

## Focus Blue Refreshable Braille Display Teacher's Companion

This companion has been designed as a guide to assist you when teaching students how to use the Focus Blue Refreshable Braille Display. It covers:

- [An introduction of the Focus](#)
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### What Is the Focus Blue?

The Focus Blue line of refreshable braille displays provide a tactile interface to your computer or mobile device. When used together with a screen reader such as JAWS® for Windows, these compact solutions enhance your reading and writing experience by placing a wealth of information at your fingertips. The Focus is available in 14, 40, and 80 refreshable braille cells, so you can take braille wherever you go.

The Focus Blue contains a Perkins-style keyboard, front-panel controls, and a multitude of features designed to enhance learning both in and out of the classroom.

### Focus Blue Layout and Controls

The layout of the Focus Blue is divided into the left edge, top, and front edge.

#### Left Edge

On the left from front to back, you'll find the power button and a standard micro USB port. This port allows you to connect the Focus to a computer using the supplied USB cable or to the AC adapter for charging the device.

#### Top (Surface Deck)

The top (surface deck) of the unit contains several controls.

Control	Position	Description
Refreshable braille cells	Toward the front of the unit	Provides a cursor router button above each braille cell
NAV Rockers	At each end of the display	Used for navigation.
Mode button	Positioned above each NAV Rocker	Used to cycle through the different navigation modes.
Eight braille keys	Positioned directly above the cursor router buttons	Like those on a Perkins-style braille keyboard, these keys are used to enter commands. Left to right: 7 (Backspace), dot 3, dot 2, dot 1, dot 4, dot 5, dot 6, and 8 (Enter).
Spacebar	Located on the front edge directly beneath the braille entry keys	Used to enter a blank space when inputting text or pressed simultaneously with the braille keys when entering commands.

**Front Edge**

The front edge of the Focus Blue contains several controls, located from left to right.

Focus 14	Focus 40	Focus 80
<ul style="list-style-type: none"> <li>• Left selector button</li> <li>• Left rocker bar</li> <li>• Left panning button</li> <li>• Left <b>SHIFT</b> key (used in conjunction with the <b>SPACEBAR</b>, braille keys, and other controls to enter commands)</li> <li>• Right <b>SHIFT</b> key (used in conjunction with the <b>SPACEBAR</b>, braille keys, and other controls to enter commands)</li> <li>• Right panning button</li> <li>• Right rocker bar</li> <li>• Right selector button</li> </ul>	<ul style="list-style-type: none"> <li>• Left panning button</li> <li>• Left rocker bar</li> <li>• Left selector button</li> <li>• Left <b>SHIFT</b> key (used in conjunction with the <b>SPACEBAR</b>, braille keys, and other controls to enter commands)</li> <li>• Right <b>SHIFT</b> key (used in conjunction with the <b>SPACEBAR</b>, braille keys, and other controls to enter commands)</li> <li>• Right selector button</li> <li>• Right rocker bar</li> <li>• Right panning button</li> </ul>	<ul style="list-style-type: none"> <li>• Left panning button</li> <li>• Left rocker bar</li> <li>• Left selector button</li> <li>• Two left panning rockers</li> <li>• Left <b>SHIFT</b> key (used in conjunction with the <b>SPACEBAR</b>, braille keys, and other controls to enter commands)</li> <li>• Right <b>SHIFT</b> key (used in conjunction with the <b>SPACEBAR</b>, braille keys, and other controls to enter commands)</li> <li>• Two right panning rockers</li> <li>• Right selector button</li> <li>• Right rocker bar</li> <li>• Right panning button</li> </ul>

**Note:** If you choose to use the Focus display with a third-party screen reading application on a computer or mobile device, refer to the documentation that came with the software as the functions of these controls may be different from how they work with JAWS.

A brief description of each control is provided in the following table. See [Important Resources](#) at the end of this companion for links to the Focus Blue documentation, which provides more details.

