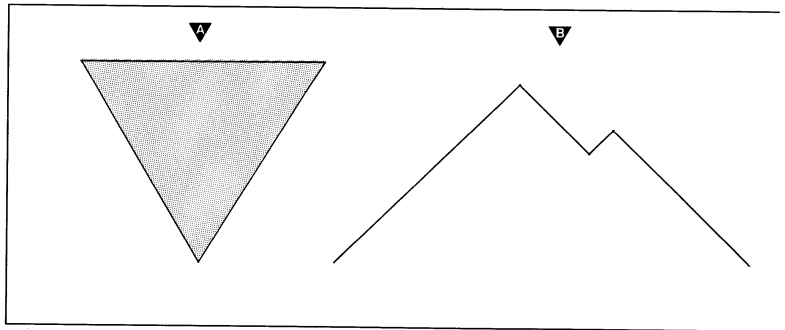


You can change the shape of the arrow by moving one of the points that define the arrow.

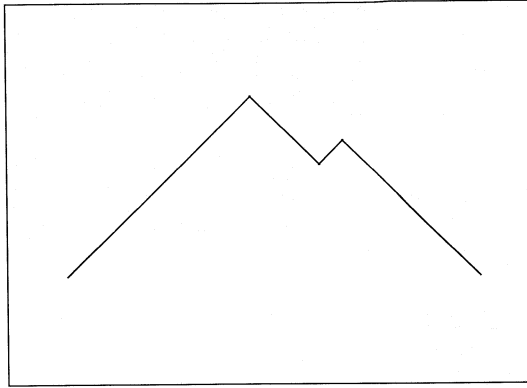


Modify also lets you convert a polygon into a polyline and vice versa. A polygon is an enclosed object which you can fill with a pattern or color. When you modify points, any box, arrow, or polygon is considered a polygon. A polyline is an open object which you cannot fill with a pattern or color. Any object you draw with the line tool is considered a polyline.

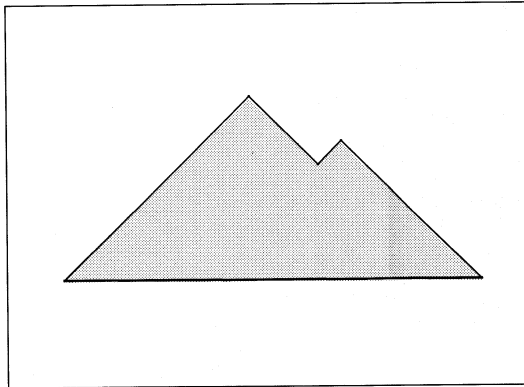
- A** POLYGON
- B** POLYLINE



As you use DrawPerfect, you may want to convert a polyline into a polygon or vice versa. For example, suppose you drew the following polyline.



Because the object was drawn with the line tool, you cannot fill it with a pattern. However, with Modify you can change the line into a polygon and fill it with a color or pattern.



When DrawPerfect changes a polyline into a polygon, it encloses the object by adding a line between the starting and ending points. When DrawPerfect changes a polygon into a polyline, it creates an open object by deleting the line between the starting and ending points.

To modify the definition points of a line, box, polygon, or arrow,

- 1 Select **Edit** to display the Edit menu, then select **Modify**.

*You can also select **Modify** by moving the cursor to the **Modify** icon and pressing **Enter**.*

- 2 Select the object you want to modify. (For more information, see *Selecting Objects in Edit Reference*.)
- 3 Press the **Space Bar** to begin modifying the object.

You are now in modify mode. All menus are disabled while **Modify** is active. At this point you can delete, move, and add points, as well as open and close a polygon or polyline. See *Moving Points*, *Adding Points*, *Deleting Points*, or *Open/Close* below for more information.

Moving Points

To move a definition point,

- 1 Use the arrow keys or mouse to move the cursor to the point you want to move.

When the cursor is near a point, the otherwise hollow point becomes filled with a solid pattern.

- 2 Press **Enter** to select the point.
- 3 Move the point, then press **Enter** again.
- 4 Press the **Space Bar** to exit **Modify**.
- 5 Move the cursor on top of the object and press **Enter** to unselect the object.

Adding Points

You can add definition points to an existing object by pressing **Add** (F4). To add a point,

- 1 Use the arrow keys or mouse to move the cursor to the location where you want to add a point.
- 2 Press **Add** (F4) to add a point.

The cursor moves to the line left or right of the currently highlighted point. The new point is added to the center of the line.

- 3 Move the cursor to position the new point. Press **Enter** when the new point is where you want it.
- 4 Press the **Space Bar** to exit **Modify**.
- 5 Move the cursor on top of the object and press **Enter** to unselect the object.

Deleting Points

To delete a definition point,

- 1** Use the arrow keys or mouse to move the cursor to a point on the object.

When the cursor is near a point, the otherwise hollow point becomes filled with a solid pattern.

- 2** Press **Delete** (Backspace) to delete the point.

Open/Close

You can convert a polygon into a polyline and vice versa with the Open/Close feature. To do so,

- 1** Press **Open/Close** (Shift-F3).

If you are converting a polyline into a polygon, a line is added between the starting and ending points of the object. If you are converting a polygon into a polyline, a line is deleted between the starting and ending points of the object.

Modifying Attributes

You can edit all eight Drawing objects by changing the attributes (such as line width, line color, line style, fill color, or fill pattern). You can also modify the attributes of a drawing by choosing the Select Item or Select Area option.

- 1** Select **Edit** to display the Edit menu
- 2** Choose the Select Area or Select Item option.
- 3** Select the object you want to modify, then select the attribute you want from the Attributes menu. (For more information, see *Selecting Objects in Edit Reference*.)

Modifying Figures



There are four types of objects in DrawPerfect: Figure, Chart, Text, and Drawing objects. This section explains how to use Modify to edit Figure objects.

A figure is *any* object retrieved either through the Figure option on the Draw menu or the Figure icon. A figure can be a chart, a sentence, a drawing object (such as a polygon), a scanned image, or a combination of all four. Any object you create can be defined as a figure if you *retrieve* it as a figure. For example, if you retrieve a pie chart onto the DrawPerfect screen using Figure, the pie chart is classified as a figure object.

In addition to retrieving an object through the Figure feature, you can also retrieve an object through Retrieve (Shift-F10). An object that is retrieved using Retrieve is defined as a file, *not* a figure. The sections *Modifying Charts*, *Modifying Text*, and *Modifying Drawing Objects* in *Edit Reference* explain the procedure for modifying files (objects retrieved through Retrieve).

See Figure in Draw Reference for more information about the difference between a figure and a file

The instructions below explain how to modify figures which contain drawing objects, figures which contain text, and figures which contain charts.

Drawing Objects

There are eight drawing objects in DrawPerfect: Line, Box, Polygon, Arrow, Arc, Curve, Circle, and Ellipse. These objects (or drawing tools) are used most commonly to draw pictures. For example, all of the Figure Library Images are composed of drawing objects.

You can change the drawing objects within a figure in the following ways:

- You can change the attributes.
- You can use an editing action (such as move, copy).
- You can modify the polyline or polygon points.

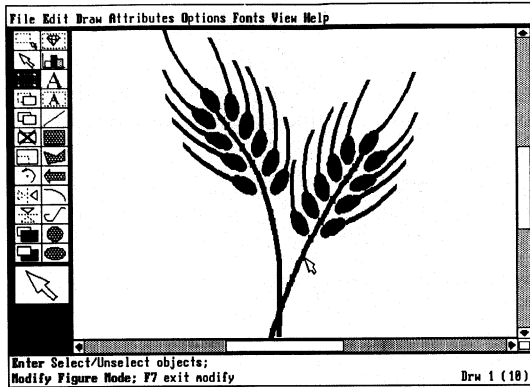
To modify a drawing object within a figure,

1 Select **Edit** to display the Edit menu, then select **Modify**.

*You can also select Modify by moving the cursor to the Modify icon and pressing **Enter**.*

- 2 Select the figure you want to modify. (For more information, see *Selecting Objects* in *Edit Reference*.)
- 3 Press the **Space Bar** to begin modifying the figure.

You are now in modify mode. The image is temporarily redrawn to fill the entire drawing window. You can now select and edit each drawing object individually within the figure.



- 4 Move the cursor to the drawing object you want to modify and press **Enter** to select it.
- Markers appear on the selected object.



- 5 If you want to change the attribute of the selected object, select the attribute you want from the Attribute pull-down menu.

or

If you want to use an editing option on the object, select the option you want (such as delete or size), then perform the necessary actions. (For more information on using editing options, see *Editing Actions* in *Edit Reference*.)

or

If you want to modify the polyline or polygon points, press the **Space Bar**. Use the arrow keys to highlight the point you want to edit, then press **Enter**. A cross-hair cursor is placed next to the point you selected. Move the point with the mouse or arrow keys, then press **Enter** when the point is where you want it. Press the **Space Bar** to quit Modifying points.

See Modifying Drawing Objects in Edit Reference for more information about modifying polyline and polygon points.

- 6 Press **Enter** to unselect the object.
- 7 Press **Exit** (F7) to exit Modify.
- 8 Move the cursor on top of the figure and press **Enter** to unselect it.

Modifying Figure Attributes

When you select Modify, you can edit the individual drawing objects of a figure. For example, you can delete one whisker on a cat.

However, you can also choose the Select Item or Select Area option, and edit all the drawing objects within a figure at the same time. You can edit the objects by changing the attributes. Those attributes consist of: line width, line color, line style, fill color, and fill pattern. For example, you can edit the fill color of a figure and change a brown kitten into a white kitten. To change the attributes of a figure,

- 1 Select **Edit** to display the Edit menu.
- 2 Choose the **Select Area** or **Select Item** option.
- 3 Select the figure you want to edit. (For more information, see *Selecting Objects* in *Edit Reference*.)
- 4 Select the attribute you want from the Attributes menu.

Text

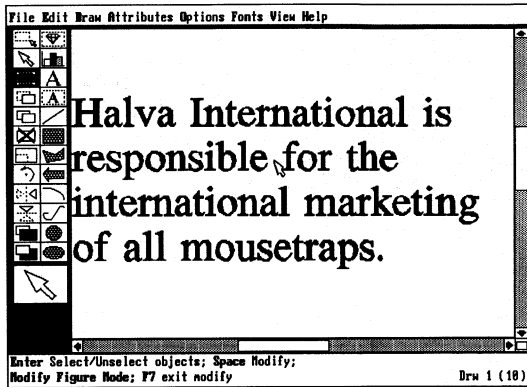
You can modify the text within a figure by inserting and deleting the text, or by changing the font and the attributes.

- 1 Select **Edit** to display the Edit menu, then select **Modify**.

*You can also select Modify by moving the cursor to the Modify icon and pressing **Enter**.*

- 2 Select the figure you want to modify. (For more information, see *Selecting Objects in Edit Reference*.)
- 3 Press the **Space Bar** to modify the figure.

You are now in Modify mode. The figure is temporarily redrawn to fill the entire DrawPerfect window.



- 4 Select the text you want to modify by moving the cursor to the text and pressing **Enter**.

- 5 Press the **Space Bar** to modify the text.

If the message “Text must be within window” appears, press Page Down (PgDn) to shrink the text. When the text fits within the Drawing Window you are allowed to edit.

- 6 Edit the text, then press **Exit (F7)** when you are finished.
- 7 Press **Enter** to unselect the text.
- 8 Press **Exit (F7)** to exit Modify mode.
- 9 Move the cursor on top of the figure and press **Enter** to unselect it.

Chart

You can modify a chart within a figure by changing the fill patterns, data point values, or other attributes of Chart objects.

- 1 Select **Edit** to display the Edit menu, then select **Modify**.

*You can also select **Modify** by moving the cursor to the **Modify** icon and pressing **Enter**.*

- 2 Select the figure you want to edit. (For more information, see *Selecting Objects in Edit Reference*.)

- 3 Press the **Space Bar** to **Modify** the figure.

You are now in modify mode. The figure is temporarily redrawn to fill the entire DrawPerfect window.

- 4 Select the chart you want to **Modify** by moving the cursor to the object and pressing **Enter**.

- 5 Press the **Space Bar** to **Modify** the chart.

If you previously saved your chart as a .WPG file, you cannot go back into the Graph screens and make changes. By saving a chart as a .WPG file, you can retrieve the chart to the Drawing Window and edit the individual chart components as you would any other drawing file.

You are now placed in the Graph Edit screen. You can move to the other Graph screens and make changes. After editing the chart,

- 6 Press **Exit** (F7) to exit the Graph Edit screen. DrawPerfect asks you "Save edit changes to chart? Yes (No)." Type **y** to save the changes and return to the DrawPerfect screen.

- 7 Press **Enter** to unselect the chart.

- 8 Press **Exit** (F7) to exit Modify mode.

- 9 Move the cursor on top of the figure and press **Enter** to unselect it.

Modifying Text



You can modify text objects and text charts by inserting or deleting text, by changing the font, or by changing any of the attributes listed on the Fonts menu.

This section discusses how to modify text and text charts that have been retrieved through Retrieve (Shift-F10) or List Files (F5). See *Modifying Figures* in *Edit Reference* to Modify text that has been retrieved through the Figure feature. (The modify procedure differs for text retrieved through the Figure feature.)

Once you have typed text into a window, line, or text chart, and then exited, the only way you can go back into the text and make changes is to select Modify. To modify text,

- 1 Select **Edit** to display the Edit menu, then select **Modify**.

*You can also select Modify by moving the cursor to the Modify icon and pressing **Enter**.*

- 2 Select the text object you want to modify.
- 3 Press the **Space Bar** to go back into the text line, window, or chart and begin editing.

You are now in Modify mode. All pull-down menus, except File and Fonts are disabled while Modify is active. To activate the File or Fonts menu, press Alt or select the menu with a mouse.

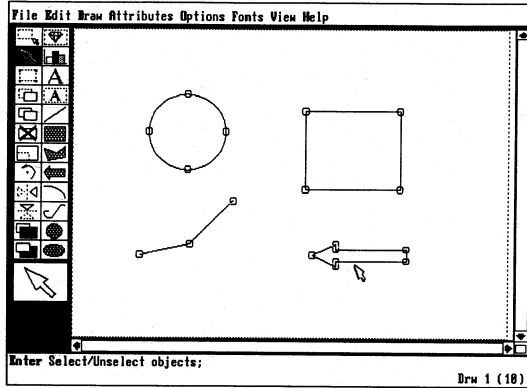
- 4 Press **Exit** (F7) to exit the text line, window, or chart.
- 5 Press **Enter** to unselect the text object or text chart.

DrawPerfect provides you with various attributes you can add to your text. For example, you can bold a phrase, center a line, flush right a word, etc. These attributes can only be added to your text as you type. You cannot change attributes for existing text, such as changing an italicized word into a bolded word. You can delete the italics attribute code to return the text to normal. However, to bold the word, you have to delete it then retype it with the bolded attribute.

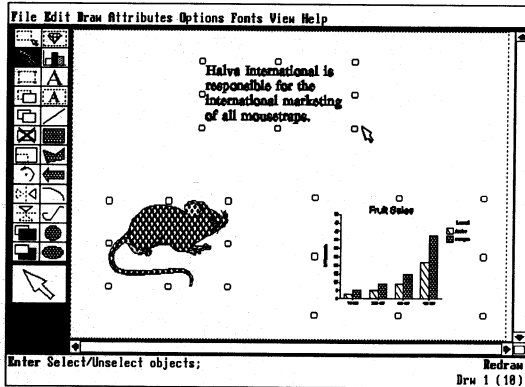
Selecting Objects

To perform an editing action on an object, such as sizing or rotating it, you must first *select* the object.

A selected drawing object displays “markers” on each definition point of that object.



A selected figure, chart, or text object displays “markers” that form a box outline. The markers are positioned on the corners and sides of the box that surrounds that object.



There are two different ways to select objects on the screen: Select Area and Select Item.

Select Area



If you want to select several objects at the same time, you can do so by using Select Area. With Select Area, you do not select individual objects one at a time; you define an area. Every object that falls completely within that defined area is subject to the editing action you perform.

To select an area,

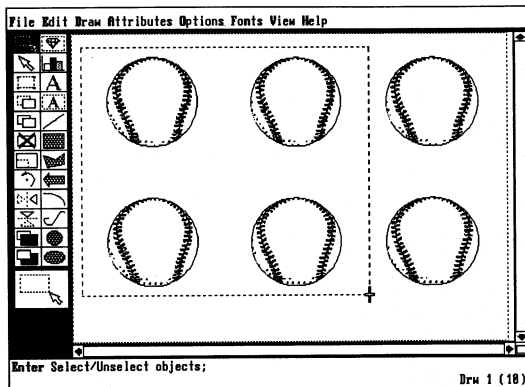
- 1 Select **Edit** to display the Edit menu, then choose **Select Area**.

*You can also choose Select Area by moving the cursor to the Select Area icon and pressing **Enter**.*

- 2 Move the cursor to the starting point of the area and press **Enter**. Then move the cursor to the ending point of the area and press **Enter**.

or

Press **Enter** twice to define the entire DrawPerfect screen as the selected area.



DrawPerfect displays line markers on every object within the selected area. If you want to select an object that is half in and half out of the defined area, you need to press **Cancel** (F1) and redefine the area, or change your selection method to Select Item.

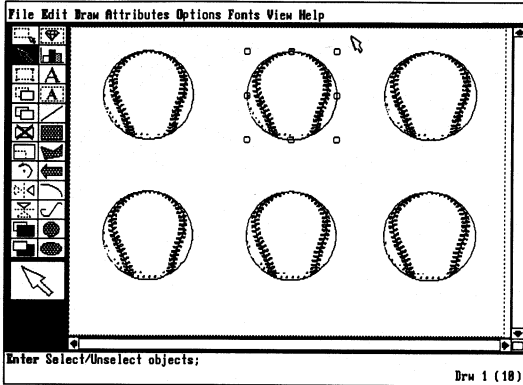
To unselect an object, press **Enter** or **Cancel**. Pressing **Cancel** unselects all selected objects. Pressing **Enter** unselects the object on which your cursor is resting.

Select Item



The Select Item option lets you select objects on the screen one at a time. It is the DrawPerfect default setting. To select an item,

- 1 Select **Edit** to display the Edit menu, then choose **Select Item**.
*You can also choose **Select Item** by moving the cursor to the **Select Item** icon and pressing **Enter**.*
- 2 Move the cursor to the object you want to select and press **Enter**. To unselect the object, press **Enter** again.



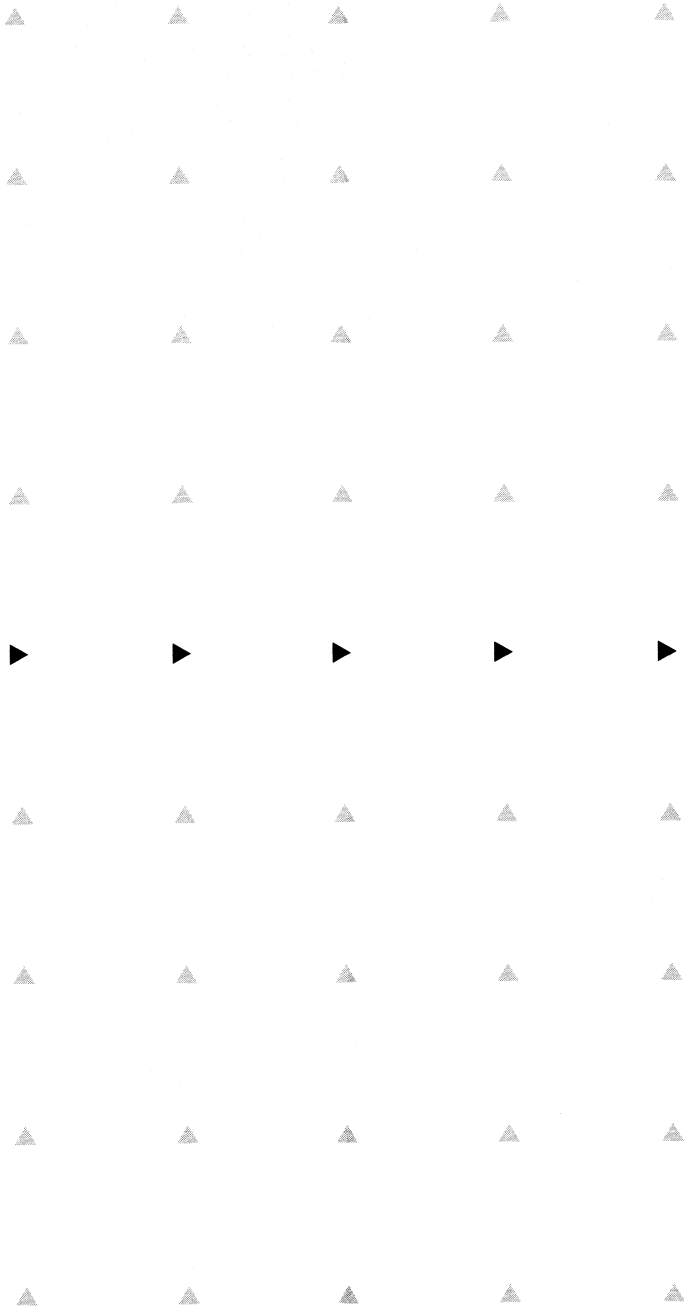
To select a line, you must place the cursor directly on the line and press **Enter**. To select all other objects, such as a chart or an ellipse, you can place the cursor on or inside the object and press **Enter**.

Small boxes or “markers” appear after you select an object. The markers outline the shape of the selected object and remain on the selected object until you press **Enter** or **Cancel** to unselect the object.

Sometimes the positioning of objects makes selection slightly more complicated. This occurs when you have two or more objects overlapping, or one object inside another. DrawPerfect will search for and select one of the possible objects close to the cursor. You can change the selection to another object by pressing **Enter** to unselect the object, then pressing **Enter** again to select a different object. If you have more than two objects, continue to press **Enter** to cycle through the objects until the one you want is selected.

If you want to select two or more objects with the **Select Item** option, move the cursor to the first object and press **Enter**, then move the cursor to the second object and press **Enter**. You can continue selecting as many objects as you want.

To unselect an object, press Enter or Cancel. Pressing Cancel unselects all selected objects. Pressing Enter unselects the object on which your cursor is resting.

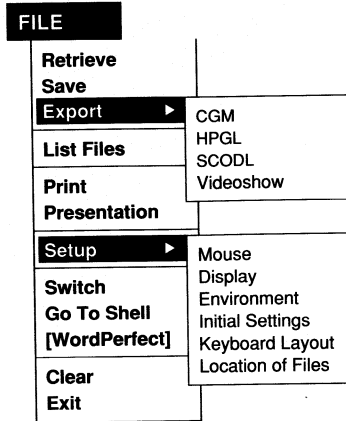


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File Overview

The File pull-down menu contains several options which let you setup and manage your files, create presentations, switch between drawing screens, print a file, and exit out of DrawPerfect.



Brief descriptions of each menu option are provided below while more detailed descriptions are located throughout *File Reference*. Some menu options, such as Setup, contain several submenu options. Information about the submenu options are also located throughout *File Reference*.

Retrieve

By using this feature, you can retrieve a chart, a drawing, a graphic image, etc. into the drawing area (see *Retrieve* in *File Reference*).

Save

The save feature lets you save the drawing currently on the screen to disk (see *Save* in *File Reference*).

Export

Export lets you convert a DrawPerfect file into a different graphics format (see *Export* in *File Reference*).

List Files

Using List Files, you can display the names of the files in a directory, and perform such tasks as retrieving, deleting, and copying files (see *List Files* in *File Reference*).

Print

The print options let you print a drawing or a portion of a drawing, format and control the printer, create a slide show presentation, and preview a drawing (see *Print* in *File Reference*).

Presentation

The Presentation option lets you display a series of graphic illustrations in a slide show format (see *Presentation* in *File Reference*).

Setup

Setup gives you the flexibility to tailor DrawPerfect settings to your specific needs (see *Setup* in *File Reference*).

Switch

Switch lets you access a new screen for creating two different pages at the same time (see *Switch* in *File Reference*).

Go To Dos/Shell

Use Go To Dos when you want to return to DOS to perform one or more DOS commands or Go To Shell if you are using WordPerfect Shell, Library, or Office (see *Go To Dos/Go To Shell* in *File Reference*).

WordPerfect

Select WordPerfect to transfer a DrawPerfect file into WordPerfect 5.1 (see *WordPerfect* in *File Reference*).

Clear

Use Clear when you want to clear the drawing from the screen. Clear does not reset any options, such as Grid Display, from the Options menu you currently have selected (see *Clear* in *File Reference*).

Exit

When you want to clear the screen to work on a new page or exit the DrawPerfect program, use Exit (see *Exit* in *File Reference*).

Backup

DrawPerfect includes two automatic Backup features—Timed and Original. While these backup features are very helpful in the event of a power outage, machine failure, etc., they are *no substitute* for saving extra copies of your files on backup diskettes.

To set Backup Options,

- 1 Select **File** to display the File menu.
- 2 Select **Setup** to display the Setup submenu.

*You can also access the Setup menu by pressing **Setup** (Shift-F1).*

- 3 Select **Environment**.
- 4 Select **Backup Options** to display the Backup menu.
- 5 Select **Timed Drawing Backup**, type **y**, then enter the number of minutes between each backup for Timed Backup (see *Timed Backup* below).

and/or

Select **Original Drawing Backup**, then type **y** to set Original Backup (see *Original Backup* below).

- 6 Press **Exit** (F7) to exit the Backup Option menu.

Files do not “disappear” from a disk. The disk (both floppy disks and hard disks) may become corrupted, however, which would result in lost data and unusable files (both original and backup). It is for this reason that we suggest making backup copies of your files on a separate diskette regardless of whether you use the Backup feature or not.

Disks can become corrupted by a variety of things such as static, power surges, magnets, etc.

Timed Backup

One of the most frustrating things you may encounter as a computer user is the loss of large amounts of work due to machine failure, power outage, etc. The Timed Backup option lets you safeguard against such an experience.

Basically, Timed Backup, “backs up” or makes a copy of your drawing at specified times. Every few minutes, a “Please Wait” message is displayed on the status line, and the file is copied to the directory you specify in the Location of Files feature (see *Location of Files* in *File Reference*).

While Timed Backup is a powerful option, it is not a substitute for saving your files on disk or making extra copies of your files on backup diskettes.

Old Backup File Exists—Rename or Delete

If you receive the message “Old backup file exists. 1 Rename; 2 Delete;” DrawPerfect cannot back up the drawing currently on your screen because a backup file of another drawing exists. This happens when you restart DrawPerfect after a power outage, machine failure, etc.

If you select Rename (1), you can enter a new name for the backup file and let DrawPerfect properly back up the file currently on the screen. If you select Delete (2), DrawPerfect will still properly back up the file currently on the screen, but the old backup files will be erased.

***Important:** You must rename the file if you want to retrieve it. This is how you save your backup files. If you don't rename it at this point, the file is deleted.*

Retrieving Timed Backup Files

Timed backup files are temporary files that are stored in the directory you specify with the Location of Files feature. If you do not specify a location, they are stored in the same directory as DR.EXE. When you exit DrawPerfect properly, timed backup files are deleted.

DR{DR}.BK1 is the name of the timed backup file for the drawing on the Drawing 1 screen, while DR{DR}.BK2 is the name of the timed backup file for the drawing on the Drawing 2 screen. If you have drawings on both screens, only the drawing on the screen at the time of the backup interval is backed up. After the first backup, a drawing is backed up again only if you have made changes.

A network timed backup file is called DRxxx}.BK1 (where xxx is the user's ID).

In order to retrieve a timed backup file, use the Rename feature in List Files to rename the backup file, then retrieve it as you would any other file (see *List Files in File Reference*).

Original Backup

Normally, when you replace a drawing with one of the same name, the original is deleted. The Original Backup option lets you save both the original and the replacement versions of the drawing.

Original Backup is useful in several instances, but probably is most helpful as a safeguard against mistakenly replacing previous versions of a drawing.

With Original Backup on, the original version of a drawing is renamed to *filename.BK!* (where *filename* is the name of the original file). As you continue replacing the same file, the .BK! file is replaced with the “new” original file. The .BK! files are stored in the same directory as the replacement file and remain on disk even when you exit DrawPerfect.

For example, let’s say you have saved the first draft of a drawing named PICTURE. When you replace the first draft of PICTURE with the second draft of PICTURE, the first draft is renamed PICTURE.BK! while the second draft is named PICTURE.

Taking the example one step further, when you replace the second draft of PICTURE with the third draft of PICTURE, the first draft of PICTURE is deleted, the second draft of PICTURE is renamed PICTURE.BK! and the third draft is named PICTURE.

Filename Extensions

Files that have the same name but a different extension (e.g., PICTURE.1, PICTURE.2) share the same original backup file. As you save these files, the latest file saved receives the .BK extension for the backup file.

Location of Backup Files

Original backup files will be stored in the same directory as the files they are backing up.

Retrieving the Original Backup File

In order to retrieve an original backup file, use the Rename feature in List Files (see *List Files* in *File Reference*) to rename the backup file, then retrieve it as you would any other file.

Important: *If you don’t rename an original backup file, its contents will be replaced in subsequent backups. Do not rename original backup files with a .BK! extension.*

Also, turning off the Original Backup option deletes the original backup file the next time you save the drawing. This means you should rename original backup files before you turn off Original Backup.

Binding

If you are planning to bind your drawings, you can use the Binding feature to shift your drawing to the right. This allows room for holes or other bindings.

- 1 Select **File** to display the File menu.
- 2 Select **Print** to display the Print menu.

*You can also access the Print menu by pressing **Print** (Shift-F7).*

- 3 Select **Binding**.
- 4 Enter the binding width you want.
- 5 Press **Exit** (F7) to exit the menu.

The binding width is set from the left edge of the page. The binding width you enter is added to the left margin setting and subtracted from the right margin setting. For example, let's say your margins are set at 1 inch and the binding width is set at $\frac{1}{2}$ inch. The left margin will be $1\frac{1}{2}$ inches and the right margin will be $\frac{1}{2}$ inch. DrawPerfect adds the binding and margin settings together for the left margin, and subtracts the binding setting from the right margin.

If you want to change the binding width or set it back to zero, repeat the steps above.

Unless you change the settings, the binding width you selected applies to every print job until you exit DrawPerfect. However, you can change the default binding width through Setup. The binding width setting on the Setup menu remains in effect each time you start DrawPerfect. To change the binding setting in Setup,

- 1 Select **File** to display the File menu, then select **Setup**.

*You can also access the Setup menu by pressing **Setup** (Shift-F1).*

- 2 Select **Initial Settings**.
- 3 Select **Print Options**, then select **Binding**.
- 4 Enter the binding width you want.
- 5 Press **Exit** (F7) to exit the menu.

Cancel

Cancel may be the most commonly-used DrawPerfect feature. Why? Because it backs you out of menus. It is also the key to press when you do not want to save the changes you have made, or you want to unselect selected objects.

To access Cancel if you are using the keyboard, press Cancel (F1). If you are using a two-button mouse, click both the right and left mouse button at the same time. If you are using a three-button mouse, click the center button to access Cancel.

Cancel does the following:

- Unselects all selected objects.
- Backs you out of a DrawPerfect menu or status line message. You may need to press Cancel more than once.
- Recovers up to 3 deletions (see *Undelete* under *Text* in *Draw Reference*).
- Cancels a macro in operation.

Unselecting Objects

You can get rid of the small boxes, or line markers, on all selected objects by pressing **Cancel** (F1).

Backing Out of Menus and Options

You can cancel out of a menu without saving your changes by pressing **Cancel** (F1).

From some menus you must press **Cancel** more than once to return to the normal drawing screen.

If you want to save the changes you have made to a menu, press **Exit** (F7) (see *Exit* in *File Reference*). Pressing any letter or number that is not listed as a menu option will also back you out of a menu, saving any of the changes you have made.

Help Menus

Pressing **Cancel** (F1) does not back you out of the Help menus. Pressing the **Space Bar** does. Pressing **Cancel** in a Help menu displays the help screen for the Cancel feature.

Macros

While pressing **Cancel** (F1) cancels a macro in operation, it does not cancel a macro definition. To end a macro definition, press **Macro Define** (Ctrl-F10). Pressing **Cancel** in a macro definition simply inserts the Cancel keystroke into the definition (see *Macros* in *File Reference*).

Clear

The Clear feature lets you clear your screen to work on a new drawing.

- 1 Select **F**ile to display the File menu.
- 2 Select **C**lear to clear the drawing.
- 3 Type **y** to clear the screen.

or

Type **n** (or press any other key except **y**) to return to your drawing without clearing the screen.

Use the Clear feature when you want to erase the screen and not save the drawing. Clear does not reset the program and does not turn off any options you have selected, such as Grid Display, from the Options menu. It also does not reset the current editing action, or the associated attributes.

Colors/Bold Display

The Colors/Bold Display feature lets you change the menu background and foreground color, and the page background and foreground color. It also lets you show in color or in graphics the bolded letter in each menu name option.

- 1 Select **F**ile to display the File menu.
- 2 Select **S**etup to display the Setup submenu.
*You can also access the Setup menu by pressing **Setup** (Shift-F1).*
- 3 Select **D**isplay.
- 4 Select **C**olors/**B**old Display.
- 5 Select the option you want (see *Menu Options* below).
- 6 Press **E**xit (F7) to exit the Setup menu.

Menu Options

There are three options on the Colors/Bold Display menu. Information about each one is found below.

Menu Background Color

The Menu Background Color option lets you define the background color of the menu area. The menu background includes the area behind the pull-down menus, the full page menus (e.g., Setup), the icons, the messages and the prompts at the bottom of the screen.

Menu Foreground Color

The Menu Foreground Color option lets you change the text color of the pull-down menu names, the messages and prompts at the bottom of the screen, and the color of the icons.

Bold Display

DrawPerfect uses mnemonic menus. You can select a feature by pressing either a letter or a number. If you have chosen to display the mnemonic menu letters with the bold attribute, you have the option of displaying the bolded menu letters in color or with graphics (see *Menu Letter Display* under *Display* in *File Reference*).

You must currently have the mnemonic letters displayed in *bold* for the Show with Color or Show with Graphics options to work.

The Show with Graphics option creates a wider, bolder character.

The Show in Color option shows the bolded mnemonic letter in the color you select.

For easiest readability with a color monitor, we suggest you display the mnemonic letters in a color that contrasts the current background color. For example, if your background is displayed in blue, display the mnemonic letters in white or yellow.

For easiest readability with a monochrome monitor, we suggest you display the mnemonic letters with the underline attribute.

Color Settings

Color settings are in effect each time you run DrawPerfect. Settings for the DRW 1 screen are stored separately from the settings for the DRW 2 screen.

Cursor Keys

When you want to change the way the cursor operates, select the Cursor Keys option. You can change the cursor speed, the cursor step, and the acceleration delay time.

- 1 Select **File** to display the File menu.
- 2 Select **Setup** to display the Setup submenu.
*You can also access the Setup menu by pressing **Setup** (Shift-F1).*
- 3 Select **Environment** to display the Environment menu.
- 4 Select **Cursor Keys**.
- 5 Select a menu option and enter the desired information (see *Menu Options* below).

Menu Options

There are three options listed on the Cursor Keys menu. Information about each option is found below.

Cursor Speed

The Cursor Speed feature lets you increase or decrease how fast the cursor moves across the screen when you hold down one of the arrow keys. When you are in DOS, a key repeats a character 11 times for every second you hold down the key. In DrawPerfect, because it is a graphics-based program, the cursor speed is not measured so much by how many characters it repeats per second, but by how fast the cursor moves across the page.

Repetition speeds are listed in characters per second. Increasing the repetition speed increases the movement of the cursor. Select Normal to return to your keyboard's normal cursor speed.

The Cursor Speed feature may conflict with some memory-resident programs or IBM-compatible computers. If this is the case, select the Normal option to avoid incompatibilities.

Repeat Performance

The Cursor Speed feature comes from another WPCorp product, Repeat Performance. Repeat Performance allows you to enjoy a faster keyboard with all of your software. The program includes other features such as Adjustable Delay, Adjustable Key Repeat Speed, Expanded Type Ahead Buffer, and Tone Clipping.

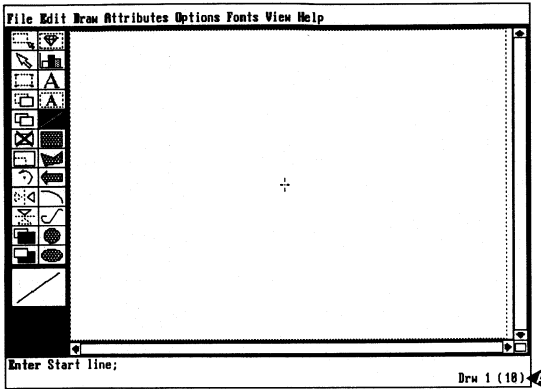
If you are using Repeat Performance with DrawPerfect, set Cursor Speed to Normal.

Cursor Step

Cursor Step lets you change how far the cursor moves across the

screen when you press an arrow key. In the bottom of the DrawPerfect screen, displayed in parentheses, is the current Cursor Step.

▲ CURSOR STEP



You can change the number to 1, 10, or 25. The higher the number, the more the cursor moves when you press an arrow key.

The Cursor Step number also affects the amount of a zoom or a pan. For example, if the number is set to 1, the zoom amount will be relatively small, whereas if the number is set to 25, the zoom amount will be much greater.

The number you enter for Cursor Step will be in effect each time you start DrawPerfect. However, you can change the setting temporarily by pressing Insert (Ins) when the main DrawPerfect screen is displayed.

Acceleration Delay

In DrawPerfect, the longer you hold down an arrow key, the faster the cursor moves across the screen. For example, if you quickly tap the Left Arrow, the cursor moves a small increment to the left (depending on the cursor step setting). If you hold down the Left Arrow, the cursor starts moving slowly but quickly picks up speed.

The Acceleration Delay option lets you determine how soon you want the cursor to begin accelerating once you begin pressing an arrow key. The lower the number, the quicker the cursor will begin accelerating.

Date

If you keep the date and time current on your computer, you can use the Date feature when you are in text mode. Date inserts the current date at the cursor position.

The information in this section discusses how to change the format of the date. See *Date* under *Text* in *Draw Reference* for information on using the Date feature.

Normally, DrawPerfect inserts the date as *month day, year* (e.g., November 19, 1991), but you can change the appearance of the date that is inserted. DrawPerfect offers a wide variety of formats. For example, November 19, 1991 can also be printed as: 19 November, 1991; Sun Nov 19, 1991; 11/19/91 (Sunday), etc. A date can also include the time, single words, or phrases.

To change the way the date is displayed,

- 1 Select File to display the File menu.
- 2 Select Setup to display the Setup submenu.
- 3 Select Initial Settings to display the Initial Settings menu.
- 4 Select Date Format to display the date format screen.

- ▲ NUMBERS
- ▲ PARTS OF THE DATE

Date Format	
Character	Meaning
1	Day of the Month
2	Month (number)
3	Month (word)
4	Year (all four digits)
5	Year (last two digits)
6	Day of the Week (word)
7	Hour (24-hour clock)
8	Hour (12-hour clock)
9	Minute
0	am / pm
%, \$	Used before a number, will: Pad numbers less than 10 with a leading zero or space Abbreviate the month or day of the week

Examples: 3 1, 4 = December 25, 1984
%6 %3 1, 4 = Tue Dec 25, 1984
%2/%1/5 (6) = 01/01/85 (Tuesday)
%2/%1/5 (%6) = 1/1/85 (Tue)
8:90 = 10:55am

Date format: 3 1, 4

- 5 Enter a new format, then press **Exit** (F7) to return to your drawing (see *Date Format* below).

Date Format

The numbers 0 through 9 on the date format screen represent different ways the parts of the date and time can be written. You can include words, spaces, and other punctuation with these numbers to create a date format. A format can be up to 29 characters in total length.

Format	Display
3 1, 4	March 15, 1990
3 1, 4 — 8:90	March 15, 1990 — 10:55am
DATE: 2/1/5 (6)	DATE: 3/15/90 (Tuesday)
TIME: 8:90	TIME: 10:55am

Inserting the percent sign (%) before a format number adds a zero to any number that is less than ten or abbreviates the names of the months and days.

Format	Display
2/1/5	3/6/90
%2/%1/5	03/06/90
3 1, 4 (6)	November 21, 1990 (Monday)
%3, 1, 4 (%6)	Nov. 21, 1990 (Mon)

Inserting the dollar sign (\$) before a format number adds a space to any number that is less than ten.

Format	Display
2/1/5	3/6/90
\$2/\$1/5	3/ 6/90

The month and day names and their abbreviations are determined by a language resource file (WP.LRS) provided with DrawPerfect.

Language

You can change the language being used for the date with the Language feature (see *Language* in *File Reference*).

Wrong Date and Time

DrawPerfect does not set the date and time. If your computer clock is working correctly, but the wrong date and time are being displayed, you can usually reset the current time using the date and time commands at the DOS prompt. Refer to your DOS manual for more information on these commands.

Delete Files

When you delete a file, keep in mind that you cannot use DrawPerfect to get it back. Once a file is deleted, it is gone.

To help keep close track of the files you are deleting, DrawPerfect lets you display an alphabetical list of all files in a directory. You can then move the cursor through the filenames on the list and delete one file at a time, mark certain files and delete them, or mark all the files in a directory and delete them all at once.

Once a file has been deleted, its name disappears from the file list, and the remaining files are displayed in alphabetical order.

To delete files,

- 1 Select **File** to display the File menu.
- 2 Select **List Files** to display List Files.

*You can also access List Files by pressing **List Files (F5)**.*

- 3 Enter the name of a directory to display the files in that directory.

or

Press **Enter** to display the files in the default directory.

You can enter a filename pattern to display selected files. For example, `b:*.WPG` would list all files with a `.WPG` extension.

- 4 Move the cursor to the file you want to delete.
- 5 Select **Delete** (or press the Delete key) and type **y**, or type **n** if you do not want the file deleted.
- 6 Press **Exit (F7)** to exit the List Files screen.

Multiple Files

You can delete several files at once by marking each file and using the Delete option on the List Files screen.

- 1 Display List Files.
- 2 Move the cursor to a file you want to delete.
- 3 Type an asterisk (*).
- 4 Repeat steps 2 and 3 for every file you want to delete.
- 5 Select **Delete**.

6 Type **y** to delete all the marked files.

or

Type **n**, then type **y** to delete only the highlighted file.

To unmark one file, move the cursor to the file, then type another asterisk. To mark every file, press **Home**, then type an asterisk. To unmark all marked files, press **Home**, then type an asterisk. Each time you delete a file, the space used by that file becomes available. This is one way to solve a “Disk Full” problem.

Short Cuts

After you select **List Files**, the name of the current directory is displayed followed by *.*. These three characters cause all the files in that directory to be displayed (e.g., C:\DRAWINGS*.*) . You can display a certain group of files in a directory and then mark and delete those files.

For example, if a directory contains files with the .WPG extension, changing the *.* to *.WPG (e.g., C:\DRAWINGS*.WPG), then pressing **Enter** will display only the .WPG files. You can then press **Home** followed by an asterisk to mark all the .WPG files, select **Delete**, then type **y** twice to delete them.

Directories

A directory is a special file that holds the names of a group of files. It helps you group your files to keep them more organized. You can organize your directories with the DrawPerfect List Files feature.

To create a new directory while in DrawPerfect,

- 1 Select **F**ile to display the File menu.
- 2 Select **L**ist Files and type an equal sign (=).

or

Select **L**ist Files, press **E**nter and select **O**ther Directory from the List Files menu.

- 3 Enter the name of the new directory (see *Pathnames* below).
- 4 Type **y** to create the directory; type **n** if you change your mind and decide to keep your original directory.

Default Directory Each time you start DrawPerfect, a directory is selected for saving and retrieving files. This directory is called the *default directory*. When you save or retrieve a file, simply enter a filename to save the file to or retrieve the file from the default directory. (If you want to save a file to a directory other than your default directory, enter the full pathname (e.g., C:\DR10\CHARTSALES).)

You can find out which directory is the default by pressing List Files (F5). The directory displayed at the bottom left of the screen is the default directory.

If you specify a drawing files directory using the Location of Files feature, that directory is used as the default directory in DrawPerfect. If you do not specify a drawing files directory, the default directory is initially set to the directory from which you started DrawPerfect (the DOS default directory). See *Location of Files* in *File Reference* for more information.

Changing the Default

To change the default directory while in DrawPerfect, follow steps 1 through 3 above for creating a directory, but enter the name of a directory that already exists rather than a new directory. This will change the default while you are in DrawPerfect; however, if you exit and restart DrawPerfect, the default returns to the drawing files directory (or DOS) directory.

List Files

The List Files feature lets you display all or part of the files in a directory. The date and time the file was last saved and the file size are displayed with each filename. All this information is kept in the directory.

While in the List Files screen, you can display the files in other directories by using the Other Directory option on the List Files menu (see *Look in File Reference*).

**Delete
a Directory**

You can delete a directory from the List Files screen. However, the directory must be empty before DrawPerfect can delete it.

- 1** Move the cursor to a directory (<DIR>) in the List Files screen.
- 2** Select **Delete** or press the Delete key.
- 3** Type **y** to delete the directory.

If the directory contains any files, you will receive an error message. Look in that directory (see *Look in File Reference*), delete or move all files found there, then repeat steps 1 through 3 above.

Pathnames

A full pathname includes the drive, root, and any subdirectory names. Each name is separated by a backslash (\). For example, "C:\DRAW" refers to the DrawPerfect directory on the C drive. "C:\DRAW\TEST" refers to the TEST subdirectory (or file) on the DRAW directory on the C drive.

When you want to create a directory on a drive other than the one you are currently using, or you want to change to a different directory, you must enter the full pathname.

Display Setup

The Display Setup menu contains options for changing the screen display.

- 1 Select **File** to display the File menu.
- 2 Select **Setup** to display the Setup submenu.

You can also access the Setup menu by pressing **Setup** (Shift-F1).

- 3 Select **Display**.
- 4 Select an option and enter the necessary information (see *Menu Options* below).
- 5 Press **Exit** (F7) to exit the Setup menu.

Any settings you change are stored in a file called DR{DR}.SET and are in effect each time you start DrawPerfect.

Menu Options

Read the information below to get a general idea about the menu options on the Display Setup feature. More information about some of the options is found in other sections of *File Reference*.

Colors/Bold Display

This option lets you define the background and foreground color of the menu and the page. It also lets you choose how you want to display the bolded mnemonic letter in menu names and screen messages (see *Colors/Bold Display* in *Reference*.)

Graphics Screen Type

DrawPerfect automatically selects the correct graphics driver for your graphics card and monitor when you start the program.

The Screen Driver files (files ending in .VRS), need to be installed properly before you can start DrawPerfect. If you chose not to install the Screen Driver files located on the Fonts/Utilities 1 and Fonts/Utilities 2 diskettes when you installed DrawPerfect (and have not subsequently installed them), you must do so to start DrawPerfect and to select a graphics driver. Use the DrawPerfect Installation program to install the .VRS files.

For information about Graphics Screen Type, see *Graphics Screen Type* in *File Reference*.

Menu Letter Display

DrawPerfect is designed with mnemonic menus. Rather than selecting a feature with a number, you can use the mnemonic letter. The Menu Letter Display option determines how the mnemonic letter is displayed on the screen. Select this option, then select one of the following attributes: 1 Bold; 2 Underline; 3 Normal.

If you select the Bold attribute, you need to switch to the Colors/Bold Display menu (see *Colors/Bold Display* above) and define how you want the bolded letter displayed. The Colors/Bold menu gives you two options: Show with Graphics and Show in Color, from which you can select. You will not see an actual *bolded* letter until you switch to the Colors/Bold Display menu and select Show with Graphics. (See *Colors/Bold Display* in *File Reference*.)

Text Quality While Editing

This option determines the way text is displayed on the screen while you edit. You can choose to display text in draft, medium, or high quality. Draft quality means text is displayed in an outline format with no curves. Medium quality means text is displayed in an outline format with curves. High quality means the actual font you are using is displayed on the screen as it will appear on the printed page. The default setting for Text Quality While Editing is medium.

When text quality is set to draft or medium, editing time decreases. You are able to type and edit text quickly. In addition, DrawPerfect is able to display draft or medium quality text on the screen much faster than high quality text.

Text Quality While Editing only affects the way text is displayed on the editing screen. If you preview your drawing in the print preview screen, presentation screen, and/or print your drawing, the actual font you selected from the Base Font menu is visible.

View Drawing in Black and White

Setting this option to Yes changes the display of your page in the View Drawing screen to black and white (see *View Drawing* in *File Reference*).

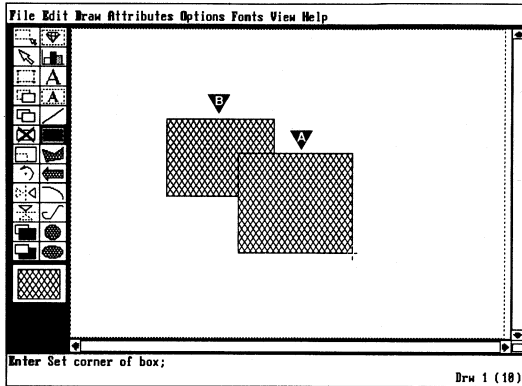
This feature is especially helpful if you have a color monitor and a black and white printer. By setting this option to Yes, you can see more exactly what your drawing will look like when printed.

If you have a monochrome monitor, setting this option has no visible effect.

Automatic Redraw While Editing

If the setting on this option is Yes, DrawPerfect rewrites the screen every time you perform an editing action. For example, suppose you drew two boxes, one overlapping the other.

- ▲ TOP BOX
- ▲ BOTTOM BOX



With a Yes setting, if you move the top box off the bottom box, DrawPerfect immediately redraws both boxes.

However, if the setting on this option is No, DrawPerfect waits until *you* redraw the screen to redraw the objects. In the example above, the bottom box would not be redrawn until you redraw the screen. You can redraw the screen by selecting Redraw from the View pull-down menu, by pressing Redraw (F9), or by moving the cursor on top of the small icon box in the bottom right corner of the screen and pressing Enter. The No setting saves a considerable amount of formatting time during editing operations. No is the DrawPerfect default setting.

When the Redraw option is set to No, DrawPerfect displays a "ReDraw" message in the lower-right corner of the screen. This message reminds you that the screen may need to be redrawn because of the changes you have made.

You can also use Reset Page to redraw the screen; however, keep in mind that Reset Page will not retain a zoom or a pan; the drawing is reset to its original size. See Reset Page in View Reference for more information.

Display Cursor While Drawing

If the setting on the option is Yes, the cursor is displayed while you are drawing. However, you may find it useful sometimes to turn the cursor display off when you are drawing. To turn the cursor display off, select this option, then type **n**.

The default setting for this feature is Yes.

Start With Mini-object

Before you begin drawing certain types of objects, DrawPerfect starts you out with a miniature version. For example, if you select box from the Draw menu, move your cursor onto the screen, and press Enter to begin drawing, a small box appears. Setting the Start With Mini-object option to Yes means DrawPerfect will always start with a mini-object. If you don't want the mini-object displayed, select this option, then type **n**.

The default setting for this feature is Yes.

Filename on the Status Line

Select this option if you want to turn on or off the filename message. When you create or retrieve a file, the filename is listed in the bottom left corner of the DrawPerfect screen.

The default setting for this feature is Yes.

Environment

Like other menus on the DrawPerfect Setup key, the Environment Setup menu offers you several options that let you determine how features will operate the entire time you are in DrawPerfect. This is useful because you can tailor DrawPerfect to your own needs by making the setting once, rather than each time you create a new drawing.

The options on the Environment Setup menu let you:

- Set backup options for safeguarding against losing documents.
- Instruct the computer to sound a “beep” when certain status line messages are displayed.
- Control the cursor speed, cursor step, and acceleration delay.
- Save a drawing in WordPerfect 5.0 format.
- Save a drawing with an even border width.
- Export a file in enhanced .CGM format.
- Control the mapping of colors when images are retrieved into DrawPerfect.
- Determine the units of measure for the Position Display feature as well as other DrawPerfect features that call for a measurement.

To set the options on the Environment Setup menu,

- 1** Select **File** to display the File menu.
- 2** Select **Setup** to display the Setup submenu.

*You can also access the Setup menu by pressing **Setup** (Shift-F1).*

- 3** Select **Environment** to display the Environment menu.
- 4** Select an option and enter the desired information (see *Menu Options* below).

The settings made with this feature remain in effect each time you start DrawPerfect and are stored in the DR{DR}.SET file.

Menu Options

The options on the Environment menu are described below. Information on some of the options can be found in other sections of *File Reference*.

Backup Options

DrawPerfect includes two options for backing up your files—Timed and Original Backup (see *Backup* in *File Reference*).

Beep Options

The Beep Options feature lets you turn the “beep” on or off when messages are displayed on the status line.

Selecting the Beep on Error option and typing **y** causes DrawPerfect to alert you with a beep when an “Error: ...” message appears on the status line. Press **n** to turn off the option.

Cursor Keys

The Cursor Keys feature lets you control how fast the cursor moves across the screen, how fast the cursor accelerates, and the cursor step or increment rate (see *Cursor Keys* in *File Reference*).

WP 5.0 Compatible WPG File

If you are a WordPerfect 5.0 user, you can use the WP 5.0 Compatible Data feature to make all DrawPerfect data compatible with WordPerfect.

Most DrawPerfect data will convert into WordPerfect 5.0 format without the Compatible Data feature turned on. However, there are three items—curve, arc and text—that WordPerfect 5.0 does not recognize. These items will not transfer properly unless you save them with the WP 5.0 Compatible Data feature on.

With the WP 5.0 Compatible Data feature, DrawPerfect converts curves and arcs into small lines, (arranged to imitate an arc or a curve) and text into one of three WordPerfect 5.0 fonts. DrawPerfect maps the current font you are using to one of three WordPerfect vector fonts—Courier, Helvetica, or Times Roman.

If you save a page with the WP 5.0 Compatible Data feature off, then try to retrieve the page into WordPerfect 5.0, all curves, arcs and text will disappear.

DrawPerfect is initially set with the WP 5.0 Compatible Data feature on. You can change the setting by selecting the option and typing **n**.

Saving files with the compatible file feature turned on takes up more disk space. If you own WordPerfect 5.1 or you don't want to switch items between WordPerfect 5.0 and DrawPerfect, you should turn this feature off. (WordPerfect 5.1 is automatically compatible with DrawPerfect .WPG files.)

Save with Even Border Width

When you save a drawing with the Even Border Width option turned on, all extra white space surrounding the drawing is removed and the drawing is saved with a ¼" border. If this feature is turned off, then the entire page is saved, including the drawing and all surrounding white space.

For example, if you retrieve a drawing which was saved with an even border width into a figure box, the drawing fills the box. There is no extra white space. However, if you retrieve a drawing which was saved without an even border width, the drawing and all surrounding white space is retrieved also. The actual drawing is only a part of the figure within the box.

Export Enhanced CGM

This feature lets you convert your DrawPerfect files into .CGM enhanced format (see *Export* in *File Reference*).

Color Mapping When Converting

If you retrieve an object onto the DrawPerfect screen and the color of the object is the same color as the drawing window, the object will “disappear” into the background. However, with the Color Mapping When Converting feature turned on, you can eliminate this problem. Lines that are the same color as the page background are changed to match the color of the page foreground.

For example, if you retrieve an object that was drawn with blue lines onto a blue drawing window, the blue lines are remapped to the current foreground color. See *Colors/Bold Display* in *File Reference* for more information about setting the Page Foreground/Background colors.

Units of Measure

You can choose to change the units of measure used in the Position Display feature, the grid and other features that call for a measurement. Use this option to display measurements in centimeters, inches, points, or 1200ths of an inch (see *Units of Measure* in *File Reference*).

Exit

Exit can quickly take you out of an option, a menu, a drawing, or the DrawPerfect program. It also lets you save any changes you have made.

To exit a drawing from the normal drawing screen,

1 Press **Exit** (F7) to begin exiting.

You are asked if you want to save your work.

2 Type **n** to continue exiting without saving the on-screen drawing, then go to step 4 below.

or

If you want to save the drawing on screen, type **y**.

If you type **y**, you are asked to name the drawing.

3 Enter a filename (see *Entering Filenames* below).

You are asked if you want to exit DrawPerfect.

4 Type **y** to exit DrawPerfect.

or

Type **n** to clear the screen and begin a new page.

Entering Filenames

A standard DOS filename can include up to 8 characters followed by a period and up to 3 more characters after the period.

When an existing filename is displayed, pressing any character key erases the existing filename so you can start typing a new name. However, before you press a character key, you can use Left Arrow (←), and Right Arrow (→) to move through the existing filename and edit it. Use Backspace and Delete (Del) to edit the filename. You can also press Insert (Ins) to move back and forth between inserting and typing over characters.

Each time you enter a filename which already exists, a prompt appears asking if you want to replace the existing file. Type **y** to replace the existing file with the drawing on your screen. If you press **n** (or any other key), you are prompted for a new filename. Enter a different filename to keep both the new and the existing drawings.

Exit vs Save

Exit (F7) lets you save your work and clear the screen so you can begin another drawing. While you are creating your drawing, you may also want to use Save (F10) to save the drawing from time to time without actually exiting (see *Save* in *File Reference*).

Exiting Menus and Options

You can press Exit (F7) to leave menus and submenus or the special editing screen you are in when you create a presentation, a chart, etc.

When you use Exit to leave a menu or an option, any changes you have made are saved for you. If you want to ignore the changes you have made, press Cancel (F1) rather than Exit (F7) (see *Cancel* in *File Reference*).

Exiting Multiple Drawings

In DrawPerfect, you can have two drawings active in memory at the same time (see *Switch* in *File Reference*). If both drawings are open when you type **y** in step 4 above, you are asked if you want to leave the screen you are in (e.g., "Exit Drawing 2? No (Yes)"). Type **n** (or any other key, except **y**) to clear the current screen and remain in it, or type **y** to clear the screen you are in and switch to the other screen.

Exiting DrawPerfect

Never turn off your computer or take your DrawPerfect diskette out of the drive (except when copying files) until you exit DrawPerfect and see the DOS prompt on your screen (for example, A>, B>, C>, etc.).

If you use the Go To DOS or Go To Shell features and are at a DOS prompt, type **exit** then press Enter to return to DrawPerfect, then use Exit (F7) to properly exit DrawPerfect before taking out the DrawPerfect diskette or turning off your computer.

Export

In the software market there are many different graphics programs you can use. Each company that manufactures a graphics package must decide on an internal format for their graphics files. Many companies develop a new format specific to their software, while others use a format already on the market. There is no one standard format.

However, there are a few graphics formats that are used most often and are the most widely supported. The Export feature lets you convert your DrawPerfect files and presentations into one of the four following graphics formats:

- CGM (Computer Graphics Metafile)
- HPGL (Hewlett-Packard Graphics Language Plotter File)
- SCODL (Matrix Instruments Slide format file)
- VideoShow (General Parametrics modified NAPLPS file)

When DrawPerfect exports a file, a new extension is appended to the filename. CGM files will have the .CGM extension. HPGL files will have the .HPG extension, SCODL files will have a .SCD extension, and VideoShow files will have the .VS extension. For example, if you use the CGM export option, the file DOG.WPG will be saved and exported as DOG.CGM.

Exporting Files

When you want to export a file into another graphics format,

- 1 Select **File** to display the File menu.
- 2 Select **Export** to display the Export submenu.

*You can also access the Export feature by pressing **Export** (Ctrl-F5).*

- 3 Select the format in which you want to save the file (see *File Formats* below).
- 4 Enter the name of the file you want to export. (Be sure to include the full pathname if the file is not in your default directory.)

The file is copied and changed to the new export format. For example, if you had a file called DOG.WPG, then exported it to CGM format, you would have two files—DOG.WPG and DOG.CGM stored on disk.

Exporting Presentations

When you want to export a presentation into another graphics program,

- 1 Select **F**ile to display the File menu.
- 2 Select **P**resentation to display the Presentation screen.
- 3 Select **R**etrieve and enter the filename of the presentation you want to retrieve.

or

Add the files you want included in your presentation.

- 4 Select **E**xport to export the entire presentation.
- 5 Select the desired export format (see *File Formats* below).

DrawPerfect cycles through the list of files on the Presentation screen. Each file is copied and changed to the new export format.

- 6 When prompted, enter the pathname for the exported files.
-

File Formats

File format conversion is an inexact process because the commands and capabilities of the different formats vary. The quality of the exported image depends on the complexity and format of the original .WPG file.

