

Brailiant™ BI 14

Using Brailiant 14 with Screen Readers



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Using Brailliant 14 with Screen Readers

Did you know that you can run a screen reader like JAWS on your Windows computer using your Brailliant 14? You can also read and type information in Braille to your iPhone or iPad.

Brailliant 14 offers flexible connectivity options. You can connect your Brailliant 14 through the USB port. It also allows you to enjoy the freedom of wireless Bluetooth connectivity.

Setting-up your Windows computer and screen reader

To set-up your computer, you will need to:

- 1- Install the USB driver: Using USB client port requires the installation of a driver on your computer.
- 2- Install the JAWS driver: If you are using JAWS, you will need to install the JAWS driver. If you are using other screen readers, the drivers are already included.

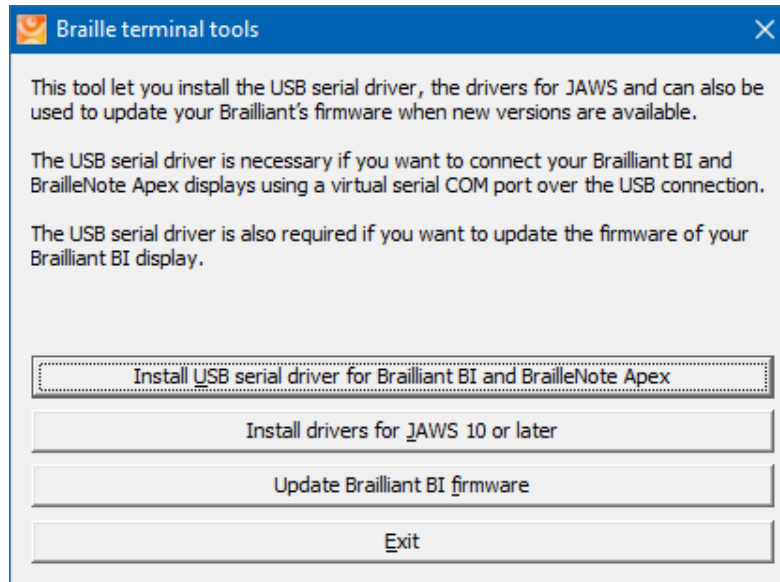
Note: Both drivers can be installed with Windows XP, Windows Vista (32 and 64 bits), Windows 7 (32 and 64 bits), Windows 8, and Windows 10 operating systems.

Both the Brailliant 14 USB driver and the JAWS Brailliant 14 driver are included in the Brailliant 14 Companion CD. You can also download it from our Web site at: www.humanware.com/Brailliant_support.

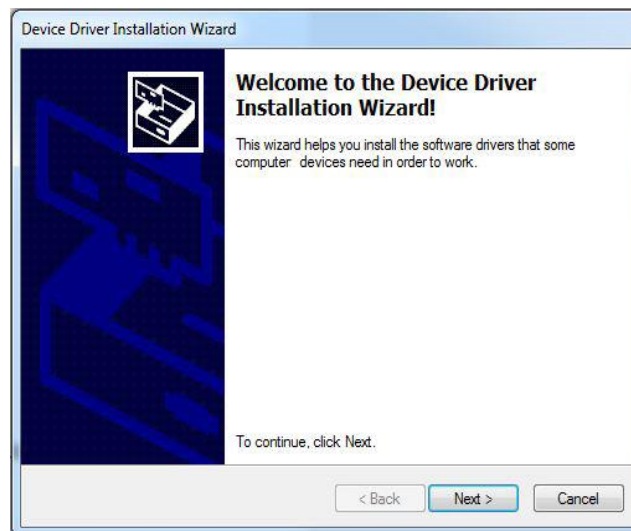
Brailliant 14 USB driver installation:

Follow the instructions below to install the USB driver. Do not connect your Brailliant 14 before installing the driver.

1. Download the Braille Terminal Tools driver file on your PC. Note the location where you downloaded the file.
2. Open the file BrailleTerminalTools.exe.



3. Select Install USB serial driver for Brailliant BI and BrailleNote Apex or press Alt-U to start the installation. This process will preinstall the driver files on your computer.
4. You will be presented with a Device Driver Installation Wizard window. Select the NEXT button to continue.



5. You may be presented with a warning stating that Windows cannot verify the publisher of this driver software. Simply select the "Install this driver software anyway" button.
6. Select NEXT when the installation process has run its course.
7. After installation has been completed, you will be presented with a completion message. Select FINISH to conclude the installation.

