Activity

JAWS® for Windows works with your PC to provide access to software applications and the Internet. With its internal software speech synthesizer and the computer sound card, information from the screen is read aloud, providing technology to access a wide variety of information. This is a comprehensive tutorial that will allow you to learn Windows basics, keyboard commands, including JAWS screen reading commands, how to switch between applications, work with windows and dialog boxes, select text for formatting or to hear it read back to you, and how to customize the features of JAWS for individual use, as well as how to use JAWS with Microsoft Word. Lastly, JAWS Supports Internet Explorer with special features; learn to use links lists, frames lists, cursor mode, forms mode and to reading HTML tables and graphic labels.
The Mouse

If you have a mouse-pointing device connected to your computer, you will see the mouse pointer in the form of an arrow on the screen. The arrow appears roughly in the middle of your display when you first enter Windows. If you were to turn the mouse over, you would see a small, hard-rubber ball visible through a circular hole. As you move the mouse on your desk, the ball rotates. Deep within the mouse's case are sensors that keep track of the movement of the rollers. As the ball rotates, the sensors read the direction of movement and send the information back to your computer's serial port for interpretation by the mouse driver program. This information is then relayed to Windows.

The mouse pointer can be used for selecting commands, accessing the menu, scrolling, moving the cursor position and selecting data. Simply move the mouse pointer around on the screen until it touches the desired icon, menu option or block of text.

Your mouse device will have either two or three buttons. The buttons perform different actions depending on which program you are using. In Windows, however, the [LEFT] and [RIGHT] buttons are typically the only ones used. Below is a brief explanation detailing the use of these buttons.

<table>
<thead>
<tr>
<th>Button</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>[LEFT]</td>
<td>Used to select menu options or commands by pointing to the command/option and &quot;clicking&quot; (pressing) this button once. To get out of a menu, click this button anywhere away from the menu.</td>
</tr>
<tr>
<td>[RIGHT]</td>
<td>Used to access shortcut menus within Windows and Windows applications.</td>
</tr>
</tbody>
</table>

The four basic mouse operations are moving, clicking, double-clicking and dragging:

**Moving** Sliding the mouse around to change the location of the pointer.

**Clicking** Moving the pointer onto an object and clicking the [LEFT] button once.

**Double-Clicking** Clicking the [LEFT] mouse button twice (fast).

**Dragging** Moving the pointer onto an object, pressing the [LEFT] button and then moving the mouse while continuing to hold the button down.

**TIP:** You can use keyboard commands to accomplish the same tasks done with a mouse, and in fact, you do not need to use a mouse at all.
The Keyboard

Although the typing portion of the computer keyboard is identical to a standard typewriter, computers have several additional keys that require explanation.

Below is a list of keys and their functions as used in Windows 95/98:

**F1-F12**
Located across the top of the keyboard (some older keyboards located on the left side), these are referred to as Function Keys. They are used to perform specific commands or access menus within the program.

**Esc**
This key is your panic button. If you select an option by mistake, press this key continuously until you exit out of it.

**Tab**
Moves the cursor one tab stop at a time while working within a word processing program. While in a Windows dialog box, Tab is used to move from one setting to the next.
If you have one of the newer Windows 95 keyboards, you will also have the following two keys:

The Windows key is used to access the **Start** menu located on the Taskbar. This provides a way of quickly accessing your applications.

The Shortcut Menu key acts as a [RIGHT] mouse button and provides access to shortcut menus and other special functions.
Reading Screens and Documents with Jaws

Many speech functions in JAWS are accessed by using the numeric keypad (NUM PAD) located on the far right side of your keyboard. Usually this NUM PAD is used to type numbers so you must turn off the number lock function. Do this by pressing the NUM LOCK key in the upper left corner of the NUM PAD.

JAWS uses the INSERT key at the bottom left of the NUM PAD in combination with the other keys on this keypad to control what JAWS will speak.

Here are the keystroke combinations using this keypad of the most commonly used Jaws commands.

- **NUM PAD 5** Say Character
- **INSERT+NUM PAD 5** Say Word
- **INSERT+NUM PAD 5 twice** Spell Word
- **INSERT+LEFT ARROW** Say Prior Word
- **INSERT+RIGHT ARROW** Say Next Word
- **INSERT+UP ARROW** Say Line
- **DOWN ARROW** Move to and Say Next Line
- **UP ARROW** Move to and Say Previous Line
- **INSERT+DOWN ARROW** Say All (from cursor to bottom)
- **CONTROL** Stop Speech
- **INSERT+NUM PAD 3** Say Status Line
Module 1

- Windows Basics
- The Windows Screen
- Loading a Program
- Running Programs
- Working with a Window
- Shutting Down the System
- Review of New Keyboard Commands
- Practice Exercise
Windows Basics

In Windows, the computer screen is referred to as your desktop and actually functions similar to a "real" desktop. You can have a calculator, calendar, clock, notepad and documents all on your "computer" desktop the same as you would on your "physical" desktop.

The difference is that on the computer screen, all of your utilities and work are displayed in rectangular windows. The "windows" can be rearranged on your desktop in any way that you want them, side-by-side, behind one-another, overlapping, or as icons.

While you can have multiple programs open and displayed in multiple windows on the desktop, you can only work with one program at a time. Only one window will have a highlighted title bar at the top. The Window with the highlighted title bar is said to have the "focus."

In the picture above, the Calculator program has the focus, the Solitaire program does not.

**TIP:** You can press **Insert + T** to have the screen reader software speak the title bar of the open program that currently has the focus.
The Windows Screen

Icons (shown down the left side of the screen in the diagram above) are pictorial representations of programs, documents, shortcuts, and other items.

Once a program is opened, it is placed in a rectangular window (Both the calculator and Solitaire are displayed in their own windows in the diagram above.) Each window may be manipulated in a variety of ways (e.g., enlarged, moved). Once the window is closed, the program, document, shortcut, etc. is closed.

Across the bottom of the desktop is the Taskbar, which lists the programs currently running and displays the current time.
Loading a Program

**USAGE:**

Along the bottom of the screen in Windows 95 is a horizontal gray bar called the **Taskbar**. The far right side of the task bar, called the **Tray**, may show various information concerning your system, such as modem activity, sound, time, etc.

