

Chapter 9

Fonts and Printers

Introducing Fonts

Fonts are used to: view work on screen and to make a hard copy. Basic fonts/default printer are installed when Windows XP is installed. Many software packages also add fonts. Not limited by these fonts or installed printer.

A **font** is a type design applied to a set of characters (including all letters of the alphabet, numerals, and other keyboard symbols) that have common characteristics such as size, style, and weight (i.e. bold or italic).

Fonts

Any text displayed on a monitor or printed on paper appears in a font and a typeface.

Set of characters of a given size, weight (such as Bold), and style (such as Italic) in a specific typeface (design).

Can be scaled (made larger or smaller).

- Have vertical height (computers), which is measured in points.
- Size refers to printed size.

Typeface

A typeface is a specific design for a set of printed characters. Term refers to design itself. Have copyrighted names such as Times New Roman and Courier.

There are 2 types of typefaces:

1. Monospaced typefaces - give all characters the same width.
 - M and I given the same space. Courier is an example.
2. Proportional typefaces - vary the width of each character.
 - M given more space than I. Times New Roman is an example.
 - Used in word processing environment because it's easier to read.

There are 2 categories of fonts:

1. Serif fonts have a small serif (line) at the end of each main line of a character. Proportional fonts. Used for word processing activities.
2. Sans serif fonts do not have the small lines. Used for emphasis in headings, titles and subtitles.

Technology differs for screen/printer fonts.

Types of font technology WXP supports:

1. Raster fonts (Bitmap fonts) -
 - Needed by many older programs.
 - Used by WXP for menus, icons, dialog box texts, etc.
 - **Fonts used by WXP functions should never be deleted.** To prevent these fonts from being accidentally deleted – assigned hidden attributes to them.
 - Characters – created by pattern of dots – (pixels). Non-scalable – come in predetermined sizes. Different sizes of each font stored separately on disk.
 - Screen display differs from printed material. Impacts documents.
 - Windows XP bitmap fonts: MS Sans Serif, MS Serif, Courier/Symbol and Small Fonts.
2. Vector Fonts -
 - Scalable fonts.
 - Created with line segments.
 - Used to output to plotters and some types of printers.
 - Modern, Roman, and Script.
3. Outline Fonts -
 - Created from line/curve commands.
 - Mathematically calculated.
 - Scalable.
 - Resolve screen/printer inconsistencies. WYSIWYG.
 - 3 types supported by WXP: Adobe Type I, TrueType and OpenType (Successor to TrueType).

Font types are identified by their icons.

Printer Driver

1. Gives printer codes/languages so it is compatible with application programs.
2. Manages printer.
3. Communicate with printer by installing correct printer driver.

Printer

Comes with built-in fonts (resident fonts).

WXP tries to match printer's built in fonts with bitmap screen font. If match is not exact – screen/printer inconsistency. TrueType fonts (scaleable/viewable) fix screen/printer inconsistency.

Using Special Symbols – Character Map

Character Map gives you access to special symbols and characters. It displays all of the characters in each font installed.

You can copy characters from Character Map and Paste them into your documents.

To access a special character you can hold <Alt> and press the character's number on the keypad, and then release <Alt>. Make sure <NumLock> is on.

You have a Character Map so that you do not have to remember the assigned number of every character.

Types of keyboards for desktop computers:

1. Older ones (rarely used): 83-key PC and XT keyboard and 84-key AT keyboard
2. 101-key enhanced keyboard – 4 sections:
 - Typing area.
 - Numeric keypad.
 - Cursor/screen control.
 - Function keys.
3. 104-key enhanced Windows keyboard. Adds:
 - Windows and application keys.
 - Additional <backspace> & <Tab> keys.
 - New software programs utilize these features.

New keyboards being introduced that include features as being able to surf the Web with a press of a key.

Relationship between keyboard and screen characters.