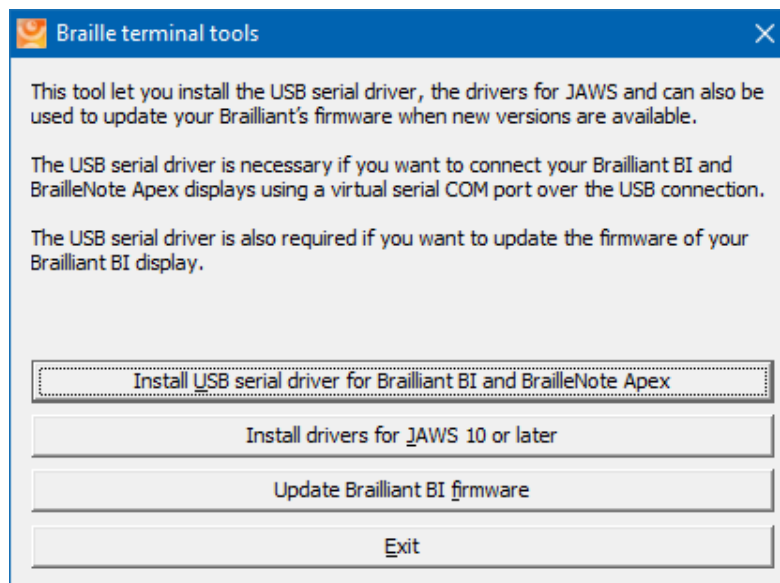


8. Connect the small end of the client USB cable into the micro USB port on the left edge of the Brailliant, just next to the Power button. Plug the standard USB end into a USB port on your PC.

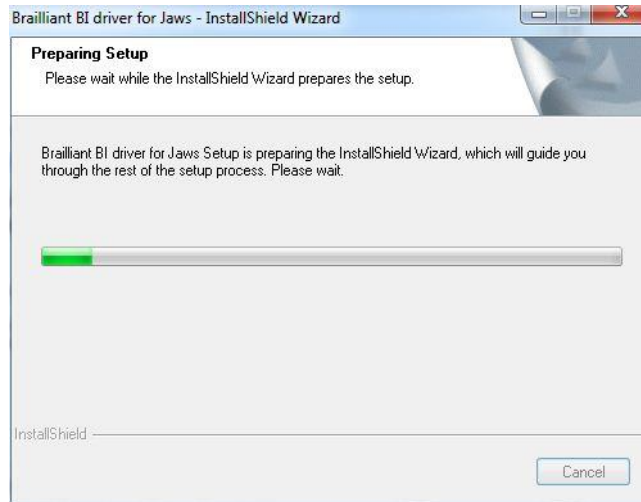
JAWS driver installation

Follow the instructions below to install the Brailliant driver for JAWS version 10 or later.

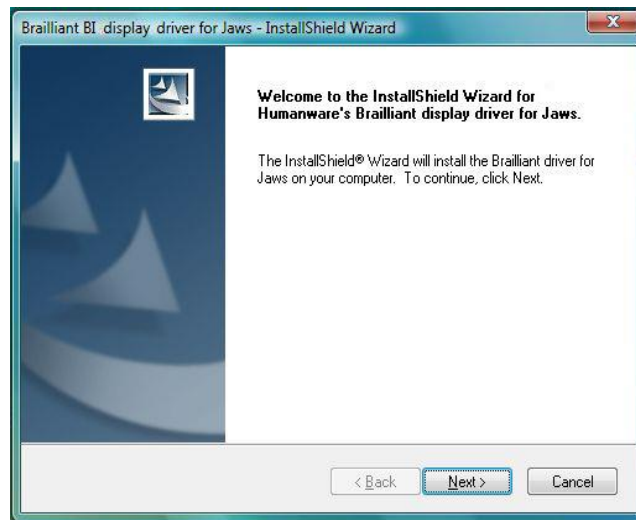
1. Open the file BrailleTerminalTools.exe
2. Select Install drivers for JAWS version 10 or later, or press **Alt-J** to start the installation.