On the left side of the Taskbar is the **Start** button.

Most of your activity will begin with the **Start** button, which is where you can **Start** other applications, utilities, accessories, etc.

**Click here to start.**

![Start button at 4:31 PM](image-url)
When you press the Windows key on the keyboard, the Start button is activated and a pop-up list appears:

Windows displays a list of available items (e.g., programs, documents, settings) to choose from. Use the arrow keys on the keyboard to select the program you want to start, then press the Enter key.

Any item containing an arrow indicates additional choices are available. For example, if you select Programs you will be able to choose from a list of available applications within Windows.

The Programs item provides a submenu of programs and provides a method to load multiple programs from the keyboard.
The following options are available:

- **Programs**: Select this to access an installed program within Windows.

- **Documents**: Select this to view a list of the most recently used documents you have created or been using. Windows lists the last 15 documents to this list. When you select one of the files, Windows will automatically run the application the document was created in and load the file for you to begin editing.

- **Settings**: Allows you to specify system settings, such as those in the control panel (color, screen savers, etc.), add/remove printers, and customize the task bar.

- **Find**: (Called Search in Windows ME) Locates files, folders, and other computers.

- **Help**: Accesses the help screen.

- **Run...**: Allows you to run programs that are not included in your menu or to start installation of a new package.

- **Shut Down...**: This option is used to shut your system down or to restart the computer.
Running Programs

**USAGE:**

The **Start** menu (located on the Taskbar at the bottom of the desktop) accesses all of the programs you have available on your system. By default, Windows will have installed a standard set of applications, accessories, and utilities that you can access from this button. This button can also be used to locate files and is the quickest way of obtaining help.

1. Press the Windows key on the keyboard to access the **Start** menu.

2. Arrow to the **Programs** option and press the enter key to choose from a list of available programs within Windows.

3. Arrow to the program you wish to run and press **Enter**.

For practice, arrow to **Accessories** and press **Enter**, then arrow to **Note Pad** and press **Enter**.

Once the program has been loaded, the Taskbar will remain visible at the bottom of the screen. If you wish to run a second program, repeat the three steps outlined above.

**TIP:** You can quickly select an item from a menu by pressing the first letter of the item you want. For example, press the letter **P** to select **Programs**.
Working with a Window

**USAGE:**

There are two types of windows within the system: Application and Document. An **application** window is the window containing the actual program you are currently working with (e.g., Excel, Word) - which may consist of one or more document windows. A **document** window is a sub-window of an application and contains the current file you are working on. For example, when working with a word processing application, you may have two or more different documents open simultaneously - each in its own window.

Application windows also contain a menu while document windows do not. In addition, document windows cannot be placed outside of their respective application window.

To work with Windows, you should be able to control an individual window and know the various parts. Most windows allow you to change their size and position. Each window can be one of three sizes:

1. **Minimized**
   
   This temporarily puts aside the current window and includes it in the Task Bar - located at the bottom of the desktop.

   The program has not been canceled but merely set aside. You can return to where you left off by switching to it using **ALT TAB**.

2. **Maximized**

   The current window is enlarged to take up the full screen. The window cannot be moved or resized while maximized.

   This gives you "maximum" working area and is useful when working within applications, such as word processors.

3. **Restored**

   This is the size of a window before being either maximized or minimized.

   This is the only time that the size of a window can be changed.
MAXIMIZING A WINDOW

To maximize a window, hold down the Alt key, press and release the Space Bar, then release the Alt key. The Control Icon pull down menu will appear in the upper left hand corner of the screen.

| Restore | Move | Size | Minimize | Maximize | Close | Alt + F4 |

Press the Down Arrow key on the keyboard to highlight the word Maximize and press the Enter key.

The current window expands to fill up the entire screen (or application window if it was a document window).

TIP: Screen reader software provides the best speech output when the window currently being used is Maximized.
MINIMIZING A WINDOW

To minimize a window, hold down the \textbf{Alt} key, press and release the \textbf{Space Bar}. The \textbf{Control Icon} pull down menu will appear in the upper left hand corner of the screen.

<table>
<thead>
<tr>
<th>Restore</th>
<th>Move</th>
<th>Size</th>
<th>Minimize</th>
<th>Maximize</th>
<th>Close</th>
<th>Alt + F4</th>
</tr>
</thead>
</table>

Press the \textbf{↓} down key on the keyboard to highlight the word \textbf{Minimize} and press the \textbf{Enter} key.

If you are minimizing a document window, the window shrinks to a miniature title bar located at the bottom of the application window. If you are minimizing an application window, the application is placed as a button on the Taskbar. Keep in mind that even if you have minimized an application, it is still running.

\textbf{TIP:} Instead of down arrowing through the items in the pull down menu, you can simply press the underlined letter of the item you want.
RESTORING A WINDOW TO ITS PREVIOUS SIZE

To restore a window, hold down the `Alt` key, press and release the `Space Bar`. The Control Icon pull down menu will appear in the upper left hand corner of the screen.

<table>
<thead>
<tr>
<th>Restore</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Move</td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td></td>
</tr>
<tr>
<td>Minimize</td>
<td></td>
</tr>
<tr>
<td>Maximize</td>
<td></td>
</tr>
<tr>
<td>Close</td>
<td>Alt + F4</td>
</tr>
</tbody>
</table>

Press the `↓` down key on the keyboard to highlight the word `Restore` and press the `Enter` key.

The window will return to its original size, which can be anything except maximized or minimized.
CLOSING A WINDOW

Alt + F4

Press and hold the Alt key, press and release the F4 key, then release the Alt key.

Closing a document window closes the file you are currently working with while closing an application window actually exits the program itself. This operation removes the program from memory.

If you close an application containing a document that has not been saved, you will be prompted to save it before the application is closed.

TIP: When using a screen reader program, it is always a good idea to read the title bar Insert + T before issuing the Alt F4 command. That way you can be sure that you are closing the intended program and not the screen reader program by mistake.
Shutting Down the System

USAGE: You should shut down your system before turning your computer system off. This way Windows 95 has a chance to update and close any system files or other open files.