Bitmapped data within .WPG files is not transferred to the exported file. Bitmapped data comes into DrawPerfect by importing bitmaps from another format such as TIFF or PCX.

In addition, text is often incompletely specified between formats. This may cause differences in the size and appearance of your text when you export files. Many of the fonts available in DrawPerfect do not have an equivalent in the exported formats. Some experimentation may be necessary to get the desired results.

Specific information about the different file formats DrawPerfect supports (CGM, HPGL, SCODL, and VideoShow), is found below.

CGM Format

DrawPerfect uses two different CGM formats: Standard and Enhanced.

When Standard CGM is used, a DrawPerfect file is converted to CGM format without any enhancements. When Enhanced CGM is used, various enhancements are added to the file, such as a bitstream font listing.

Whether you use Standard or Enhanced depends on where you send the exported file. Some slide services are able to utilize the enhancements included in Enhanced CGM, while others are not. Talk to your slide service bureau for more information.

DrawPerfect contains an option on the Setup menu called Export Enhanced CGM. The default setting for this option is Yes. If you want to export to Standard CGM, you need to change the setting to No (see *Environment in File Reference*).

Standard CGM

DrawPerfect exports CGM files according to the ANSI standard document: ANSI X3.122-1986 Computer Graphics metafile for the storage and transfer of picture description information.

Only 5 line styles are supported in the CGM format. DrawPerfect chooses the most appropriate CGM line style.

Enhanced CGM

Exporting a file to Enhanced CGM format is the DrawPerfect default setting. You can change the default setting through the Setup menu (see *Environment in File Reference*). When Enhanced CGM is used, DrawPerfect includes the following:

- A Font List using Bitstream font numbers. Usually, the metafile interpreter chooses the Swiss (Helvetica) font if it does not find a known font name. Contact the slide services for more information on the suitability of this method of choosing fonts (see *Slide Services* below).
- Some extensions to the CGM format are known as “escapes.” This allows some of the slide services to display mixed-color backgrounds, italic, bold, and underlined text. The possible escapes included in the metafile are -220 for ramped (mixed-color) background, and -211, -214, and -215 for underline, bold, and italics, respectively. Again, contact the slide services listed below to determine the suitability of these enhancements to the CGM file.

HPGL Format

To export a file to the HPGL format, the plotter must support the polygon command to work properly with DrawPerfect polygons.

Text uses the LB command of the HP plotter language. This looks like Helvetica, but the lines are only as thick as what the plotter pen can draw. A maximum of 8 pen colors are used. The colors match the first 8 colors on the DrawPerfect color menu (e.g., 1=black, 2=blue, etc.). Color numbers higher than 8 are reduced to one of the colors between 1 and 8.

All polygon lines, including lines which may be covered (or hidden) by another polygon, are printed by the plotter. This can be somewhat undesirable on the printed output. Therefore, images with overlapping polygons should be exported using the GSS printer driver. Images primarily composed of lines (such as maps) may be satisfactorily exported to the HPGL format.

SCODL

SCODL files are used on equipment manufactured by Matrix Instruments.

Matrix Instruments, Inc.
1 Ramland Road
Orangeburg, New York 10962
(914) 365-0202

Use the MVP software in foreground mode. Load the fonts used in your drawing, load the SCODL file, then follow the instructions that came with the film recorder to develop the image.

VideoShow

VideoShow files are used on equipment manufactured by General Parametrics Corporation.

General Parametrics Corporation
1250 Ninth Street
Berkeley, California 94710
(415) 524-3950

VideoShow files are a combination of the ANSI x3.110-1983 Video/Teletex Presentation Level Protocol Syntax (NAPLPS) standard and extensions which are defined by General Parametrics.

When using the ColorMetric board, the resident drivers supplied by General Parametrics should be installed. To install the resident drivers, type LOADCC at the DOS prompt and press Enter, then type CMTOFC -D and press Enter. This installs the software that communicates between DrawPerfect and the hardware.

DrawPerfect supports scalable fonts in the VideoShow format. Contact General Parametrics to upgrade your software if it does not support scalable fonts. Rotated text is not supported by the VideoShow. VideoShow cannot display very large fonts. Fonts greater than 127 points should not be used. Fill patterns are mapped to colors slightly different than the fill color.

A drawing may be previewed while it is being created by using CM20 as the file name to export to. This sends a copy of the exported file to the ColorMetric board. Similarly, COM1 and COM2 may be used to preview a drawing on the VideoShow machine.

An entire presentation that is intended to run on a VideoShow Presentation Master disk in a VideoShow machine must be exported together using the export option on the DrawPerfect presentation screen. This causes a file called TOFC (table of contents) to be created that lists each file in the presentation.

Exporting from the Export option on the File menu or pressing Export (Ctrl-F5), allows a file in a presentation to be updated or overwritten without modifying the remainder of the presentation.

Presentations that will run on the VideoShow presentation system should be exported to a disk made from the VideoShow Presentation Master diskette. Use DISKCOPY, not COPY, to copy the master disk that comes with the VideoShow presentation equipment.

Slide Services

If you want to make slides with DrawPerfect but do not have access to a film recorder, you can use a slide service bureau.

A slide service bureau is an independent organization that receives graphic file data and transforms the data into slides or transparencies.

To use a slide service, you need to save and send your files in .CGM format (see *Exporting Files* or *Exporting Presentations* above). You can then send the file either by sending a diskette through the mail, or over the phone lines via a modem.

Listed below are names, addresses, and phone numbers of three slide service bureaus you can use to create slides with DrawPerfect. Before you start sending your .CGM files, contact the company you want to use and ask for starter information for DrawPerfect.

MAGICorp
50 Executive Blvd.
Elmsford, N.Y. 10523
(800) 367-6244

Beekman Group
5 Beekman Street (6th Floor)
New York, N.Y. 10038
(212) 406-0766

Brillant Image
141 West 28th Street
New York, N.Y. 10001
(212) 736-9661

We suggest you start by creating a few sample files and then sending them to the slide service to see what works best for you. Most services support the standard fonts, Helvetica (WP Hely) and Times Roman (WP Roman). However, depending on the slide service, the additional character sets may or may not be supported.

Be aware that the slide service output will not always match exactly what is displayed on your screen. Sometimes differences occur in color, fonts, lines, and patterns. Talk to your slide service bureau for more information.

Go To DOS/Go To Shell

When you start DrawPerfect from the DOS prompt, if you have enough memory in your computer, you can use Go To DOS to return to DOS without exiting DrawPerfect.

- 1 Select **File** to display the File menu.
- 2 Select **Go To DOS/Go To Shell** from the File menu.

*You can also access Go To Dos by pressing **Shell** (Ctrl-F1).*

- 3 Select **Go To DOS/Go To Shell**.
- 4 Enter one or more DOS commands if you selected Go To DOS.

or

Enter one or more Shell Commands if you selected Go To Shell.

- 5 Enter **exit** (or press **Exit** (F7) if you are running Shell) to return to the same place that you left in DrawPerfect.

While in DOS, the message “Enter 'EXIT' to return to DrawPerfect” is displayed as a reminder that a copy of DrawPerfect is already running, and you need to return to that copy and exit properly before turning off your computer.

Refer to your DOS manual for information about DOS commands. Do not use the CHKDSK/F or DELETE commands on the DrawPerfect disk while in the new copy of the command processor (see *Memory* below).

Memory

When you select **Go To DOS**, a new copy of the command processor, COMMAND.COM (which is part of DOS) is loaded into memory. If there is not enough memory for the new copy, an error message appears and you are returned to your document.

Any other programs you start while using the new copy of DOS will run if you have enough room left in memory. If there is not enough room, you receive an error message.

Shell

If you are running DrawPerfect from the shell, then selecting **Go To Shell** returns you to the shell. Selecting **Go To DOS** from the Shell menu at the bottom of the Shell screen loads a new copy of the command processor (COMMAND.COM), allowing you to enter DOS commands.

When you finish working in DOS, enter **exit** or press **Exit (F7)** at the DOS prompt to return to the Shell, then type the program letter for DrawPerfect to return to your drawing. Do not try to return to DrawPerfect by entering **dr** from the DOS prompt. This will only load another copy of DrawPerfect.

Do not run any memory-resident programs (TSR, Terminate and Stay Resident programs) in the new command processor.

Graphics Screen Type

Since DrawPerfect can run on different types of display cards with different types of monitors, it needs to know the type of display card and monitor you have. (The method for displaying graphics on the screen differs from display card to display card and from monitor to monitor.)

A graphics driver is one of the files DrawPerfect uses to communicate with a display card and monitor. This file, which ends with a .VRS (Video Resource File) extension, is used to display DrawPerfect graphics. If you are having trouble displaying DrawPerfect, it could be that you have not yet selected the correct graphics driver.

DrawPerfect uses a feature called Graphics Screen Type to select the correct graphics driver. DrawPerfect attempts to select the correct graphics driver for your system when you start the program.

DrawPerfect searches through a list of the most common graphics drivers to find the one you need. These drivers reside in the STANDARD.VRS file which is installed with the DrawPerfect program files and should reside in the directory where DR.EXE is located.

If your driver is not on the list, or if you have a special situation (e.g., two monitors run by the same computer), you will need to select the driver that is designed for that monitor or situation.

To do so,

- 1 Select **File** to display the File menu.
- 2 Select **Setup** to display the Setup submenu.

*You can also access the Setup menu by pressing **Setup** (Shift-F1).*

- 3 Select **Display**, then select **Graphics Screen Type**.
- 4 Move the cursor to the type of display card and/or monitor you have, then choose **Select**.

If you don't know the type of display card and monitor you have, consult the documentation that accompanied them or ask the person who installed them.

- 5 Move the cursor to the name of your specific display card and/or monitor, then choose **Select**.

6 Press **Exit** (F7) until you return to the normal drawing screen.

This setting is stored in the DR{DR}.SET file and remains in effect each time you start DrawPerfect.

**Menu
Options**

Displayed at the bottom of the Setup: Graphic Screen Driver screen is a menu of options. Information about each option is found below.

Select

This option lets you select the type of display card and/or monitor you are using.

Auto-Select

DrawPerfect initially selects your graphics driver for you. If you selected one yourself, but now wish to have DrawPerfect select one for you, go to the Setup: Graphic Screen Driver menu, then choose Auto-Select.

DrawPerfect makes a “best guess” at the type of display card and monitor you have.

Other Disk

The Other Disk option is used in case your display card or monitor is not displayed on the Setup: Graphic Screen Driver menu. For more information, see *Card or Monitor Not Shown* below.

Name Search

The Name Search option on the Setup: Graphic Screen Driver menu helps you easily move the cursor to the name of your display card or monitor. To use the option, select Name Search, then begin typing the name of your display card or monitor. As you type letters, the cursor moves to the first name on the list that matches those letters. Press Enter or an arrow key to exit Name Search.

**Card or
Monitor
Not Shown**

If your display card or monitor is not shown on the menu, then the information for that monitor is not located in the directory where DR.EXE resides.

If you have files ending with a .VRS extension in a directory other than where DR.EXE resides, make sure you are in the Setup: Graphic Screen Driver menu, then select **Other Disk**. After you do so, enter the pathname to where your .VRS files are kept. DrawPerfect will display those files on the Setup: Graphic Screen Driver menu.

If you do not have .VRS files in any directory other than the directory where DR.EXE is located and your display card or monitor is not shown on either of the selection menus, send the name of your display card and monitor, a brief description of the problem you are having, your return address, and your phone number to:

Graphics Driver
Attn: WordPerfect Corporation Information Services
1555 N. Technology Way
Orem, UT 84057

At WordPerfect Corporation we are constantly updating our software and there is a chance that we have created a driver for your display card. In the meantime, consult your display card and monitor manufacturers for a suitable emulation and select that emulation from the list.

The STANDARD.VRS is a suitable emulation for some display cards and monitors. STANDARD.VRS is a special graphics driver that comes with DrawPerfect which contains information for most common display card and monitors. This driver should reside in the directory where DR.EXE is located.

Graphic Driver Not Selected

If you get this error message, it is because DrawPerfect cannot find your graphics driver or the incorrect driver is selected. If this is the case, follow the numbered steps at the beginning of this reference section and select the appropriate driver.

If you still get the error message, try using the Auto-Select option (see *Auto-Select* above).

If you are using a Genius monitor, you need to use the /v startup option to start DrawPerfect and to select the correct graphics driver. The /v option tells DrawPerfect where to find the right driver for your Genius monitor (see *Appendix Q: Startup Options*).

Initial Settings

DrawPerfect comes with predefined settings. The settings include such things as chart type, drawing settings, print options, paper size, etc. With the Initial Settings feature on the Setup menu, you can change the settings for all drawings you create in DrawPerfect.

- 1 Select **File** to display the File menu.
- 2 Select **Setup** to display the Setup submenu.

*You can also access the Setup menu by pressing **Setup** (Shift-F1).*

- 3 Select **Initial Settings** to display the Initial Settings menu.
- 4 Select an option from the menu, then make the desired adjustments (see *Initial Settings Menu* below).
- 5 Press **Exit** (F7) to exit the Setup menu.

Settings changed on the Initial Settings menu remain in effect each time you start DrawPerfect and are saved in the DR{DR}.SET file.

Menu Options

The options on the Initial Settings menu allow you to change default settings for many of the DrawPerfect options.

Language

The Language feature changes the language of the date when you use the Date feature (see *Language* in *File Reference*).

Date Format

This option changes the default styles for the Date Format. See *Date* in *File Reference* for information on changing the date format.

Initial Drawing Settings

When you start DrawPerfect you can immediately begin drawing lines. The Line drawing tool is already selected as one of the default program settings. However, you can change the default drawing tool as well as other default settings by using the Initial Drawing Settings feature. For example, you can start DrawPerfect with a particular font, line width, or text chart selected.

The Initial Drawing Settings feature controls the default settings for many of the graphic options. To change settings, select one or more graphic features you want, enter the desired setting or settings, then press Exit. If you don't know how a particular feature works, look up the specific name in *Reference*. The following options are listed on the Initial Drawing Settings menu:

Draw Command

This option lets you change the default drawing object. You can switch the default Draw Command to Figure, Chart, Text, or one of the eight Drawing Objects.

Charts

The Charts option lets you define the default settings for graph charts and text charts. In addition, you can tell DrawPerfect to display or to bypass the sample chart data that appears in the Graph Edit screen. You can also choose the default color for the Axis, and the default font of the X- and Y-axis names.

Attributes

This option lets you change the default attributes of the eight drawing objects. The attributes include: line color, line style, line width, fill color, fill pattern, and arrow width.

Options

When you select Options, you can tell DrawPerfect which options you want turned on and which options you want turned off when you start DrawPerfect. You can change the settings for the following four options: Freehand, Constrain, Stretch, and Position Display.

Grid

This option lets you define the default settings for the Grid. You can change the setting for Grid Display, Grid Snap, X Size, Y Size, and the Display Interval.

Font

The Font option lets you define the default setting for font size, type, and color.

Print Options

This option controls the binding width, number of copies for a print job(s), print quality, and shading of text (see *Binding* in *File Reference*).

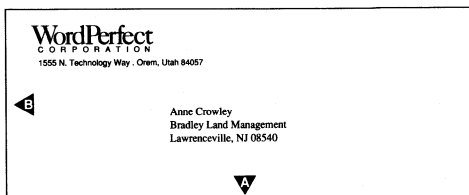
Paper Size/Type

This option lets you change the size and type of the paper you are using (see *Paper Size* in *Options Reference*).

Paper size refers to the dimensions of the paper. The dimensions are determined by the way the page is to be viewed. In other words, the first measurement, width, represents the edge of the paper horizontal to the drawing on the page.

For example, on a 9.5" x 4" envelope, text is parallel to the long edge of the form. The paper width is 9.5". The height is 4".

- ▲ PAPER WIDTH
- ▲ PAPER HEIGHT



Several common paper sizes are listed on the Paper Size menu. You can select a pre-defined size, or you can select **Other** and enter your own dimensions.

Once a size is selected, the dashed line within the drawing window changes to match the selected size. For example, if you select the paper size Square (8" x 8"), then return to the drawing window, you will notice that the dashed line has changed to represent an 8" by 8" square on the screen. The dashed line represents the borders of the page. You cannot draw past the borders.

Page Options

This option lets you create a border around the page, set the margin settings, and enter a percentage of gray shading. You can also shade the preview and presentation screens (see *Page Options* in *File Reference*).

Initial Settings

The following is a list of DrawPerfect initial settings that are found on the Setup menu:

Feature	Setting
Arrow Width	Width 12
Automatic Redraw	No
While Editing	Timed=Yes, Original=No
Backup Options	Error=No
Beep Options	0"
Binding	Monochrome=Bold,
Bold Display	Color=Yellow
Border Style	None
Chart Type	Bar

Color Mapping when Converting	No
Constrain	No
Cursor Speed	30 cps
Cursor Step	10
Date Format	3,1,4 (December 25, 1990)
Display Cursor while Drawing	Yes
Display Interval	1
Double Click Interval	35
Drawing Command	Line
Export Enhanced CGM	Yes
Filename on the Status Line	Yes
Fill Color	Black
Fill Pattern	Pattern 7
Font/Axis Color	Black
Freehand	No
Graphics Quality	Medium
Gray Shading	0%
Grid On	No
Grid Snap On	No
Language	US
Left Handed Mouse	No
Line Color	Black
Line Style	Solid
Line Width	Width 1
Margins	1"
Menu Background Color	Blue
Menu Foreground Color	White
Menu Letter Display	Bold
Mouse Acceleration Factor	24
Mouse Double Click Time	35 (0.35 seconds)
Mouse Port	COM 1
Mouse Type	Mouse Driver (MOUSE.COM)
Number of Copies	1
Page Foreground Color	Black
Page Background Color	White
Paper Size	11" x 8.5"
Position Display	No
Print Quality	Medium
Sample Chart Data	Yes
Save With Even Border Width	No

Shading, Bottom Color	White
Shading, Top Color	Light Cyan
Shading Top to Bottom in View	No
Start with Mini Object Stretch	Yes No
Submenu Delay Time	15 (0.15 seconds)
Text Chart—Title Font	WP Helvetica 60
Text Chart—Title Color	Black
Text Chart—Subtitle Font	WP Helvetica 30
Text Chart—Subtitle Color	Black
Text Chart—Body Font	WP Helvetica 40
Text Chart—Body Color	Black
Text Chart—Bullet Character	[4,3] (•)
Text Color	Black
Text Quality While Editing	Medium
Text Font	WP Helv 30 point
Text Prints Solid Black	No
Units of Measure	Inches (")
View Drawing in Black and White	No
WP 5.0 Compatible WPG File	Yes
(Grid) X Size	0.25"
(Grid) Y Size	0.25"

Keyboard Layout

Many DrawPerfect features are assigned to specific keys. For example, Cancel is assigned to F1, and cursor movement is assigned to the Arrow Keys. The complete set of key assignments to features is called the keyboard definition.

The Keyboard Layout feature allows you to change the key assignments in the original keyboard definition. You can make these changes by selecting an alternate keyboard definition, by editing an existing definition, or by creating a definition of your own.

Alternate Keyboard Definitions

DrawPerfect comes with two predefined keyboard definitions which you can select and edit to suit your needs. Selecting one of these keyboard definitions automatically reassigns new functions to certain keys. Descriptions of the definitions are listed in *Appendix J: Keyboard Definitions*.

The Alternate Keyboard Definitions are found on the Fonts/Utilities 1 & 2 diskettes as files with a .DRK extension.

The Alternate Keyboard Definitions (.DRK files) need to be installed properly before you can use them. If you chose not to install the Keyboard files when you installed DrawPerfect (and have not subsequently installed them), you must do so to use the keyboard definitions. You can install the keyboard files by using the DrawPerfect Installation program.

The way you access these keyboard definitions depends on the type of system you have.

Hard Drive

If you have a hard drive, make sure the .DRK files are in the directory where DR.EXE is located or in the directory you specified for the location of keyboard/macro files (see *Location of Files in File Reference*).

The Installation Program copies the .DRK files to the directory where DrawPerfect (DR.EXE) is located (usually C:\DR10).

Two Disk Drives

If you have a two disk drive system, insert the diskette you labeled Utilities/Help into the drive you are *not* using to run DrawPerfect. Enter the name of the drive (**a:** or **b:**) where the Utilities/Help disk is located as the location of keyboard/macro files (see *Location of Files in File Reference*).

**Using
Keyboard
Layout**

To use the Keyboard Layout feature,

- 1 Select **File** to display the File menu.
- 2 Select **Setup** to display the Setup submenu.

*You can also access the Setup menu by pressing **Setup** (Shift-F1).*

- 3 Select **Keyboard Layout** to display the list of keyboard definitions.

The names of all accessible .DRK files will be displayed.

- 4 Highlight a Keyboard Layout option and select the desired option on the Screen: Keyboard Layout menu (see *Keyboard Layout Options* below).
 - 5 Press **Exit** (F7) to return to the screen.
-

**Keyboard
Layout
Options**

With the Keyboard Layout options, you can create and edit keyboard definitions and choose which definition you want to use.

Select

Selecting a keyboard definition changes your keyboard to the key assignments found in the new definition. Using the arrow keys or the Name Search feature (see *Name Search* under *List Files* in *File Reference*), move to the desired keyboard definition, then choose the Select option.

Keyboard selections remain in effect until you select another keyboard definition or press Ctrl-6. When you press Ctrl-6, DrawPerfect unselects the current keyboard and restores the normal keyboard.

If you have a two disk drive system and select a new keyboard definition, DrawPerfect must have access to the .DRK file containing the definition each time you start DrawPerfect. When you start DrawPerfect, you will need to insert the Utilities/Help diskette containing the .DRK file in the drive you entered for the location of keyboard/macro files. If the diskette is not in that drive, an error message is displayed.

Delete

Select this option, then type **y** to delete the currently highlighted keyboard definition.

This deletes the .DRK file if it is accessible.

Rename

Select this option, then enter a name to rename the highlighted keyboard definition.

Create

This option lets you create a keyboard definition of your own. Select Create, then enter a keyboard name (a maximum of eight characters). After you enter the name, you are placed in the Keyboard Edit screen so you can edit key assignments (see *Edit (Key)* below).

When you finish editing, press Exit until you return to the list of keyboard definitions. The name you entered appears on the list of keyboards and can now be selected.

The new keyboard definition is saved as a file (with the name you entered plus a .DRK extension) to the directory or drive you specified for the location of keyboard/macro files (see *Location of Files* in *File Reference*). If no keyboard/macro directory or drive is specified, the .DRK file is saved to the default directory or drive.

Edit (Keyboard)

Select this option to display the Keyboard Edit screen, which contains all the key assignments for the highlighted keyboard definition.

To edit the keyboard,

- 1 Move the cursor to the desired key.
- 2 Select a Keyboard Edit option, then follow the required procedure (see the option descriptions below).

At the bottom of the Keyboard Edit screen are several options that let you edit, delete, move, or create a key assignment (definition). There are also options to assign a file macro to a key or create a file macro from a key definition.

Edit (Key)

To edit a key definition,

- 1 Select **Edit** from the Keyboard Edit menu to display the Key Edit screen.
- 2 Select **Description**, then enter a new key description.
- 3 Select **Action** to assign a new definition to the key.

The cursor is now inside the Action box. The same keys are used to edit the actions that are used in the File Macro Editor (see *Macros in File Reference*).

While in the Action box, you can assign a text character, an Edit or Cursor Movement action, a DrawPerfect function key feature, a macro command, or a combination of the above to the key. If you assign more than one action (character, keystroke, or command), DrawPerfect executes the functions or commands in the order you entered them and assigns a macro reference number to the new key definition. The macro reference number is displayed in the right column of the Keyboard Edit screen.

The macro reference number is used by DrawPerfect to find the macro if you include the keystroke with the new key definition in a macro (see Macro in File Reference).

To assign a DrawPerfect function key feature, press that function key. The feature name appears in the Action box.

To assign a macro command, press Ctrl-PgUp to display the commands, move the cursor to the desired command, then press Enter. Press Cancel if you do not want to assign a new command. For a list of the macro commands and what they do, see *Appendix M: Macros, Programming Commands*.

Delete

Select this option, then type **y** to delete the key definition. The definition is returned to what it is on the original keyboard definition.

Move

Select this option, then press the key to which you want the highlighted key definition moved. The definition on the new key is replaced.

Create

Select this option, then press an undefined key to create a definition for that key. You are placed in the Key Edit screen (see *Edit* above).

Save Macro

Select this option, then enter a macro name to save the highlighted key definition as a file macro.

Retrieve Macro

Select this option, press a key, then enter a previously created macro name to assign a file macro to that key.

Original

Select this option to change back to the original keyboard definition. You can also press Ctrl-6 to restore the original keyboard. The Ctrl-6 feature functions as the Original command and works from any place in the program.

Name Search

Select this option to move to a keyboard name (see *Name Search* under *List Files* in *File Reference*).

Language

You can change the language being used for the Date Text feature by entering a language code.

- 1 Select **File** to display the File menu.
- 2 Select **Setup** to display the Setup submenu.
- 3 Select **Initial Settings** to display the Initial Settings menu.
- 4 Select **Language**, then enter the letters which represent the language you want to use (see *Language Codes* below).
- 5 Press **Exit** (F7) to return to your drawing.

The language code only applies to the Date Text feature. You can use Date Text (Shift-F5) when you are in text mode (see *Date* under *Text* in *Draw Reference*).

Language Codes

The following list details the languages in which you can display the date, accompanied by the letters used to reference those languages.

Language	Language Code
Catalan	CA
Czechoslovakian	CZ
Danish	DK
Dutch	NL
English—Australia	OZ
English—United Kingdom	UK
English—United States	US
Finnish	SU
French—Canada	CF
French—France	FR
German—Germany	DE
German—Switzerland	SD
Greek	GR
Icelandic	IS
Italian	IT
Norwegian	NO
Portuguese-Brazil	BR
Portuguese-Portugal	PO
Russian	RU
Spanish	ES
Swedish	SV

**Language
Resource File**

In order to know how to format dates, DrawPerfect refers to the WP.LRS (Language Resource) file. When you install DrawPerfect, a WP.LRS file is stored in the same directory where the DR.EXE file is found. If you want to change the information concerning a language, you can do so if you have WordPerfect 5.1. See *Language Resource File* in the *WordPerfect 5.1 Reference Manual* for information on editing the .LRS file. You can retrieve and edit the DrawPerfect WP.LRS file in the same way as you would the WordPerfect 5.1 WP.LRS file.

Keyboard Layout

If a language which you often use contains extended characters, you can create a keyboard for that language by mapping those special characters to the keys of your choice (see *Keyboard Layout* in *File Reference*).

List Files

Each diskette or hard disk stores files in a directory (see *Directories* in *File Reference*). The directory can be the name of the diskette drive (e.g., A:, B:) or a subdirectory on the disk (e.g., \chart). The full name (pathname) of a file includes the directory (e.g., B:CLIENT.1, C:\CHART\CLIENT.1).

The List Files feature lets you change the default directory as well as display the names of the files in a directory. It is an important feature for organizing and working with files.

Using List Files, you can perform such tasks as retrieving, deleting, renaming, printing, and copying a file. You can also change the default directory, look into a file or directory, or change the way the files are listed on the screen.

- 1 Select **File** to display the File menu.
- 2 Select **List Files** to display the name of the default (current) directory at the bottom of your screen.

*You can also access List Files by pressing **List Files** (F5).*

- 3 Enter the name of a directory to display the files in that directory.

or

Press **Enter** to display the files in the default directory.

- 4 Move the cursor to the name of a file.
- 5 Select an option from the List Files menu at the bottom of the file list, and enter any requested information (see *List Files Menu* below).
- 6 Press **Exit** (F7) to return to the DrawPerfect screen.

While entering a directory name, you can include a filename pattern to display selected files. For example, B:.WPG would list all files with a .WPG extension.*

If you cannot remember the name of a file while using Retrieve, you can press List Files at the “Enter Filename:” prompt to try to find a file.

List Files Screen

The List Files screen includes a header, an alphabetized list of the files in the directory, and a menu.

12/22/89 16:18		Directory C:\DRIVE		Free: 2,361,344 Used: 3,696,723		Files: 94	
Drawing size: 20							
<CURRENT>	<DIR>			.. <PARENT>	<DIR>		
ANIMALS .	<DIR>	11/29/89	11:52	ARROWS .	<DIR>	11/29/89	11:52
BUSINESS .	<DIR>	11/29/89	11:52	COMPUTER .	<DIR>	11/29/89	11:52
FLAGS .	<DIR>	11/29/89	11:53	FLOW .	<DIR>	11/29/89	11:53
GRAPHIC .	<DIR>	11/29/89	11:53	LEARN .	<DIR>	12/11/89	11:06
MAPS .	<DIR>	11/29/89	11:53	MILITARY .	<DIR>	11/29/89	11:53
OBJECTS .	<DIR>	11/29/89	11:54	PEOPLE .	<DIR>	11/29/89	11:54
SPECIAL .	<DIR>	11/29/89	11:54	SPORTS .	<DIR>	11/29/89	11:54
SYMBOLS .	<DIR>	11/29/89	11:55	TRANSPOR .	<DIR>	11/29/89	11:55
0514A .VRS	4,866	08/25/89	14:14	ALXNAT .DRK	919	11/28/89	13:24
AMBULANC .WPG	661	08/23/89	13:56	ATI .VRS	6,841	11/06/89	14:50
BICYCLE .WPG	1,347	08/21/89	13:55	BOAT .WPG	890	08/18/89	16:18
BUS .WPG	657	08/23/89	14:08	CALDP011 .FMS	10,894	11/27/89	16:14
CAR .WPG	549	08/23/89	15:18	CHEESE .WPG	1,520	12/07/89	12:04
CDP .COM	3,189	12/08/89	18:19	DR .DRS	579,651	08/25/89	18:49
CR .EXE	384,728	12/15/89	15:43	DR .FIL	225,655	12/15/89	15:43
DR .MRS	5,568	12/04/89	13:49	DRAWT0UP .SHM	672	10/28/89	16:01
DRHELP .FIL	41,256	12/12/89	17:35	DRHELP2 .FIL	51,279	12/12/89	18:02
DRREF .WPG	492	12/22/89	15:51	DRORD .SET	1,604	12/22/89	16:14

1 Retrieve; 2 Delete; 3 Move/Rename; 4 Print; 5 Short/Brief Display;
 6 Look; 7 Other Directory; 8 Copy; F2 Name Search; 9

The *header* includes the current date, time of day, directory name, the size of the file on your screen, the space available on the disk, the amount of disk space being used, and the number of files listed in the directory.

The *list* identifies each file or directory by filename, the size in bytes, and the date and time the file was last saved. An arrow at the bottom or top of the line dividing the filenames indicates more files in that directory that can be scrolled onto the screen. You can use Page Up or Page Down and the Up and Down Arrows (↑/↓) to move through the list. Press Home twice, then Up or Down Arrow (↑/↓) to move to the beginning or end of the list.

Directories and files in the List Files screen are displayed in alphabetical order. All directory names end with <DIR>.

Current and Parent Directories

At the top of each List Files screen is a Current and Parent directory. The current directory is the one listed in the header. If there is more than one directory listed in the header name, then the parent directory is the one listed just before the current directory.

For example, if C:\WORKPICTURE is displayed at the top of the screen in the header, then PICTURE is the current directory and WORK is the parent directory.

**List Files
Menu**

There are nine options on the List Files menu. Descriptions of the options are listed below. Before using an option, you should highlight a file.

Retrieve

A copy of the file is retrieved to your screen. The drawings retrieved are duplicated in size and shape on the screen as they were originally drawn. However, if you select Figure, define a figure box, then use Retrieve from List Files, the drawing fills the area specified by the figure box and is considered a figure, not a file. See *Figure* in *Draw Reference* for information about figures.

Delete

“Delete *filename*? No (Yes)” appears at the bottom of the screen. Type *y* to delete the file; type any other key if you change your mind. Once deleted, a file cannot be retrieved.

Move/Rename

Enter the new filename. You are not allowed to rename a file with the same name as another file.

Print

The file is sent to the printer.

Short/Brief Display

A four-column list of files is displayed on the screen. The size of the file and the date and time the file was last saved is eliminated in the Short/Brief Display screen. This option is useful if you want to get a quick look at all the files in a particular directory.

The Short/Brief Display is also helpful when you want to list files that end in one certain extension, for example, .WPG files. After you select the Short/Brief Display option, DrawPerfect displays the current default directory (e.g., C:\WORK*.*). If you want to display a group of files ending in one extension, simply delete the last asterisk and type the extension (e.g., C:\WORK*.WPG).

To exit the Short/Brief screen and return to the normal List Files screen, select Short/Brief Display again. To exit the Short/Brief screen and return to the DrawPerfect screen, press Exit. If you press Exit without returning to the normal List Files screen, the next time you press List Files you will be placed in the Short/Brief Display screen.

Look

The files in a directory, the DrawPerfect page, or a graphic image, is displayed on your screen (see *Look* in *File Reference*).

Other Directory

Change the default directory or create a directory (see *Directories* in *File Reference*).

Copy

Copy the current file to another file or directory.

When copying to another file within the same directory, you can enter a new filename to create a file, or enter an existing filename to replace a file. When copying to another directory, you can enter a directory and use the same filename, or add a new or existing filename with the directory.

Name Search

Besides using the cursor keys to move through the list of filenames, you can also move the cursor to a specific file by selecting Name Search or by pressing Search (F2), then typing the filename.

When you type the first letter of the name, the letter appears at the bottom of the screen with a "Name Search" message. The cursor moves to the first file that begins with that letter. As you continue to add letters to the name, the cursor moves to the first filename that matches the displayed letters.

You may only need to type part of the filename to move the cursor to that file. You can erase characters with Backspace. Press Enter, Exit, or any cursor key to redisplay the List Files menu at the bottom of the screen.

Marking Files

You can delete, print, or copy a group of files by "marking" each file with an asterisk (*). Move the cursor to a file in the list and type an asterisk. Once the files are marked, select a menu option and enter any requested information.

You can "unmark" a file by moving the cursor to a marked file and typing another asterisk. To mark (or unmark) every file on the List Files screen, press Home, asterisk (*).

Redisplaying List Files

If you have been displaying files or directories from your hard drive, you can press List Files (F5) twice in a row from the normal drawing screen to redisplay the most recently displayed List Files screen.

This feature will not work to display the files on a diskette drive.

Location of Files

To help you more efficiently organize all the files you may use or create, DrawPerfect has included the Location of Files feature.

Location of Files tells DrawPerfect where certain files are located. For example, to send your drawing to the printer, DrawPerfect looks for the printer definition in the Printer Files directory. If no location is specified, the printer may not work.

Before you use Location of Files, you should have created the directory or directories you want to use. You may do so with the DOS MD (make directory) command (e.g., MD C:\DR10\ART) or the Other Directory option on the DrawPerfect List Files feature.

You should also copy the proper files to the appropriate directory (see *File Types* below).

- 1 Select **File** to display the File menu.
- 2 Select **Setup** to display the Setup submenu.

*You can also access the Setup menu by pressing **Setup** (Shift-F1).*

- 3 Select **Location of Files**.
- 4 Select a file type (see *File Types* below).
- 5 Enter the directory or filename of the file.

or

If you have a two disk drive system, enter the drive (**a:** or **b:**) you plan to use to save and retrieve that type of file.

- 6 Press **Exit** (F7) to exit the Setup menu.

Make sure you enter a drive and directory name (e.g., c:\DRAW) when you specify the file location.

If you do not indicate which drive or directory to use for location of files, DrawPerfect will save the files to and attempt to retrieve the files from the current default directory or drive.

File Types

The following file types are listed on the Location of Files menu.

Backup Files

Enter the directory where you want your timed backup files (DR{DR}.BK1 and DR{DR}.BK2) to be stored. If you are using Timed Backup, DrawPerfect creates timed backup files for you in

the directory you specify. If you do not specify a directory, the backup files are stored in the directory where DR.EXE is located (see *Backup* in *File Reference*).

Keyboard/Macro Files

Enter the directory where your keyboard files (files ending in .DRK) and macro files (files ending in .DRM) are located.

Keyboard files contain information for the various keyboard layouts you can use with DrawPerfect, while macro files contain information for DrawPerfect macros. Some keyboard and macro files come with DrawPerfect, and you can also create many more.

Once you enter a directory for this option, all *subsequent* keyboard and macro files you define or execute are saved to or executed from that directory. Simply enter the name of the keyboard or macro when you are defining a keyboard or executing a macro and the file will be saved to or executed from the keyboard/macro directory. There is no need to enter a full pathname for the keyboard or macro.

You may want to move (or copy) previously existing macros to the directory specified for this option. However, if you want to invoke a macro from, create a macro in, or save a macro to a directory other than the one specified as the keyboard/macro directory, you may do so by entering a complete pathname.

***Important:** You should move all previously existing keyboard files to the keyboard/macro directory. Only keyboard files that exist in the keyboard/macro directory can be displayed on the Setup: Keyboard Layout screen.*

For more information on the Keyboard Layout and Macro features, see *Keyboard Layout* and *Macros* in *File Reference*.

Printer Files

This is the directory or drive where your printer files (files ending in .ALL and .PRS) are located. These files are used to help DrawPerfect communicate with your printer. They are created when you go through the printer selection process.

Once you enter a directory for this option, all *subsequent* printer files you define are saved in that directory. You may want to move (or copy) previously existing printer files into the printer files directory.

All printers that you have selected are listed on the Print: Select Printer List, but only the printer files in the printer files directory are shown when you select List Printer Files.

If you want to display printer files that exist in another directory, you should use the Other Disk option (see *Printer, Select in File Reference*).

DrawPerfect also searches in the Printer Files directory for the WP.DRS fonts file.

Figure Library Files

This is the directory or drive where your Graphic Images are located. This directory differs from the other four directories in that files are not automatically saved to the directory or drive you specify. If you want your graphic images saved to this directory you need to specify the full pathname.

However, DrawPerfect will search for and retrieve figure files from the directory you specify for Figure Library Files. (A figure file is defined as any object retrieved by selecting Figure from the Draw menu, or by selecting the Figure icon.) DrawPerfect also searches in the current default directory if it cannot find the file in the Figure Library Files directory.

Drawing Files

Enter the name of the directory where you want your drawings stored. Once you enter a directory for this option, that directory becomes the default directory.

If you want to save a drawing to or retrieve a drawing from this directory, there is no need to enter a full pathname for the drawing. In addition, you may wish to move (or copy) previously existing drawings to the directory specified for this option.

You can change the default directory with the List Files feature. If you do so, drawings will be saved to the new default directory (see List Files in File Reference). Also, the drawing files directory overrides (takes precedence over) any default directory you may enter in the Shell Program.

Of course, if you want to save a drawing to or retrieve a drawing from a directory other than the one specified as the drawing files directory, you may do so by entering a complete pathname.

Look

The List Files menu includes a Look option that lets you view the contents of a DrawPerfect drawing, a graphic image, or a directory.

DrawPerfect Drawing

To view the contents of a DrawPerfect drawing while in the List Files screen,

- 1 With the List Files screen displayed (see *List Files* in *File Reference*), move the cursor to the file you want to look at.

If you want to display the names of the files in a directory, move the cursor to that directory in step 1 (see *Directories* below).

- 2 Select **Look** or press **Enter** to display the file in the Look screen.

The drawing is displayed on the screen with the name of the file in the bottom right corner.

- 3 Select **Next** or **Previous** to display the next or previous file from the List Files screen in the Look screen.

or

Select **Retrieve** to retrieve the drawing to the DrawPerfect screen.

or

Press **Exit** (F7) to return to the List Files screen.

Because you have not actually retrieved the file, you cannot edit the page.

You can also use the Look feature to display drawings which are in different formats, such as .PCX or .CGM.

Directories

You can use Look to display the files in a subdirectory of the current directory. Move the cursor to a directory (“<Dir>” appears in the Size column), then select Look or press Enter. The name of that directory appears in the lower left corner of the screen.

Press Enter again or enter another directory name to display the names of all the files in that directory (see *Filename Patterns* below for details on entering a pattern at this point).

Selecting Look does not change the default directory.

You can select Look with the Parent directory highlighted, then press Enter to move back through the directory path. The path

includes the root directory and all other subdirectories listed after the root directory (see *Directories in Reference*).

For example, if the directory currently being displayed in the List Files screen is C:\DR10\WORK, selecting Look with Parent highlighted, then pressing Enter will display the names of the files and subdirectories of C:\DR10 in the List Files screen. The cursor will be placed on the WORK subdirectory. If you highlight Parent, select Look, then press Enter again, the names of the files and subdirectories of C:\ will be displayed in the List Files screen.

Filename Word Patterns

When you select Look or press Enter with a directory on the List Files screen highlighted, the name of the directory is displayed at the bottom of the screen with a filename pattern that includes all files in the directory (e.g., C:\DR10\WORK*.*)).

You can press Enter to display all the files or type another word pattern to display all the files that match the pattern. For example, entering *.WPG in place of *.* displays only those files that have a .WPG extension.

Macros

The Macro feature records keystrokes and plays them back just as they were recorded, much like the redial feature on a telephone. For example, you may perform one of the following tasks several times a day:

- Create a chart.
- Move the cursor.
- Customize your graphic settings.
- Switch directories.
- Change your base font.

Instead of repeating keystrokes manually each time you need to perform the task, you can define (create) a macro to do it for you.

While the DrawPerfect Macro feature can be as simple as saving a few keystrokes from the keyboard, it also includes a flexible programming language for more complex uses (see *Macros, Macro Editor* in *File Reference*). For most circumstances, you will only need the fundamental macro features. For example, each of the tasks listed above could be included in a macro without using the macro programming language.

There are two steps to using the fundamental macro features. First, you need to define the macro (create it), and then you can execute the macro (run it). For details on these two steps, see *Macros, Define* and *Macros, Execute* in *File Reference*.

If your macro needs are more sophisticated, and you have a fundamental understanding of logical structures and variables, you may want to explore the macro editor and macro programming language (see *Macros, Macro Editor* in *File Reference*). The language includes such features as the following:

- External condition handling
- Logical structures (e.g., if/then, case)
- Subroutine calls
- User-defined prompts and menus
- Variable assignment, storage, and retrieval

The macro language is quite flexible and can be used to create very sophisticated macros. However, if you are new to the macro feature, we recommend that you start with some fundamental macros before jumping into the macro language.

**Keyboard
Layout**

You can also create macros using the Keyboard Layout feature. These macros are assigned to specific keys on the keyboard and can be executed by simply pressing the assigned key (see *Keyboard Layout* in *File Reference* for details).

One advantage to using keyboard layout macros is that you can have multiple keyboard layout definitions, each with different macros assigned to the same keys. For example, you might have one keyboard layout where Alt-b draws a box and another keyboard layout where Alt-b draws a border. Then depending on the task you need, you can change the keyboard layout for the appropriate macro.

Another advantage to using keyboard layout macros is that they are stored together in one keyboard definition file. If you define multiple macros using the Macro feature, each macro is its own file, and multiple macros in individual files will take up more disk space than the same macros in one keyboard file.

Macros, Define

The following instructions describe defining (creating) a macro from a normal drawing screen. If you are new to defining macros, we recommend that you start by following the steps below.

To define a macro,

- 1 Press **Macro Define** (Ctrl-F10) to begin defining the macro.
- 2 Enter the name for the macro (up to eight characters).

You can also hold down Alt and type any single letter, or you can just press **Enter** to name a macro (see *Naming Macros* below).

- 3 Enter a brief description of the macro (see *Macro Descriptions* below).

or

Press **Enter** to define the macro without a description.

At this point you are returned to the normal drawing screen, and “Macro Define” is displayed on the status line.

- 4 Type the keystrokes you want recorded.
- 5 Press **Macro Define** (Ctrl-F10) again to end defining the macro.

The keystrokes are saved in a file in the keyboard/macro directory (unless you specified a full path when naming the macro). The default setting for the keyboard/macro directory is the current default directory, unless you have changed the pathname using the Location of Files option on the Setup menu. See *Location of Files* in *File Reference*.

A macro file is automatically given a .DRM extension by DrawPerfect.

If you try to name a macro with a name that you have already used, DrawPerfect gives you the opportunity to replace or edit the original macro. If you select **Replace**, the original macro definition is deleted, and you can enter a description for the new macro (or just press **Enter**), then begin entering keystrokes for the new definition. If you select **Edit**, you are placed in the macro editing window. If you select **Description**, you can edit the macro description before entering the macro editing window (see *Editing Macros* below).

Mouse

To begin and end defining a macro, you must use the Macro Define function key (Ctrl-F10). In addition, to execute a macro you must use the keys on the keyboard. However, you can use the mouse to record the tasks you want included in your macro.

The way DrawPerfect records mouse movements during the definition of a macro is different than the way DrawPerfect records keystrokes from the keyboard. If you choose to define a macro using the mouse, you will *not* be able to edit the macro mouse movements. Also, the size of the macro increases quickly when using the mouse. We suggest that you limit the complexity of the macro if you want to use the mouse.

Chaining Macros

Chaining macros means that when one macro ends, the next macro starts. You can chain macros both with and without using the macro language. The following example describes how to chain macro B to macro A without using the macro editor.

- 1 Press **Macro Define** (Ctrl-F10) to begin defining macro A.
- 2 Enter **a** for the macro name, then enter a macro description (or just press **Enter**).
- 3 Type the keystrokes for macro A.
- 4 Press **Macro** (Alt-F10) to begin chaining macro B to macro A.
- 5 Enter **b** for the macro name.
- 6 Press **Macro Define** (Ctrl-F10) to end defining macro A.
- 7 If you have not already done so, define macro B.

Pressing **Macro** (Alt-F10) while defining macro A (or any macro), records the keystrokes for starting the macro, but does *not* start macro B. Only when you actually run macro A does DrawPerfect start macro B.

When you start macro A, DrawPerfect runs through all the keystrokes in macro A before starting macro B.

You can expand a simple chain to include several macros by continuing to start one macro while recording another. This takes some careful planning to make sure the macros are chained in the correct order. Start macro B while recording macro A, start macro C while recording macro B, etc.

If you want to chain an *Alt-letter* macro (see *Naming Macros* below), you must first press **Macro** (Alt-F10), then the *Alt-letter* macro keystroke.

You can also nest macros (execute a macro anywhere within another macro). See *Nesting Macros* below.

Editing Macros

DrawPerfect provides a Macro Editor that can be used to edit DrawPerfect macros, whether the macros are simple or complex. However, with some fundamental macros it may be easier to re-create the macro rather than go through the steps of editing it.

If you want to edit a macro, press **Macro Define** (Ctrl-F10), enter the macro name (you don't need to type the .DRM extension), then select **Edit**. You are placed in the macro editing window. You can now edit the macro by deleting codes as desired and pressing function keys to enter function codes. You can also enter programming commands with the Macro Commands key (Ctrl-PgUp). See *Macros, Macro Editor in File Reference* and *Appendix M: Macros, Programming Commands* for details.

You can also edit a macro description by pressing **Macro Define** (Ctrl-F10), entering the macro name, then selecting **Description** (3). Edit the description, then press **Enter** and you are placed in the macro editing window. To exit the macro editing window, press **Exit** (F7).

Ending a Macro Definition

You can press **Macro Define** (Ctrl-F10) to stop defining a macro—even at a message or in a menu.

Macro Commands

The Macro Commands key (Ctrl-PgUp) displays a different menu depending upon the state of DrawPerfect when you press it. If you press it while in the Macro Editor, it displays a list of the macro language commands (see *Appendix M: Macros, Programming Commands* for details). If you press it while in a drawing screen, it allows you to enter a variable for macro programming. And if you press it while defining a macro, the following four options become available:

Pause

You can insert a pause that will let you enter text from the keyboard while the macro is running. Select **Pause** (1). At this point, you can type any keystrokes (except **Enter**), and these keystrokes will not be included in the macro. Then press **Enter** to insert the pause. Once you have inserted the pause, you can continue defining the rest of the macro.

When the macro is running, DrawPerfect pauses for an entry from the keyboard. You can then type any text and press **Enter** to continue running the macro.

Display

A macro usually executes a task without displaying the various prompts and screens that are included in the task. If you want to see the screen change as the macro executes, you must turn on the display while defining the macro.

To do so, press **Macro Commands** (Ctrl-PgUp), select **Display**, then type **y** (or type **n** to turn off the display).

Assign

The macro language lets you assign values to variables. The Macro Commands key lets you assign variables without being in the Macro Editor. Select **Assign**, enter the variable name or number, then enter the value you are assigning to the variable.

For details on variables, see *Appendix N: Macros, Variables*.

Comment

The macro language lets you insert comments to document your macro. These comments can be seen in the macro editing window but do not disturb macro execution. You can insert a comment while defining a macro using the Macro Commands key. Select **Comment**, type the text of the comment, then press **Enter**. The comment is inserted into the macro but can only be seen in the macro editing window. For details on macro comments, see *Appendix M: Macros, Programming Commands*.

Macro Descriptions

A macro description can be used to describe the contents of a macro. It is displayed at the top of the macro editing screen (see *Macros, Macro Editor* in *File Reference*). The description can be up to 39 characters long. You cannot view a macro description by selecting **Look** from **List Files**.

You do not have to enter a description for a macro. You can press **Enter** to bypass the description.

Naming Macros

Before you define a macro, you are asked to enter a name. There are three ways to name a macro:

- Enter one to eight characters.
- Hold down **Alt** and type a letter from A to Z.
- Press **Enter**.

DrawPerfect adds a .DRM extension to all macro names.

The advantage to using an *Alt-letter* macro name is that to execute the macro, you simply press the *Alt-letter* keystroke without pressing the Macro key.

If you named a macro with the Enter key, DrawPerfect names the macro DR{DR}.DRM. However, you do not have to enter this name when you execute the macro. Just press **Macro** (Alt-F10), then **Enter**.

If you want to edit a macro named with the Enter key, press **Macro Define** (Ctrl-F10), then enter **dr{dr}**. If you just press **Enter** after pressing Ctrl-F10, the existing Enter macro will be replaced.

Macros are saved as files in the keyboard/macro directory and can be copied like other files (see *List Files in Reference*). If no directory is specified using the Location of Files feature in Setup, then the macro is saved in the default directory (usually DR10). When you execute a macro (see *Macros, Execute in Reference*), DrawPerfect looks for the macro in the keyboard/macro directory first (specified in Location of Files) and then the default directory (where DR.EXE is located) next.

You can define macros using full pathnames (e.g., B:\CHART, C:\CLIENT\CHART). This is useful if you want to store macros in directories other than the keyboard/macro directory. Remember, if you give a macro a full pathname when you create it, you will most likely have to use that full pathname when you execute the macro.

Nesting Macros

You can use *Alt-letter* macros to *nest* one macro inside another macro. You do this by pressing **Alt**, then the letter of the macro while you are defining another macro. Unlike chained macros, DrawPerfect does not wait until it completes the first macro before executing the nested macro. Rather, it executes the nested macro at the point it is inserted, and then continues executing the original macro after executing the nested macro.

Macros, Execute

The instructions for executing (running) a macro depend on the way you named the macro when you defined it. If you named a macro using the Alt key (see *Macros, Define* in *File Reference*), you can execute it by holding down Alt and typing the letter you used to name the macro. You do not have to press the Macro key.

If you named the macro any other way,

- 1 Press **Macro** (Alt-F10).
- 2 Enter the macro name, or press **Enter** (if you named the macro with the Enter key).

When you enter the macro name, you do not have to include the .DRM extension that DrawPerfect adds to macro names.

/m Startup Option

You can have a macro execute automatically each time you start DrawPerfect using the /m startup option (see *Appendix Q: Startup Options*).

Pathnames

You can execute macros using full pathnames (e.g., B:\CHART, C:\SALES\CHART). This is useful if you want to execute macros from directories other than the keyboard/macro directory (see *Location of Files* in *File Reference* for details on the keyboard/macro directory).

Stopping a Macro

You can press **Cancel** (F1) to stop a macro while it is running. A macro also stops if an error is detected.

You can change these conditions using advanced macro commands. For details, see *Appendix M: Macros, Programming Commands*.

Macros, Macro Editor

The Macros feature lets you create and edit macros using a programming language. Macro programming is done in the Macro Editor.

The Macro Editor is a special editing window that shows you the individual commands (keystrokes, etc.) of your macro. You can insert macro programming commands, keystroke commands, and text into your macro. Each command is displayed in braces ({}). Characters and numbers appear without braces.

Before you can edit a macro, you must first define one. See Macros, Define in File Reference for information about defining a macro.

To edit an existing macro,

- 1 Press **Macro Define** (Ctrl-F10).
- 2 Enter the name of your macro.

You are given the option of replacing the old macro:

YOURMAC.DRM Already Exists: 1 Replace; 2 Edit;
3 Description: 0

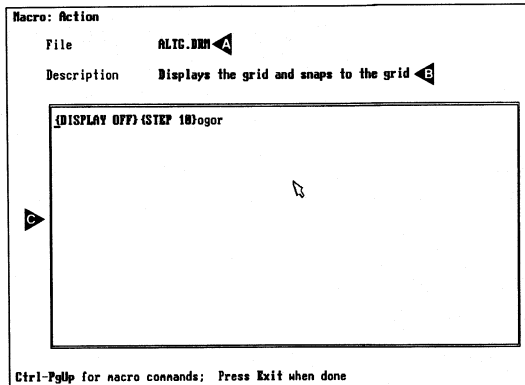
If you choose **Replace**, your old macro is deleted. You are prompted to enter a description, then you are placed in the normal drawing screen where you can begin defining the new macro.

If you choose **Edit**, DrawPerfect brings up your macro and puts it in the Macro Editor where you can edit it.

If you choose **Description**, you are prompted for your description, then placed in the Macro Editor.

If you choose to edit your macro, you are placed in the Macro Editor screen. The Macro Editor screen displays the name of the macro, its description (your explanation of its function), and the keystrokes and commands that you have inserted.

- A** MACRO NAME
- B** MACRO DESCRIPTION
- C** EDITING WINDOW



The {DISPLAY OFF} and {STEP *n*} commands are inserted at the beginning of all macros. (For information on the {DISPLAY OFF} and {STEP *n*} commands, see *Appendix M: Macros, Programming Commands*.)

However, if a macro that you define from the normal drawing screen ends at a menu (e.g., Print or File pull-down) or contains a {PAUSE}, the {DISPLAY OFF} command is deleted to let you see the menu.

Inserting Text

Once you are in the Macro Editor, you can insert and delete text, keystroke commands, and macro commands, and format your macro.

You can insert text by simply typing it at the desired location. To move your cursor through the macro, use the cursor control keys. The cursor keys, as well as Enter, Tab, Page Up (PgUp), Page Down (PgDn), Delete, Backspace, and End, perform as if in text mode.

Spaces that you type appear as centered dots in the Macro Editor screen.

You can use Tab and Enter to make your macro more readable. The tabs and hard returns do not affect the execution of your macro. (For details, see *Inserting Editing Keys and Keystroke Commands* below.)

Comments can also help make a macro easier to read and edit. See *Macro Commands* under *Macros, Define* in *File Reference*. See also *Appendix M: Macros, Programming Commands*.

Inserting Macro Programming Commands

You can insert both macro programming commands (e.g., {DISPLAY ON}, {IF}) as well as DrawPerfect keystroke commands (e.g., {Right}, {Up}) into your macro.

All commands are bolded and enclosed in braces. However, those commands that are assigned to a keystroke are shown in initial capital letters ({Right}), while the macro programming commands (those commands not assigned to a keystroke) are shown in all capital letters ({DISPLAY ON}).

To insert macro programming commands into your macro,

- 1 Move the cursor to where you want to insert the command.
- 2 Press **Macro Commands** (Ctrl-PgUp) to display the Macro Commands menu. You can scroll to the desired command or you can use Name Search.
- 3 When you have highlighted the command you want, press **Enter** to insert it into your macro.

Press **Cancel** (F1), **Escape**, or **Exit** (F7) to exit the Macro Commands menu without inserting a command.

You can use the cursor keys to move around in the Macro Commands menu. Pressing the Space Bar moves the cursor to the top of the menu.

Name Search is active while you are in the Macro Commands menu. To use Name Search, start typing the name of the command you want to insert. (You do not need to type the opening brace {}, just the letters.) The letters you type appear in the lower left corner of your screen, and the cursor moves to the command that most closely matches those characters. You can press **Enter** to insert the command, or you can press one of the arrow keys to reset Name Search (so that you can type characters for another command) and to move the cursor.

You cannot simply type a macro command surrounded by braces—it must be retrieved from the Macro Commands menu. Each macro command that you insert into your macro is treated as a single unit by the Macro Editor. Therefore, each command is deleted with a single delete keystroke.

Most commands require a specific syntax. For more information, see *Appendix M: Macros, Programming Commands*.

Inserting Editing Keys and Keystroke Commands

Besides using the editing keys (e.g., Enter, arrows, Home, Backspace, PgUp) for editing your macro, you may want to insert editing key commands into your macro.

You must enter the Command Insert mode before pressing the key to insert the following commands: macro commands (Ctrl-PgUp), variables, certain control characters, keyboard macro names, and cursor keys.

To enter Command Insert mode, either press **Ctrl-v**, which places you in Command Insert mode for the following keystroke, or press **Ctrl-F10**, which places you in Command Insert mode until you press **Ctrl-F10** again.

Command Insert mode tells DrawPerfect to insert the command for any key you press. For example, to insert the {Enter} command into your macro, press **Ctrl-v**, then press **Enter**.

If you only need to insert one cursor key, etc. into your macro, press **Ctrl-v**, then the key. However, if you will be inserting many of these commands, enter the Command Insert mode by pressing Ctrl-F10. While in this mode, each key you press will insert that key's command. When you want to use the editing keys to edit, press Ctrl-F10 again to return to edit mode.

You can insert most of the function key commands simply by pressing the corresponding feature key. For example, press **Stretch** (Ctrl-F9) to insert the {Stretch} command into your macro.

If you want to have your macro view a document, press **Print** (Shift-F7), then type **v**. Your macro should then look like this: {Print}v in the macro editing screen.

However, there are four functions which are executed when you press the corresponding keys: Macro Define (Ctrl-F10) (toggles Command Insert mode as described above), Cancel (F1), Help (F3), and Exit (F7). If you want to insert {Cancel}, {Exit}, and {Help} into your macro, first enter Command Insert mode, then press the function key.

You can only insert {Macro Define} into your macro by first pressing **Ctrl-v**, then pressing **Macro Define** (Ctrl-F10).

Macro Size Limit

The Macro Editor has a limit on the size of macro that it can hold (5K is the maximum). If you are editing a macro, the Macro Editor simply stops inserting your commands or text when you

reach this limit. You can use {CHAIN} or {NEST} to overcome this limitation (see *Appendix M: Macros, Programming Commands*).

If you have created a macro (e.g., in the normal drawing screen) that is larger than can fit in the Macro Editor, the error message “Not enough memory,” appears and you are returned to the normal drawing screen.

Message Display

You can position your cursor and text on the screen, as well as change attributes of the text prompts that you display. See *Appendix L: Macros, Message Display* for details.

Programming Commands

There is a wide range of programming commands that you can use in your macro. See *Appendix M: Macros, Programming Commands* for details.

Variables and Expressions

You can assign values to variables and store text in variables. See *Appendix K: Macros, Expressions* and *Appendix N: Macros, Variables* for details.

Mouse Functions

A “mouse” is a piece of hardware that connects to your computer to perform different operations. While you don’t need a mouse to run DrawPerfect, DrawPerfect supports most common mice. Mice can be used for three operations in DrawPerfect:

- Cursor Movement
- Drawing and Editing
- Feature and Option Selection

Information on performing these operations is listed below.

Before you begin using the mouse, you should have installed the mouse according to the instructions in the documentation that came with your mouse. You should also have used the Mouse Setup menu to give DrawPerfect information about your mouse (see *Mouse Setup* in *File Reference*).

Cursor Movement

Using the mouse, you can move the cursor anywhere on the screen. When you move the cursor outside of the drawing window it changes to an arrow which you can use to point to a pull-down menu title, a menu option, or an icon.

Depending on your experience using a mouse and the mouse acceleration factor, you may feel that the cursor is more or less responsive than it should be to mouse movement. By changing the acceleration factor, you can adjust the responsiveness of the cursor to actual mouse movement (see *Mouse Setup* in *File Reference*).

Drawing and Editing

At the bottom of the DrawPerfect screen, prompts are often displayed to tell you which keys need to be pressed when you draw and edit. For example, “**Enter** Select/Unselect objects; **Space** Move” is one of the prompts that will appear. You can use the keys on the keyboard for Enter and Space, however, you can also use the mouse buttons.

