



Free and Cheap Solutions for People with a Visual Impairment

This factsheet is concerned with configuring Windows 95, 98, ME and NT and the software available that might be helpful to someone with a visual impairment that is either free or costs very little. All items mentioned in this factsheet are free unless otherwise stated.

There are many ways that Windows and some of the more popular programs can be altered to improve visibility for people with a visual impairment or simply for your own personal preference. Let's start with explaining some of these.

Screen resolution

Ensuring that your screen resolution (how small the dots are that make up the picture on your monitor) is no higher than 800x600 is a good starting point – text and pictures will be larger than at higher resolutions. In Windows 95/98/ME/NT choosing 640x480 can cause problems with portions of more complex message boxes being lost off the side of the screen.

You may well be working at a resolution of 1024x768 by default. This can be changed within the Display options in the Windows Control Panel (“Settings” page). Changing the resolution can be tricky so give us a call if you don't know how to do it and we'll go through it with you.

System fonts

It is possible to increase the size of all text within Windows (including icon text, menus, message boxes etc). This can considerably enhance the visibility of Windows and all the programs you use.

On the same page as the option to change the screen resolution is a button labelled “Advanced”. Clicking this brings up a page on which you can increase the size of Windows' standard text by up to 200%. At lower screen resolutions (i.e. 800x600), however, there is a limit to how much you can do this before things start to “fall off the screen” (similar to what happens at a screen resolution of 640x480).

If your screen resolution is 800x600 then the maximum you can choose is 125%.

Increasing the size of the mouse pointer

It is possible to increase the size, and change the colour, of the arrow and the other shapes the mouse pointer appears as.

First pull up the start menu with the Windows Logo key or by clicking on the Start Button. Then select Settings and then Control Panel from the sub-menu with the arrow keys and pressing Enter.

Open the item called Mouse by double clicking or moving the highlight with the arrow keys and pressing Enter. Bring the Pointers page to the front by clicking on the tab or pressing Control+Tab.

You can now arrow up and down through the standard pointer schemes.

There is one called "Windows Standard Large". You may or may not see "Windows Standard Extra Large" depending on your installation. If you do not, check on your Windows CD or give us a call for more information.

The "Windows Standard Inverted" schemes make the pointer white over a black background and black over a white background. For even larger pointers a third-party piece of software is required. See below.

The mouse pointer changes shape when it is over different things on the screen. For example, when it is over the document window it is a thin "I-beam" that might be difficult to see. It is possible to assign a more visible shape, such as the arrow, to make the pointer easier to see at these times. The "Large" and "Extra Large" pointer schemes have the larger arrow assigned to all instances where pointers are more difficult to see.

Changing the Windows colour schemes

Open the Control Panel as before and then open the Accessibility item by double clicking or moving the highlight with the arrow keys and pressing Enter. Bring the Display page to the front by clicking on the tab or pressing Control+Tab twice.

Now click the check box next to "Use High Contrast" or tab once and press the spacebar for the same result. Click on the High Contrast Settings button or tab again and press spacebar.

A dialog box appears that allows you to choose the high contrast colour scheme of your choice. These are predominantly white text on a black background or black text on a white background. Click on your choice or tab once and arrow up and down.

To increase the sizes of fonts used by Windows in menus, buttons and some dialog and message boxes, choose the Custom option and tab again to the box in which you can arrow through schemes that include the words "large" or "extra large" next to them which indicate that they will affect the size of the text. Please note, however, that increasing text sizes in this way leaves some more complex message boxes unaffected, whereas doing the same by increasing your system fonts (see section above) does not have this limitation.

These pre-defined colour schemes can also be used as a starting point for your preferred combination of colours and text sizes. Each screen element may be changed and the new colour scheme saved under a new name.

Customising the colour schemes

Open the Control Panel as before and then open the Display item by double clicking or moving the highlight with the arrow keys and pressing Enter. Bring the Appearance page to the front by clicking on the tab or pressing Control+Tab twice.

This page contains a snapshot of a sample Windows screen and below a bar listing the currently selected 'colour scheme'.

