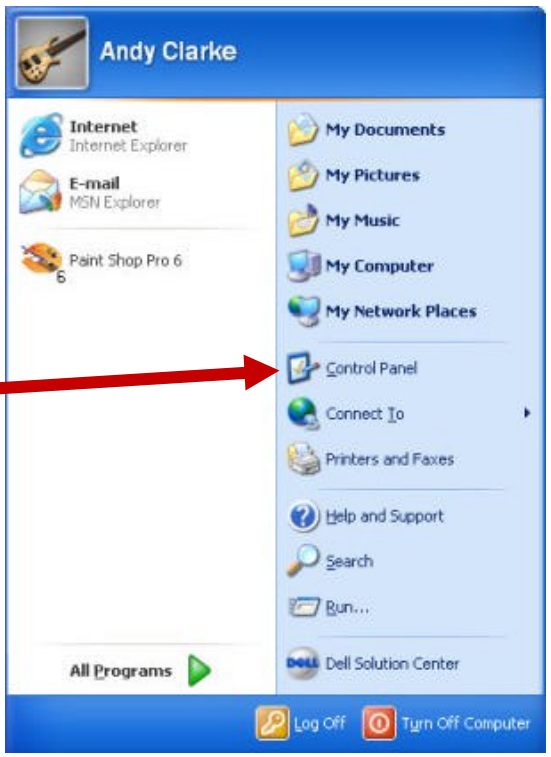
Standard Accessibility Options in Windows XP

This skill-sheet has been designed to give you a tour of the Windows Accessibility Options to help you better understand how you can make effective changes for a variety of common difficulties that people face when using a computer.

Many people are unaware about the accessibility features which come as standard with Microsoft Windows. Since the release of Windows 95 they have been an integral part of the software available from within the Control Panel. So where better to start our tour than a quick reminder of where the Control Panel is. Here we are using Windows XP in standard mode.



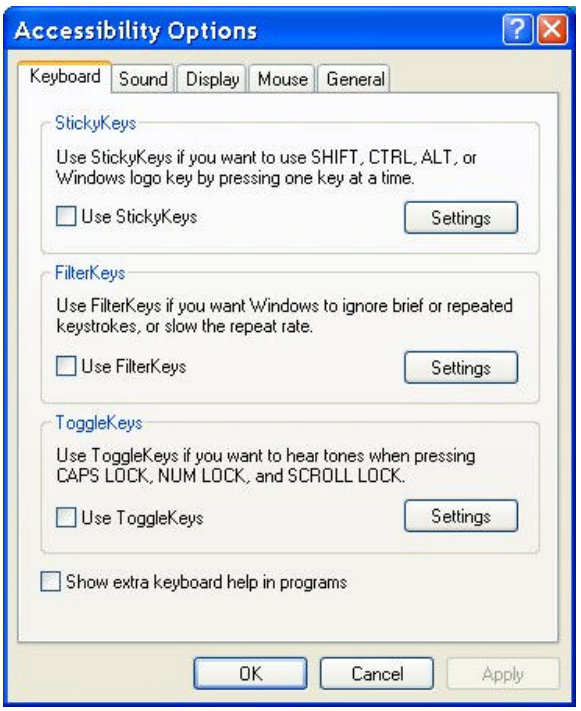
Select: Start – Control Panel

Note: In older versions of Windows, the Control Panel is found in the settings menu.

Once you are in the Control Panel, look for the Accessibility Options icon, illustrated here to the right. Select it by either double clicking or moving the highlight with the cursor keys and pressing enter.

If for any reason your machine does not display this icon, Windows Accessibility has been optionally removed, or not installed. You will need to install it from your original Windows CD-ROM. You can consult either the manual, or the Windows Help for details on how to reinstall these options onto your computer.

By double-clicking (or selecting with the keyboard) the Accessibility Icon, you should see the Accessibility Options properties box appear. As default this window will display the current keyboard settings.



The Accessibility Options are broken into 5 separate areas called tabs. From left to right they are: Keyboard, Sound, Display, Mouse and General. By clicking on each of the tabs you can review the settings for that area of Accessibility. You can also move from tab to tab by using Ctrl+tab on your keyboard.