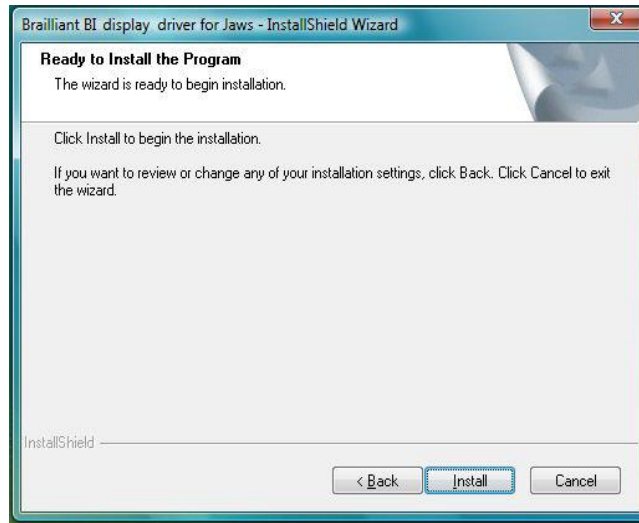
3. A window will appear to inform you that installation will begin shortly.



4. To begin installation select NEXT.



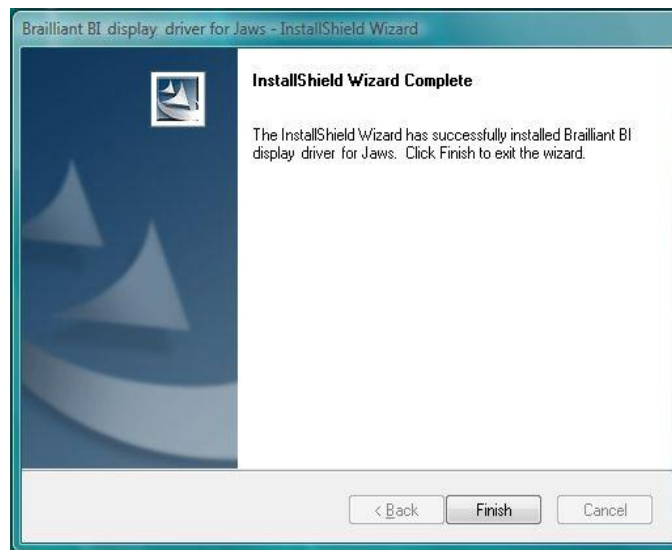
5. Select INSTALL to start the JAWS driver installation.



6. Select YES to use your Brailiant B14 as your default Braille display.



7. Select FINISH to conclude the installation process.



8. If your JAWS is already running, close it and restart it for changes to take effect.



Installation and Connectivity

Interface Ports

Depending on the operating system, you can connect your Brailiant via various interfaces to your PC. Use the USB port to communicate with PCs or Notebooks or the built-in Bluetooth interface for your mobile devices. If you use USB to connect to a Notebook or PC, the Brailiant battery will be recharged in the process.

USB PORT

USB connectivity is supported by Windows computers (32 and 64 bits).

Plug the rectangular USB Connector into your PC. Plug the small Micro USB Connector at the other end of the USB cable into the Brailiant micro USB port. This is the small rectangular socket on the left side.

Please install the Brailiant device drivers prior to connecting the Braille display to your PC. You will find the drivers on the installation CD or on the Humanware Website. Then, when you connect your Brailiant for the first time, it will be recognized automatically.

Once the Brailiant 14 has been connected to the USB port and the driver installed from the supplied CD or Humanware website, the Braille display will be connected as if it was connected to a serial port; the driver is simulating what is known as a virtual serial port. This has the advantage that the Brailiant can be used with screen readers that can only support serial Braille displays.

Installing this driver means that one USB port on the computer will be perceived as a serial port, e.g. as COM3. To ascertain which virtual COM-port has been created, go to the Start menu on the PC, select Settings > Control Panel > System; on the 'Hardware' tab select 'Device manager' and look through the list of ports.

If using JAWS, install the JAWS driver.

BLUETOOTH INTERFACE

Bluetooth is a wireless connection. Similar to USB, Bluetooth simulates a virtual COM port.

Wireless technology, along with the Brailliant's long battery life, provides total freedom and independence from wires within the range of a Bluetooth connection. Bluetooth is now a common interface for mobile phones, PDAs and Notebook PCs. PCs can be upgraded with Bluetooth using a Bluetooth USB Dongle which automatically installs itself on Windows 7, Windows 8, Windows 10 (and above) when plugged in.

When two Bluetooth devices are connected for the first time, they have to be "paired". This is for security reasons. Later, the devices will recognize each other automatically, if allowed by the user.

In the Bluetooth environment of a PC you will find the Brailliant as:

Brailliant BI 14 650014XXXXXX

where XXXXXX is the serial number of your unit.

Connecting to a PC or Notebook (in Terminal Mode)

Your Brailliant 14 can be used as a Braille display with popular PC screen readers such as JAWS, Supernova, etc. The PC or Notebook must provide either USB or a wireless Bluetooth interface (built-in or by using a USB Bluetooth dongle). We recommend Windows 7, Windows 8 or Windows 10 for Bluetooth.