(a) Select one of the pre-defined colour schemes

To change to a new scheme, click the mouse on the 'colour scheme' box and press the up and down arrow keys. When the snapshot looks good press the enter key to select it. Some of these "High Contrast" schemes include contrasting colours and larger fonts.

(b) Create a new colour scheme

Select one of the pre-defined schemes as a basis for your own as above.

Choose the item you wish to change by clicking on a particular element in the snapshot window or by tabbing three times to get to the "item box" and then moving up and down through the selection with the arrow keys.

You can change the foreground (text) and background colours of each item by clicking on the coloured block (bottom right) or pressing Tab until highlighted and pressing Enter. A colour palette will appear and you can click on or arrow around and press Enter on the desired colour.

To save changes click or Tab to and press Enter on the "Save As..." button, give it a name and press Enter. To see how your changes will look when applied click on the "Apply" button or press Alt+A.

To close the dialog box completely click or Tab to and press Enter on the "OK" button.

The Windows 98/ME magnifier

Windows 98 and Windows ME have a utility that can enlarge part of the screen. If it is not to be found in the Start menu, under "Programs", then "Accessories" and finally "Accessibility" and called "Magnifier" then it will need to be installed from your Windows CD.

When running there appears at the top of the screen a window that shows a magnified area of the lower screen. It will follow whatever is moving (although there are bugs that mean that it won't track as

you type in MS Word and perhaps other packages too). Whenever the mouse is moved it will follow the pointer to include that part of the screen in the magnified window.

Microsoft's Magnifier is really only useful as a backup for those who can see the larger of the fonts in the "High Contrast" colour schemes but who have difficulty reading certain dialog boxes (like the "Open File" dialog) that are unaffected by the larger font changes.

Microsoft Word and Excel features

Both Microsoft Word and Excel have features that may help increase visibility.

In Word you can make the document window white text on a blue background regardless of Windows' colour scheme. Click on the Tools menu or press 'Alt+T'. Click on Options or press 'O'. Click on the General tab or press control+Tab until it is on top. Click on the check box next to "blue background, white text" or press 'Alt+U'.

To increase the size of the buttons in the toolbars in Excel and Word open the View menu by clicking on it or with Alt+V. Click on Toolbars or press 'T'. Click on Customize or press 'C'. A dialog box will appear in which you can select the Options tab and then select the "Large icons" check box or press 'L'.

It should be noted that all functions performed by the toolbar buttons can also be accessed with hot-keys or from the pull-down menus. For a full list of keyboard alternatives please contact us.

The "zoom" facility

Click on the View menu or pull down with Alt+V. The bottom item is "Zoom". In this dialog box you can adjust the amount of "zooming in" which makes the text in the document appear larger (only fitting part of the length of a line on the screen at any time) without affecting how it is printed out.

Arrow up to select "200%" (this is the maximum) or press Tab once and type in a value between 100 and 200. Press enter to accept.

If you do not like having a certain part of each line obscured as you type at a higher zoom than 100%, then you can check the "Wrap to Window" option in the "View" page of the "Options" dialog box.

Press Alt+T to pull down the "Tools Menu". The bottom item is "Options". Select this to open the "Options" dialog box. Press Control+Tab until the "View" page is on top and then Alt+W to check the "Wrap to Window" option.

If you have a wheel mouse you can access the zoom feature quickly by holding down the control key at the same time as rolling the wheel.

Configuring your web-browser

Many PCs running Windows come with Internet browsing software already installed. Many websites are visually complex and confusing with multiple columns and text in strange combinations of colours. All of the most common browsers, including Microsoft Internet Explorer and Netscape Navigator, can force the text to be of the size and colour you prefer, and the background and foreground colours of the page whatever combination you wish.

For help in configuring your web browser for easier access to the world-wide-web please give us a call.

Now let's look at some software and hardware that is either free or costs very little.

Mouse pointer enhancement

As well as the changes that can be made to the appearance of the mouse pointer (arrow) within Windows, there are many little utilities that can make it any number of exotic shapes, colours and sizes. As well as including such features as mouse trails and radar-style aids to finding the pointer on the screen.