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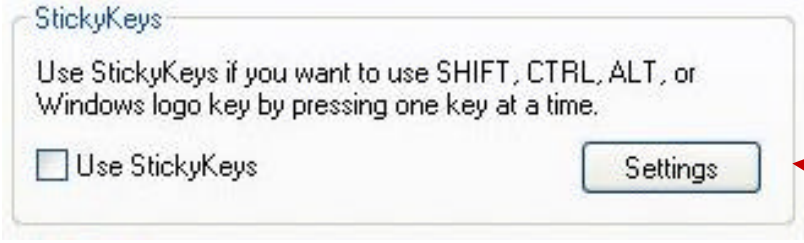
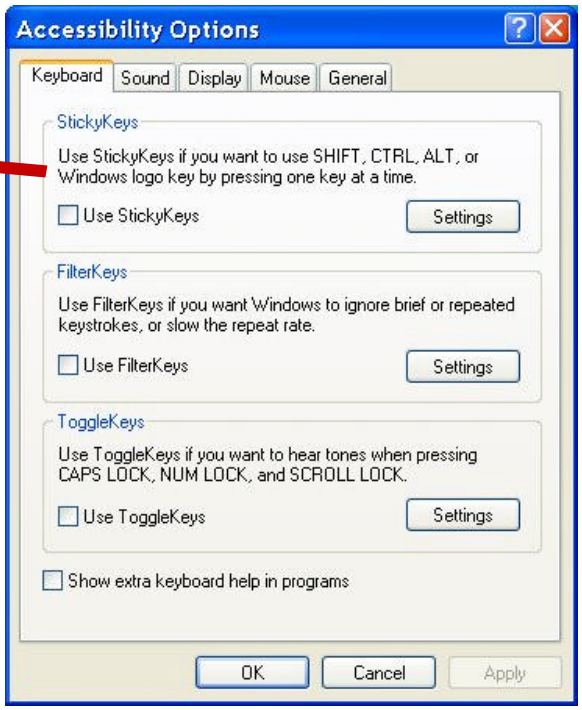
Using the keyboard one key at a time





StickyKeys:

Many software programs require you to press two or three keys at one time. For people who type using a single finger or a mouthstick that isn't possible. StickyKeys allows you to press one key at a time and instructs Windows to respond as if the keys had been pressed simultaneously.

HotKey: When active the hotkey for StickyKeys is to press the Shift key five times.

StickyKeys operates in two modes - Latched mode and Locked mode:

Any and all of the modifier keys (SHIFT, CTRL, and ALT) can be latched or locked in combination.

Tapping once on a modifier key puts it into Latched mode. If the StickyKeys sound features are enabled, you will hear a short low-beep/high-beep. When the next non-modifier key is pressed, the modifier key(s) are released.

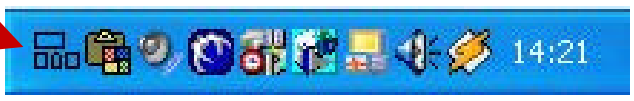
Tapping twice in succession on a modifier key puts it into Locked mode. Once a modifier key is locked, it stays locked until it is pressed a third time

It is possible to disable the Locked mode of StickyKeys by making sure the 'Press Modifier Key Twice To Lock' option box is not checked.

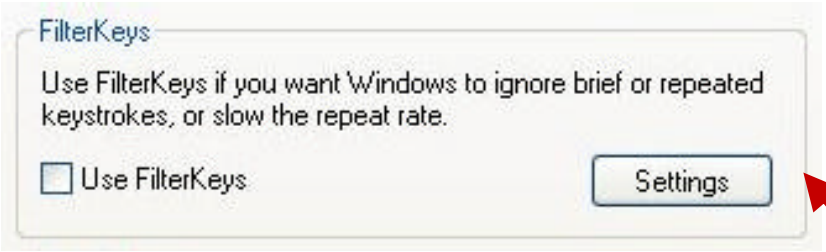
If the 'Turn StickyKeys Off When Pressing Two Keys At Once' option is enabled, StickyKeys automatically switches off when it detects two keys held down simultaneously.