Control	Description
NAV Rockers and Mode Buttons	The Focus NAV Rockers allow you to quickly navigate through files, dialog boxes, lists, and menus. In a file, you can move by line, sentence, paragraph, and pan backward and forward through prior or consecutive text. When in a dialog box, you can move between and interact with the available controls. Use them to also navigate up or down through the options in a menu. Switch between the four navigation modes by pressing the Mode button located directly above each NAV Rocker.
Panning Buttons	The Focus Panning buttons pan left or right one display width at a time (14, 40, or 80 cells). Press the Panning button on the left front edge of the Focus, the button with a raised double left arrow symbol, to pan left; press the panning button on the right front edge, the button with a raised double right arrow symbol, to pan right. The functions of the Panning buttons can be reversed so that pressing the left panning button pans right and pressing the right panning button pans left. See the JAWS Keyboard Manager for details on modifying these and other control assignments.
Rocker Bars	The rocker bars provide movement up or down by line. Press the top of the rocker bar to move up one line and the bottom of the rocker bar to move down one line. The rocker bars, in combination with the panning buttons, move to the beginning or end of the line on which the cursor is positioned. Press a panning button and the top of a rocker bar to move to the start of the line. Press a panning button and the bottom of a rocker bar to move to the end of the line.
Selector Buttons	Used by themselves, the concave-shaped selector buttons control auto advance. When pressed in combination with other controls, the selector buttons perform multiple functions.
Cursor Router Buttons	Press a Cursor Router button to move the cursor to the corresponding braille cell. This action also selects a link in a Web page or e-mail message.

## Connect the Focus Blue

You can connect the Focus Blue to a computer via USB or Bluetooth, or to a mobile device via Bluetooth for use while in the classroom, at home, or while on-the-go.

### Connect to a Windows Computer Via USB

If you connect using USB, the display is powered from the computer through the USB connection cable, which also charges the internal battery. To connect the Focus Blue to a Windows computer via USB:

1. Position the Focus Blue so the front edge containing the navigational controls is facing you.
2. Locate the micro USB-C port on the left edge of the device.

3. Plug the smaller connector on the USB cable into the port on your Focus and the larger connector into a USB port on your computer. As soon as you connect the USB cable to the computer, the Focus immediately turns on.

When the USB cable is removed, the Focus turns off. Pressing the Power button while connected to USB causes the Focus to display the model, firmware version, battery status, and the connection type in the last three cells. Pressing a Cursor Router button returns the display to normal operation.

### Connect to a Windows Computer Manually

When you plug the Focus into your computer using a USB cable, Windows should detect the display and install the necessary drivers so you can begin using it right away. There are times, however, when you may need to configure it manually by following these steps:

1. Press **INSERT+J** to open the JAWS window.
2. Press **ALT+O** to open the **Options** menu and press **L** to open the **Braille Basic Settings** dialog box. If JAWS is set to run in the system tray, press **INSERT+J** to open the JAWS context menu, **O** for **Options**, then **L** to open the braille settings.
3. Tab to the **Add Braille Display** button and press **ENTER**.
4. In the list of braille displays, choose **Focus** and press the **SPACEBAR** to select it. You can press **F** to move to it quickly.
5. Tab to **Next** and press **ENTER**.
6. In the **Select the output port edit** combo box, make sure **USB** is selected. Since the Focus is connected to the computer via a USB cable, this option should be selected by default.
7. Tab to **Next** and press **ENTER**.
8. Make sure the Focus is selected as the primary display.
9. Tab to **Finish** and press **ENTER**. A dialog box instructs you to restart JAWS for these changes to take effect. Choose **OK** to close this message and choose **OK** again to close the **Braille Basic Settings** dialog box.

### Connect to a Windows Computer Via Bluetooth

To use the Focus Blue with JAWS wirelessly over Bluetooth, you must first configure a Bluetooth partnership between the Focus and your computer. To do this:

1. Move quickly to your computer's Bluetooth settings by pressing the **WINDOWS** key and typing "Bluetooth" in the **Search** edit box.
2. Press **SPACE** to enable Bluetooth.
3. Make sure your braille display is powered on.
4. Press **SHIFT+TAB** to navigate back to the **Add Device** button and press **SPACE** to activate it.
5. Press **ENTER** on the device you wish to add.

6. When prompted for the pin code to connect the Focus, enter “0000” on your computer keyboard.
7. Tab to the **Connect** button and press **ENTER**. Your Focus Blue is now paired with your computer wirelessly over Bluetooth.

### Connect to a MAC Via USB

You can connect the Focus Blue to a Mac and use it with the VoiceOver screen reader. To connect to a Mac via USB:

1. Position the Focus Blue so the front edge containing the navigational controls is facing you.
2. Locate the micro USB-C port on the left edge of the device.
3. Plug the smaller connector on the USB cable into the port on your Focus and the larger connector into a USB port on your computer. As soon as you connect the USB cable to the computer, the Focus turns on.

