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Accessibility Options caters to users with disabilities

by Andrew LaPage and Dianne Galloway
Operating Systems: Windows 98/2000

More and more, corporate America is finding a very willing and able workforce in those once called handicapped. Greater numbers of the physically challenged are making their way into organizations across the country, and as these organizations make attempts to accommodate these individuals, they're finding that sometimes the add-ons to existing applications and interfaces can make a world of difference and open the door to opportunities for those who are differently abled.

Microsoft recognizes the challenges some employees face with computer work, and has included an enhanced set of features in Windows 98 and Windows 2000 that are collectively known as *Accessibility Options*. These new options make it a little easier for users with a wide variety of physical challenges to use the operating system and the applications that run on top of it.

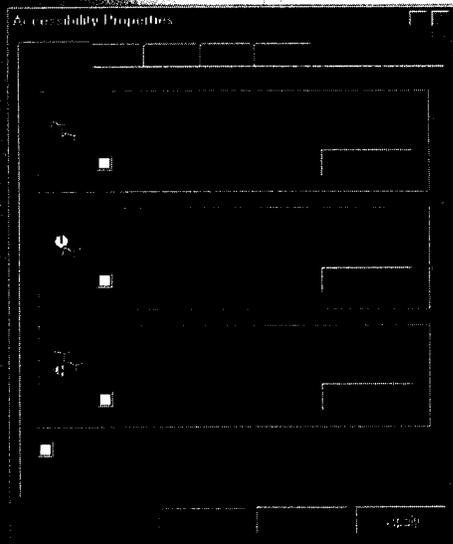
In this article, we'll explore the Accessibility Options that you can set up and configure for users with special needs. As we do, we'll describe each of the Accessibility Options found in the Accessibility Properties dialog box shown in Figure A.

Overview

The Accessibility Properties dialog box is made up of five property sheets, each containing different settings pertaining to various needs. These are the Keyboard, Sound, Display, Mouse and General property sheets. By clicking on each tab, you'll find options that you can customize to suit your individual needs.

Getting started

The Accessibility Options are installed in Windows 2000 by default. However, you may need to install them separately in Windows 98. To do so, click the Start button on the Windows taskbar and choose



The Accessibility Options are designed to make it a little easier for users with a variety of physical challenges to use computers.

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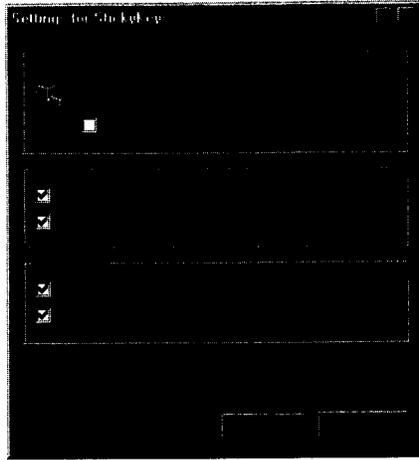
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Settings | Control Panel. Next, double-click on Add/Remove Programs to display the Add/Remove Programs Properties dialog box. Then, click on the Windows Setup tab and select the Accessibility check box. Windows prompts you to insert the Windows 98 CD. Once you do,

follow the onscreen prompts to complete the installation.

At this point, open the Accessibility Options by choosing Start | Settings | Control Panel, and double-clicking on the Accessibility Options icon. Windows then displays the Accessibility Properties dialog box. Let's look at the settings found on each of the five property sheets in detail.

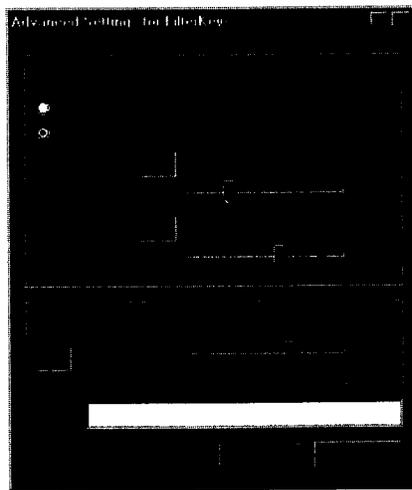
Figure B:
The Settings For StickyKeys dialog box allows you to specify exactly how the feature will operate.