How to find out which virtual serial port is provided by a Bluetooth or USB interface in Windows:

1. Open the Control Panel (Start/Settings/Control Panel).
2. Select "System" from the list.
3. In the window now opening, select the tab "Hardware".
4. On this tab, click on "Device manager".
5. In the Device manager's tree view, open the branch "Ports (COM and LPT)".
6. Search for something similar to "standard serial over Bluetooth port (COM 13)". There may be more of these. Take note of the number after the COM.
7. This number is the number of the virtual COM port the device is connected to. The screen reader wants to know this port.

On Bluetooth you will see two ports, one outgoing and one incoming. The outgoing port is the one we want to use to connect.

When connected using Bluetooth, the serial port used by your device may also be found in the Properties of your connected device in the Bluetooth Manager.

Some screen readers do not support higher values of COM Ports. In that case you may want to change the port number. Do this by selecting the "Port (COM and LPT)" branch in Device manager as described above, and right-click on the Port you want to change (Shift F10 will do the same). The context menu opens and you can click on "Properties". Then click on the tab "Port settings" and click on the "Advanced" button. In the window now opening is a List Box "COM Port Number" where you can choose a free port number. Numbers not available will be marked.

JAWS

A JAWS driver is included on the Brailliant installation CD and Humanware Website. The latest version can be downloaded from our website's support section:

www.humanware.com

In JAWS, you can set the output port to USB and your Brailliant BI will be detected automatically if using USB or Bluetooth.

Installation instructions are included in the driver package.

NVDA

You can use your Brailliant with the free screen reader NVDA (NonVisual Desktop Access). The software is available for download at: <http://www.nvda-project.org/wiki/Download>

Before launching NVDA, make sure to connect your Brailliant using USB or Bluetooth. If you have installed NVDA with the installer, then starting NVDA is as simple as either pressing Control + Alt + N, or choosing NVDA from the NVDA menu under Programs on the Start Menu. Additionally you can type NVDA into the Run dialog and press Enter. To start the portable version, go to the directory you unpacked NVDA to, and press enter or double click on nvda.exe.

To activate your Brailliant, get to the NVDA menu by pressing NVDA + N. Select Braille settings from the Preferences menu. From the Braille display list, select HumanWare Brailliant series and press Enter. No port selection is required, you will immediately get Braille on your Brailliant display.

OTHER SCREEN READERS

The Brailliant is compatible with other screen readers. Please consult our website's support page for additional information: <http://www.humanware.com>

Pairing the Brailliant as a terminal with a mobile phone

The Brailliant can be paired with mobile phones as a Bluetooth Braille display. The pairing has to be initialized from the phone, just as you would to pair with any other keyboard or Bluetooth device. Please note that another connection with your phone will be performed over Bluetooth Low Energy for application data synchronization, using a special application called BrailliantSync.

Please don't mix the two – look for the terminal connection in the screen reader's menus and for the data synchronization Bluetooth Low Energy connection in the BrailliantSync app.

For more information, refer to the user guide of your mobile phone screen reader.

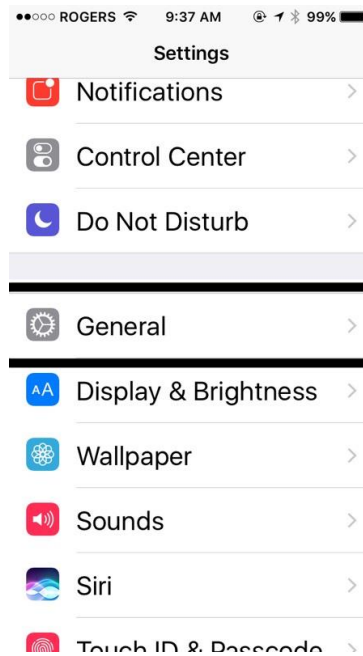
IPHONE IOS

The BI14 can be paired with the iPhone running iOS as a Bluetooth Braille display and provides Grade 2 Braille input and output.

The pairing has to be initialized from the phone, just as you would to pair with any other keyboard or Bluetooth device.

