








Screenreaders and BraillePen 12

Compatibility list

Latest update: 28 July 2011	iDevices (iOS 4.0+) Mac (OSX 10.6+)	Windows XP	Windows Vista & 7 32-bit	Windows Vista & 7 64-bit	Windows Mobile 6.5	Symbian Phones	Linux
							
Apple VoiceOver	✓						
JAWS 7,8,9		✓	✓				
JAWS 10		✓	✓				
Window-Eyes		✓	✓	✓			
SuperNova		✓	✓	✓			
Thunder							
System Access		✓	✓	✓			
NVDA / BRLTTY		✓	✓	✓			
BRLTTY							✓
Talks						✓	
MobileSpeak					✓		
Android							
BraillePen Mobile					✓		

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The latest version of this document can be found here:

<http://www.braillepen.com/the-braillepens-with.html>

As screenreaders and operating systems are updated continually, we will endeavour to keep this document current.



Keeping Problems to a Minimum

Using a BraillePen 12 with your screenreader will always be easier to implement if you follow these simple tips:

1. Know your Operating System!
 - If you are Using Windows Vista or above, check Control Panel, System - the first panel you see will let you know if you are using 32-bit or 64-bit Windows.
 - Windows XP is always 32-bit.
 - iPhone OS 4 can be installed on the iPhone3 GS - it doesn't have to be an iPhone 4.
2. Only have one screen reader installed on your system at a time.
 - Braille display drivers and screen capture software can often conflict with other, similar software installed on your system.
 - Make sure to uninstall not only the main screen reader package, but also any special Braille display drivers (unless the new install will need them!).
3. Use the lowest-number COM port your system will allow.
 - Screenreaders and some legacy Braille drivers will not be aware of COM ports above COM10.
 - COM ports in a recent Windows system are virtual ports; they might be being used by a USB printer, or a camera, or any other USB device. Remove these devices to free up lower-number COM ports, restoring them when you have a successful Bluetooth connection with the BraillePen 12.

Freedom Scientific JAWS version 10.0 32-bit

To use the BraillePen 12 with JAWS, you **must** be using a 32-bit installation of Windows. No 64-bit version of JAWS is currently accessible with the BraillePen 12.

This installation provides Braille display only - no keyboard input.

This solution can be difficult and present problems; we are hoping to improve the process in future, but cannot promise.

It is possible that these steps will also work with later versions of JAWS, using the signed Voyager drivers which can be found on the same site as the unsigned drivers.

JAWS Version 10 dates from before the signed driver requirement of Freedom Scientific. This version is still available from Freedom Scientific's site, here:

<ftp://ftp.freedomscientific.com/users/hj/private/WebFiles/JAWS/J10.0.1178-32bit.exe>

NOTE: this version of JAWS will not install on a 64-bit system.

Download the unsigned Voyager drivers from here:

http://www.optelec.com/userfiles/en/file/Downloads/Braille_voyager_setup.zip

Note: if this Driver is installed on a 64-bit system, JAWS 64-bit will not see it, and so will not see the Braille display.

Steps to take:

1. Install the Voyager drivers. JAWS can already be installed on your system, but must be restarted before it will see the newly-installed drivers.
2. Pair the BraillePen 12 with Windows using the standard Bluetooth "add new device" installed on the computer.
 - a) Make sure you add the serial port service if your device installer asks for it.

3. Check the COM port assigned to the BraillePen 12
 - a) In Bluetooth Devices, right-click the BraillePen 12 and select Properties.
 - b) Under the Hardware tab, the number of the assigned COM port should show.
 - c) The COM port should be below COM10. If it is higher:
 - Click the Properties button on the Hardware tab
 - Click Change Settings
 - Click the Port Settings Tab
 - Click the Advanced button
 - At the bottom left you will find a drop-down list box with the current COM port number on it. Click this button to see a list of COM ports. If possible, select a lower-numbered COM port (below COM10).
 - If all lower-numbered ports are in use, check to see what is using these ports. It could be another bluetooth device no longer in use; it could be a printer. If at all possible, remove devices or printers until a lower COM port is free.
 - Click OK on all dialogs to save the new COM port setting.
 - Once you have assigned a lower COM port number to the the BraillePen 12 Bluetooth connection, you can add the devices and printers back to the system. They will then take higher COM ports and should work properly.
 - You may need to change COM port number settings in programs where you are writing directly to a COM port to a printer or embosser.
4. Configure the Voyager driver
 - a) Go to Programs, Voyager and click Configure.
 - b) Enable serial
 - c) Click the Manual radio button
 - d) Assign the COM port
 - e) Save.
5. Run or restart JAWS.
 - a) Go to Options, Braille and add display and select the Voyager display.
 - b) Change settings as needed:
 - uncheck status cells
 - set up for 12 cells
 - check the translation code page if translation is to be turned on (poor settings here can result in unreadable Braille output).