When the USB cable is removed, the Focus turns off. If you press the Power button while connected to USB, the Focus displays the model, firmware version, battery status, and the connection type in the last three cells. Pressing a Cursor Router button returns the display to normal operation.

### Connect to a Mac Via Bluetooth

You can pair the Focus Blue braille display to your Mac and use it with the VoiceOver screen reader. Only one Bluetooth braille display can be paired at a time.

To pair the Focus Blue Braille Display with a Mac:

1. When VoiceOver is on, open VoiceOver Utility by pressing **VO+F8**.
2. Select the Braille category.
3. Select **Displays**.
4. Choose the **Add** button.
5. Select **Focus Blue braille display** from the list.
6. Choose **Select**.

You may be asked to provide a pairing passcode (such as **0000** or **1234**, two common default codes). Check the documentation that came with your Focus Blue for the passcode.

### Connect to a Chromebook Via USB

The Focus Blue can be connected to a Chromebook, which offers the Chromevox screen reader for added accessibility. To connect via USB, plug your Focus Blue into a USB port on your Chromebook. Your Chromebook automatically detects the device and turns on the ChromeVox screen reader.

### Connect to a Chromebook Via Bluetooth

You can also connect the Focus Blue to a Chromebook using Bluetooth. Begin by establishing a partnership between your Chromebook and the Focus Blue:

1. At the bottom right, select the time.

2. Select **Bluetooth**.
3. If Bluetooth is off, turn it on.
4. Select the accessory you want to connect to.
5. Follow the onscreen instructions to finish connecting.

To pair the Focus Blue:

1. Select Search
2. + o + then o.
3. Follow the on-screen instructions.

### Connect to an iOS Device Via Bluetooth

When you connect the Focus Blue to your iOS device, screen content will be presented in braille, and you can navigate and interact with your device using the keys on the braille display. Complete the following steps to establish a connection between the Focus Blue Braille Display and an Apple iOS device.

1. Power on the Focus Blue.
2. On the iOS device, open Settings, then Bluetooth, and make sure Bluetooth is on.
3. Double tap the Back button to return to Settings, scroll to and double tap on Accessibility.
4. Double tap VoiceOver to open the VoiceOver settings.
5. Scroll to and double tap Braille to open the Braille settings. The iOS device will start searching for a braille display.
6. Swipe down to Braille Device. You'll receive a message letting you know the iOS device is searching for the braille display. The words "Focus Blue" will be displayed on the iOS device when it is found.
7. Double tap the Focus name on the iOS device to open the pairing screen. On the iOS device, type the code 0000 then double tap the Pair button, located in the upper right corner, to establish the connection.

Once the Focus has been paired, if you power on the display before taking the iOS device out of standby, the display automatically connects. Remember to lock the iOS device before turning off the Focus to ensure that braille auto detection works properly the next time you want to use braille.

### Connect to an Android Device Via Bluetooth

BrailleBack is an app that lets you connect a supported refreshable braille display to your Android device via Bluetooth. Screen content is presented in braille, and you can navigate and interact with your device using the keys on the braille display. You can also input text using the braille keyboard.

BrailleBack works together with the TalkBack app to provide a combined braille and speech experience.

Before you begin, download the BrailleBack app from Google Play and activate it. It is not installed or active by default. To do this:

1. Go to **Settings**.
2. Select **Accessibility**.
3. Select **BrailleBack** and turn it on.

Make sure your Focus Blue is in pairing mode, and pair it to your Android device:

1. Power on the Focus Blue.
2. On the Android device, open **Apps, Settings**, then go to **Bluetooth**, and make sure Bluetooth is on.
3. Double tap **Search for devices**. A message on your Android device indicates it is searching. The Focus name displays in the list of available devices when it is found.
4. Once the display is found, swipe to the **Edit** field, type the pairing code “0000”, and then double tap the **OK** button to establish the connection.

Once the Focus has been paired, if you power on the display before taking the Android device out of standby, the display automatically connects. Remember to lock the device before turning off the Focus to ensure that braille auto detection works properly the next time you want to use braille.