Follow these three steps to shut down Windows:

1. Click on the button located on the Keyboard. The following pop-up menu appears on the screen:

2. Use the Down Arrow key to Select Shutdown... Press the Enter key. A confirmation box appears:
The following options are available:

**Shut Down the Computer**  Saves any recent changes to Windows settings and writes any unsaved data to the hard drive. This prepares your computer to be turned off safely.

**Restart the Computer**  Saves any recent changes to Windows settings and writes any unsaved data to the hard drive. It then restarts the computer.

**Restart the Computer in MS DOS Mode**  This restarts the computer in MS DOS mode that is typically used to run older programs, such as MS DOS games that will not run under Windows 95. You will need to enter **Exit** or **Win** to return to Windows.

**Close All Programs and Log On as a Different User**  Closes all applications, disconnects from the network, and returns to the log on screen.

**TIP:** You can have the screen reader program read any information or dialog box displayed on the screen using the **Insert** + **B**.

**TIP:** You can have the screen reader program read the default button of the dialog box displayed on the screen using the **Insert** + **E**.

Use the arrow keys to select the desired option and then press the letter **Y** for **Yes**.
Review of New Keyboard Commands

Below is a list of keyboard commands and their functions as used in Windows 95:

Located two keys away from the spacebar on both the left and right side, the **Windows Keys** are used to activate the Start Menu.

Alt + Space Bar, X  This command enables you to **maximize a window**.

Alt + Space Bar, N  This command enables you to **minimize a window**.

Alt + Space Bar, R  This command enables you to **restore a window**.

Alt + F4  This command enables you to **exit a program**

Below is a list of keyboard commands and their functions used with the Screen Reader program:

Insert + T  Reads the **title bar** of the window that currently has the focus

Insert + B  Reads the **dialog box** in TAB order

Insert + E  Reads the **default button** in a dialog box
Practice Exercise

Directions: Complete the following tasks without using the mouse

Tasks:

1. Activate the Start Menu
2. Select Programs and press Enter
3. Enter on Accessories, arrow to Notepad, Press enter
4. If the window is not maximized, maximize it.
5. If the window is maximized, restore it.
6. Have the screen reader software read the title bar.
7. Exit the Notepad program.
8. Restart the computer.
Module 2

- Switching Between Open Applications
- Accessing Menus
- Working with Dialog Boxes
- Saving a File
- Review of New Keyboard Commands
- Practice Exercise
Switching Between Open Applications

Sometimes you will have several applications running at the same time. It is very easy to keep track of these opened applications when using a screen reader by using the switch program command.

Load the Note Pad program again. Within the Accessories Folder is another program called Word Pad. With the Note Pad program still running, load the Word Pad program.

Hold down the Alt key and Tab key. Windows will display a box showing all opened programs and cycles through each application by placing a small rectangular border around each program as it becomes active.

Hold down the Alt key down while tapping and releasing the Tab key until the desired application is selected.

Once you see the program you wish to switch to, release the Alt key and Windows will make that program the active window.

Switch to the Word Pad program.

Type your name.
Accessing Menus

**Usage:** Windows is a menu-driven program, which means that the most straight-forward way to issue commands is to choose them from menus - lists of items and actions. Every application window contains a menu bar.

You should notice that each of the menu options listed at the top of the screen has a letter, which is underlined. To access the menu through the keyboard, press *Alt* key and the underlined letter.

A pull-down menu appears. Notice that each choice in the menu also has an underlined letter.

Items that are gray in color indicate the options that are not currently available.

There are two ways to select an option from within this menu from the keyboard:

1. Type the underlined letter corresponding to the choice. Do not press the *Alt* key while selecting an option from a pull-down menu.

2. Use the cursor control keys to highlight the option and then press *Enter*
Windows' menus typically only go two layers deep. While within either of these menu levels, you can backtrack to the previous level by pressing the **Esc** key.

If you are two levels down and press **Esc** twice, Windows will pop you out of the menu altogether.

You can tell if you are out of the menu by looking at the menu line. If one of the items is still highlighted, you are still stuck in the menu and you need to press **Esc** again.

**TIP:** A quicker way of getting out of a menu is to simply press the **Alt** key by itself. This automatically takes you out of any pull-down menu.
Working with Dialogue Boxes

**USAGE:**

Beyond the menus available from the menu bar, Windows uses **dialog boxes** to collect all the information it requires to carry out your commands. A dialog box is a type of input form that allows you to make selections and supply additional information without having to work through a maze of multi-layered menus.

Using the **Tab** key moves forward from one area or "field" to another. Using **Shift + Tab** moves backward from field to field. Any menu option followed by an ellipsis (...) indicates that a dialog box is to follow. The following diagram shows the different items that a dialog box might consist of:

A **text box** (also called an **edit box**) is used to enter text data such as a filename or other input. A blinking vertical line represents the current cursor location. You can immediately begin typing in your data.

The rectangular buttons are referred to as **command buttons**. They perform some type of action when they are selected.

- **OK** button is used to accept all the changes made in the dialog box.
- **Cancel** button cancels any changes made in the dialog box. This is the same as pressing **Esc**.
Some options have an ellipsis (…) beside them. This symbol indicates that an additional dialog box will appear providing more options.

A button with a double chevron (>>) indicates that the current dialog box can expand to offer additional selections.

**List boxes** contain lists of files, styles, colors or other options that can be chosen from. To select an item from the list simply **Tab** to it then use the arrow keys to select the item you want. Pressing the **Enter** will choose it.

In many list boxes or windows there is a **scroll bar** displayed along the right side (or bottom) that indicates that there are more items within the box that are not visible on the screen. Using the arrow keys will enable you to scroll through the items from the keyboard.

The small circles (〇) are called **radio buttons**. These usually come in sets of selections. If you have a list of radio buttons to choose from, you can select only one of the listed options.

The circle with the dark dot in the middle (●) indicates which option is currently selected.