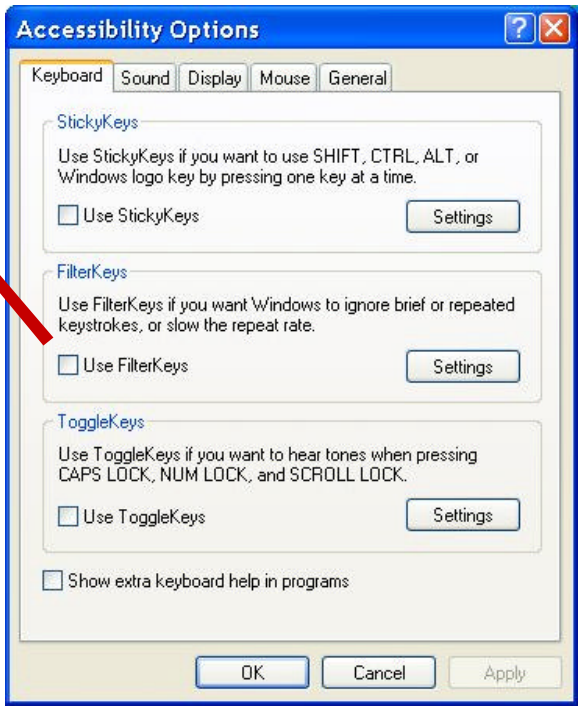
Some people do not like to have keyboard sounds, while others find them useful. You can turn feedback sounds on or off in the StickyKeys properties via the 'Make Sounds When Modifier Key Is Pressed' option.

When the 'Show StickyKeys status on screen' option is checked, three small boxes appear in the system tray near your clock, to show when SitckyKeys is running.



Tuning the keyboard response rate

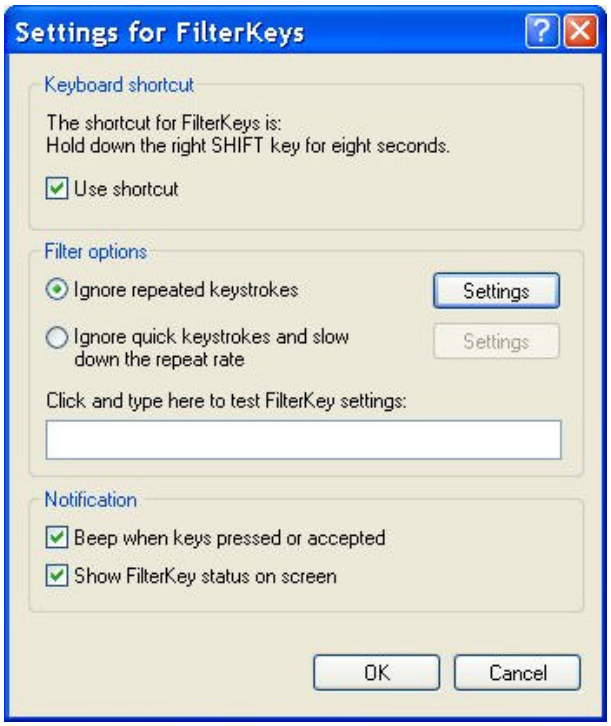




FilterKeys:

FilterKeys includes a number of features designed to work either separately, or in combination, to address problems related to keyboard sensitivity.

Many people experience difficulty in finding and pressing the correct key, or holding a key down for too long resulting in frustrating keystroke errors.



Settings for FilterKeys:

HotKey: When active the hotkey for FilterKeys is to hold down the right Shift key for eight seconds.

FilterKeys has two modes. The first is aimed at tuning repeated keystrokes only, whereas the second goes into fine detail as to how the keyboard reacts to the user.

At this level you have the option to check any adjustments you may have made within the test area. This provides you with a quick way of ensuring that the changes you have made actually do what you either thought, or want them to do.

The Notification options within FilterKeys can be very useful. By checking the 'Beep when keys pressed or accepted' option, the user is notified upon each selection being entered into the computer. Many users find this reassuring and allows them to concentrate on their input device rather than the screen, as and when they wish.

When the 'Show FilterKeys status on screen' option is checked, a small stopwatch will appear in the system tray near your clock.