## Where to Begin with Your Student

**Note:** *Always operate the focus with clean hands as oils, dirt, or moisture can damage the device or cause it to work improperly.*

Once the Focus is connected:

1. Begin by orienting your student to the layout and controls of the device.
2. Familiarize your student with relevant terminology (see the [Terminology section](#) at the end of this companion).
3. Go over features of the Focus Blue so your student will understand the purpose of using the device.
4. Let your student practice reading documents and web pages to get used to reading refreshable braille.
5. Show your student how to connect the Focus to the computer using the USB cable.
6. Provide instructions for powering the device on and off.
7. Show your student how to charge the battery two ways—by connecting the battery to the computer using the USB cable or by plugging the battery into an outlet using the AC adapter.

## Inputting Text and Executing Commands

You can use the computer keyboard or the Perkins style keyboard to input text and execute commands. No special settings are required for using the computer keyboard. The BrailleIn feature allows you to use the Perkins-style keyboard for input.

## Configuring BrailleIn

You can use the BrailleIn feature to type contracted or uncontracted braille via the Perkins-style keyboard on the Focus Blue Braille Display. When you use contracted braille, the input is immediately translated as normal text.

Contracted braille input is off by default. To turn it on:

1. Press **INSERT+F2** to run the JAWS Manager dialog and select **Settings Center**.
2. In the **Search** edit box, type "Contracted Braille Translation" without the quotes.
3. Press **DOWN ARROW** to move to **Contracted Braille Translation** in the filtered search results.
4. Press **SPACEBAR** to cycle through the different settings in the **Contracted Braille Translation** combo box.
5. Available settings are **Off**, **Output Only**, and **Input and Output**. The default setting is **Off**.
  - When set to **Off**, you cannot read or type in contracted braille using your braille display.
  - When set to **Output Only**, you can read contracted braille on your braille display, but you can only type in computer braille using the Perkins-style keyboard.
  - When set to **Input and Output**, you can both read and type in contracted braille using your braille display.

## Navigation Commands

Use this abbreviated list of Focus Blue keyboard commands to help your student begin navigating text.

Location	Description	Command
Character	Prior Character	DOT 3 CHORD
	Next Character	DOT 6 CHORD
	Current Character	DOTS 3-6 CHORD
Word	Prior Word	DOT 2 CHORD
	Next Word	DOT 5 CHORD
	Current Word	DOTS 2-5 CHORD
Line	Prior Line	DOT 1 CHORD or LEFT ROCKER BAR UP
	Next Line	DOT 4 CHORD or LEFT ROCKER BAR DOWN
	Current Line	C CHORD
Sentence	Prior Sentence	LEFT SHIFT+RIGHT ROCKER BAR UP
	Next Sentence	LEFT SHIFT+RIGHT ROCKER BAR DOWN
	Current Sentence	LEFT SHIFT+RIGHT SHIFT+C



Location	Description	Command
Paragraph	Prior Paragraph	RIGHT SHIFT+LEFT ROCKER BAR UP
	Next Paragraph	RIGHT SHIFT+LEFT ROCKER BAR DOWN
	Current Paragraph	LEFT SHIFT+RIGHT SHIFT+DOTS 2-3-5-6-7-8
File	Top of File	L CHORD
	Bottom of File	DOTS 4-5-6 CHORD

## Braille Study Mode

Braille Study Mode can be used to help students learn braille while they read and write documents, compose emails, and navigate web pages. To enable Braille Study Mode:

1. Press **INSERT+V** to open Quick Settings.
2. Begin typing the word "study" until Study Mode appears.
3. Press **SPACE** to turn on Study Mode. Braille Study Mode remains on until you turn it off or restart JAWS.

**Note:** After announcing the braille character or word, JAWS operates normally.

## Scratchpad

The Scratchpad enables you to create and save notes to an inserted micro SD card. You can also access braille formatted BRF files available from various services.

The Scratchpad offers basic file navigation and editing functions, including cut, copy, and paste. An active USB or Bluetooth connection is not required to use the Scratchpad. Notes are written using the Perkins-style keyboard and can be entered using contracted or uncontracted braille. If the Focus is currently connected to a computer or other device, you can also export the contents of a file you created to the edit window of the currently open application such as a word processor.

To start the Scratchpad:

1. Press **MENU+N** (DOTS 1-3-4-5). You are placed into a new file where you can immediately begin entering content.
2. Press **MENU+B** (DOTS 1-2) to place the Scratchpad in the background without closing it. This resumes the currently active USB or Bluetooth connection, or displays the Focus status message.
3. Press **MENU+N** (DOTS 1-3-4-5) to switch back to the currently open file in the Scratchpad.
4. The **Menu** button in the Scratchpad provides file management, editing, and export options. Use the options to create new files, save existing files, copy and paste information, and export files from the Scratchpad to your computer.
5. To close the Scratchpad, press **RIGHT SHIFT+X** (DOTS 1-3-4-6).

