

Screen Readers

What are they, how do they work and what is available?



This document has been designed to introduce you to the range of screen reading programs found on desktop and laptop computers as well as Smart Phones and Tablets. Not all screen readers are covered, just those which are the most common!

What is a Screen Reader?

Today, almost all computers, Smartphones and Tablets come with a screen reader built-in to the Operating System. In simple terms, a screen reader is a computer program that converts the text and images displayed on-screen into synthetic speech, through the use of a synthesiser. This information can then be heard through a set of speakers attached to the sound card on the system unit, or through a pair of headphones.

Screen readers are most commonly used by people who are blind or severely sight impaired. They provide access to a computer's Operating System and installed applications, thus allowing the blind person to carry out almost the same amount of tasks as sighted people. Screen readers can also help a person with reading difficulties, for example dyslexia, to read documents, email messages and web pages.

How does a Screen Reader work?

On a desktop or laptop computer, all screen readers are controlled through the use of keyboard commands. When a particular key or combination of keys is pressed, a specific function is carried out by the screen reader. For example, when composing an email message, pressing the letter 'g', would result in the screen reader announcing the letter 'g'. If the keyboard command Ctrl+N is pressed, this would result in the New mail message window being displayed and the screen reader announcing where focus was inside that message window.

Typically, you move around the screen using a combination of the Tab key and the Arrow keys. When you do this, the screen reader announces the name of the currently selected item. To activate an option, for example a Menu option or Ribbon control, you press the ENTER key. There is more to this in order to use a screen reader, but this is the basic principle!

On a Smartphone or Tablet computer, the screen reader is controlled by finger movements called 'gestures'. Typically, you use a single finger to navigate from one item on the screen to the next. As you navigate, the screen reader announces what the currently selected item is. This could be amongst other things an icon, a piece of text, a button control or a link. When you have selected the desired option, for example an icon, you tap the screen twice quickly to activate it. There are many gestures available. These include the use of 1, 2, 3 and even 4 fingers! Each gesture performs a specific function.

Screen Reading options for Windows computers

Narrator

Narrator is the screen reader which is built-in to the Windows Operating System. Over the past year or so, Narrator has taken a great leap forward. It provides good support in the Operating System and inside programs such as Microsoft Word and Outlook as well as web browsing applications such as Google Chrome and Microsoft Edge. However, Narrator is still some way behind its competitors when it comes to performing more complex tasks.

Third-party Screen Readers designed especially for the Windows Operating System can offer more robust, and more powerful options. These include JAWS, NVDA and SuperNova screen reader. Each of these programs have been developed over many years and provide much more advanced options than those found in Narrator.

JAWS (Job Access With Speech)

JAWS is the leading screen reading program in the world today. It boasts an extensive range of features and is highly configurable. JAWS works extremely well with the Windows Operating System and applications such as Microsoft Word, Outlook, Excel and PowerPoint, as well as web browsing applications such as Google Chrome, Mozilla Firefox and Microsoft Edge. JAWS can be programmed to work with almost any application using its built-in scripting language, thus making it the 'go-to' solution for people in or seeking employment.

JAWS supports dozens of languages world-wide and offers human-sounding speech in a number of accents, including Australian English, American English, South African English and UK English.

JAWS is not free. In fact it is very expensive. There are two license types available - the Home license, for people using the software in their home, and the Professional license, for people using it in an employment setting.

The JAWS Home license costs £695 + VAT. However, if you are registered blind, you are exempt from paying the VAT. The JAWS Professional license costs £895 +VAT. This is the license you will require for employment purposes. Your employer can purchase it for you and then claim the money back from Access To Work, the Government scheme designed to support disabled people who are in work.

Each year, usually around the time of the Sight Village exhibition in Birmingham, the JAWS Home license is available to purchase for just £115, an absolute bargain! So if you are thinking of purchasing JAWS, this is the time to purchase it!

JAWS can be used for free in 'demo' (unlicensed) mode which will allow you to use it for 40 minutes. After a computer re-boot, it will run for another 40 minutes and so on. The ability to do this allows you to fully evaluate the software before you commit to purchasing it.

JAWS can be downloaded from the Freedom Scientific web site, at the following web address:

<https://support.freedomscientific.com/Downloads/JAWS>

You will almost certainly require some training and support in order to successfully use JAWS in conjunction with the Windows Operating System and popular applications. Extensive online training resources for JAWS are available, most of which are absolutely free!

SuperNova Screen Reader

SuperNova screen reader is one of the most popular screen readers and has been around, in various guises, for almost 30 years. It is produced by Dolphin Computer Access, who are based in the city of Worcester, England. It boasts a wide range of features and is highly configurable. SuperNova works well out of the box with the Windows Operating System and applications such as Microsoft Word, Outlook and Excel, as well as web browsing applications such as Google Chrome and Mozilla Firefox. SuperNova is not as sophisticated as JAWS and does not work as well inside applications such as Excel, PowerPoint and the Microsoft Edge web browser. Having said this, it is a very good screen reader with really nice features.

SuperNova screen reader is not free. It costs £595 + VAT. However, if you are registered blind, you are exempt from paying the VAT.