For further information on which mouse pointer utilities are available contact us or download the Microsoft "IntelliPoint" mouse

driver from www.microsoft.com/enable (search using the keyword "intellimouse") or visit www.shareware.com and search for "mouse pointers".

Finding the text cursor

Many people find it difficult to locate the blinking vertical bar that indicates where you are typing in a word processor.

There is no way of increasing the size, or enhancing the appearance, of this cursor except in Windows ME (and then it's size only increases in MS Word and a few other programs). A small program called "follow.exe" can be obtained from us free of charge that makes the mouse pointer (that can itself be enhanced for easy visibility - see previous section) follow the blinking cursor as it moves. This makes the blinking text cursor easy to see where it is at any time.

Magnification software

Magnification software enlarges the image on the screen up to 32 times and tracks whatever moves to compensate for the fact that the whole screen content is not visible at any one time.

Magnification software is quite expensive but necessary for those with significant vision problems.

For Windows 3.11 there is a program called "Lunar Lite" that offers all such functionality and is free to download from the supplier's website at www.dolphinuk.co.uk and then clicking on the "Download" link.

For Windows 95/98/ME/NT there are no such freeware programs. There are, however, some utilities that offer partial screen magnification and that could still be useful. One such program is the Magnifier in Windows 98/ME (see above).

Another package is the Microsoft "Intellipoint" mouse driver that is compatible with all Microsoft mice. This driver has several features including mouse trails (a trail of arrows that fade away behind the pointer as you move around the screen) and a magnifying lens

(Windows 3.1 only). This lens is a small rectangle whose contents is a magnified version of whatever is around the mouse pointer. It is downloadable from www.microsoft.com/enable (search using the keyword "intellimouse")

"Loupe" (Windows 95/98/ME/NT) is a similar program available from us free of charge. It can be used with any mouse and has the same lens capability as the Microsoft Intellipoint driver.

"Magnifier" costs £35 from Keytools (Tel: 02380 584314) and has a similar, but resizable, lens. It also has a cross-hairs feature with horizontal and vertical lines that intersect at the mouse pointer. The lines can be set thin, medium or thick for visibility, and can be animated, moving towards the pointer from each end of each line.

BigShot is a full screen magnification package that can magnify in steps of 5% from 100% to 200%, as well as being able to invert screen colours. It costs £75 from Sight & Sound (Tel: 01604 798070).

Keyboard stickers

A set of large-character keyboard stickers can be purchased from Dolphin Computer Access (Tel: 01905 754577) at a cost of £15 in a range of foreground and background colours. Simply stick these on the existing keys to improve visibility.

Text-to-speech software

There are several programs available that enable blocks of text within a word-processor document, for example, to be read back with synthesized speech output.

One such program is called "ReadPlease 2003" and is available for free download from www.readplease.com, at a size of around 11Mb. It enables any highlighted text to be read back, with a clear interface and user-friendly controls.

Screen-reading software

For those who need to rely entirely on speech or braille output to use their computer they require a screen-reading program. Screen-readers for Windows are quite expensive (typically around £600).

A screen-reader, called "Hal Light", is available for DOS free of charge. It requires a synthesiser called an Apollo 2, which costs £310 in its cheapest form (an internal card) but is often available for sale second-hand in publications such as the RNIB's "New Beacon". Hal Light is available for download from www.dolphinuk.co.uk or from us on disk.

Another free DOS screen-reader is Jaws for DOS, which also requires a hardware synthesiser such as the Apollo, and is available for download from www.hj.com.

Internet access

There are several web browsers that offer speech and/or large character output. One of these is IBM's "Home Page Reader". It includes enlarged text and e-mail and gives excellent access to even the trickiest web page.

It is available from IBM from £80, tel: 0800 169 1458, www.ibm.com/uk or from Soundlinks at a cost of £125; SoundLinks Ltd (Tel: 0845 666 2849), www.soundlinks.com.

January 2004