User Manual for NVDA

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# Introduction

Welcome to the user manual for NVDA (Nonvisual Desktop Access), the open-source screen reader for Microsoft Windows. This comprehensive guide is designed to assist both new and experienced users in navigating and utilizing the full capabilities of NVDA to enhance their computing experience. Whether you are visually impaired or a sighted individual looking to learn assistive technology, this manual will provide you with the necessary information and instructions to make the most out of this powerful tool.

## Purpose of the Manual

The primary purpose of this user manual is to offer clear, concise, and detailed instructions on how to effectively use NVDA. The manual aims to support both sighted and blind users in:

* Understanding the basic features and functionality of NVDA.
* Setting up and configuring NVDA according to individual preferences and requirements.
* Utilizing NVDA for various tasks, such as web browsing, document reading, and software navigation.
* Troubleshooting common issues and finding solutions to potential problems.
* Exploring advanced features for users seeking to maximize their productivity with NVDA.

This manual is structured to guide you through the installation process, provide detailed descriptions of NVDA's features, and offer practical examples to help you understand how NVDA can be integrated into your daily activities. By following this guide, you will gain a comprehensive understanding of NVDA, empowering you to harness its capabilities to the fullest and achieve a more accessible and efficient computing experience.

## What is Screen Reading Software?

Before you explore NVDA, it's essential to understand the role of screen readers, especially if you are a sighted computer user assisting individuals who are blind, or if you are a blind user who is just starting to learn about computers.

A screen reader is a computer program that converts text displayed on a computer screen into synthesized speech. This technology enables blind users to independently navigate their computers, perform tasks such as opening files and folders, and browse the web, thus promoting greater accessibility and autonomy in the digital world.

In addition to NVDA, other common screen readers include JAWS and VoiceOver, each offering unique features that support users in different environments. Understanding how these tools work is crucial in fostering inclusive experiences for all computer users in today’s increasing digital landscape.

### NVDA

NVDA (Nonvisual Desktop Access) is a free, open-source screen reader designed for Windows computers. It provides extensive customization options, allowing users to adjust voice settings and install plugins to suit their individual preferences. While this manual will not cover all advanced settings or plugins, these features can enhance flexibility and improve usability for many users.

# Installing NVDA

## Why Install NVDA?

There are several reasons to install NVDA (Nonvisual Desktop Access) on your computer:

1. For Blind Users: A screen reader like NVDA is essential for navigating digital content independently.
2. For Sighted Users: Installing NVDA allows you to explore assistive technology, understand the setup process, and learn keyboard navigation. This knowledge can also help you train others in using the software effectively.

## The Installation Process

To install NVDA, you have several options. The most efficient way is to do the following:

1. Open a Web Browser

* Blind Users: If you are using a screen reader such as JAWS or Narrator, navigate to your desktop by pressing **Windows + D**. Then, use first-letter navigation to locate your web browser icon (for example, press the letter G for Google Chrome). Once the focus is on the icon, press Enter.
* Sighted Users: If you are sighted, navigate to your desktop and double-click on your preferred browser's icon.

1. Navigate to the NVDA Website

* Use the address bar at the top of your browser to type “nvaccess.org” (without quotes).
* Blind or Low-Vision Users: If you’re using a screen reader, you can quickly access the address bar by pressing **Control + L**. Focus will shift to the text field. Type “nvaccess.org” without quotes and press Enter to load the webpage. NOTE: Depending on your browser settings, the address bar may be in focus by default.

1. Once the page loads, navigate to the “Download” link. Sighted individuals can use the navigation bar at the top left of the page, while those who are blind can press the letter L to quickly access the navigation bar, and then use the Down Arrow key until “Download” is announced. Press Enter to load the page.
2. When the screen is loaded, you will be presented with a series of donation options shown as a group of radio buttons, which visually appear as circles. You can pick your donation option, or leave it on the default option, which is “Skip donation this time.”
3. After you have made your selection, activate the orange “DOWNLOAD” button. Blind individuals can use the Down Arrow key to locate the button, or press the letter B, and then press Enter to activate the button. After you activate the button, the NVDA installer file will be downloaded to your computer.

Now that the file is on the computer, you need to run it in order for the software to be installed. Press **Windows + R** to launch the Run dialog box. In the text field, type “downloads” without quotes, and then press Enter. You should see the NVDA installer under the Today group It will be labeled “nvda\_VersionNumber.exe”, where “VersionNumber” is a version, such as 2024.4.2.