Keyboard options

As you can see in Figure A, the Keyboard property sheet contains three options that you can customize: StickyKeys, FilterKeys and ToggleKeys. Each of these features makes it easier for individuals who may have limited motion disabilities use a keyboard. In addition to these options, the Keyboard property sheet offers the Show Extra Keyboard Help In Programs feature. When activated, Windows notifies you of additional keyboard shortcuts and features when you perform particular functions.

Figure C: You can customize the way Windows interprets repeated and quick keystrokes.



StickyKeys function

If you select the Use StickyKeys check box, Windows allows you to use the [Ctrl][Alt][Delete] key combination by pressing one key at a time in the sequence. Click the corresponding Settings button to display the Settings For StickyKeys dialog box, as shown in Figure B.

Here you can customize the StickyKeys feature even further. If you select the Use Shortcut check box, you'll be able to turn the StickyKeys feature on and off by pressing the [Shift] key five times. Also, the Options panel allows you to both lock the feature and to turn it off by using specific keystrokes. The options in the Notification panel allow you to specify that you want Windows to make sounds when the modifier key

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...with Windows 2000 Accessibility Op-
...is Narrator, which
...speech program. When
...you have the appropriate
...will begin to read the
...that's first displayed.
...contents of dialog boxes,
...menus, shortcut menus and windows.
...However, Narrator may not work with all
...you'll need to test it with any

applications you're going to deploy to users
with visual impairments.

You can configure Narrator to announce
events on the screen and read typed characters.
You can also configure Narrator to move the
mouse pointer to active items in windows and
dialog boxes, and to run as a minimized window
when chosen from the menu. You can also install
voices in different languages and configure voice
properties such as speed, volume and pitch.

is pressed and to show the status of StickyKeys on the screen.

FilterKeys function

Select the Use FilterKeys check box if you want Windows to ignore brief or repeated keystrokes or slow down the repeat rate. Click the corresponding Settings button to display the Settings For FilterKeys dialog box. If you select the Use Shortcut check box, you can turn this feature on and off by pressing the right [Shift] key for eight to 16 seconds, depending on the other settings you have selected in the Accessibility Properties dialog box. Here you can also customize the way in which Windows interprets repeated and quick keystrokes. In the Notification panel, you can tell Windows to beep when keys are pressed or accepted and show the status on the screen.

In the Filter Options panel, select the Ignore Repeated Keystrokes option button and then click the Settings button to specify the Ignore Keystrokes Repeated Faster Than value. Enter an amount of time in the Seconds text box or adjust the slider, and then use the Test Area text box to experiment with the value you've chosen. Click OK when you've finished.

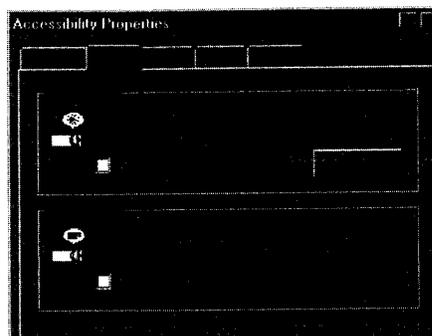


Figure D: The features on the Sound property sheet can assist users with hearing impairments and users who may work in noisy environments.

If you prefer, you can select the Ignore Quick Keystrokes And Slow Down The Repeat Rate option button. Click its corresponding Settings button to display the Advanced Settings For FilterKeys dialog box, as shown in Figure C. In the RepeatKeys panel, select the No Keyboard Repeat option button, and no matter how long you hold down a particular key, it will only be entered once. Or, select Slow Down Keyboard Repeat Rates to specify just how long Windows will wait until it repeats a keyboard command. In the SlowKeys panel, you can specify exactly how long a key must be held down for Windows to register it as a legitimate keystroke that was intended by the user.