Check boxes (口) are used to select from a list of options. These options can be turned on/off by first **Tabbing** to the checkbox, then pressing the **Spacebar** to place or remove the checkmark. A checkmark (☑) indicates that option has been selected. You can select more than one option.
This box with a down arrow is a pull-down list. Screen reader software refer to these list boxes as combo boxes. Using the arrow keys or using the Alt key with the Down Arrow key will enable you to scroll through the items from the keyboard.

After pressing the Alt key with the Down Arrow key arrow, the list will be displayed. The highlighted item is the one currently selected. Simply press the Enter key.
Saving a File

**USAGE**

When you open a word processing document and begin to type, the work that you do is stored in temporary memory. If you shut down the computer without saving your work, it will be gone.

There are two ways to save a file from the keyboard.

**Alt + F, S**

Pressing Alt with the letter F displays the File pull down menu. From this menu, you can down arrow to Save and press the Enter key, or you can press the letter S.

**Control + S**

This command is called a Hot key because it enables you to invoke the Save feature without opening a menu. It is the fastest way to save a file using the keyboard.

**SAVE AS DIALOG BOX**

The first time you save a document, the Save As dialog box will appear on the screen.

By default, your cursor is sitting in the **File name** field, waiting for you to type in a name. Also by default, the file you save will be stored on the Hard Disk Drive, (Drive C:) in a folder named **My Documents**.
If you want to save the document on a Floppy Disk (3 1/2 Floppy A:), you need to move the keyboard focus back to the **Save in** field of the dialog box by pressing **Shift + Tab**, two times.

This places your keyboard focus in the **Save in** combo box. Pressing the Down arrow key opens up the list. You simply up arrow to the 3 1/2 Floppy A: option and press the Enter key.

**With the keyboard focus in the File Name field, type your first name and press enter.**

Exit the program using **ALT + F4**

If other programs are still running, exit them also.
Review of New Keyboard Commands

Below is a list of keyboard commands and their functions as used in Windows 95:

**Alt + Tab**  
This command enables you to **switch between open programs**

**Tab**  
This command enables you to **move forward in a dialog box, field by field.**

**Shift + Tab**  
This command enables you to **move backward in a dialog box, field by field.**

**Control + S**  
This command is the hot key to **Save**

**Alt + Underlined letter in a menu**  
This command enables you to **open a pull down menu**
Practice Exercise

Instructions:

1. Open the Microsoft Word word processing program. Also open the following programs located in the Accessories folder: Paint, Calculator, and Notepad.

2. Switch to the Microsoft Word program. Make sure the window is maximized and open a blank document. Type the following letter and save the document as "Letter to Smith."

Mr. Maxwell Smith
Smith Products, Inc.
573 Roger Road
San Francisco, CA 94102

Dear Mr. Smith:

I am writing to you to request a catalog of business software sold by Smith Products, Inc. I am particularly interested in Windows applications. I've read about your products in Business Software Magazine. As you might know, the editors had high praise for your low cost Accounting and tax packages.

Sincerely yours,

Janet Doe

3. Switch back to the Paint program and maximize it.

4. Close the Notepad and Calculator windows.

5. Close the Microsoft Word program.

6. Close the Paint program.

7. Shut down the computer.
Module 3

- Opening a File
- Cursor Movement
- Selecting Text
- Aligning Text
- Applying Font Styles
- Unselecting Text
- Review of New Keyboard Commands
- Practice Exercise
Opening a File

**USAGE:**

There will be times when you want to add to or change a document that you have previously saved. The Open dialog box enables you to select and open a saved document so you can continue to work with it.

There are two ways to open a file from the keyboard.

**Alt + F O**

Pressing **Alt** with the letter **F** displays the File pull down menu. From this menu, you can down arrow to **Open** and press the **Enter** key, or you can press the letter **O**.

**Control + O**

This is the **Hot key** command for opening a file.

**OPEN DIALOG BOX**

By default, your cursor is sitting in the **File name** field, waiting for you to type in a name. However, most often it will be easier to select a file name from the list in the previous field.

**Shift Tab** places your cursor in the file list field. Now you can simply use the arrow keys to locate the file you want to open and press the **Enter** key. **Open the Letter to Smith file.**
Cursor Movement

**USAGE:**

By default, when you first open a document, your cursor or typing position is located at the very beginning of the document. You can move the cursor to the right or to the left one character at a time by using the right or left arrow keys. You can move the cursor up and down a line at a time by pressing the up and down arrow keys. You can also move the cursor using the following keyboard commands:

- **Control + Home**
  
  Pressing **Control** with the **Home** key moves the cursor to the very beginning of the document.

- **Control + Home**
  
  ![Mr. Maxwell Smith
  Smith Products, Inc.
  573 Rogers Road
  San Francisco, CA]
  
  Dear Mr. Smith:

  I am writing to you to request a catalog of software products available from your company. As you might know, the editors of Software Review had high praise for your products.

  Sincerely yours,

  Janet Doe

- **Control + End**

  ![TIP: Pressing Insert + 2 on the numeric keypad causes the screen reader program to read all the text from the current cursor position to the end of the document.](image)
Pressing the **Home** key moves the cursor to the very beginning of the line.

Pressing the **End** key moves the cursor to the very end of the current line.

Pressing **Insert** + **8** on the numeric keypad causes the screen reader program to read the current line.

Pressing **Control** with the **Right Arrow** key moves the cursor word by word to the right.

Pressing **Control** with the **Left Arrow** key moves the cursor word by word to the left.

Immediately pressing **5** a second time spells the word.

Mr. Maxwell Smith  
Smith Products, Inc.  
573 Rogers Road  
San Francisco, CA

Dear Mr. Smith:

I am writing to you to request a catalog of software products available from your company. As you might know, the editors of Software Review had high praise for your products.

Sincerely yours,

Janet Doe
Selecting Text

**USAGE:** Once text is highlighted or **selected**, it can be changed in a number of ways. It can be copied, pasted or cut. It can be centered or it can be moved to the left or right margin. It can be underlined, bolded or italicized. You can also change the size, the type face and the color of selected text.