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GW Micro Window-Eyes 7.1.5

This installation works on either 32-bit or 64-bit Windows from XP onwards. The Voyager drivers are not required: Window-Eyes has the drivers installed.

This installation provides Braille display only with key functionality, but no keyboard input.

Steps to take:

1. Pair the BraillePen 12 with Windows as per the notes for JAWS. Note the COM port number.

2. Install Window-Eyes, choosing the Braille Voyager and correct COM port during install. Use the notes for JAWS above to adjust the COM port number if needed.
3. Set up the key functions if desired.

This install works out of the box without problems.

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Dolphin SuperNova Screenreader (formerly HAL)

This set of instructions works with versions of Hal, Supernova and the Dolphin Pen from version 10. It may work with earlier versions but has not been extensively tested.

Method 2:

- Turn on and pair the BraillePen 12 with Windows using your standard Bluetooth pairing method.
- Note the COM ports that have been assigned to the BraillePen 12 by right-clicking on the BraillePen 12 in your Bluetooth Devices list and selecting Properties. There should be two COM ports assigned. If not, please remove the device from your system and re-pair, giving Windows enough time to find and install both serial components.
- Run SAM Setup from within the Dolphin Control panel or from the System Tray, right-click on the SAM icon and select SAM Configuration
- In the SAM dialog box, arrow down to Easy Link 12 Braille Display. Check the checkbox and click on the name to make sure it is selected.
- Make sure the BraillePen 12 is switched on.
- Click the Configure button.
- Click on the Manual Configuration radio button.
- Click on the Serial Ports button.
- Make sure that only the two COM ports assigned to the BraillePen 12 have been selected from the list.
- Click OK. Your BraillePen 12 should now give a single beep to let you know if is connected to SuperNova.

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Serotek System Access

This set of instructions works whether you are using a locally installed copy of SA, or SAToGo through Internet Explorer.

1. Pair the BraillePen 12 with Windows using the standard Bluetooth "add new device" installed on the computer.
 - a) Make sure you add the serial port service if your device installer asks for it.
2. Check the COM port assigned to the BraillePen 12
 - a) In Bluetooth Devices, right-click the BraillePen 12 and select Properties.
 - b) Under the Hardware tab, the number of the assigned COM port should show.
 - c) The COM port should be below COM10. If it is higher:
 - Click the Properties button on the Hardware tab
 - Click Change Settings
 - Click the Port Settings Tab

- Click the Advanced button
 - At the bottom left you will find a drop-down list box with the current COM port number on it. Click this button to see a list of COM ports. If possible, select a lower-numbered COM port (below COM10).
 - If all lower-numbered ports are in use, check to see what is using these ports. It could be another bluetooth device no longer in use; it could be a printer. If at all possible, remove devices or printers until a lower COM port is free.
 - Click OK on all dialogs to save the setting.
3. Note that if you connect the unit after System Access is already running, the display will not be automatically detected.
 4. Either run www.satogo.com in Internet Explorer, or start up your local copy of System Access.
 5. Once System Access is running, it will detect the Braille Pen and immediately begin sending output to it.

Note: there should be no other screen-reading software installed on the PC using System Access. This is particularly the case with Dolphin software, since the server components of Supernova or the Dolphin Pen may have conflicts with similar parts of System Access.

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NVDA with BRLTTY

BRLTTY from version 4.3.1 works well with both NVDA and BraillePen 12. BRLTTY now has complete support for BraillePen 12 using the Voyager driver and the COM port assigned to the Bluetooth pairing.

Download the Windows installer of BRLTTY here: brl.thefreecat.org/brlty/

First, pair the BraillePen 12 and check the COM port number, using the instructions earlier in this document to make sure the COM port number is 10 or below.

Install BRLTTY, and select the Voyager driver and the correct COM port.

Then run brlty.exe

Then start NVDA and go to Preferences, Braille Preferences. Select brlty from the drop-down list. Click OK. Connection will take place and you will hear the connection beep.

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Screenreader.net Thunder

Thunder is not currently set up to be used with a Braille display. We hope to have a solution for this soon.

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Apple VoiceOver

Connection works a little differently for VoiceOver on OSX and VoiceOver on iOS.

VoiceOver on iPhoneOS (iPhone, iPad and iPod Touch):

To pair with an iDevice running iPhoneOS (from v4.0 onward):

On the iDevice, in Settings, General, page down to accessibility, then go to VoiceOver and then down to Braille.