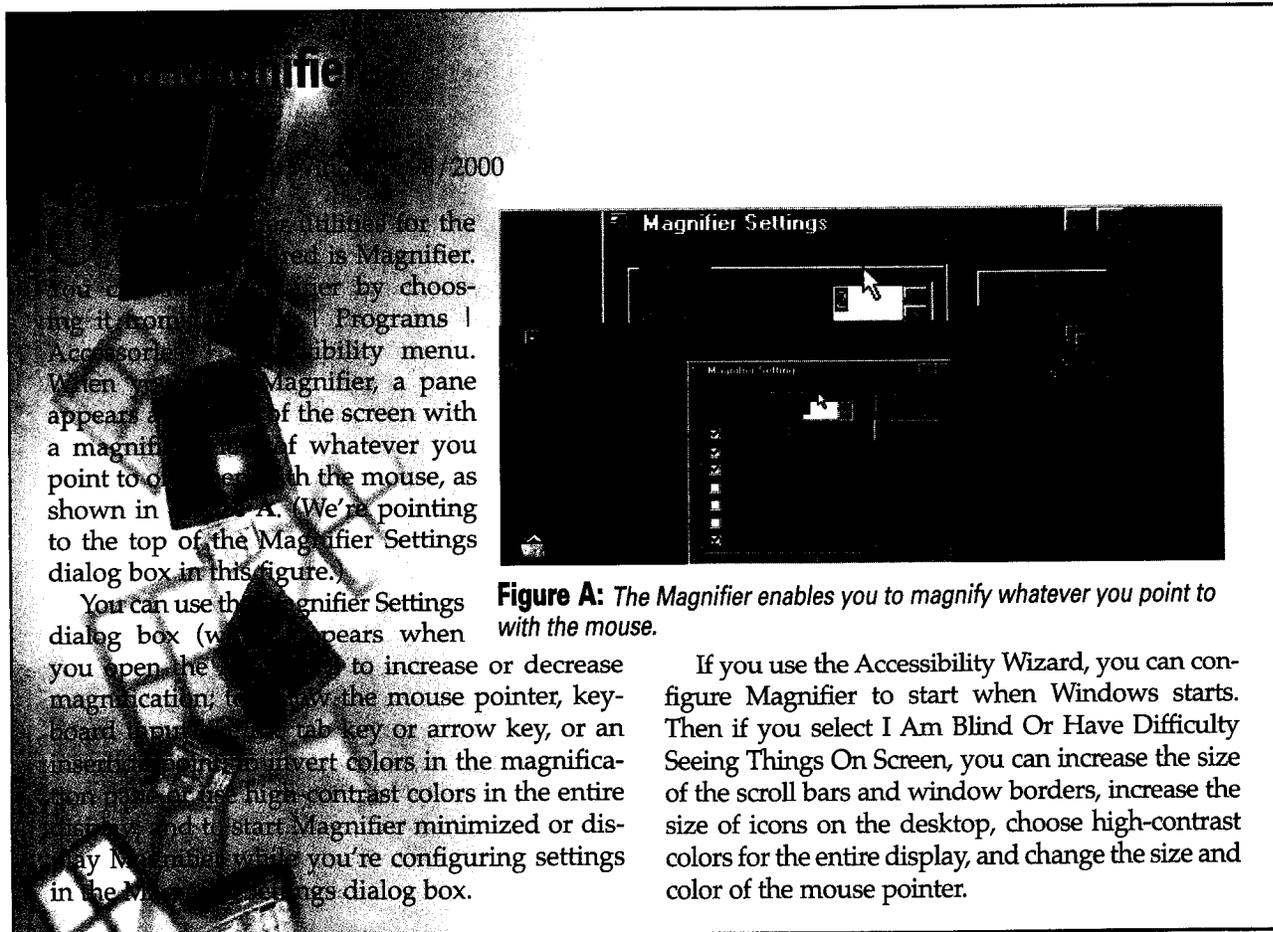


Figure A: The Magnifier enables you to magnify whatever you point to with the mouse.

You can use the Magnifier for the first time by choosing it from the Start | Programs | Accessories | Accessibility menu. When you start Magnifier, a pane appears at the top of the screen with a magnification of whatever you point to on the screen with the mouse, as shown in Figure A. (We're pointing to the top of the Magnifier Settings dialog box in this figure.)

You can use the Magnifier Settings dialog box (which appears when you open the Magnifier) to increase or decrease magnification; to show the mouse pointer, keyboard navigation, or arrow key, or an inset magnifier; to invert colors in the magnification pane; or use high-contrast colors in the entire display. You can also start Magnifier minimized or display Magnifier while you're configuring settings in the Magnifier Settings dialog box.

If you use the Accessibility Wizard, you can configure Magnifier to start when Windows starts. Then if you select I Am Blind Or Have Difficulty Seeing Things On Screen, you can increase the size of the scroll bars and window borders, increase the size of icons on the desktop, choose high-contrast colors for the entire display, and change the size and color of the mouse pointer.

ToggleKeys function

Select the Use ToggleKeys check box if you'd like to hear tones when pressing the [Caps Lock], [Num Lock] and [Scroll Lock] keys. Once you activate this feature, you can click the corresponding Settings button to assign the keyboard shortcut to the ToggleKeys feature, which is to hold down [Num Lock] for five seconds.