**Shift + →**

Holding down the **Shift key** and repeatedly pressing and releasing the **Right arrow key** selects the text to the right of the cursor one character at a time.

**Shift + End**

Pressing **Shift** with the **End** key selects the text from the cursor position to the end of the line

**Shift + Down Arrow** (4 times)

Holding down the **Shift key** and repeatedly pressing and releasing the down arrow key selects the text line by line

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Mr. Maxwell Smith  
Smith Products, Inc.  
573 Rogers Road  
San Francisco, CA

Dear Mr. Smith:

I am writing to you to request a catalog of software products available from your company. As you might know, the editors of Software Review had high praise for your products.

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Copyright 2002 Katie Beaver - Center for Assistive Technology, University at Buffalo
Selecting All Text

Pressing Control with the letter A key selects all the text in the document.

Mr. Maxwell Smith
Smith Products, Inc.
573 Rogers Road
San Francisco, CA

Dear Mr. Smith:

I am writing to you to request a catalog of software products available from your company. As you might know, the editors of Software Review had high praise for your products.

Sincerely yours,

Janet Doe

**TIP:** By default, the JAWS screen reader program is set to automatically read highlighted (or "selected") text.

To re-read highlighted text, press Shift + Insert + 2.
Aligning Text

Once text is highlighted or **selected**, it can be:

**CENTERED:**

Control + E

![Centered Text]

Dear Mr. Smith:

I am writing to you to request a catalog of software products available from your company. As you might

**RIGHT ALIGNED:**

Control + R

![Right Aligned Text]

Dear Mr. Smith:

I am writing to you to request a catalog of software products available from your company. As you might

**LEFT ALIGNED:**

Control + L

![Left Aligned Text]

Mr. Maxwell Smith
Smith Products, Inc.
573 Rogers Road
San Francisco, CA

Dear Mr. Smith:

I am writing to you to request a catalog of software products available from your company. As you might
Applying Font Styles

Once text is highlighted or selected, it can be:

BOLDFACED:

Control + B

Mr. Maxwell Smith
Smith Products, Inc.
573 Rogers Road
San Francisco, CA

Dear Mr. Smith:

I am writing to you to request a catalog of software products available from your company. As you might

ITALICIZED:

Control + I

Mr. Maxwell Smith
Smith Products, Inc.
573 Rogers Road
San Francisco, CA

Dear Mr. Smith:

I am writing to you to request a catalog of software products available from your company. As you might

UNDERLINED:

Control + U

Mr. Maxwell Smith
Smith Products, Inc.
573 Rogers Road
San Francisco, CA

Dear Mr. Smith:

I am writing to you to request a catalog of software products available from your company. As you might
Unselecting Text

**USAGE:**

Multiple operations can be done on selected text and the text remains selected until it is "unselected" by pressing an arrow key.

Pressing the left arrow key places the cursor at the very beginning of the text that was selected

Pressing the right arrow key places the cursor at the very end of the text that was selected

A word of caution: When text is selected, pressing a letter key will **replace** all the selected text with that letter. If you press a letter key by mistake and the selected text is replaced, you can **undo** the replacement by pressing **Control + Z**
Review of New Keyboard Commands

**Boldface**
- `Control + B`

**Open a File**
- `Control + O`

**Italicize**
- `Control + I`

**Undo**
- `Control + Z`

**Underline**
- `Control + U`

**Cursor Movement Commands**
- `Control + Home`  **Beginning of file**
- `Home`  **Beginning of line**
- `Control + End`  **End of file**
- `End`  **End of line**
- `Control + →`  **Moves the cursor word by word to the right**
- `Control + ←`  **Moves the cursor word by word to the left**

**Text Selection Commands**
- `Shift + →`  **Selects the character to the right of the cursor**
- `Shift + End`  **Selects the text from the cursor to the end of the line**
- `Shift + ↓`  **Selects the text line by line**
- `Control + A`  **Selects all the text in the document**

**Jaws Screen Reading Commands**
- `Insert + 8`  **(on numeric keypad)**  **Reads the current line**
- `Insert + 5`  **(on numeric keypad)**  **Reads the current word**
- `Insert + 5 5`  **(on numeric keypad)**  **Spells the current word**
- `Insert + 2`  **(on numeric keypad)**  **Reads the text from cursor to end**
- `Shift + Insert + 2`  **(on numeric keypad)**  **Reads highlighted text**
Practice Exercise

Directions: Complete the following tasks without using the mouse

**Tasks:**

1. Load Microsoft Word and Open the file named "letter to smith" and have the screen reader read the document from beginning to end.

2. Select the words "Business Software Magazine" - boldface and italicize them

3. Deselect the text

4. Move your cursor to the beginning of the document and have the screen reader read the current line and current word. Have it spell the current word.

5. Press the Enter key to insert a blank line. Press the up arrow key to move to that blank line

6. Turn on the Align Center feature by pressing Control E.

7. Type the following return address:
   Janet Doe  
   Doe Accounting  
   123 Pear Street

   Press the Enter key.

8. Save the file and exit the program.
Module 4

- JAWS Cursors
- The JAWS Window
- Basic Settings Dialog
- Voices Dialog
- Individual Voices
- The Configuration Manager Window
- Virtual Viewer
- The JAWS Dictionary
JAWS Cursors (pc, jaws, and virtual)

**USAGE:**
When you run JAWS for Windows, you have three available cursors:
- **PC Cursor**    Follows Keystrokes
- **JAWS Cursor**  Follows Mouse Pointer
- **Virtual Cursor** HTML Environment

The **PLUS key** on the numeric keypad activates the PC Cursor. This cursor is linked to the keyboard functions of Windows and applications. This is the cursor that is used when typing information, moving through options in dialog boxes, and selecting options or icons. As you type information, the PC Cursor follows along with each key you press. If you are making a selection in a menu or dialog box, the PC Cursor highlights the currently selected object. The PC Cursor is activated by default when JAWS starts.

The **MINUS key** on the numeric keypad activates the JAWS Cursor. The JAWS Cursor is linked to mouse pointer functions in Windows and other applications. It is used to read information the PC Cursor cannot read, such as toolbar information. The mouse follows along with the JAWS Cursor when it is moved, and you therefore have access to information in an application window that is beyond the scope of the PC Cursor.