Right Mouse Button

The right mouse button functions as the Space Bar. However, when you are inserting text, you must use the Space Bar on the keyboard to insert spaces between text characters.

Left Mouse Button

The left mouse button functions as the Enter key.

**Feature and
Option Selection**

The mouse can be used to select any DrawPerfect feature or option. You can use the mouse to select features and options in combination with DrawPerfect keystrokes, or you can use the mouse exclusively.

Right Mouse Button

When you click the right mouse button, it performs the same function as if you had pressed Exit (F7). In many DrawPerfect menus, this exits you out of the menu. The right button does not exit you out of DrawPerfect. If you want to do so with the mouse, you must select Exit from the File menu.

Left Mouse Button

The left mouse button lets you select menu options. By holding down the left button in the pull-down menus, you can move the cursor through the option names. In other menus, clicking the left button highlights the menu item where the cursor is located. Clicking the left button on a menu option which is already highlighted selects that option. See *Selecting Menu Options* below.

Selecting Menu Options

To select an option from any DrawPerfect menu, including pull-down menus, you can move the cursor to that item, then click the left mouse button. Or, you can press the left button, drag the highlighted cursor to the item you want, then release the left button.

You can also click on prompts such as “F4 Indent” or “F3 Help” to select the key to which the prompt refers.

More information about the pull-down menus can be found under *Pull-Down Menus* in *Basic Concepts*.

Yes/No Options

When an option gives you two choices, Yes and No, the default response is shown without parentheses. Clicking the left button on Yes sets the option to Yes, while clicking the left button on No sets the option to No.

If you simply want to accept the default response, click the right mouse button.

Cancel

One of the most commonly used features in DrawPerfect is Cancel. Among other things, you can use Cancel to unselect objects, cancel out of menus, and restore deleted objects. You can access Cancel with a two- or three-button mouse.

Center Mouse Button

Clicking the middle button on a three-button mouse performs the same function as the Cancel key (F1).

Both Right and Left Mouse Buttons

You can press the right and left mouse buttons at the same time to perform the same function as the Cancel key (F1).

**Clicking and
Double-Clicking**

Pressing a mouse button, then releasing it is called clicking. Clicking the mouse button twice in rapid succession is called double-clicking. Be aware that double-clicking the left button acts the same as pressing the left button, then pressing **Enter**. This is especially useful when you want to define the entire DrawPerfect window as a text box or chart area, and in menus such as List Files, Base Font, and Printer Selection where a list of items is displayed.

Double clicking when creating a text window or chart lets you define the entire drawing window as the text window or chart area. Double clicking in List Files, Base Font, and Printer Selection is useful because the first click highlights the item you want to select, then the second click acts as the Enter key. In List Files, this lets you quickly view a drawing. In Base Font and Printer Selection, this lets you quickly select a base font or a printer.

DrawPerfect can tell the difference between two separate clicks and a double click by checking the Double Click Interval setting used in the Mouse Setup menu.

If you click a mouse button twice within the double-click interval, DrawPerfect considers it a double-click. If you exceed the double-click interval in clicking the mouse button twice, DrawPerfect considers it as two separate clicks.

Information on setting the double-click interval can be found under *Double Click Interval* in *Mouse Setup* in *File Reference*.

**Mouse and
Keystrokes**

You can use the mouse and DrawPerfect keystrokes in combination with one another or exclusively. For example, you can use the mouse to move the cursor or select a menu option, then in the next operation use the keystrokes.

With few exceptions, DrawPerfect is designed to let your mouse work anywhere that keystrokes work.

Mouse Setup

You can use the keyboard or a mouse with DrawPerfect. Before using a mouse, however, you need to install your mouse according to the instructions in your mouse documentation. Then you should give DrawPerfect the information it needs in the Mouse Setup screen.

If your mouse documentation instructs you to install MOUSE.COM, don't do so before using the DrawPerfect Mouse Setup menu (see Type under Notes below).

The Mouse Setup menu is used to tell DrawPerfect the type of mouse you are using and where it is plugged into the computer. Since DrawPerfect supports several different kinds of mice, it is important for DrawPerfect to know which mouse you have and where it is located.

The Mouse Setup menu is also used to tailor mouse operation to your level of mouse experience. Settings on the menu let you change mouse responsiveness, and select a delay time for the display of submenus.

For information about how to use a mouse in DrawPerfect, see Mouse Functions in File Reference.

To change a setting on the Mouse Setup menu,

- 1** Select **File** to display the File menu.
- 2** Select **Setup** to display the Setup submenu.
- 3** Select **Mouse** to display the Mouse Setup menu.
- 4** Select a setup option and make the necessary changes (see the Menu Options below).
- 5** Press **Exit** (F7) to return to the normal editing screen.

The settings on the Mouse Setup menu are stored in the DR{DR}.SET file and are in effect each time you start DrawPerfect.

Menu Options

The options on the Mouse Setup menu are described below.

Type

A mouse driver is a set of information that helps DrawPerfect communicate with your mouse. Without this information, your

mouse cannot work properly in DrawPerfect. The Type option is used to help DrawPerfect select the correct mouse driver.

For information on using this option, see *Mouse Type* in *File Reference*.

Port

The port is where your mouse is plugged into your computer. If you have a serial mouse, you must select the proper location. If you have a bus mouse, you don't need to use this option.

If you do not know the proper location, there are four choices and you can try each one until your mouse works properly. Or, you can try asking the person who installed your mouse.

Double-Click Interval

As you use the mouse in DrawPerfect, you will learn that pressing a mouse button, then releasing it is called "clicking" and clicking the mouse button twice in rapid succession is called "double-clicking."

The double-click interval determines the difference between a click and a double-click. If you don't click the mouse button twice within the double-click interval, you are clicking the mouse twice rather than double-clicking. The double-click interval is measured in 100ths of a second, so you can enter 50, for example, to make the double-click time one-half of a second.

Double clicking is helpful when you want to define the entire DrawPerfect screen as a figure box, text window, quickly view the contents of a file in List Files, select a Base Font, and select a printer. Instead of pressing Enter twice from the keyboard, you can double-click the left mouse button.

Submenu Delay Time

The Submenu Delay Time setting determines how long the cursor must rest on a pull-down menu item that has a submenu before the submenu is displayed.

The submenu delay time is measured in 100ths of a second, so you can enter 50, for example, to make the submenu delay time one-half of a second.

Pull-down menu items with submenus are displayed with a prompt (>) at the immediate right of the item.

Acceleration Factor

The cursor is controlled by moving the mouse. Depending on your experience using a mouse and the mouse acceleration factor,

you may feel that the cursor is more or less responsive than it should be to mouse movement. Using DrawPerfect, you can adjust the mouse acceleration factor.

The acceleration factor determines how responsive the cursor is to actual mouse movement. The smaller the acceleration factor, the less responsive the cursor is. For example, if you set the acceleration factor to 30, the cursor will be less responsive to mouse movement than if you set the acceleration factor to 200.

You may want to experiment with different settings to find which is most comfortable for you.

You can set the acceleration factor to any number between and including 1 and 1200.

Left-Handed Mouse

This option lets you tell DrawPerfect whether you are using the mouse with your left hand. If you set this option to Yes, the operations that are normally performed with the left mouse button are performed with the right mouse button and vice versa.

If you set this option to Yes, keep in mind that the documentation is written for the default setting which is No. Thus, instructions pertaining to the left mouse button will apply to the right mouse button and vice versa.

Mouse Type

Since DrawPerfect can support several different types of mice, it needs to know the type of mouse you have. The method for supporting mouse functions differs from mouse to mouse.

A mouse driver is the file DrawPerfect uses to communicate with a mouse. This file, which ends with a .IRS (input resource file) extension, is used to support mouse functions such as cursor movement, and selecting DrawPerfect features and options.

If you are having trouble performing any of these functions with the mouse, see *Mouse Setup* in *File Reference* to make sure you are using the mouse correctly and that you have the correct mouse driver selected.

DrawPerfect uses a feature called Mouse Type to select the correct mouse driver. When you install DrawPerfect, it selects a generic mouse driver called MOUSE.COM which works with most mice. However, you should check the Mouse Type screen to see if your mouse is one of the supported types.

The list of mouse drivers on the Setup: Mouse Type menu comes from a file called STANDARD.IRS. This file is installed with the DrawPerfect program files and should reside in the directory where DR.EXE is located.

To select your mouse driver from the Mouse Type screen,

- 1 Select **File** to display the File menu.
- 2 Select **Setup** to display the Setup submenu.

*You can also access the Setup menu by pressing **Setup** (Shift-F1).*

- 3 Select **Mouse**, then select **Type**.
- 4 Move the cursor to the type of mouse you are using, then press **Enter** to select it.

Notice that the same mouse may have two or more options such as serial and bus. These options refer to how your mouse is connected to your computer. You should be able to tell which option to choose from the documentation that came with your mouse. You can also check the underside of your mouse, which often has a sticker giving you information about the mouse.

- 5 Press **Exit** (F7) until you return to the normal drawing screen.

The mouse type setting is stored in the DR{DR}.SET file and remains in effect each time you start DrawPerfect.

Mouse Not Shown

If your mouse is not shown on the Setup: Mouse Type menu, then the information for that mouse is not located in the directory where DR.EXE resides.

If you have files ending with a .IRS extension in a directory other than where DR.EXE resides, make sure you are in the Setup: Mouse Type menu, then select **Other Disk**. After you do so, enter the pathname to where your .IRS files are kept. DrawPerfect will display those files on the Setup: Mouse Type menu.

If you do not have .IRS files in any directory other than the directory where DR.EXE is located and your mouse is not shown on the Setup: Mouse Type menu, send the name of your mouse, your return address, and your phone number to:

Mouse Driver
Attn: WordPerfect Corporation Information Services
1555 N. Technology Way
Orem, UT 84057

At WordPerfect Corporation, we are constantly updating our software and there is a chance that we have created a driver for your mouse. In the meantime, select the generic "Mouse Driver" from the Setup: Mouse Type menu (see *MOUSE.COM* below).

MOUSE.COM

If the name of your mouse is not listed on the Setup: Mouse Type menu, select the generic "Mouse Driver." This instructs DrawPerfect to use a mouse driver called MOUSE.COM.

MOUSE.COM is a program that comes with your mouse. You must run MOUSE.COM before starting DrawPerfect if you plan to select "Mouse Driver." Information on running MOUSE.COM should be found in the documentation that came with your mouse.

On the other hand, if the name of your mouse is listed on the Setup: Mouse Type menu, and if you don't use your mouse with any other program on your computer, you don't need to run MOUSE.COM. The DrawPerfect mouse driver will be all that you need to support your mouse.

Menu Options

At the bottom of the Mouse Type screen is a menu. Information about the menu options is found below.

Select

This option lets you select the type of mouse you are using. Move the cursor to the mouse type you want, then choose **Select**.

Auto Select

DrawPerfect initially selects the generic “Mouse Driver” (see *MOUSE.COM* above). If you selected a mouse driver yourself, but now wish to have DrawPerfect “unselect” the driver you selected, go to the Setup: Mouse Type menu, then choose **Auto-Select**.

Other Disk

The Other Disk option is used in case your mouse is not displayed on the Setup: Mouse Type menu. For more information, see *Mouse Not Shown* above.

Name Search

The Name Search option helps you easily move the cursor to the name of your mouse. To use the option, select **Name Search**, then begin typing the name of your mouse. As you type letters, the cursor moves to the first name on the list that matches those letters. Press **Enter** or an arrow key to exit Name Search.

Page Options

The Page Options feature is used to create a border, define the margins, and shade the DrawPerfect page.

- 1 Select **File** to display the File menu.
- 2 Select **Setup** to display the Setup submenu.

*You can also access the Setup menu by pressing **Setup** (Shift-F1).*

- 3 Select **Initial Settings** to display the Initial Settings menu.
- 4 Select **Page Options**.
- 5 Select an option, then make the necessary changes (see *Options* below).
- 6 Press **Exit** (F7) until you return to the page.

Options

There are seven options on the Page Options menu. A description of each option is found below.

Border Style

This option sets the style for all four borders of your page. Select an option for each border, or press Enter to leave a setting as it is. The border is positioned at the margin. For example, if you set your margins at 1 inch, the border is positioned 1 inch away from the edge of the page.

The border is not visible in the main drawing window; however, it is visible when the drawing is printed.

Margins

This measurement refers to the amount of space you want between the edge of your page and your border and/or graphics. Enter a setting for each page side or press Enter to leave a setting as it is.

Gray Shading

Gray shading refers to the amount of shading on the page. Select this option to enter a shading intensity (by percentage) for the page. The higher the percentage entered, the more the page is shaded (100% means the page is black). The gray shading is visible in print preview and on the printed page.

Gray Shading is disabled in print preview if you have the View Drawing in Black and White option turned on (see *Display Setup* in *File Reference*).

Shading Top to Bottom in Preview

The Shading Top to Bottom feature can be used to shade the print preview and presentation screen background. First you define a band of color for the top of the screen, then a band of color for the bottom. Between the top and bottom colors, DrawPerfect displays several different tints or shades of the two defined colors. If you have a monochrome monitor, you can shade the screens with patterns.

For example, if you defined white as the top color and black as the bottom color, the color in the preview screen would progressively shift from white, to light gray, medium gray, and then dark gray, until the tint matched the black color at the bottom.

The color shading feature is especially useful when you are displaying graphics as part of a presentation. The shading is only visible in print preview and presentation screens and cannot be printed.

If you export a file to Enhanced CGM or VideoShow format, the top and bottom colors are saved with the file. If the file is sent to a slide service bureau, the colors are used to print the background.

Top Color

The Top Color option lets you define a top color to use with the Shading Top to Bottom in View feature.

Page Background Color (Bottom Color)

Select this option to change the color of the drawing window and to define a bottom color to use with the Shading in View feature. The color you choose is used for both the Page Background and the Shading Top to Bottom in View feature.

Page Foreground Color

Select this option to change the foreground color of the drawing window. The page foreground area includes the cursor, the dashed line surrounding the drawing window, and the status box.

Presentation

The Presentation feature, or slide show, lets you organize a list of different drawings and then display each listed graphic, one at a time, on a monitor.

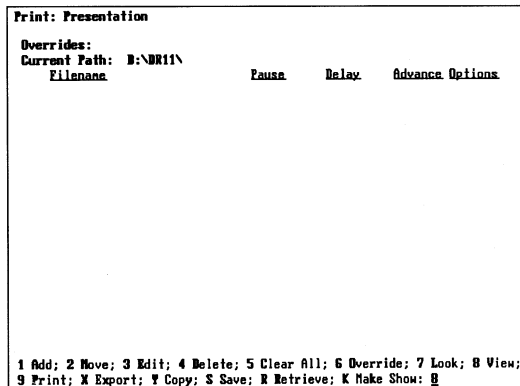
Today, many presentations are being generated on a computer in slide show format. The slide shows are easy to create and yet can be very powerful and eye-catching, especially if a large-screen display is used.

Using the Presentation feature, you enter the names of the files you want in your slide show, define the amount of time you want each graphic displayed, and select the type of advance option you want. You can also edit, save, print, export, and retrieve a presentation.

- 1 Select File to display the File menu.
- 2 Select Presentation to display the Presentation screen.

Presentation is also listed as an option on the Print menu; see Print in File Reference.

The Print: Presentation screen appears.



At the top of the screen, the words “Overrides” and “Current Path” appear. Overrides lists the override settings you select (see *Override* below). Current Path shows you the current directory from which DrawPerfect will retrieve your presentation files (this is usually listed as your default directory). You can change the Current Path by pressing **List Files** (F5) then typing an equal sign

(=), or simply by entering the full pathname of a presentation you want to retrieve. The full pathname becomes the new Current Path.

- 3 Select a menu option from the bottom of the screen and enter the appropriate data (see each option name below).

There are 14 options on the Presentation menu. Descriptions of the options are listed below.

Add

The Add option allows you to add a filename, define a delay time, set an advance option, overlay a drawing, and assign Go To keys. After selecting Add you are placed in the Presentation: Edit screen, where you are given six options from which you can select.

Filename

Enter the name of the file you want to include in your slide show. If you do not specify a directory when you enter the filename, DrawPerfect searches in the Current Path directory. (The Current Path is listed at the top of the Print: Presentation Screen.) Be sure to include the full pathname if the file is not in your Current Path directory. As long as you include the full pathname (e.g. C:\DR10\PITCHPIECHART), you can enter files located in different directories.

You can also press List Files (F5), move within your directory structure, and use Retrieve to select filenames from the default directory, parent directory, etc. DrawPerfect includes the pathname in the filename.

Pause

Pause refers to the amount of time you want each graphic displayed on the screen. DrawPerfect gives you two pause options, Manual and Delay, from which you can select.

Manual pause means that you manually control, from either the keyboard or mouse, how long each illustration is displayed on the screen. For example, by pressing the Space Bar, you advance to the next illustration. Listed below are the keys you can press to go forward or backward through the illustrations.

- **If you are using a mouse:**
Press the **right mouse button** to go forward.
Press the **left mouse button** to go backward.
- **If you are using a keyboard:**
Press **Enter** to go forward.
Press **Page Down** to go forward.

Press the **Space Bar** to go forward.

Press **Page Up** to go backward.

Press **End** to go to the last illustration.

Press **Home** to go to the first illustration.

Press **Go To** (Ctrl-Home) then enter the number of the illustration you want to display.

Delay pause means that DrawPerfect controls the display of each illustration on the screen. DrawPerfect retrieves the illustration, displays it on the screen a specified amount of time, and then moves on and displays the next illustration. You do not need to press Enter or the Space Bar. DrawPerfect gets the display time information it needs from the Delay option.

Delay

The Delay option lets you enter a specified time, from 1 to 59 seconds, that you want each illustration displayed. DrawPerfect will only use the Delay feature if you have the pause option set for Delay (see *Pause* above).

Advance Option

Sometimes referred to as screen wipes, the transitions listed in the Advance Option menu let you move from one illustration to the next in a variety of ways. You can erase the screen from the right side, left side, top, or bottom, or you can fade out, scroll up, box in, etc.

The Fade option works only on color VGA monitors. If you are using a VGA monitor and the Fade option does not work correctly, it is probably due to the special EGA PRESENTATIONS driver. Unless you specify otherwise, DrawPerfect selects this driver when you go to the Presentation screens (see *Special Graphics Presentation Driver* below).

If you use a non-VGA screen and select Fade, DrawPerfect defaults to the Spots advance option.

Overlay Next Drawing

This option lets you overlay one drawing on top of another. When this option is set to Yes, (OV) is displayed on the Print: Presentation screen next to the selected advance option. The file with the (OV) is overlaid by the upcoming file.

Go To Keys

The Go To Keys feature lets you organize your presentations the same way a computer tutorial or Help feature is organized. If you use the DrawPerfect Help feature, you will notice that to access information, you press certain keys. For example, the main

DrawPerfect Help screen tells you to “Type a question mark (?) to display the Topical Guide.”

With the Go To keys, you can tie your presentation screens together, for example, with prompts that say “Press 1 for more information about charts,” or “Press 7 for information about business profits.”

You can tie your screens together by inserting Go To commands that tell DrawPerfect to go, for example, from presentation entry number 5 to number 4, then to number 10 when the viewer presses predefined keys on the keyboard.

To use the feature, go to the Print: Presentation screen and highlight the file to which you want Go To keys assigned. Select Edit, then select Go To Keys. The Presentation: Go To Keys screen is displayed. The column on the left lists the keys on your keyboard which you can use as Go To keys. The column on the right lists the presentation entry numbers (your files listed on the Presentation screen).

You can assign, for example, Key “1” (the number 1 on your keyboard) to presentation entry number 10. This means that when the file to which you are assigning Go To keys (the file you highlighted on the Print: Presentation screen before selecting Go To Keys) is displayed during a show, you can press 1 to display file number 10. The important item to remember is that when you assign keys (e.g. Key “1”, Key “2”) to any of your presentation entries, DrawPerfect executes the Go To command only when the file you highlighted on the Print: Presentation screen is displayed.

The Any Other Key option lets you press any key on the keyboard to advance to the assigned file.

Once you assign a Go To key to a file, the letter “G” is displayed on the right side of that file’s name on the Print: Presentation screen. If you add or delete files from your presentation, you may need to edit the Go To Keys screen.

Move

With Move, you can rearrange the filenames listed on the Presentation screen. An asterisk is placed by the filename you want to move. Move the highlighted bar to the new location and then press Enter. The selected file is positioned on top of the highlighted bar.

Delete

“Delete entry? No (Yes)” appears on the screen. Type y to delete the file; type any other key if you change your mind. The file is deleted from the Presentation screen only, not your disk.

Clear All

When you select the Clear All option, “Delete all entries? No (Yes)” appears on the screen. Type *y* to delete all the files listed on the screen; type any other key if you change your mind. The files are deleted from the Presentation screen only, not your disk.

Edit

Move the highlighted bar to the file you want to edit before selecting this option. After selecting Edit, you are placed in the Presentation: Edit screen. All current slide show information about the highlighted file is displayed. This is the same screen that appears when you select the Add option. See *Add* above for information about the six menu options.

Override

The Override feature lets you override the following settings for your presentation:

- Pause
- Delay
- Advance Option
- Repeat
- Ignore Path
- Show Mouse Pointer
- Shade Colors from Setup

The Override feature is helpful if, for example, you need to temporarily change the delay time for all the files listed in your slide show. Instead of using the Edit feature and changing each file individually, you can select the Delay option and enter one setting. The override setting applies to all the files listed in your presentation.

When you want to clear any one of the five override settings, select the option you want to change, then select Clear.

After selecting the Override feature, you are placed in the Presentation Override screen where you are given seven different options from which you can select: Pause, Delay, Advance Option, Repeat, Ignore Path, Show Mouse Pointer, and Shade Colors from Setup. See *Add* above for information about the first three options (Pause, Delay, Advance Option). For information about Repeat, Ignore Path, Show Mouse Pointer, and Shade Colors from Setup, see *Repeat*, *Ignore Path*, *Show Mouse Pointer* and *Shade Colors from Setup* below.

Repeat

The fourth option, Repeat, simply repeats the presentation over and over until you stop it. You can stop the presentation by pressing Exit or Cancel.

When Repeat is turned on, instead of returning you to the Presentation screen after the last listed illustration is displayed, DrawPerfect starts the presentation again.

Ignore Path

The fifth option, Ignore Path, lets you override the pathnames of the listed files.

A full pathname includes the drive, root, and any subdirectory names. Each name is separated by a backslash (\). For example, "C:\DRAW" refers to the Draw directory on the C drive. "C:\DRAW\TEST" refers to the TEST subdirectory (or file) on the DRAW directory on the C drive.

The Ignore Path option lets you ignore any directory or subdirectory names. For example, suppose you had a file with the following pathname: C:\DR10\FIGURES\ANIMALS\COW.WPG. If the Ignore Path option is set to Yes, DrawPerfect would ignore DR10, FIGURES, and ANIMALS and only look at the filename, COW.WPG.

DrawPerfect searches for the file (in the above example it would search for COW.WPG) in the Current Path directory.

The Ignore Path command is useful when you want to transfer your presentation to a different computer. Instead of editing the pathnames to match the directory structure of the new computer, you can simply copy the presentation to the default directory. Or you can save the presentation to a floppy disk, insert the disk in drive A, then change the default directory to A:. To change the default directory, press List Files (F5), type an equal sign (=), then enter the name of the new directory.

Show Mouse Pointer

This option lets you turn off or turn on the display of the mouse pointer while a presentation is being viewed.

Shade Colors from Setup

When this option is set to Yes, the shade colors you defined in Setup (using the Shading Top to Bottom in View feature) are used to shade the Presentation screen. If this option is set to No, the individual shade colors saved with each file are used to shade the

screen. You can use the Page Options feature on the Options pull-down menu to give a file separate and distinct shade colors.

Look This option lets you view the contents of a file.

View View begins the slide show. DrawPerfect starts with the filename on which the cursor is resting and cycles down through the list. Be sure to position your cursor on the filename with which you want to start. When the slide show is finished, DrawPerfect returns you to the Presentation screen. If you want to stop a slide show in progress, press Cancel or Exit.

Print The Print option lets you save your list of drawings in an ASCII text file or lets you print each individual file displayed on the Presentation screen.

If you select List to Text File, the presentation *list* is saved in a DOS text file. You can print the list by retrieving it into WordPerfect then using the Print feature, or by exiting to DOS and using the DOS print command (see your *WordPerfect* or *DOS Reference Manual* for printing instructions).

If you select Drawings, the *drawings* are printed in the order in which they are listed.

Export Export lets you convert all the files within a presentation into one of the following five graphics formats:

- CGM (Computer Graphics Metafile)
- EPS (Encapsulated PostScript)
- HPGL (Hewlett-Packard Graphics Language Plotter File).
- SCODL (Matrix Instruments Slide format file).
- VideoShow

See *Export* in *File Reference* for specific information on exporting presentations.

Copy The Copy feature copies all the individual files listed on your presentation screen. It also saves a *list* of the files displayed in your presentation. DrawPerfect adds a .DRP extension to the presentation list.

The Ignore Path option is turned on when you use Copy. This means that the pathnames are not saved with the individual files listed on the Presentation screen (see *Ignore Path* above).

Save The Save feature saves a *list* of the files displayed on your presentation screen. *Save does not* save the individual files on your presentation screen; it only saves a list of the files.

Your presentation list is saved in the current directory unless you specify a directory as part of the filename. DrawPerfect adds a .DRP extension to the presentation list filename. When you retrieve the presentation list, you do not need to include the .DRP extension in the filename.

Retrieve By selecting this option, you can retrieve a presentation list from disk. A presentation list is simply a list of files contained in a presentation. If you want to view the presentation, you should verify that all the files in the presentation list reside in the appropriate directory.

You can also retrieve a presentation list into an existing list. This lets you combine two or more presentations into one list.

Make Show The Make Show option lets you create a stand-alone (sometimes referred to as run-time) presentation. Your presentation files, along with the necessary DrawPerfect program files, are copied to a diskette. This diskette can then be used in various computers to display your slide-show; the complete DrawPerfect program is not needed to run the show. See *Appendix S: Make Show* for information on how to use this feature.

Special Graphics Presentation Driver Located on the Setup: Display menu is an EGA Presentation Driver option that, when set to Yes, speeds up the display of your drawings during a presentation.

This graphics driver allows two full pages to be stored in memory. This eliminates the on-screen drawing of each graphic. For example, when you press the Space Bar to advance to the next drawing, the upcoming graphic is immediately displayed on the screen—fully drawn. However, you can only use this feature if you have a display card that emulates EGA or VGA, with at least 256K of memory.

The default setting for this option is Yes. This means if you have a VGA or EGA compatible monitor and graphics driver, DrawPerfect automatically selects the EGA PRESENTATIONS driver each time you view a presentation. When you exit the presentation screen, DrawPerfect reselects your original graphics driver. If you are accustomed to the resolution of a VGA monitor,

you might notice a slight change when the EGA driver is selected. The EGA PRESENTATIONS driver is located on the Setup: Graphic Screen Driver menu.

With the PRESENTATIONS driver, each graphic will not display on the screen until it is drawn in the buffer (this could take a few seconds). If you use the Space Bar, Enter key, or mouse button to advance to the next drawing, DrawPerfect always waits until the next graphic is drawn in memory before it displays it on the screen. However, if you use the PgUp/PgDn keys, you can advance to the next/previous drawing before the image is completely drawn. This is useful if you want to skip drawings; however, this can result in partially drawn graphics displayed on the screen. You can press PgUp and/or PgDn again to redisplay an incomplete drawing.

Special Techniques

The Presentation feature contains a few options and special techniques which you won't find listed on any menu. These techniques are explained below and will help you use the Presentation feature more effectively.

List Files

List Files (F5) is always active while the Print: Presentation screen is displayed. This lets you quickly retrieve files to the Presentation screen. If you want to retrieve more than one file from the List Files screen, simply mark the files with an asterisk, then select **Retrieve**.

Viewing a Presentation

To begin a presentation, you can select View from the Presentation menu or use one of two additional methods that let you start a presentation from DOS or from the main DrawPerfect screen.

To start a presentation from DOS, type **dr filename** (where *filename* is the name of the presentation you want to view) at the DOS prompt. DrawPerfect is started, the presentation retrieved, and the first file listed in the presentation is displayed on the screen. To start a presentation from the main DrawPerfect drawing screen, press **Retrieve** (Shift-F10), then enter the name of the presentation you want to view. The presentation is retrieved and the first file listed in the slide show is displayed on the screen.

Utilities

Included with DrawPerfect are the Text Screen Capture utility and the .DRS Modify utility which you can use to enhance your presentations.

The Text Screen Capture utility lets you convert a DOS text file to .WPG format. This means, for example, that you can capture the Shell menu, convert it to a .WPG file, then display it in a DrawPerfect presentation. See *Appendix U: Text Screen Capture Utility* for more information.

The .DRS modify utility lets you enter the .DRS font file and customize it to your specific needs. You can delete the fonts you do not want, and save the new .DRS file as WPSMALL.DRS. This is especially useful for the Make Show feature. See *Appendix T: .DRS Modify Utility* for more information.

Print

Using the Print menu, you can print a full page either from the screen or from a file on disk. Other Print menu options let you preview the page and select, format, and control the printer.

Before you can print in DrawPerfect, you need to select a printer. The process of selecting a printer includes copying information specific to your printer onto a disk or directory where DrawPerfect can find it. See Printer, Select for information on selecting printers.

General Printing Information

Printer information is stored in files with .ALL extensions on the printer diskette included in your DrawPerfect package. When you select a printer, DrawPerfect takes the information specific to your printer from the .ALL file and creates a file with a .PRS (printer resource file) extension. DrawPerfect uses this .PRS file every time you print.

The list of printers DrawPerfect supports is found on the Printer Drivers diskette. All printers capable of printing graphics that are supported by WordPerfect (version 5.1) are included on this diskette.

DrawPerfect can use WordPerfect 5.1 printer definitions. This is helpful if you are a WordPerfect 5.1 user. For example, the printer definition you are currently using for WordPerfect can be used for DrawPerfect.

If you have not already done so, start the DrawPerfect Installation program and select the printer you want to use. If you chose not to install the printer files when you installed DrawPerfect (and have not subsequently installed them), you must do so now if you want to print or view your drawings. See the Installation Instructions card for installation instructions.

To use the Print feature,

- 1 Select **File** to display the File menu.
- 2 Select **Print** to display the Print menu.

*You can also access the Print menu by pressing **Print** (Shift-F7).*

- 3 Select an option and enter any necessary information (see *Print Menu Options* below).
- 4 Press **Exit** (F7) to exit the Print menu.

When you send an item to the printer, it is listed as a *print job* on the Control Printer screen until the job is finished. If you send

additional items to the printer before the first print job is finished, each successive print job is entered on the list, and the jobs are printed in the order they are listed.

To change the priority of a listed print job, see Printer, Control in File Reference.

If the printer does not seem to be working properly, check the Control Printer screen (see *Printer Control* in *File Reference*).

Print Menu Options

You can select one of the first seven Print menu options (under the “Print” title) by typing the appropriate number or bolded letter in the option title. The last five menu options (under the “Options” title) are selected by typing the appropriate letters only (or by clicking on the options with the mouse).

Print Drawing

Select Print Drawing to print the entire page currently on the screen.

Print Window

The Print Window option prints all the material currently displayed in the drawing window. For example, if you select Print Window while zoomed in on an object, any part of the object currently outside of the drawing window (any part you cannot see), is not printed.

Drawing on Disk

To print a full page from disk,

- 1** Select Drawing on Disk from the Print menu.
- 2** Enter the filename or full pathname of the page you want printed.

Control Printer

The Control Printer option displays a screen listing print jobs (items sent to the printer), and the status of the current print job. From this screen, you can cancel, rush, stop, restart, and print jobs. See *Printer, Control* in *File Reference* for details.

Presentation

The Presentation option allows you to display a series of graphic illustrations in a slide show format. See *Presentation* in *File Reference* for details.

View Drawing

View Drawing lets you view the format of a page before it is printed. Graphs, figures, text, and drawing objects are all

displayed. Everything is displayed as close as possible to what appears on the printed page (see *View Drawing* in *File Reference* for details).

Initialize Printer

If you cancel a print job after it begins printing, select **Initialize Printer** to reset your printer. By selecting this option you clear the memory buffer of the printer.

Select Printer

Select Printer lets you choose from many options to define and select printers. See *Printer, Select* in *File Reference* for details.

Binding

The Binding option shifts the material on the page a specified distance to the right. This allows room for holes or other bindings.

- 1 Select **Binding** from the Print menu.
- 2 Enter the binding width in inches.

The binding width setting is used for each print job until you change the setting or until you exit DrawPerfect.

Multiple Copies Generated By

This option lets you determine if multiple copies will be generated by DrawPerfect or by your printer. (If you are running DrawPerfect from a network *and* your network supports this feature, you can choose to have the network generate the multiple copies.)

If DrawPerfect generates the multiple copies, it creates x number of copies of the print job, then sends them to the printer. If you have your printer generate the copies, DrawPerfect sends one copy of the print job to the printer and tells the printer to make x copies of it (where x is the number entered for the Number of Copies option).

The benefit of this option is that printing time can be shortened if you select Printer (or Network). However, if your selected printer does not support this feature, DrawPerfect will automatically generate the multiple copies at print time.

Number of Copies

To print more than one copy of a page,

- 1 Select **Number of Copies** from the Print menu.

- 2 Enter the number of copies desired.
- 3 Select **Print** from the **Print** menu.

If you change the **Number of Copies** setting, the new setting remains in effect until you change it again or exit **DrawPerfect**.

Graphics Quality

Graphics quality determines the quality at which your graphics are printed. You can choose to print graphics at draft, medium, or high quality. Your page will take longer to print using **High Quality** than using a lower resolution. Rough draft copies can be printed more quickly by decreasing the print quality. The default setting for **Graphics Quality** is **medium**.

Text Prints Solid Black

When you output a color image to a printer that only prints in black and white, **DrawPerfect** remaps all colors to patterns. There may be times, however, when you want your colored text printed in black instead of remapped to a pattern. For example, if you color your text yellow on the screen, then output your text to a black and white printer, the pattern used for the text may not be dark enough for you. If you want your text printed solid black, you need to set this option to **Yes**. The default setting for **Text Prints Solid Black** is **No**.

Printing Graphics

All material in **DrawPerfect** is considered graphics. When printing to a laser printer, and not all of the graphics print completely, your laser printer may need additional memory.

If your printer does not print colors, color graphic images are printed in black and white using shading or fill patterns. Color images can be printed from **DrawPerfect** if you have a color printer.

DrawPerfect will print to a dot matrix printer, black and white and/or color laser printer, postscript printer, plotter—any kind of printer that is graphics compatible can be used with **DrawPerfect**.

Printing from List Files

Print on the **List Files** menu lets you print any **DrawPerfect** page.

- 1 Select **File** to display the **File** menu.
- 2 Select **List Files** to display the current directory name at the bottom of the screen.

*You can also access **List Files** by pressing **List Files (F5)**.*

3 Press **Enter** to display the current directory.

or

Enter a new directory name.

4 Move the cursor to the file you want to print.

5 Select **Print** to send the file to the printer.

6 Press **Exit** (F7) to exit the List Files Screen.

Printing to Disk

DrawPerfect lets you output a file to disk in a *printer* format. The file contains all the characters and codes which ordinarily would have been sent to the printer you selected.

With the page you want to print to disk on the screen,

1 Select **File** to display the File menu.

2 Select **Print** to display the Print menu.

*You can also access the Print menu by pressing **Print** (Shift-F7).*

3 Choose the **Select Printer** option to display the list of printers you have defined.

4 Move the cursor to the printer you want.

5 Select **Edit** to display the list of settings for the selected printer.

6 Select **Port**.

7 Select **Other**.

8 Enter a pathname or filename.

If you enter a filename only, the file is saved to the default directory.

9 Press **Exit** (F7) twice to return to the Print menu.

10 Select **Print** to print the page to disk.

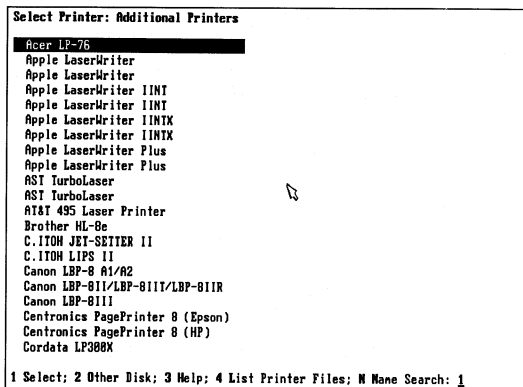
You must repeat the steps above each time you want to print to disk.

The Other Port setting, including the filename, remains in effect until you change it. If you do not change the Other Port setting, the next page you print will be printed to disk, replacing the file you previously printed to disk.

Be sure to reset the port to the place where your printer is plugged into your computer when you want to resume printing to your printer (see *Printer, Edit* in *File Reference*).

Printer, Adding a Definition

Before you can select a printer, you must add it to the Printer Definition list. Printer definitions can be added using either the Additional Printers or Copy feature on the Select Printer menu. The process of defining a printer includes: selecting the printer name from a list of printers (or copying an existing definition), entering a filename for the new definition, and entering any settings that DrawPerfect needs to communicate properly with the printer.



Additional Printers List

Selecting Additional Printers displays a list of printers that DrawPerfect supports. However, this information will only be displayed if DrawPerfect knows where to find it. All printer information is stored on the DrawPerfect Printer Drivers diskette in files with .ALL extensions. The Printer Drivers diskette has 16 .ALL files. Each .ALL file contains information about a specific group of printers. DrawPerfect must have access to at least one .ALL file to be able to display a list of printer definitions.

If you have not done so, you need to start the DrawPerfect Installation Program and select the printer you want to use. Once you select a printer, the appropriate .ALL file is copied to the directory where (DR.EXE) is located (usually C:\DR10).

The Installation Program also lets you copy every .ALL file from the Printer Drivers diskette to your hard drive. If you select this

option, you can see at once all the printers contained on the diskette. The printer (.ALL) files may be deleted, if desired, after adding the necessary definition(s).

Important: *You must use the Installation program to select a printer. You cannot insert the Printer Drivers diskette into a drive (e.g. a: or b:) and select a printer. Because the printer files are compacted, you must either use the installation program, or if you are a two disk drive user, you need to copy the appropriate .ALL file to a floppy disk.*

Adding a Definition with Additional Printers

To add a printer definition using the Additional Printers option,

- 1** Select **File** to display the File menu.
- 2** Select **Print** to display the Print menu.

*You can also access the Print menu by pressing **Print** (Shift-F7).*

- 3** Choose the **Select Printer** option.
- 4** Select **Additional Printers** to display a list of printers (from accessible .ALL files).

*If DrawPerfect prompts you with the "Printer files not found" message, select **Other Disk**, and enter the directory where the .ALL file(s) are located (if you have copied them to your hard drive).*

If you copied all of the files on the Printer Driver diskette to your hard drive, all of the printers are listed at once.

- 5** Use the arrow keys or the **Name Search** feature (see *Name Search* under *List Files* in *File Reference*) to move the cursor to the name of the printer you want to add to the Printer Definition list.
- 6** Choose the **Select** option.
- 7** Press **Enter** to use the suggested filename for the printer definition.

or

Enter a new filename.

After you enter a filename, the Printer Helps and Hints screen is displayed containing specific information about the printer you have chosen. DrawPerfect copies the information needed to define the printer from the .ALL file. After this process is finished, you can press **Switch** (Shift-F3) to see any information on the printer's sheet feeder.

After reading the Help screen(s),

- 8** Press **Exit** (F7) to exit the Help screen and enter the Select Printer: Edit screen.
- 9** Enter any necessary printer settings (see *Printer, Edit* in *File Reference* for details).
- 10** Press **Exit** to save the settings and return to the Select Printer screen.

The printer definition is saved as a file with a .PRS extension. It is also added to the Printer Definition List and can now be selected (see *Printer, Select* in *File Reference*).

Adding a Definition with Copy

The Copy option on the Select Printer menu may also be used to add a definition to the Printer Definition List. Use this method when you want to add the same printer to the list, but with different settings.

- 1** Select **File** to display the File menu.
 - 2** Select **Print** to display the Print menu.
- You can also access the Print menu by pressing **Print** (Shift-F7).*
- 3** Choose the Select Printer option.
 - 4** Move the cursor to the printer definition you want to copy.
 - 5** Select **Copy**.
 - 6** Enter a new filename to create a new printer file.

If you use the same filename, the same definition name will appear twice on the Printer Definition List, and both names will reference the same printer file (a separate printer file will not be created).

Printer, Control

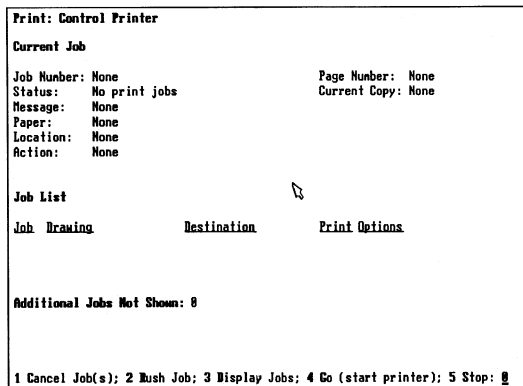
The Control Printer menu provides options which help you manage your print jobs.

- 1 Select **File** to display the File menu.
- 2 Select **Print** to display the Print menu.

*You can also access the Print menu by pressing **Print** (Shift-F7).*

- 3 Select **Control Printer** to display the Control Printer menu.
- 4 Select an option, and enter any requested information (see *Options* below).
- 5 Press **Exit** (F7) to return to the Print menu.

The top half of the Control Printer screen displays detailed information about the current print job. Messages are displayed here from time to time that can help you in solving most printing problems.



A list of the first three print jobs, including the current job, is displayed in the bottom half of the screen. DrawPerfect numbers each job by priority and displays each job's destination and print options settings. If there are more than three jobs, the number of jobs not shown is displayed.

Options

The Control Printer options help you manage the jobs on the Job List and start and stop the printer.

Cancel Job(s)

This option lets you cancel all or selected print jobs that are currently listed.

- 1 Select **Cancel Job(s)** from the Control Printer menu.
- 2 Enter the number of the print job you want to cancel.

or

Type an asterisk (*), then type **y** to cancel all print jobs.

When a print job is cancelled before it is finished, DrawPerfect advances continuously fed paper to the top of the next page, so it is ready for the next print job.

You may need to press Enter after cancelling a print job if the printer does not respond. However, if you press Enter after cancelling a job, continuously fed paper will most likely not be left in the correct position. You will need to reposition the paper for the next print job. The printer also may need to be reinitialized (see *Print in File Reference*).

Rush Job

The Rush Job option lets you change the priority of a print job. You can either have the “rush job” printed immediately after the current job finishes, or interrupt the current job to print the rush job.

Only jobs found in the Current Job list can be rushed. In other words, to rush a print job, you must first enter it as a print job in the normal fashion (see *Print in File Reference*).

To rush a print job,

- 1 Select **Rush Job** from the Control Printer menu.
- 2 Enter the number of the print job you want to rush.
- 3 Type **y** to interrupt the current job and print the rush job.

or

Type **n** to print the rush job after the current job finishes.

If you choose to interrupt the job currently printing, the interrupted print job is restarted after the rushed job is printed.

Display Jobs

If there are more than three print jobs on the Current Job list, select this option to view all of the jobs on the list. Press any key to return to the Control Printer screen.

Go (start printer)

This option restarts the printer after it has been stopped for a form or cartridge change, or after using the Stop option (see *Stop* below).

Stop

This option stops the printer without cancelling the print jobs. Use Stop if the paper jams, ribbon runs out, etc.

- 1 Select Stop to stop printing.
- 2 Make any necessary corrections, then (if your printer uses continuously fed paper) advance the paper to the top of the next page.
- 3 Select Go from the Control Printer menu to continue printing.

Data at the Printer (Buffer)

DrawPerfect has no control over material on the page after it has been sent to the printer. If your printer has a buffer (a storage area for graphics waiting to be printed), printing does not stop until the buffer is empty. Turning off the printer empties the buffer.

If the buffer is large enough, it may contain more than one print job. Once a print job has been completely loaded into the buffer, DrawPerfect deletes it from the job list; you cannot retrieve the drawing from the buffer. If you switch off the printer with a page in the buffer that is not on your screen or has not been saved on disk, the page is lost.

If you turn off your printer during a print job, you may need to reinitialize it (see *Print in File Reference*).

Printer, Edit

The Printer Edit screen lets you change the name and printer settings of a definition you are adding to the list of printer definitions, or of a printer you have already added to the list.

DrawPerfect takes you into the Printer Edit screen when you are adding a printer to the list of printer definitions. To edit the printer settings of a printer already on the list,

- 1 Select **File** to display the File menu.
- 2 Select **Print** to display the Print menu.

*You can also access the Print menu by pressing **Print** (Shift-F7).*

- 3 Choose the **Select Printer** option to display the list of printer definitions.
- 4 Move the cursor to the printer definition you want to edit.
- 5 Select **Edit** from the Select Printer menu.
- 6 Make any desired changes by selecting an option, then entering the change (see *Printer Settings* below).
- 7 Press **Exit** (F7) to exit the Select Printer Edit screen and save the changes.

or

Press **Cancel** (F1) to exit without saving any changes.

Printer Settings

The following printer settings help DrawPerfect properly communicate with your printer.

Name

When you are adding a printer to the list of printer definitions, DrawPerfect enters the name of your printer for you. Use the Name option to change the name of the printer definition. The name can be up to 36 characters long.

The printer definition name is the name that appears on the list of printer definitions and is independent of the printer definition filename (displayed at the top of the Select Printer: Edit screen).

Use Rename on the List Files menu to change the name of a printer file (see List Files in File Reference).

Port

Port designates where your printer is plugged into your computer. To set the port,

- 1 Select **Port** to display a menu of port locations.
- 2 Select the port (1 through 7) where your printer is plugged into your computer.

or

Select **Other** and enter a filename or full pathname to print a page to disk (see *Print* in *File Reference*).

If you select one of the COM ports (4-7) for serial printers, the COM Port screen is displayed. To set up a COM port for your printer, you need the following information from your printer manual or dealer:

- Baud rate
- Parity (none, odd, even)
- Stop bits (1 or 2)
- Character length (7 or 8)

You also need to know if your printer supports the XON/XOFF protocol.

After you have gathered this information (included on the *Installation* checklist), make any necessary changes to the COM Port default settings. Press Exit (F7) to return to the Select Printer Edit screen.

Sheet Feeder

A sheet feeder contains one or more paper bins and feeds paper from those bins to the printer one sheet at a time.

If you have a laser printer with a single paper bin, this bin is not considered a sheet feeder.

If you use a sheet feeder with your printer, you must select the feeder on the Select Printer: Edit menu.

- 1 Select **Sheet Feeder**, move the cursor to the name of the sheet feeder you are using, then choose **Select**.

If you receive a "Printer files not found" message, DrawPerfect cannot find the .ALL file that was used to define your printer. You need to specify the directory where the .ALL file was copied during Installation (see the Installation Instructions card). If you did not install the .ALL file, use the Installation Program to do so.

A Helps and Hints screen appears after the sheet feeder is selected.

2 Press **Exit** (F7) after reading the information to exit the screen.

Bin Number

Once you select a sheet feeder, you need to indicate which bin number you will be using. (This information is found on the Sheet Feeder Helps and Hints screen displayed after you selected a sheet feeder in step 1 above.) You specify the bin number when you create a paper definition (see *Editing a Definition* under *Paper Size* in *Options Reference*).

.PRS File

The sheet feeder definition is copied from the .ALL file to the Printer Resource (.PRS) file. (See *General Printing Information* under *Print* in *File Reference* for an explanation of the .PRS file.)

3 Select the sheet feeder by typing **1** (Select).

or

Select **Help** to display the Sheet Feeder Helps and Hints screen, which contains specific information about the currently highlighted sheet feeder. Press **Exit** (F7) to exit the Help screen.

Once a sheet feeder is selected, DrawPerfect will always pull paper from bin 1.

Selecting a sheet feeder returns you to the Select Printer Edit screen. To return to the Edit screen without making a selection, press **Exit**.

Printer, Select

Select Printer is used to add printers to the list of printer definitions and to select a particular printer for a DrawPerfect page. Whenever a page is saved, the special formats and settings for the currently selected printer are saved with the page.

The printer selection process begins when you install DrawPerfect. During installation, you are taken through the steps of telling DrawPerfect which printer you will be using and copying a printer file into the appropriate spot for DrawPerfect to access the file.

You can select a printer during installation; however, once you have used the Installation Program to copy your printer files onto a disk or directory, you can also select a printer from within DrawPerfect.

DrawPerfect comes with several .ALL files (located on the Printer diskette) that contain information about various printers. When you select a printer, DrawPerfect copies the information specific to your printer from the .ALL file, then creates a file with a .PRS extension. Every time you print, DrawPerfect accesses that .PRS file.

To use Select Printer,

- 1 Select **File** to display the File menu.
- 2 Select **Print** to display the Print menu.
*You can also access the Print menu by pressing **Print** (Shift-F7).*
- 3 Choose the Select Printer option.
- 4 Select an option, then enter the necessary information (see *Select Printer Options* below).
- 5 Press **Exit** (F7) twice to return to the drawing window.

In addition to the menu, the Select Printer screen displays the list of printer definitions you have already added.

Options

The Select Printer options let you define, edit, and select printers, as well as display helpful information about the printer definitions on the list.

Select

To select a printer definition from the Select Printer screen,

- 1 Move the cursor to the printer definition you want to select.
- 2 Choose the Select option.

Once you select a printer definition, all drawings are saved with that definition's formats and settings, until you select a different printer definition. An asterisk (*) appears next to the currently selected printer and the name of the printer appears next to the Select Printer option on the Print menu.

Only printers that are already on the list of printer definitions can be selected (see *Additional Printers* below).

Additional Printers

Selecting Additional Printers displays a list of printers supported by DrawPerfect. After selecting your printer's name from the list, entering a filename for the printer definition, and entering any necessary printer settings, the printer definition is saved as a file on disk. The definition is then added to the list of definitions displayed on the Select Printer screen.

For a detailed explanation of how to use Additional Printers, see *Printers, Additional* in *File Reference*.

Edit

Edit is used to enter (in a printer definition) the settings needed by DrawPerfect to communicate properly with your printer (see *Printer, Edit* in *File Reference* for details).

Copy

Use Copy to add a definition to the Printer Definition list. Use this method when you want to add the same printer to the list, but with different settings (see *Printer, Adding a Definition* in *File Reference* for details).

Delete

To delete a printer definition from the list,

- 1** Move the cursor to the printer definition you want to delete.
- 2** Select **Delete** and type **y**.

Although the definition is deleted from the list of printer definitions, the .PRS file, where the definition is saved, remains in your directory. You can restore a deleted printer definition with the List Printer Files option on the Additional Printers menu (see *Printers, Additional* in *File Reference*).

Help

Select this option to display the Printer Helps and Hints screen for the currently highlighted printer definition. The information on this screen explains any idiosyncracies your printer might have.

If you have a sheet feeder, press Switch (Shift-F3) after selecting Help to see the Sheet Feeder Helps and Hints screen.

DrawPerfect also displays the Printer Helps and Hints screen when you are adding or updating a printer definition.

Name

This option is used to move the cursor to the name of the printer you want (see *Name Search* under *List Files* in *File Reference*).

Printers, Additional

The Additional Printers feature is used to display and select printer definitions to be added to the current list of printer definitions. With this feature, you can also display a list of printer files (printer definitions already added to the list) and restore deleted definitions to the list of printer definitions.

When Additional Printers is selected, a list of all the printers found on the .ALL files you copied during installation is displayed. The list displays all the printers found in the printer files directory—specified using Location of Files (see *Location of Files in File Reference*).

If you are a WordPerfect 5.1 user, you should be aware that DrawPerfect can use the WordPerfect 5.1 printer definition. See *Other Disk* below for information on using a WordPerfect 5.1 printer definition for DrawPerfect.

If you want to display more printers, you need to run the Installation program again, copying additional .ALL files.

To use Additional Printers,

- 1 Select **File** to display the File menu.
- 2 Select **Print** to display the Print menu.

*You can also access the Print menu by pressing **Print** (Shift-F7).*

- 3 Select the **Select Printer** option.
- 4 Select **Additional Printers** to display the Additional Printers screen.

The screen displays a list of printers supported by DrawPerfect, as well as the Additional Printers menu.

*If the message "Printer files not found" appears, see **Printer, Adding a Definition in File Reference** for details on how to access the files needed to display the Additional Printers list.*

- 5 Select an option from the Additional Printers menu and enter the requested information (see *Additional Printers Options* below).

Additional Printers Options

The following options are found on the Additional Printers menu.

Select

To begin adding a printer to the list of printer definitions,

- 1 Use the arrow keys or the Name Search feature (see *Name Search* under *List Files* in *File Reference*) to move the cursor to the name of your printer.
- 2 Type **1** to select the printer name.
- 3 Follow the steps for adding a printer definition (see *Printer, Adding a Definition* in *File Reference*).

Other Disk

Use this option to specify where (in which directory or drive) a printer diskette or .ALL file is located.

If you are a WordPerfect 5.1 user, you can use your 5.1 printer driver definition for DrawPerfect. Simply enter the directory where your WordPerfect 5.1 printer files are located.

Help

Select the Help option to display the Printer Helps and Hints screen. The Printer Helps and Hints screen displays specific information about the currently highlighted printer.

List Printer Files

Each printer you add to the list of printer definitions on the Select Printer screen is saved as a printer file with a .PRS extension. Use List Printer Files to view all printer files in the current directory. Printer files that have been deleted from the list of printer definitions will also be deleted from the List Printer Files screen.

To use List Printer Files,

- 1 Select List Printer Files from the Additional Printers menu.
- 2 Using the arrow keys or the Name Search feature (see *Name Search* under *List Files* in *File Reference*), move the cursor to the desired printer file.
- 3 Type **1** to select the file, then follow the steps for adding a printer definition (see *Printer, Adding a Definition* in *File Reference*).

or

Select **Help** to display the Printer Helps and Hints screen for that printer.

If you select a printer file that has been deleted from the Select Printer List, the printer definition is restored to the list with any changes you have made.

If you select a printer file that is already on the Select Printer list, the printer definition is duplicated on the list. However, the duplicate definition references the same file as the original definition. So, any changes you make to the duplicate definition's settings will also be made to the original definition's settings (and vice versa).

To create a new definition by *copying* an existing definition, thus creating a separate printer file, use the Copy feature on the Select Printer menu (see *Printer, Select* in *File Reference*).

Name Search

This option is used to move the cursor to the name of the printer you want to add (see *Name Search* under *List Files* in *File Reference*).

Retrieve

The drawings you create in DrawPerfect are commonly called *files*. These files are stored on disks (e.g., a hard drive or floppy disks). When you want to edit a drawing, you need to retrieve a copy of the file from a disk, or in other words, bring it to the screen.

If you know the name of a drawing and where it is located, you can use Retrieve to quickly retrieve it.

To retrieve a file,

- 1 Select **File** to display the File menu.
- 2 Select **Retrieve** from the File menu.

*You can also access Retrieve by pressing **Retrieve** (Shift-F10).*

You are asked for the name of the drawing.

- 3 Enter the filename of the drawing (see *Entering Filenames* below).

The drawing appears on the screen.

The drawing is now active in your computer's memory, and you can edit it. However, the changes you make will affect only the drawing on the screen. They will not be recorded on disk until you save them to a disk using Save or Exit (see *Save* and *Exit* in *File Reference*).

Entering Filenames

If DrawPerfect cannot find the filename you enter, it displays an "ERROR: File Not Found" message, then redisplay the filename. If you have typed the filename incorrectly, this gives you the chance to examine the name and edit it or enter it again. If you are unsure of the exact filename, you can use List Files to search your directory for the appropriate file (see *List Files* in *File Reference*).

If DrawPerfect adds a .WPG, .DRP, or .GDF extension to your file, you do not need to include it in the filename (see *Save* in *File Reference*). For example, if DrawPerfect added a .WPG to your TEST file, all you need to enter is **test** at the retrieve prompt. However, if you actually have a file called TEST without a .WPG extension, you can retrieve the file by typing **test** and including a period at the end (e.g., **test.**). The period indicates a file without an extension.

When you use **Retrieve** to retrieve files, you can retrieve a drawing that is found in any directory. If the drawing is found in the default directory, all you need to enter is the drawing name. However, if the drawing is found in some other directory, you also need to include the full pathname for the drawing.

For example, if **WORK** is your current default directory and you want to retrieve a drawing called **PIECHART.DRW** found in that directory, then you need only enter **piechart.drw**. However, if **WORK** is not your current default directory, you need to include the full pathname (e.g., **C:\WORK\PIECHART.DRW**).

You can determine what directory you are in by pressing **List Files** (F5). The name of the default directory then appears in the status line at the bottom left corner of the screen (e.g., **Dir C:\WORK*.*)**. You can press **Cancel** (F1) to return to the normal drawing window.

You can specify a default directory for your drawings in **Location of Files** in **Setup** (see *Location of Files* in *File Reference*). If a directory name exists in this menu option, your files will always be saved and retrieved from that directory unless you enter the full pathname of a different directory when you save or retrieve your files.

List Files

You can retrieve drawings using **List Files** (F5). This is especially helpful when you are not sure of the drawing name, but you do know the name of the directory where the drawing is found. Use **List Files** to alphabetically display on-screen the names of all the files in that directory (see *List Files* in *File Reference*), then move the cursor to the desired filename and select **Retrieve**.

To retrieve a file through **List Files**,

- 1 Select **File** to display the **File** menu.
- 2 Select **List Files** to display the name of the default directory at the bottom of your screen.

You can also access List Files by pressing List Files (F5).

- 3 Enter a directory name to display all the files in that directory.

or

Press **Enter** to display the files in the default directory.

- 4 Move the cursor to the name of the desired file, then select **Retrieve**.

Press **y** if the screen is not blank and you want to retrieve the file on top of the drawing currently displayed on the screen.

You can also press List Files at the "File to be Retrieved:" prompt to look for the file.

Save

While creating or editing a drawing, any changes you make are only stored temporarily in your computer's active memory. Should a power failure occur, or should your computer crash, the work you have done would be lost (unless you have a backup option on; see *Backup* in *File Reference*).

A drawing is not stored permanently until you save it to a disk. Consequently, it is a good idea to save the drawing you are working on from time to time.

You can save a drawing without losing your place on the screen and then continue creating or editing it.

To save a drawing you are creating,

- 1 Select **File** to display the File menu.
- 2 Select **Save** and a "Drawing to be Saved:" prompt appears.

*You can also access Save by pressing **Save** (F10).*

- 3 Enter a filename (see *Entering Filenames* below).

Entering Filenames

A filename can include up to 8 characters followed by an optional period and up to 3 more characters (see *Extensions* below).

Unless you enter a full pathname, a file is saved in your default directory. You can determine what your default directory is by pressing List Files (F5). The default directory name (e.g., Dir C:\WORK*.*) then appears on the status line at the bottom left corner of the screen. You can then press Cancel (F1) to cancel the display of the directory name (see *Default Directory* under *Directories* in *File Reference*).

Extensions

If you do not specify extensions for your filenames, DrawPerfect will apply the following extensions to the following types of files:

Type of File	Extension
Drawings	.WPG
Figures	.WPG
Presentations	.DRP
Graph Chart Descriptions	.GDF

The extension .WPG stands for WordPerfect Graphics; the extension .DRP stands for DrawPerfect Presentation; the extension .GDF stands for Graphic Description File.

When you want to retrieve a file which has been given an extension by DrawPerfect, you do not need to include the extension name.

When you add extensions to filenames, you should not use the extensions that have a special meaning to DrawPerfect or to DOS, such as: .ALL, .BAT, .COM, .CRS, .DRK, .DRM, .DRS, .EXE, .FIL, .IRS, .LRN, .MRS, .PRS, .VRS.

Saving an Existing File

DrawPerfect is designed with safeguards to protect you from replacing an existing file accidentally.

When you press Save (F10) to save a newer version of a file that already exists, DrawPerfect displays the existing file, or you can enter a new filename. If you press Enter, DrawPerfect asks you to confirm the replacement.

Type **y** to replace the existing file on disk with the drawing on your screen. If you press **n** (or any other key), you are prompted for a new filename. You can enter a different filename in order to keep both copies of your drawing.

When an existing filename is displayed, typing a character key erases the existing filename, and you have to start over. However, before you press a character key, you can use the Left or Right Arrows (←/→) or End of Line (End) to move through the existing filename and edit it. Use Backspace, Delete (Del) or Delete to End of Line (Ctrl-End) to delete the existing characters.