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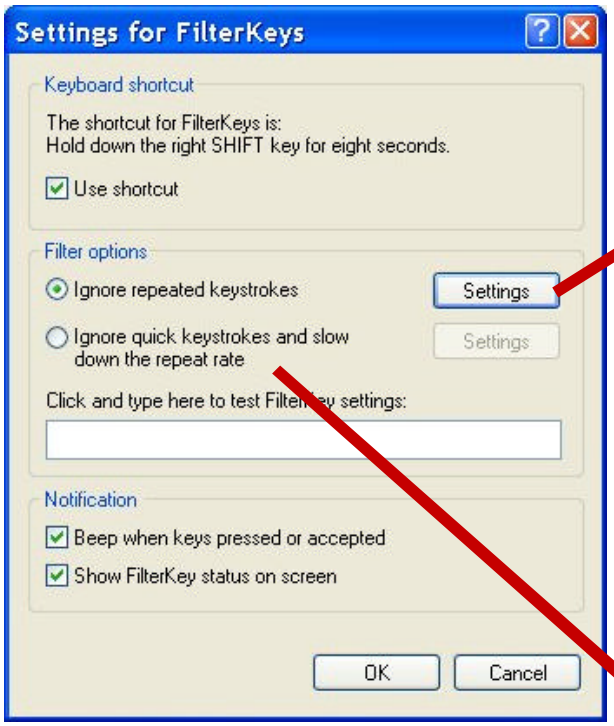
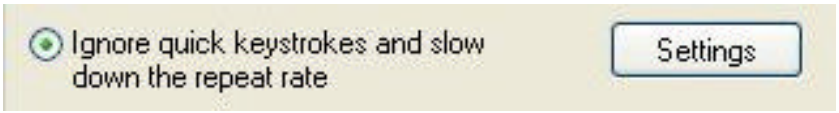
Tuning the keyboard response rate



Ignore repeated keystrokes:

From within the Advanced Settings for FilterKeys dialogue box, you can choose to ignore repeated keystrokes which are entered between 0.5 and 2.0 seconds. This may provide just enough adjustment for many people's needs.



Advanced Settings for FilterKeys:

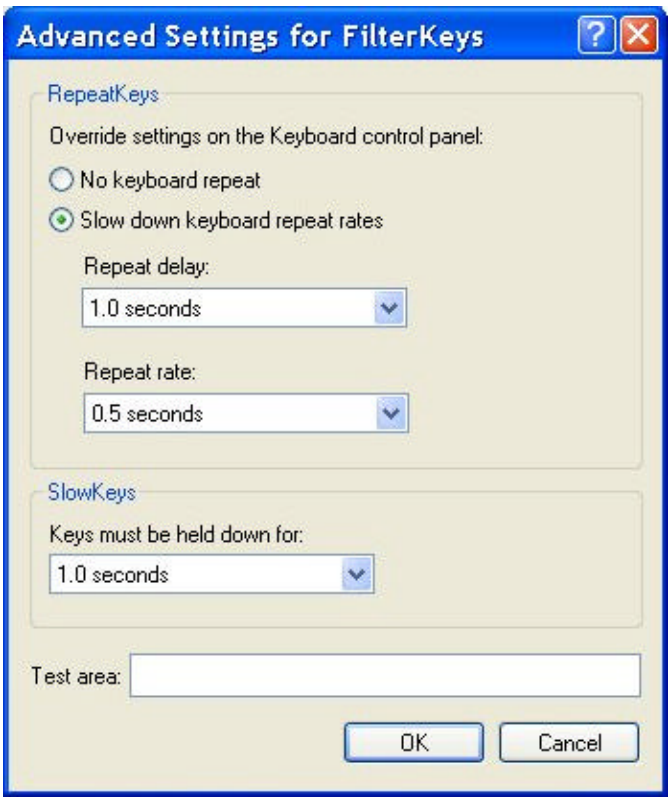
From this dialogue box you can choose to either switch all keyboard repeating off completely, or customise it to match your own preferences.

Repeat delay and repeat rate are split into two separate options. This enables you to set the length of time you wish the computer to wait before it repeats the keystroke for the first time, differently to those subsequent.

By setting the repeat rate to a higher speed than the repeat delay, the keyboard will accelerate when a key is held beyond the first repeated keystroke. This is important for tasks such as backspacing over an entire word. You would not necessarily wish to wait up to 2 seconds for every single keystroke.

SlowKeys enables you to tune the amount of time the computer waits, whilst you are holding a key down, before it accepts it. This means that you can press hundreds of keys by accident without the computer processing a single one, until it is held down for a specific length of time.

Again, within this dialogue box there is a test area which you can use to test any changes you may have made to the default keyboard settings.