When using the JAWS cursor, the **SLASH key** on the numeric keypad is equivalent to pressing the left mouse button.

The virtual PC Cursor mimics the functions of the PC Cursor, but is activated by default when entering an HTML document. The virtual PC Cursor speaks the number of frames in a document, and the number of links in the frame. You can switch between frames, and JAWS reads graphics labeled by alt tags in the HTML code.

Only one cursor can be active at any one time. When you choose one of the cursors, for example, pressing NUM PAD MINUS to choose the JAWS cursor, you are actually telling JAWS which cursor you want to move when you use the NUM PAD.

**TIP:** To help the user know which cursor is active, the JAWS cursor is set to a lower pitch and therefore sounds different when reading information from the screen.
The JAWS Window

**USAGE:**

When you want to make changes to the way Jaws speaks and interacts with your application programs, you access the menu items from within the Jaws Window.

**Insert + J**

Displays the JAWS Window

**Alt + O**

Displays the OPTIONS pull-down menu
Basics Settings Dialog

Tutor Messages
Use this series of radio buttons to determine which Tutor messages are spoken. Tutor messages provide navigation tips in applications and Windows.

Access Keys
Access keys are the keys you press to move directly to a control or an item in a menu. Use this group of radio buttons to specify which access keys are announced: all access keys, only access keys for menu items, only access keys for controls in dialogs, or no access keys.

Automatically Start JAWS
Select this option to automatically start JAWS each time you start Microsoft Windows. JAWS is one of the first items to become available, and you will even have access through speech or Braille to the Windows Login dialog.

Run JAWS from System Tray
This option removes JAWS from the TAB order and places it in the system tray. To access JAWS from the system tray, press INSERT+J. Press ALT to close this shortcut menu.

Use Keyboard Layout
Use this combo box to select the desired keyboard layout. Select from desktop, laptop, or MAGic 6.2. JAWS keystrokes frequently use keys located on the numeric keypad, which usually is on the right side of the keyboard.
Voices dialog

The Voices menu lets you set up the speech characteristics of your speech synthesizer. You can use this menu to determine the rate of speech, the level of speech volume, the amount of punctuation that is read, and other speech characteristics.

Global Adjustment…

Changes made in this dialog affect the speech characteristics for all voices including the PC Cursor voice, keyboard voice, JAWS Cursor voice, and Tutor and Message voice.

It is recommended that you use this dialog to adjust those settings you wish to use with each voice, then use the Individual Voices dialog to make adjustments for settings you want applied only to specific voices. The settings in this dialog override settings in the Individual Voices dialog, so it is important to make adjustments in the proper order.

Individual Voice Adjustment…

YOU CAN CREATE DIFFERENT SPEECH CHARACTERISTICS FOR YOUR:

1. PC CURSOR VOICE
2. JAWS CURSOR VOICE
3. KEYBOARD VOICE
4. TUTOR AND MESSAGE VOICE.

CREATING DIFFERENT VOICES FOR THESE FUNCTIONS HELPS YOU TO DIFFERENTIATE BETWEEN EACH WHEN WORKING IN MICROSOFT WINDOWS OR OTHER APPLICATIONS.
Individual Voices

**PC Cursor Voice**

You select the PC Cursor Voice to make adjustments to JAWS voice characteristics when the PC cursor is active and you are using the NUM PAD to move the cursor.

**Jaws Cursor Voice**

You use the JAWS Cursor Voice to make adjustments to JAWS voice characteristics when the JAWS Cursor is active and you are moving and reading using the mouse pointer commands.

**Keyboard Voice**

You use the Keyboard options to make adjustments to JAWS voice characteristics when you type text and numbers on the keyboard.

**Tutor and Message Voice**

Changes made in this dialog affect the speech characteristics for the Message Voice. This is the voice that speaks added information directly from the JAWS program to clarify information (i.e., “radio button 2 of 3”.)
To Globally change the rate of speech output:

1. Press INSERT+J to open the JAWS Window.
2. Press ALT + O to choose Option from the menu bar.
3. Press V to choose Voices
4. Press Enter to choose Global Adjustment.
5. Press the TAB key to move to the RATE field
6. Use the arrow keys to change the settings. Use PAGE UP and PAGE DOWN to make larger changes.
7. Press ENTER to save your changes and close the dialog. (To close the dialog without making any changes, press ESCAPE.)
To change the Keyboard Voice level of punctuation:

1. Press INSERT+J to open the JAWS Window.
2. Press ALT + O to choose Option from the menu bar.
3. Press V to choose Voices
4. Press I to choose Individual Voice Adjustment
5. Press TAB to move to the ADJUST field.
6. Press DOWN ARROW to KEYBOARD VOICE
7. Press TAB to move to PUNCTUATION field.
8. Press UP or DOWN ARROW to cycle through the punctuation modes: All, Most, Some, and None.

   ALL will read every period and comma, etc. MOST and SOME limit the reading of punctuation and NONE turns it off. If you would like to hear punctuation as you type, but not as you read, you would set Keyboard VOICE to PUNCTUATION ALL, and set PC Cursor VOICE to NONE.
9. Set to ALL, then press ENTER.
The Configuration Manager Window

**USAGE:**

Jaws is a comprehensive program that allows the user to select the way the speech output sounds when typing and when reading back information on the screen.

In fact, it is so powerful that it allows you to select settings and save them to automatically load when working with specific application programs. For example, when working with the Calculator program, you may want to hear every individual keystroke that you press. But when you are working with the Microsoft Word word processing program, you may only want to hear each word as you type.

When you make changes and save them for use with specific application programs, you work with the Configuration Manager Window.

**Insert + 6 (on the number row) Displays the Configuration Manager Window**
**Alt** + S

Opens the SET OPTIONS pull-down menu

**U** or Enter

Opens the USER OPTIONS dialog box
Virtual Viewer

The Virtual Viewer is a message window allowing many JAWS help messages to actually appear on the screen. When the SHOW VIRTUAL VIEWER ON SCREEN checkbox is checked, a window appears on the screen showing the text associated with the verbal help messages.

