# Using Braille on Windows

## The Braillists Foundation

<https://braillists.org>

### JAWS for Windows

* JAWS for Windows includes comprehensive braille support.
* To connect a braille display, go to the main JAWS window and press alt +O to open the options menu. Navigate to braille, and press enter. Navigate by pressing the tab key to the add braille display button, and activate it with the space bar. This will open a window where you can select the specific model of braille display you are using, and save it.
* To change overall braille settings, you will need to open the settings centre. You can do this in several ways. Firstly, you can navigate to braille, and instead of pressing add display, tab until you hear advanced settings. Alternatively, you can press the JAWS key with F2 and navigate down, or with first letter navigation, to settings centre. You will find more advanced braille settings in this window.
* For more information, visit the [JAWS and Braille](https://doccenter.freedomscientific.com/doccenter/doccenter/rs11f929e9c511/2012-04-12_teachersandtrainers-l4/02_jawsandbraille.htm) section of the help documentation.
* Freedom Scientific also offers free webinars, which will give you more information about their products, including JAWS. You can find a list of their upcoming webinars, as well as access archives of previous webinars, by visiting <https://www.freedomscientific.com/training/freewebinars/>

### NVDA

* NVDA is a free screen-reader which can be downloaded by visiting the following link: <https://www.nvaccess.org/download/>
* Like JAWS, NVDA includes comprehensive braille support.
* To add a braille display, you will need to open the NVDA settings by pressing insert +N. If you are using a laptop, the NVDA key is likely to be the caps lock key. Navigate to preferences, and open the menu with the right arrow. Press enter on settings, and navigate down to braille.
* You will then find a change button, by pressing tab, which will allow you to add a braille display.
* Detailed explanations of the braille settings, as well as other information about NVDA can be found in the NVDA user guide, accessed at: <https://www.nvaccess.org/files/nvda/documentation/userGuide.html?>
* NVDA includes support for addons, which increase the functionality of the software. There are several braille related addons available.
* PC keyboard braille input for NVDA allows you to type in braille on your physical keyboard. In short, you do not need a braille display. You can access this addon at: <https://addons.nvda-project.org/addons/pcKeyboardBrailleInput.en.html>
* BrailleExtender increases functionality of NVDA when paired with a braille display. Please note that the addon page indicates that this addon is supported up to NVDA version 2019.1, so it may not be compatible with the latest version of NVDA. The addon can be accessed at: <https://addons.nvda-project.org/addons/brailleExtender.en.html>

### Microsoft Narrator

* Narrator is a free screen-reader which comes packaged with windows.
* In order to enable braille support, press windows, control N to access narrator settings. Tab until you hear download and instal braille, this may take several minutes depending on your connection. When the download is finished, ensure that turn on braille is set to on. You can then select the add a braille display button and choose the model of your display.
* For more information about setting up braille support with Narrator, visit the Using Narrator with Braille section of the Microsoft support documentation. It can be found at: <https://support.microsoft.com/en-us/windows/chapter-8-using-narrator-with-braille-3e5f065b-1c9d-6eb2-ec6d-1d07c9e94b20>
* Microsoft also provides a list of supported braille displays, which can be found at: <https://support.microsoft.com/en-us/windows/appendix-c-supported-braille-displays-65c40265-8aa6-9b53-9bc8-8a7a87e5dd8a>
* Please note: there is a known issue which may impact the ability of other screen-readers to support braille once it is enabled for Narrator. If you experience this issue, we would encourage you to report it to Microsoft.

### Further Information

* Computer braille reference: <http://www.nmsbvi.k12.nm.us/WEB/ATRC/Instruction/PacMate%20Documentation/QX/appendix_g_computer_braille_reference.htm>
* JAWS braille input commands for Focus Blue displays: <https://support.freedomscientific.com/Content/html/jawshq/JAWS-braille-keystrokes.html>
* Using the Orbit Reader with a Windows PC: <https://www.perkinselearning.org/technology/blog/orbit-reader-20-using-orbit-windows-pc>
* Setting up Narrator on your refreshable braille display, a video from Microsoft accessibility: <https://www.youtube.com/watch?v=P9BAGagnHt8>