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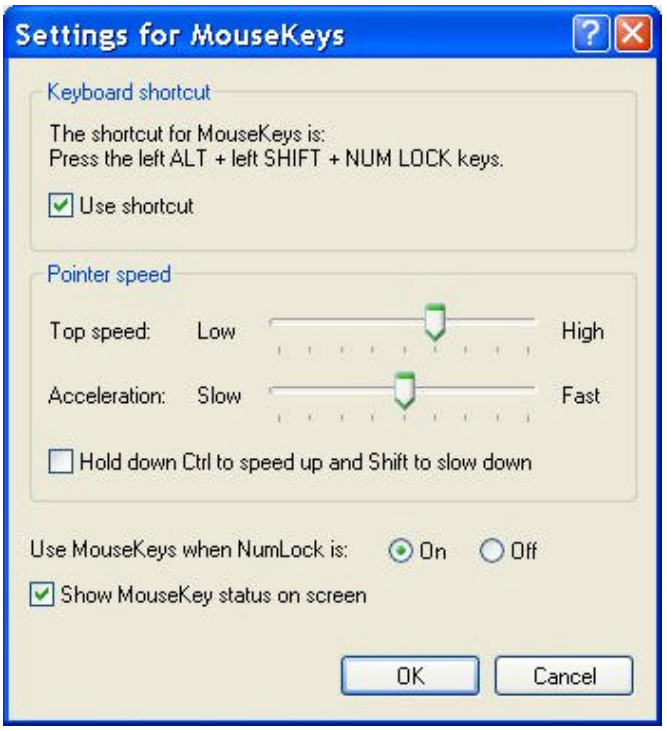
Using the numeric pad as a mouse



MouseKeys:

This feature lets you control the mouse pointer by using the keyboard. Although Windows is designed to allow you to perform all actions without a mouse, some programs might still require one, and a mouse might be more convenient for some tasks.

You do not need to have a mouse to use this feature.

To turn on MouseKeys via a HotKey:

Press left ALT + left SHIFT + NUM LOCK. When MouseKeys turns on, you will hear a rising siren (if sounds are turned on).

If you are using only one finger, a mouthstick, or a headpointer to operate the computer, the easiest way to activate MouseKeys is to first activate StickyKeys. We looked at the operation of StickyKeys in another section. Once activated you can then press the three keys in sequence rather than simultaneously. **Please Note:** If SlowKeys is active, all the MouseKeys control keys respond according to the acceptance delay set for SlowKeys.

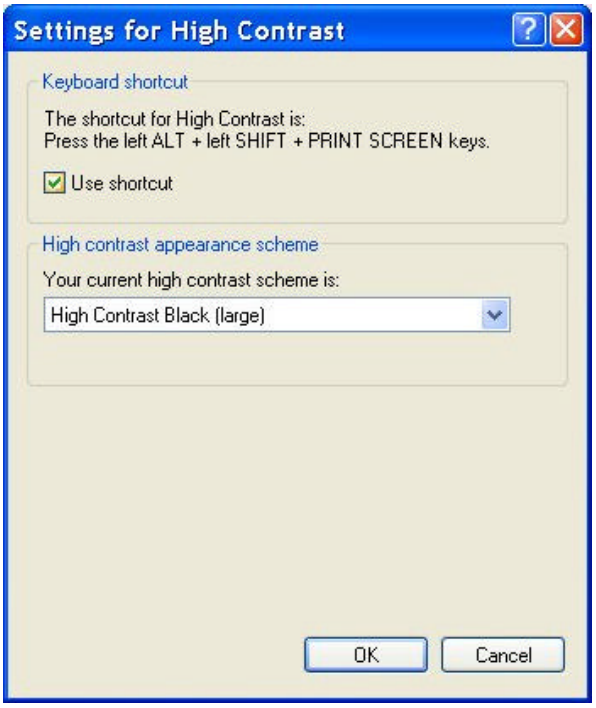
When MouseKeys is on, use the following keys to move the pointer on the screen:

- On the numeric keypad, press any of the numbered keys immediately surrounding the 5 key to move the pointer in the direction indicated by their arrows.
- Use the 5 key for a single mouse-button click and the Plus sign (+) key for a double-click.
- To drag and release an object, place the pointer on the object and then press the INS KEY to begin dragging. Move the object to its new location, and then press DEL to release it.
- To select the left, right, or both mouse buttons for clicking, press the SLASH (/) key, the MINUS SIGN (-) key, Or the ASTERISK (*) key, respectively.
- To cause the pointer to "jump" across large sections of the screen, hold down the CTRL key while using the movement keys (any numeric keypad key except for 5).
- To move the mouse a single pixel at a time for greater accuracy, hold down the SHIFT key while using the movement keys (any numeric keypad key except for 5).