To make the connection, do the following:

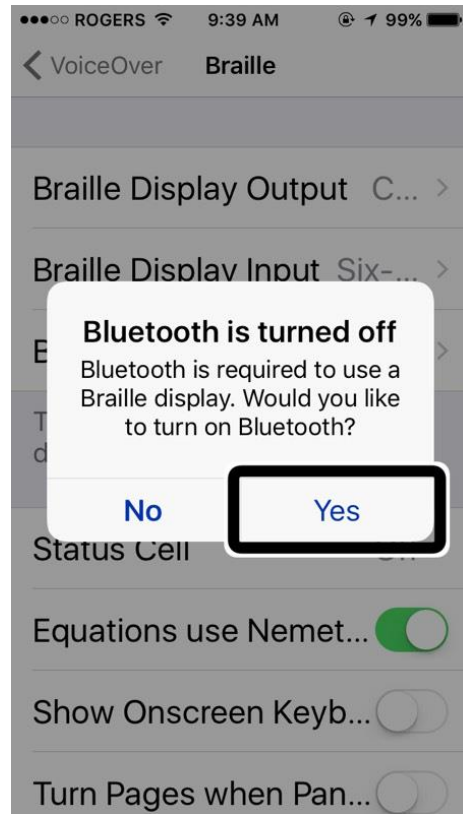
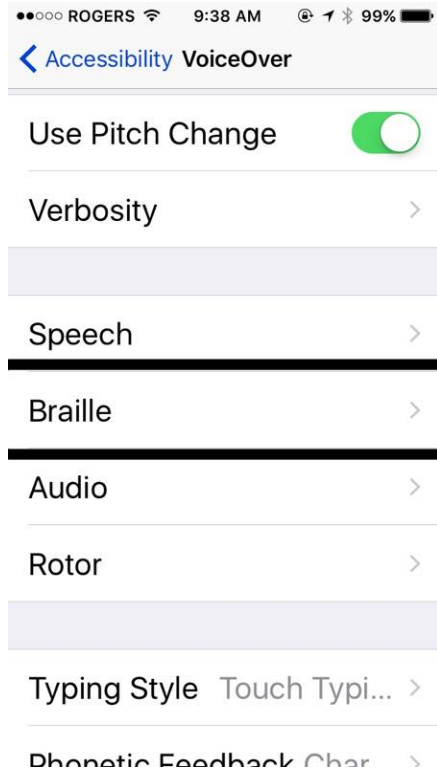
1. Tap on the settings application from the Home screen.
2. Tap on "General."



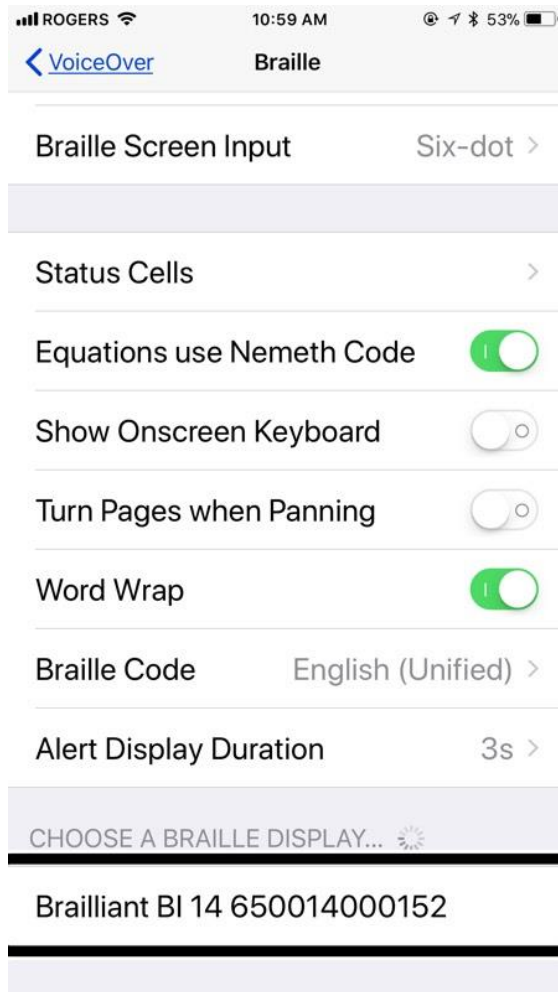
3. Towards the bottom of the screen, tap Accessibility.
4. Tap on VoiceOver. Make sure it is set to On.