For example, press

**INSERT+F1** for context sensitive help,

**INSERT+H** for Hot Key Help Messages

**INSERT+W** for Windows Key Help

**CTRL+INSERT+F1** for Technical messages
Typing echo can be set to none, characters, words or both characters and words. When a keystroke is pressed, it is spoken according to this setting.

**TIP:** Pressing **Insert** + 2 on the number row causes the screen reader program to cycle through the 3 available choices. However, you will not be able to save the change.

Screen echo is used to control the amount of text that is spoken as it is written to the screen. It can be set to none, highlighted, or all.

**TIP:** Pressing **Insert** + S causes the screen reader program to cycle through the 3 available choices. However, you will not be able to save the change.

You can also change default options such as which keys will interrupt screen reading or typing echo. You can change the way keys behave when they are held down by changing the Key Repeat option.
Saving a Configuration

**USAGE:** When you open the Configuration Window from within an application program like Microsoft Word, the name of the configuration file associated with that application program appears in the title bar. After you make the changes to the User Options, you can easily save them to that same file so that the next time you open the application, the settings you want will load automatically as well.

Alt + F Opens the FILE pull-down menu

![FileChooser](image)

Down arrow to SAVE and press Enter.

Alt + F4 To close the Configuration Manager and return to the application program.
The JAWS Dictionary

**USAGE:** The Dictionary Manager lets you change the way JAWS processes words, phrases, or symbols through your speech synthesizer. If JAWS mispronounces a name, this is the place to fix it. For example, JAWS mispronounces the city in New York state named OLEAN. It pronounces it as “Olan” instead of “O lee ann”.

**Insert + D**

Opens the JAWS Dictionary Manager

**Enter**

Opens the Add Dictionary Definition box
1. Type the word you want to correct in the ACTUAL WORD field.

2. Press TAB to move the keyboard focus to the REPLACEMENT WORD field and type the word in phonetically.

3. Press the ENTER key.

4. Press ALT F4 to close the Dictionary.

5. When prompted to save the changes, choose YES.
Module 5

- Adjust JAWS Verbosity
- JAWS Managers
Adjust JAWS Verbosity

**USAGE:**

JAWS Verbosity settings are used to provide the user more control in accessing the verbal information related to many advanced formatting features incorporated in the most popular application programs used today.

By adjusting the Proofreading Information utility, JAWS can automatically detect and report spelling and grammatical errors when using a word processor with interactive spelling and grammar features.

**Opens the Adjust JAWS Verbosity box**

![Adjust JAWS Verbosity dialog box](image)

**To turn on the Proofreading Information**

1. Down Arrow to SPELLING & GRAMMAR - OFF
2. Press SPACEBAR to change to ON
3. Press the ENTER
Now, as your document visually reflects spelling and grammatical errors with red and green underlines, JAWS will announce them as your cursor moves to that word.

In the above example As you move through the line word by word using CONTROL ➔, JAWS will say, “misspelled word” before pronouncing any word that is flagged with a red underline. JAWS will say “grammatical error” and “out of grammatical error” as your cursor moves over any words flagged with a green underline.

When your cursor is on a word identified by JAWS as a misspelled word or grammatical error, you can press the Shortcut Menu key to bring up a list of suggested spellings to correct it, or to ignore it or to add it to the dictionary.

You can then use your arrow keys to go through the list and press ENTER on the correct spelling to make the change within the document. In this case, you would press the DOWN ARROW key until JAWS announced “reading.”

If you are still not sure it is the correct word, you can instruct JAWS to spell the word by pressing Insert + 5 + 5 on the numeric keypad.
LISTING ALL ERRORS IN A BOX

**Control + Shift + E**

You can bring up a list of all the spelling errors and move your cursor to the selected error you would like to fix.

Pressing the ENTER key on the desired word will put you in the document with that word highlighted.

You can read the line using **Insert + 8** to read the word in context. You can press the SHORTCUT MENU key to bring up the suggestion list.

**Control + Shift + G**

You can bring up a list of all the grammatical errors and move your cursor to the selected error you would like to fix.
JAWS Managers

**USAGE:**

The JAWS Managers are utilities that allow the user to customize the way the JAWS works within application programs. Some of these utilities have already been introduced in Module Four and were activated by using a specific keystroke (i.e., INSERT + D to bring up the DICTIONARY MANAGER).

**Insert + F2**

Displays a list of the JAWS Managers

![Run JAWS Manager](image)

It may be easier for some users to memorize just one command and then select the manager they would like to use from a list.
Module 6

- JAWS with the Internet
- JAWS with Microsoft Word
JAWS with the Internet

VIRTUAL PC CURSOR

**USAGE:**

The Virtual PC cursor was introduced in JAWS for Windows version 3.31. Its intended functionality was to mimic the PC cursor in its ability to navigate and view HTML documents using the same keystrokes and commands you would use while working in your favorite word processing program.

Since there is no cursor or insertion point in an HTML document such as a Web page or HTML Help window, JAWS for Windows allows visually impaired computer users to navigate HTML documents as though there is a cursor or insertion point. This means that editing commands such as selecting, copying, and pasting text are also available when using the Virtual PC cursor.

The Virtual PC cursor is activated automatically whenever the application focus is brought into an HTML document such as a Web page or HTML Help window. Many e-mail programs support the ability to create HTML e-mail messages and view messages sent in HTML format as well.

TIP: Pressing `Insert + Z` causes the screen reader program to toggle the Virtual PC Cursor on and off.

While the Virtual PC cursor responds to normal screen reading keys in the same way, there may be no visual indication on the area of the screen that is being affected. The default action is for the screen to track with the virtual cursor, but you can change this setting in the configuration manager under Set Options\HTML.

TIP: Pressing `Insert + Escape` causes the screen to update, and brings the page that the virtual cursor is on into view.
JAWS SPECIFIC INTERNET EXPLORER KEYSTROKES

**Insert + A**  
Reads the **Address bar** while maintaining the place on the page so you can be in two places at once. Pressing INSERT+A twice quickly will move the JAWS cursor to the address bar.