You can use the NUM LOCK key to toggle the MouseKeys control pad back to the numeric keypad and vice versa. This is especially useful with a laptop or notebook computer (or even a compact keyboard), that doesn't have a separate numeric keypad. On these computer keyboards, the numeric keypad is usually overlaid on top of the standard QWERTY keyboard.

It can be useful to combine use of MouseKeys and a physical pointing device. For example, you can use the standard mouse to move quickly around the screen, and then use MouseKeys to move more precisely (unit by unit) to your final destination. Some people cannot use the standard mouse while simultaneously holding down the mouse button, so you can use MouseKeys to lock down the currently active mouse button, then move the mouse cursor by using MouseKeys or the real mouse, and then release the mouse button by using MouseKeys.

Tuning the screen display options



Settings for High Contrast:

This feature provides you with the ability to quickly and easily change the screen properties to a pre-designated scheme.

To use High Contrast via a HotKey:

Press left ALT + left SHIFT + Print Screen. When High Contrast turns on you will often get a warning asking you to confirm that you wish to use this feature. You can either click Ok or hit return to continue.

If you are using only one finger, a mouthstick, or a headpointer to operate the computer, the easiest way to activate High Contrast is to first activate StickyKeys. We looked at the operation of StickyKeys earlier in another section. Once activated you can then press the three keys in sequence rather than simultaneously.

Selecting an appropriate scheme:

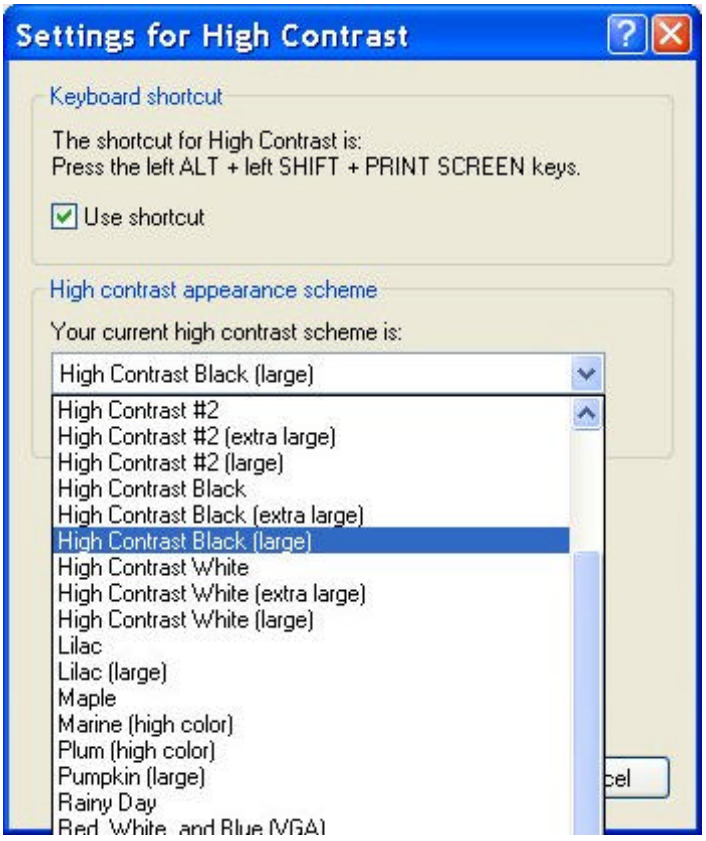
Within the 'High Contrast appearance scheme' section there is a drop down box. Here you will find all the colour schemes available under Windows. This will also include any schemes that you may have created and saved yourself.

If you are unsure of which scheme to select, it is advisable to take time experimenting with the High Contrast schemes preinstalled with each copy of Windows. These schemes often have 2 or 3 different size options as displayed in the picture.

Once you have found the correct option for you, select Ok and then Apply your settings.

If the machine is shared with other users who do not require High Contrast settings, you can toggle back to the original colour setting by hitting the HotKey again.

For more information about how to create and modify your own colour schemes, please refer to our 'Colour Options in Windows' skill-sheet.