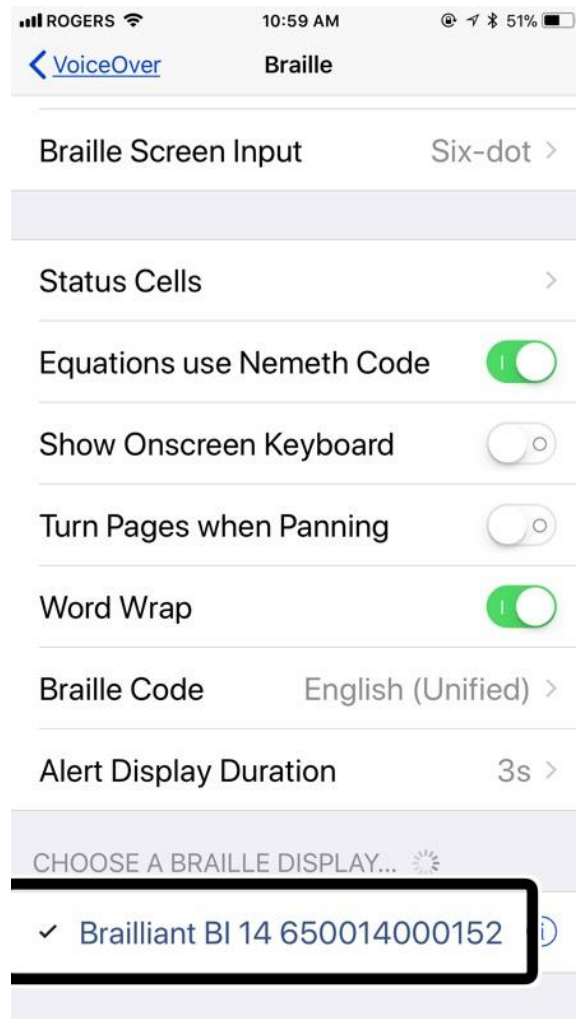
5. Double tap on Braille.
6. If Bluetooth is not enabled, double tap "Yes" to enable it.



7. Double tap the Brailiant BI 14 when displayed in the list.



8. The Brailliant BI 14 will now show as paired in the list of Braille devices and the iOS device can now be controlled by the Brailliant input keyboard. The Brailliant's Braille display will represent in Braille everything that is spoken by the VoiceOver screen reader. Note that if the iOS device is locked, pressing the Home button on the iOS device will unlock the device and the Brailliant will automatically reconnect to it as a Braille device.



Command Summary

JAWS command summary

Below is the command summary for the Brailliant 14 to be used as refreshable Braille display with JAWS. It includes JAWS commands, Windows commands, reading commands, and navigation commands, and more.

Your Brailliant 14 can also be used to type text into the PC applications or to simulate the PC keyboard.

You can also define your own commands in the keyboard configuration utility of the JAWS options.

BASIC COMMANDS

Braille navigation

Prior line:	Outer Left Thumb Key (Previous)
Move left:	Inner Left Thumb Key (Left)
Move right:	Inner Right Thumb Key (Right)
Next line:	Outer Right Thumb Key (Next)
Move left on current line:	Outer Left Thumb Key (Previous) + Inner Left Thumb Key (Left)
Move right on current line:	Inner Right Thumb Key (Right) + Outer Right Thumb Key (Next)
Routing cursors:	Route Braille to position of active cursor
Active follows Braille:	Outer Left Thumb Key (Previous) + Outer Right Thumb Key (Next)
Braille follows active:	Inner Left Thumb Key (Left) + Inner Right Thumb Key (Right)

Windows commands

Start Menu:	Space with Dots 3-4
Menu Bar:	Space with M
Minimize All Apps:	Space with D
Enter:	Dot 8 or joystick action
Backspace:	Dot 7
Escape:	Space with E
Alt-Tab:	Space with T
Open list or combo box:	Space with O
Close list or combo box:	Space with Dots 2-4-6
Application key:	Space with M and Dot 7

Navigation commands

Tab:	Space with Dots 4-6
Shift-Tab:	Space with K
Top of file:	Space with L
Bottom of file:	Space with Dots 4-5-6
Home:	Space with Dots 2-3
End:	Space with Dots 5-6
Page-Up:	Space with B
Page-Down:	Space with Dots 4-5
Next document window:	Space with Dots 1-2-5-6
Previous Document Window:	Space with Dots 1-6
Close document window:	Space with Q
Move Braille display to top line of screen:	Space with Dots 2-3
Move Braille display to bottom line of screen:	Space with Dots 5-6

Reading commands

Say prior character:	Space with Dot 3 or joystick left
Say next character:	Space with Dot 6 or joystick right
Say prior line:	Space with Dot 1 or joystick up
Say next line:	Space with Dot 4 or joystick down
Say prior word:	Space with Dot 2
Say Next Word:	Space with Dot 5
Say all:	Space with G
Toggle speech on and off:	Space with F
Select a voice profile:	Space with Dots 3-4-5-6