Switch on the BraillePen 12 using **space + dots 1,3**.

Once you hear the triple-beep on the BraillePen 12, it will appear in the list of Braille devices to choose from; its name will begin with EL12 in the list of discovered devices.

Flick right to the device name to select it; double-tap the device name to initiate the pairing.

You will be taken to a passcode entry screen; enter the passcode 1234. Flick right to select each digit and then double-tap to enter it. Then flick left 6 times to the Pair button and double-tap to complete pairing. It is important to enter the passcode and complete the process within the short time allowed.

You will hear a single beep to tell you that BraillePen 12 is now connected to the iDevice.

If you don't complete the process quickly enough, the iDevice may come back to you and tell you that pairing failed; sometimes, after this has happened, the iDevice can't find the BraillePen 12. In this case you need to power off the iDevice completely and then switch it on again.

To pair with a Mac running OSX (from 10.6 (Snow Leopard) onward):

As with VoiceOver on an iDevice, you can pair the BraillePen 12 while VoiceOver is running.

You can only pair a BraillePen 12 from within the VoiceOver settings dialog; don't use the standard Bluetooth pairing method.

VoiceOver must be running before you can get any output on the BraillePen 12

Press Command-F5 to activate VoiceOver on the Mac - or go to System Preferences, Universal Access, Seeing, VoiceOver and change the radio button to On.

Switch on the BraillePen 12 with **space + dots 1, 3**.

When VoiceOver is on, open VoiceOver Utility by pressing VO-F8 - Control-Option-F8.

1. Click the Braille category, click Displays, and then click the Add (+) button.
 - If you already have a Bluetooth Braille Display in the list, the Add button will be greyed-out and unavailable. VoiceOver on OSX only allows one Bluetooth display at a time. You must delete the existing display by clicking the Remove (-) button. Once the display has been removed, the Add (+) button will become available.
2. When the Mac finds the BraillePen 12, it will say "one row added", or more rows if it finds more devices. Tab to the list to hear the devices spoken.
3. Select the BraillePen 12 from the list of available devices - it will show as a number beginning with EL12.
4. Click Select.

You will then be asked to provide the pairing passcode, 1234. Enter the passcode from the Mac keyboard and press Enter. You will hear a single beep from the BraillePen 12 to tell you the connection has been made.

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Nuance Talks for Symbian Phones

Talks must be already installed on the phone.

To pair the BraillePen 12 with a Talks-enabled phone, you must also install the Talks driver. You can download this file from here: http://harpo.com.pl/el12/tools/Braille60_3rd.sisx

First turn Talks off, and then set Bluetooth on your phone to On. Make sure your phone is in discoverable mode.

Now turn your BraillePen12 on, and wait to hear the triple-beep that tells you Bluetooth is active. Pair your phone with BraillePen12 using the passcode 1234.

If your phone asks: "Authorise device to make connections automatically?" answer yes.

Once the two devices are paired, install the EL12 Braille driver on your phone. We recommend that you install the driver on your phone's memory card.

Now restart Talks. Check on the Braille tab that "Braille" is set to "EL12 Driver" and "Keep Braille on" is set to "Yes".

Your phone's output will now show on the BraillePen 12 and the BraillePen 12 keys will work to operate the phone.

To make sure you can read messages and notes on the Braille display line by line, check that in the Advanced tab, the "Cursor Mode" setting is set to "Letters".

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Code Factory MobileSpeak

First turn MobileSpeak off, and then set Bluetooth on your phone to On. Make sure your phone is in discoverable mode.

Now turn your BraillePen 12 on, and wait to hear the triple-beep that tells you Bluetooth is active.

Pair your phone with BraillePen Slim.

Then connect MobileSpeak and the BraillePen Slim, by going to the MobileSpeak folder on your phone and opening Configure, and going to the Options, Braille, Configure Devices menu item.

Choose Easylink Braille Keyboard from the list of devices.

Then choose Options, Connect. After connecting, go back to the Configure menu and choose Options, Braille, Turn Braille On/Off to turn Braille output on.

You will hear the single beep to tell you the BraillePen 12 is connected.

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Android

We don't yet have a solution that will allow BraillePen 12 to work with Android. Please check the website, www.braillepen.com, periodically for updates.

Linux

BraillePen 12 should function as a Braille Display under Linux using BRLTTY set as a Braille Voyager display. We will confirm this following testing with BRLTTY developers.