A 30 day trial of SuperNova Screen Reader can be downloaded from the Dolphin Computer Access web site, at the following web address:

<https://yourdolphin.com/en-gb/products/individuals/screen-reader#try-it>

You will almost certainly require some training and support in order to successfully use SuperNova screen reader in conjunction with the Windows Operating System and popular applications. Online training resources for SuperNova are pretty limited! Having said this, the Dolphin web site does contain links to some user guides and tutorials.

NVDA (Non Visual Desktop Access)

NVDA is a free screen reading program. It has been developed over the past 10 years by a community of blind computer programmers. NVDA works extremely well with the Windows Operating system and popular applications such as Microsoft Word, Outlook, Excel and PowerPoint, as well as web browsing applications such as Google Chrome, Mozilla Firefox and Microsoft Edge.

Because NVDA is free, it is quickly gaining market share. It has become the 'go -to' screen reader for the home user!

The voices that come with NVDA are quite poor. However, it is possible to purchase a suite of more human-sounding voices for around £50. This will give you access to both male and female voices in a range of accents.

NVDA can be downloaded from the NV Access web site, at the following web address:

<https://www.nvaccess.org/download/>

Note: When downloading the NVDA screen reader, you will be prompted to make a donation towards the costs of developing the software. If you don't want to make a donation, choose the "Skip donation this time" option.

You will almost certainly require some training and support in order to successfully use NVDA in conjunction with the Windows Operating System and popular applications. Extensive online training resources for NVDA are available, most of which are absolutely free!

Apple Desktop computers and laptops

On the Apple Mac range of desktop and laptop computers, the built-in screen reader is called VoiceOver. This is a mature and very powerful program. It offers excellent support for all Apple applications and a wide range of third party apps. It is not currently possible to install other screen reading programs on Apple Mac devices.

You will almost certainly require some training and support in order to successfully use VoiceOver on an Apple Mac computer. Extensive online training resources for VoiceOver are available, most of which are absolutely free! One recommended web site for finding out information on how to use VoiceOver is called AppleVis. The web address is as follows:

<https://www.applevis.com/>

Smartphones and Tablets

Apple iOS devices (iPad and iPhone)

On Apple iOS devices, the built-in screen reader is called VoiceOver. It is a very mature and powerful screen reader and offers excellent support for all of the built-in applications as well as thousands of third-party apps. It is not currently possible to use any other screen reader on an Apple iOS device.

The beauty of VoiceOver is that it works exactly the same from one device to another, regardless of the version of the Operating System. Once you have learned how to use VoiceOver, you could pick up virtually any iPhone or iPad, turn VoiceOver on and use the device straightaway without the need to learn anything new!

You will almost certainly require some training and support in order to successfully use VoiceOver on an Apple iPhone or iPad. Extensive online training resources for VoiceOver are available, most of which are absolutely free! One recommended web site for finding out information on how to use VoiceOver is AppleVis.

Android Smart Phones and Tablets

On Android Smartphones and Tablets, the built-in screen reader is called TalkBack. At the time of writing (15 October 2020), TalkBack is not as sophisticated as the VoiceOver screen reader, found on Apple iOS devices. However, it has made great strides over the past 12 months and is slowly but surely catching up with VoiceOver.

The problem with TalkBack is that each manufacturer tends to customise the Android Operating System to meet the needs of their hardware. This often means that the location of TalkBack in the Android Operating System varies from one device to another. Additionally, the performance of TalkBack varies depending on the version of Android installed. Whilst these are not major problems, they can make the overall experience of using an Android device less rewarding and enjoyable!

You will almost certainly require some training and support in order to successfully use TalkBack on an Android Smartphone or Tablet. Online training resources for TalkBack are somewhat limited. Having said this, one web site which provides good information is called Inclusive Android. The web address for this site is as follows:

<https://www.inclusiveandroid.com/>

Amazon Fire Tablets

On the Amazon Fire range of tablets, the built-in screen reader is called VoiceView. This provides more than adequate support throughout the Operating System, however it does not perform well with many third-party apps. On the plus side though, the gestures are very easy to learn and are surprisingly responsive, considering the low cost of Amazon Fire devices!

Conclusion

As you can see, in terms of screen readers for Windows computers, there are quite a few choices available. The one which suits you the best will be determined by what it is you want to achieve. Additionally, your budget will also play an important part when it comes to purchasing a screen reader! Why not download a trial version of each screen reader and take it through its paces. This will help you further determine the right screen reader for you.

In terms of Smartphones and Tablets, at present, the VoiceOver screen reader, found on Apple iOS devices, is out in front in terms of how it interacts with the Operating System and third-party apps. The snag is with VoiceOver, is that it is a pretty steep learning curve. If you can overcome this, you will most definitely be able to use your Smartphone or Tablet with a degree of confidence and more importantly, competence.

TalkBack, found on Android Smartphones and Tablets, is still some way behind VoiceOver when it comes to providing support for third-party apps. Having said this, it is a slightly easier screen reader to learn. It really does come down to what you want your device for!