Cursor commands

Toggle between the JAWS and PC Cursor:	Space with Dots 2-3-5-6
Route JAWS cursor to PC:	Space with P
Route Braille to active cursor:	Space with R

Braille commands

Braille toggle mode (Line, Structured, Speech History, Attribute):	Space with Dots 2-5
Toggle between contracted and uncontracted Braille:	Space with U
Expand current Grade 2 word:	Space with W
Change contracted Braille setting:	Space with N
Toggle between 6 and 8 dots:	Space with Dots 2-3-5
Indicate which text attributes should be displayed:	Space with Dots 3-6
Set Braille Verbosity:	Space with Dots 1-2-3-4-6
Start Braille auto advance:	Space with Dots 1-2-4-5-6
Increase Braille Auto Advance Speed:	Space with Dots 3-4-5
Decrease Braille Auto Advance Speed:	Space with Dots 1-2-6

Information commands

Keyboard Help:	Space with Dots 3-5-6
Say title of the active window:	Space with I
Say system time:	Space with Z
List task tray icons:	Space with Y
Hotkey Help:	Space with Dots 2-3-6
JAWS window:	Space with J
Start JAWS task list:	Space with S
Read dialog box in tab order:	Space with Dots 2-3-4-6

Edit commands

Cut to clipboard:	Space with X
Copy to clipboard:	Space with C
Paste from clipboard:	Space with V
Delete:	Space with D and Dot 7
Caps lock toggle:	Space with Dot 7

Internet Explorer commands

Go back:	Space with Dots 1-2-3-5-6
Go forward:	Space with Dots 2-3-4-5-6
List links on a webpage:	Space with Dots 3-4-6
List frames on a webpage:	Space with Dots 1-5-6

PC KEYBOARD EMULATION FOR THE BRAILLIANT 14

Entering text using your Brailiant 14's keyboard is very straightforward. Typing characters, changing lines, deleting characters, entering uppercase characters, and moving inside the text. JAWS simultaneously updates the Braille display to reflect what you type.

With the help of JAWS, you can enter Braille commands and control your computer using sets of keystrokes.

MODIFIER KEYS

Modifier keys are used to emulate keystroke combinations that include CTRL, ALT, WINDOWS Key, SHIFT, the JAWS Key and the INSERT key. To make use of modifiers when entering text, follow these instructions:

1. Press and hold SPACE with DOT 8 followed by the corresponding modifier keys.

Once you have entered the modifier, release the keys then press the remaining portion of the keystroke. To enter CTRL+SHIFT+A, for example, you will need to press SPACE with DOTS 3-7-8, release the keys, then press A (DOT 1).

SHIFT: Space with Dots 7-8

CTRL:	Space with Dots 3-8
ALT:	Space with Dots 2-8
WINDOWS Key:	Space with Dots 1-8
Function Keys (F1 through F12):	Space with Dots 4-8
JAWS Key:	Space with Dots 5-8
INSERT Key:	Space with Dots 6-8

FUNCTION KEYS

To emulate the Function keys (F1 through F12), press SPACE with DOTS 4-8 followed by the letters A through L (representing 1 through 12). If you wish to emulate the F7 key, press SPACE with DOTS 4-8, followed by G (DOTS 1-2-4-5). If you are combining a function key with another, you just need to enter the necessary modifiers while pressing down SPACE with DOTS 4-8. If you wish to emulate INSERT+F3, press SPACE with DOTS 4-5-8, followed by C (DOTS 1-4).

MODIFIER COMMANDS

The following commands can be used in combination with modifier keys:

Up Arrow:	Space with Dot 1
Down Arrow:	Space with Dot 4
Left Arrow:	Space with Dot 3
Right Arrow:	Space with Dot 6
Home:	Space with Dots 2-3
End:	Space with Dots 5-6
Page-Up:	Space with Dots 1-2
Page-Down:	Space with Dots 4-5
Enter:	Dot 8
Backspace:	Dot 7
Delete:	Space with D
Escape:	Space with E
Tab:	Space with Dots 4-6
Shift-Tab:	Space with K

NVDA command summary

Scroll braille display back	Left
Scroll braille display forward	Right
Move braille display to previous line	Up
Move braille display to next line	Down
Route to braille cell	Routing cursor
Toggle braille tethered to	Up + down
Up Arrow key	Space with Dot 1
Down Arrow key	Space with Dot 4
Left Arrow key	Space with Dot 3
Right Arrow key	Space with Dot 6
NVDA Menu	c1+c3+c4+c5 (command n)

Shift+tab key	Space with Dot 1 with Dot 3
Tab key	Space with Dot 4 with Dot 6
Alt key	Space with Dot 1 with Dot 3 with Dot 4 (Space+m)
Escape key	Space with Dots 1-5 (Space+e)
Enter key	Dot 8
Windows+d key (minimize all applications)	c1+c4+c5 (command d)
Windows key	Space with Dots 3-4
Alt+tab key	Space with Dots 2-3-4-5 (Space+t)
Say all	c1+c2+c3+c4+c5+c6

VoiceOver iOS command summary

You can use your Brailiant 14 with the following Apple iOS products: iPod touch, iPhone and iPad.