Once you locate the file, you will need to open it. Sighted users can double-click the file to run it, while blind users can press the Enter key. Note that if the file is the first file in the list, blind users will need to press the spacebar in order to select the installer. If the file is not selected first, it will not run.

## Opening the File

Once the file is opened, you will hear a brief musical score indicating that the installer is running. Blind individuals should turn off any running screen readers, such as JAWS or Narrator at this point. When the file is fully loaded and the installation window appears, NVDA will play a startup sound and begin speaking. Press the Tab key and then the spacebar to accept the license agreement. After you check the box, you will have various installation options to choose from:

* Install NVDA on this computer – This option is what you will select, and a full copy of NVDA will be installed onto your hard drive.
* Create Portable Copy – This option is used to run a copy of NVDA on portable storage, such as a USB drive.
* Continue Running – This option runs a temporary copy of NVDA, but it does not install it. The temporary copy will continue to run until manually exited using the NVDA menu, or once the computer is restarted.
* Cancel – This option closes the installation wizard and shuts down the screen reader.

Once you have selected the “Install NVDA on this computer” option, the next screen will present two configuration checkboxes, along with a detailed message informing you to press the “Continue” button to install the software. Configuration options will be discussed later, but it is recommended that you press the Tab key and leave both boxes checked, and then use the Enter key to press the button labeled “Continue.”

When you activate the “Continue” button, NVDA will begin installing. The installer will provide a series of beeps to keep you updated about the installation. Depending on your computer hardware, this process may take a few seconds to a few minutes to complete. NVDA will beep at a higher pitch once the installation is finished, and you will be prompted to press “OK” to start the newly installed copy.

NOTE: If Windows plays a chime and you hear the phrase “Secure desktop,” and NVDA does not speak, you can press **Alt + Y** to accept the User Account Control prompt. This will allow you to proceed with the installation. If you are required to enter a password, you can type it in the appropriate field. If you don’t know the password, contact your system administrator.

# Setting Up NVDA

## The Welcome Dialog Box

Once the installed copy of NVDA starts, it will present you with a screen with setup options. It will also explain the purpose of the NVDA key, which is a special key used by the program to perform functions dedicated to the software itself. For example, to access the NVDA menu, the NVDA key plus the letter “N” is the command.

The group of options is a dropdown list that the screen reader will call a “combo box.” Here, you can choose the keyboard layout, and what selection you choose will depend on your computer:

* The Desktop Layout – This keyboard layout is used if your keyboard has an Insert key. This will be a key specifically labeled “Ins,” or you have a keyboard that has a number pad. When the number pad lock, also called the num lock, is turned off, the zero key is typically used as the Insert key. If you have one or both of these keys on your keyboard, you can leave the selection on this layout.
* The Laptop Layout – You can use this layout if you do not have an Insert key, or if you’d like to use the Caps Lock key as the NVDA key. Some users may prefer this because commands may be more difficult if you need to reach across the keyboard. If you’d like to experiment with this layout, you can always change it later if necessary.

After you have made a selection using the arrow keys, you can press the Tab key. You will move to the next option, which is a checkbox to use the Caps Lock key as the NVDA key. If you have selected the Laptop keyboard layout, you can leave this box alone. If you have chosen to use the Desktop layout, you can still check this box if you’d like to experiment with the Caps Lock key as the NVDA key, and the setting can always be changed later.

Press the Tab key to move to the next series of checkboxes in the dialog box. The first setting is important if NVDA will be your only screen reader, if you prefer NVDA over another screen reader, or if you would like to manually start the program. Place a check in the box with the spacebar if you want NVDA to automatically start after you login. Leave the box unchecked if you want to manually start the screen reader.

The final checkbox says, “Show this dialog when NVDA starts.” It is recommended that you uncheck this box to avoid having the same window displayed on your screen each time you turn on the program. Tab to the “OK” button and activate it with Enter or the spacebar to exit the window.

## Basic Setup

### Speech Options

While there are plenty of settings that you can change, many users may want to make voice options the first choice. For beginner screen reader users, this allows you an opportunity to get used to locating the most common options and become familiar with NVDA-specific commands. For users of other screen readers, this will allow you to set your newly installed NVDA software to suit your preferences as you learn more about the program.

To access the voice settings, you will need to open the NVDA menu. Press the NVDA key and the letter N to open the menu. NVDA will announce “NVDA Menu,” and will place the focus on the Preferences submenu after you press the down arrow key. When you hear this option announced, either press the Enter key or the right arrow key to expand the menu.