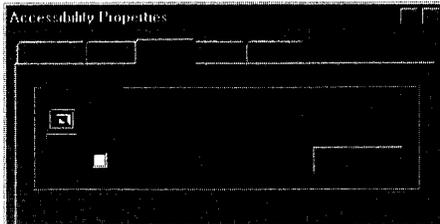


Figure E: Use the settings on the Display property sheet to designate colors and fonts designed to make reading the information on your monitor easier.

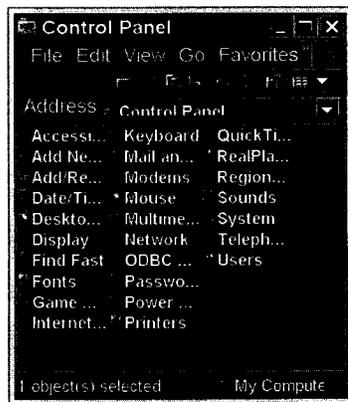


Figure F: Windows offers several built-in color schemes and settings to make viewing information as easy as possible, such as this White On Black option.

Sound options

The Sound property sheet offers two customizable features, SoundSentry and ShowSounds, as shown in Figure D on the previous page. These features offer help to hearing-impaired users and users who may work in noisy environments. By enabling the SoundSentry feature, you're instructing Windows to generate visual cues whenever a system beep occurs. Click the Settings button in the SoundSentry panel, and you can choose the way in which Windows will visually inform you of sounds. The choices include Flash Active Caption Bar, Flash Active Window and Flash Active Desktop for windowed programs. The choices for full-screen text programs include Flash Chars, Flash Border and Flash Display.

The ShowSounds feature is perhaps even handier. By activating it, you tell Windows to display captions for the speech and sounds that your programs make.

Display options

The options found on the Display property sheet, shown in Figure E, let you easily choose high-contrast colors intended to make the information on your monitor easier to read. Select the Use High Contrast check box, and click its corresponding Settings button to customize your monitor's colors. In the Settings For High Contrast dialog box,

Screen Keyboard

For users with a physical impairment who cannot use the keyboard, Windows offers a unique tool called the On-Screen Keyboard, as shown in Figure A. Using this tool, you can actually type by clicking the keys on the virtual keyboard.

However, it's important to keep in mind that the On-Screen Keyboard provides a minimum level of functionality. If the mobility impairment disability is too severe, you may want to use a more powerful keyboard utility. You can visit the Microsoft Accessibility Web site at www.microsoft.com/enable. It holds a wealth of information, from accessibility site links to downloadable step-by-step guides to resources indexed by impairment.

Figure A: The On-Screen Keyboard utility can input keyboard commands using a mouse.

select the Use Shortcut check box if you want to activate the keyboard shortcut command for this option. Here's where you have the option of choosing a color scheme for your monitor.

If you select either the White On Black or Black On White option buttons, the menus and buttons in your programs will automatically become larger. As you can see in **Figure F**, we selected the White On Black option button to show what a dramatic change this feature can have on the appearance of your programs. The third option button, Custom, lets you choose from a variety of predefined color schemes. There's no right or wrong color scheme to use; it only depends on what's easiest for you to work with.

Mouse options

The options found on the Mouse property sheet, shown in **Figure G**, assist users who may have conditions that prevent them from effectively using a mouse device. This option can also come in handy for someone who prefers to remain working with the keyboard without the distraction of stopping to use the mouse.

If you select the Use MouseKeys check box, Windows allows you to control your pointer with the numeric keypad on your keyboard. Click the corresponding Settings button to display the Set-

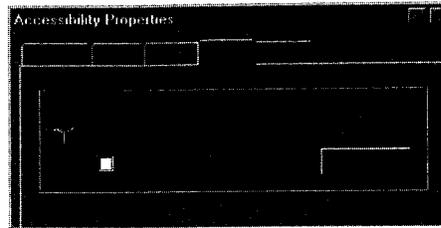


Figure G: Activate the MouseKeys feature if you prefer to control your mouse pointer with the numeric keypad on your keyboard.