BASIC NAVIGATION COMMANDS

Move to previous item:	Outer Left Thumb Key (Previous) or Space with Dot 1
Move to next item:	Outer Right Thumb Key (Next) or Space with Dot 4
Pan Braille to the left:	Inner Left Thumb Key (Left) or Space with Dot 2
Pan Braille to the right:	Inner Left Thumb Key (Right) or Space with Dot 5
Double tap the selected item:	Routing cursor, Joystick action or Space with Dots 3-6
Activate the Home button:	Space with H
Launch the task switcher:	Space with H twice quickly
Go to the control center:	Space with Dots 2-5
Go to Notification Center:	Space with Dots 4-6
Move to the first element:	Space with Dots 1-2-3
Move to the last element:	Space with Dots 4-5-6
Scroll left one page:	Space with Dots 2-4-6
Scroll right one page:	Space with O
Activate the Return key:	Space with Dot 8 or Space with E
Activates a Back button if present or Escape	current context: Space with B
Touch and Hold on the current element:	Space with Dots 3-6-7-8
Move to Left Split View App (iPad only):	Space with Dots 3-5
Move to Right Split View App (iPad only):	Space with Dots 2-6
Item chooser:	Space with I

READING COMMANDS

Read page starting at selected item:	Space with R
Read page starting at the top:	Space with W
Scroll down one page:	Space with Dots 1-4-5-6
Scroll up one page:	Space with Dots 3-4-5-6
Pause or Continue speech:	Space with P

INFORMATION COMMANDS

Go to the Status bar:	Space with S
Start VoiceOver help:	Space with K
Quit VoiceOver help:	Space with B
Speak page number or rows being displayed:	Space with Dots 3-4

ROTOR COMMANDS

Move to previous item using rotor setting:	Space with Dot 3 or thumb keys Previous and Left
Move to next item using rotor setting:	Space with Dot 6 or thumb keys Next and Right
Select previous rotor setting:	Space with Dots 2-3
Select next rotor setting:	Space with Dots 5-6

EDIT COMMANDS

Select right:	Space with Dots 2-5-6
Select left:	Space with Dots 2-3-5
Select all:	Space with Dots 2-3-5-6
Cut:	Space with X
Copy:	Space with C
Paste:	Space with V
Activate the Delete key:	Space with Dot 7 or Space with D
Undo typing:	Space with Z
Redo typing:	Space with Dots 2-3-4-6

MISCELLANEOUS COMMANDS

Toggle speech on and off:	Space with M
Toggle Screen Curtain on and off:	Space with Dots 1-2-3-4-5-6
Start and stop the current action:	Space with Dots 1-5-6
Cycle through the available Braille output modes:	Space with G
Cycle through the available Braille input modes:	Space with Dots 2-3-6
Translate Braille:	Space with Dots 4-5
Toggle expanded status description when Status cells are activated:	Status Routing cursors
Output text style:	Space with Dots 2-3-4-5-6
3D Touch on selected item:	Space with Dots 3-5-6
Toggle quick nav on or off:	Space with Q
Toggle Single letter quick nav:	Space with Q and Dot 7
Activate the Tab key:	Space with T
Activate the Shift with Tab keys:	Space with Dots 1-2-5-6
Toggle announcement history:	Space with N
Change an item's label:	Space with Dots 1-2-3-4-6
Text search:	Space with F
Activates the Eject key:	Space with Dots 1-4-6

Activate the Volume Up button: Space with Dots 3-4-5
Activates the Volume Down button: Space with Dots 1-2-6
Show/hide keyboard Space with Dots 1-4-6
Command Space with Dots 1-7
Control Space with Dots 3-7
Function Space with Dots 5-7
Option Space with Dots 2-7
Shift Space with Dots 4-7
Toggle Command Space with Dots 1-8
Toggle Control Space with Dots 3-8
Toggle Function Space with Dots 5-8
Toggle Option Space with Dots 2-8
Toggle Shift Space with Dots 4-8