After you expand the Preferences submenu, you will hear “Settings” announced. Press the Enter key to open this dialog box. When the window opens, focus will be placed in a list box with several categories. Focus will be on the “General” category, so you will need to press the down arrow key to move through the list. Locate the “Speech” group, and then press the Tab key to hear the first of the available options.

Some of the settings in this group will be covered later. For the purpose of this section, press the Tab key until you hear a combo box titled “Voice.” Note that as you arrow through this dropdown, you will hear options like “English – America” and not a truly different voice. Use the arrow keys to pick your dialect of choice. After you have made a selection, press Tab to access the “Variant” dropdown, where you can pick from a list of voices. You can continue using the Tab key to move through the other available options, such as the voice rate (the speed of the voice), the punctuation level, and the voice pitch options. NVDA will provide tutor messages as you explore the dialog box, so be sure to listen carefully to avoid unintentionally changing a setting.

After you have made your choices, press the OK button. If you wish to continue exploring the Settings dialog box, press the Apply button, which will save your changes and keep you in the window.

# Advanced Configuration

NVDA offers a comprehensive set of advanced configuration options designed to offer users the ability to customize the software to suit their needs. From changing the speech synthesizer to installing plugins for reading math content, the screen reader is completely adaptable and allows for a more personalized computing experience.

## Adjusting the Synthesizer

If you’d like to change the speech synthesizer for NVDA, you can do the following:

* Open the NVDA menu using the NVDA key+N command.
* Down arrow to Preferences.
* Press the right arrow key to expand the submenu, then press Enter on Settings.
* When the Settings dialog box opens, navigate to “Speech” and then press Tab to begin changing options.
* Press Tab to locate the speech synthesizer grouping. Locate the “Change…” button and press Enter or the spacebar to activate it.
* Use your arrow keys and the Tab key to explore the window. You will be in a separate dialog box where you can pick from a list of installed synthesizers. After you have made your selection, press the OK button. Allow the software a few seconds to change the synthesizer before modifying any additional settings.

There are multiple groupings of settings to explore. For more advanced users, you can customize what NVDA reads, such as if you want the program to announce headings on webpages. You can also change dictionary entries, turn the screen curtain on and off, and much more.

In addition, the Addon Store, located under “Manage Addons,” in the Tools submenu, offers more flexible customization for the software. Addons allow you to add more functionality that isn’t found inside the Settings dialog box. Here are just a few of the plugins you can add:

* Additional Synthesizers: If you want to explore other voices, such as from Acapela Group, you can do so using the addon store.
* The Task Tray List: If you are familiar with other screen reading programs, such as JAWS, the task tray list is a useful feature that allows you to view the icons on your taskbar in a list. NVDA does not have this feature built into it, but an addon makes it easy to set this option up.
* Remote Access: If you are a trainer or provide support to other computer users, having the ability to remote into their computers is very useful. Remote access plugins for NVDA allow you to do this with full accessibility in mind.

# Troubleshooting FAQ

Q: I cannot find my internet browser. What do I do?

A: If you are having issues locating your computer’s internet browser, you can try searching for it in the Start menu. All Windows 10 and 11 computers come with Microsoft Edge, so you can typically find the Edge icon on the desktop, or by clicking on Start, then typing “Edge” without the quotes into the search box. If you’re still experiencing issues, press Windows (the key with the four squares) and the letter R to open the Run dialog box. Inside the dialog, you can type [www.nvaccess.org](http://www.nvaccess.org) and click OK, and the computer will automatically open the default web browser for you.

Q: I heard NVDA say “Secure desktop,” but it isn’t talking anymore. Can I fix this?

A: The program requires administrator rights to be installed, and Windows has a built-in security feature called User Account Control. If your screen reader isn’t talking, you can press Alt+Y to confirm and begin the installation. If you don’t know your password but you are being asked to enter one, this is because your account on the computer does not have the necessary permissions. If this is the case, you will need to contact your system administrator if you’re on a corporate computer, or the device owner if this is a personal PC.

Q: I don’t have a number pad on my keyboard. What should I do?

A: If you don’t have a number pad, you may still have an Insert key. This is typically labeled “Ins” and can often be found on the top row of keys on the right-hand side of the keyboard. Alternatively, you can set Caps Lock as your NVDA key for ease of use.

# Conclusion

NVDA is a fully adaptable program, and it offers individuals who are blind the opportunity to independently navigate the Internet, read and write documents, and practice essential skills for computing that will enhance their lives. Because of its open-source licensing, it is free to use, meaning that millions of people who may not have the ability to afford other popular screen readers like JAWS the same opportunities to explore the world of computing.