Block Name

This feature lets you save only designated objects on the screen. If you select (by using Select Area, Select Item, or an editing action) one or more objects, then press Save (F10), the prompt "Block Name" appears at the bottom of the screen. By entering a name at the prompt, you save only the selected objects in a file. Selected objects are those objects which currently display line markers (small boxes).

Exit

Exit lets you save files without using the Save feature. You can then clear your screen, or exit DrawPerfect (see *Exit* in *File Reference*).

Setup

When you start DrawPerfect, you can immediately begin creating a graph, a drawing, a text chart, etc. You do not need to define any settings. Default settings are preset to accommodate a variety of users on a variety of machines.

All users and machines are not alike, however. As you use DrawPerfect, you may decide that you want to tailor some of the DrawPerfect settings to your specific needs.

The Setup feature is the gateway to creating your own default settings. While this section does not go into specifics about the features associated with Setup, it does give you some idea of what you will find there, and tells you where you can find more information.

Settings made with features on the Setup key are stored in a file called DR{DR}.SET and are in effect each time you start DrawPerfect.

Setup Options

Several options are located on the Setup submenu. Brief descriptions are provided below while more detailed descriptions are located under their appropriate alphabetical headings throughout *File Reference*.

Mouse Menu

This menu lets you set default settings for the way your mouse will work in DrawPerfect. Its options include:

- Acceleration Factor
- Double Click Interval
- Left-Handed Mouse
- Port
- Submenu Delay Time
- Type

More information about the Mouse menu itself can be found in *Mouse Setup* in *File Reference*. Check the *Index* for information about the options.

Display Menu

This menu lets you make default settings for the way menus, screens, and graphics are displayed on the screen. Its options include:

- Automatic Redraw While Editing
- Colors/Bold Display
- Display Cursor While Drawing
- Filename on the Status Line
- Graphics Screen Type
- Menu Letter Display
- Start With Mini-Object
- Text Quality While Editing
- View Drawing in Black and White

More information about the Display menu itself can be found in *Display Setup* in *File Reference*. Check the *Index* for more information about the options.

Environment Menu

This menu lets you make default settings for several DrawPerfect features. Its options include:

- Backup Options
- Beep Options
- Color Mapping when Converting
- Cursor Keys
- Export Enhanced CGM
- Save with Even Border Width
- Units of Measure
- WP 5.0 Compatible WPG File

More information on the Environment menu features can be found in *Environment* in *File Reference*. Check the *Index* for more information about the options.

Initial Settings Menu

This menu lets you make default settings for several DrawPerfect features as well as for drawings you create. Its options include:

- Date Format
- Initial Drawing Settings
- Page Options
- Paper Size
- Print Options

More information on the Initial Settings menu itself can be found in *Initial Settings* in *File Reference*. Check the *Index* for more information about the options.

Keyboard Layout Menu

This menu lets you *map* your keyboard. This means you can assign DrawPerfect features, DrawPerfect characters, and DrawPerfect macros to almost any key on the keyboard. For more information about this menu, see *Keyboard Layout* in *File Reference*.

Location of Files

This menu helps you organize your files. With it, you can specify directories for the following files:

- Backup Files
- Drawing Files
- Keyboard/Macro Files
- Printer Files
- Figure Library Files

More information about the Location of Files feature can be found in *Location of Files* in *File Reference*.

Shell

Using Shell (Ctrl-F1), you can return to DOS to enter a DOS command. You can also use Shell to save or retrieve from the clipboard.

For detailed information about setting up the Shell and the Shell options, see the *WordPerfect Shell Reference Guide* that came with your software package.

Go To DOS

You can return to DOS to perform one or more DOS commands. DrawPerfect remains in resident memory.

If are running DrawPerfect from the shell, you are returned to the Shell menu (see *Go To DOS* in *File Reference*).

Retrieve Clipboard

This option retrieves the material on the clipboard to the page.

Save to the Clipboard

This option saves the material to the clipboard and allows you to retrieve the material in another program, such as WordPerfect 5.1.

Switch

DrawPerfect lets you keep two drawings active in memory at the same time. You can use Switch to open a second drawing screen into which you can retrieve and edit another drawing. Each drawing is displayed on its own separate screen and Switch moves you from screen to screen.

Using Switch is almost like having two copies of DrawPerfect running at once, without having to tie up additional memory in your computer.

- 1 Select **File** to display the File menu.
- 2 Select **Switch** to switch to a second screen.

*You can also access Switch by pressing **Switch** (Shift-F3).*

"DRW 2" on the status line indicates that you are in the second drawing screen.

- 3 Create or edit another drawing in the second screen. Select **Switch** from the File menu to move between the two screens.
- 4 When you are finished using the second screen, press **Exit** (F7), save the drawing (if you wish), then type **y** to exit the second screen.

Editing Two Drawings

When you have two drawing screens open, you can use List Files and Retrieve to retrieve drawings into either screen just as you normally would. You can also use Move and Copy from the Edit menu to move and copy objects from one drawing screen to another (see *Move* and *Copy* under *Editing Actions* in *Edit Reference*).

Important: *When you move and copy objects from one screen to another, you must access Switch through the function keys (Shift-F3). You can not select Switch from the pull-down menus.*

Switching between the two screens does not change the position of the cursor in either drawing screen. For example, if the cursor is at the top of drawing 1 when you switch to drawing 2, it will still be at the top of drawing 1 when you return to drawing 1.

Units of Measure

The Units of Measure feature changes the way measurements are displayed when the Position Display feature is turned on. It also changes the grid measurement display.

Normally, DrawPerfect uses inches as the standard unit of measurement. That means cursor movement, grid display, margin settings, etc., are all measured in inches.

However, DrawPerfect gives you the option of using other units of measurement (see *Units of Measure* below). You can use any one of the units for just one entry (see *Entering Units of Measurement* below), or you can select a unit to be used permanently, as the standard unit of measurement.

To change the Units of Measure,

- 1 Select **File** to display the File menu.
- 2 Select **Setup** to display the Setup submenu.

*You can also access the Setup menu by pressing **Setup** (Shift-F1).*

- 3 Select **Environment** to display the Environment menu.
- 4 Select **Units of Measure**.
- 5 Select **Position Display** then type **i** or **"** for inches, **c** for centimeters, **p** for points, or **w** for 1200ths of an inch (see *Units* below).
- 6 Press **Exit** (F7) to exit the Setup menu.

Units of Measure settings remain in effect each time you start DrawPerfect.

Entering Units of Measurement

When DrawPerfect asks you for a measurement and you enter a number, DrawPerfect converts that number to the current unit of measurement. You can also enter fractions, and have DrawPerfect convert them into decimals for you. For example, if inches are the current unit of measurement, and you enter **1 1/8**, DrawPerfect converts it into 1.13".

You can enter any unit of measurement other than the default simply by typing the letter used to identify that unit of measurement after an entry (e.g., **c** for centimeters, **p** for points, as listed below). DrawPerfect then converts each entry to the current standard unit of measurement. For example, if inches are the default unit measurement, and you enter **12p** for 12 points, DrawPerfect converts it to 0.167".

Units of Measure

DrawPerfect lets you select from four different units of measure. The possible selections are as follows:

Selection	Measurement
" or i	Inches (1/12 of a foot)
c	Centimeters (1/100 of a meter or .39")
p	Points (1/71" inch, as opposed to 1/72/27" in the publishing industry)
w	1200ths of an inch (300 for 1.4", 600 for 1/2", 900 for 3/4", etc.)

Since the w selection lets you measure in very small increments of an inch, use it to make minute changes to a setting.

View Drawing

View Drawing lets you view the DrawPerfect page before it is printed. Charts, clip-art, text, and drawings are all displayed. Everything is displayed as close in appearance as possible to the printed page.

- 1 Select **F**ile to display the File menu.
- 2 Select **P**rint to display the Print menu.

*You can also access the Print menu by pressing **Print** (Shift-F7).*

- 3 Select **V**iew Drawing.
- 4 Press any key to exit the View Drawing screen and return to the print menu.

You cannot edit your page while in the View Drawing screen.

DrawPerfect eliminates all menu structures in the View Drawing screen and displays the graphics in a larger format.

WordPerfect

If you are a WordPerfect 5.1 user, you can select the WordPerfect option from the File menu to transfer the on-screen drawing into WordPerfect. Once the drawing is transferred into WordPerfect 5.1, you can select a WordPerfect option called "DrawPerfect" to transfer the drawing back into DrawPerfect.

DrawPerfect and WordPerfect are able to transfer drawings back and forth with the help of the Shell. The Shell program, which is shipped with DrawPerfect, contains a feature called the clipboard. The clipboard is a special Shell buffer that can be used to temporarily store and move information between programs.

When you select the WordPerfect option from the DrawPerfect File menu, the current on-screen image is saved to the clipboard, then retrieved into WordPerfect 5.1. When you reverse the process and go from WordPerfect into DrawPerfect, the same procedure is followed. The current on-screen image is saved to the clipboard and then retrieved into DrawPerfect.

Requirements

There are a few requirements you must meet in order to transfer images between the two programs. They include the following:

- You must use WordPerfect 5.1, DrawPerfect 1.0, and WordPerfect Shell 3.0.
- DrawPerfect and WordPerfect need to be listed and running as options on the Shell menu.
- The macros, WPTODRAW.SHM and DRAWTOWP.SHM must reside in your default shell directory, (where SHELL.EXE is located).

If you do not meet all of the above requirements, the WordPerfect option listed on the File menu is displayed in brackets, (e.g., [WordPerfect]). The brackets indicate the option is unavailable. Once the requirements are met, the brackets are removed.

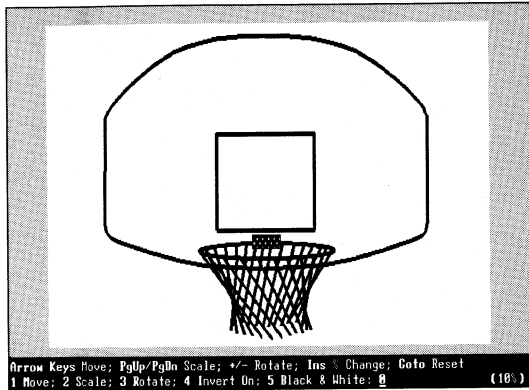
For Information about the Shell program and the WPTODRAW.SHM and DRAWTOWP.SHM shell macros, see the WordPerfect Shell Reference Guide which was included with DrawPerfect.

Transferring to WordPerfect

To transfer an image from DrawPerfect into WordPerfect 5.1,

- 1 Select File to display the File menu.
- 2 Select WordPerfect to begin the transfer process.

The current drawing is saved to the clipboard. At this point, two different screens can appear: the WordPerfect Graphics Editor screen or the main WordPerfect editing screen. The Graphics Editor screen is illustrated below.



The Graphics Editor screen appears if you began editing a drawing in the WordPerfect Graphics Editor, then switched the drawing into DrawPerfect, then switched the drawing back into WordPerfect. In other words, if you were originally in the WordPerfect Graphics Editor, switched to DrawPerfect, then switched back to WordPerfect, you are put back in the Graphics Editor screen. The drawing is retrieved and displayed for you.

Important: If you bypass the main WordPerfect editing screen and go straight into the Graphics Editor screen, any material displayed in the Graphics Editor is erased then replaced with the new DrawPerfect file.

The main WordPerfect editing screen appears if you are starting WordPerfect for the first time, or if when you exited WordPerfect you were not in the Graphics Editor.

If the main WordPerfect editing screen appears, a menu is displayed at the bottom of the screen. You can retrieve the figure or leave the figure in the clipboard. If you choose option 1, Retrieve Figure, the image is retrieved to the screen and you are placed in the WordPerfect Graphics Editor.

If you choose option 2, Leave in Clipboard, the image remains in the Shell clipboard until you retrieve or replace it.

**Transferring
to DrawPerfect**

To transfer an image from WordPerfect 5.1 to DrawPerfect 1.0 you must currently be in the Graphics Editor screen. To display the screen, the Contents option on the box definition menu should be set to Graphic, a filename should be specified, and Edit (9) needs to be selected. (Do not set the Contents option to anything but Graphic (1). The Contents options Graphic on Disk, Text, and Equations will not let you perform the transfer process correctly.) See *Graphics, Edit* in the *WordPerfect 5.1 Reference Manual* for more information.

- 1 Select **DrawPerfect** from the menu at the bottom of the Graphics Editor screen.

The drawing is saved to the clipboard, DrawPerfect is started, then the clipboard contents are retrieved as the current drawing.

Important: *Any material displayed in the DrawPerfect drawing window is erased then replaced with the new WordPerfect file.*

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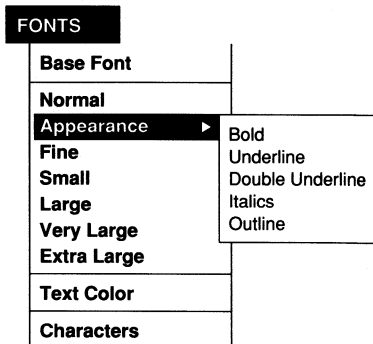
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Fonts Overview

The Fonts menu contains options that let you change the base font, size, appearance, and color of your text. You can also access characters from the WordPerfect Corporation Character sets using the Characters option. See *Appendix F: DrawPerfect Fonts* for a list of the character sets.



Graphic Fonts

DrawPerfect contains graphic fonts. These fonts are actually small graphic images made up of lines and curves. The kind of fonts you can reproduce with DrawPerfect *does not* depend on the fonts your printer can reproduce. (However, your printer must be capable of printing graphics.)

When you send a DrawPerfect page to your printer, the printer interprets all text as graphics (lines and curves), and is therefore able to print a vast array of fonts. Graphic fonts can be scaled to almost any size and still retain their shape and image. There are 25 different fonts from which you can select.

DrawPerfect creates the font characters using the WP.DRS (driver resource) file that comes with DrawPerfect. The complete DrawPerfect character set is contained within the WP.DRS file. This file was created for use with a hard drive system. The WPSMALL.DRS file was created for use with a two disk drive system. More fonts are available with a hard drive system than with a two disk drive system. See *Appendix F: DrawPerfect Fonts* for a complete list of all the graphic fonts shipped with DrawPerfect.

WordPerfect 5.1 DRS File

If you are a WordPerfect 5.1 user, you should be aware that both DrawPerfect 1.0 and WordPerfect 5.1 contain a WP.DRS fonts file. The WP.DRS file shipped with WordPerfect 5.1 is compatible with the DrawPerfect WP.DRS file and vice versa. However, the WordPerfect DRS file is capable of printing only three of the 25 DrawPerfect graphics fonts: Courier, Helvetica, and Roman (Times Roman).

If you retrieve a DrawPerfect file into WordPerfect 5.1, and the DrawPerfect file contains a font other than Courier, Helvetica, or Times Roman (such as Cooper Black Bold), the DrawPerfect font is converted to one of the three WordPerfect graphics fonts (Courier, Helvetica, or Roman). WordPerfect selects the font that most closely resembles the DrawPerfect font.

If you do not want the DrawPerfect fonts converted to Courier, Helvetica, or Times Roman, you have the option of using the DrawPerfect WP.DRS file for both software programs. WordPerfect and DrawPerfect can share the same .DRS file.

To use the DrawPerfect .DRS file in WordPerfect 5.1, simply copy the DrawPerfect .DRS file into WordPerfect (you can use the Copy feature in List Files). Make sure you copy the DrawPerfect WP.DRS file into the same directory where the WordPerfect WP.DRS file resides. When you copy the DrawPerfect .DRS file into the directory where the WordPerfect .DRS is located, you replace the WordPerfect file with the DrawPerfect file.

The DrawPerfect .DRS file is a large file (over 500K). By copying the file into WordPerfect, you now have the same file (WP.DRS) in two places—WordPerfect and DrawPerfect. If you are concerned about disk space, you can delete the .DRS file in DrawPerfect after you copy it to WordPerfect.

Once the file is deleted from your DrawPerfect directory, you can tell DrawPerfect to look in WordPerfect for the .DRS file. Use the DrawPerfect Printer Files option under the Location of Files feature and enter the directory where the WordPerfect .DRS file resides. DrawPerfect searches for the .DRS file and the printer files in the directory you specify for Printer Files.

Redirecting DrawPerfect to look in WordPerfect for its printer files should not cause problems. DrawPerfect can use WordPerfect printer files. Just make sure that both the .DRS and printer files are in the same WordPerfect directory.

Important: *Do not try to reverse the procedure and direct WordPerfect to look in DrawPerfect for its .DRS and printer files. DrawPerfect can use WordPerfect printer files but WordPerfect cannot use DrawPerfect printer files.*

Characters

DrawPerfect includes many characters beyond those found on your keyboard. A listing of these characters is found in the WordPerfect Corporation Character sets (see *Appendix F: DrawPerfect Fonts*). The Compose feature is used to access these characters.

To use Compose you must be in text mode.

1 Press **Compose** (Ctrl-2 or Ctrl-v).

or

Press **Alt** to activate the pull-down menus, select **Fonts**, then select **Characters**.

or

If you are using a mouse, move the cursor to the **Fonts** menu, press **Enter**, then select **Characters**.

Pressing **Ctrl-v** or selecting **Characters** from the **Fonts** pull-down menu displays a “Key =” prompt at the bottom of the screen; the keys you press in steps 2 through 4 below are displayed. Pressing **Ctrl-2** displays no prompt and the keys you press do not appear at the bottom of the screen. However, both keystrokes perform the same function.

2 At the “Key” prompt, type the character set number of the character you want to create.

3 Type a comma.

4 Enter the number of the character you want to create.

For example, if you want to create the AE digraph (which is character number 36 in Character Set 1), press **Compose**, then enter 1,36.

You may want to “map” characters you frequently use to a specific key (or keys) on the keyboard. To do so, you can use Compose with the Keyboard Layout feature (see Keyboard Layout in File Reference).

Compose with Limited Characters

If you use Compose to enter a character into a long filename, macro description, or some other situation where the number of characters is limited, be aware that you may not be able to enter as many characters as if you did not use any Compose characters.

We suggest you do not use any Compose characters in a DOS filename because many of these characters are not valid in a DOS filename (see Entering Filenames under Exit in File Reference).

You cannot use the Ctrl-v keystroke to access Compose from the Macro Editor. You must press **Ctrl-2** instead.

Printable Characters

Because DrawPerfect is a graphics program, all of the characters in the Character Sets are graphically created on the screen and at the printer. If your printer is capable of printing graphics, you will be able to print every character found in the Character Sets (see *Appendix F: DrawPerfect Fonts*). DrawPerfect creates the characters using the .DRS (driver resource) file that comes with DrawPerfect.

Digraphs, Symbols, and Diacritics

Compose can also be used to access some of the more common digraphs and diacritics from the Character Sets without typing the character set or character numbers. After pressing Compose, you type one character followed by another character. You do not need to type a comma between the two numbers, nor do you need to press Enter after typing the characters. You can type either character in the pair first.

Digraphs and Symbols

The following are some of the digraphs and symbols that can be created with Compose:

Type	Character	Result
AE	[1,36]	Æ
ae	[1,37]	æ
IJ	[1,138]	Ĳ
ij	[1,139]	ĳ
OE	[1,166]	Œ
oe	[1,167]	œ
ox	[4,24]	ɔ
ss	[1,23]	ß
L-	[4,11]	£
Pl	[4,5]	¶
<<	[4,9]	«
>>	[4,10]	»
Y=	[4,12]	¥
Pt	[4,13]	₤
c/	[4,19]	¢
+-	[6,1]	±
<=	[6,2]	≤
>=	[6,3]	≥
==	[6,14]	≡
~~	[6,13]	≈

Type	Character	Result
/=	[6,99]	≠
tm	[4,41]	™
sm	[4,42]	SM
ro	[4,22]	®
co	[4,23]	©
rx	[4,43]	℞
/2	[4,17]	½
/4	[4,18]	¼
*.	[4,3]	.
**	[4,0]	•
*o	[4,45]	o
*O	[4,1]	O
ao	[1,35]	å
f-	[4,14]	f
a=	[4,15]	ä
o=	[4,16]	ö
??	[4,8]	¿
!!	[4,7]	¡
n-	[4,33]	—
m-	[4,34]	—
--	[4,34]	—

Diacritics

Diacritics are marks used with characters to represent a certain phonetic value. Unlike digraphs and symbols, diacritics can be combined with many characters. Examples of some diacritics are listed below. Try the diacritic with the character of your choice, or if in doubt, use the WordPerfect Corporation Character Set number.

Mark	Example	Result
Acute	'i	í
Caron	vz	ž
Cedilla	,c	ç
Centered Dot	:l	ł
Circumflex	^a	â
Crossbar	-t	ṭ
Dot Above	.c	č
Grave	'e	è
Macron	_u	ū
Ogonek	;a	ą
Ring Above	@a	å
Slash	/o	ø
Stroke	\l	ł
Tilde	~n	ñ
Umlaut	"u	ü

Font Attributes

Font Attributes are those options that change the way text appears on the page. They include: Size, Appearance, Text Color, and Base Font.

For more information about text features, see Text in Draw Reference.

Size The size attributes deal with the height of a character. The size attributes include Fine, Small, Large, Very Large, and Extra Large.

To change the size of text,

- 1 Create a text window or text line (see *Text in Draw Reference*).
- 2 Press **Alt** to activate the pull-down menus, then select **Fonts**.

or

If you are using a mouse, move the cursor to the **Fonts** menu, then press **Enter**.

*You can also access Size by pressing **Font** (Ctrl-F8).*

- 3 Select the size attribute of your choice.
- 4 Type the text.

DrawPerfect allows only *one* font size per text window or line. This means that when you switch font sizes, all text in your text line or text window will take on that size attribute. For example, you cannot have one letter displayed in an extra large font and another displayed in a small font within the same text line or box.

Font Appearance

The appearance attributes deal with the style of text. They include Bold, Underline, Double Underline, Italic, and Outline. Two of the most commonly-used appearance attributes, Bold and Underline, are also found on function keys: Bold (F6); Underline (F8).

To change the appearance of text,

- 1 Create a text window or line.

- 2 If you are using the keyboard, Press **Alt** to activate the pull-down menus, select **Fonts**, then select **Appearance**.

or

If you are using a mouse, move the cursor to the **Fonts** title, press **Enter**, then select **Appearance**.

*You can also access Appearance by pressing **Font** (Ctrl-F8).*

- 3 Select the appearance attribute of your choice.
- 4 Type the text.
- 5 Press **Right Arrow** (→) to move beyond the Attribute Off code.

or

Select **Fonts**, then select **Normal** to turn off the attribute.

or

Repeat steps 2 through 4 above to turn off the attribute.

The appearance attributes do not change the type of font you are using. You can insert as many appearance attributes in a text window or line as you want.

Normal

You can use the **Normal** option to turn off an attribute, or to return the font to its default point size.

- 1 If you are using the keyboard, Press **Alt** to activate the pull-down menus, select **Fonts**, then select **Normal**.

or

If you are using a mouse, move the cursor to the **Fonts** menu, press **Enter**, then select **Normal**.

*You can also access Normal by pressing **Font** (Ctrl-F8).*

Text Color and Text Pattern

The **Text Color** option changes the color of text on your monitor and at the printer. However, you must have a monitor and a printer capable of reproducing color; otherwise, each color is mapped to a pattern.

The **Text Pattern** option lets you fill text characters with patterns.

- 1 Create a text window or text line.

- 2 If you are using the keyboard, press **Alt** to activate the pull-down menus, select **Fonts**, then select **Text Color** or **Text Pattern**.

or

If you are using a mouse, move the cursor to the **Fonts** menu, press the right mouse button, then select **Text Color** or **Text Pattern**.

You must be in text mode to select a text pattern. Otherwise, brackets are placed around the Text Pattern option to indicate that the feature is unavailable.

- 3 Select **Next** or **Previous** to scroll through the available colors or patterns.
- 4 Enter the number of the corresponding color or pattern you want.
- 5 Type the text.

You can mix different colors and patterns within a text line or window. For more information about the colors and patterns used in DrawPerfect, see *Attributes Reference*.

Every time you change the text color or pattern, a color or pattern code is inserted into your text. When you want to change the current color or pattern, be sure to either delete the existing code or insert your new code after the old code. The color or pattern code should be positioned in front of the text characters you want to change.

If you have a printer that prints black and white only, all colored text will map to a pattern at the printer. However, you can select the **Text Prints Solid Black** option on the **Print** menu and have your colored and/or patterned text printed solid black at the printer. See *Print* in *File Reference* for more information.

Base Font

The Base Font is the font in which text is printed. All other font sizes and appearances are usually variations of the Base Font.

For example, if the current font is Roman 30-point, then bolded text is usually Roman Bold 30-point. Large text is also Roman, but in a larger point size.

There are 30 different base fonts from which you can select. The printed quality of the fonts differs according to the printer you use.

The fonts below were printed at High quality on an HP Laserjet Series II.

Bodoni Bold

Broadway

BROADWAY ENGRAVED*

BrushScript

Century Schoolbook

Chelmsford Book

Commercial Script

Cooper Black Bold

Courier

Courier Bold

Courier Italic

Courier Italic Bold

Courier Simplex

Eurostile

Helvetica

Helvetica Bold

Helvetica Italic

Helvetica Italic Bold

Helvetica Simplex

Helvetica Simplex Monospace

Hobo

Murray Hill

Old English

Old Town

Roman

Roman Bold

Roman Italic

Roman Italic Bold

Roman Simplex

STENCIL*

****Uppercase Only***

With the Base Font option on the Font menu, you can change the current font. However, you can only have *one font* per text window or text line.

- 1 Create a text window or text line.
- 2 If you are using the keyboard, press **Alt** to activate the pull-down menus, select **Fonts**, then select **Base Font**.

or

If you are using a mouse, move the cursor to the **Fonts** menu, press **Enter**, then select **Base Font**.

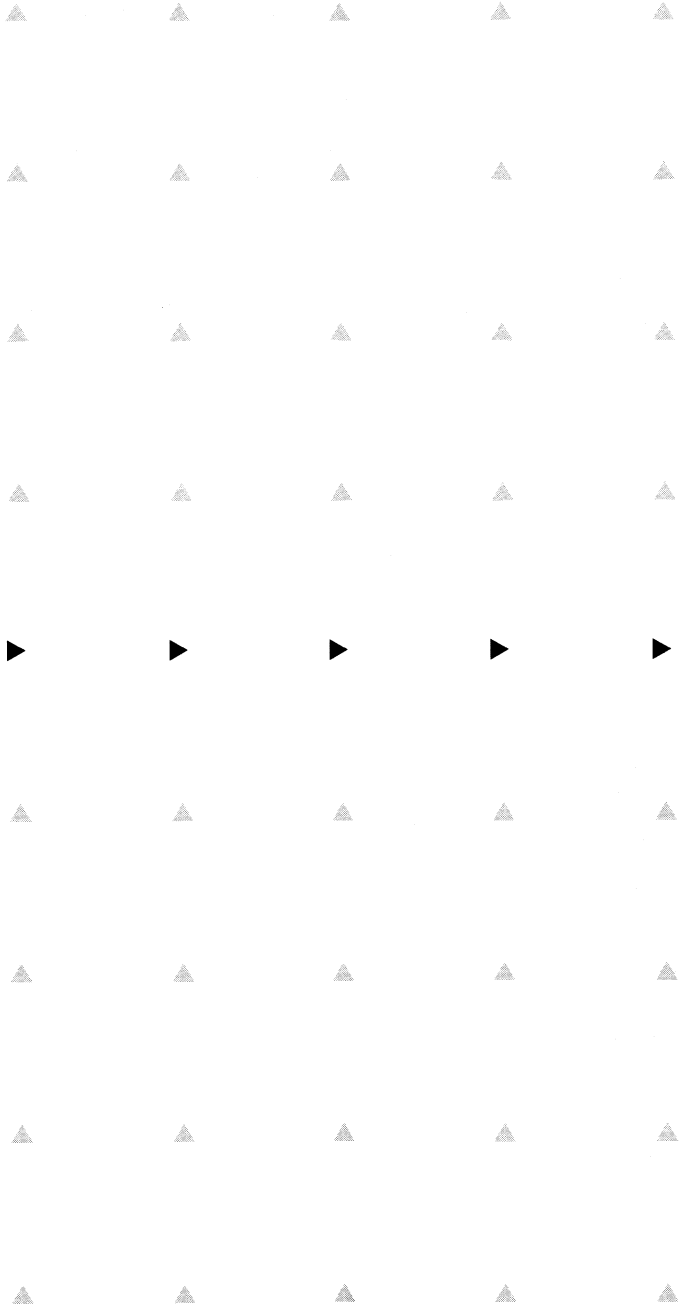
*You can also access Base Font by pressing **Font** (Ctrl-F8).*

- 3 Move the cursor to the font of your choice.

As you move the cursor through the different fonts, the "A" in the upper-right corner changes to match the characteristics of the selected font.

- 4 Choose **Select** to select the font.
- 5 Enter the point size you want for the font you have chosen.

Although you can only have one type of font per text line or text window, putting different fonts together on the page is simple. If, for example, you want a main heading in one font and a subheading in a different font, you can insert two text lines, one below the other, each with its own font.



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Help Overview

The Help feature lets you quickly learn more about DrawPerfect without having to turn to the manual. Of course, the on-screen information Help provides is often condensed. While using Help, if you feel you need more detailed information about a feature, you can always refer to the manual.

The pull-down Help menu lists three different ways you can display information about DrawPerfect: Help, Index, and Template. Help displays the main Help menu, Index displays an alphabetical listing of DrawPerfect features, and Template displays an on-screen template.



Help File

The information necessary to display on-screen Help is contained in the two files DRHELP.FIL and DRHELP2.FIL, which are provided with DrawPerfect. When you install DrawPerfect, you are asked if you want to use Help. If you type y, the Help files are correctly installed for you.

If you did not install Help when you installed DrawPerfect but you do want to use it, you can run the Installation Program and answer "Yes" when you are asked if you want to install the Help files.

Two Disk Drives

On a two disk drive system the help files are copied to the Utilities/Help diskette. To access the help files, insert the Utilities/Help diskette in drive B (or the drive which is not being used to run DrawPerfect). If you want to save a file, you will need to replace the Utilities/Help diskette with your data diskette.

Getting Help

DrawPerfect Help gives you quick access to information about pull-down menu options, function key features, and the template. In addition, the Topical Guide steps you through specific tasks you might want to complete, such as putting together a slide show.

Use Help to display any of the following on your screen:

- An alphabetical listing of DrawPerfect features and their keystrokes.
- Descriptions of DrawPerfect features and menu options.
- A template listing the keystrokes and names of the DrawPerfect features accessible through the function keys.
- A Topical Guide of information explaining the procedure for accomplishing specific tasks.

To display on-screen Help while using DrawPerfect,

- 1** Select **Help** to display the Help pull-down menu.
- 2** Select an option from the Help menu (see *Help Options* below).

*You can also access Help by pressing **Help** (F3).*

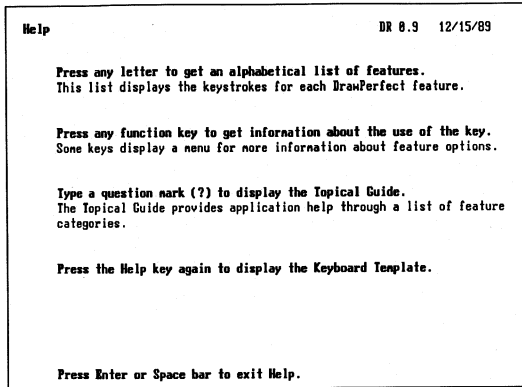
- 3** Press the **Space Bar** or **Enter** to return to the DrawPerfect screen.

Help Options

The Help pull-down menu contains three different options from which you can select.

Help

This option displays the main Help menu.



At the upper right corner of the main Help menu, the version number of the DrawPerfect program that you are using is listed, along with the date when that version was issued.

The first time you start DrawPerfect, you are asked to enter your registration number. Thereafter, the number you entered is displayed in the main Help screen so that you can refer to it whenever you need it, such as each time you call Customer Support.

The text on the main Help menu tells you how to use the Help feature. From this screen you can:

- Press a letter of the alphabet (a - z) to see a list of all the features that begin with that letter.
- Press any function key (e.g., F10) to get information about the use of the key.
- Type a question mark (?) to display the Topical Guide. The Topical Guide gives you information about specific topics, such as creating text charts and graphs.
- Press Help (F3) again to display a keyboard template.
- Press Escape (Esc) to display information about the pull-down menus.

If you access Help by pressing Help (F3), the main Help menu is the screen that appears.

Index

The Index option displays a screen of DrawPerfect features that begin, for example, with the letter "A." You can press any letter of the alphabet to see a list of all the features that begin with that letter.

If you are just browsing or you are not certain of the keystroke for the feature you want to learn about, you can press any letter of the alphabet to display a list of features by keystroke, feature name, and keystroke name. You can then press a keystroke to learn more about any feature on the list.

Template

This option displays the DrawPerfect keyboard template. If you want information about the use of the keys, press the appropriate function key (e.g. if you wanted information about save you would press Save (F10)).

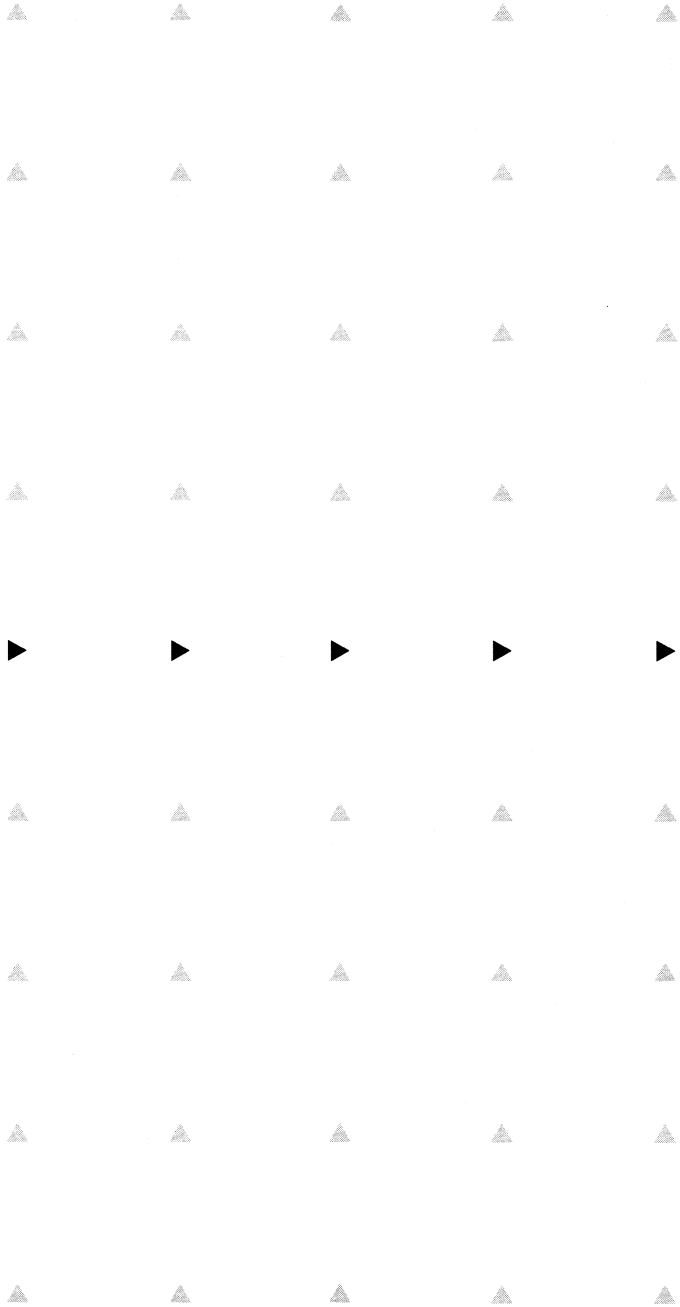
Topical Guide

The Topical Guide is accessed by typing a question mark (?) when you are at the main Help menu. If you are unsure about how to use the pull-down menus, or you do not remember the steps involved in creating a presentation, you can use the Topical Guide. It can be an excellent resource.

Escape

When you press Escape (Esc), the eight pull-down menu titles are displayed on the screen. You can type the highlighted letter within a menu title to display information about each option on the menu.

For example, if you have forgotten what Constrain does, you could press Escape, then select **O**ptions to display a page of information explaining not only Constrain, but all the options on the Options menu.



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Options Overview

DrawPerfect contains various options to assist you in creating precise drawings and special effects. There are eight options listed on the Options menu.

OPTIONS
Clear Options
Freehand
Constrain
Stretch
Grid Display
Grid Snap
Define Grid
Position Display

DrawPerfect displays a small asterisk by the option name you select. This is your way of determining which options are on and which options are off. In addition, when you turn on Freehand, Constrain, or Stretch, DrawPerfect displays in the bottom right corner of the screen the name of the option you selected (in abbreviated form).

Once an option has been turned on, you can turn it off by either selecting Clear Options or by selecting the option name again.

Constrain

The Constrain feature restricts how ellipses, lines, and boxes are drawn. When Constrain is on, DrawPerfect will allow only horizontal or vertical lines, circular ellipses, and square boxes.

To turn on Constrain,

- 1** Select **Options** to display the Options menu.
- 2** Select **Constrain** on the Options menu.

*You can also access the Constrain feature by pressing **Constrain** (Alt-F9).*

"Cns" appears at the bottom of the screen which indicates you have Constrain turned on.

- 3** Draw the object.

To turn off Constrain,

- 4** Select **Options**, then select **Clear Options**.

or

Select **Options**, then select **Constrain** again.

*You can also turn off Constrain by pressing **Constrain** (Alt-F9).*

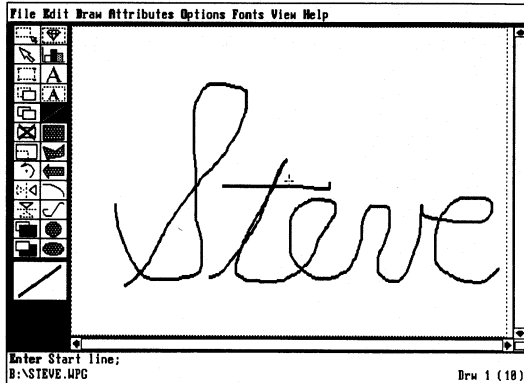
Clear Options clears (turns off) all options currently selected.

While you are drawing, you can turn on or turn off Constrain by using the Constrain function key (Alt-F9).

Freehand

If you are using a mouse with DrawPerfect, you can turn on the Freehand feature to draw freehand lines and polygons.

When you draw freehand, the line that is drawn follows the exact trail of the mouse. For example, suppose you want to sign your name to your DrawPerfect work of art. You select the Line drawing object, turn on Freehand, then write your name with the mouse.



To draw freehand,

- 1 Select **Draw** to display the Draw menu, then select **Line** or **Polygon**.
- 2 Select **Options** to display the Options menu.
- 3 Select **Freehand** on the Options menu.

*You can also access the Freehand feature by pressing **Freehand** (Shift-F9).*

At the bottom of the screen "Frh" appears which indicates you have Freehand turned on.

- 4 Hold down the left mouse button and begin to draw.
- 5 When you have finished, release the left mouse button.

To end freehand drawing, press the right mouse button. If you release the left mouse button, you are able to draw straight lines as if Freehand were not turned on.

To turn off Freehand,

6 Select **Options**, then select **Clear Options**.

or

Select **Options**, then select **Freehand** again.

*You can also turn off Freehand by pressing **Freehand** (Shift-F9).*

Clear Options clears (turns off) all options currently selected.

While you are drawing, you can turn on or turn off Freehand by using the Freehand function key (Shift-F9).

Grid

To assist you in your drawing, DrawPerfect provides a grid in the drawing window. The grid is a set of reference points which helps you measure and align objects.

Grid Display

To display the grid,

- 1 Select Options to display the Options menu.
- 2 Select Grid Display from the Options menu.

*You can also access the Grid Display feature by pressing **Grid Display** (Alt-F7).*

To remove the grid display,

- 3 Select Options, then select Clear Options.

or

Select Options, then select Grid Display.

*You can also remove the grid by pressing **Grid Display** (Alt-F7).*

Clear Options clears (turns off) all options currently selected.

While you are drawing, you can turn on or turn off the grid by using the Grid Display function key (Alt-F7).

Grid Snap

When you want to use the grid to align objects for you, turn on the Snap feature. DrawPerfect then forces all definition points of an object to coincide with a grid point.

To turn on Snap,

- 1 Select Options to display the Options menu.
- 2 Select Grid Snap from the Options menu.

*You can also access the Grid Snap feature by pressing **Grid Snap** (Ctrl-F7).*

The Snap feature will work whether or not the grid is displayed.

To turn off Grid Snap,

- 3 Select Options, then select Clear Options.

or

Select Options, then select Grid Snap.

*You can also turn off Grid Snap by pressing **Grid Snap** (Ctrl-F7).*

Clear Options clears (turns off) all options currently selected.

You can turn on or turn off Grid Snap while you are drawing by using the Grid Snap function key (Ctrl-F7).

Define Grid

The DrawPerfect grid is based on the X- and Y-axes; X being horizontal and Y being vertical. Each point on the grid is displayed at a specified measurement that you can define. The default setting for the grid point distance is .25". This means that a grid point is displayed, both horizontally and vertically, every quarter of an inch.

The size of the drawing window is smaller than the size of the printed page. Thus, grid points will appear closer together on the screen.

If you want to change the grid setting, you have the options of adjusting Grid X (X-axis), Grid Y (Y-axis), and the display interval.

You can change the unit of measure for the grid through the Setup feature. See Units of Measure in File Reference for more information.

To change the distance between the points of the grid,

- 1 Select **Options** to display the Options menu.
- 2 Select **Define Grid**.

The current X-axis measurement appears in the bottom left corner of the screen (e.g., "Grid X: 0.25").

- 3 Enter the measurement you want (see *Grid X* below).

or

Press **Enter** to accept the current measurement.

The current Y-axis measurement appears.

- 4 Enter the measurement you want (see *Grid Y* below).

or

Press **Enter** to accept the current measurement.

The current Display Interval measurement appears.

- 5 Enter the measurement you want (see *Display Interval* below).

or

Press **Enter** to accept the current measurement.

The maximum value that can be entered when defining the grid measurements is 1", the minimum value is 0.01".

Grid X

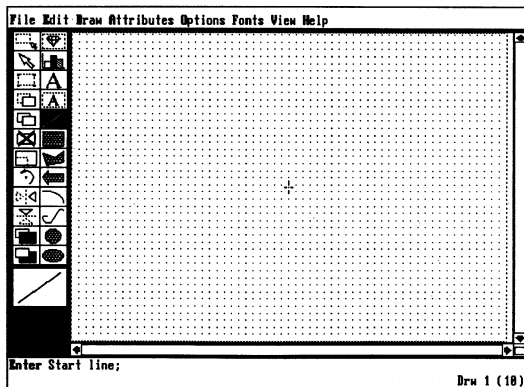
When you want to size the grid points on the X-axis, enter a measurement for Grid X. The X-axis refers to horizontal changes. For example, if you enter the number .50, the grid points will be displayed horizontally every 1/2 inch.

Grid Y

When you want to size the grid points on the Y-axis, enter a measurement for Grid Y. The Y-axis refers to vertical changes. For example, if you enter the number .50, the grid points will be displayed vertically every 1/2 inch.

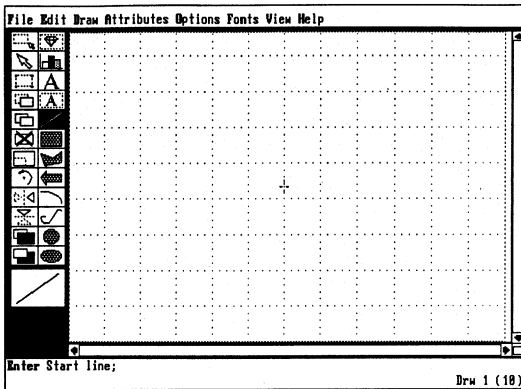
Display Interval

The Display Interval feature lets you define which grid points you want displayed on the screen. For example, if you use the measurement .15" for both the X and Y axis, your screen would look like the one illustrated below.



Displaying so many grid points on the screen can quickly become confusing. However, you can use the Display Interval feature to

tell DrawPerfect which Grid points you want displayed. If you enter 5 at the Display Interval prompt, every *fifth* grid point appears on the screen.



The grid is actually still displayed at .15"; all you have done is change which grid points are visible on the screen. If you wanted to redisplay every grid point at the .15" measurement, you would need to change the Display Interval number to 1, which means every *one* of the points would be displayed.

The Display Interval feature is helpful if, for example, you are creating something intricate that requires you to use a small grid display number such as .15". Instead of trying to focus on and work with so many grid points, use the Display Interval feature and change the display measurement to 5. Every fifth grid point shows up on the screen, yet the cursor still snaps to *every* point.

DrawPerfect calculates the display interval for you when you assign measurements to the X-axis, Y-axis, or both axes. Unless you specify a number for the display interval, DrawPerfect displays the grid at one-inch intervals.

For example, if the X- and Y-axis are displayed at .25", DrawPerfect sets the display interval to 4. With a setting of 4, every fourth grid point is displayed on the screen, which means the display distance between grid points is one inch.

The size of the drawing window is smaller than the size of the printed page. Thus, grid points will appear closer together on the screen.

Page Options

The Page Options feature is used to create a border, define the margins, and shade the DrawPerfect page.

Page Options is an option on both the Setup: Initial Settings menu and the Options menu. The difference is that the option on the Setup: Initial Settings menu sets the page options for all subsequently created drawings, while the option on the Options menu only sets the page options for the drawing on the screen. The option on the Options menu overrides (takes precedence over) the option on the Setup: Initial Settings menu.

*You can also access Page Options by pressing **Format** (Shift-F8). Setting the option from the Format menu would have the same effect as setting the option from the Options menu.*

In *Page Options* in *File Reference*, we tell you how to get to the Page Options feature on the Setup: Initial Settings menu. Here, we will tell you how to get to the Page Options feature on the Options menu. The method for selecting different page options is exactly the same for both menus. (Refer to *Page Options* in *File Reference* for more information.)

- 1** Select **Options** to display the Options menu, then select **Page Options**.

*You can also access Page Options by pressing **Format** (Shift-F8).*

- 2** Select an option, then make the necessary changes.
- 3** Press **Exit** (F7) until you return to the page.

There are six options on the Page Options menu. See *Page Options* in *File Reference* for information about each option.

Paper Size

When printing in DrawPerfect, you need a way to select and define different kinds and sizes of paper (forms) to print on. In addition, you need to be able to tell DrawPerfect which form you are printing on at a particular time. The Paper Size/Type feature lets you do this.

This feature lets you define any kind of form (letterhead, legal, transparencies, etc.), then print on that form. Since there are so many possible types of paper you can print on, DrawPerfect needs information about each type you use. For example, it needs to know the size of the paper, how the paper is inserted into the printer (e.g., bin number), and whether or not you want DrawPerfect to prompt you to insert the paper.

In addition to directing DrawPerfect to the proper form, this information helps DrawPerfect format the drawing on both the screen and the printed page.

The Paper Size/Type feature displays a list of all the paper sizes and types defined for the currently selected printer. Each printer you select will have different paper sizes and types already defined. You can edit or delete definitions, or create new ones that will be displayed when you select Paper Size/Type with that printer selected.

Paper Size/Type is an option on both the Setup: Initial Settings menu and the Options menu. For both options, the method for selecting a paper size/type is the same. The difference is that the option on the Setup: Initial Settings menu sets a paper size/type for all subsequently created drawings, while the option on the Options menu sets a paper size/type for the drawing on the screen. The option on the Options menu overrides (takes precedence over) the option on the Setup: Initial Settings menu.

You can also access the Paper Size/Type feature by pressing Format (Shift-F8). Setting the option from the Format menu has the same effect as setting the option from the Options menu.

In *Initial Settings* in *File Reference*, we tell you how to get to the Paper Size/Type feature on the Setup: Initial Settings menu. Here, we will tell you how to get to the Paper Size/Type option on the Options menu. The method for selecting a paper type is exactly the same.

Each version of DrawPerfect has a default form that is used if you do not select a paper size and type. For the U.S. version of DrawPerfect, the default is Standard—Wide 11" x 8.5 paper.

To select a paper size and type,

- 1 Select **Options** to display the Options menu, then select **Paper Size**.

You can also access Paper Size by pressing *Format (Shift-F8)*.

- 2 Move the cursor to the paper type you want to use (see *Paper Type and Orientation* below), then choose **Select**.
- 3 Press **Exit (F7)** to return to the normal drawing screen.

If you have not yet selected a printer, these steps will work somewhat differently (see *Paper Size/Type Screen* below).

When you select a definition through the Options menu (as in the steps above), that Paper Size/Type setting is applied to the drawing on the screen. When DrawPerfect encounters one of these settings while printing, it looks on the list of paper sizes and types and uses the definition that matches the setting exactly. If it cannot find a definition to match, it uses the [ALL OTHERS] definition (see [ALL OTHERS] below).

Adding a Definition

It is not necessary to define a paper type for every different form on which you print. DrawPerfect comes with some preset definitions; in addition, the [ALL OTHERS] paper type (see [ALL OTHERS] below) can be used if you do not have a paper definition to match the Paper Size/Type you selected. There are some situations, however, where you may want to add a definition.

For example, if you have multiple bins or paper trays from which your printer can retrieve paper, you can create a definition which directs your printer to the proper location for a particular form.

In short, if you are not happy with the [ALL OTHERS] definition, you need to add a definition or edit the [ALL OTHERS] definition (see *Editing [ALL OTHERS]* under [ALL OTHERS] below).

To add a definition, choose **Add** instead of **Select** in step 2 above, then select a paper type (see *Paper Type* under *Editing a Definition* below). A screen is displayed that lets you accept the defaults for that definition or edit them as necessary (see *Editing a Definition* below). Press **Exit (F7)** when you finish editing the definition, and you can see that the definition has been added to the *Format: Paper Size/Type* screen.

[ALL OTHERS]

The [ALL OTHERS] paper definition exists in case DrawPerfect cannot find a paper definition to match a Paper Size/Type setting in your drawing. It also lets you specify any paper size and type without actually creating a definition. Choose Select with the [ALL OTHERS] definition highlighted, and the Format: Paper Size menu is displayed. Select a paper size (or select Other and enter your own dimensions), then select a paper type (or select Other and enter a name).

The [ALL OTHERS] definition increases your drawing portability (i.e., printing a drawing from different computers and printers). Because DrawPerfect uses this definition if it cannot find a paper definition to match the setting in your drawing, you can print your drawing with any printer, whether or not it has the same paper definitions as your printer.

A MAXIMUM DEFAULT WIDTH

Paper type and Orientation	Paper Size	Print	Loc
Envelope - Wide	9.5" x 4"	Yes	Manual
Standard	8.5" x 11"	No	Contin
Standard - Wide	11" x 8.5"	No	Contin
[ALL OTHERS]	A Width ≤ 8.5"	Yes	Manual

1 Select; 2 Add; 3 Copy; 4 Delete; 5 Edit; N None Search: 1

The [ALL OTHERS] paper definition has a maximum width associated with it. If the width of the paper size you select from the Paper Size menu (after choosing Select with [ALL OTHERS] highlighted) exceeds this maximum width, the message “Requested Form is Unavailable” appears next to the Paper Size/Type option on the Format: Page menu. The width dimension displayed next to “Paper Size” is then set to the maximum width measurement. The drawing on the screen and at the printer is formatted on the page relative to the maximum width measurement specified by the [ALL OTHERS] definition.

You can enter a new maximum width using the Maximum Width option on the Format: Edit Paper Definition menu for the [ALL OTHERS]

definition; however, you should not enter a width that exceeds your printer's capability (see *Editing [ALL OTHERS]* below).

Editing [ALL OTHERS]

You can edit the [ALL OTHERS] definition by selecting Edit from the Format: Paper Size/Type menu with the [ALL OTHERS] definition highlighted. The screen that appears is slightly different from the one displayed if you highlight any other paper definition (see *Editing a Definition* below). Several options are not available on the [ALL OTHERS] screen, and one additional option (Maximum Width) has been included. You might want to enter a bigger number for Maximum Width if you plan on using paper that is wider than the measurement displayed.

The defaults for this menu are general enough to fit most paper sizes and types that do not have a corresponding paper definition. However, you can edit these options if you want (see *Editing a Definition* below for details).

Copying a Definition

You can make a copy of an existing paper size/type definition simply by highlighting the definition you want to copy, then selecting Copy. An exact copy of the definition is inserted into the Format: Paper Size/Type screen. You can select Edit to make any changes you want (see *Editing a Definition* below).

Deleting a Definition

You can delete a paper size/type definition by highlighting that definition, selecting Delete or pressing Delete (Del), then typing y to confirm that you want to delete the definition.

Editing a Definition

If you want to change a setting for any of the paper definitions displayed on the Format: Paper Size/Type screen, move the cursor to the definition you want to edit, then select Edit. The screen displayed lets you edit all of the information found on the Format: Paper Size/Type screen.

Location

This option displays a menu that tells DrawPerfect how the paper is fed to the printer. Select Continuous if your printer is dot matrix or daisy wheel and the paper is tractor-fed with perforated holes on each side. Continuous forms on laser printers are single sheets of paper that are fed with a paper cassette or a single bin sheet feeder.

Sometimes it may be difficult to determine if the paper in a laser printer is continuous or comes from a sheet feeder with more than

one bin. Generally, if a laser printer has only one place to get paper, the paper should be defined as continuous.

If your printer has more than one paper bin from which it can get paper, select Bin Number, then enter the number of the bin where the paper is located. The Helps and Hints screen for your sheet feeder may contain information about your sheet feeder bins (see *Sheet Feeder* in *File Reference*).

Select Manual if your paper is *hand fed* into the printer one sheet at a time.

Paper Size

This option displays the Paper Size menu which lists several common paper sizes. You can select one that is displayed or select Other and enter your own dimensions.

Paper Size refers to the dimensions of the paper on which you will print. The dimensions are determined by the way the drawing is to be viewed. In other words, the first measurement (width) represents the edge of the paper horizontal to the drawing on the page.

Several common paper sizes are listed on the menu. You can select a pre-defined size, or you can select Other and enter your own dimension. However, you cannot select Other and then enter a height or width that is smaller than your top or side margin settings. DrawPerfect will not let you create a definition smaller than your margins. You must first change your margins, then enter the desired height and width.

Paper Type

Paper Type is simply what you want to call the paper you are defining. When you select this option, the Format: Paper Type menu is displayed. This menu lets you select from several different predefined types of paper (e.g., Cardstock, Letterhead). If you want to use a form other than those listed, select Other, then enter any name you want (e.g., Phil's Letterhead) to name your own paper type.

Prompt to Load

Select this option, then type **y** to have DrawPerfect prompt you when it is ready to print on this paper type. Your computer will beep and a message telling you to insert the paper will appear on the Printer Control screen. Insert the paper, then type **g** to continue printing.

Type **n** after selecting this option to return to the default of no prompting.

**Paper Size/Type
Screen**

When you select Paper Size from the Options menu, the screen displayed lists information about all paper definitions for the currently selected printer. You can edit, add, delete, or select the definitions displayed on this screen. (You cannot delete the [ALL OTHERS] definition.)

If you have not yet selected a printer, selecting Paper Size/Type from the Format: Page menu will take you straight into the Format: Paper Size menu. Select a paper size (see *Paper Size* above), then select a paper type from the Format: Paper Type menu (see *Paper Type* above). “Requested Form is Unavailable” will appear next to Paper Size/Type on the Format: Page menu.

**Paper Type and
Orientation**

The far left column of the Format: Paper Size/Type screen displays the Paper Type and Orientation of those definitions set up for the currently selected printer. This column displays the type of paper you selected (or that is already defined). If the width of the paper is greater than the height, the word “Wide” appears next to the type.

Position Display

When you select the Position Display option, a position display message appears in the bottom right corner of the screen. The message tells you the position of the cursor when you move around the screen and the degrees of rotation when you rotate an object.

To turn on the Position Display message,

- 1 Select **Options** to display the Options menu.
- 2 Select **Position Display**.

*You can also access the Position Display feature by pressing **Position Display** (Alt-F3).*

To turn off Position Display,

- 3 Select **Options**, then select **Clear Options**.

or

Select **Options**, then select **Position Display** again.

*You can also turn off Position Display by pressing **Position Display** (Alt-F3).*

Clear Options clears (turns off) all options currently selected.

You can turn on or turn off the Position Display message while you are drawing if you use the Position display function key (Alt-F3).

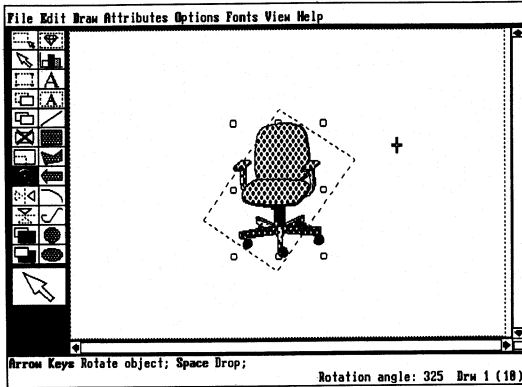
Cursor Position The Position Display message tells you the absolute position of the cursor. The origin or starting cursor position is found in the bottom left corner; these coordinates correspond to the current page margins.

For example, if the page margins were set at one inch, and the cursor was in the bottom left corner of the drawing window, the cursor location would be displayed as **X: 1" Y: 1"**.

You can change the unit of measure for the Position Display message through the Setup feature. For more information, see *Units of Measure in File Reference*.

Rotation Position

When you are rotating an object, the Position Display message tells you the number of degrees the object is rotating.



If you need to be precise as you rotate, simply watch the rotation display and when you reach the degree amount you want, press the Space Bar.

Stretch

The Stretch feature lets you stretch all four kinds of DrawPerfect objects: Drawing, Figure, Chart, and Text, when you are using the Size option (see *Size* under *Editing Actions* in *Edit Reference*). In addition, Stretch lets you change the dimensions of a figure being imported. With Stretch turned on, the figure is resized as needed to fit the box defined for the figure.

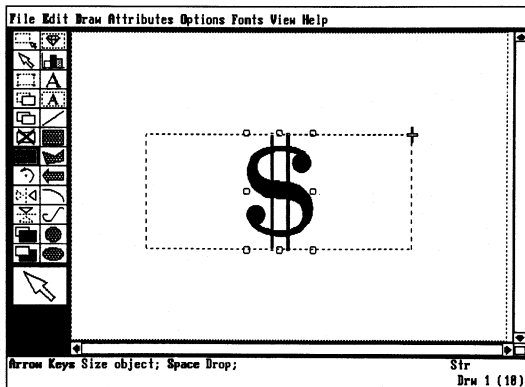
To stretch an object on the screen,

- 1 Select **Options** to display the Options menu.
- 2 Select **Stretch** on the Options menu.

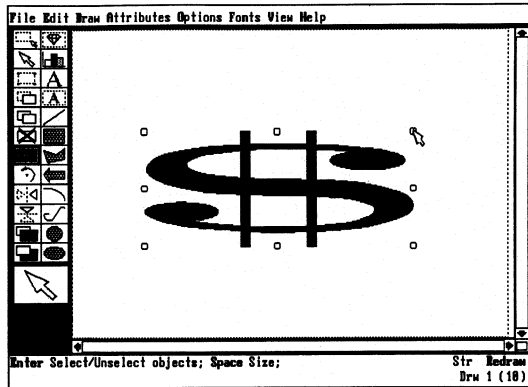
*You can also access the Stretch feature by pressing **Stretch** (Ctrl-F9).*

At the bottom of the screen "Str" appears which indicates you have Stretch turned on.

- 3 Select **Edit** to display the Edit menu.
- 4 Select **Size** from the Edit menu.
- 5 Select the object(s) you want to size.
- 6 Press the **Space Bar** to display the dashed box.
- 7 Change the size of the dashed box.



- 8 Press the **Space Bar** to change the object to the size of the box.



To stretch an object you are retrieving, follow steps 1 and 2 above, then retrieve the object.

With the Stretch option on, the object is *stretched* to fit the size of the box; the proportions of the object will *not* be the same as the original.

To turn off Stretch,

- 9 Select **Options**, then select **Clear Options**.