For more detailed instructions, see [Important Resources](#), which includes a link to the *Focus User Guide*.

## Braille Viewer

Braille Viewer provides on-screen textual representation of the output received on a refreshable braille display. To run Braille Viewer:

1. Open the **Start** menu search edit box, and then type "utilities".
2. Choose **Utilities** (for the JAWS version currently running on your computer).
3. Choose Braille Viewer, and then press **ENTER**. Braille Viewer opens at the top of the screen.
4. A Braille Viewer icon appears in the system tray. To close Braille Viewer, right-click and choose **Exit** or press **INSERT+F11** to use the JAWS List of System Tray Icons.

## Cleaning the Focus Blue

Even when students operate the Focus Blue with clean hands, dirt, oils, and other substances accumulate on the braille pins as the Focus Blue is used. When cleaning the Focus, use a soft, microfiber cloth moistened with 99% isopropyl alcohol. Do not use any other substance to clean the cells. To clean the display:

1. Wipe pins and the flat surface of the display.
2. Lower the braille pins by pressing down on the **RIGHT NAV ROCKER**.
3. Wipe the flat surface once more.
4. Press up on the **RIGHT NAV ROCKER** to raise the pins.
5. Repeat the process several times. The pins and flat surface will feel clean after several repetitions.
6. Move to a clean spot on the cloth every couple of wipes. Wipe down the braille keys, other controls, and all surfaces.

## Important Resources

Further instruction on the Focus Blue is available via the online [Focus User's Guide](#) and the Freedom Scientific webinar [Access at Your Fingertips, the Focus Blue Braille Displays](#). Also, check out our [YouTube Training channel](#) for regularly posted demonstration videos where you'll find additional content on the Focus Blue, including our [Focus 40 Blue Controls and Layout](#) video.

Want to learn more about using JAWS? Our newly updated [JAWS Basic Training](#) provides all the resources you need to help your students master important tasks.

The JAWS Basic Training is available in DAISY (Digital Accessible Information System) format and contains both text and audio. You can access the training books using FSReader, the DAISY reader included with JAWS, or with any hardware or software DAISY player.

New to FSReader? Check out our [FSReader training video](#).

## Focus Blue Terminology

Consider making this available to your students as reference material.

Term	Definition
Braille Study Mode	A training tool for teaching and learning braille. When Braille Study Mode is on, pressing the Cursor Routing button located above a specific braille cell prompts JAWS to announce the current braille character. Press the Cursor Router button in conjunction with the left or right selector button for JAWS to announce and spell the braille word.
Braille Viewer	Provides on-screen textual representation of the output received on a refreshable braille display. The application is designed to simulate a braille display and operates regardless of whether a braille display is in use. The main purpose of Braille Viewer is to assist sighted instructors or testers who do not read braille or may not have access to a braille display.
BrailleIn	Allows you to use the Perkins-style keyboard on your Focus Blue to control your computer using both Windows and application-specific commands. You can also input contracted and uncontracted braille.
Chord	A command consisting of one or more Focus braille keys pressed simultaneously with the Spacebar.
Flash messages	Messages that display on the Focus Braille for a limited time, which is five seconds by default. These include error messages, a low battery indicator message, or user-requested messages.
Perkins-Style Keyboard	A keyboard on the Focus Braille Display that is configured like the keyboard used to write braille on the Perkins Braille writer. The keyboard on a refreshable braille display differs slightly in terms of buttons, consisting of the six dots that make up a braille cell, a Spacebar, a backspace key, an enter key, and two shift keys.
Refreshable braille cells	Provides tactile access to on-screen information on a computer or mobile device. This is accomplished by electronically raising and lowering different combinations of pins in braille cells to form braille characters. This information changes continually as the cursor is moved to different parts of the screen, causing the braille to “refresh.”
Status cells	Designated cells on a refreshable braille display provide user information, such as line number, column number, or the currently active JAWS screen reader cursor. You can specify whether you want status cells to be located on the left end of the display, the right end, or not at all. The focus contains four status cells, which, by default, are situated on the left end of the display.