1. Screen characters stored in font files. Font file has character sets.
2. Each keyboard key has dual purpose.
 - Lower/upper case letters.
 - Use <Shift> key to get alternate characters.
3. Keyboard – set of switches mounted in a grid (key matrix).
 - Keyboard processor identifies pressed key/and maps it to grid. Process does not tell OS which character or symbol to display on screen. To solve problem, ASCII coding scheme was developed.
4. ASCII (American Standard Code for Information Interchange)
 - Assigns numeric values to letters/numbers/other characters.
 - Have 256 characters for each font.
 - Divides characters into 2 equal sets – Standard/Extended.
 - Standard set – universal.
 1. First 32 values – communication and printer control.
 2. Last 96 – punctuation marks, digits 0-9, & Roman alphabet.
 - Extended set
 1. Second 128 values – variable sets of characters provided by computer manufacturers and software developers.
 2. Referred to as extended ASCII or IBM extended character sets.
5. American National Standard Institute (ANSI) character set – standard WXP font. Each character in set assigned a unique numeric code. Upper and lower case letters assigned different codes. More numbers than keyboard keys.
6. Unicode – International standard represents common characters in major languages of world.
 - 16 bit character encoding system.
 - Each character stored as 2 bytes of data.
 - Can track 65,536 characters – languages with more than 256 characters per set can be tracked.

- Unicode characters often give numeric code in hexadecimal.
 - Not all programs can read a file saved in Unicode format.
7. ANSI – Each character in set assigned unique code. More numbers than keyboard keys.

Other characters available in font sets. Copyright symbol, registered symbol, and pictures. Character Map is an accessory. Entrée to special symbols used in application programs.

The Printers Folder

Special type of folder that displays an icon for every printer driver installed on system. Does **not** show files on disk. Does **not** show printer physically attached to computer.

Used to manage everything done with printers on computer.

1. Install new printer drivers.
2. Delete printer drivers.
3. Change characteristics of printer driver.
4. Set default printer.
5. View/manage print queue of jobs being printed.

Printer

Physical device slower than computer. Cannot print data as fast as it is sent. Windows XP uses print queues.

- ◆ List of files waiting to be printed.
- ◆ Files held in a buffer.
- ◆ As printer becomes available, File Manager sends one file at a time (in order they were received) from buffer to printer to be printed.

Stand alone system:

Usually connected to one printer. Printer connected by cable to parallel port. Local device referred to as local printer. Note: Local device accessed directly instead of some type of communication line.

Network printer:

Connected physically to another computer or to a server on a network and can print across the network once the correct printer driver is installed on computer.

Many homes/businesses have several computers.

Not necessary to have printer physically attached to print server. Hub may connect multiple computers to a printer. A hub is a device used to connect multiple computers and other devices. It attaches through ports which are a type of plug. Hubs may be wireless.

Inexpensive printers will not be able to be hung off a hub.

Printer folder:

Does not show printer physically attached to system. Shows printers for which printer drivers have been installed.

Printer driver:

Mini program allowing Windows XP to control printer and application that prints to it. Can be associated with a local or network printer. Installing printer involves installing printer driver (software) for the brand of printer.

Plug and Play:

Windows XP feature that detects and configures new hardware device to system. Adding new printer to computer, installation of printer driver done automatically by Windows XP.

Sometimes WXP will not install printer automatically. If not installed properly, go to the Printers folder, use Add Printers wizard to manually add printer. Can install printer drivers for local or networked printers. Can install printer drivers for printers that you do not own or are not connected to.

Problem: Printed page does not match what is on monitor.

Cause: Printer cannot access screen fonts.

Solutions: Use outline fonts. Create logical or virtual printers. Can be set up to print in landscape, portrait, or in color. Install a more generic type printer so the document would print on any printer.

Icon (in Printers folder) points to physical printer. Determine if printer is available. If icon is gray – printer not available. Check printer availability by being in Tile view. Check printer availability by placing mouse pointer on printer icon.

Managing Your Printer

Spool File – is a temporary file on hard disk. It is created when printing a document in a Windows program. During spool file preparation, the computer is not available for use. After Spool file created – considered print job and sent to printer queue.

2 ways to check the status of print queue.

1. Open Printer in Printers window.
2. Click Printer icon on taskbar.

Using local printer –

1. Customize print job.
2. Use commands in Printer window to:
 - ◆ Pause/resume printing of documents.
 - ◆ Rearrange printing order.
 - ◆ Remove some/all of documents in printer queue.

Above commands effective only if have control over local printer. By default – must be a member of Administrators or Power Users group to have full access and manage printer.

Network printer –

1. Spool file sent to print server.
2. Usually cannot in any way manage print queue.
3. Can cancel own print jobs.

Printing offline –

If no printer is available when using a notebook computer or network printer, save spool files, reconnect to printer (go online) – print documents.