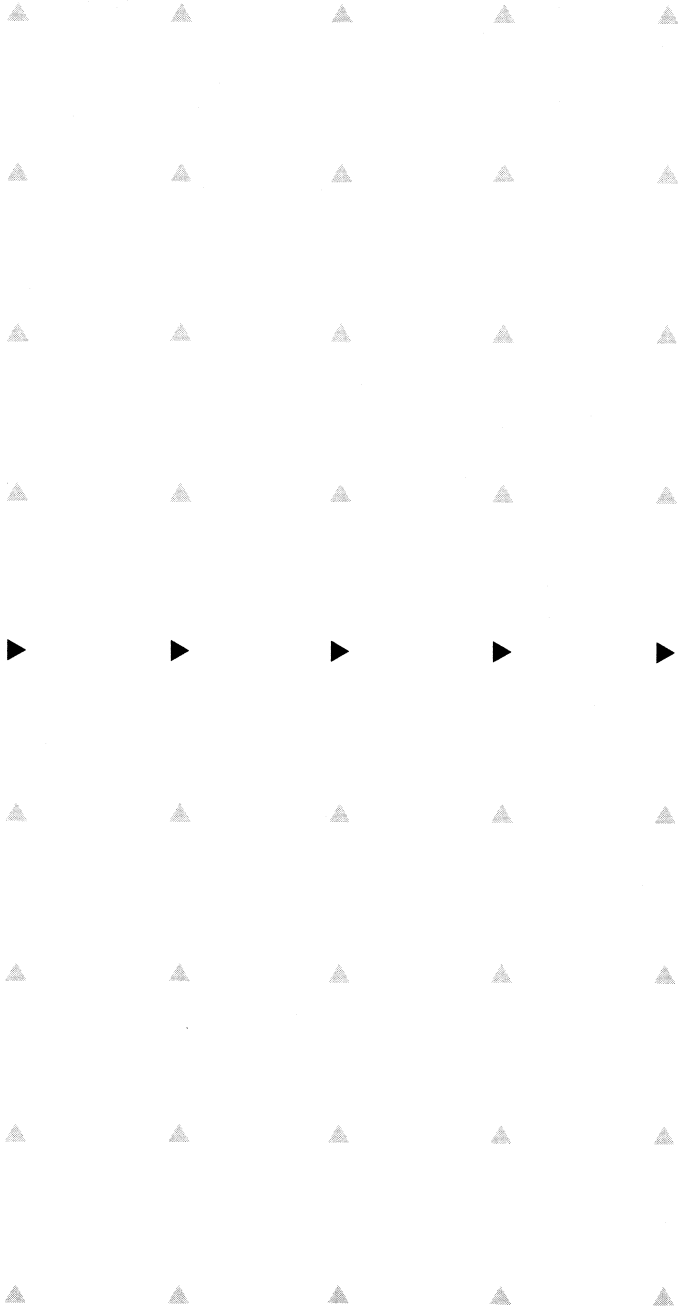
or

Select **Options**, then select **Stretch** again.

*You can also turn off Stretch by pressing **Stretch** (Ctrl-F9).*

Clear Options clears (turns off) all options currently selected.

While you are drawing, you can turn on or turn off Stretch by using the Stretch function key (Ctrl-F9).

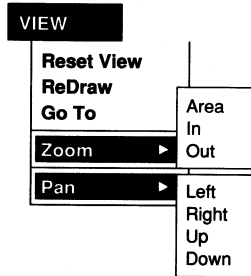


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View Overview

The pull-down View menu contains options which let you change the way objects are displayed on the screen. The Zoom and Pan options contain submenus.



With the options on the View menu you can enlarge, shrink, or move an object using Pan and Zoom; reset or redraw a page using the Reset View and Redraw options; and move your cursor to a specific position using the Go To option.

Scroll Bars

Although the Scroll Bars are not listed on the View menu, they are used in conjunction with the Pan and Zoom features and provide you with another way of manipulating objects on the screen. Information about the Scroll Bars is included in *View Reference*.

Go To

The Go To feature lets you move the cursor to a specific X and Y screen location.

- 1 Select **View** to display the View pull-down menu. Select **Go To** from the View menu.

*You can also access Go To by pressing **Go To** (Ctrl-Home).*

- 2 Enter the desired X-axis location, then enter the desired Y-axis location.

The cursor moves to the specified position.

If you are in a zoomed-in window, the Go To feature will move the cursor only to the coordinates that are within the currently displayed window.

Pan

Pan gives you the ability to move an object to the left, right, top, or bottom when you are zoomed in on the page.

Pan changes your vantage point of an object; it does not change the position of an object permanently. If you want to change the position of an object permanently, use the Move feature.

Pan Left, Right, Up, or Down

The Pan command moves all the objects on the screen; however, Pan can only be accessed when you are using Zoom Area or Zoom In (see *Zoom* in *View Reference*).

- 1 Select View to display the View menu.
- 2 Select Pan to display the Pan submenu.
- 3 Select a direction.

You can also access the Pan command by pressing Ctrl-Left Arrow (←), Ctrl-Right Arrow (→), Ctrl-Up Arrow (↑), or Ctrl-Down Arrow (↓).

The number displayed in parentheses in the bottom right corner of the screen determines how much Pan affects the object. Press Insert to change the number to 1, 10, or 25. The higher the number, the more DrawPerfect will pan across the screen.

If you pan past the edge of the page borders on any side, a dashed line appears on the screen that indicates where the edge is located.

ReDraw

The ReDraw feature lets you redraw all objects on the screen without taking you out of a zoom or a pan.

To redraw the screen,

- 1 Select View to display the View menu, then select ReDraw.

or

Place the cursor on top of the small box in the bottom right corner of the scroll bars and press **Enter**.

*You can also access the ReDraw feature by pressing **ReDraw** (F9).*

DrawPerfect prompts you with the word “Redraw” in the bottom right corner when the drawing on the screen is not displayed correctly and needs to be “redrawn.” ReDraw also clears the screen of object fragments that are periodically left when you edit and maneuver objects.

Redrawing the screen is necessary when you have the Automatic Redraw While Editing feature turned off. When the automatic editing feature is turned off you will notice that parts of an object may disappear when you edit. For example, if you drew an arrow on top of a box, then later moved the arrow off the box, the section of box underneath the arrow would disappear. You can redisplay the box by selecting ReDraw.

The default setting for the Automatic Redraw While Editing feature is no. You can change the setting through Setup.

You can also use Reset View to redraw the screen. However, keep in mind that Reset View will not retain a zoom; the screen is reset to its original size. See Reset View in View Reference for more information.

Reset View

When you want to redraw the screen *and* reset the page to its original size and position after using Zoom, use the Reset View option.

To reset the page,

- 1 Select **View** to display the View menu, then select **Reset View**.

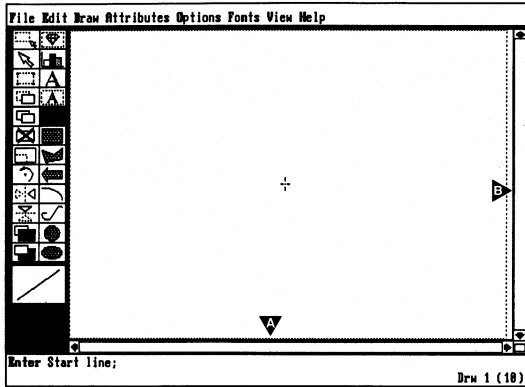
You can also access the Reset View feature by pressing Go To (Ctrl-Home) twice.

You can use the Reset View option to redraw the screen whenever you see the word “Redraw” in the bottom right corner. The only difference between the Reset View option and the ReDraw option is that Reset View will take you out of a zoom, whereas ReDraw will leave you in a zoom.

Scroll Bars

The Scroll Bars, located along the bottom and right side of the drawing window, provide you with another way of accessing the Pan and ReDraw commands.

- ▲ SCROLL BARS
- ▲ SCROLL BARS



To pan with the Scroll Bars,

- 1 While zoomed up on the drawing window, place the cursor on top of one of the small arrows and press **Enter**.

To redraw the screen with the Scroll Bars,

- 1 Place the cursor on top of the small box in the bottom right corner of the Scroll Bars and press **Enter**.

The Scroll Bars also show you how much page area is visible on the screen and how much page area is scrolled outside of your view. When you use either the zoom or pan feature, sections of the Scroll Bars fill in, representing the amount of page scrolled out of the drawing window. The more you zoom in or pan in one direction, the more the Scroll Bars fill up.

Zoom

Zoom gives you the ability to magnify objects in the drawing window for detailed editing. This feature contains three options, Area, In, and Out, that allow you to zoom in on a specific area, zoom in on all objects in the drawing window, or zoom out and view a reduced version of the drawing window.

You can use zoom to change your vantage point of an object, but it does not change the size or position of an object permanently. If you want to change the size of an object permanently, use the Size feature.

The number displayed in parentheses in the bottom right corner of the screen determines how much Zoom affects the object. Press Insert to change the number to 1, 10, or 25. The higher the number, the more DrawPerfect will zoom in to or out from an object.

If you zoom past the edge of the page on any side, a dashed line appears on the screen. The line shows you where the edge of the drawing window is located. You cannot add any objects past the page edge.

To get out of a zoom, reset the page (see *Reset View* in *View Reference*).

Area

The Zoom Area option lets you define an area of the screen where you want to use zoom. Once the area is defined, all objects within the specified area are magnified. Zoom Area is different than Zoom In or Zoom Out. The Area option lets you choose one area on the screen to zoom in on, whereas Zoom In and Zoom Out magnify or shrink the entire screen.

- 1 Select **View** to display the View menu.
- 2 Select **Zoom** to display the Zoom submenu.
- 3 Select **Area** from the Zoom submenu.

*You can also access Zoom Area by pressing **Zoom Area** (Alt-F5).*

- 4 Move the cursor to the starting point of the area and press **Enter**.
- 5 Move the cursor to the ending point of the area and press **Enter** again.

An enlarged view of the selected area appears on the screen.

Zoom In

The Zoom In command is used to magnify all objects currently on the screen.

- 1** Select **View** to display the View menu.
- 2** Select **Zoom** to display the Zoom submenu.
- 3** Select **In** from the Zoom submenu.

*You can also access the Zoom In command by pressing **Page Up** (PgUp).*

An enlarged view of the object(s) appears on the screen.

Zoom Out

The Zoom Out command is used to shrink all objects currently on the screen.

- 1** Select **View** to display the View menu.
- 2** Select **Zoom** to display the Zoom submenu.
- 3** Select **Out** from the Zoom submenu.

*You can also access the Zoom Out command by pressing **Page Down** (PgDn).*

A reduced version of the object(s) appears on the screen.

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Appendix A: ASCII Conversion Chart

You can enter ASCII characters by holding down Alt and typing the corresponding number on the number pad. (Do not use the numbers at the top of the keyboard.) The character does not appear until you release the Alt key.

Screen Position	ASCII Character	Screen Position	ASCII Character
1	☺	24	↑
2	☹	25	↓
3	♥	26	→
4	♦	27	←
5	♣	28	└
6	♠	29	↔
7	•	30	▲
8	■	31	▼
9	○	32	(space)
10	◼	33	!
11	♂	34	"
12	♀	35	#
13	♪	36	\$
14	♫	37	%
15	⚙	38	&
16	▶	39	'
17	◀	40	(
18	↑	41)
19	!!	42	*
20	¶	43	+
21	§	44	,
22	■	45	-
23	‡	46	.

Screen Position	ASCII Character	Screen Position	ASCII Character
47	/	76	L
48	0	77	M
49	1	78	N
50	2	79	O
51	3	80	P
52	4	81	Q
53	5	82	R
54	6	83	S
55	7	84	T
56	8	85	U
57	9	86	V
58	:	87	W
59	;	88	X
60	<	89	Y
61	=	90	Z
62	>	91	[
63	?	92	\
64	@	93]
65	A	94	^
66	B	95	_
67	C	96	`
68	D	97	a
69	E	98	b
70	F	99	c
71	G	100	d
72	H	101	e
73	I	102	f
74	J	103	g
75	K	104	h

Screen Position	ASCII Character	Screen Position	ASCII Character
105	i	134	â
106	j	135	ç
107	k	136	ê
108	l	137	ë
109	m	138	è
110	n	139	ï
111	o	140	î
112	p	141	ì
113	q	142	Ä
114	r	143	Å
115	s	144	É
116	t	145	æ
117	u	146	Æ
118	v	147	ô
119	w	148	ö
120	x	149	ò
121	y	150	û
122	z	151	ù
123	{	152	ÿ
124	|	153	Ö
125	}	154	Ü
126	~	155	ø
127	△	156	£
128	Ç	157	¥
129	ü	158	ƒ
130	é	159	f
131	â	160	á
132	ä	161	í
133	à	162	ó

Screen Position	ASCII Character	Screen Position	ASCII Character
163	ú	192	ˆ
164	ñ	193	˜
165	Ñ	194	˘
166	ª	195	˙
167	º	196	˚
168	ı	197	¸
169	ƒ	198	˘
170	¬	199	˙
171	½	200	˚
172	¼	201	¸
173	ı	202	˘
174	«	203	˙
175	»	204	¸
176	■	205	=
177	■	206	≠
178	■	207	±
179	|	208	∓
180	†	209	π
181	‡	210	∏
182	‡	211	∏
183	π	212	ε
184	ƒ	213	F
185	‡	214	π
186	||	215	≠
187	∩	216	≠
188	∩	217	∩
189	∩	218	∩
190	∩	219	■
191	∩	220	■

Screen Position	ASCII Character	Screen Position	ASCII Character
221	▣	250	.
222	▤	251	√
223	▥	252	n
224	α	253	2
225	β	254	■
226	Γ		
227	π		
228	Σ		
229	σ		
230	μ		
231	τ		
232	Φ		
233	Θ		
234	Ω		
235	δ		
236	∞		
237	φ		
238	ε		
239	∩		
240	≡		
241	±		
242	≥		
243	≤		
244	∫		
245	J		
246	÷		
247	≈		
248	°		
249	.		

Appendix B: Conversion Program

The Graphics Conversion Program converts a number of graphics formats to DrawPerfect (.WPG) format. Many files can be converted by directly retrieving the file into DrawPerfect. However, some formats, such as AutoCad .DXF, must be converted with the Graphics Conversion Program. See *Appendix I: Import Formats* for more information before using the Graphics Conversion Program.

You might want to use the Graphics Conversion Program to convert files of supported formats if:

- The file is in .DXF format. (All DXF files must be converted through the Conversion Program.)
- You want to use some of the startup options available with the Conversion Program that affect the way the file is converted (see *Startup Options* below).
- You want to convert multiple files (see *Multiple Files* below).

The Graphics Conversion Program file (GRAPHCNV.EXE) needs to be installed properly before using the program. If you chose not to copy the conversion files when you installed DrawPerfect (and have not subsequently installed them), you must do so now to use the Graphics Conversion Program.

To run the Graphics Conversion program,

- 1 Go to DOS.
- 2 Change to the directory where GRAPHCNV.EXE is located.

The Installation Program copies the GRAPHCNV.EXE file to the directory where DrawPerfect (DR.EXE) is located (usually C:\DR10) if you are using a hard disk, or to the diskette you labeled Utilities/Help if you are using a two disk drive system.

- 3 Enter **graphcnv** to start the program.
- 4 Enter the full pathname of the file to be converted.
- 5 Enter the full pathname of the converted file (output file).

When you see the “->ok” message, the conversion is complete.

- 6 Press any key to exit the program.

Error Messages

As the Graphics Conversion Program tries to convert your files, the following error messages may appear:

Bad Format

The input file is in a format not converted by the Graphics Conversion Program. Try exporting the file to another supported format (use your graphics program). For a list of DrawPerfect supported formats, see *Appendix I: Import Formats*.

Bad Input File

The input file cannot be accessed. This error occurs when the specified path to the input file cannot be found or does not exist. This message may also indicate that an error occurred while converting a file, such as that the input file is corrupted or that it contains information not expected for its type of input file.

First check whether you entered the path correctly. If not, run the Graphics Conversion Program again and enter the correct path. If the original path was correct, try re-exporting the file with your graphics program, then run GRAPHICNV.EXE again.

Disk Full

This error occurs when there is not enough room on disk to convert the file. If you can, make room by deleting files, then try again.

End of File

An unexpected end of file was encountered while trying to convert the file. Try exporting the file in another supported format (use your graphics program). See *Appendix I: Import Formats* for a list of DrawPerfect supported formats.

File Not Found

The specified file could not be found. Check to be sure you entered the correct path and filename.

Multiple Files

You can use wildcard characters when specifying the input filename to convert multiple files. Use “?” to represent a single character, and “*” to represent zero or more characters in succession. The output filenames will match the input filenames except that they will have a WPG extension.

For example, if you have a series of graphics named GRAPHIC1.DXF, GRAPHIC2.DXF, GRAPHIC3.DXF, etc., you could convert them all at once to DrawPerfect format by entering **graphic*.dxf** as the input filename. The output files would be named GRAPHIC1.WPG, GRAPHIC2.WPG, GRAPHIC3.WPG, etc. To convert all files with a DXF extension to DrawPerfect format, you would enter ***.dxf** as the input filename.

Startup Options The following startup options can be used with GRAPHCV.EXE:

inputfilename outputfilename

You can designate both the input filename and output filename when you start the Graphics Conversion program by entering `graphcv inputfilename outputfilename`, where *inputfilename* is the name of the file to be converted, and *outputfilename* is the name of the output file.

You can also use wildcard characters in the input filename without using an output filename to convert multiple files. See *Multiple Files* above for more information.

/b=#

Sets the background color for the .WPG output file, where # represents one of the following colors:

0	Black	4	Red
1	Blue	5	Magenta
2	Green	6	Brown
3	Cyan	7	White

If no number is specified, the background color defaults to intense white.

/c=2

Converts color values in the input file to monochrome (black and white).

/c=16

Converts color values in the input file to the DrawPerfect standard 16-color palette.

/c=256

Converts color values in the input file to the DrawPerfect standard 256-color palette. (Use this option when you have a graphics adapter capable of displaying 256 simultaneous colors.)

/c=b

Converts all color values in the input file to black (not for use with bitmap images).

/c=w

Converts all color values in the input file to white (not for use with bitmap images).

/f=#

Converts all fill colors to the specified color, where # represents the color. The values for the color number (#) are

determined by the color or gray palette startup conversion options. For example, the option **/c=16** tells Graph Convert to use the DrawPerfect standard 16-color palette.

You should use one of the color or gray palette startup options in front of the **/f=#** option. For example, **/c=16 /f=16** tells Graph convert to use the standard 16-color palette and to convert all fill colors to number 16 (which corresponds to white).

This option is especially useful when retrieving images onto a monochrome screen or when printing the images to a printer that prints black and white.

For example, if you retrieve a clip-art figure to a monochrome screen, you will notice that all colors are remapped to patterns. When the image is scaled down to a small size, you lose some of the detail and clarity. However you can convert all the fill colors to white and maintain the figure's sharpness at a small size.

/g=16

Converts color values in the input file to the DrawPerfect standard 16 shades of gray palette.

/g=256

Converts color values in the input file to the 16 shades of gray present in the DrawPerfect standard 256-color palette. (Use this option when you have a graphics adapter capable of displaying 256 simultaneous colors.)

/h

Displays helpful information about GRAPHCNV.EXE.

/l

Lets you send conversion status messages for each converted file to the STD printer device. See also **/l=filename** below.

/l=filename

Lets you send conversion status messages for each converted file to the specified file. See also **/l** above.

/n=#

Converts all line colors to the specified color, where # represents the color. The values for the color number (#) are determined by the color or gray palette startup conversion options. For example, the option **/c=16** tells Graph Convert to use the DrawPerfect standard 16-color palette.

You should use one of the color or gray palette startup options in front of the `/n=#` option. For example, `/c=16 /n=16` tells Graph convert to use the standard 16-color palette and to convert all line colors to number 16 (which corresponds to white).

This option is useful if, for example, you were drawing on a dark background and wanted to change all black lines to white. You could enter `/c=16 /n=16` to use the standard 16-color palette and then to change all lines to number 16 (which corresponds to white).

`/o`

Lets you override the “Replace Files?” user prompts. This is known as *unattended mode*. When the Graphics Conversion Program writes an output file with a filename that already exists, it will replace the existing file without issuing a prompt.

See *Appendix Q: Startup Options* for a general discussion of startup options.

Appendix C: DrawPerfect and DOS

The Disk Operating System (DOS) is software that directs operations your computer performs. It serves as a link between applications software (such as DrawPerfect) and the hardware inside your computer. Without an operating system, your computer can do nothing. Therefore, DOS must be started before any other program can be used.

There are different versions of DOS for different computers. The most common disk operation system is MS-DOS, manufactured by Microsoft Corporation. Most computer companies have adapted MS-DOS, with permission of Microsoft Corporation, to run on their machines. DOS is constantly being improved, with new releases being introduced regularly. DrawPerfect 1.0 currently runs on IBM computers or 100% compatibles that use DOS 2.0 or later versions.

Because DOS serves as the link between DrawPerfect and your computer, we say DrawPerfect runs *under* DOS. It is important to remember, however, that DOS software is not manufactured by WordPerfect Corporation. DrawPerfect and DOS are two entirely different software products. You can start your machine with a DrawPerfect diskette only if enough DOS has been copied onto the diskette.

If you are having problems formatting, copying, filing, and in some cases printing, the problems may be occurring because of DOS and not because of DrawPerfect. To use DrawPerfect effectively, you should know how to use the following DOS commands and features:

CD	Change directory
CHKDSK	Check a disk
COPY	Copy files from one diskette/directory to another
DIR	Display the files in a directory
FORMAT	Format a diskette
MD	Make a directory

All of the above commands are described in your DOS documentation.

Some of the operations these commands perform can also be accomplished through List Files in DrawPerfect. See List Files in File Reference.

Backup

You should be sure to keep extra copies of your files to protect against diskette corruption and similar happenstances which may cause you to lose hours or days of work. These copies are called *backups*.

Many people and companies have strict daily backup procedures. Some even use fire-proof vaults to keep their backup diskettes safe from theft and natural disaster.

To minimize losses due to power and machine failures, DrawPerfect has provided you with Backup features. The Backup feature, however, does not ensure you against lost work due to damaged or worn out disks (see *Backup in Reference*).

If you have two disk drives, use either COPY *.* or DISKCOPY commands to back up diskettes. If you have a hard disk, there is a BACKUP command that allows you a number of variations on the backup theme. More about these and other DOS commands can be found in your DOS manual.

You should also keep often-used diskettes free from outdated and seldom-used files. You can use Look on the DrawPerfect List Files menu to quickly check the contents of each file on a diskette or in a subdirectory (see *List Files in File Reference*). Delete outdated files and copy seldom-used and questionable files to an archive diskette. Well-organized, up-to-date diskettes and hard disks keep backup time to a minimum and program speed at a maximum.

Batch Files and AUTOEXEC.BAT

Batch files (designated with a .BAT extension) hold a series of DOS commands that are executed when you type the name of the file at the DOS prompt. If you frequently type the same series of commands at DOS, you may want to put them in a batch file so that you can execute them without typing each one. See your DOS manual for more information on batch files.

The AUTOEXEC.BAT file holds a special batch file whose commands are executed each time you start your computer. The AUTOEXEC.BAT file must reside in the root directory (see *Root Directory* under *Organizing Disks and Directories* below).

You may already have an AUTOEXEC.BAT file. To check,

1 While in DrawPerfect, press **List Files (F5)**.

- 2 Enter the full pathname of the root directory of your hard disk, plus *.bat (e.g., c:*.bat).

or

For two disk drive systems, insert your DOS diskette in drive B and enter b:*.bat.

If you have an AUTOEXEC.BAT file, it will appear in the list of files. Consult your DOS manual for instructions on creating or editing an AUTOEXEC.BAT file.

DOS COMMANDS After installing DrawPerfect, you should be familiar enough with DOS to execute a few basic commands.

DOS Prompt

After starting DOS and before another program is started, the DOS prompt appears on the screen. Although you can change the appearance of this prompt, it normally appears as A>, B>, C>, etc., and marks the DOS command line. Programs such as DrawPerfect can be started from the command line.

Date and Time

When you start DOS, you may be asked to enter the current date and time. This information is important for some features of DrawPerfect, such as List Files and Date Text, which use it to label files or insert the date and/or time into your graphics. If you do not enter the correct date and time, they will be incorrect when you use these DrawPerfect features.

Some computers have a time card that keeps the date and time automatically, even when you turn off your computer. In this case, you may only need to enter the date and time once, not every time you start your computer.

Go to DOS

If you are working in DrawPerfect and need to quickly execute some DOS commands (e.g., FORMAT), you can go to DOS without exiting DrawPerfect (see *Go To DOS* in *Reference*).

Naming Files

Every operating system has its own rules for naming files. DOS allows up to eight characters followed by an optional period and a three-character extension. The following characters can be used to create a filename:

A-Z

0-9

! @ # \$ % & () - ' ' { }

A period can only be used to separate the first part of the filename from the filename extension. The following characters *cannot* be used to create a filename:

* + = [] : ; " ~ < > ? , (space)

DOS 3.0 or later allows international characters (all non-graphics characters above ASCII 32) in filenames.

Naming Systems

You should develop a system for naming documents which gives you a clue to the contents of the file. For example, SALES.CHT or PROFIT.CHT are much more descriptive than CHART.1 or CHART.2. Files with matching extensions can all be copied or deleted in a single operation.

You should not use .EXE, .COM, or .DRM as extensions for DrawPerfect files. These extensions are reserved for program and macro files. DrawPerfect will not recognize them as drawing files and will not retrieve them. If you give a file one of these extensions accidentally, just rename the file (see List Files in File Reference).

Organizing Disks and Directories

Diskettes should be organized in such a way that each contains similar data (one for each client, etc.). You can further divide files into groups using *directories*.

Root Directory

Every disk (hard or floppy) has a *root* directory designated by a single backslash (\). The full pathname of the root directory includes the drive (e.g., C:\). Up to 112 filenames are allowed in the root directory of a floppy diskette (224 on a 1.2M floppy diskette); hard disks generally have higher limits.

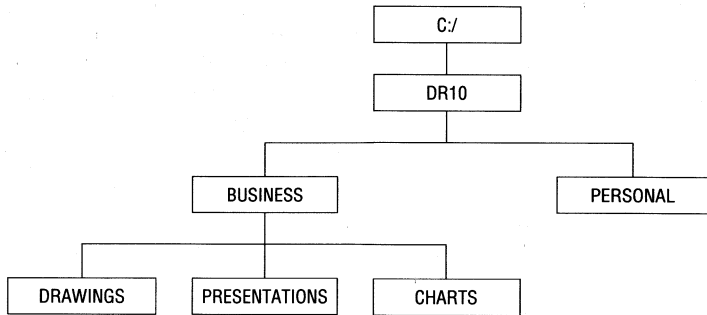
Subdirectory

Subdirectories can be created from the root directory with no limit on the number of filenames. A subdirectory of the root directory is given a name (e.g., DR10 or WORK). Backslashes are used to separate subdirectory names (e.g., C:\DR10\CHARTS).

Parent Directories

Each subdirectory has a parent and can in turn be a parent to several subdirectories of its own. For instance, on a hard disk, you can keep DOS files in one subdirectory, the DrawPerfect system files in another, and personal files in still another. The

subdirectory for your personal files could then become a parent directory to other subdirectories.



In the example above, C:\, DR10, BUSINESS, PERSONAL, DRAWINGS, PRESENTATIONS, and CHARTS are all directories. C:\ is the root directory. DR10 is the parent directory to the BUSINESS and PERSONAL directories, DRAWINGS, PRESENTATIONS, and CHARTS, are subdirectories to the BUSINESS directory.

Path Command

In general, you cannot start DrawPerfect from a directory other than C:\DR10 unless you specify the pathname (see *Pathnames* below). However, you can use a DOS path command to give DOS a list of directories to search through for executable program files. This allows you to start a program from any subdirectory listed in the path command, not just the subdirectory containing software.

The order of the directories in the path command determines the order in which the directories are searched. For example, you could enter **path c:\;c:\dr10** from the DOS prompt to tell DOS to search the root directory (C:\) and then the DrawPerfect directory (DR10) for a program file. When entering the path command, separate each directory in the list with a semicolon (;).

Unless the path command is in the AUTOEXEC.BAT file (see *Batch Files and AUTOEXEC.BAT* above), you must enter it each time you start your machine.

Pathnames

As you save and retrieve files in DrawPerfect, you may be asked to specify a *full pathname*. A full pathname includes the drive, root, and any subdirectory names. For example, "C:\DR10" is the full pathname of the DR10 subdirectory. When you want to retrieve a file from a directory other than the one in which you are currently working (the default directory), you must enter the full pathname of the file (e.g., C:\DR10\SALES.CHT).

Startup Options

Many programs that can be started from DOS (such as DrawPerfect) have optional commands you can use when you start the program. Often these options are for your convenience. Sometimes they are necessary to run the software on your particular hardware.

Startup options are entered with the name of the program at DOS. They usually consist of a slash (/), then a letter or letters, then other information pertaining to the option.

For example, */m-macro name* is a DrawPerfect startup option. To execute a macro named **layout** when you start DrawPerfect, you would enter **dr/m-layout** at the DOS prompt.

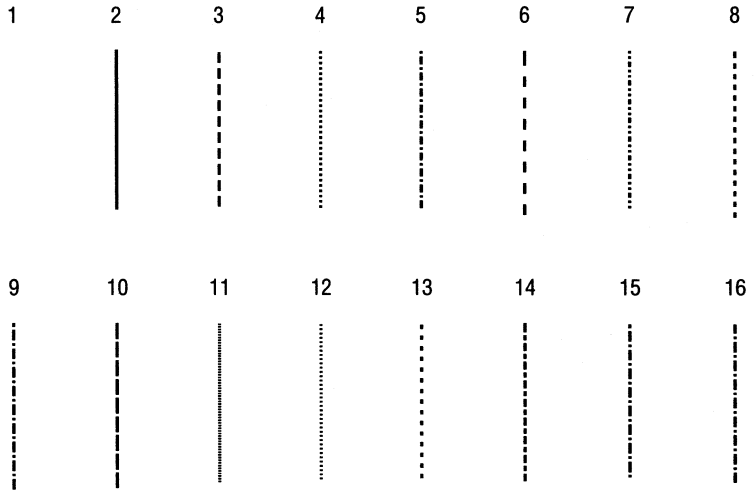
If you regularly use startup options with DrawPerfect, you may want to include them in a batch file (see *Batch Files and AUTOEXEC.BAT* above).

See *Appendix Q: Startup Options* for more information on startup options for DrawPerfect.

Appendix D: DrawPerfect Attributes

DrawPerfect contains various attributes from which you can select. These attributes are listed on the Attributes pull-down menu in six categories: Line Color, Line Style, Line Width, Fill Color, Fill Pattern, and Arrow Width. Each attribute category is illustrated below (Line Color and Fill Color are combined).

Line Styles



Line Widths/Arrow Widths

1



2



3



4



5



6



7



8



9



10



11



12



13



14



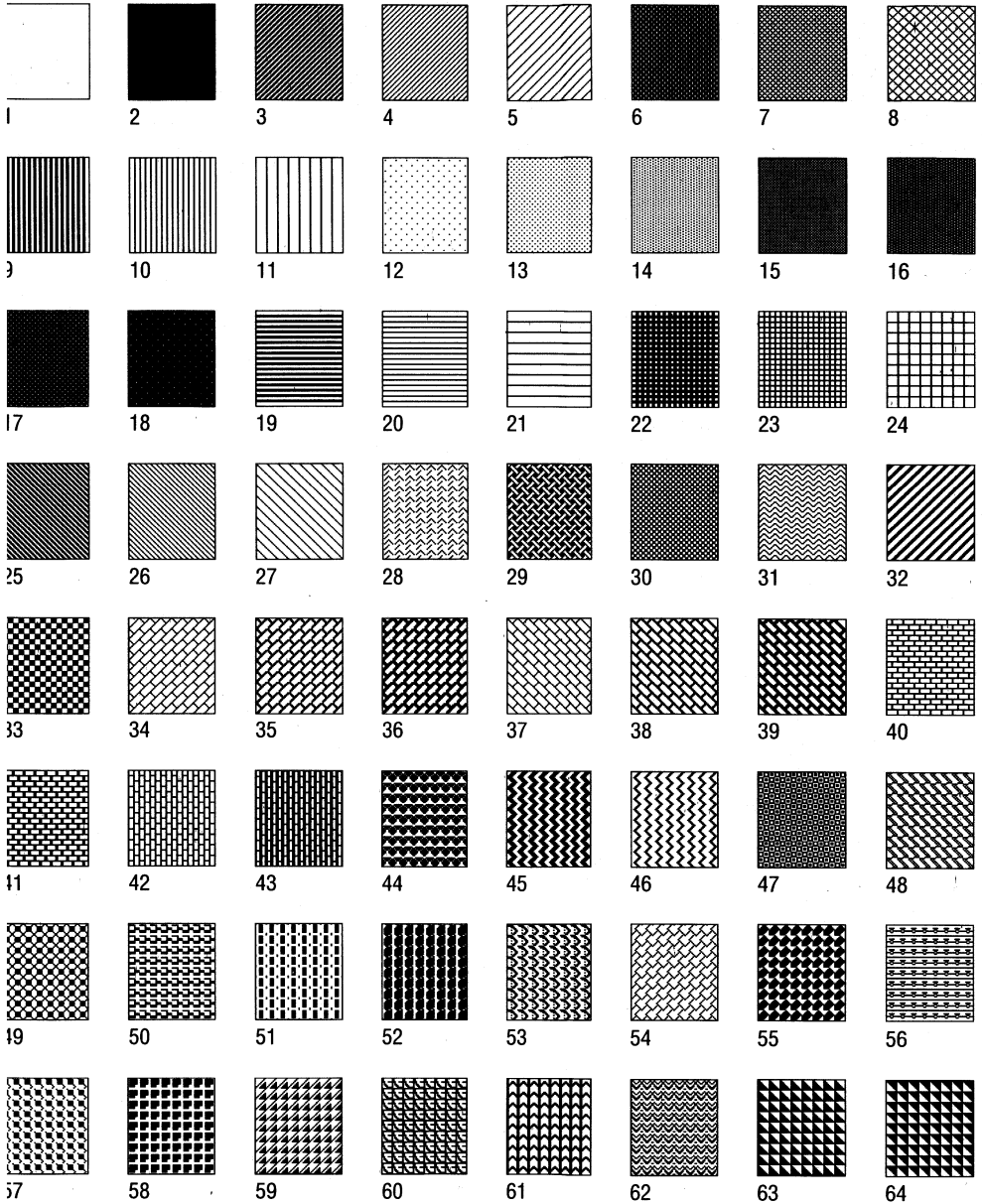
15



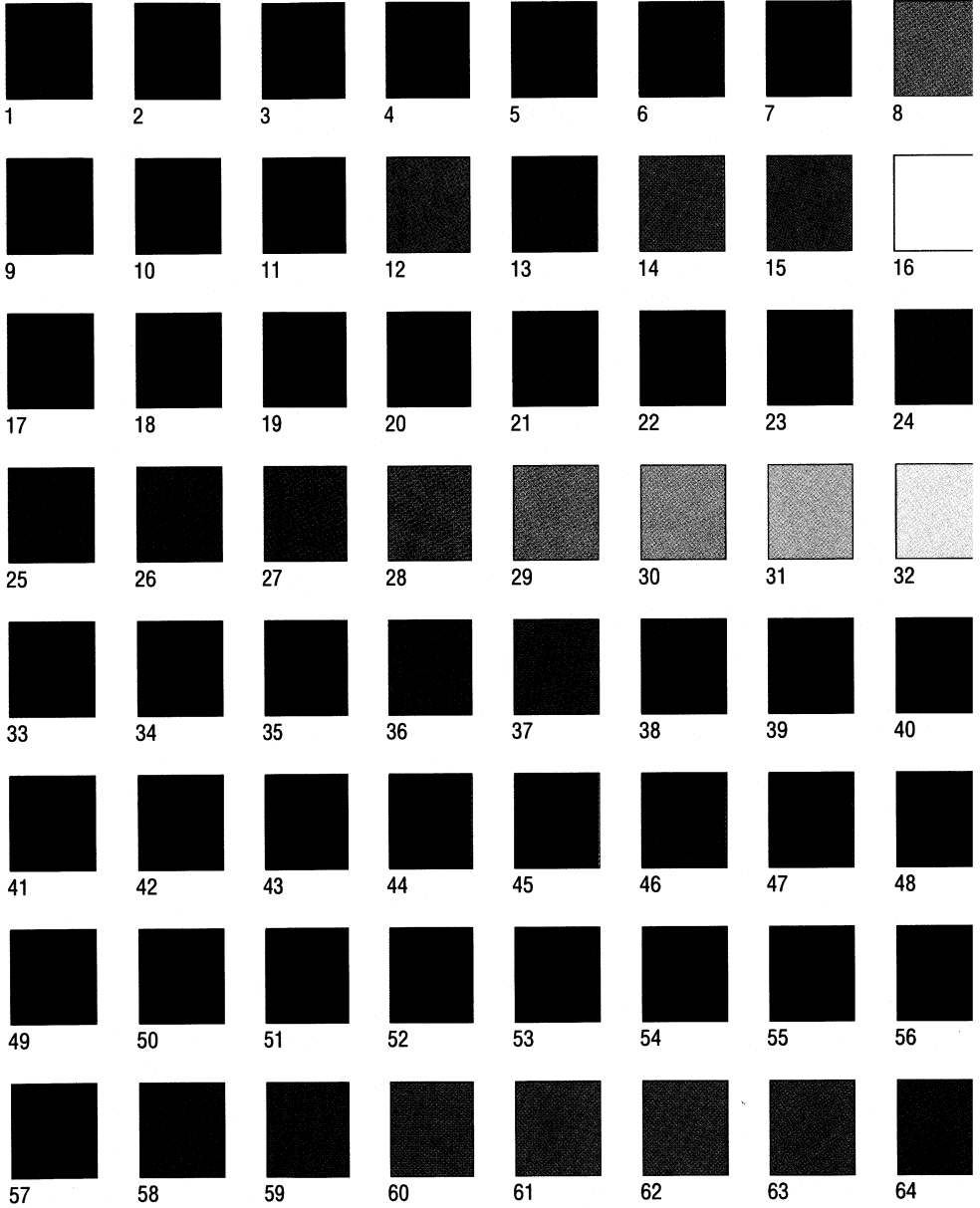
16

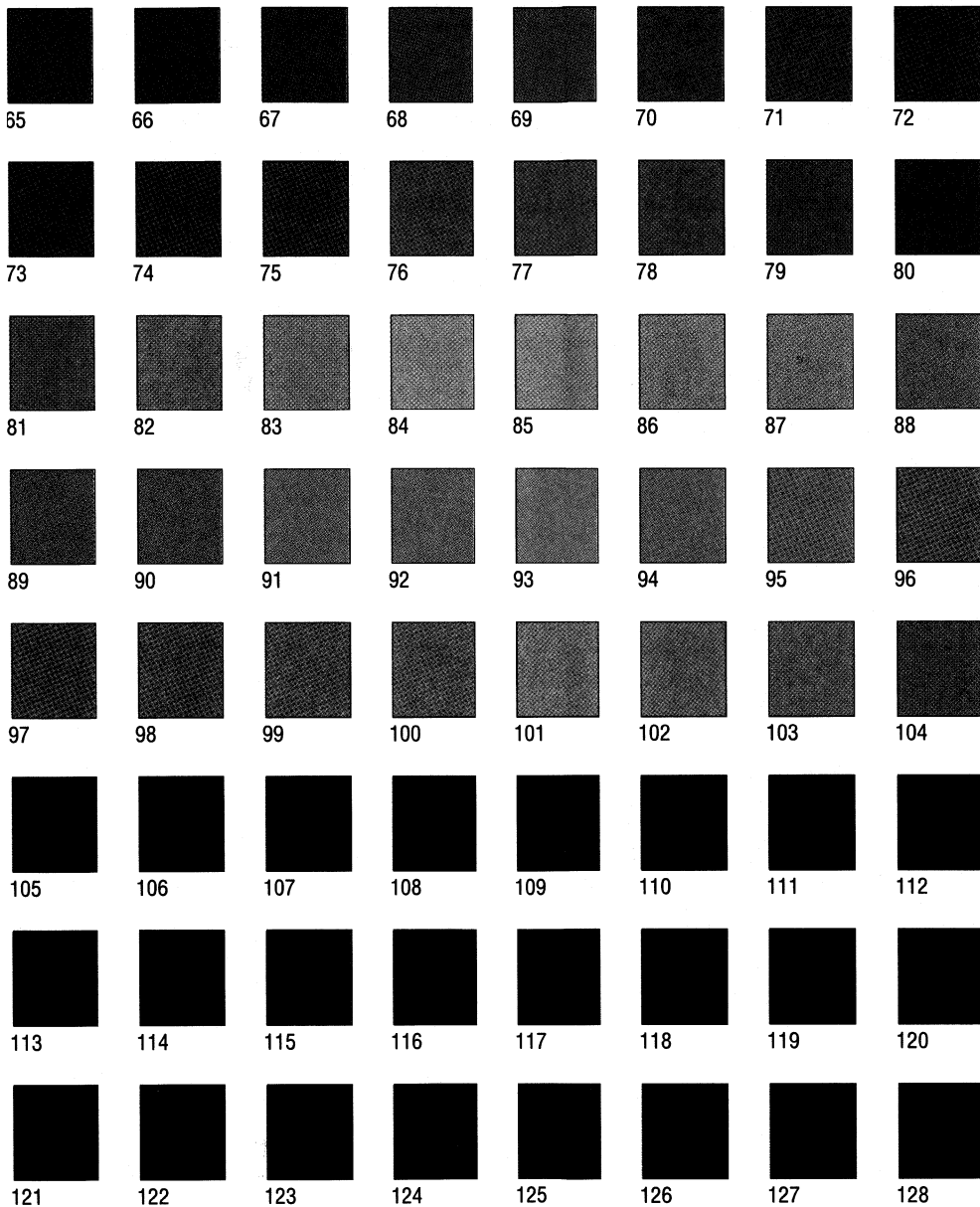


Fill Patterns



Line Colors/Fill Colors







129



130



131



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180



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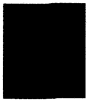
194



195



196



197



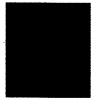
198



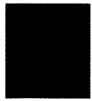
199



200



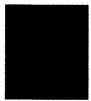
201



202



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204



205



206



207



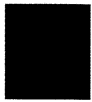
208



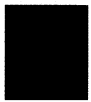
209



210



211



212



213



214



215



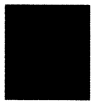
216



217



218



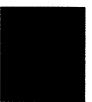
219



220



221



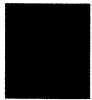
222



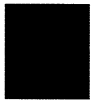
223



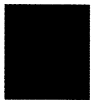
224



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229



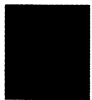
230



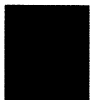
231



232



233



234



235



236



237



238



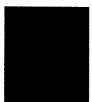
239



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248



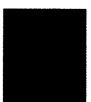
249



250



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256

Appendix E: DrawPerfect Files

When you install files from the DrawPerfect master diskettes, they are installed in groups. When you answer Yes to a question in the Installation Program, the files in the group represented by that question are copied to the specified directory or diskette.

The following list shows which files are copied in the various groups. This should help you if you need to locate a particular file.

An asterisk in parentheses (*) to the right of a filename denotes that the file is essential to DrawPerfect operation. Keep in mind, however, that some files are not essential to DrawPerfect operation, but are essential to the operation of a specific feature (e.g., Help, Macros). Read the description underneath a filename to determine the function of a file.

DrawPerfect Program

The following files are installed as DrawPerfect Program files:

KEYS.MRS

This is used with the Key: Action screen. For more information on the Key: Action screen, see *Keyboard Layout* in *File Reference*.

STANDARD.IRS

This is the standard mouse driver file. For more information, see *Mouse Type* in *File Reference*.

STANDARD.VRS

This is the standard graphics driver. For more information, see *Graphics Screen Type* in *File Reference*.

DR.EXE (*)

This is the main DrawPerfect program file. You must either start DrawPerfect from the directory where DR.EXE is located, or the directory where DR.EXE is located must be included in a DOS PATH command (see *Appendix C: DrawPerfect and DOS*).

DR.FIL (*)

This contains part of the DrawPerfect code. For information on redirecting this file to expanded memory, see *lr* under *Appendix Q: Startup Options*.

DR.MRS

This is used with the Macro Editor. For more information on the Macro Editor, see *Macros, Macro Editor* in *File Reference*.

WP.DRS

This is one of the files used to display the Drawing screen as well as the file used to print DrawPerfect characters graphically. The WP.DRS file is intended for hard disk users.

WPSMALL.DRS

This is the .DRS file used if you are running DrawPerfect from two disk drives (no hard disk). While this file does not contain all of the capabilities of WP.DRS, it does contain some of them.

Utility Files

The following files are installed as DrawPerfect utility files:

GRAB.COM

This is the DrawPerfect Screen Capture Program. For more information, see *Appendix P: Screen Capture Utility*.

GRAPHCNV.EXE

This is the DrawPerfect Graphics Conversion Program. For more information, see *Appendix B: Conversion Program*.

INSTALL.EXE

This is the DrawPerfect Installation Program. To run this program, insert the Install/Program 1 diskette into drive A, go to a DOS prompt, type **install** and press **Enter**.

NDRSETUP.EXE

This program is used to help you install DrawPerfect as a network version. For more information, see *Appendix O: Network Administration*.

DR10-286.PIF

This is a program information file that can be used if you are running DrawPerfect under Microsoft Windows on a computer with a 286 or 8088 microprocessor (see *.PIF File* below).

DR10-386.PIF

This is a program information file that can be used if you are running DrawPerfect under Microsoft Windows on a computer with a 386 microprocessor (see *.PIF File* below).

DRINFO.EXE

This program helps you gather information about your system. If you plan to call Customer Support, we recommend that you run this program and record the information on the screen before calling. For more information, see *Appendix G: Error Messages*.

WP.LRS

This is the Language Resource File. For more information, see *Language* in *File Reference*.

.WPG

All of the Figure Library files end with the .WPG extension. In addition, when you save a drawing while in DrawPerfect, a .WPG extension is included in the filename.

Learning Files

The following files are installed as DrawPerfect learning files:

.LRN

Files ending in .LRN are files designed to use with *Learning* in the *DrawPerfect Reference Manual*.

Help Files

The following files are installed as the DrawPerfect help files:

DRHELP.FIL & DRHELP2.FIL

These files are used with the Help feature. For more information on the Help feature, see *Help Reference*.

Keyboard Files

The following files are installed as DrawPerfect keyboard files:

***.DRK**

These are pre-defined keyboard layouts. For more information, see *Appendix J: Keyboard Definitions*.

Printer Files

The following files are installed as printer files:

***.ALL**

Files ending with .ALL are printer files containing information for many printers. When you select a printer, a .PRS file, which contains information specific to a single printer, is created from the information in the .ALL file.

This file is installed when you select a printer.

Graphics Driver Files

The following files are installed as graphics driver files:

***.VRS**

Files ending in .VRS are graphics drivers. For more information, see *Graphics Screen Type* in *File Reference*.

.PIF File

If you plan to run DrawPerfect under Microsoft Windows, you need to have a program information file (.PIF) that gives Windows the information it needs to run DrawPerfect. DrawPerfect has provided two for you which you may edit as necessary.

The .PIF files DrawPerfect provides are called DR10-286.PIF and DR10-386.PIF. If you are using a computer with an 8088 or 286 microprocessor, you should use DR10-286.PIF. If you are using a computer with a 386 microprocessor, you should use DR10-386.PIF.

***Important:** The .PIF file is installed with the DrawPerfect utility programs. If you did not install the utility programs when you installed DrawPerfect, or have not subsequently done so, you need to do so before you can use the .PIF file.*

The .PIF file has default settings that are common to most DrawPerfect users. If DrawPerfect is not running correctly under Windows, you may need to edit the .PIF file. To do so, you must edit it in the PIF Editor that comes with Windows. Information for using the PIF Editor to edit .PIF files is found in your Windows documentation.

After you edit the information, we suggest you store the .PIF file in the directory with .PIF files for other programs. Also, we suggest entering the name of your .PIF file directory at the beginning of your path in AUTOEXEC.BAT (see *Appendix C: DrawPerfect and DOS*).

As you edit the .PIF file in the Microsoft Windows PIF Editor, the following information is important in helping DrawPerfect operate correctly.

Initial Directory

This option sets your default directory. Keep in mind, however, that any directory you enter in DrawPerfect as your drawing directory (see *Location of Files* in *File Reference*) will override this setting while you are in DrawPerfect.

Memory Requirements

Make sure that the KB Required heading is set to at least 384. Do not set this option for less than 384.

Program Name

The default setting for the location of the DrawPerfect Program is listed as C:\DR10\DR.EXE. If the DrawPerfect Program is contained in a directory other than C:\DR10, you need to specify that directory under the Program Name heading.

Program Parameters

This option is where you enter any startup option(s) you want to take effect. For more information on DrawPerfect startup options, see *Appendix Q: Startup Options*.

Program Title

While not essential to DrawPerfect operation, the program title lets you enter a descriptive name for the DrawPerfect program. The name you enter here will appear beneath the program icon in Windows.

Appendix F: DrawPerfect Fonts

DrawPerfect contains 25 sets of graphic fonts. These fonts are actually small graphic images made up of lines and curves. Because these fonts are interpreted as graphics by the printer, if your printer can print graphics, you can print all the fonts illustrated below. However, the print quality of the fonts depends on the resolution of your printer.

The typefaces below are 12 points high.

**3odoni
3old**

**ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890 -= [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?**

3roadway

**ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
'1234567890 -= [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?**

**3rush
3cript**

*ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
'1234567890 -= [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?*

**3entury
3choolbook**

**ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
'1234567890 -= [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?**

**3helmsford
3ook**

**ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
'1234567890 -= [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?**

**Commercial
Script**

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
'1234567890 - = [] \ ; ' , . /
*~ ! @ # \$ % ^ & * () _ + { } | : " < > ?*

**Cooper
Black Bold**

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
'1234567890 - = [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?

Courier

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
`1234567890 - = [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?

**Courier
Bold**

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
`1234567890 - = [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?

**Courier
Italic**

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
`1234567890 - = [] \ ; ' , . /
*~ ! @ # \$ % ^ & * () _ + { } | : " < > ?*

**Courier
Italic Bold**

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
`1234567890 - = [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?

**Courier
Simplex**

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890 - = [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?

Eurostile

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
`1234567890 - = [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?

Helvetica

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
`1234567890 - = [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?

Helvetica
Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
`1234567890 - = [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?

Helvetica
Italic

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
`1234567890 - = [] \ ; ' , . /
*~ ! @ # \$ % ^ & * () _ + { } | : " < > ?*

Helvetica
Italic Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
`1234567890 - = [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?

Helvetica
Simplex

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
`1234567890 - = [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?

Hobo

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
`1234567890 - = [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?

Old English

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
`1234567890 - = [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?

Roman

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
`1234567890 - = [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?

Roman
Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
`1234567890 - = [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?

Roman
Italic

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
`1234567890 - = [] \ ; ' , . /
*~ ! @ # \$ % ^ & * () _ + { } | : " < > ?*

Roman
Italic Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
`1234567890 - = [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?

Roman
Simplex

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
`1234567890 - = [] \ ; ' , . /
~ ! @ # \$ % ^ & * () _ + { } | : " < > ?

Additional Fonts

Broadway
Engraved
Uppercase Only

ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890=[\;.,/
~!@#\$\$%^&*()_+{}|:"<>?

Helvetica
Simplex
Monospace

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
`1234567890 -=[]\;.,./
~!@#\$\$%^&*()_+{}|:"<>?

Murray Hill

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
'1234567890=[\;.,/
~!@#\$\$%^&*()_+{}|:"<>?

Old Town

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
'1234567890=[\;.,/
~!@#\$\$%^&*()_+{}|:"<>?

Stencil
Uppercase Only

ABCDEFGHIJKLMNOPQRSTUVWXYZ
1234567890=[\;.,/
~!@#\$\$%^&*()_+{}|:"<>?

Character Set 7 (Math/Scientific Extension)

	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9
0	∫	∫	|	_	√	-	Σ	Π	Π	∫	ϕ	|	|	|	|	|	||	||	||	||
20	|	{	{	{	{	{	{	{	{	{	}	}	}	}	}	}	}	}	}	}
40	|	_	|	|	|	|	|	|	|	|	|	|	|	|	|	|	|	|	|	|
60	|	∪	∩	ϕ	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩
80	√	√	√	|	∩	→	←	-	-	-	-	⇒	⇐	=	↑	↓	|	↑	↓	||
100	(((((((((())))))))))
120	|	]	]	]	]	]	]	]	]	]	]	]	]	]	]	]	]	]	]	]
140	\	\	\	\	∪	∩	⊕	⊕	□	□	∧	∧	∨	∨	⊗	⊗	⊕	⊕	⊙	⊙
160	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩	∩
180	⊖	⊖	⊕	⊕	||	||	||	||	||	||	||	||	||	||	||	||	||	||	||	||
200	←	←	←	⇒	⇒	⇐	⇐	⇐	⇐	⇐	⇐	⇐	⇐	⇐	⇐	⇐	⇐	⇐	⇐	⇐
220	|	∏	∏	∏	∏	∏	∏	∏	∏	∏	∏	∏	∏	∏	∏	∏	∏	∏	∏	∏

Character Set 8 (Greek)

		¹																			²																		
	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9									
0	A	α	B	β	V	ϑ	Γ	γ	Δ	δ	E	ε	Z	ζ	H	η	Θ	θ	I	ι	K	κ	Λ	λ	M	μ	N	ν	Ξ	ξ									
30	O	ο	Π	π	P	ρ	Σ	σ	ς	T	τ	Υ	υ	Φ	φ	X	χ	Ψ	ψ	Ω	ω	ά	έ	ή	ί	ϊ	ό	ύ	ϋ	ϋ									
60	ώ	ε	ϑ	κ	π	ρ	Υ	φ	ω	;	.	‘	”	”	”	”	”	”	”	”	”	”	”	”	”	”	”	”	”	”	”								
90	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ									
120	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ									
150	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ									
180	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ	ˆ									

Character Set 9 (Hebrew)

		¹																			²																		
	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9									
0	א	ב	ג	ד	ה	ו	ז	ח	ט	י	ך	כ	ל	מ	נ	ו	ע	ף	פ	צ	ק	ר	ש	ש	ל	ב	ב	ב	ב										
30	א	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Character Set 10 (Cyrillic)

		¹																			²																		
	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9									
0	A	а	Б	б	В	в	Г	г	Д	д	E	e	Ё	ё	Ж	ж	З	з	И	и	Й	й	К	к	Л	л	М	м	Н	н									
30	O	о	П	п	Р	р	С	с	Т	т	У	у	Ф	ф	X	x	Ц	ц	Ч	ч	Ш	ш	Щ	щ	Ъ	ъ	Ы	ы	Ь	ь									
60	Э	э	Ю	ю	Я	я	Г	г	Ђ	ђ	Ѓ	ѓ	Є	є	S	s	I	i	Ї	ї	J	j	Ль	ль	Нь	нь	ћ	ћ	Ќ	ќ									
90	Ў	ў	Ц	ц	Ѣ	ѣ	Ѥ	ѥ	V	v	Ѧ	ѧ																											

Character Set 11 (Hiragana and Katakana)

		¹																			²																		
	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	9									
0	あ	い	う	え	お	つ	や	ゆ	よ	か	け	あ	い	う	え	お	か	き	く	け	こ	が	ぎ	ぐ	げ	ご	さ	し	す										
30	せ	そ	ぎ	じ	ず	ぜ	ぞ	た	ち	つ	て	と	だ	ぢ	づ	で	ど	な	に	ぬ	ね	の	は	ひ	ふ	へ	ほ	ば	び	ぶ									
60	べ	ぼ	び	ぶ	ぺ	ぽ	ま	み	む	め	も	や	ゆ	よ	ら	り	る	れ	ろ	わ	を	ん	[]	[]	「	」	「	」									
90	』	.	。	、	ヽ	ヾ	ㄱ	ㄴ	ㄷ	ㄹ	ㅁ	ㅂ	ㅃ	ㅄ	ㅅ	ㅆ	ㅇ	ㅈ	ㅊ	ㅋ	ㆁ	ㆁ	ㆁ	ㆁ	ㆁ	ㆁ	ㆁ	ㆁ	ㆁ										
120	ヶ	コ	ガ	ギ	グ	ゴ	サ	シ	ス	セ	ソ	ザ	ジ	ズ	ゼ	ゾ	タ	チ	ツ	テ	ト	ダ	ヂ	ヅ	デ	ド	ナ	ニ	ヌ										
150	ネ	ノ	ハ	ヒ	フ	ヘ	ホ	バ	ビ	ブ	ベ	ポ	ピ	プ	ペ	ポ	マ	ミ	ム	メ	モ	ヤ	ユ	ヨ	ラ	リ	ル	ロ	ロ										
180	ワ	ヲ	ン	、	ヽ	ヾ																																	

Appendix G: Error Messages

When you press the wrong key, or when other problems arise, an error message may appear on the status line. Most messages are self-explanatory and relate to the feature you are using. The following are some common error messages for which you may need additional instructions.

Access Denied

Cause: The maximum number of files allowable in the root directory has been reached. (The maximum number varies with disk size and format.) 112 files is a common maximum for floppies and 512 for hard disks.

Solution: Delete files from the root directory, or save the file to a subdirectory or to another disk.

Cause: The file is read-only. (Use ATTRIB filename from DOS to see current attributes of the file.)

Solution: Use the ATTRIB -R command to change the file from read-only to read-write. (See your DOS documentation.)

Cause: A directory with the same name exists.

Solution: Use another name, or remove the directory.

Cause: On a network, you don't have sufficient rights.

Solution: Gain access rights for your network. (See your network documentation.)

Are Other Copies of DrawPerfect Running?

Cause: DrawPerfect was not exited properly.

Solution: Answer No to the prompt.

Cause: Another copy of DrawPerfect is running using the same directory for temporary files. This can happen on a shared network directory or because two copies of DrawPerfect are active on the same machine under Shell or certain window environments.

Solution: Answer Yes to the prompt and enter a new directory for temporary files, or press Cancel at the new directory prompt and exit the other copy of DrawPerfect before proceeding.

Can't Find WP.DRS File

Cause: DrawPerfect can't locate the WP.DRS file, which is needed to display the fonts.

Solution: Copy the WP.DRS file to the directory where DR.EXE is located.

Directory Not Empty

Cause: You are trying to delete a directory in List Files, but DOS reports that the directory is not empty.

Solution: Make sure that the directory is empty, which means that there can be no files or subdirectories under that directory.

Disk Full -- Press any Key to Continue

Cause: This error occurs when you do not have enough disk space while trying to save a file to a diskette or to your hard drive, or when you try to replace a drawing that has previously been saved on the disk. If you have Original Backup on and you are replacing a drawing already on disk, the original will remain on the disk but with the extension of .BK!

Solution: You can either delete some unwanted files on your disk to make more room, or insert another formatted disk into the drive. If you receive a disk full error message on a hard disk, save the drawing on a diskette. If you have Original Backup on, you can also try turning it off. This will not affect your ability to save this drawing, but will prevent your disk from becoming filled with old backup (.BK!) files. See *Backup* in *File Reference*.

Display File is Wrong Version

Cause: The WP.DRS or WPSMALL.DRS file does not match the version of the DR.EXE file.

Solution: Re-install WP.DRS or WPSMALL.DRS from your master diskettes.

Divide Overflow—Press Any Key to Continue

Cause: The software may have been corrupted, or have inadequate limits checking for bad data. One possible cause could be a corrupt .PRS file.

Solution: Often the effects are not serious—after pressing a key to continue, normal operation may proceed. If not, re-install the DrawPerfect program files, and reselect the printer.

File Not Found

Cause: You asked DrawPerfect to access a file and it could not be found in the specified directory (or default directory if no directory was specified). Usually this message will be followed by the name of the file DrawPerfect was looking for and could not find.

Solution: Make sure you typed the filename *and* the path correctly. You might use List Files (F5) to verify the exact spelling and location of the file you need.

Insufficient File Handles to Run DrawPerfect. Increase FILES= in CONFIG.SYS and Reboot Your Computer

Cause: As DrawPerfect was started, it detected that there were too many files open by other programs, and/or that the FILES= command in the CONFIG.SYS was too small.