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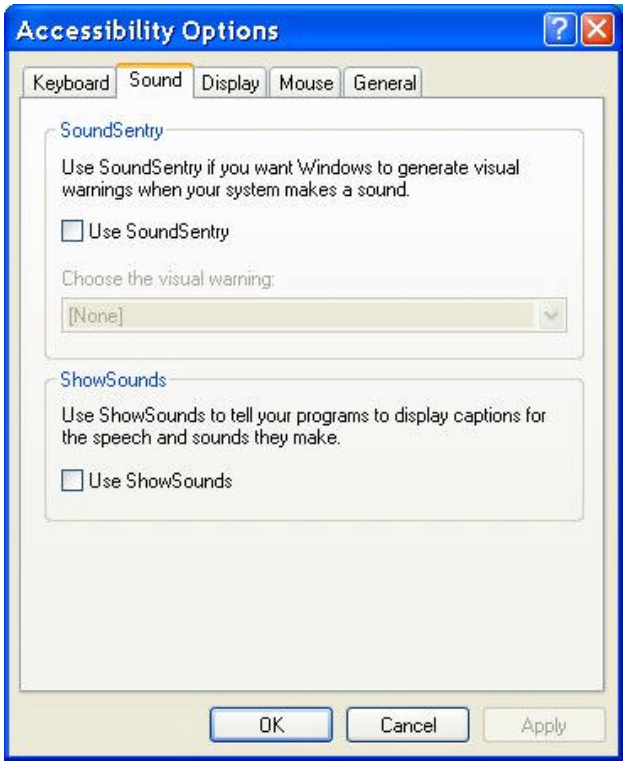
Tuning Accessibility for the hearing impaired



Sound related Accessibility Options:

Often, Windows will inform the user of problems through sound rather than through a visual prompt on the screen. This has been common since the advent of the modern computer. Although these messages tend not to be critical when used on their own, they can be useful. Obviously this can be a problem for people who cannot hear them.

However, it should also be noted that there is little on a standard computer which would restrict an individual with a hearing impairment from having good access.

There are 2 parts to the Accessibility Options for people who have difficulty in hearing audible prompts from the computer. The first is ShowSounds, which instructs your applications to feedback text captions instead of any sounds they may make.

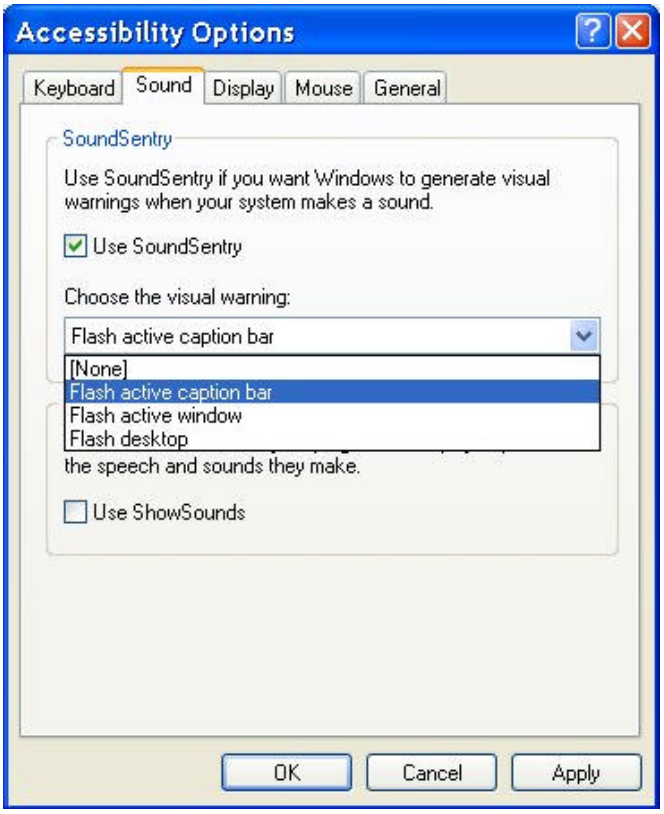
The second program is SoundSentry:

SoundSentry provides the user with the ability to enable Windows to generate visual warnings instead of system sounds.