Keystrokes for BraillePen 12 with Screen Readers

[VoiceOver](#)

[Talks](#)

[MobileSpeak](#)

[WindowEyes](#)

[JAWS](#)

[Supernova](#)

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VoiceOver for iDevices and Max OSX

In addition to the keystrokes in the table below, VoiceOver on OSX allows you to define extra keystrokes. See your VoiceOver user guide for details.

VoiceOver action

Braille device keys

Move to previous item	Joystick Left
Move to next item	Joystick Right
Move to previous item using rotor setting	Joystick Up
Move to next item using rotor setting	Joystick Down
Select item under your finger	Joystick enter
Pan Braille to the left	Pan Left
Pan Braille to the right	Pan Right
Move to previous item	space + Dot 1
Move to next item	space + Dot 4
Move to previous item using rotor setting	space + Dot 3
Move to next item using rotor setting	space + Dot 6
Select previous rotor setting	space + Dots 2, 3
Select next rotor setting	space + Dots 5, 6
Move to the first element	space + Dots 1, 2, 3
Move to the last element	space + dots 4, 5, 6
Read page starting at selected item	space + dots 1, 2, 3, 5
Read page starting at the top	space + dots 2, 4, 5, 6
Activate the Home button	space + dots 1, 2, 5
Go to the Status bar	space + dots 2, 3, 4
Activate the Volume Up button	space + dots 3, 4, 5
Activate the Volume Down button	space + dots 1, 2, 6
Activate a Back button if present	space + dots 1, 2
Activate the Eject key	space + dots 3, 4
Activate the Delete key	space + Dot 7
Activate the Delete key	space + dots 1, 4, 5
Activate the Return key	space + Dot 8
Activate the Return key	space + dots 1, 5
Activate the Tab key	space + dots 2, 3, 4, 5
Toggle Screen Curtain on and off	space + dots 1, 2, 3, 4, 5, 6
Pause or Continue speech	space + dots 1, 2, 3, 4
Toggle speech on and off	space + dots 1, 3, 4
Scroll left one page	space + dots 2, 4, 6
Scroll right one page	space + dots 1, 3, 5
Deselect text	space + dots 2, 3, 6
Select text	space + dots 3, 5, 6
Pan Braille to the left	space + Dot 2
Pan Braille to the right	space + Dot 5
Toggle announcement history	space + dots 1, 3, 4, 5
Toggle contracted /uncontracted Braille	space + dots 1, 2, 4, 5

Talks

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Backspace	space + dots 1,2
Call	control + dot 5
Cursor Down	space + dot 4
Cursor Left	space + dot 3
Cursor Right	space + dot 6
Cursor Up	space + dot 1
Delete	space + dots 4,5

End call	control + dot 4
Enter (JS enter)	shift + space + control
Faster speech	space, control + dots 1, 2, 5
Give battery + network status information	space + dots 2, 4, 5, 6
Hash or Pound key	dots 3, 4, 5, 6
Home	space + dots 1,2,3
Menu	space + dots 1, 3, 4
Open TALKS&ZOOMS Settings dialog	space, control + dots 3, 5
Page Down	space + dots 3,4,5
Page Up	space + dots 1,2,6
Read the names of the soft keys	shift + control
Repeat the last phrase	space, control + dots 3, 4, 5, 6
Slower speech	space, control + dots 1, 2, 4, 5
Soft key left	space + shift
Soft key right	space + control
Speak time + date	space, control + dots 2, 4
Star key	dots 3, 4
Switch between key echo modes	space, control + dot 1
Switch between punctuation modes	space, control + dots 1, 4, 5
Turn speech off or on	space, control + dot 6
Turn the NATO spelling alphabet on or off	space, control + dots 1, 4
Uppercase letter announcement on or off	space, control + dots 1, 2
Volume down	space, control + dots 1, 5
Volume up	space, control + dots 1, 2, 4

MobileSpeak

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Applications Menu	space + control, space + dots 1 3 4 (m)
Backspace	space + dots 1 2
Change Braille Input Grade	space + dots 1 2 4 5 (g)
Change Keyboard Echo	space + control + dots 1 5 (e)
Change Punctuation Level	space + control + dots 1 2 3 4 (p)
Change User Profile	space + dots 1 2 3 4 (p)
Change Verbosity Level	space + control + dots 1 2 3 6 (v)
Close window	space + dots 1 3 4 6
Context menu	space + shift + dots 1 3 4
Decrease Speed	space + dots 1 2 6
Decrease Volume	space + dots 2 3 6
Delete	space + dots 4 5
Delete	space + dots 4 5
Dial *	Braille dots according to selected translation table
Dial #	Braille dots according to selected translation table
Dial 0	Braille dots according to selected translation table
Dial 1	Braille dots according to selected translation table
Dial 2	Braille dots according to selected translation table
Dial 3	Braille dots according to selected translation table
Dial 4	Braille dots according to selected translation table
Dial 5	Braille dots according to selected translation table
Dial 6	Braille dots according to selected translation table
Dial 7	Braille dots according to selected translation table
Dial 8	Braille dots according to selected translation table
Dial 9	Braille dots according to selected translation table