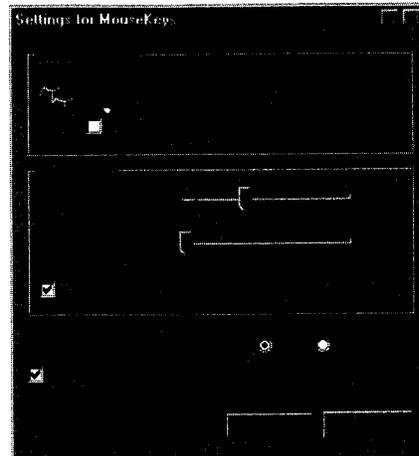


Figure H: Windows even allows you to determine the speed at which the numeric keypad numbers will move your mouse pointer.

tings For MouseKeys dialog box, shown in **Figure H**. Here you can specify whether to activate this option's keyboard shortcut command, whether to show its status onscreen, and when this option is active, either when [Num Lock] is on or off. Also,

Using a large mouse pointer

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the Accessibility Op-
 find a special set of
 pointers that can be of
 those who are
 enable them, just
 Properties dialog box
 from Control Panel. Then click on the
 Pointers property sheet. In the Pointers prop-
 erty sheet, click the dropdown arrow in the
 Scheme pane to select one of the enlarged
 mouse pointer schemes. When you do,
 you'll find a number of mouse pointers
 specially designed for those who are visu-
 ally impaired.

For example, you can use the Win-
 dows Standard (extra large) mouse pointer
 scheme, shown in **Figure A**. There are a
 number of schemes as large as well as in-
 creasingly larger mouse pointer schemes to

Figure A: Using a large mouse pointer scheme can help the visually impaired work within Windows.

you can adjust the speed at which the number keys move the pointer in the Pointer Speed panel.

General options

The final property sheet found in the Accessibility Properties dialog box is General, shown in **Figure I**. This property sheet offers a

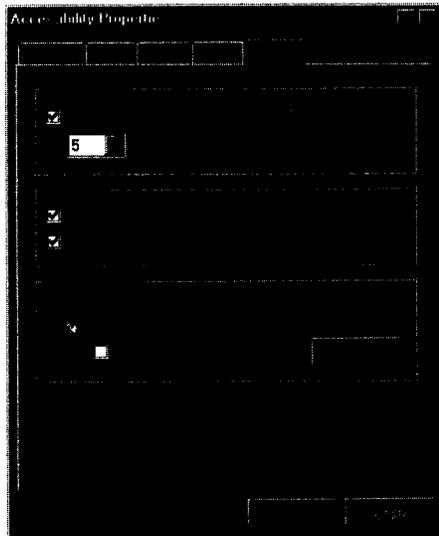


Figure I: The options here allow you to specify a variety of things, ranging from automatic reset of the accessibility features to SerialKey devices.

variety of functions that don't neatly fit into any of the other categories.

In the Automatic Reset panel, you can specify whether to have Windows turn off the Accessibility features if they're idle after *x* number of minutes. In addition, you have the option of being notified when a feature is turned on or off by receiving a warning message and by hearing a sound. The SerialKey Devices panel is where you tell Windows to allow alternative access to keyboard and mouse features. Click its corresponding Settings button to specify which serial port you'll connect the alternative input device to.

Turn on the help

Microsoft recognizes that everyone has different needs. If you have a disability that makes it difficult to use a computer, or if you just prefer to change the standard Windows settings, the Accessibility Options are perfect for you. They allow users to adjust how the information on their computers is displayed and conveyed, both by them and to them. In this article, we've explained the features found in Windows Control Panel's Accessibility Options.*

Taking advantage of Print controls in Windows

by Gregory Shultz

Operating Systems: Windows 98/2000

When you print text from any application, chances are good that you simply click the Print button on the toolbar. When you do, Windows prints the entire document by default. However, you'll have more control over your print job if you use the Print command on the application's File menu. Selecting this command opens the Print dialog box, which provides you with all sorts of options for printing your document.

As we study the Print dialog box, we'll use the one displayed by Internet Explorer, as it provides a good example of the available features. **Figure A** shows the Print dialog box for Windows 98, while **Figure B** shows the Print dialog box for Windows 2000. Keep in mind that certain applica-

tions can and will add specific features to their Print dialog boxes.

In this article, we'll take a look at each of the options in Windows 98's and Windows 2000's Print dialog boxes. As we do, we'll explain each one in detail and show you how to take advantage of them.

The Printer/Select Printer panel

At the top of the Print dialog box is the Printer/Select Printer panel. If you have more than one printer installed on your Windows 98 system, you can use the Name dropdown list to choose which printer you want to use to print your documents. In Windows 2000, any additional printers will have separate icons in the panel