ALT+D (an IE 5 keystroke) selects the text on the Address bar. Either type in a new address, copy or cut and paste to the clipboard.

**Control + Insert + Home**  
Moves to the first **input field** in the page and speaks it. If no form field is found, JAWS reports, “Input Field Not Found.”

**Control + F**  
Calls up the **JAWS Find Dialog**, which will search the entire document.

**Insert + Enter**  
Moves to the next block of **non-link text** that is larger than 25 characters.

**Insert + F5**  
Reformats multiple **column pages** to be more readable with speech. Rearranges multiple column pages to read in a linear fashion. IE columns are read one after another. (Note: This is only available in non-virtual cursor mode and is not needed when running in Virtual cursor mode.

**Insert + Tab**  
Says the **focused link or control**. In a Web page, announces the link or control with focus.

**Insert + F9**  
Brings up a **dialog containing a list of the frames** present in the page. Select a frame from the list and press ENTER. The focus will move to the frame you selected and speak its content.

**Insert + F7**  
Brings up a **dialog containing a list of the links** present in the page. You can then select a link by using the Arrow keys or the first letter of the link. Press ENTER to open the selected link. You may also tab between the various controls in the select a link dialog.

**Insert + F8**  
Brings up a **dialog containing toolbar buttons**. You can select one of the buttons on the toolbar. Press ENTER to select.

**Insert + 3**  
(on the NUMPAD) reads the **status line**. This will allow you to check the status of a page loading, etc.
HELPFUL HINTS

When you use Internet Explorer 5.0 with JAWS, you work in one of three modes:

- Virtual PC cursor mode
- Forms mode
- Conventional mode.

Working in Virtual PC Cursor Mode

The Virtual PC cursor is activated automatically when you open IE 5, and JAWS begins speaking the text on the screen as soon as the page finishes loading. If the newly opened page is loaded, JAWS announces the presence of frames, links, and forms on the page.

TIP: Manually starting to read before the loading has finished often results in less than all of the text being available.

As you enter a frame, you hear, “Navigation Frame,” As you leave a frame, you hear “Navigation Frame End.”

CTRL+HOME brings the top of the document into view on the visual screen, CTRL+END brings the bottom of the document into view on the visual screen, PAGE DOWN moves down 24 lines, and PAGE UP moves up 24 lines.

When reading text on a Web page, each link appears to be on its own line, even though this may not be true on the screen. Visited links are identified as “visited.” They are also properly categorized as visited in the Links List dialog.

To quickly skip past headers, you can press INSERT+ENTER. This moves you down through the page to the first text of at least 25 characters that is not a link. When the virtual cursor arrives at the text, the current line is read.

When the cursor is on a line with a link, pressing ENTER or NUMPAD SLASH activates that link. Subsequently, pressing BACKSPACE moves you back to your last position on the last page read.
Working in Forms Mode

With the Virtual PC cursor positioned on a form field, press ENTER or the NUMPAD SLASH key to switch to Forms mode. You will hear “Forms Mode On,” the information and the name of the control you are on.

When you press ENTER to go into Forms mode, the PC cursor is activated on the current control. As a result, if you are on a button, the button is pressed. If you are on a checkbox, the state of the checkbox is toggled. If you are on a radio button that is unchecked, the radio button is checked, however, if it was already checked, it remains unchanged.

If you are on an edit box, the PC cursor is placed at the top of the edit field. With Combo boxes, the first item is selected.

TAB and SHIFT+TAB must be used to move between fields in forms mode. When using these keys for navigation, the natural tab order is used, including any links that may appear between fields. As you land on the different controls, JAWS announces the new control, such as a link or a field.

**TIP:** Press the + key on the numeric keypad to exit Forms Mode and activate the Virtual PC cursor.
LINKS LIST DIALOG

USAGE: When in Internet Explorer, you can bring up the Links List dialog. The first time you enter this dialog in a JAWS session, this list will be sorted in tab order and will show all available links. You can use the filter and sort order options in this dialog to change the way the links are displayed in the links list. If the links have the same name but point to different locations, each one is listed in this list view.

TIP: Press Insert + F7 to display the Links List Dialog box.

The default setting that ships with JAWS is All Links in Tab Order. To change the Sort Links order, TAB to the Sort Links field, and use the ARROW key to select the desired radio button.

TIP: Press Control + D to add the current web page to the FAVORITES list. This will save you time navigating links to get to web sites you need to visit frequently.

Press Alt + A then arrow down through the FAVORITES list to get to the page you saved.
Jaws with Microsoft Word

Turning off the office assistant

The Office Assistant automatically provides Help topics and tips on tasks you perform as you work—before you even ask a question. For example, when you write a letter, the Assistant automatically displays topics to help you create and format a letter.

These pop up displays make no audio cue and Jaws does not read them. In fact, they can sometimes interfere with the use of the Microsoft Word program. When using Jaws, it is recommended that you turn the Office Assistant off.

To turn off the Office Assistant:

1. Press F1
2. Press Alt O

This brings up the Office Assistant Options Dialog Box

3. Tab to the Use the Office Assistant Check Box and press the space bar to uncheck the box.
4. Press Enter.
Turning off Automatic formatting options

Word has a feature called AutoFormat that automatically applies formatting such as headings, bulleted and numbered lists, borders, numbers, symbols, and fractions to your text.

For example, if you start type a list and number the first item with 1. , when you press the enter key, Word will automatically type the number 2. and indent one tab stop.

Unfortunately, Jaws will not speak the number 2 and the user most likely will not know that the 2. is there until sometime later when re reading the line.

Therefore, it is a good idea to turn off the automatic formatting.

To turn off AutoFormatting as you type:

1. Press Alt T
2. Press Alt O
3. Down Arrow to AutoCorrect and press Enter

This brings up the AutoCorrect Dialog Box

4. Press Control Tab to move to the AutoFormat As You Type Tab.
5. Tab to the checkboxes and press the Space Bar to uncheck them.
6. Press Enter when you are done.