Solution: DrawPerfect requires at least 20 available file handles in order to run. If any other programs have open files, the number should be even larger. Check your DOS manual for instructions on changing the CONFIG.SYS file. *The CONFIG.SYS file should be where COMMAND.COM is located, in the root directory.*

Insufficient Memory to Run DrawPerfect

Cause: DrawPerfect requires a minimum of approximately 384K of free memory, and DrawPerfect was started with less than this amount of memory free.

Solution: If needed, increase the base memory to at least 512K, preferably 640K. Remove TSR (Terminate and Stay Resident) programs (such as Shell). Reduce the FILES= or BUFFERS= commands in CONFIG.SYS and remove device drivers, or reduce the size of RAM drives in base memory (see your DOS manual). Remember, DrawPerfect needs at least 20 files in the FILES= command.

Invalid Graphics File Format

Cause: While retrieving a graphic file, DrawPerfect detected that the file is either not in a DrawPerfect-supported format, or that there is something in the file that we do not support.

Solution: If the format of the graphics file is not supported by DrawPerfect, then you need to convert it into a supported format. See *Appendix B: Conversion Program* for more information.

Many graphics packages save graphic images in several formats. Some formats supported by DrawPerfect have many variations in the industry, not all of which are currently supported by DrawPerfect. If a file in one of these formats cannot be retrieved, please send in the file so that we can try to extend support of the format to handel this new variation.

DRINFO.EXE

If you encounter an error message or a problem with DrawPerfect that you do not know how to solve, and you feel that you need to call Customer Support, you may want to run the DRINFO.EXE program. DRINFO.EXE is used to gather information about your system that can be used to help Customer Support. To run DRINFO.EXE,

- 1 Exit DrawPerfect
- 2 Change to the directory where DRINFO.EXE is located.

Important: DRINFO.EXE is installed with the DrawPerfect utilities. If you did not install the utility programs when you installed DrawPerfect, and have not subsequently done so, you must do so before running DRINFO.EXE.

- 3 Enter **drinfo** at the DOS prompt.
- 4 Write down the information shown.

or

Press **Print Screen** (PrtSc) to send the information to the printer.

Appendix H: GSS Drivers

If you are using a plotter, film recorder, or color printer, you will need to install and use a GSS driver.

GSS Drivers Disk

A GSS Drivers disk containing the most common GSS drivers is included with DrawPerfect. The GSS Output Driver is also located on the GSS Drivers disk. If a driver for your printer, plotter, or film recorder is not included on this disk, and was not provided by the manufacturer of the printer device, you can order the necessary disk at no additional charge by calling Information Services at 1-801-225-5000 or writing to the following address (include your return address along with the name of the printer, plotter, or film recorder).

WordPerfect Corporation
Printer Diskettes
1555 North Technology Way
Orem, UT 84057

Before calling or writing to WordPerfect, verify by checking your printer and printer manual that a GSS driver is needed. Some manufacturers provide drivers for their printers.

Installing a GSS Driver

To install a GSS driver for a plotter, film recorder, or color printer,

- 1 If you have a hard disk, exit to DOS, switch to the directory where DR.EXE is located (usually C:\DR10), then type **install** and press **Enter**.

or

If you have a two disk drive system, exit to DOS, insert the diskette you labeled Utilities/Help into drive A. At the A:\ DOS prompt, type **install** and press **Enter**.

The DrawPerfect installation program is started.

- 2 Select **Program Files**.
- 3 Select **Custom**.
- 4 Select **Install Files From**.

- 5 If you have a hard disk, enter **a:** as the location from which you want to install the files.

or

If you have a two disk drive system, enter **b:** as the location from which you want to install the files.

- 6 Select **Install Files To**.

- 7 If you have a hard disk, enter your DrawPerfect directory (usually **C:\DR10**) as the location for printer files.

or

If you have a two disk drive system, enter **a:** (the Utilities/Help disk) as the location for printer files.

- 8 Press **Exit** (F7) to exit the Custom Install: Location of Files screen.

- 9 Choose **Select Printer**.

- 10 Insert the Printer disk into the appropriate drive and press **Enter**.

- 11 Select the GSS Output Devices option. Type **y** to install the printer driver. Type **n** at the "Do you want to install another printer?" prompt.

The WPGSS.ALL file is copied to the appropriate directory or drive. This file contains the GSOUTDRI.PRS file you need to run your GSS driver.

- 12 Select **Exit**, then select **GSS Drivers**.

The GSS Drivers option creates and copies the files that allow DrawPerfect to communicate with your printer, plotter, or film recorder. A menu is displayed with eight installation steps. You should select each step and follow the instructions as they are displayed. When you select the Copy Files option, insert the GSS Drivers diskette into the appropriate drive.

- 13 Select **Exit** to complete the installation process. The installation program starts up DrawPerfect, selects the GSS Output Driver as your printer, and then returns you to DOS.

If you are using a two disk drive system, you will have to start DrawPerfect and select your printer.

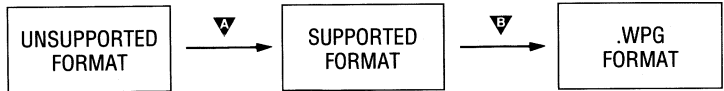
If you selected a new GSS device, you will have to restart your system before using the device. If you have only changed a device parameter, you do not have to restart your system before printing.

Appendix I: Import Formats

DrawPerfect supports several graphics formats. If a graphics program is able to save files in a DrawPerfect-supported format, the graphics files can be used with DrawPerfect.

In order for a graphic file to be used by DrawPerfect, it must ultimately be converted to .WPG (DrawPerfect and WordPerfect Graphic) format. The following diagram illustrates this conversion process:

- ▲ CONVERSION A
- ▲ CONVERSION B



As you can see in this diagram, there are two major conversions that must occur. Conversion A is the conversion of the file from a format not supported by DrawPerfect to one that is supported. Your graphics program must perform this conversion. Each graphics program may be able to save files in a variety of formats. If your graphics files are already in a format supported by DrawPerfect, this conversion is unnecessary. (You may, however, want to convert it to another supported format. See *Supported Formats, Conversion Notes* below for more information.)

The following is a list of the formats currently supported by DrawPerfect:

CGM	Computer Graphics Metafile
DHP	Dr. Halo PIC Format
DXF	AutoCad Format
GEM	GEM Draw Format
HPGL	Hewlett-Packard Graphics Language Plotter File
IMG	GEM Paint Format
MSP	Microsoft Windows Paint Format
PCX	PC Paintbrush Format
PIC	Lotus 1-2-3 PIC Format
PNTG	Macintosh Paint Format
PPIC	PC Paint Plus Format
TIFF	Tagged Image File Format
WPG	DrawPerfect and WordPerfect Graphics Format

If your graphics program cannot save files in any of the supported formats, see Appendix P: Screen Capture Utility.

Conversion B in the diagram above is from a DrawPerfect supported format to a .WPG format. This conversion can occur in one of three ways:

- You retrieve the graphics file into DrawPerfect. Retrieving the graphic automatically converts it to .WPG format.
- You print or preview a drawing that uses a graphic on disk, or you edit the display parameters of a graphic on disk while in DrawPerfect. This conversion is only temporary, and does not affect the graphics file on disk, but does allow DrawPerfect to use the image.
- You use the Graphics Conversion Program (a utility program that comes with DrawPerfect) to convert the file. The Graphics Conversion Program creates a copy of the image and stores it in a .WPG formatted file. (See *Appendix B: Conversion Program.*) This file can then be retrieved.

Graphics files in any of the formats on the above list (except DXF format) may be converted by retrieving the graphic without any additional conversion.

Files in .DXF format must be converted by GRAPHCNV.EXE before they can be retrieved into DrawPerfect.

The Graphics Conversion Program *can* be used to convert files of any of the supported formats to .WPG format. Whether you should use the Graphics Conversion Program to accomplish the conversion or simply retrieve the file into DrawPerfect depends on several factors. See *Appendix B: Conversion Program* for more information.

Graphics Programs

The following is a list of graphics programs that have been tested with DrawPerfect 1.0. If your graphics program is not on this list, you may still be able to use it with DrawPerfect if it can generate a DrawPerfect supported graphics format (see the list of supported formats above).

The Export column lists the DrawPerfect compatible formats that can be created with each particular graphics program. You may need to consult your graphics program documentation for information on creating a particular format.

A "Yes" entry under the Grab column indicates that the DrawPerfect Screen Capture Program can be used with that graphics program to capture an image from the screen (see *Screen Capture Program* below). "N/A" in the Grab column means *not applicable* (i.e., From Macintosh or IBM host).

Program	Export	Grab
Anvil-5000	HPGL	
Arts & Letters	CGM	
AutoCAD 9.0, 10.0	DXF, HPGL	
AutoSketch 1.03	DXF, HPGL	
Boeing Graph 4.0	IMG	
CCS Designer	HPGL	Yes
ChartMaster 6.21	HPGL	
Chemfile 11	HPGL	
CIES (Compuscan)	TIFF	
Designer 1.2 (Micrografx)	HPGL	
Designer 2.0 (Micrografx)	EPS, CGM, PCX, TIFF	
DFI Handy Scanner	IMG, TIFF	Yes
DiagramMaster 5.02	HPGL	Yes
Diagraph	HPGL	
Dr. Halo II, III	DHP	Yes
Easyflow 4.4	HPGL	
Enable		Yes
Energraphics 2.1	IMG, TIFF	Yes
Framework II		Yes
Freelance Plus 2.0, 3.0	CGM	Yes
GEM Draw	GEM	
GEM Paint 2.0	IMG, TIFF	Yes
GEM Scan	IMG, TIFF	Yes
Generic CAD	HPGL	Yes
GeniScan	TIFF	
Graph-in-the-Box 2.0	HPGL	
Graph Plus 1.3 (Micrografx)	HPGL, EPS, CGM, PCX, TIFF	
Graphics Editor 200	HPGL	N/A
Graphwriter	CGM	Yes
Harvard Graphics 2.1	HPGL, CGM, EPS	Yes
HIJAAK	WPG	
HOTSHOT Graphics 1.5	WPG	
HP Scanning Gallery A.01	TIFF, PCX	

Program	Export	Grab
IBM CADAM	HPGL	N/A
IBM CATIA	HPGL	N/A
IBM CBDS	HPGL	N/A
IBM GDDM	HPGL	N/A
IBM GPG	HPGL	N/A
Javelin		N/A
Kyocera Image Desk	TIFF	
Lotus 1-2-3 1A,2.0	PIC	Yes
Lotus 1-2-3 3.0	PCX, CGM	Yes
Macintosh Paint 1.5	PNTG	N/A
MathCAD		Yes
Microsoft Chart	HPGL	Yes
Mirage	HPGL	
Paradox 3.0	PIC	
PC Paint Plus 1.5, 2.0	PPIC	Yes
PC Paintbrush	PCX	Yes
PicturePak	WPG, CGM, PCX	N/A
Pixie	CGM	
Pizazz 1.01	PCX, TIFF	
PlanPerfect 3.0*, 5.0	CGM	Yes
PFS: First Publisher	PCX	
PrintMaster		Yes
Professional Plan		Yes
Reflex 2.0	PIC	Yes
Quattro	PIC	Yes
SAS/Graph	HPGL	
ScanMan	TIFF	
Schema	HPGL	
SignMaster 5.11	HPGL	
Silk		Yes
SlideWrite Plus 2.1	HPGL, TIFF, PCX	Yes
SuperCalc 4	PIC	Yes
Symphony	PIC	Yes
Twin		Yes
Versacad	HPGL	
VGA Paint	WPG, PCX, TIFF	
VP Graphics	HPGL	
VP Planner	PIC	Yes
Windows Draw	HPGL	
Windows Paint	MSP	
Words & Figures	PIC	Yes

*PlanPerfect 3.0 requires the META.SYS (GSS Metafile) graphics driver in order to produce CGM files. The driver may be included on the PlanPerfect Graphics Drivers diskette (depending on the date of your version). The files created are named METAFILE.DAT. If you do not have the driver, and are interested in obtaining it, write to:

WordPerfect Corporation
c/o Information Services
1555 North Technology Way
Orem, UT 84057

Screen Capture Program

If your graphics program cannot save an image file in a DrawPerfect supported format, you can use the Screen Capture Program to capture the image in a file that can be retrieved in DrawPerfect. However, if given the choice, use DrawPerfect supported graphics formats rather than the Screen Capture Program. Because the Screen Capture Program only captures data in the resolution of the screen, images captured with the Program are usually of a lesser quality than images created in a DrawPerfect supported format. See *Appendix P: Screen Capture Utility* for more information.

Supported Formats, Conversion Notes

DrawPerfect-supported graphics formats are listed below with information regarding the conversion of each format to .WPG format.

CGM (Computer Graphics Metafile)

- Fonts are converted to one of the following DrawPerfect fonts: Courier, Helvetica, or Times Roman.
- Drawn patterns (hatch patterns) are converted to the DrawPerfect fill pattern most closely resembling the original pattern. Color patterns are not converted in color, but are converted to the DrawPerfect fill pattern which most closely resembles it.
- Multiple pictures within a single file are superimposed.

DHP (Dr. Halo PIC Format)

- Supported up to Dr. Halo III.
- Area cut pictures are not supported.

DXF (AutoCad Format)

- The following DXF attributes are not converted: text obliquing, text control codes and special characters, curve fitting, and 3-D rendering.
- DXF files must be converted to .WPG files with the GRAPHCNV.EXE program.

GEM (GEM Draw Format)

- Rounded boxes are not supported. They are converted to regular boxes.

HPGL (Hewlett-Packard Graphics Language Plotter File)

- Several graphics programs can create HPGL plotter files by redirecting the output to a disk file rather than directly to the plotter. If given the choice, select the HP 7475A plotter.
- Fonts are all converted to Helvetica.
- Not all plotters support the same HPGL commands. The most commonly used commands, however, are supported.

IMG (GEM Paint Format)

- Tested with version 2.0.

MSP (Microsoft Windows Paint Format)

- The images are saved as a full page.

PCX (PC Paintbrush Format)

- PC Paintbrush files are created using the Save As option.

PIC (Lotus 1-2-3 PIC Format)

- Once a graphic is created in Lotus 1-2-3, a .PIC file can be saved with the /GS command.

PNTG (Macintosh Paint Format)

- The MacPaint version used to create the image must be prior to version 2.0.
- Pictures are always transferred as a full 8½" x 11" page. Images conforming to the size of the Macintosh screen are reproduced in the upper left corner of the page.
- Use of a network or other communication link is necessary to transfer the data fork of the Macintosh file to the IBM PC.
- Macintosh screen grabber output is also compatible. The Macintosh screen grabber is activated by pressing Shift-Command-3. This creates files named SCREENX where X is the sequential number of the file created.

PPIC (PC Paint Plus Format)

- Packed picture file format is supported (PC Paint Plus 2.0 and PC Paint 1.5).
- Unpacked picture file format is supported (PC Paint 1.5).
- BSAVE format is not supported (PC Paint 1.0 or 1.01).

TIFF (Tagged Image File Format)

- DrawPerfect supports the modified CCITT/3 (standard compression) and PackBits compression formats.

WPG (DrawPerfect Graphics Format)

- This is the internal graphics format that DrawPerfect and WordPerfect use.
- Detailed specifications for creating this format are available by contacting Information Services at (801) 225-5000.

EPS (Encapsulated Postscript)

DrawPerfect also supports the EPS format. The following is a list of additional graphics programs that have been tested with DrawPerfect and can export an EPS file.

Program	Export	Grab
Adobe Illustrator	EPS	N/A
Chemtext	EPS	
Quattro	EPS, PIC	Yes

Information regarding the conversion of EPS to .WPG is included below.

- EPS files may begin with either the standard 30 byte header or one of the following strings: "%!PS-Adobe" or "%PS-Adobe". These strings indicate a PostScript-only file.
- The showpage, copypage, and erasepage commands are redefined to be null commands since page handling is controlled by DrawPerfect.
- The EPS file may have a graphics screen representation that can be manipulated and displayed in DrawPerfect. If contained within the file, only TIFF bitmap images are supported. The TIFF representation is also used to print the graphic with a non-PostScript printer.
- If no graphics screen representation is available, the image will be represented as a box with the original filename in the box. The image can only be printed with a PostScript printer.

Appendix J: Keyboard Definitions

DrawPerfect includes two keyboard definitions which you may edit as you like and select for use with the program.

Descriptions of the keyboards are listed below. To see what is included in a keyboard definition, see *Keyboard Layout* in *File Reference*.

Alternate (Altrnat)

The Alternate keyboard definition moves Help to F1, moves Cancel to Escape, and moves Escape to F3.

Macros

The Macros keyboard definition assigns some useful macros to Alt and Ctrl keys. This definition is a good example of some of the things you can do with the Keyboard Layout feature.

Key	Description
Alt-B	Displays a border
Alt-C	Copies a selected object
Alt-L	Changes paper size to landscape
Alt-P	Changes paper size to portrait
Alt-R	Rotates a text line
Alt-S	Shadows an object
Ctrl-A	Displays the Arrow Width menu
Ctrl-C	Displays the Line Color menu
Ctrl-D	Turns on double underline
Ctrl-F	Displays the Fill Color menu
Ctrl-G	Sends a GO to the printer
Ctrl-I	Turns on Italics
Ctrl-O	Turns on Outline
Ctrl-P	Displays the Fill Pattern menu
Ctrl-S	Displays the Line Style menu
Ctrl-W	Displays the Line Width menu

Appendix K: Macros, Expressions

Expressions are used to determine values in the {ASSIGN}, {CASE}, {CASE CALL}, {FOR}, {FOR EACH}, {IF}, and {WHILE} commands (see *Appendix M: Macros, Programming Commands*). You can also use expressions to determine values for Alt-number variables. Expressions can perform operations on either numbers or strings of text.

An expression can contain up to 129 keystrokes. A keystroke can be a character, an extended character, a keystroke command, or a programming command.

Numeric Expressions

The following is a list of numeric expressions. The values must contain only integers (or variables which contain integers).

The highest positive number you should use is 2,147,483,647. Numbers higher than 2,147,483,647 are considered to be negative (see *Negative Numbers* below). You can use signed numbers in expressions.

When performing multiplication or division, only one number may exceed $\pm 65,535$. For example, 65536/65535 is legal; 65536/65536 is not legal.

In the table, the terms n1 and n2 represent number 1 and number 2. Although only a single operator is illustrated in each example below, you can use several operators as well as parentheses in expressions. For definitions of the operations used in this table, see *Expression Terms* below.

Expression	Operation
!n1	Returns the logical NOT (bitwise) of the number n1 (see <i>Expression Terms</i> below). Example: !0 is -1.
-n1	Returns the negative of the number n1 (see <i>Negative Numbers</i> below). Example: If variable 1 holds 5, -(VARIABLE)1 is -5.
n1+n2	Returns the sum of n1 and n2. Example: 5+4 is 9.
n1-n2	Returns the difference of n1 and n2. Example: 10-1 is 9.
n1*n2	Returns the product of n1 and n2. Example: 6*5 is 30.

$n1/n2$	Returns the integer quotient of $n1$ and $n2$. Examples: $20/5$ is 4. $5/2$ is 2.
$n1\%n2$	Returns the <i>remainder</i> of the quotient of $n1$ and $n2$. Examples: $20\%5$ is 0. $5\%2$ is 1.
$n1\&n2$	Returns the logical AND (bitwise) of $n1$ and $n2$ (see <i>Expression Terms</i> below). Examples: $7\&4$ is 4. $3\&4$ is 0.
$n1|n2$	Returns the logical OR (bitwise) of $n1$ and $n2$ (see <i>Expression Terms</i> below). Examples: $7|4$ is 7. $3|4$ is 7.
$n1=n2$	Returns a true value (-1) if $n1$ and $n2$ are equal; otherwise, returns a false value (0). Example: If variable 1 holds 5, then $\{\text{VARIABLE}\}1=5$ is true and $\{\text{VARIABLE}\}1=3$ is false.
$n1!=n2$	Returns a true value (-1) if $n1$ and $n2$ are not equal; otherwise, returns a false value (0). Example: If variable 1 holds 5, then $\{\text{VARIABLE}\}1!=3$ is true and $\{\text{VARIABLE}\}1!=5$ is false.
$n1>n2$	Returns a true value (-1) if $n1$ is greater than $n2$; otherwise, returns a false value (0). Examples: $6>4$ is true. $4>6$ is false.
$n1<n2$	Returns a true value (-1) if $n1$ is less than $n2$; otherwise, returns a false value (0). Examples: $2<10$ is true. $10<2$ is false.

If you try to use an invalid numeric expression (e.g., incorrect use of operators, or characters other than numbers and valid operators), the expression is simply treated as a text string.

String Expressions

A string is a name for any sequence of one or more characters, including spaces. For example, "Apple", "245", "QB12", "Z", and "Personal Computer" are strings. Keyboard commands (e.g., {Enter}, {Bold}) should be enclosed in string delimiters (" or ') when they are part of an expression (see *String Delimiters* below).

String delimiters must also be used whenever you compare strings. If you are comparing the string contents of two variables, both

variable commands must be enclosed in string delimiters. For example, "{VARIABLE}x"="{VARIABLE}y".

The expressions outlined below are used to compare strings. The terms s1 and s2 represent string 1 and string 2.

Expression	Operation
"s1"="s2"	Returns a true value (-1) if string 1 is identical (including case) to string 2; otherwise, returns a false value (0). Examples: "true"="true" is true. "true"="TRUE" is false.
"s1"!="s2"	Returns a true value (-1) if string 1 is not identical (including case) to string 2; otherwise, returns a false value (0). Examples: If variable 1 holds the string "string", then "{VARIABLE}1"!="rope" is true. "{VARIABLE}1"!="string" is false.
"s1">"s2"	Returns a true value (-1) if string 1 is greater than string 2; otherwise, returns a false value (0).* Examples: "abcd">"abcd" is true. "a">"A" is true.
"s1"<"s2"	Returns a true value (-1) if string 1 is less than string 2; otherwise, returns a false value (0).* Examples: "abcd"<"abcd" is true. "A"<"a" is true.

**In a string comparison, the WordPerfect Corporation character set values are compared. See WordPerfect Corporation Character Set Values below for details.*

If you do not use the delimiters correctly on s1, the expression is simply treated as a text string. If you do not use the delimiters correctly on s2, the expression evaluates as false.

**Expression
Evaluation**

An expression must be written according to the rules in this appendix so DrawPerfect can evaluate it correctly. The following information will help you create and use expressions.

When an expression is encountered in a command, the expression is evaluated first, then the result of the expression is used to complete the command. For example, in the statement `{ASSIGN}Number~{VARIABLE}Number~+1~`, the expression is “`{VARIABLE}Number~+1~`”. When the expression is evaluated, the contents of variable 1 are incremented by one. The assignment is then performed, replacing the old contents of variable 1 with the result of the expression.

In several of the expressions, the result of the operation is either true (–1) or false (0). DrawPerfect assigns a numeric value to true and false. These values were chosen because they are opposites (numeric complements) of each other (see *NOT* under *Expression Terms* below).

In the following example, the first assignment statement assigns false (0) to variable 1, the second assignment statement assigns true (–1), the complement of false, to variable 1, and the third assignment statement assigns true (–1) to variable 1.

```
{ASSIGN}1~5=4~
{ASSIGN}1~!{VARIABLE}1~
{ASSIGN}1~5!=4~
```

Operator Precedence

DrawPerfect supports expressions with several operators. The order in which the various operators are applied in an expression is not simply the order in which they appear. DrawPerfect uses an order of precedence that determines which operators are applied first, second, etc. The operator precedence used in macros is similar to the accepted precedence for mathematical operators in arithmetic.

The following table shows the order of precedence that DrawPerfect uses:

- 1 – (unary minus), + (unary plus), ! (NOT)
- 2 * (multiply), / (divide), % (mod)
- 3 – (subtract), + (add)
- 4 < (less than), > (greater than), = (equal), != (not equal)
(Relational operators also work on strings.)
- 5 & (AND), | (OR)

You can override the operator precedence by placing parentheses around those elements that you want evaluated first. Elements inside parentheses are always evaluated before the elements outside. If parentheses are nested, the innermost parentheses are evaluated first.

In the expression $4+7*8$, there is a different result depending on whether the addition is performed before or after the multiplication. In DrawPerfect, the multiplication ($7*8$) is performed first, followed by the addition. This is because multiplication has a higher precedence than addition. The result is 60. If you wanted the addition to be performed first, you would type $(4+7)*8$. In this case, the result is 88.

Notes

Expression Terms

The following are technical terms referenced in the discussion of expressions above. An understanding of these terms is not an essential part of creating macros. These definitions are provided for those who are somewhat familiar with programming.

AND (&)

A bitwise AND operation compares the bits of two numbers. When both numbers have a 1 bit in the same position (e.g., there is a 1 bit in column 1 (right-most column) of the first number AND the second number), a 1 is placed in that position in the result. For example, the expression $21&47$ is evaluated as follows:

Value	Bits
21	000000000010101
47	<u>000000000101111</u>
$21&47$	00000000000101

The resulting bits represent the number 5. So, $21&47=5$.

Bitwise Operation

In the computer's memory, numbers are represented as a series of sixteen 1s and 0s. Each of the 0s and 1s represents a bit. The pattern for each number is unique. The following table outlines some values and their corresponding bits:

Value	Bits
0	0000000000000000
-1	1111111111111111
-3	1111111111111101
-21	1111111111101011
3	000000000000011
4	000000000000100
7	000000000000111
21	00000000010101
47	000000000101111

A bitwise operation works on one column at a time, using a single bit from each number. The operation is done 16 times so each bit of each number is operated on.

Evaluate the Expression

Perform the operation(s) on the expression.

NOT (!)

A bitwise NOT operation takes the bits of the number and complements them. For example, if the expression is !0 (0 is 0000000000000000), the resulting value is -1 (-1 is 1111111111111111).

OR (|)

A bitwise OR operation compares the bits of both numbers. When either number has a 1 bit in the same position (e.g., there is a 1 bit in column 1 (right-most column) of the first number *OR* the second number), a 1 is placed in that position in the result. For example, the expression 21|47 is evaluated as follows:

Value	Bits
21	000000000010101
47	<u>000000000101111</u>
21|47	000000000111111

The resulting bits represent the number 63. So, 21|47=63.

Unary operators

Unary operators only apply to a single operand, as opposed to binary operators, which work on two operands. For example, the unary minus in “-2” simply indicates that “2” is negative. Used as a binary operator in “3-2,” the minus sign is now the symbol for subtraction.

The unary operators are unary minus (-), unary plus (+), and NOT (!). Unary operators have precedence over binary operators.

Negative Numbers

In macros, negative numbers are represented as large positive numbers, from 2,147,483,648 to 4,294,967,295. 4,294,967,295 is -1, 4,294,967,294 is -2, and so on. To determine the number DrawPerfect uses to represent any given negative number from -1 to -2,147,483,647, use the following formula:

$$4,294,967,296 - |x|$$

where x is the negative number whose equivalent you are trying to find. For example, to find the DrawPerfect equivalent of -3 ,

$$4,294,967,296 - 3 = 4,294,967,293$$

To find the negative number represented by a given DrawPerfect equivalent, use this formula:

$$x - 4,294,967,296$$

where x is the DrawPerfect equivalent. For example, to find the negative number represented by 4,294,967,293,

$$4,294,967,293 - 4,294,967,296 = -3$$

You can assign variables to be negative numbers by using the minus ($-$) operator (see *Numeric Expressions* above), or by using the DrawPerfect equivalent. Do not use commas or other punctuation in the DrawPerfect equivalent. For example,

```
{ASSIGN}number~-1~
```

is the same as

```
{ASSIGN}number~4294967295~
```

String Delimiters

A string delimiter is a character which marks the beginning or end of a string. In string operations, the " and ' characters serve as string delimiters. Delimiters must be paired correctly. For example, the delimiters in "string" or 'string' are correctly paired, but in "string' they are not. However, one string *can* use the " character while the other uses the ' character (e.g., "string"= 'string').

Whenever you compare any two items that are non-numeric, you must use string delimiters around both strings.

WordPerfect Corporation Character Set Values

DrawPerfect assigns a unique value to each character in each WordPerfect Corporation character set (see the descriptions for the {KTON} and {NTOK} commands in *Appendix M: Macros, Programming Commands*). This is called the character set value. In a string comparison, the character set values are compared.

For characters in the same character set, one character is considered "less than" another character if the first character comes before the second character. For example, in character set 0, "3" is less than "4" and "A" is less than "a".

For characters in different character sets, the character from the character set with the lower numerical value is considered "less

than” the character from the higher numerical character set. For example, any character from character set 2 is less than any character from character set 3.

Appendix L: Macros, Message Display

You can use control characters to affect the way the messages in the {CHAR}, {PROMPT}, and {TEXT} commands are displayed on the screen. (See *Appendix M: Macros, Programming Commands* for details on the above commands.) For example, you can use control characters to determine the attributes of text in the message (such as bolding or underlining), or to place messages at different locations on the screen.

***Important:** When you write text to the drawing window, the text must either be part of a message (as described in this appendix), or the drawing window must be in text mode. If you try to write text to the drawing window (e.g., from a variable) without switching to text mode, the characters from the variable string will try to access the pull-down menus.*

The characters are divided into three categories: Attribute On/Off Characters, Attribute Characters, and Cursor Positioning Characters. Some of the characters have different functions depending on where they appear in the message string (e.g., which character precedes them). The tables below describe how each control character functions.

In all of the tables below, the Character column lists the control characters you should press to insert the commands listed in the second column (the Shown As column). In the Character column, *^letter* means to hold down the Ctrl key, then press the letter. You may also press the key which corresponds to the command. For example, to display the {Home} command, you can press either *^v* followed by *^h* (Ctrl-v, Ctrl-h), or **Ctrl-v** followed by **Home**.

In order to insert certain commands into your macro, you must be in Command Insert mode (see Inserting Editing Keys and Keystroke Commands under Macros, Macro Editor in File Reference). The appropriate commands are listed following each table.

Attribute On/Off Characters

The following characters are used to control attribute display:

Character	Shown As	Action
<i>^N</i>	{ <i>^N</i> }	Turn on display attribute (followed by attribute character) (see <i>Attribute Characters</i> below).
<i>^O</i>	{ <i>^O</i> }	Turn off display attribute (see <i>Attribute Characters</i> below).

Character	Shown As	Action
^Q	{^Q}	Turn off all display attributes.
^R	{^R}	Turn on reverse video.
^S	{^S}	Turn off reverse video.
^T	{^T}	Turn on underline.
^U	{^U}	Turn off underline.
^V	{^V}	Turn on mnemonic attribute. (Turn off with ^Q.)
^]	{^]}	Turn on bold.
^\	{^\}	Turn off bold.

Important: To insert {^V} into your macro, you must be in Command Insert mode (Ctrl-v or Ctrl-F10).

Attribute Characters

The following control characters turn a display attribute on or off when they are preceded by {^N} or {^O}. To turn on an attribute, precede the appropriate control character with {^N}. To turn off the attribute, precede the control character with {^O}.

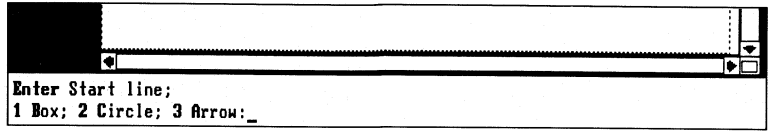
Attribute	Character	Shown As
Bold	^L	{Del to EOP}
Double Underline	^K	{Del to EOL}
Reverse Video	^Q	{^Q}
Small Caps	^O	{^O}
Underline	^N	{^N}

Important: To insert {Del to EOL}, you must be in Command Insert mode (Ctrl-v or Ctrl-F10).

The following example illustrates one use of bold.

```
{CHAR}1~
{^]}1{^Q}{^V}B{^Q}ox;
{^]}2{^Q}{^V}C{^Q}ircle;
{^]}3{^Q}{^V}A{^Q}rrow;~
```

The {CHAR} command displays this message at the bottom of the screen:



The \wedge codes turn on bold, the $\wedge Q$ codes turn off all attributes (including bold). The $\wedge V$ codes turn on the mnemonic attribute (in this case, bold). (Remember, you must press *Ctrl-v* twice to get { \wedge }.) Again, $\wedge Q$ is used to turn off the mnemonic attribute.

Cursor Positioning Characters

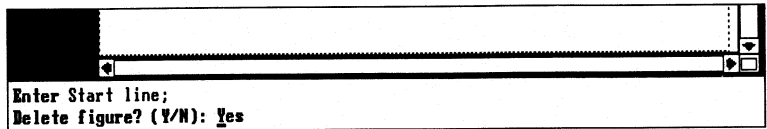
The following control characters affect the location of text in a message on the screen. When a control character is inserted, the cursor is moved to the location indicated, and any text that follows the control character is displayed beginning at that location. You can use as many display position control characters in a message as you need.

Character	Shown As	Action
$\wedge H$	{Home}	Position cursor at upper left corner of screen.
$\wedge J$	{Enter}	Position cursor at beginning of next line.
$\wedge K$	{Del to EOL}	Clear text to end of line. Cursor remains.
$\wedge M$	{ $\wedge M$ }	Position cursor at beginning of line.
$\wedge P$	{ $\wedge P$ }	Position cursor (followed by two characters: column, then row). See <i>Ctrl-P</i> below.
$\wedge W$	{Up}	Position cursor up one line.
$\wedge X$	{Right}	Position cursor right one character.
$\wedge Y$	{Left}	Position cursor left one character.
$\wedge Z$	{Down}	Position cursor down one line.

Important: To insert any of the above codes except { $\wedge M$ } or { $\wedge P$ }, you must be in Command Insert mode (*Ctrl-v* or *Ctrl-F10*).

The following example illustrates the use of the ^Y control character (displayed as {Left}) for repositioning the cursor.

```
{CHAR}1 ^Delete-figure?(Y/N):·Yes{Left}{Left}{Left}^
```



The three {Left} commands position the cursor three characters to the left. When the message is displayed, the cursor is on the "Y" of Yes.

Notes

Conversion Chart, Alphabetic

Use the following chart to determine row and column positions using alphabetical control characters:

Screen Position	Control Character	Screen Position	Control Character
1	{^A}	14	{^N}
2	{^B}	15	{^O}
3	{^C}	16	{^P}
4	{^D}	17	{^Q}
5	{^E}	18	{^R}
6	{^F}	19	{^S}
7	{^G}	20	{^T}
8	{^H}	21	{^U}
9	{^I}	22	{^V}
10	{^J}	23	{^W}
11	{^K}	24	{^X}
12	{^L}	25	{^Y}
13	{^M}	26	{^Z}

If you want to use ASCII characters for your row and column positions, refer to the *ASCII Conversion Chart* in *Appendix A*.

Ctrl-P

You can use the Ctrl-P character {^P} to position the cursor (and hence, the message) on the screen. Ctrl-P is a shortcut to positioning the cursor. Moving the cursor can also be accomplished by using the other control characters as listed in the table under *Cursor Positioning Characters* above.

The two characters following Ctrl-P should be the coordinates for the position on the screen. The screen is divided into columns and rows. Each position that can be occupied by a character on the screen has a column and row coordinate. The column coordinate is listed first, then the row coordinate. For example, the upper left corner of the screen has the coordinates 0,0. The position directly below 0,0 is 0,1. One position to the right of 0,1 is 1,1.

Within the {CHAR}, {PROMPT}, and {TEXT} commands, the coordinates that follow {^P} must be entered as either *control characters* or *ASCII character equivalents*. If you use control characters, {^A} corresponds to coordinate 1, {^B} corresponds to coordinate 2, and so on. If you use ASCII character equivalents, © corresponds to coordinate 1, ● corresponds to coordinate 2, ♥ corresponds to coordinate 3, and so on.

Refer to Conversion Chart, Alphabetic above and Appendix A: ASCII Conversion Chart to translate all the row and column positions.

The first row and column of the screen are at position zero. Since there is no letter of the alphabet for zero (A=1), the top row and left-most column are inaccessible using the {^P}nn positioning feature with control characters. Also, you cannot use the ASCII equivalent of 0 since this is a null character.

However, you can reach row 0 or column 0 using ASCII 254. For example, to position a message at column 0, row 0, insert a prompt command ({CHAR}, {TEXT}, etc.), press **Ctrl-P**, then press **Alt-254** twice.

Since there are only 26 letters of the alphabet (Z=26), to position a message starting at a row or column position greater than 26 you must use the ASCII equivalents.

Display On/Off, Effect on Messages

The messages of the {CHAR}, {PROMPT}, and {TEXT} commands display on the screen whether Display is on or off (see {DISPLAY ON} and {DISPLAY OFF} under *Appendix M: Macros, Programming Commands*).

The message will remain on the screen until the screen is rewritten unless the message is written to the top line or the bottom two lines. This may appear as if the macro is “stuck.” If the message is in the window area, you can rewrite the screen by selecting the ReDraw option from the View menu.

Appendix M: Macros, Programming Commands

The DrawPerfect Programming Language Commands let you control how macros function. Those familiar with programming will notice that many DrawPerfect commands are similar to those in other programming languages.

Command Types

The programming commands can be categorized by the functions they perform. The categories are as follows: User Interface, Flow Control, Macro or Subroutine Termination, External Condition Handling, Macro Execution, Variables, System Variables, Execution Control, and Programming Aids.

User Interface

These commands communicate with the user. They display a prompt, allow input from the keyboard, or both. ({BELL} rings a bell.)

- {BELL}
- {CHAR}
- {LOOK}
- {ORIGINAL KEY}
- {PAUSE}
- {PAUSE KEY}
- {PROMPT}
- {TEXT}

Flow Control

These commands can change the flow of execution.

- {BREAK}
- {CALL}
- {CASE}
- {CASE CALL}
- {CHAIN}
- {ELSE}
- {END FOR}
- {END IF}
- {END WHILE}
- {FOR}
- {FOR EACH}
- {GO}
- {IF}
- {IF EXISTS}
- {LABEL}

```
{NEST}  
{NEXT}  
{ON CANCEL}  
{ON ERROR}  
{QUIT}  
{RESTART}  
{RETURN}  
{RETURN CANCEL}  
{RETURN ERROR}  
{SHELL MACRO}  
{WHILE}
```

Macro or Subroutine Termination

These commands will terminate a macro or subroutine.

```
{BREAK}  
{QUIT}  
{RESTART}  
{RETURN}  
{RETURN CANCEL}  
{RETURN ERROR}
```

External Condition Handling

These commands determine how a condition outside of macro execution is responded to (e.g., when Cancel is pressed), or they create the condition.

```
{CANCEL OFF}  
{CANCEL ON}  
{ON CANCEL}  
{ON ERROR}  
{RETURN CANCEL}  
{RETURN ERROR}
```

Macro Execution

These commands start a macro.

```
{ALT letter}  
{CHAIN}  
{KEY MACRO n}  
{NEST}  
{SHELL MACRO}  
{VAR n}  
{VARIABLE}
```


Variables

These commands assign a value to a variable, determine the state of a variable, or execute (write out) a variable.

```
{ASSIGN}  
{CHAR}  
{IF EXISTS}  
{LEN}  
{LOOK}  
{MID}  
{NEXT}  
{TEXT}  
{VAR n}  
{VARIABLE}
```

System Variables

These commands are used to determine the value of system variables.

```
{ORIGINAL KEY}  
{STATE}
```

Execution Control

These commands affect the speed or visibility of execution on the screen.

```
{DISPLAY OFF}  
{DISPLAY ON}  
{SPEED}  
{STEP 1}  
{STEP 10}  
{STEP 25}  
{WAIT}
```

Programming Aids

These commands can be used as programming aids.

```
{;} (Comment)  
{BELL}  
{DISPLAY OFF}  
{DISPLAY ON}  
{SPEED}  
{STEP OFF}  
{STEP ON}
```

Command Insertion

For information on how to insert commands, see *Macros*, *Macro Editor* in *Reference*.

Command Syntax

Many of the commands use *parameters* or *arguments* which require a tilde (~) at the end. If the tilde is missing, the macro will not work correctly and may use subsequent commands as part of the arguments for the current command. If a macro is not working properly, check to make sure all the comments and commands have their tilde marks correctly placed. (See also *Troubleshooting* under *Notes* at the end of this appendix.)

The syntax and arguments for each command are displayed in the command access box when you insert the command, and in each command heading below. In the arguments, *var* represents a variable. *Expr* represents a number, string, variable, command, or expression (or a combination). Additional argument types are described under each command.

Do not use spaces in any command syntax to separate arguments.

Programming Commands

The programming commands available in DrawPerfect macros are listed below with information about their use. Examples are included to clarify the instructions.

The Macros Keyboard Definition (see *Keyboard Layout* in *File Reference*) contains several advanced macros. Studying these examples will help you see how the commands interrelate.

{;}comment~

The text you type between the comment command {;} and the tilde (~) is ignored during execution. Comments are useful in helping to quickly recognize what each part of the macro does. You can also use comments to modify (“comment out”) a section of the macro so it will not execute (see *Commenting Out* under *Notes* at the end of this appendix).

A comment can be several lines long. It ends when the first tilde is encountered.

Example

The comments in the following example show how comments help you to understand what is happening in the macro.

```
{ASSIGN}Phrase1~One~  
    {;}Assign-"One"-to-var-Phrase1~  
{ASSIGN}Phrase2~Two~  
    {;}Assign-"Two"-to-var-Phrase2~
```

```
{ASSIGN}Concatenation~{VARIABLE}Phrase1~{VARIABLE}Phrase2~
    {;}Assign-to-var-Concatenation-the-contents-of-var-Phrase1-combined
    with-var-Phrase2~
{VARIABLE}Concatenation~
    {;}Execute-var-Concatenation-(Type-the-string-"OneTwo")~
```

Note the centered dots (·) between many of the words. Spaces are represented this way in the Macro Editor. If the space were not between Phrase1 and Phrase2, the variable Concatenation would contain "OneTwo".

{ASSIGN}var~expr~

The {ASSIGN} command assigns the value returned by *expr* to the variable *var*. Expressions are evaluated (see *Appendix K: Macros, Expressions*) and the result is assigned to the variable. Non-numeric characters and expressions that cannot be evaluated are treated as strings. Do not enclose expressions in quotes.

After a value has been assigned to a variable, the variable command ({VARIABLE}*var*~) can be placed anywhere you would normally place the variable contents. See *Appendix N: Macros, Variables* for more information on variables.

If you want to empty the variable of its contents, leave the *expr* argument empty (e.g., {ASSIGN}Fred~). It is a good idea to empty variables at the beginning of a macro in which they are used (unless the macro assigns new contents to them). When you empty a variable, it no longer exists (see *{IF EXISTS}* below).

Example

In this example, variable Fred is first assigned a value, then an expression, then a string.

```
{ASSIGN}Fred~3~
    {;}Assign-3-to-var-Fred~
{ASSIGN}Fred~{VARIABLE}Fred~*2~
    {;}Multiply-old-value-of-var-Fred-by-2,assign-the-result-(6)-as-the-new
    value-of-var-Fred~
{ASSIGN}Fred~DrawPerfect~
    {;}Assign-"DrawPerfect"-string-to-var-Fred~
```

{BELL}

The {BELL} command causes your computer to sound a beep. This command is often useful in combination with the {CHAR}, {PROMPT}, and {TEXT} commands which prompt the user to enter information. You can also use it to signal arrival at various points of the macro, such as at the end of a lengthy process.

Example

In this example, a bell will sound and the text "Hello *name*." will be typed at the cursor position. The {BELL} command can also be placed inside the prompts for {CHAR}, {TEXT} and {PROMPT} commands (i.e., {TEXT}1~{BELL}Please enter-your-name~).

```
{BELL}
    {;}Sound-a-bell~
{TEXT}Name~Please-enter-your-name:~
    {;}Prompt-for-a-name-and-place-it-in-var-Name~
dw{Enter}{Enter}
    {;}Set-up-full-page-text-window~
Hello-{VARIABLE}Name~
    {;}Type-the-message-with-the-name-that-was-entered~
```

{BREAK}

{BREAK} is useful when you want to skip some commands when a Cancel or Error condition occurs. Usually it is used to break out of a loop where several nested IF statements are used. The location of the command in the file determines its function.

The rules that govern how this command functions are as follows:

Each of these rules assumes that the previous rules do not hold.

- 1 If a {BREAK} command is encountered within a FOR, FOR EACH, or WHILE structure, execution moves to the end of the structure (just after the {END FOR} or {END WHILE}). If these structures are nested, execution moves after the {END FOR} or {END WHILE} command of the current level.
- 2 If a {BREAK} command is encountered within an IF structure, execution moves to the end of the structure (just after the {END IF}). If the IF structures are nested, execution moves after the {END IF} command of the current IF structure.
- 3 If a {BREAK} command is encountered within a subroutine, execution returns to the calling routine.
- 4 If a {BREAK} command is encountered in a nested file, execution returns to the parent file.
- 5 If none of the above rules hold and a {BREAK} command is encountered, execution is terminated.

Example

The following macro creates a figure box and retrieves the file BALLOON.WPG into it. The cursor is then moved to the right and the process is repeated. After 10 repetitions, the

{BREAK} command breaks out of the IF loop and the macro is terminated.

```

{DISPLAY OFF}
    {;}Turn-off-display-of-menus-during-macro-execution~
{ASSIGN}counter~1~
{ASSIGN}cutoff~10~
    {;}Initialize-var-counter-and-var-cutoff~
df{Home}{Home}{Up}{Home}{Left}{Down}{Right}{Enter}{Down}{Down}
{Down}{Right}{Right}{Right}{Right}
    {;}Position-cursor-to-top-left-corner-of-page-and-define-figure-box~
{Enter}balloon.wpg{Enter}
    {;}Retrieve-file-BALLOON.WPG-into-figure-box~
{Home}{Home}{Up}{Home}{Left}{Down}{Down}{Right}{Right}
    {;}Reposition-cursor~
ec{Enter}
    {;}Begin-copying~
{LABEL}Copy~
{IF}{VARIABLE}counter~={VARIABLE}cutoff~~
    {BREAK}
    {;}If-var-counter-equals-var-cutoff,-break-out-of-loop~
{ELSE}
    {Right}{Right}{Right}{Right}
    {ASSIGN}counter~{VARIABLE}counter~+1~
    {GO}Copy~
    {;}Otherwise,-continue-copying~
{END IF}
{Cancel}
{QUIT}

```

{CALL}label~

The {CALL} command transfers execution to the *label* subroutine. When execution of the subroutine is completed (e.g., when a {RETURN} is encountered in the subroutine), execution returns to the command following {CALL}. (See *Subroutines* under *Notes* at the end of this appendix for more information about subroutines. See also *Levels* under *Notes* at the end of this appendix.)

Example

The following example contains a subroutine, Query, that asks the user if he or she wants to view the current drawing. If so, execution is branched to the View subroutine. If not, execution returns to the statement following the call to Query.

```

.
. (main routine)
.
{CALL}Query~
.
. (rest of main routine)
.

```

```

{LABEL}Query~
    {;}Begin-subroutine-Query~
    {CHAR}answer~Do-you-wish-to-view-the-drawing?.(y/n)~
    {;}Prompt-and-assign-answer-to-var-answer~
    {IF}"{VARIABLE}answer"="y"~
    {;}If-var-answer-is-y...~
    {CALL}View~
    {;}Call-subroutine-View~
    {END IF}
    {;}End-of-IF-structure~
{RETURN}
    {;}End-subroutine-Query-and-return-to-calling-routine~

{LABEL}View~
    {;}Begin-subroutine-View~
    {Print}v
    {;}Select-Print,View-Drawing~
{RETURN}
    {;}End-subroutine-View-and-return-to-calling-routine~

```

{CANCEL OFF}

The {CANCEL OFF} command is used to stop the Cancel key from performing its normal function (which most often is to cancel the macro). The default condition is for Cancel to be on ({CANCEL ON}).

Once you have turned Cancel off with this command, you can use Ctrl-Break to cancel the macro during execution.

Example

The following macro simply disables the Cancel key and then enables it.

```

.
.   (Cancel works normally)
.
{CANCEL OFF}
    {;}Cancel-is-disabled~
.
.   (Cancel will not terminate the macro)
.
{CANCEL ON}
    {;}Cancel-is-enabled~
.
.   (Cancel works normally again)
.

```

{CANCEL ON}

The {CANCEL ON} command is used to enable the Cancel key after it has been disabled with the {CANCEL OFF} command (see {CANCEL OFF} above). The Cancel key is enabled, by default, when you first define a macro.

Example

For an example of how to use this command, see the {CANCEL OFF} command above.

{CASE}expr~case1~label1~...caseN~labelN~~

The {CASE} command allows execution to branch to different locations in the file (designated by *label1*, *label2*, etc.) (see also *Subroutines* under *Notes* at the end of this appendix), depending on the value returned by *expr*. The value returned by *expr* is compared to each case (*case1*, *case2*, etc.). When a match is found, execution branches to the corresponding label. For example, your macro might ask the user to answer Yes or No to a prompt. If the answer is Yes, one function will be performed. If the answer is No, another function will be performed.

The variable contents must match a case exactly. For example, a case of “y” will match “y” but not “Y”. If no match is found in the {CASE} statement, execution continues after the {CASE} statement. You can use an {ELSE} command as the last case in the command to handle all cases that do not match.

It is often helpful to format the {CASE} statement (place it on several lines) so it is more readable. Notice that there is an extra tilde (~) required at the end of the {CASE} statement. This functions similarly to the {END IF} command.

The {CASE} command does not return execution after the routine is completed. In other words, it does not *call* the routine (see {CALL} above); rather, it *goes* to the routine (see {GO} below). If you want execution to return, use {CASE CALL} (see {CASE CALL} below).

Example

In this example, the Error routine is *not* executed unless a character other than n or y is pressed. If the {CASE} command is changed to {CASE CALL}, the routines are *called*, and execution returns to the {QUIT} command, which terminates the macro.

```
{LABEL}GetChar~  
{CHAR}Answer~Continue?.(Y/N)..~  
    {;}Assign-character-to-var·Answer~  
{CASE}{VARIABLE}Answer~~
```

```

y~Yes~
Y~Yes~
n~No~
N~No~
(ELSE)~Error~
    {;}If-var-Answer-contains-y-or-Y,-go-to-label-Yes;if-var
    Answer-contains-n-or-N,-go-to-label-No..Otherwise,-go-to-label
    Error.~
~
    {;}Be-sure-to-include-the-tilde-that-ends-the-CASE-statement.~
(QUIT)
    {;}End-macro~

```

{CASE CALL}expr~case1~Label1~...~caseN~LabelN~

The {CASE CALL} command is similar to the {CASE} command (see {CASE} above). The only difference is that execution does not merely *go* to the locations indicated by the *label* arguments. Instead, the *label* arguments reference subroutines that are *called* when a match is made between the *value* argument and a *case* argument. When the subroutine has finished, execution is returned to the next command after the {CASE CALL} command.

Example

In the following example, the user is prompted to select a drawing object. The {CASE CALL} command allows the user to select the object by number or letter (note the {^V}s which turn on and {^Q}s which turn off the mnemonic attribute)(see *Appendix L: Macros, Message Display*). Once the subroutine corresponding to the option selected is executed, execution returns to the {LABEL}Next~ command.

```

(LABEL)GetDrawingObject~
(CHAR)Object~{^V}1-L{^Q}ine;{^V}2-A{^Q}rrow;{^V}3-B{^Q}ox:~
    {;}Prompt-user-for-drawing-object~
(CASE CALL){VARIABLE}Object~
    1~Line~
    1~Line~
    L~Line~
    {;}If-user-enters-1,-l,-or-L,-call-subroutine-Line~
    2~Arrow~
    a~Arrow~
    A~Arrow~
    {;}If-user-enters-2,-a,-or-A,-call-subroutine-Arrow~
    3~Box~
    b~Box~
    B~Box~
    {;}If-user-enters-3,-b,-or-B,-call-subroutine-Box~
~
    {;}Notice-the-extra-tilde-to-end-the-CASE-statement~

```



```
{LABEL}Next~  
.  
.  
.
```

{CHAIN}macroname~

The {CHAIN} command stores the name of the indicated macro and executes it after the current macro is completed. You can enter a full pathname if you wish (the .DRM extension is not necessary).

You can chain one macro at each level of nesting (see *Levels* under *Notes* at the end of this appendix). If more than one macro is chained at the current nest level, only the last macro chained is executed when the current macro is completed.

See *Chaining and Nesting* under *Notes* at the end of this appendix for more information on chaining.

Example

The following macro executes a loop until the search text is not found. When the search fails, the loop is exited, completing the current macro. Execution is then transferred to the chained macro (NOTFOUND.DRM).

```
{CHAIN}Print~  
    {;}Execute-the-PRINT-macro-when-this-macro-is-completed~  
{ASSIGN}1~1~  
    {;}Assign-1-to-var-1~  
{LABEL}Draw-Circle~  
    {;}Begin-Draw-Circle-loop~  
    {IF}{VAR 1}<6~  
        {;}If-var-1-is-less-than-6~  
        di{Enter}  
            {;}Select-Draw-Circle-from-menu~  
        {Right}{Enter}  
            {;}Draw-circle~  
        {Right}  
            {;}Position-cursor-for-next-circle~  
        {ASSIGN}1~{VAR 1}+1~  
            {;}Add-1-to-var-1~  
        {GO}Draw-Circle~  
            {;}Go-through-the-loop-again~  
    {END IF}  
        {;}End-the-IF-structure~
```

The section of the macro between the {LABEL} and {GO} commands is repeatedly executed until {VAR 1} equals 6. When {VAR 1} equals 6, the macro is finished, and execution transfers to the chained macro, PRINT.DRM.

{CHAR}var~message~

This command is useful to create menus and prompts. The {CHAR} command prompts the user with the *message* and waits until a single key is pressed. The key is then assigned to the indicated variable (see *Appendix N: Macros, Variables*).

The user can press any key as the input (including a feature key such as ReDraw (F9)). If Cancel is pressed, the macro ends unless the {CANCEL OFF} or {ON CANCEL} commands have been previously executed.

Once the key has been assigned to the variable, a {CASE}, {CASE CALL}, or {IF} command can be used to perform different operations depending on the key pressed.

The message is displayed at the bottom of the screen unless you indicate otherwise. See *Message Display* under *Notes* at the end of this appendix, and *Appendix L: Macros, Message Display* for information on affecting the way messages are displayed. See also *Prompting and User Input* under *Notes* at the end of this appendix.

Example

In the following example, the user is prompted to select a type of drawing, after which the {CASE CALL} command calls a subroutine based on what the user entered.

```
{CHAR}DrawingType~1-Chart;2-Object-Drawing;3-Overhead::~~
      {;}Prompt-the-user-for-input-and-assign-the-key-to-var-DrawingType~
{CASE CALL}{VARIABLE}DrawingType~~
    1~Chart~
    2~Object~
    3~Overhead~
~
      {;}Check-var-DrawingType-and-branch-to-the-appropriate-subroutine~
```

{DISPLAY OFF}

The {DISPLAY OFF} command turns off the display of execution. If this command were not present, each action of the macro would be rapidly displayed on the screen as it was executed. In many cases, you may want to turn the display off because execution is faster when it does not display. The {DISPLAY ON} command turns display back on.

When you define a macro, the {DISPLAY OFF} command is automatically inserted at the beginning of the macro. (Exceptions: If the macro ends at a menu or includes a {PAUSE} or {PAUSE KEY} command, the {DISPLAY OFF} command is deleted.) You can delete this command if you want execution displayed.

Messages in the {CHAR}, {PROMPT}, and {TEXT} commands always display on the screen, even when display is off.

Example

For examples of how to use this command, see the following commands: {BREAK}, {DISPLAY ON}.

{DISPLAY ON}

The {DISPLAY ON} macro command is used to turn on the display of execution after it has been turned off by the {DISPLAY OFF} command (see {DISPLAY OFF} above). Display On is the default for macro execution if no display command is present. Execution is slower when display is on.

{DISPLAY ON} does not itself rewrite the screen. The screen is only rewritten when a command subsequent to the {DISPLAY ON} command performs an action that rewrites the screen.

Example

The following macro draws a box with display turned off and then another box with display turned on. This lets you see that pull-down menus display when display is on, but do not display when display is off.

```
{BELL}
{DISPLAY OFF}
      {:}Turn-off-display~
{PROMPT}{^P}{^O}{^T}Display-is-off.~
dbap3{Enter}
      {:}Set-current-object-to-box-and-change-fill-pattern-to-pattern-3~
{Enter}
{Down}{Down}{Down}{Down}{Right}{Right}{Right}{Enter}
      {:}Draw-box~
{WAIT}15~
{DISPLAY ON}
      {:}Turn-on-display-to-show-pull-down-menus~
{BELL}
{PROMPT}{^P}{^O}{^T}Display-is-now-on..Notice-the-pull-down-menus.~
{WAIT}15~
{Up}{Up}{Up}{Up}{Up}{Up}{Up}{Up}{Up}{Up}{Up}{Up}{Up}{Up}{Up}{Up}
{Up}{Up}
{Left}{Left}{Left}{Left}{Left}{Left}
ap12{Enter}
      {:}Change-fill-pattern-to-pattern-12~
{Enter}
{Down}{Down}{Down}{Down}{Down}{Right}{Right}{Right}{Enter}
      {:}Draw-box~
```

{ELSE}

The {ELSE} command is used in connection with the {IF}, {IF EXISTS}, {END IF}, {CASE} and {CASE CALL} commands. It marks the beginning of the commands which execute should the IF value be false (zero) (see {IF} below) or should none of the cases match (see {CASE} above).

It often helps to think of {ELSE} as the word “otherwise.” The {ELSE} command is not a required part of an IF or CASE statement. It should be used when there are certain steps that need to be performed *only* when the IF value is false (zero) or when none of the cases match. The commands below {END IF} execute whether or not the IF value is true.

Example

In the example below, if variable Number contains a negative number, the macro adds 2 to Number. *Otherwise*, it subtracts 2.

```
{IF}{VARIABLE}Number~<0~
    {;}If-var-Number-is-less-than-0~
    {ASSIGN}Number~{VARIABLE}Number~+2~
    {;}Add-2-to-var-Number~
{ELSE}
    {;}Otherwise~
    {ASSIGN}Number~{VARIABLE}Number~-2~
    {;}Subtract-2-from-var-Number~
{END IF}
    {;}End-of-{IF}-statement~
```

{END FOR}

This command signals the end of a {FOR} or {FOR EACH} loop (see {FOR} and {FOR EACH} below).

Example

For examples of how to use this command, see the following commands: {FOR}, {FOR EACH}.

{END IF}

The {END IF} command marks the end of an IF structure and is used with the {IF}, {IF EXISTS}, and {ELSE} commands.

Example

For examples of how to use this command, see the following commands: {CALL}, {IF}.

{END WHILE}

This command signals the end of a {WHILE} loop (see {WHILE} below).

Example

For an example of how to use this command, see the {WHILE} command.

{FOR}var~start~stop~step~

The {FOR} command is useful for executing a series of commands a certain number of times. The commands between the {FOR} and {END FOR} commands are executed once for each value of *var* between *start* and *stop* inclusive, as incremented by *step*.

The start, stop, and step values can be entered in the command as expressions, variables, or other commands. Each expression, variable, or command is evaluated to a value, then the value is assigned to the variable.

In any FOR loop, the {END FOR} command must be used to determine the end of the series of commands included in the loop. The {END FOR} command sends execution to the top of the loop for the next iteration until the *stop* value is reached. You can also use the {NEXT} command to send execution to the next iteration (see {NEXT} below), but you must still include an {END FOR} to mark the end of the loop.

The {FOR} command itself initializes the variable with the start value. You do not need to pre-assign the variable. Each time the {FOR} command is executed (at the top of the loop), the variable is incremented by the *step* value.

Example

The following example shows how you could use the {FOR} command to move the cursor 10 times to the left.

```
{FOR}Counter~1~10~1~
    {;}For-every-value-of-Counter-between-1-and-10-(values-incremented
    by-1-each-time-through-the-loop)~
    {Left}
    {;}Move-cursor-to-the-left~
{END FOR}
    {;}End-of-{FOR}-loop..Increment-Counter-and-repeat-the-loop-unless
    Counter>=10~
```

{FOR EACH}var~expr1~...exprN~

The {FOR EACH} command is similar to the {FOR} command. The difference is that instead of having a sequential step value, each value that you want to assign to the variable is included as an argument in the command. These values do not need to be in numerical order. (The values can still be included as expressions, variables, or commands. They are evaluated before being assigned to the variable.) See {FOR} above for more information.

Like the {FOR} command, the {FOR EACH} command itself initializes the variable with the start value. You do not need to pre-assign the variable. Each time the {FOR EACH} command is executed (at the top of the loop), the variable is assigned the next value.

Remember to end the loop with an {END FOR} command.