The drop down menu enables you to choose how you would like the information reported. As standard you are provided with the following options:

- Flash active caption bar
- Flash active windows
- Flash desktop

Note: *ShowSounds and SoundSentry can only intercept the internal system speaker. If a soundcard is installed then sounds will be generated through that device as normal and neither program will work correctly.*



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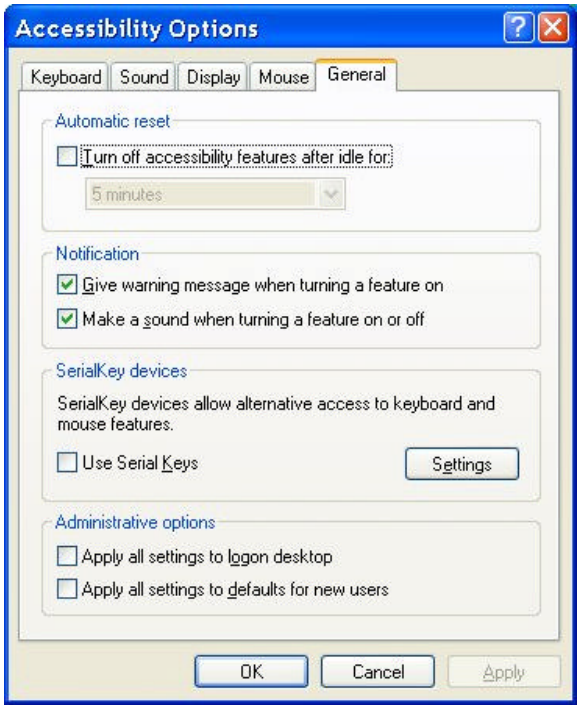
General settings for Windows Accessibility



General Accessibility Settings:

Within the General settings area you can configure how you wish the Accessibility Options to behave. This is especially useful when using a machine which is used by more than one person. Often, if the keyboard settings have been slowed down for example, a user that does not require them may believe the computer to be broken.

For this reason there is an Automatic reset feature. You can choose to select a time interval which will deactivate all Accessibility Options after a period of inactivity.

To accommodate this you can also choose to notify the user when features are about to be invoked or when they are being turned off. This helps keep the user informed as to what the system is doing and how it will react when they being to use it.

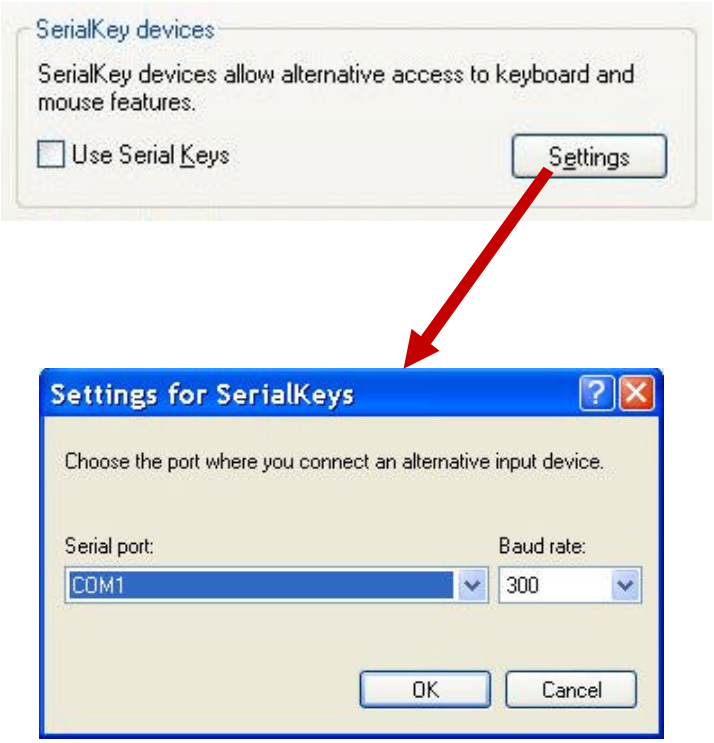
The administrative options allow you to choose your Accessibility Options settings to be invoked from start-up so that you don't need to repeat your steps each time. You can also choose to have your options set as the default for all new users on the system.

Using External Devices:

Many people use personal communication aids and other external stand alone equipment which can communicate with a standard computer through SerialKeys.

By adapting the SerialKeys settings to match the correct connection port and baud rate of the external device you can create a link between the two pieces of equipment. The external device now operates in a similar way to a standard keyboard.

NOTE: Much of the modern communication equipment will have its own method of connection to a computer. You should check with either the manual, manufacturer or supporting personnel of the device before trying to connect it to a computer using SerialKeys.



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