Example

In the following example, the macro will loop 5 times. Each time it loops, the variable "Count" will be equal to the specified value (i.e., on the first loop, Count=15, on the second loop, Count=10, on the third, Count=25, etc.)

```
dw{Enter}{Enter}
    {;}Set-full-page-text-window~
{FOR EACH}Count~15~10~25~95~50~
    {;}Var-Count-is-initialized-to-15-the-first-time-through-the-loop,then
    10,then-25,and-so-on~
    {VARIABLE}Count~
    {;}Write-out-var-Count-followed-by-a-space~
{END FOR}
    {;}Perform-the-next-iteration-of-the-loop-unless-Count=50..In-that
    case,end-the-loop.~
```

When execution is complete, "15 10 25 95 50 " will have been written out. Note the space (represented by ".") after the {VARIABLE}Count~ command. This is the space after each number when they are written out.

{GO}/label~

The {GO} command transfers execution to the location in the macro file indicated by *label*. It is used in conjunction with the {LABEL} command which marks the place to which execution is transferred.

The {GO} command is useful when you want to skip a part of your macro, or to transfer control to another part based on a condition. Unlike the {CALL} command, {GO} does not return execution.

Example

This macro checks to see if the Print command has been entered in variable 1. Notice that the steps between {END IF} and {LABEL} will be skipped if variable 1 contains {Print}. The macro ends after the Print routine finishes.

```
{IF}"{VARIABLE}1"="{Print}"~
    {;}If-var-1-contains-{Print}~
{GO}Print~
```

```

        {;}Go-to-the-Print-label~
{END IF}
.
.      (middle section of macro)
.
{LABEL}Print~
.
.      (Steps of the Print subroutine)
.
{QUIT}
        {;}Stop-macro-execution~

```

{IF}*expr*

The {IF} command is used to execute a set of commands only *if* a certain condition exists. If the condition exists (*expr* is evaluated to be true), the commands directly after the {IF} command are executed.

The *expr* argument is usually a logical expression. Any relational operator (e.g., =, !=, >) may be used. An expression is true if it is evaluated as a non-zero number. For example, when the expression 4=4 is evaluated, the result is -1 (which corresponds to true). The value is false if it results in a 0 or contains nothing at all. String values and commands must be enclosed in quotes to be evaluated correctly. See *Appendix K: Macros, Expressions* for more information on expression evaluation.

If the value is true, the commands directly after the {IF} execute. If the value is false (or there is no value at all), the commands after {IF} are skipped, and execution continues after the {END IF} command.

An {IF} statement always begins with {IF} and ends with {END IF}. If you want certain commands to execute only when the value is not true, use the {ELSE} command (see *{ELSE}* above).

It is also possible to nest {IF} commands. Both the {IF} and {END IF} commands of the nested IF must be contained inside the {IF} and {END IF} commands of the primary IF.

Example

In the example below, the Setup menu is displayed only if the appropriate password is in variable Input.

```

{IF}"{VARIABLE}Input"="{VARIABLE>Password"~
        {;}If-var-Input-contains-the-password-(as-stored-in-var-Password)~
    {Setup}
        {;}Enter-the-Setup-menu~
{END IF}
        {;}End-of-{IF}-structure~

```

Notice that quotes are placed around both {VARIABLE}Input and {VARIABLE}Password because it is a string comparison.

{IF EXISTS}var

The {IF EXISTS} command checks to see if the indicated variable has been assigned a value. If it has, the commands following {IF EXISTS} are executed. If not, execution continues after the {END IF} command. Like other IF statements, the {IF EXISTS} command requires an {END IF} and can use an {ELSE} (see {IF} above).

Common uses for the {IF EXISTS} command include establishing a default response at a menu. {IF EXISTS} is also useful when you want execution to wait until a key is pressed (see {LOOK} below).

Example

The following example shows how you can use the {IF EXISTS} command to set up a default response to a user prompt:

```
{TEXT}Object~1·Box;2·Line;3·Arrow:1{Left}~
      {;}User-selects-object~
{IF EXISTS}Object~
{ELSE}
      {;}If-user-pressed·Enter-at-menu~
      {ASSIGN}Object~1~
      {;}Use-default-of-"1"~
{END IF}
```

{KTON}key

The {KTON} (**Key To Number**) command converts *key* (which may be any key on the keyboard) to a unique number, its DrawPerfect “key value.” {KTON} performs the inverse (opposite) function of the {NTOK} command (see {NTOK} below).

If you take the {KTON} of a function key, an editing key, or a cursor key, the key value is the end result. This is the value you would use with the {NTOK} command.

If *key* is a character (characters are a subset of all keys), you can use the key value to calculate the WordPerfect Corporation character set value. The character set value can be assigned to a variable, and a variable can be used to input the character set value.

To calculate the character set value for a given key,

- 1 Use the {KTON} command to obtain the key value.

2 Divide the key value by 256.

The quotient is the number of the WordPerfect Corporation character set (0-12). The remainder is the character number in the character set (0-255).

Example

For example, if you want your macro to calculate the character set value for a character, you could use the following:

```
{CHAR}Key^Type-any-key~  
    {;}Assign-input-to-var-Key~  
{ASSIGN}Set^{KTON}{VARIABLE}Key~/256~  
    {;}Assign-quotient-to-var-Set~  
{ASSIGN}Num^{KTON}{VARIABLE}Key~/256~  
    {;}Assign-remainder-to-var-Num~  
{VARIABLE}Set^{VARIABLE}Num~  
    {;}Write-out-character-set-value~
```

This macro prompts for a key, then calculates and writes out the character set value for that key.

{LABEL}/label~

A {LABEL} command marks a place in the macro file. Execution can be sent directly there from any place in the macro. The {CALL}, {CASE}, {CASE CALL}, and {GO} commands are used to direct execution to the label.

You can also use the {LABEL} command with the {RETURN} command to create subroutines (see *Subroutines* under *Notes* at the end of this appendix).

The label name distinguishes each label from the others. Label names have no restrictions regarding length; however, only the first 15 characters are used to determine uniqueness. (In other words, ABCDEFGHIJKLMNO (15 characters) and ABCDEFGHIJKLMNOP (16 characters) would be considered by DrawPerfect to be the same label name, but ABCDEFGHIJKLMN (14 characters) and ABCDEFGHIJKLMNO (15 characters) would be considered by DrawPerfect to be different label names. The only character you cannot use in the label name is a tilde (~) because a tilde ends the label name. You *can* use spaces.

There can be many labels in the same macro file as long as each one has a different name. If the name is duplicated, the first one is used. The other is ignored.

Example

For examples of how to use this command, see the following commands: {CALL}, {LOOK}.

{LEN}var~

This command determines the length of the contents of a variable. It is useful for validating or restricting the length of user input.

Example

In this example, if the user enters more than two letters at the {TEXT} prompt, the macro rejects it and the user is prompted again.

```
{LABEL}Get-State~
{TEXT}State~Enter-a-two-letter-state-abbreviation:~
{IF}{LEN}State~>2~
  {GO}Get-State~
{END IF}
```

{LOOK}var~

The {LOOK} command checks to see if a key has been pressed by the user. If a key has been pressed, it is assigned to the variable; it is not executed. If a key has not been pressed, the contents of the variable are deleted and execution is continued without stopping.

Example

In the following example, {LOOK} is used to simulate a pause which does not terminate with the Enter key (see *PAUSE* below). (You could also do this with the {PAUSE KEY} command.)

```
{PROMPT}Press-Exit-to-Quit.~
  {;}Exit-terminates-the-pause~
{LABEL}Loop~
  {;}Top-of-the-loop~
  {LOOK}Key~
  {;}Check-to-see-if-a-key-was-pressed~
  {IF}"{VARIABLE}Key~"="{Exit}""~
  {;}If-Exit-was-pressed~
  {GO}Next~
  {;}drop-out-of-the-loop~
{END IF}
  {;}End-of-{IF}-structure~
  {VARIABLE}Key~
  {;}Perform-the-keystroke~
{GO}Loop~
  {;}Go-to-the-top-of-the-loop~
{LABEL}Next~
.
.
.
```

{MID}var~offset~count~

Use this command to extract substrings. The substring returned is the substring of characters of the string in *var*, starting at the *offset* character and continuing *count* characters. If you do not want an offset, enter "0" as the *offset* value.

This command is often used with {LEN} to parse non-integer numbers.

Example

The following macro creates a text window and then separates the word "DrawPerfect" into two substrings and writes them to the text window.

```
{ASSIGN}Name~DrawPerfect~
      {;}Assign-"DrawPerfect"-to-var-Name~
{STEP 25}
dw{Enter}
{Down}{Down}{Down}{Down}
{Right}{Right}{Right}{Right}
{Enter}
      {;}Create-text-window~
{ASSIGN}FirstName~{MID}Name~0~4~
      {;}Extract-substring-"Draw"-and-place-in-var-FirstName~
{ASSIGN}LastName~{MID}Name~4~7~
      {;}Extract-substring-"Perfect"-and-place-in-var-LastName~
{VARIABLE}FirstName~{Enter}
{VARIABLE}LastName~{Enter}
{Exit}
```

{NEST}macroname~

The {NEST} macro command transfers control to another macro. When the nested macro has finished, execution returns to the parent macro. It is somewhat like placing the contents of the specified macro where the {NEST} command is. See *Chaining and Nesting* under *Notes* at the end of this appendix for more information on nesting.

Example

For example, if you have a macro which saves a drawing on the screen, you can nest it within another macro.

```
{IF}{VAR 0}~
      {;}If-var-0-is-non-zero,save-the-page~
      {NEST}SavePage~
      {;}Nest-the-SAVEPAGE.DRM-macro~
{END IF}
      {;}End-of-IF-structure~
```

{NEXT}

Use this command to execute the next iteration of a {FOR}, {FOR EACH}, or {WHILE} loop. Usually, the {END FOR} or {END WHILE} command that ends the loop sends execution to the next iteration. However, the {NEXT} command can be used to send execution to the next iteration from *other* than the end of the loop. For example, you may use nested IF statements as part of the loop, where when a certain condition is true, you want to abandon the rest of the commands in the loop and go to the next iteration. In this case, you would use the {NEXT} command at the point where you want the next iteration to begin.

Even if you use the {NEXT} command in a loop, you must still use an {END FOR} or {END WHILE} command to mark the end of the loop.

Example

The following macro creates a text box and then writes each letter of the alphabet into it, skipping letters "C," "F," and "W."

```
{Home}{Home}{Up}{Home}{Left}{Down}{Down}{Right}{Right}
    {;}Position-cursor-to-top-left-corner-of-window~
dw{Enter}
{Down}{Down}{Down}{Down}{Down}{Down}{Down}{Down}{Down}
{Down}
{Right}{Right}{Right}{Right}{Right}{Right}{Right}{Right}{Right}{Right}
{Right}{Right}{Right}{Right}{Right}
{Enter}
    {;}Draw-box~
{ASSIGN}Letter~64~
    {;}Initialize-var-Letter-to-64~
{WHILE}{VARIABLE}Letter~<90~
    {ASSIGN}letter~{VARIABLE}Letter~+1~
    {;}Increment-var-Letter~
    {IF}{VARIABLE}Letter~=67~
        {NEXT}
        {;}Skip-if-Letter-is-67-(“C”)~
    {ELSE}
        {IF}{VARIABLE}Letter~=70~
            {NEXT}
            {;}Skip-if-Letter-is-70-(“F”)~
        {ELSE}
            {IF}{VARIABLE}Letter~=87~
                {NEXT}
                {;}Skip-if-Letter-is-87-(“W”)~
            {END IF}
        {END IF}
    {END IF}
```

```

{NTOK}{VARIABLE}Letter~
{END WHILE}
{Exit}

```

{NTOK}number~

The {NTOK} (Number To Key) command converts a DrawPerfect key value to its character or function equivalent. It performs the inverse (opposite) function of the {KTON} command (see {KTON} above).

For example, if you take the {NTOK} of 32809 (Save), a Save is executed. If you take the {NTOK} of 1537, a “±” is written out.

You can also take the {NTOK} of a WordPerfect Corporation character set value. For example, the character set value for ± is 6,1. Type {NTOK}6,1~ to obtain ±.

If you want to calculate the key value for a given character set value,

- 1 Multiply the character set number by 256, then add the number of the character.

You can then use the {NTOK} command to obtain the character.

For example, “±” is character number 1 in character set 6.

Multiply 256 times 6 (1536), then add 1 (1537). You can then take the {NTOK} of 1537 to obtain ±.

Example

The following example prompts for a number, then returns the character or function equivalent.

```

{TEXT}Num~Type a number:~
{NTOK}{VARIABLE}Num~

```

If the number returns a function, such as Save, and you do not want the function to execute, you can store it in a variable (e.g., {ASSIGN}Key~{NTOK}{VARIABLE}Num~).

{ON CANCEL}action~

The {ON CANCEL} command tells DrawPerfect what to do if a user presses **Cancel** (F1) or if a {RETURN CANCEL} command has been returned by a subroutine or nested macro. When a Cancel occurs, DrawPerfect will know what to do next only if it has already encountered the {ON CANCEL} command. For this reason, it is a good idea to place the command before a Cancel can occur, otherwise execution will terminate when Cancel is pressed.

The valid *actions* available with this command are:

{BREAK}	{RESTART}
{CALL}	{RETURN}
{GO}	{RETURN CANCEL}
{QUIT}	

Since {GO} and {CALL} require a tilde (~) after the label, there must be two tilde marks (~) at the end (e.g., {ON CANCEL}{GO}label~).

The default response to a Cancel (if no {ON CANCEL} command is encountered) is {RETURN CANCEL}.

If no *action* is specified in the command (i.e., {ON CANCEL}~), the cancel is ignored and execution continues as if there had been no cancel. Not only is the cancel condition ignored, but if the Cancel key is pressed, the key is thrown away. In other words, if either a {LOOK} or {ORIGINAL KEY} is used, they do not detect that the Cancel key was pressed. If you want the Cancel key to be used as input, use the {CANCEL OFF} command before the input is requested.

When Cancel is pressed (or a {RETURN CANCEL} is encountered), DrawPerfect executes the last {ON CANCEL} command encountered at the current level (see *Levels* under *Notes* at the end of this appendix). If no {ON CANCEL} command was encountered during execution of the previous level, DrawPerfect looks to successively higher levels and executes the last one that was encountered. If none was encountered, the default ({RETURN CANCEL}) is executed.

If you chain or nest a macro, the {ON CANCEL} command is not passed from the parent file to the nested or chained file. Rather, the default ({RETURN CANCEL}) is in effect until another {ON CANCEL} command is encountered.

When execution returns from a lower level to a higher level, the last {ON CANCEL} command encountered at the higher level resumes effect.

Example

In the following example, if the user presses **Cancel** (F1) during the macro, the routine End is executed.

```
{ON CANCEL}{GO}End~
.
. (commands in macro)
.
{LABEL}End~
    {;}Beginning-of-End-routine~
{PROMPT}Macro-cancelled-prematurely~
```

```

        {;}Send-notification-message~
{WAIT}40~
        {;}Display-message-for-4-seconds~
{ReDraw}
        {;}Clear-message-from-screen~
{QUIT}
        {;}Terminate-execution~
.
. (rest of macro)
.

```

{ON ERROR}action~

The {ON ERROR} command tells DrawPerfect what to do if an error is detected in macro execution, or returned by DrawPerfect or DOS, or if a {RETURN ERROR} command has been returned by a subroutine or nested macro.

Inserting this command without an action ({ON ERROR}~) will cause DrawPerfect to ignore the error and continue execution (when possible).

Any error that returns an error message to or from DrawPerfect can be trapped with this command.

If you chain a file that does not exist or is not found, the error condition is not generated until the macro tries to execute the chained file (i.e., at the end of the current macro). See *Chaining and Nesting* under *Notes* at the end of this appendix, and the descriptions for the {CHAIN} command in this section for more information.

The default *action* (if no {ON ERROR} is encountered) is {RETURN ERROR}. For a list of other possible actions, see {ON CANCEL} above.

The range of effect of the {ON ERROR} command is the same as the {ON CANCEL} command (see the {ON CANCEL} above).

Example

In the following example, the macro requests that the user enter the name of a file. The macro then tries to retrieve it. The {ON ERROR} command specifies that the Error routine be executed if the file is not found when the macro tries to retrieve it.

```

{ON ERROR}{GO}Error~
        {;}If-an-error-is-generated,execute-the-Error-routine~
{LABEL}GetFile~
        {TEXT}Filename~File-to-be-retrieved:~
        {;}Prompt-user-for-file~
        {Retrieve}{VARIABLE}Filename~{Enter}
        {;}Retrieve-the-file~

```

```

.      (more commands)
.
{LABEL}Error~
        {;}If-the-file-was-not-found-when-the-macro-tried-to-retrieve-it,
        execution-moves-here~
{Cancel}
        {;}Cancel-"Drawing-to-be-retrieved:"-prompt~
{PROMPT}The-file-you-entered-is-not-in-the-default-directory-(or-the-directory
you-specified)..Try-again.~
        {;}Tell-the-user-what-happened~
{WAIT}15~
        {;}Display-the-message-for-1.5-seconds~
{GO}GetFile~
        {;}Prompt-again-for-the-file~

```

{ORIGINAL KEY}

The **{ORIGINAL KEY}** macro command evaluates the original (unmapped) action of the last key entered from the keyboard. The last key pressed could be either a key that was read before the macro started (which may be the key which invoked the macro) or a character input with a **{CHAR}**, **{LOOK}**, **{TEXT}**, **{PAUSE}**, or **{PAUSE KEY}** command.

Example

For example, you might want your macro to check whether a user has typed a specific key, regardless of the keyboard definition. If you want to exit if F7 has been pressed, use the following macro:

```

{LOOK}Key~
        {;}Check-to-see-if-a-key-has-been-pressed...Assign-it-to-var-Key~
{IF}"{ORIGINAL KEY}"="{Exit}"~
        {;}If-the-unmapped-key-is-Exit~
        {Exit}
        {;}Exit~
{END IF}
        {;}End-of-{IF}-statement~

```

{PAUSE}

The **{PAUSE}** command causes execution to pause until **Enter** is pressed. This command lets the user edit or type new text as if there were no macro running. Execution proceeds after **Enter** is pressed. (If you want another key to end the pause, see **{PAUSE KEY}** below.)

Because **{PAUSE}** does not prompt the user, the **{PROMPT}** and/or **{BELL}** commands are often used with **{PAUSE}**. See also *Prompting and User Input* under *Notes* at the end of this appendix for other methods of obtaining user input.

Example

The following example assumes the user is in a text window or text line. After the {PROMPT} command is executed, the user can do any editing. Execution continues when the user presses Enter.

```
{PROMPT}Edit-the-text..Press-Enter-when-done.~  
      {;}Send-a-prompt-to-the-screen~  
{PAUSE}  
      {;}Pause-for-user-to-edit-text~
```

{PAUSE KEY}key~

This command functions like the {PAUSE} command (see {PAUSE} above), except that you specify the key that terminates the pause.

Example

If you wanted Exit (F7) to terminate the pause, you could use the following:

```
{PROMPT}Edit-the-drawing..Press-Exit-when-done.~  
      {;}Send-message-to-user.~  
{PAUSE KEY}{Exit}~  
      {;}Stop-so-that-user-can-edit-text..Execution-continues-when-the-user  
      presses-Exit-(F7)~
```

{PROMPT}message~

The {PROMPT} command displays the *message* on the status line. See *Message Display* under *Notes* at the end of this appendix for information on affecting the way messages are displayed on the screen. See also *Prompting and User Input* under *Notes* at the end of this appendix for other methods of prompting the user.

Example

For examples of how to use this command, see the following commands: {PAUSE}, {RESTART}.

{QUIT}

The {QUIT} command stops the execution of the macro. If macros are nested or chained, it stops their execution at that point.

Example

For examples of how to use this command, see the following commands: {CASE}, {GO}.

{RESTART}

The {RESTART} command terminates all execution at the end of the current nested macro. This command can be used if you do not want a macro to return to the macro from which it was nested. The {RESTART} command can be inserted anywhere in the nested

macro. The macro “remembers” the {RESTART} command and executes it after all other commands have been executed.

Example

In the following example, the parent macro nests the macro CONTINUE.DRM which asks the user whether he or she wants to continue or stop. If the user elects to continue, execution returns to the parent file. If the user elects to stop, the {RESTART} command prevents execution from returning after the last command of the nested file.

Parent File:

```
.  
. .  
. .  
{NEST}Continue~  
. .  
. .
```

Nested File (CONTINUE.DRM):

```
{CHAR}Answer~1-Continue;2-Stop:~1{Left}~  
    {;}Prompt-user~  
{IF}{VARIABLE}Answer~=1~  
    {;}If-user-elects-to-continue...~  
    {RETURN}  
    {;}...return-execution-to-the-parent-file.~  
{ELSE}  
    {;}Otherwise...~  
    {RESTART}  
    {;}...terminate-execution-at-the-end-of-this-file.~  
{END IF}  
    {;}End-of-IF-statement~  
{PROMPT}You-have-elected-to-stop-the-macro..Press-Enter-to-terminate-execution.~  
    {;}Prompt-user~  
{PAUSE}  
    {;}Wait-for-user-to-press-Enter~
```

{RETURN}

The {RETURN} command marks the end of a subroutine and signals the macro to return from a {CALL} or {CASE CALL} command.

If there is no {CALL} or {CASE CALL} to return to and the macro file containing this command is nested, {RETURN} signals the macro to return to the file from which it was nested. If the command is not in a nested file and there is no {CALL} or {CASE CALL} to return to, {RETURN} marks the end of a macro (see {CALL} above).

Example

For examples of how to use this command, see the following commands: {CALL}, {RESTART}.

{RETURN CANCEL}

The {RETURN CANCEL} command causes execution to leave the current level and indicates a Cancel to the next higher level (see *Levels* under *Notes* at the end of this appendix).

Since {RETURN CANCEL} is the default action to Cancel when no {ON CANCEL} command is used (see {ON CANCEL} above), the {RETURN CANCEL} command is most often used to reset the {ON CANCEL} action back to the default after it has been changed.

Example

In this example, the {RETURN CANCEL} is used to set the {ON CANCEL} action to {RETURN CANCEL}.

```
{ON CANCEL}{GO}Send-Message~
.
. (During this part of the macro, if the user presses Cancel, execution will
. be transferred to the Send Message label.)
.
{ON CANCEL}{RETURN CANCEL}~
.
. (During this part of the macro, if the user presses Cancel, a
. {RETURN CANCEL} is returned to the higher level.)
.
```

{RETURN ERROR}

The {RETURN ERROR} command causes execution to leave the current level and indicate an error to the next higher level (see *Levels* under *Notes* at the end of this appendix; see also {ON ERROR} above).

Since {RETURN ERROR} is the default action when an error occurs and no {ON ERROR} command is used (see {ON ERROR} above), the {RETURN ERROR} command is most often used to reset the {ON ERROR} action to the default after it has been changed.

Example

In this example, the {RETURN ERROR} is used to reset the {ON ERROR} action to the default.

```
{ON ERROR}{GO}Send-Message~
.
. (During this part of the macro, if an error occurs, execution will be
. transferred to the Send Message label.)
.
```

```
{ON ERROR}{RETURN ERROR}~
```

- . (During this part of the macro, if an error occurs, a {RETURN ERROR}
- . is returned to the higher level.)

{SHELL MACRO}macroname~

The {SHELL MACRO} macro command invokes a Shell macro. This is useful when switching between various WordPerfect Corporation products.

This command is only available if you have Shell version 3.0. If you have a previous version of Shell, this command will do nothing.

You do not need to include the .SHM extension in *macroname*. However, you must include a path if the Shell macro is in a directory other than the Keyboard/Macro Files directory specified in Location of Files (see *Location of Files* in *File Reference*).

Example

You can use the macro in the following example to execute a Shell macro, or to let you know why it can't be executed.

```
{IF}{SYSTEM}ShellVer~>2*256~
    {;}If Shell is version 3.0 or later~
    {SHELL MACRO}c:\shm\test~
    {;}Execute the Shell macro TEST.SHM~
{ELSE}{IF}{SYSTEM}ShellVer~=0~
    {;}Otherwise, if no Shell is running~
    {CHAR}AnyKey~ERROR::Shell not present..Press any key to continue.~
    {;}Inform user.~
{ELSE}
    {;}Otherwise (if a Shell is running but is a version earlier than 3.0)~
    {CHAR}AnyKey~ERROR::Shell wrong version..Press any key to continue.~
    {;}Inform user.~
{END IF}
{END IF}
```

{SPEED}100ths second~

The {SPEED} command slows down execution. It causes execution to wait the amount of time indicated by the *100ths second* argument between each command.

The default speed is no delay between commands (i.e., {SPEED}0~).

Example

For example, if you want macro commands to execute every 1.5 seconds, insert the following into your macro:

```
{SPEED}150~
```

{STATE}

The {STATE} command returns a number representing the current operational state of DrawPerfect. This lets you create macros which are aware of the environment in which they are executing. The operational states and their corresponding code numbers are listed below.

3	Current Drawing (1,2)
4	Drawing Window
8	Other than Drawing Window
16	Macro Definition Active
32	Macro Execution Active (always set)
1024	Yes/No Question Active
2048	In a list

State 8 (Other than Drawing Window) refers to any other drawing window. Macro Execution (32) is labeled as “always set” because the {STATE} command is only used in a macro as it is executing.

You can determine what the state of DrawPerfect is by forming an AND (&) expression with a value called a *mask* (e.g., {STATE}&3). The result of the operation indicates the current state of DrawPerfect.

To choose a mask, determine which state(s) you want to check for. Note the numbers associated with each state and add them together to calculate the mask value. For example, if you want to know what drawing you are currently in (1 or 2), the mask value is 3. If you want to know if you are at the drawing window (4) and/or if a Yes/No question is active (1024), the mask value is 1028 (4+1024=1028).

After you have determined the appropriate mask, create an AND expression, then assign the result to a variable. For example,

```
{ASSIGN}DocNum~{STATE}&3~
      {;}Assign-the-current-drawing-number-to-var-DocNum~
{ASSIGN}Active~{STATE}&1028~
      {;}Assign-the-result-(either-4,-1024,-1028,-or-0)-to-var-Active~
```

In this example, the mask values are 3 and 1028. Variable DocNum contains the current drawing number and variable Active contains a number which indicates whether the drawing window (4), Yes/No question (1024), both (1028), or neither (0) are active.

If the result of the AND operation is 0, then the state you were checking for is not present. If the result is a non-zero number, then some (or all) of the states you checked for are present.

When {STATE} is executed by itself (not in an expression), it returns a number which represents the total state of DrawPerfect. All applicable numbers are added together.

Example

See the examples in the above description of this command.

{STEP 1}

The {STEP *n*} commands set the number of pixels or grid points the cursor moves when you press an arrow key. This command is automatically inserted in each macro. The value of the step (1, 10, or 25) depends on the step value that is set when you create the macro (the number is displayed at the lower right corner of your screen). You can change or delete the step value in the Macro Editor.

The {STEP 1} command sets the number of pixels for each arrow key movement at 1.

Example

```
{DISPLAY OFF}
    {;}Turn-off-display-of-menus~
{Setup}dwn{Exit}
    {;}Change-option-"Start-With-Mini-Object"-under-Display-under-Setup
to-"no"~
{Goto}1.5{Enter}4.25{Enter}
    {;}Position-beginning-of-Step-1-box~
db
    {;}Choose-Box-option-under-Draw~
{STEP 1}
    {;}Change-Step-to-1-for-first-box~
{Enter}{Up}{Up}{Up}{Up}{Up}{Right}{Right}{Right}{Right}{Right}{Enter}
    {;}Draw-first-box~
{Goto}2.5{Enter}4.25{Enter}
    {;}Position-beginning-of-Step-10-box~
{STEP 10}
    {;}Change-Step-to-10-for-second-box~
{Enter}{Up}{Up}{Up}{Up}{Up}{Right}{Right}{Right}{Right}{Right}{Enter}
    {;}Draw-second-box~
{Goto}4.5{Enter}4.25{Enter}
    {;}Position-beginning-of-Step-25-box~
{STEP 25}
    {;}Change-Step-to-25-for-third-box~
{Enter}{Up}{Up}{Up}{Up}{Up}{Right}{Right}{Right}{Right}{Right}{Enter}
    {;}Draw-third-box~
```

{STEP 10}

The {STEP 10} command sets the number of pixels for each arrow key movement at 10 (see {STEP 1} above for more details).

Example

See *{STEP 1}* above for an example of how to use this command.

{STEP 25}

The *{STEP 25}* command sets the number of pixels for each arrow key movement at 25 (see *{STEP 1}* above for more details).

Example

See *{STEP 1}* above for an example of how to use this command.

{STEP OFF}

The *{STEP OFF}* command turns off single step execution after it has been turned on (see *{STEP ON}* below).

Example

See the example under *{STEP ON}* below.

{STEP ON}

The *{STEP ON}* command is useful for debugging macros. It causes the macro to execute one step at a time. Between each step, a message on the status line indicates what the next key or command is. The key or command executes when any key is pressed.

While step is on in macro execution, if the next step in the macro is a character (e.g., A), that character is displayed. If it is a command, a label followed by a number is displayed. The four labels are as follows:

Label	Meaning
ALT <i>X</i>	Alt- <i>letter</i> Macro Execution
KEY CMD <i>n</i>	DrawPerfect Command, Cursor Control, etc.
KEY MACRO <i>n</i>	Soft Keyboard Macro Execution
MACRO CMD <i>n</i>	Specific Macro Command

The *X* and *n* in the table above represent the letter or number that identifies the specific command of that type. Alt-*letter* macro commands are identified by the letter to which they are assigned. Soft keyboard macro commands are identified by the number assigned to the macro by the Keyboard Layout feature (see *Keyboard Layout* in *Reference*). Variables are identified by name. Keystroke commands and macro commands are identified by special code numbers that are listed below.

Keystroke Command Codes (KEY CMD)

1	^A	61	Flush Right
8	^H – Home	62	Grid Display
9	^I – Tab	64	Constrain
10	^J – Enter	65	Macro
11	^K – Delete to End of Line	68	Shell
22	^V – Ignore Meaning of Following Code	72	Export
23	^W – Up	74	Grid Snap
24	^X – Right	75	Font
25	^Y – Left	76	Stretch
26	^Z – Down	77	Macro Define
27	^[– Escape	80	Backspace
28	^^	81	Delete Right
29	^]	82	Delete Word (Ctrl- Backspace)
30	^^ – Reset Keyboard Map	83	Word Right
31	^_	84	Word Left
32	Cancel	85	Home, Home, Right (by pressing end key)
34	Help	86	Home, Home, Left (by pressing begin key on the Victor computer)
35	Indent	88	GoTo (Ctrl-Home)
36	List	89	PgUp
37	Bold	90	PgDn
38	Exit	91	Screen Down (by hitting “+” on numeric keypad)
39	Underline	92	Screen Up (by pressing “-” on numeric keypad)
40	ReDraw	93	Typeover
41	Save	106	Delete Row (Ctrl-Delete)
44	Setup	107	Menu Bar (Alt=)
46	Switch		
48	Date/Text		
49	Center		
50	Print		
51	Format		
52	Freehand		
53	Retrieve		
58	Position Display		
60	Zoom Area		

Macro Command Codes (MACRO CMD)

1	{ASSIGN}	30	{PAUSE}
2	{BELL}	31	{PROMPT}
3	{BREAK}	32	{QUIT}
4	{CALL}	33	{RESTART}
5	{CANCEL OFF}	34	{RETURN}
6	{CANCEL ON}	35	{RETURN CANCEL}
7	{CASE}	36	{RETURN ERROR}
8	{CASE CALL}	38	{SPEED}
9	{CHAIN}	39	{STEP ON}
10	{CHAR}	40	{TEXT}
11	{;} (comment)	41	{STATE}
12	{DISPLAY OFF}	42	{WAIT}
13	{DISPLAY ON}	43	{WHILE}
14	{ELSE}	44	{Macro Commands}
15	{END FOR}	45	{STEP OFF}
16	{END IF}	46	{ORIGINAL KEY}
17	{END WHILE}	47	{IF EXISTS}
18	{FOR}	52	{VARIABLE}
19	{FOR EACH}	53	{SYSTEM}
20	{GO}	55	{NTOK}
21	{IF}	56	{KTON}
22	{LABEL}	57	{LEN}
23	{LOOK}	58	{~} (hard tilde)
24	{NEST}	59	{PAUSE KEY}
25	{NEXT}	257	{STEP 1}
26	{SHELL MACRO}	258	{STEP 10}
27	{ON CANCEL}	259	{STEP 25}
28	{ON ERROR}		

The {STEP ON} feature is particularly useful when you want to track the contents of a variable. When a variable is encountered during macro execution with Step on, MACRO CMD 52 (for {VARIABLE}) is first displayed, then each letter of the name of the variable is displayed. Then its contents (if they exist) are displayed one character at a time. For example, if variable Num contains 14, the first message, MACRO CMD 52, is followed by an N, then a u, then an m, then a tilde (~), then a tilde (~), which are then followed by a 1, then a 4.

If the execution command for a variable was entered as {VAR #}, VAR # is displayed instead of MACRO CMD 52. The contents are then displayed one character at a time as usual.

During execution, press **Exit** (F7) to turn off Step mode. Pressing **Cancel** (F1) terminates execution unless Cancel is turned off or is redefined (see {CANCEL OFF} and {ON CANCEL} above).

Example

The following example shows how you can use {STEP ON} and {STEP OFF} to isolate problems in a macro.

```
.  
. (This section will execute normally.)  
. .  
{STEP ON}  
. .  
. (This section will execute one keystroke at a time.)  
. .  
{STEP OFF}  
. .  
. (This section will execute normally.)  
. .
```

{TEXT}var~message~

The {TEXT} command prompts the user by displaying a message on the status line. The input (up to 129 keystrokes) from the user is then assigned to the variable (see {CHAR} above). See *Message Display* under *Notes* at the end of this appendix for information on affecting the way messages are displayed. See also *Prompting and User Input* under *Notes* at the end of this appendix for additional methods of obtaining user input.

Example

For examples of how to use this command, see the following commands: {BELL}, {IF EXISTS}.

{VARIABLE}var~

This command executes or writes out the contents of a variable.

After a value has been assigned to a variable (see {ASSIGN} above), the {VARIABLE}var~ command can be placed anywhere you would normally place the variable contents. It can be placed within or as an argument for another command, or by itself.

A variable can hold no more than 129 keystrokes (characters).

Example

For examples of how to use this command, see the following commands: {ASSIGN}, {CASE}.

{WAIT}10ths second~

The {WAIT} command delays further execution of the macro for the indicated time. This command is useful when you want a message to be displayed for a certain amount of time.

Example

For examples of how to use this command, see the following commands: {ON CANCEL}, {ON ERROR}.

{WHILE}expr~

While the expression *expr* is true, the commands between the {WHILE} and the {END WHILE} are repeatedly executed. This command is like the {FOR} command, except that it does not increment a value each time through the loop. In order to end the loop, use another command that will force the expression to be evaluated as false (see *Loops* under *Notes* at the end of this appendix).

Remember that if you use a variable in *expr*, the variable must already exist *before* the {WHILE} command is executed.

Example

In this example, the message “Counting” will be displayed until variable “Count” reaches 50.

```
{ASSIGN}Count~0~
      {;}Initialize-var-Count..(This-command-creates-the-variable,-then
      assigns-it-"0")~
{WHILE}{VARIABLE}Count~<50~
  {PROMPT}Counting~
      {;}Send-the-prompt-"Counting".~
  {ASSIGN}Count~{VARIABLE}Count~+1~
      {;}Increment-var-Count-each-time-through-the-loop~
{END WHILE}
```

Notes

Chaining and Nesting

Chaining a macro file causes the named file to take over control of execution as soon as execution of the current file is complete. A file can use only one chain command. If you include more than one chain command, the last one encountered during the macro will be the only one executed. The chained file only executes when the current macro file is completely finished.

Nesting is the process of moving control of execution to another macro file. Execution then returns to the parent file (directly after the nest command) when execution of the nested file terminates.

Nesting a macro is similar to calling a subroutine (see *Subroutines* below), except that the nested macro is not a part of the calling macro. It is a separate macro, referenced by giving the macro name or the full pathname if it is not in the Keyboard/Macro Files directory currently specified in Location of Files (see *Location of Files* in *File Reference*). You do not need to include the .DRM extension in the filename or pathname. Because execution is

automatically returned when the nested macro has finished, you do not need to place a {RETURN} command at the end of a nested macro.

If there are certain procedures which you frequently use in your macros, you can put them in smaller macros and nest them when they are needed.

You can nest macro files several levels deep (see *Levels* below). The main file nests a second file; the second file nests a third. After the third file has finished, the rest of the second file is executed. After the second file has finished, the remaining part of the main file is executed.

Commenting Out

You can use the {;} command to *comment out* sections of a macro that you don't want to execute. This practice is useful for testing and debugging your macros.

Anything (including commands) between the {;} command and the next tilde is ignored in execution. It is easy to comment out commands such as {NEST}, {CHAIN}, etc., where there is only one tilde associated with the command:

```
{;}{NEST}thefile~
```

However, if the commands to be commented out have more than one tilde, you must insert a {;} to correspond to each tilde:

```
{;}{ASSIGN}Number~{;}45~
```

When multiple tildes are involved, you may find it easier to delete the additional tildes in the section to be commented out so that you only have to use one {;} command. You will have to re-insert the tildes if you later decide to restore the section.

Levels

In a macro, you can have up to 30 levels of execution. Each {NEST} command uses 2 levels (one for executing the macro and one for a possible CHAIN command). Each {CALL}, {CASE CALL}, nested {IF}, {FOR}, {FOR EACH}, or {WHILE} command uses 1 level.

Execution levels are maintained in *stacks*. Levels in expressions are maintained in a separate stack from execution levels. Generally, expressions use one level, but may use more if they are very complex.

Loops

Whenever the same commands repeat several times, that section of the macro is called a loop. For example,

```
{LABEL}Top~
      {;}Top-of-the-loop~
      endless-loop
      {;}Type-"endless-loop"~
{GO}Top~
      {;}Go-to-top~
```

In this example, the words “endless loop” are written continuously to the screen (if you are in text mode). There is no way to stop execution without pressing **Cancel** (F1), Ctrl-Break, etc. When you create a loop, it is very important to have a way for the loop to end. In the following example, a count is kept of the number of times the text has been written to the screen. After the tenth time, the loop ends.

```
{ASSIGN}Counter~0~
      {;}Assign-0-to-var-Counter~
{LABEL}Top~
      {;}Top-of-the-loop~
      {ASSIGN}Counter~{VARIABLE}Counter~+1~
      {;}Add-1-to-var-Counter~
      Loop·{VARIABLE}Counter~{Enter}
      {;}Type-"loop"#~
      {IF}{VARIABLE}Counter~=10~
      {;}If-this-is-the-tenth-time~
      {QUIT}
      {;}Quit-the-macro~
      {ELSE}
      {;}Otherwise,~
      {GO}Top~
      {;}Go-to-top-(repeat-the-loop)~
      {END IF}
      {;}End-of-{IF}-structure~
```

There are many types of loops you can create with macro commands. You can use an IF structure as in the above examples, or you can use the {FOR}, {FOR EACH}, or {WHILE} commands (see each command above). You can also create loops by going to or calling subroutines (with the {GO} or {CALL} command). The structure you should use for any given loop will depend on the task you are trying to accomplish.

Message Display

The following commands send a message to the screen when executed:

```
{CHAR}  
{PROMPT}  
{TEXT}
```

You can use control characters to both position the message on the screen, and affect the display attributes (such as Bold, Mnemonics, etc.) of the message. For information on using control characters and display attributes, see *Appendix L: Macros, Message Display*.

Prompting and User Input

The following commands can be used to prompt the user of your macro, and/or obtain input from the user:

```
{CHAR}  
{LOOK}  
{PAUSE}  
{PAUSE KEY}  
{PROMPT}  
{TEXT}
```

These commands are similar to each other in some ways, yet different in others. The chart below shows some of these differences and similarities. Comparisons are based on the following features of each command:

- Whether or not a message is sent with the command or command combination.
- If a message is sent, whether the message remains on the screen until 1) the screen is rewritten or the message is overwritten with a new command, 2) input is terminated, or 3) you exit DrawPerfect or the message is overwritten with a new command.
- Whether or not execution stops at the command or command combination for user input.
- If execution stops for input, whether the input goes directly into the drawing or into a variable.
- If execution stops for input, the method of terminating input.

Commands	Sends Message?	Message Duration	Stops for user Input?	Input Goes To:	Input Termination Method:
{CHAR}	Yes	R/O	Yes	Var.	1 Char.
{LOOK}	No	n/a	No	Var.	1 Char. or nothing
{PAUSE}	No	n/a	Yes	Doc.	Enter
{PAUSE KEY}	No	n/a	Yes	Doc.	Specified key
{PROMPT}	Yes	R/O	No	n/a	n/a
{TEXT}	Yes	R/O	Yes	Var.	Enter
Command Combinations					
{PROMPT} with {PAUSE}	Yes	R/O	Yes	Doc.	Enter
{PROMPT} with {PAUSE KEY}	Yes	R/O	Yes	Doc.	Specified key

Legend

n/a	Not applicable
T	Termination
R/O	Rewrite Screen, Overwrite Message, or End on macro if on top or bottom 2 lines

Subroutines

A subroutine is a set of commands you may want to execute several times in a macro. Instead of repeating the commands each time you need them, you can include them only once, then send execution to that spot each time you want the commands performed. Inserting a call to a subroutine functions as if its commands were placed at each point of call. There is no limit to the number of subroutines you can have in a macro file.

A subroutine is identified by two commands. The first command, {LABEL}, marks the beginning of a subroutine. The second command, {RETURN}, marks the end.

Some subroutines do not need a {RETURN} at the end, if the commands in the subroutine guarantee correct branching or returning.

The commands you can use to send execution to a subroutine are as follows:

{CALL}	{GO}
{CASE}	{ON CANCEL}
{CASE CALL}	{ON ERROR}

Since there may be more than one subroutine in a macro, the name associated with each one must be unique. The label name must be entered as an argument in the command that sends

execution to the subroutine, and must match the name following the {LABEL} command identifying the beginning of the subroutine.

Troubleshooting

If you have trouble getting a macro to work, check to see that you have not made one of the following errors:

- Incorrect number or placement of tildes. (See the descriptions of the commands you are using.)
- Using a variable name instead of the {VARIABLE}var~ command, or vice versa. (See the description of the commands you are using, and *Appendix N: Macros, Variables*.)
- Other syntax errors. (See the descriptions of the commands you are using.)
- Infinite loops. (See *Loops* above.)
- Missing a {RETURN} at the end of a subroutine. (See *Subroutines* above.)
- Misspelled variable or label names.
- Going to or calling non-existent labels, or accessing non-existent variables.
- Nesting files too many deep or using too many levels. (See *Levels* above.)
- Performing a numeric operation on a string. This usually happens when you use an invalid character (such as a space, period, or comma) in an expression which is assigned to a variable. (See *Appendix K: Macros, Expressions*.)
- Missing loop terminators (see {END FOR}, {END IF}, {END WHILE}).
- Missing or improper nested files, or improper termination of nested files (see {NEST}, {SHELL MACRO}, and *Chaining and Nesting* above).
- Trying to write text to the drawing window without first switching to text mode. If this happens, the letters in your text will try to access the pull-down menus.

Appendix N: Macros, Variables

A variable represents a place in memory where data is stored. As its name indicates, the data in a variable is changeable. You might want to use variables to calculate and/or keep track of values and text which change during execution.

DrawPerfect uses user-defined variables—variables that *you* create and name, and whose contents *you* determine. You can perform operations on these variables to change their contents.

DrawPerfect variables are accessible from anywhere inside a macro. In other words, they are *global* variables.

Naming Variables

Variables must each have a unique name by which you refer to them. The name may consist of any combination of the characters in the WordPerfect Corporation character sets. However, only the first 7 letters are used to determine uniqueness. So, DrawPerfect considers ABCDEFG and ABCDEFGH to refer to the same variable.

Variable names are not case sensitive. Abc, AbC, ABC, abc are all considered by DrawPerfect to refer to the same variable.

Variables receive their names when the variables are *assigned*. See *Assigning Variables* below for more information.

Variable Contents

Variables can contain text, numbers, and keystrokes. The method you use to assign variables may affect the kinds of commands and keystrokes that can be assigned to a variable (see *Assigning Variables* and *Keystroke Commands in Variables* below). A variable can only hold 129 keystrokes. A keystroke can be a character, an extended character, a keystroke command, or a programming command.

Assigning Variables

You assign a variable with the {ASSIGN} command. For example, the following statement assigns a variable:

```
{ASSIGN}Number~45~
```

The {ASSIGN} command creates a variable named “Number” and puts in “45” as its contents. (See the description of the {ASSIGN} command in *Appendix M: Macros, Programming Commands*.)

The {ASSIGN} command can only be entered from within the Macro Editor (see *Inserting Commands* under *Macros, Macro Editor* in *File Reference*).

In addition to using the {ASSIGN} command, the following commands also assign variables:

{CHAR}	{LOOK}
{FOR}	{TEXT}
{FOR EACH}	

See *Appendix M: Macros, Programming Commands* for a description of each of these commands.

You can also assign variables from the drawing window or while in macro definition mode (see *Macros, Define* in *File Reference* for an explanation of macro definition mode). To assign the variable,

- 1 Press **Macro Commands** (Ctrl-PgUp).
- 2 If you are in macro definition mode, a menu appears. Select **Assign** (3). Otherwise, skip to the next step.
- 3 Enter the variable name.

You are prompted for the value.

- 4 Enter the variable contents.

Using this method, you can only assign characters and numbers to the variable. You can enter up to 79 characters. If the characters you enter form a valid expression (see *Appendix K: Macros, Expressions*), the expression is evaluated and the result is assigned to the variable.

See *Keystroke Commands in Variables* below for information on limitations to using variables that contain keystroke commands.

If a variable already exists, assigning new contents to it replaces the previous contents without warning.

Executing Variables

You can *execute* or *write out* a variable anywhere you would want its contents. For example, by executing a variable you can do the following:

- Use the contents of the variable as a subroutine.
- Insert the contents as text in a text line or window.
- Provide variable arguments in other programming commands.

To execute a variable, you use the {VARIABLE} command. For example, the statement {VARIABLE}Number~ would execute the variable named "Number."

If a variable is named with a single-digit number (1, 2, 3, 4, 5, 6, 7, 8, 9, or 0) (see *Naming Variables* above), the Macro Editor allows a short-cut method of inserting the command to execute the variable in the macro. You can press **Ctrl-v**, **Alt-#**, where # is the number of the variable, or if you have pressed **Macro Define** (Ctrl-F10) to turn on command insert mode, just press **Alt-#**. The command that is inserted looks like this: **{VAR #}**. This command is equivalent to **{VARIABLE}#**.

Another advantage of naming variables with a single digit is that you can execute them from the drawing window. For example, if you are in the drawing window and want to know the current contents of variable 5, press **Alt-5**. The contents are executed/written out. You cannot use this method to execute variables of other names at the drawing window.

***Important:** When you write text to the drawing window, the text must either be part of a message (such as {PROMPT}), or the drawing window must be in text mode. If you try to write text to the drawing window from a variable without switching to text mode, the characters from the variable string will try to access the pull-down menus.*

Variable Duration

The contents of variables remain in memory until you exit DrawPerfect, not just until the macro finishes execution.

If you want to erase a variable before DrawPerfect does it for you, assign the variable “nothing” by using the following command: **{ASSIGN}var~**. This command not only empties the variable of its contents, but also releases the memory used by the variable. After this command, the variable no longer exists. It is a good idea to empty variables at the beginning of a macro in which they are used (unless the macro assigns new contents to them) to insure that the variables do not contain values from previous macro execution.

Operations on Variables

You can compare variables, as well as have other operations performed on them. Operations are performed using various programming commands (see *Appendix M: Macros, Programming Commands* and *Appendix K: Macros, Expressions*).

Keystroke Commands in Variables

Variables are executed as keystrokes. Therefore, if in a macro you assign keystroke commands (such as {Up}, {Down}, {Left}, {Right}, and {Enter}) to a variable, and then execute the variable, the keystrokes will be performed.

Appendix O: Network Administration

This appendix is divided into five major sections.

Phase I: Network Installation explains the first phase of getting DrawPerfect up and running on a network. The first phase relies on the DrawPerfect Installation Program to install DrawPerfect on the network. The Installation Program will create a DrawPerfect directory, copy the program files, create and check the environment files, and select printers.

Phase II: Network Maintenance moves beyond the capabilities of the DrawPerfect Installation Program and includes maintenance-related procedures which make DrawPerfect fully operational on a network. Among these procedures are sharing the DrawPerfect directory, modifying environment files, setting file attributes, placing startup options, and editing setup files. This section also explains how to select network printer ports and addresses other printing applications.

Supplemental Information defines additional networking processes (e.g., file security, DrawPerfect directories) that are not absolutely necessary to the two phases of making DrawPerfect fully operational on the network.

Network Troubleshooting discusses the most frequent network difficulties and offers some suggestions on how to solve them.

Customer Support and Information Services provides instructions regarding toll-free Customer Support numbers and obtaining network-specific information.

Phase I: Network Installation

This section introduces the DrawPerfect Installation Program and explains how to use it to install DrawPerfect on your network. *You MUST use the Installation Program to copy program files because they have been electronically compressed.* Using the Installation Program is only the first phase in making DrawPerfect fully operational on your network. Therefore, this section should be used in connection with the next section, *Phase II: Network Maintenance*, which explains the second phase. We suggest that you read both of these sections very closely.

DrawPerfect Installation Program

Using the DrawPerfect Installation Program is the first phase of getting DrawPerfect up and running on your network. Automating the process of installing DrawPerfect on the network, the Installation Program will do the following:

- Prompt you for source and target drive names, allowing you to specify the subdirectory where files are to be stored (for network installation only).
- Copy DrawPerfect program files.
- Create and check the CONFIG.SYS and the AUTOEXEC.BAT files.
- Create and check the DrawPerfect environment file, DR{DR}.ENV.
- Prompt you to install and select printers.

You will not be able to copy the DrawPerfect program files unless you use the Installation Program. In an effort to save space, the DrawPerfect program has been electronically "compressed" onto your diskettes. Since the Installation Program is developed to handle this compression, you will need to use it to copy the program files.

DrawPerfect is not necessarily operational on the network even after you have used the Installation Program. To make DrawPerfect work on the network, you will probably need to make final adjustments to DrawPerfect once the Installation Program has loaded it onto your network file server. These final adjustments will depend upon your system and your preferences, and are explained in *Phase II: Network Maintenance*.

Using The Installation Program

The steps that explain how to use the DrawPerfect Installation Program are phrased in general terms, and are sufficient to install DrawPerfect on many networks. If, after reading through the steps below, you need more detailed instructions regarding installation on your particular network, you can order network-specific steps free of charge. Sets of detailed steps are currently available for the networks listed in *Customer Support and Information Services* at the end of this appendix.

Starting the Installation Program

To start the Installation Program for network installation,

- 1** Make sure you are attached to the network file server.
- 2** Insert the Install/Program 1 diskette into your A drive.
- 3** Type **a:install** at the DOS prompt.

- 4 Type **y** for hard disk installation.
- 5 Type **p** for program file installation.
- 6 Select option **3** for network installation.

We recommend that you follow the instructions below as you use the Installation Program.

Creating a DrawPerfect Directory

The Installation Program will make a directory called DR10 for the DrawPerfect program files. However, if you would like to call the directory something else, the Installation Program will allow you to change this directory name.

The Installation Program *will not* make the DrawPerfect directory accessible to all users on the network; however, users will need to have access in order to use DrawPerfect on a network. Therefore, we suggest that you make this directory accessible, or *shared*, so that all users on your system will have read privileges to it. You will have to do this during *Phase II: Network Maintenance* after you have used the Installation Program. For information about other DrawPerfect directories, see *DrawPerfect Directories* under *Supplemental Information* below.

Copying the Program Files

Since using the DrawPerfect Installation Program is the only way to copy the compressed program files (see *DrawPerfect Installation Program* above), you *must* use it. The program files will be copied to the directory you designated above.

Creating the Environment Files

Two environment files affect how DrawPerfect operates on a network. These are the CONFIG.SYS file and the DrawPerfect environment file, DR{DR}.ENV. The Installation Program will, *at your request*, create and check these environment files for you. The Installation Program will also edit, if necessary, the AUTOEXEC.BAT file. This latter adjustment is performed only at your request. The three paragraphs below explain what the Installation Program does to these files and the last paragraph explains where to go to find out how to make modifications to these files.

CONFIG.SYS File

The Installation Program first checks the CONFIG.SYS file. It ensures that the FILES command has been set, allowing at least 20 files (i.e., FILES=20) to be opened at one time. If this setting is less than 20 files, then the Installation Program will change it to 20 files.

AUTOEXEC.BAT File

The Installation Program will check, and edit if necessary, the AUTOEXEC.BAT file. This file contains a “batch” of commands that are automatically executed each time you start your computer. The Installation Program checks to see if your current AUTOEXEC.BAT file contains the DrawPerfect program directory (using the name that you specified above) in the path. Since the settings you make to this file are not system-wide, each user’s AUTOEXEC.BAT file will need to be adjusted separately.

DR{DR}.ENV File

The Installation Program puts the /nt and /ps startup options in the DR{DR}.ENV file. It will then show you a list of networks, prompting you to choose the appropriate /nt number or letter for your particular network. See *Customer Support and Information Services* for additional information about supported networks and their corresponding numbers/letters. After you have entered the /nt number, you are prompted for the directory name for the setup files. The /ps startup option allows you to specify the directory path where all individual user setup files will be located.

You may want to change these files after the Installation Program has installed them on the network. For instance, you may want to alter the FILES command, modify the startup options, or relocate the startup options. If you want to make any of these modifications, we recommend that you wait until after the Installation Program has created the environment files. *Modifying Environment Files* below will explain further details about these environment files and give you suggestions as to how to change the information in them.

Selecting Printers

The Installation Program will prompt you for the printer diskette and copy the .ALL printer files. Once the printer files have been copied, you will need to select from the printers that the screen displays.

Important: *Once you select a printer, you must specify a port (LPTx or COMx). The Installation Program initially specifies LPT1 as a local printer, but your network may require a different port. You also need to tell DrawPerfect this is a network printer. The next section, Phase II: Network Maintenance, explains this and other second phase procedures.*

Phase II: Network Maintenance

Having used the DrawPerfect Installation Program to create a DrawPerfect directory, copy the DrawPerfect program files, create environment files, and select printers, you are ready to move beyond the capabilities of the Installation Program.

The second phase of making DrawPerfect fully operational on the network includes maintenance-related procedures. Among these are sharing the DrawPerfect directory, modifying environment files, setting file attributes, placing startup options, and editing setup files. The last section explains how to select network printer ports, initialize printers, delete .ALL files, and troubleshoot network printing problems.

How many of these procedures you use and to what extent you use them will depend upon your system and your preferences.

Sharing the DrawPerfect Directory

The DrawPerfect directory is the network directory that contains the DrawPerfect program files. The DrawPerfect directory *must* be a shared network directory to allow network users access to the DrawPerfect program.

Each network provides a utility to make the DrawPerfect directory accessible or shared to all other users on the network. The Novell Map command is an example of such a utility.

Modifying Environment Files

As explained earlier, the Installation Program creates two environment files: CONFIG.SYS and DR{DR}.ENV. These two environment files affect how DrawPerfect operates on a network. While the Installation Program puts information into these files to make DrawPerfect run adequately on the network, you may wish to modify this information. This section explains how the environment files affect DrawPerfect on the network, where the files should reside, and how to modify the files' information.

CONFIG.SYS File

The CONFIG.SYS file tells DOS how many files can be open at one time. This file should reside in the root directory (or on the startup disk) of each workstation (e.g., C:\). While running DrawPerfect, if you encounter the "Insufficient File Handles" message, you need to increase the number following the files statement in your CONFIG.SYS file. Installation creates the CONFIG.SYS file with the FILES=20 command to allow at least 20 files to be opened at one time. We recommend that you

increase this number to 30 (or even 40), ensuring that users have greater file access capability. Since CONFIG.SYS is an ASCII text file, you may modify the number using any text editor.

DrawPerfect .ENV File

The DrawPerfect environment file lets the system manager define DrawPerfect startup commands in a single location for all users on the network. This file *must* be located in the DrawPerfect program directory. As the Installation Program creates this file, it includes only two startup options: 1) network type (/nt) and 2) personal setup file directory (/ps). If you want to relocate these startup options, see *Placing Startup Options* below which defines these options in greater detail.

The DrawPerfect startup options contained within the DrawPerfect environment file are executed as if they were initiated from the command line. The following is an example of a DrawPerfect environment file:

```
/nt=1  
/ps=f:\dr10\setup
```

Like the CONFIG.SYS file, the DR{DR}.ENV file is an ASCII text file and can be modified using any text editor.

Setting File Attributes

You may want to set the file attributes to read-only allowing multiple users to have access to a file, yet maintaining that file's integrity. Your network software may provide a utility or specific command to set file attributes. You may also use the DOS ATTRIB command to do this procedure.

Setting Files to Read-Only

From DOS, set the file attributes to read-only access for all DrawPerfect program files (located within the DrawPerfect shared directory) ending with the following extensions:

```
.DRS  
.EXE  
.FIL  
.MRS  
.PRS  
.DRK
```

Important: *The printer resource files (i.e., those with the .PRS extension) may optionally be set for read-only access. However, if new paper sizes and types, or new printer settings need to be added, the .PRS files must be reset for read/write access.*

Placing Startup Options

This section will 1) define the startup options that are important to run DrawPerfect on the network, and 2) explain where you should place these startup options. If, for one reason or another, you do not use this section now, it will be a resource later when maintaining DrawPerfect on the network.

Startup Options Defined

The following paragraphs define five startup options: `/nt`, `/ps`, `/u`, `/d`, and `/sa`. *Appendix Q: Startup Options* also provides additional information about startup options.

`/nt=network #`

This startup option tells DrawPerfect which network software you are using (e.g., Novell, Banyan). Each supported network has a number assigned to it which you enter after `/nt`. The network types that DrawPerfect supports and their corresponding numbers/letters may change. See *Customer Support and Information Services* below for the current list of supported networks and their corresponding numbers/letters.

Important: *If the `/nt` option is not defined, DrawPerfect will assume you are not working in a network mode.*

`/ps=directory pathname`

This startup option provides the directory path where individual personal setup files will be located. The `/ps` option identifies a common directory that is accessible by each network user to store his or her personal `DRXXX}.SET` file, where `XXX` represents the individual user's initials. DrawPerfect `.SET` files are used to define the initial settings that the DrawPerfect program will use, such as printer selections, display attributes, and backup options.

There are two types of setup files: a master setup file and personal setup files. The master setup file provides the default DrawPerfect settings for the entire network. Personal setup files are defined by the individual user and override the master files for that user only. For more information about setup files, see *Editing Setup Files* below.

If you don't use the `/ps` startup option, there is no way to control where you will create and store individual personal setup files on the network. As a result, the personal setup files will be stored in the DrawPerfect default directory. The `/ps` option allows the system manager to define a common shared directory to better manage personal setup files. We recommend that you create a common directory and define it as a common directory for personal setup files. Users will therefore need to have read/write

rights to the setup directory. To help system managers use the `/ps` option, DrawPerfect provides a special management tool known as a setup utility or `NDRSETUP.EXE`. See *Editing Setup Files* below for an explanation of this utility.

`/u=username`

This startup option provides the correct user initials to the DrawPerfect program to allow multiple users to run DrawPerfect on the network. DrawPerfect uses these initials to create unique temporary files each time a network user runs DrawPerfect. We recommend that each user put this startup option in his or her personal `AUTOEXEC.BAT` file.

***Important:** If the user doesn't use this startup option, and if WordPerfect Office is not being used, he or she will be prompted for user initials each time a DrawPerfect session is started.*

`/d=drive/directory`

This startup option identifies a drive and/or directory where you create the temporary DrawPerfect files. Each temporary DrawPerfect file that is associated with the respective DrawPerfect session and users' initials will be created in the directory specified by the `/d` option. If you don't specify the `/d` option, DrawPerfect will create the temporary files in the current DrawPerfect default directory. See the definition of the DrawPerfect default directory in *DrawPerfect Directories* below.

The `/d` option allows users to define a specific directory where they want the temporary files created all the time, regardless of their current default directory location.

DrawPerfect temporary files are created each time the DrawPerfect program is run. When a user exits DrawPerfect (F7), his or her temporary files are deleted. The user must have Read/Write/Create/Delete rights to the directory specified by the `/d` option. If the user does not have these privileges to the directory, DrawPerfect will not run.

`/sa`

Specifying `/sa` forces DrawPerfect to come up in stand-alone mode even if a network environment file exists. Use this option only if you need the stand-alone mode for special purposes.

Startup Option Placement

This section explains where you may place the five startup options described above. The most important startup options, `/nt` and `/ps`, are treated first and with greater detail than the remaining three.

While the Installation Program puts the /nt and /ps startup options in the DrawPerfect environment file, two other possible locations exist: 1) directly on the command line (or AUTOEXEC.BAT file) and 2) in the DOS SET environment. The commands placed in the AUTOEXEC.BAT file are executed as if used at the command line. Where you place these startup options depends upon what you want. The following list shows where you may place the startup options and what to enter in these locations:

- Command line or AUTOEXEC.BAT file. An example of a command line string would be:
`DR /nt=1/ps=f:\dr10\setup/d=c:\bruce/u=bwk <return>`
- DOS SET Environment. An example of the SET command from the command prompt would be:
`set dr=/nt-1/ps-f:\DR10/setup`
- The DrawPerfect startup options /nt and /ps may be in the DrawPerfect .ENV file as described above.

The /u, /d, and /sa options cannot be contained within the DrawPerfect environment file; however, you may use them from the command line or place them in the DOS SET environment. We recommend that each user put the /u startup option in his or her AUTOEXEC.BAT file.

Editing Setup Files

DrawPerfect requires two types of setup files: a master setup file and personal setup files. The master setup file is defined by the system manager and provides default settings to the entire network. Personal setup files are defined by the individual user and override the master files for that user only. The following paragraphs describe these two setup files and explain how you can edit them. This section also explains the NDRSETUP.EXE utility and how to use it to change personal setup files.

Master Setup File

The master setup file, DR{DR}.SET, allows a system manager to define default settings for all the DrawPerfect users on the network. As a system manager, you should define the master setup file *before* users start using DrawPerfect on the network.

Some of the settings that can you can define in the master setup file are listed below. All network users inherit these settings the first time they start DrawPerfect.

- Printer selections
- Display attributes
- Backup options

- System reset values
- Font information
- Beep options
- Drawing attributes

DrawPerfect comes with these options set to a default setting. However, you can edit the settings to fit your system's needs by following the steps below.

Editing the Master Settings

To edit the initial settings that are in the master setup file,

- 1** Start DrawPerfect using {DR as the user initials, that is, enter **dr /u={dr** at the DOS prompt.

The {DR username is a special identification for system manager functions. If the /u startup option is not used, the system manager will be prompted for the user's initials.

- 2** Change the desired settings. See *Setup* in *File Reference* for descriptions of all the setup options.
- 3** Press **Exit** (F7), type **n** at the save prompt, then type **y** at the exit prompt.
- 4** Change to the setup directory, and run NDRSETUP.EXE to update personal setup files from the master setup file. *Using the Setup Utility* below describes how to use this utility.

Personal Setup Files

DrawPerfect creates a copy of the master setup file for every user as he or she starts DrawPerfect for the first time. This process creates a personal setup file that is identified from other users' personal setup files by the user's unique initials in the setup filename. Individual setup files are named DRXXX}.SET, where XXX is the unique user's initials. DrawPerfect names these files automatically, inserting the user initials from each user's startup options. This allows multiple user setup files to be stored in a common shared directory.

The directory where the individual user's personal setup files are located must have the DOS READ/WRITE attribute associated with it. This is true whether the personal setup files are located in a common shared directory using the /ps startup option or the individual's default directory. If the directory does not have the READ/WRITE attribute, DrawPerfect will resort to putting setup files in the startup directory, where the setup files may be changed.

Using the Setup Utility

NDRSETUP.EXE is a utility for managing user setup files stored in a common /ps directory. It allows the system manager to change network printer definitions, auxiliary paths, and other settings in individual personal setup files by first changing the master setup file and then running the utility.

Before using this utility, you must make the desired changes to the master DrawPerfect setup file as outlined in *Editing the Master Settings* above. The personal setup file will not be updated if the user is in DrawPerfect. Make sure all users are out of DrawPerfect before using this utility.

To use the utility,

- 1 In DOS, change to the specific directory where the individual user setup files are located as defined by the /ps startup option.
- 2 Type **ndrsetup** and press **Enter** to run the utility.

A list of options appears, allowing you to specify which settings you would like to change in all personal setup files. The utility only changes those options you specify.

- 3 Type **y** next to those settings you want to change and **n** next to those settings you don't want to change.

The NDRSETUP utility now makes the appropriate changes to the individual user setup files that were created in the master setup file. Press **Cancel** (F1) or **Exit** (F7) at any time to terminate the updating process.

Network Printing

This section complements the *Selecting Printers* section of *Phase I: Network Installation*. Having selected printers using the Installation Program, you will now need to select a printer port. This section explains how to select a printer port. *You will not be able to do network printing unless you select both a printer and a printer port.*

This section also explains other network processes that will be helpful as you do network printing. Among them are how to initialize a printer, how to delete the printer .ALL file for disk economy, and how to troubleshoot network printing problems. *Printer, Select* in *File Reference* is another resource to which you can refer for additional printing information.

Selecting a Printer Port

Before you can print in DrawPerfect from a network printer, you must select a printer port. Even after selecting the printer port

from the file server, the system manager must use a specific network utility to redirect the output of a port to a network spool file. DrawPerfect prints as if it were printing to a local device.

The network utility, not DrawPerfect, is responsible for intercepting and redirecting the printer output from the printer's port to a network printer. It is the system manager's responsibility to make sure this network utility works.

To select a printer port,

- 1 Start DrawPerfect using {DR as the user initials if you want to select a system-wide network port. Use individual user initials for user-specific port selections.
- 2 Press **Print** (Shift-F7).
- 3 Choose **Select**.
- 4 Move the cursor to your printer.
- 5 Select **Edit**.
- 6 Select **Port** to begin changing the port choice.
- 7 From the list on the bottom of the screen, choose the appropriate printer port (e.g., LPT1, LPT2, LPT3).

***Important:** On Novell NetWare, you should select the "Other" option for port selection and identify the specific Server/Print Queue device. The default is usually Printq_0 for the first network printer on the Novell Print Queue menu. Enter the name of the printer port, and indicate "Yes" for network printer.*

- 8 Press **Exit** (F7) twice to return to the Select Printer: Edit menu, where you may initiate printing.

Each time you print a page from DrawPerfect, DrawPerfect creates a temporary print file in the current default directory, regardless of whether you print to a remote or local printer. The temporary print file allows DrawPerfect to handle *background* printing, permitting the user to continue editing a drawing while the drawing prints. The temporary print file contains all of the printer-specific codes and controls for the drawing.

Initializing the Network Printer

Initializing the network printer is a precautionary step to make sure DrawPerfect is communicating properly with the network printer. You can enable printer initialization for network printers by running DrawPerfect with the {DR initials.

Deleting the Printer .ALL Files

If you are concerned about disk storage space, you may delete all files with .ALL extensions after you have selected the printers used by your network. These files contain individual printer definitions (i.e., .PRS files). In the event that you add or replace printers on your network, you will need to re-install the .ALL files using the Installation Program.

Troubleshooting Network Printing Problems

This section discusses a printing problem that you may encounter during network printing. Below the problem are questions you should ask to determine where the problem is. If you cannot answer “yes” to each question, then perform the necessary operations. If you can answer “yes” to all of the questions, but you are still faced with a problem, call Customer Support. See *Customer Support and Information Services* below for telephone numbers.

Printing Problem: The network printer will not print from DrawPerfect.

- Have you selected the correct network in the DrawPerfect Installation Program?
- Do you have read/write rights in the DrawPerfect default directory to create the temporary print file?
- Does the physical printer port match the port you named in DrawPerfect?
- Have you selected your printer as a network printer?
- Does the network itself direct to the port you selected in DrawPerfect?
- Have you checked the Print: Control Printer screen (Shift-F7, 4) for error messages?

DrawPerfect prints best on Novell NetWare by going directly to the print queue name.

Supplemental Information

This section discusses file security and DrawPerfect directories. Although this information is supplemental, this section is an important resource, and you should read it in order to properly maintain DrawPerfect on the network.

File Security

Make sure that the ability to share files between many users does not forfeit the security of those files. Network software usually offers several safeguards that a system manager can implement to ensure that users have access to only those files to which they should have access. Four of these safeguards, including file locking, saving read/write files, read-only permissions, and non-shared directories, are explained below.

File Locking

File locking is a network device designed to ensure that only one person can edit a file at any particular time. When a user retrieves a file into DrawPerfect, that file becomes “locked” and, until the user is finished with the file, is available to others on the system exclusively in read-only mode.

A user can tell if he or she has retrieved a locked file (meaning one already being used by someone else) because the filename at the status line will have brackets around it (e.g., [FILENAME.EXT]). The brackets signify that the file is in read-only mode. The read-only file can be edited and even printed, but it cannot be saved under its original filename. If the user wishes to save the read-only file, it must be done under a new filename.

Saving Read/Write Files

If a user must edit a drawing that is being edited by someone else, be sure that person gives it a new filename when he or she saves it. Make sure that the user never replaces or overwrites a drawing that is being edited by someone else. The last file saved is the only file saved.

Read-Only Permissions

Each file that is created within a network environment will receive a set of permissions. The permissions given to a certain file define how much ability a user would have to alter that file. If a system manager wants to make sure that a certain file can be read (or viewed) but not altered, he or she will give that file restrictive permissions, called read-only permissions on most networks. Read-only permissions are used frequently for program files or other files that would likely not work correctly if they were tampered with.

Non-Shared Directories

Most networks provide you with the capability of defining your system’s directories as either shared or non-shared. Non-shared directories are those directories that are accessible to only one user (or sometimes to just a few users). For example, a user’s personal

files are normally stored in a non-shared directory. A user's default directory will likely be a non-shared directory also.

DrawPerfect Directories

When DrawPerfect is used in a network environment, DrawPerfect uses several different directories for storing and retrieving information. These directories are described below and the system manager should become familiar with them. These directories are either *shared* or *non-shared*. Most files stored in a shared network directory should be set to “read-only” status to avoid file corruption or deletion.

Files that are stored in non-shared directories should be set to the “read/write” status to allow maximum privileges to the owner of the directory.

***Important:** The system manager is responsible for how the DrawPerfect directories are defined and how users can gain access to network directories.*

DrawPerfect Program Directory

The DrawPerfect program directory is the network directory that contains the DrawPerfect program files. This directory must be a shared network directory to allow network users access to the DrawPerfect program.

DrawPerfect Default Directory

The DrawPerfect default directory is the user's current directory at any time as he or she uses DrawPerfect. The DrawPerfect default directory may be a user's local directory or a network directory. You may specify a common shared directory as the DrawPerfect default directory for all network users. Users need to have read/write access to this directory. You may change this directory during a DrawPerfect session.

DrawPerfect Workspace Directory

The DrawPerfect workspace directory is the directory that contains the DrawPerfect temporary working files. The DrawPerfect temporary files are created for each user every time he or she starts the DrawPerfect program. These temporary files provide a working environment for each part of the DrawPerfect program.

When the user exits DrawPerfect, his or her DrawPerfect temporary files are deleted. The DrawPerfect temporary files are created in a temporary directory, or workspace directory, which corresponds to the individual network user. The temporary DrawPerfect directory and files are created at the DrawPerfect default directory unless a common DrawPerfect default directory is

specified using the /d startup option. For more information about this startup option, see *Placing Startup Options* above, and *Appendix Q: Startup Options*.

DrawPerfect Auxiliary Directories

DrawPerfect auxiliary directories are usually shared directories that network users may access. The DrawPerfect Location of Files feature allows the user to find out which specific directories contain the DrawPerfect auxiliary files.

DrawPerfect Setup File Directory

The DrawPerfect setup file directory is a common shared directory used to store DrawPerfect users' personal setup files and the master setup file. DrawPerfect allows network users to have personal setup files which contain the initial settings that DrawPerfect will use for that user, such as printer selections, display/color attributes, and backup options. If the setup files are all in the DrawPerfect setup file directory, the system manager can use the DrawPerfect setup utility (NDRSETUP.EXE) to manage and make changes to the default settings of all setup files stored in this directory. Users need to have read/write access to this directory. See *Editing Setup Files* above for more information regarding setup file directories.

Network Troubleshooting

This section discusses general problems that you may encounter as you use DrawPerfect on your network. Below each problem are questions you should ask to determine where the problem is. If you have considered all the questions, but you are still faced with a problem, call Customer Support. See *Customer Support and Information Services* below for telephone numbers.

If you have setup files problems, see *DrawPerfect Directories* or *Editing Setup Files* above. For printing problems, see *Troubleshooting Network Printing Problems* under *Phase II: Network Maintenance*.

You receive the message "Directory in Use, new DR Directory:" when entering DrawPerfect.

- Do you have sufficient rights to create the virtual files in your default directory?
- Are you trying to start DrawPerfect in a directory where another user is logged in with the same initials?

- On Novell networks, does the DrawPerfect environment file (DR{DR}.ENV) have the /ps option directed to a volume instead of a drive specifier? For example, /ps=sys:dr10\setup is incorrect but /ps=w:dr10\setup is correct.

You receive the message “Access Denied” while attempting to retrieve, save, print, or enter DrawPerfect.

- Do you have sufficient rights in the directory you are working in?
- Is the file that you are saving in a read-only mode?
- On a Novell network, are the available directory entries exhausted? To check them, type CHKVOL at the DOS prompt in the default directory. The last entry that appears will indicate how many directory entries are available. If the entries are at 10 or less, they will have to be increased at the Novell network level.

You receive the message “Put Program 2 in Drive.”

- Have the DR.EXE and DR.FIL files been set as read-only? DrawPerfect has lost the temporary, or virtual, files to which it writes while the program is running. Another user may have deleted these files. To correct this problem, verify that the DR.EXE and DR.FIL files have been set as read-only and then restart DrawPerfect.

Customer Support and Information Services

This section describes various resources to help you as you use DrawPerfect on your network system.

General Network Installation Problems

If you have general difficulties getting DrawPerfect up and running on your network system, call toll-free 1-800-321-3389. If you are within the 801 area code, call 226-4777. If you use the second number, and it is a long distance call, the phone company will charge you.

Before you call, try to repeat the keystrokes or procedures that you went through before the problem occurred. Note these procedures and have them on hand. Open this appendix so that you can refer to it as the Customer Support operator helps you.

Installation Program Problems

If you have a specific problem related to the DrawPerfect Installation Program, call toll-free 1-800-321-3383. Have the Installation Program running so that you can refer to it as the Customer Support operator helps you. Also, have this appendix opened to *Phase I: Network Installation*.

Network-Specific Information

The number for ordering supported network-specific installation instructions is 1-801-225-5000. At this time, WordPerfect supports the following networks:

- 0 — Other
- 0 — Nexos
- 1 — Novell NetWare
- 2 — Banyan VINES
- 3 — TOPS Network
- 4 — IBM LAN Network
- 4 — LANsmart
- 4 — PC NOS
- 4 — DNA
- 4 — Invisible Network
- 5 — Nokia PC-Net
- 6 — 3COM 3+
- 7 — 10NET
- 8 — LANtastic
- 9 — AT&T StarGROUP
- A — DEC PCSA
- B — 3COM 3+ OPEN

The numbers and letters next to each network are used in *Startup Options* in *Phase II: Network Maintenance* of this appendix. These networks and their corresponding numbers/letters are subject to change. To find out about any supported network changes, call (801) 225-5000. This number is not toll free.

DrawPerfect supports most major networks; however, these networks and their individual commands and procedures change almost daily. Because of this volatility, and the sheer bulk of paper needed for documentation, it would be costly to put network-specific instructions for every supported network into this manual. Add to this the fact that you probably only need instructions for *one network* which could go out of date the minute you receive them. Changing network procedures, space considerations, and subsequent higher costs obviously make documenting all networks in this manual infeasible.

Because we want to keep your costs down and provide you with the most current set of instructions possible, we have given you a general, non-changing set of instructions with the option to receive network-specific instructions if you want them. You will probably find that the general instructions provided, together with the documentation that comes with your network software, are adequate to get DrawPerfect up and running on your system. However, we realize that you may still want more specific information. Therefore, sets of detailed, up-to-date, network-specific instructions are available free of charge by calling (801) 225-5000. This number is not toll free.

You can also write for these instructions if you wish. Please address your request to:

WordPerfect Corporation Information Services
Attn: Network Support
1555 N. Technology Way
Orem, UT 84057

Appendix P: Screen Capture Utility

The Screen Capture Program is used to copy an image displayed on the screen. The image is saved in a file which can then be used with DrawPerfect.

The Screen Capture Program file (GRAB.COM) needs to be installed properly, and then loaded into memory before it can be used. If you chose not to copy the Conversion files when you installed DrawPerfect (and have not subsequently installed them), you must do so now to use the Screen Capture Program.

To load the Screen Capture Program into memory,

- 1 Exit any programs that are currently running (including DrawPerfect and the WordPerfect Shell) and go to DOS.
- 2 From the DOS prompt, change to the directory where GRAB.COM is located by entering **cd\directory name**.

The Installation Program copies this file to the directory where DrawPerfect (DR.EXE) is located (usually C:\DR10) if you are using a hard disk, or to the diskette you labeled Utilites/Help if you are using a two disk drive system.

- 3 Enter **grab** to load the Screen Capture Program into resident memory.

To capture an image,

- 1 Using a graphics program, display the image you want to capture on the screen.
- 2 Press **Alt-Shift-F9**.

A two-toned chime indicates that the Screen Capture Program is ready to capture the image. After the chime, a box is displayed on the screen.

- 3 Use the arrow keys to reposition the box; use Shift-arrow keys to resize the box.

*Use the **Insert** key (Ins) to switch between smaller and larger increments when you are moving and sizing the box.*

- 4 Press **Enter** to capture the contents in the box.

The Screen Capture Program copies the contents in display memory to a file. When copying is complete, the two-tone chime sounds again.

Batch File	If you frequently use the Screen Capture Program to capture images, you may wish to put the <i>pathname</i> \grab command (e.g., c:\dr10\grab) in your AUTOEXEC.BAT file so that GRAB.COM is always in memory (see <i>Appendix C: DrawPerfect and DOS</i>). You can also use any of the startup options in the command (see <i>Startup Options</i> below).
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Canceling Screen Capture	If you decide not to capture the screen after the box is displayed, press Escape (Esc). You can press Cancel (F1) at any time to cancel the program.
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Clipboard	<p>If you use WordPerfect Office, WordPerfect Library, or the WordPerfect Shell, you can use the Screen Capture Program to save images to the Shell Clipboard. To save an image to the clipboard, press Alt-Shift-- (Alt-Shift-Minus) instead of Alt-Shift-F9 in step 2 above.</p> <p>You can retrieve the image from the Clipboard into DrawPerfect (see the <i>WordPerfect Shell Reference Guide</i>).</p>
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Help	You can enter grab/h at the DOS prompt (you may need to specify the path; e.g., c:\dr10\grab/h) for information regarding the Screen Capture Program. When you are done reading the information, press any key to exit. Running grab/h does not load the program. If you want to use the Screen Capture Program to capture images, you must load it into memory (see instructions above).
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Image Filenames	The first file that is captured is named GRAB.WPG. If GRAB.WPG exists, the file is named GRAB1.WPG. If GRAB1.WPG exists, the file is named GRAB2.WPG, and so on. The Screen Capture Program can name files up to GRAB9999.WPG. You can use the <i>/f=fileroot</i> startup option to save the files under a different name (see <i>Startup Options</i> below).
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If You Hear a Buzz	A low-pitched buzz after pressing Alt-Shift-F9 indicates that you are not in graphics mode or you have a video adapter that is not supported by the Screen Capture Program. Try removing from memory all programs except the Screen Capture Program and the program generating the image you are capturing. If you still get the buzz, it may be a software incompatibility.
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**Loading
GRAB.COM**

You must load the Screen Capture Program before you start DrawPerfect or any other program. You cannot use the Go To DOS feature to load the Screen Capture Program.

GRAB.COM needs to be loaded each time you start your machine. If you try to load GRAB.COM after it has already been loaded, a message telling you that the Screen Capture Program has already been loaded will be displayed.

The Screen Capture Program may conflict with some TSR (Terminate and Stay Resident) programs. Exit your TSR program if you encounter a problem.

**Microsoft
Windows**

The Screen Capture Program cannot be loaded while Microsoft Windows is resident. You can capture images with the Screen Capture Program from Windows as long as GRAB.COM is loaded first.

**Startup
Options**

The following startup options may be used when installing the GRAB.COM file:

/cn

Use this option when loading the Screen Capture Program with Sidekick and some other TSR (Terminate and Stay Resident) programs. This option prevents the computer from locking up by controlling the number of attempts the Screen Capture Program makes to get the keyboard interrupt back from the other program. *n* is the number (from 0 to 5) of tries that Screen Capture Program will make.

To load the Screen Capture Program with Sidekick, enter **grab/c0** then load Sidekick.

/d=pathstring

Pathstring is a pathname (up to 80 characters) used to indicate where you want to store the captured files. For example, you would enter **grab/d=c:\dr10\grab** to store the files in the C:\DR10\GRAB directory.

/f=fileroot

Fileroot is the root of the filename (up to 4 characters) for captured files. This name is used in place of "GRAB" in the filenames of the image files.

/i

This option causes the Screen Capture Program to ignore the DOS busy flag, allowing it to run under some applications.

/k

This command retains the cut-out box from the previous grab. Use this command when you want to capture the same area on several different screens.

/m

This command is used to generate monochrome bitmap files. It is useful when capturing color bitmapped images that will be used on monochrome systems.

/r

This command terminates and removes the Screen Capture Program. Use this command at a DOS prompt when you are finished using the Screen Capture Program and want to remove it from memory.

/s

This command makes the Space Bar toggle between moving and sizing the box when arrow keys are pressed. This option is useful for some programs when the Shift-Arrow keys do not work.

/8

This option should be used if you have an 8514A graphics card.

Appendix Q: Startup Options

Startup options are commands you can use when you start DrawPerfect from DOS. Often these options are for your convenience. Sometimes they are necessary to run the software on your particular hardware.

Startup options are entered with the name of the program at DOS. They usually consist of a slash (/), then a letter or letters, then other information pertaining to the option. Many startup options can be combined.

You may enter DrawPerfect with any of the following options:

`dr`
`dr/cp=code page number`
`dr/d=drive/directory`
`dr/filename`
`dr/`
`dr/m=macroname`
`dr/mono`
`dr/nb`
`dr/nc`
`dr/ne`
`dr/nf`
`dr/nk`
`dr/no`
`dr/ps=path`
`dr/r`
`dr/ss=rows,columns`
`dr/v`
`dr/w=workspace`
`dr/x`

/cp=code page number

Tells DrawPerfect which code page your hardware (BIOS) system uses. Setting this option lets you access the proper keyboard and 256-character ASCII character set for which your system is preset. DrawPerfect supports the following code pages: 437 Standard, 850 PC Multilingual, 895 Czechoslovakian, 851 Greek, 8510 Greek Alternate, 860 Portuguese, 8600 Portuguese Alternate, 861 Icelandic, 863 French (Canada), 865 Norwegian and Dutch, 899 Russian.

Using the option will not make DrawPerfect display or print in these languages.

For more information on code pages, see your DOS manual.

/d-drive/directory

Redirects the overflow files and temporary buffers to the specified directory. If not specified, they are created in the directory where DR.EXE is kept. If a file is saved without a path it is saved in the directory specified here.

If a filename is specified after DR, that file is retrieved when DrawPerfect comes up.

/m-macro name

This option starts a file macro when DrawPerfect starts.

/mono

Lets you better access the capabilities of a machine that can emulate both monochrome and color adapters when that machine is set for monochrome emulation. Such machines include the Compaq Portable III and the Compaq Portable 386/20.

/nb

If you have Original Backup set to On, DrawPerfect renames the old file to *filename.bk!* and deletes the *bk!* file when the file is saved again. This option instructs DrawPerfect to overwrite the original drawing when you save and replace a file, and is useful if you do not have enough disk space to hold two copies of your files. If you use this option and a power failure occurs during the saving process, the drawing is lost (unless you have previously saved it or are using the Timed Backup feature).

/nc

Disables the Cursor Speed feature. In rare instances, Cursor Speed may conflict with TSR software or some hardware. This is especially useful when DrawPerfect does not start up at all.

/ne

Prevents the access of expanded memory.

/nf

Must be used with some compatibles and windowing programs (other than Top View). This is the "non-flash" (not fast) version of DrawPerfect and should be used if text is displayed over the window or if the screen goes blank from time to time.

/nk

Disables enhanced keyboard calls which are not recognized by some compatibles and TSR (terminate and stay resident) programs. This option is especially useful if you are having trouble getting DrawPerfect to start up (e.g., DrawPerfect comes up and locks up).

/no

Disables the Keyboard Reset key (Ctrl-6), which returns the keyboard to its original mapping (see *Keyboard Layout* in *File Reference*).

/ps=path

Instructs DrawPerfect to use the .SET (Setup Options) file in the specified path and is especially helpful if you are running DrawPerfect on a network.

Important: *If you do not use this option, DrawPerfect uses the .SET file that is located in the directory where DR.EXE is located.*

/r

Loads about 300K of menus, error messages, and overlays from DR.EXE and DR.FIL into expanded memory, in addition to the memory normally required by the program. This speeds up parts of the program, and does not disable error messages, etc.

/ss=rows, columns

Lets you set the screen size. DrawPerfect usually detects the screen size automatically. If for some reason it doesn't (e.g., you have a Genius monitor), you can use this option to set the screen size.

You can only use this option to set the screen to its actual size. Do not set any other size or the screen display will not function correctly.

/v

Instructs DrawPerfect to select the Genius graphics driver. The /v option should be used if you are using a Genius monitor. To use the option, enter **dr/v=genius 1,1** at the DOS prompt. This command instructs DrawPerfect to look for the Genius driver in the appropriate .VRS file.

DrawPerfect looks for the .VRS file in the directory where DR.EXE is located. If your .VRS files are in a directory other than where DR.EXE resides, you need to include the full pathname (e.g., **dr/v=\draw\genius 1,1**).

/w=workspace

Lets you change the workspace allocated to DrawPerfect in RAM. If you are running under WordPerfect Shell, the default workspace is 93K. Otherwise, DrawPerfect uses all available space.

/x

Instructs DrawPerfect to restore the default values for the Setup feature (see *Setup* in *File Reference*). When you exit, previous changes to the Setup feature are restored.

**DOS SET
Command**

Use the DOS SET command to include any of the above switches every time you start DrawPerfect. An example of a SET command to start a macro named "startup" would be **set dr=/m-startup**.

If you use the SET command, you do not have to type the same string each time you start DrawPerfect. The startup options will be in effect until you turn off (or restart) your computer. Any string entered when starting DrawPerfect, however, overrides the SET command.

DrawPerfect starts faster using the SET command than with a batch file. You can place the SET command in the AUTOEXEC.BAT file so you do not have to enter the command each time you boot your computer.

**Expanded
Memory**

DrawPerfect uses all available memory for editing space. Of the 384K required to run DrawPerfect, DR.EXE (the program file) uses about 238K, which includes minimal editing space. Remaining memory is used for DOS and additional editing space.

If your computer is equipped with expanded memory, the part of the drawing that does not fit into normal memory spills into the expanded memory (LIM Spec.). If you do not want to use expanded memory, use the /NE startup option.

**Overflow
Files**

That part of the drawing which does not fit into memory is spilled into "overflow" files on your disk until all available disk space is used. This means that you can increase potential editing space by increasing memory and/or disk space.

The overflow files are named DR}DR{.TV1 for overflow above the cursor in Drawing 1 and DR}DR{.BV1 for overflow below the cursor in Drawing 1. The overflow files for Drawing 2 are DR}DR{.TV2 and DR}DR{.BV2.

The overflow files can be directed into a different drive/directory (the default is where DR.EXE is found). This is done when you start DrawPerfect by entering **dr/d-drive directory** or by using the SET command. These commands can be included in an AUTOEXEC.BAT file.

**RAM
Drives**

There is little to be gained by using a RAM drive with DrawPerfect. If you must have a RAM drive, direct the overflow files to that drive (depending on how much room you have), thereby utilizing memory that is otherwise lost to DrawPerfect.

If you have at least 300K of unused expanded memory (LIM Spec), the DR.FIL file portion of the DrawPerfect program can be loaded into memory by starting DrawPerfect with dr/r. This increases program speed.

Appendix R: Templates

With DrawPerfect you can create hundreds of different text charts and graph charts. Features that let you change fonts, retrieve clip-art, draw objects, and display borders and backgrounds give you the ability to customize your chart to your specific needs.

However, with so many options it can be difficult thinking of new ways to use the various graphic features. Additionally, there may be times when you simply want to insert your data into a predefined chart format, rather than creating a new one.

To help you, we have included 24 text and graph chart templates you can retrieve and use. All you need to do is retrieve the template you want, then insert your data and/or text.

The templates are composed of one or more of the following three elements: text lines, text windows, and graph charts. When you edit a template that is a combination of, for example, a text window and a graph chart (see *Template.24* below), make sure you position your cursor on top of the item you want to edit before you select it.

The filename of each template is included under its respective picture.

Template Installation

The template files need to be installed properly before you can retrieve one. If you chose not to install the template files when you installed DrawPerfect (and have not subsequently installed them), you must do so to use the templates. You can install the template files by using the DrawPerfect Installation program.

The way you access the templates depends on the type of system you have.

Hard Drive

On a hard drive system, the Installation Program copies the template files to the directory where the DrawPerfect DR.EXE file is located (usually C:\DR10).

Two Disk Drives

If you have a two disk drive system, insert the diskette you labeled Utilities/Help into the drive you are *not* using to run DrawPerfect. When you retrieve the file, enter the name of the drive (**a:** or **b:**) where the Utilities/Help disk is located. If you want to save an edited template, you will need to replace the Utilities/Help diskette with your data diskette.

**Editing the
Templates**

To retrieve and edit a template,

- 1 Select **File** to display the File menu, then select **Retrieve**.

*You can also access Retrieve by pressing **Retrieve** (Shift-F10).*

- 2 Enter the full pathname of the template you want to retrieve (see *Templates* below).

- 3 Select **Edit** to display the Edit menu, then select **Modify**.

*You can also select Modify by moving the cursor to the Modify icon and pressing **Enter**.*

- 4 Select the text you want to modify.

or

Select the chart you want to modify.

If you need more information about selecting objects, see Selecting Objects in Edit Reference.

- 5 Press the **Space Bar** to go into the text line or text window and begin editing.

or

Press the **Space Bar** to go into the Graph Edit screen. You can move to the other Graph screens and make the changes you want.

After inserting the new text or new data for your chart,

- 6 Press **Exit** (F7) to exit the text line or text window.

or

Press **Exit** (F7) to exit the Graph Edit screen. DrawPerfect asks you if you want to save the changes. Type **y** to save the changes and return to the DrawPerfect screen.

- 7 Press **Enter** to unselect the text or chart.

If you want to save your edited template, be sure to give the file a new name. Otherwise, you will replace the original template with the edited version.

**Template
Illustrations**

Illustrated on the next few pages are the 24 chart templates you can retrieve and edit.

Templates

Major Title Goes Here

- First Point
- Second Point
- Third Point
- Fourth Point
- Fifth Point

TEMPLATE.1

Major Title Goes Here

- ☐ First Point
- ☐ Second Point
- ☐ Third Point
- ☐ Fourth Point
- ☐ Fifth Point

TEMPLATE.4

Major Title Goes Here

- ★ First Point
- ★ Second Point
- ★ Third Point
- ★ Fourth Point
- ★ Fifth Point

TEMPLATE.2

Major Title Goes here

SUB-TITLE GOES HERE

- First Point
- Second Point
- Third Point
- Fourth Point
- Fifth Point

TEMPLATE.5

Major Title Goes Here

SUB-TITLE GOES HERE

- First Point
- Second Point
- Third Point
- Fourth Point
- Fifth Point

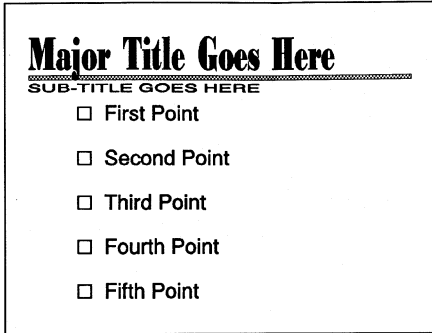
TEMPLATE.3

Major Title Goes Here

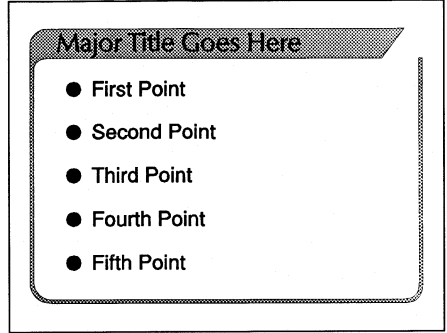
SUB-TITLE GOES HERE

- ✓ First Point
- ✓ Second Point
- ✓ Third Point
- ✓ Fourth Point
- ✓ Fifth Point

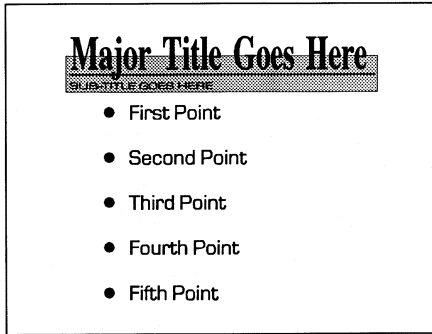
TEMPLATE.6



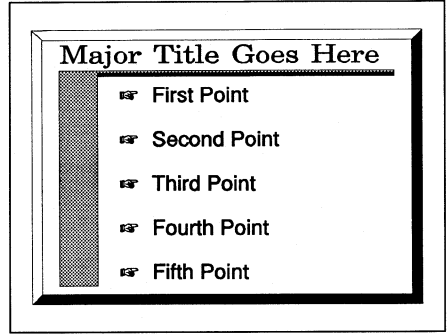
TEMPLATE.7



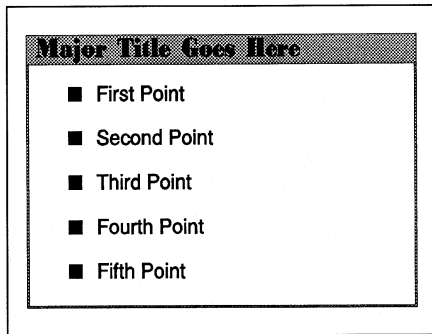
TEMPLATE.10



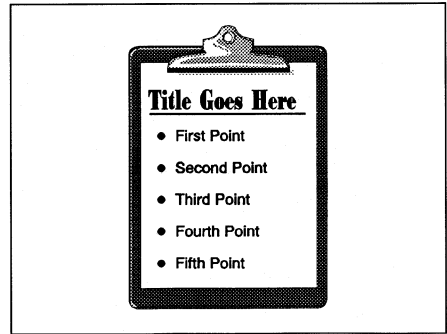
TEMPLATE.8



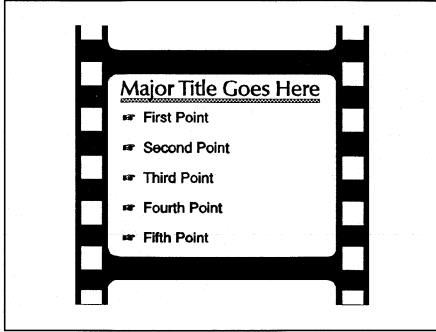
TEMPLATE.11



TEMPLATE.9



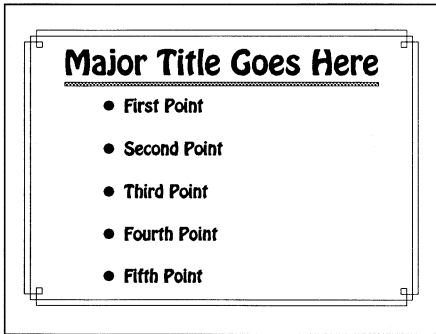
TEMPLATE.12



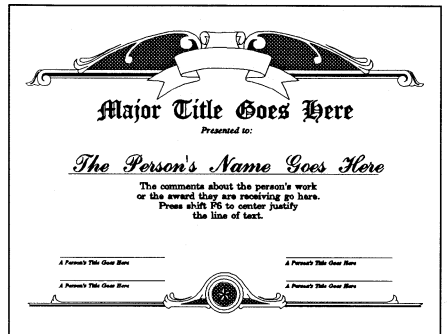
TEMPLATE.13



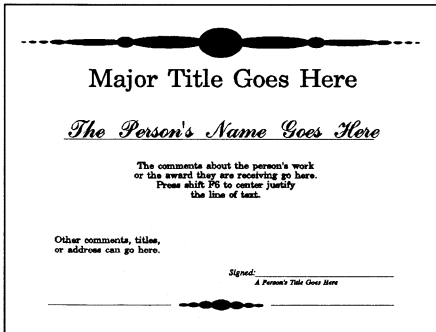
TEMPLATE.16



TEMPLATE.14



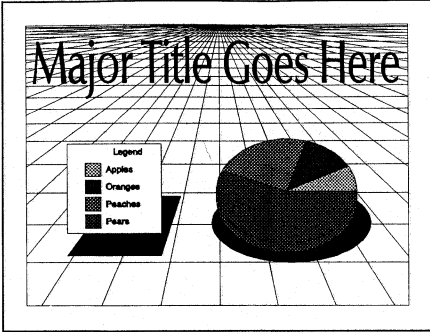
TEMPLATE.17



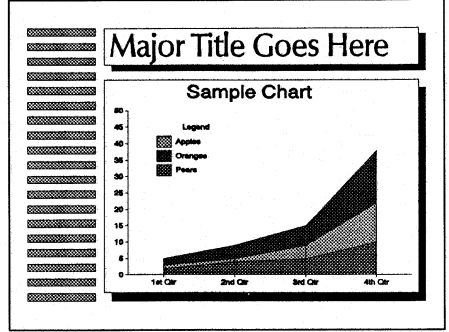
TEMPLATE.15



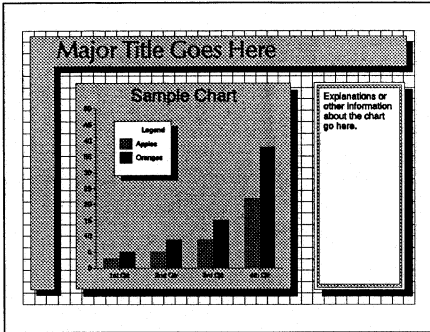
TEMPLATE.18



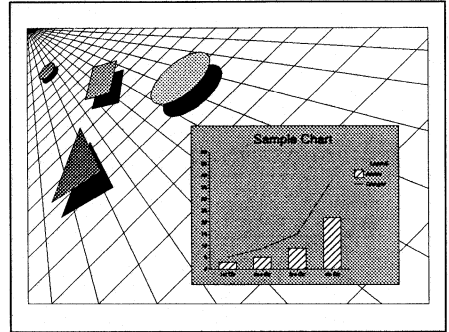
TEMPLATE.19



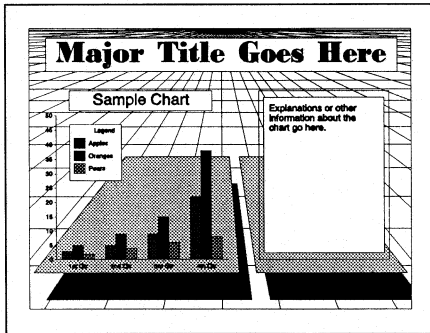
TEMPLATE.22



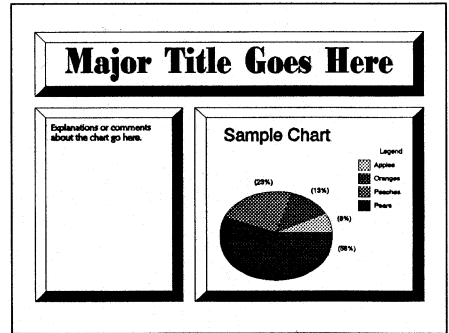
TEMPLATE.20



TEMPLATE.23



TEMPLATE.21



TEMPLATE.24

Appendix S: Make Show

The DrawPerfect Presentation feature lets you organize a series of graphics into an on-screen slide show with special effects like overlays and shaded backgrounds. Listed on the Presentation menu is an option called Make Show. This option lets you create a stand-alone (sometimes referred to as run-time) version of your presentation. Make Show copies your presentation files along with the necessary DrawPerfect program files to one diskette. You can then take that diskette to various computers and run your slide show; the complete DrawPerfect program is not needed.

Making a Show

Before you select Make Show, you need to add or retrieve the files you want in your show, then define any presentation options you want (e.g., background colors, advance options, display times). With your presentation complete and displayed on the presentation screen,

- 1 Select Make Show from the Presentation menu.

DrawPerfect prompts you for a destination location for your presentation files. If you want to copy the files to a blank diskette, insert the formatted diskette into an available drive before responding to the prompt.

- 2 At the “Copy Show Files to:” prompt, enter the location where you want your files copied (e.g., a:).

DrawPerfect copies the necessary program files and presentation files to the specified location. When the files are copied, DrawPerfect prompts you for the presentation filename.

- 3 At the “Presentation List to be Saved:” prompt, press **Enter** to name your presentation “SHOW.DRP.”

or

Enter your own filename.

Most presentations will fit on a high-density 5 1/4” diskette. If you have an unusually large presentation (this could happen with several imported bitmapped graphics), you are prompted to insert an additional diskette.

You can have more than one presentation on a disk; your only restriction is disk space.

Running a Show

After copying your files to the run-time diskette, you are ready to begin your show.

- 1 Go to DOS.
- 2 At the DOS prompt, enter the drive and/or directory where your presentation files are located (e.g., **a:**, **b:**, **cd\directory name**).
- 3 If you named your presentation SHOW.DRP (the default name), type **show** to begin the presentation.

or

If you gave your presentation a new name, type **show filename** (where filename is the name of your presentation).

If your presentation is set for delay pause (an auto-running show), DrawPerfect will sequence through the drawings automatically. If your presentation is set for manual pause (requires the user to press keys to advance through the drawings), the standard keys are used to go forward or backward through the illustrations. (See *Presentation in File Reference* for a list of the keys you can use.)

Files Copied

The following is a list of the files that are copied to your diskette when you make a run-time presentation:

SHOW.EXE	This is the main run-time program file.
SHOW.DRP	This is your presentation file. SHOW.DRP is the default name; however, you can give the file a different name.
WPSMALL.DRS	This is the font file used with the run-time presentation. See <i>Appendix T: .DRS Modify Utility</i> for information on how to alter your WPSMALL.DRS file.
*.WPG	These are the drawings listed in your presentation. The files typically end with a .WPG extension (see <i>.WPG Files</i> below).
DR{DR}.SET	This file contains all the information concerning your setup (e.g., colors, display driver).

*.VRS

These are the graphic driver files. The STANDARD.VRS and the EGADRP.VRS files are copied (see .VRS Files below).

.VRS Files

When you create a run-time presentation, DrawPerfect copies two graphic drivers (STANDARD.VRS and EGADRP.VRS) to the run-time diskette.

The EGADRP.VRS file is the special graphics driver that speeds up the display of your drawings during a presentation (see *Special Graphics Presentation Driver* under *Presentation* in *File Reference*). If you have a VGA or EGA compatible monitor and graphics driver, the EGADRP.VRS driver is used.

The STANDARD.VRS file contains the most common display drivers (CGA, EGA, VGA, MCGA, and Hercules). This driver will meet the needs of most people. However, if you are using a graphics driver that is not included in the STANDARD.VRS file (such as Verticom or Genius), you need to manually copy the appropriate .VRS file to the run-time diskette.

Shipped with DrawPerfect are the five drivers in the STANDARD.VRS file: S_CGA.VRS, S_EGA.VRS, S_VGA.VRS, S_MCGA.VRS, and S_HERC.VRS. If you are running out of disk space on your run-time diskette and you use one of the drivers included in the STANDARD.VRS file, you can delete the STANDARD.VRS file and replace it with the appropriate smaller driver. The STANDARD.VRS file is 30K; the smaller .VRS files are 5K each.

If you want to use one of the smaller .VRS files, follow the instructions below.

- 1 Insert the Learn/Show diskette into an available drive. Copy the .VRS file you want (e.g., S_HERC.VRS) to the directory where your DR.EXE file is located (usually C:\DR11). (You do not need to run the installation program; the files on the Learn/Show diskette are not compressed.)

Now you need to select the smaller .VRS file.

- 2 While in DrawPerfect, press **Setup** (Shift-F1), select **Display**, then select **Graphics Screen Type**.
- 3 Move the cursor to the small .VRS file you copied from the Learn/Show diskette, then choose **Select**.

You must select the smaller .VRS file while in DrawPerfect so that the display driver setting is stored in your setup file (DR {DR}.SET).

- 4 Run the Make Show utility by following steps 1 through 3 above under *Making a Show*.
- 5 Insert the diskette to which you copied the show files and delete the STANDARD.VRS file.
- 6 Copy the small .VRS file you selected in step 3 above to your diskette.

.WPG Files

The files listed in your presentation must be in .WPG format before you use the Make Show utility. If your presentation contains a file in a different format (e.g., TIFF, CGM), the file will not display when you run your show.

Utilities

Included with DrawPerfect are the Text Screen Capture utility and the .DRS Modify utility which you can use to enhance your presentations.

The Text Screen Capture utility lets you convert a DOS text file to .WPG format. This means, for example, that you can capture the Shell menu, convert it to a .WPG file, then display it in a DrawPerfect presentation. See *Appendix U: Text Screen Capture Utility* for more information.

The .DRS Modify utility lets you enter the .DRS font file and customize it to your specific needs. You can delete the fonts you do not want and then save the new .DRS file as WPSMALL.DRS. This is especially useful for the Make Show feature. See *Appendix T: .DRS Modify Utility* for more information.

Appendix T: .DRS Modify Utility

The DrawPerfect graphic fonts are stored in a file called WP.DRS. The size of this font file is large—over 700K. However, with the .DRS Modify utility, you can delete unwanted fonts and tailor the file to your specific needs.

The .DRS Modify utility is especially helpful when you create a stand-alone (run-time) presentation. The run-time program uses the WPSMALL.DRS font file. This file, however, contains only three fonts—Helvetica, Times Roman, and Courier. This might be unsatisfactory because if your presentation contains a font other than Helvetica, Times Roman, and Courier, that font is matched to the closest WPSMALL font. For example, the Century Schoolbook font would be converted to Times Roman.

With the modify utility, you can create a .DRS file that contains more fonts than just Helvetica, Times Roman, and Courier, but is still considerably smaller than the WP.DRS file.

Using the Utility To use the .DRS Modify utility,

- 1 Go to DOS.
- 2 Change to the directory where SMALLDRS.EXE is located.

The Installation Program copies this file to the directory where DrawPerfect (DR.EXE) is located (usually C:\DR11) if you are using a hard disk, or to the diskette you labeled "Fonts/Utilities" if you are using a two disk drive system.

- 3 Enter **smalldrs wp.drs** to modify the wp.drs file.

or

Enter **smalldrs filename** where filename is the name of the .DRS file you want to modify.

A list of the fonts included in the .DRS file is displayed on the screen. If you are modifying the WP.DRS font file, you will notice several font names which you do not see in the DrawPerfect Base Font menu. These additional fonts are accessible via the Compose feature (see *Characters in Font Reference*).

- 4 Use Up Arrow (↑) and Down Arrow (↓) to move the reverse video bar up and down the font list.
- 5 When you see a font you want to delete, highlight it, then select **Delete**.

You can delete several fonts at the same time by marking them with an asterisk (*), then selecting delete.

You can quickly move to the font you are looking for by selecting Name Search, then typing letters to move the bar to the first font that begins with those letters. Press Enter or any of the arrow keys to exit Name Search.

When you have completed your deletions,

6 Press **Exit** (F7) to exit the utility.

The modified file is saved as WPSMALL.DRS. It replaces the original WPSMALL.DRS file. You may want to make a backup copy of the original WPSMALL.DRS if you do not want it replaced (or you can reinstall this file if you need it).

When DrawPerfect is started, it searches for the WP.DRS font file. If it cannot find the WP.DRS file, it searches for the WPSMALL.DRS file. If you want to use your modified WPSMALL.DRS file with DrawPerfect, you need to delete, move, or rename your WP.DRS file.

Fonts File Size

When you delete fonts, the .DRS file size decreases. However, the size of the decrease depends on the size of the font. For example, when the WP Old English font is deleted, the file size decreases by 17K. But when the WP Century Schoolbook font is deleted, the file size decreases by 67K. This occurs because the Century Schoolbook font also contains information from Character Set 1 of the WordPerfect Corporation character sets (see *Appendix F: DrawPerfect Fonts*). (If you delete Century Schoolbook, you can still print Character Set 1 in one of the other available fonts.)

Appendix U: Text Screen Capture Utility

The Text Screen Capture utility lets you convert an ASCII text file into a DrawPerfect .WPG file. The utility was designed to convert text files into WPG graphics which you can use in a DrawPerfect presentation. For example, you can capture a text screen such as the Shell menu (using the Screen Copy feature in the Shell Clipboard), convert the screen to a .WPG file, then display it in a DrawPerfect presentation.

When an ASCII file is converted to .WPG format, the text is changed to a Courier bitmapped font. This font is the same one in which all DrawPerfect menus are displayed. It appears quickly and clearly on the Presentation screen—even at a small size.

The .WPG text is displayed in a Courier Simplex font on the main drawing screen, but when displayed in a presentation or when previewed or printed, the Courier Bitmapped font is used.

Before you can use the Text Screen Capture Utility, you need to create an ASCII file containing the data you want displayed. This can be done in different ways; it depends on the program you use. For example, if you use WordPerfect, you can type some text and then save it as DOS text using the Text In/Out feature. You can also use the Screen Copy feature in Shell to capture a screen and save it as DOS text. The important thing to remember, no matter what software program you use, is that the text file needs to be saved in ASCII format before you can convert it to .WPG format.

The first 8 steps in the instructions below explain how to create an ASCII file using the Shell Screen Copy feature. However, if you prefer to use another conversion method, such as the Text In/Out feature in WordPerfect, go ahead and do so, then begin following the instructions with step 10.

For more information about the Shell Screen Copy feature, see Clipboard in the WordPerfect Shell Reference Guide.

With WordPerfect listed as an option on the Shell menu,

1 Press **w** to start WordPerfect.

If you have assigned a program letter other than “W” to the WordPerfect program, type that letter instead.

2 Display the screen you want to copy. (For example, if you want to copy the Format screen, press **Format** (Shift-F8).)

- 3 Press **Screen Copy** (Alt-Shift—) (hold down Alt and Shift and type a dash).
- 4 Select **Rectangle** to copy in Rectangle mode.
- 5 Press **Home**, **Up Arrow** (↑), followed by **Home**, **Left Arrow** (←).
- 6 To copy the entire screen, press **Enter** to anchor the beginning of the rectangle, then press **Home**, **Down Arrow** (↓), followed by **Home**, **Right Arrow** (→).

As the cursor moves, the text in the rectangle is displayed in reverse video.

- 7 Press **Enter** to finish defining the rectangle, then select **Save** to save the text to the clipboard.
- 8 Exit WordPerfect, display the Shell menu, then select **Clipboard** (2).

The screen you copied is displayed.

- 9 Select **Save as Text File**, then enter a filename to save the contents of the clipboard as a DOS text file.
- 10 Exit Shell and go to DOS.
- 11 From the DOS prompt, enter **cd\directory name** (where directory name is the name of the directory where TEXT2WPG.EXE is located).

The Installation Program copies TEXT2WPG.EXE to the directory where DrawPerfect (DR.EXE) is located (usually C:\DR11) if you are using a hard disk, or to the diskette you labeled "Fonts/Utilities" if you are using a two disk drive system.

- 12 Enter **text2wpg filename** (where filename is the name of the text file to be converted).
- 13 Start DrawPerfect, then select **Retrieve** from the File pull-down menu.
- 14 Enter the full pathname of the converted file.

The file is retrieved to the screen.

Changing Text Attributes

You can change the attributes of the .WPG text by using control characters and/or equivalent decimal values. To insert the control characters, you must add them while in a text editor. Only the first six commands can be added while in WordPerfect. (If you add any commands while in WordPerfect, be sure to save the file as a DOS text file. The Shell Screen Copy feature does not save the control characters in the file.)

In the table below, the Character column lists the control characters and, in parenthesis, the keys you should press to insert the commands listed in the Action column. The Character column instructions assume you are using the program editor shipped with WordPerfect Library and WordPerfect Office. If you do not have WordPerfect Library or WordPerfect Office, consult the reference manual of your text editor for instructions on inserting the equivalent decimal or ASCII codes.

Character	Decimal	Action
^R (Press Ctrl-r)	18	Turn on reverse video
^S (Press Ctrl-s)	19	Turn off reverse video
^T (Press Ctrl-t)	20	Turn on underline
^U (Press Ctrl-u)	21	Turn off underline
^J (Press Ctrl-j)	29	Turn on bold
^ (Press Ctrl-^)	28	Turn off bold
^^ (Press Ctrl-v, 30)	30,n	Turn on background color
^_ (Press Ctrl-v, 31)	31,n	Turn on foreground color

The two control characters that turn on background and foreground colors should be inserted with a selected DrawPerfect color. The first 16 colors in the DrawPerfect color palette are used to specify background and foreground colors. You select a color by typing one of the first 16 letters of the alphabet. The first 16 letters (A through P) correspond to the first 16 DrawPerfect colors (e.g. A=1, B=2, C=3). See *Appendix D: DrawPerfect Attributes* for a complete list of the various colors and their corresponding numbers.

If you add the control characters to an existing file, be sure to run the TEXT2WPG utility again.

Restrictions

There are a few restrictions that apply to the converted text file.

Compatibility

The converted text file is a special text record that cannot be exported to other programs. It was designed to be used in a DrawPerfect presentation. When the file is retrieved into WordPerfect, or exported to CGM, HPGL, or other formats, the converted text does not display.

Editing the Text

While in DrawPerfect, the converted text cannot be edited, moved, copied, rotated, etc. However, the text can be selected then deleted; it can also be moved to the front or the back.

If you want to change the text after it has been converted to .WPG format, you can retrieve the original text file in a text editor or WordPerfect, then make the corrections. Once corrections are made, be sure to run the TEXT2WPG utility on the file again.

Full Page Display

When the converted text file is retrieved into DrawPerfect, it is displayed on the screen using text mode coordinates—25 rows across and 80 columns down. This does not pose much of a problem if your paper size is set to landscape. Landscape paper is close to 25 rows and 80 columns of text. However, if your paper size is set to portrait or something small, you will have difficulty, for example, adding an arrow in the correct position. This occurs because the aspect ratio is off between portrait paper and text mode display (25 rows and 80 columns). Thus, if you add any type of graphics to the displayed text file, check the file by running the presentation to make sure the positioning is correct; it might be shifted slightly and need adjustment.

Glossary

ASCII

American Standard Code for Information Interchange is one of the standard formats for representing characters so that files can be shared between programs. A DOS Text File is in ASCII format.

Bit

A binary digit is the smallest storage unit for data in a computer.

Bitmapped

A graphics file format in which images are represented as a series of dots called pixels.

Buffer

A temporary data storage area used by computers and some printers.

Byte

The amount of space needed to store a single character (number, letter, or code). A byte represents eight binary digits (bits). For example, if a character requires one byte of storage space, that one byte is translated to eight bits when processed in the computer. 1024 bytes equals one kilobyte (K).

Card

A removable printed-circuit board (e.g., graphics card, clock card, etc.) that is plugged into an expansion slot. For example, a graphics card lets you display graphics software on the screen.

Chart Object

Any graph chart or text chart retrieved into the drawing window.

Click

To press a mouse button once.

Cursor

A small plus sign (+) that points to your position on the screen. When the cursor is outside of the drawing window, it changes to an arrow which you can use to point to a pull-down menu title or icon.

Defaults

The startup settings for DrawPerfect. The defaults may be changed temporarily, but will be reset each time the program is started. To change defaults permanently, use the Setup feature.

Definition Point

One of the two or more points which define an object. For example, a straight line is defined by the starting point and the ending point.

DOS

The Disk Operating System is software that directs the flow of data between disk drives and your computer. Without an operating system, your computer can do nothing.

Double Click

To press a mouse button twice in rapid succession.

Drawing Objects

Tools with which you draw forms and images. There are eight drawing objects: Line, Box, Polygon, Arrow, Arc, Curve, Circle, and Ellipse.

Drawing Window

A rectangular area on the screen in which you create all of your drawings.

Driver

A set of commands used to run peripheral devices. For example, .PRS files are drivers used to run printers.

Expanded Memory

Lotus Intel Microsoft specification for addressing more than 640K of memory. To access expanded memory, you need a special memory board and/or driver.

Figure Object

Any object retrieved through the Figure option on the Draw menu or through the Figure icon.

Font

A specific typeface and point size (e.g., WP Century Schoolbook 10-pt.). DrawPerfect contains graphic fonts. Graphic fonts can be printed on any printer which is capable of printing graphics.

Graph Chart

Any one of the eight following types of charts: Bar, Line, Pie, Area, Stacked Bar, HiLo, Scatter, and Mixed. Graph charts let you organize raw data into a predefined structure.

Grid

A set of reference points, or dots, displayed on the screen which help you measure and align objects.

Icon

A small graphic symbol that represents a specific DrawPerfect function.

Kilobyte (K)

A unit of measurement equal to 1024 bytes of information or storage space.

Line Markers

Small boxes, or icons, which are displayed on a selected object.

Megabyte (M)

A unit of measurement equal to 1024 kilobytes (1,048,576 bytes) of information or storage space.

Memory

A computer's temporary data storage area (see *RAM* below).

Mouse

A small hand-held device that you move on a flat surface to move the on-screen cursor. A mouse can have one or more buttons which you click to perform different tasks.

Parallel Interface

An interface in which several bits of information (usually 1 byte) are transmitted simultaneously.

Parallel Printer

A printer that accepts information through a parallel interface.

Pathname

A full pathname includes the drive, root directory, and any subdirectory names. Each name is separated by a backslash (\). For example, C:\DR refers to the DR directory on the C drive. "C:\DR\TEST" refers to the TEST subdirectory (or file) on the DR directory on the C drive.

Port

A connection device between a computer and another component such as a printer or modem. For example, a printer cable is plugged into the printer port on the computer so information can be sent to the printer.

Position Display

A message displayed at the bottom of the screen which tells you the position of the cursor and the degrees of rotation when you rotate an object.

Pixel

One of many small dots on your screen that constitute an image.

Prompt Line

A line of instructions displayed below the Status Box. The Prompt Line explains how to perform different tasks.

Pull-Down Menus

Eight menus listed at the top of the screen. The Pull-Down Menus let you access DrawPerfect features.

RAM

Random Access Memory is the working space or temporary storage area for the program you are using and the drawing on your screen. RAM is erased when the power is turned off.

ROM

Read Only Memory contains information the computer uses to run the system. ROM is permanent and is not erased when the power is turned off.

Scroll Bars

Located along the bottom and right side of the drawing window, the scroll bars provide you with another way of accessing the Pan and ReDraw commands.

Select an Object

To position the cursor on or inside an object and press Enter. A selected object displays "line markers."

Serial Interface

An interface in which information is transmitted one bit at a time.

Serial Printer

A printer that accepts information from the computer through a serial interface.

Slide Show

The process of sequencing illustrations together and displaying each graphic, one at a time, on a monitor.

Status Box

A small box on the left side of the screen which displays the current object you are drawing.

Status Line

A line of text at the bottom of the screen that displays messages and warnings from DrawPerfect.

Text Chart

Any one of the three following types of charts: Bullet, Simple, and Freeform. Text Charts let you insert text into a predefined structure.

Text Line

A horizontal line into which you can insert text.

Text Object

Lines or windows which contain text.

Text Window

An area on the screen into which you can insert text. DrawPerfect lets you define the size of the text window.

TSR

Terminate and Stay Resident program. A program you can keep running while you use other software programs and applications.

Typeface

A style of type (e.g., Courier).

Vector

A graphics file format in which images are represented as individual objects.

Weight

The appearance of a character in a typeface (e.g., bold).

X-axis

The horizontal line on a graph.

Y-axis

The vertical line on a graph.

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