Dial/Send	shift + joystick enter
Display date and time	space + dots 1 4 5
Edit Mode / Read Mode toggle	space + dots 2 4
End of current line (End)	space + control + dot 4
End of text (Bottom of edit control)	space + dots 4 5 6
Enter	joystick enter
Enter	shift, space and control
Enter (Accept)	joystick enter, space + dots 1 5 (e)
Escape	shift + space
Escape	space + shift
Hang-up/End Call	control + joystick enter
Increase Speed	space + dots 3 4 5
Increase Volume	space + dots 3 5 6
Insert Braille character with dot 7	shift + braille character
Insert Braille character with dot 8	control + braille character
Insert Paragraph Marker	space + dots 4 6
Insert space	space
Interrupt/Stop Speech	control
Left Softkey (Softkey 1)	space + Left Pan, space + joystick left -or- space + control + dot3
List of Open Applications	space + dots 1 3 5 (o)
Menu	space + dots 2 4 5 6
Menu bar	space + dots 1 3 4
Move focus to Taskbar	space + dots 2 3 4 5
Mute Speech toggle	space + dots 1 3 6
Next Character/Grid Item/Tab Sheet	joystick right, space + dot 6
Next line	joystick down, space + dot 4
Next Line/List Item/Menu Item	joystick down, space + dot4
Next Word	control + joystick right, space + dot5
Open Configure Mobile Speak screen	space + dots 1 4 (c)
Page down	space + dots 3 4 5
Page up	space + dots 1 2 6
Pan Left	Left Pan
Pan Right	Right Pan
Press * key (to open Symbols list or unlock keypad)	space + dots 3 5
Previous character	joystick left
Previous character	space + dot 3
Previous Character/Grid Item/Tab Sheet	joystick left, space + dot3
Previous line	joystick up
Previous line	space + dot 1
Previous Line/List Item/Menu Item	joystick up, space + dot 1
Previous Word	control + joystick left, space + dot 2
Quick List	space + dots 1 2 3 4 5 (q)
Read Date and Time	space + dots 1 4 5 (d)
Read next line of Text	space + joystick down, control + joystick down
Read previous line of Text	space + joystick up, control + joystick up
Read screen	space + dots 1 2 4
Read Softkeys	space + Left Pan + Right Pan, space + dots 3 6
Read Status Information	space + dots 2 3 4 (s)

Repeat Last Spoken Text	space + dots 1 2 3 5 (r)
Right Softkey (Softkey 2)	space + Right Pan Or space + joystick Right Or space + control + dot 6
Route System Focus to Braille Cursor	joystick enter, space + dots 1 5 (e)
Shift	shift
Start of current line (Home)	space + dots 1 2 3
Start of current line (Home)	space + shift + dot 1
Start of text (Top of edit control)	space + dots 1 2 3
Status information	space + dots 2 3 4
Stylus Mode on/off	space + dots 1 2 4 5
Tab	space + control
Toggle Braille Cursor	space + dots 1 2 3 4 5 6
Toggle Command Help Mode	space + dots 1 2 5 (h)

WindowEyes

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The key describer in Window-Eyes is a special mode that, when active, allows you to press virtually any key or combination of keys to cause Window-Eyes to speak their names. If the key you press is a Window-Eyes hot key, Window-Eyes will also describe what that command does without actually performing it.

To turn the key describer on, press Insert-1 on your PC keyboard. Window-Eyes will say, "key describer on."

You can now press the keys on the BraillePen 12 to find out their functions. You can also re-assign the BraillePen keys from within Window-Eyes if you would prefer different functions.

JAWS

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JAWS Keyboard Help is opened with Ins+1 - press the Ins key with the number 1 from the row above the keyboard. JAWS will say "Keyboard Help on": You can now press the keys on the BraillePen 12 to find out their functions.

Supernova

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Action	Braillepen12 Braille key
Open Control Panel	space + dots 1 3 5 (o)
Popup Menu	space + dots 1 2 3 4 (p)
Mute Speech	control
List System Tray	shift, space + dots 2 3 4 5 (t)
Application Hotkey Information	space + dots 125 (h)
Move through Hotkey menus	joystick up, down, left right
Toggle Key Describe Mode on/off	space + dots 1456
Speak Keys	
Speak current time/date	space + dots 1 4 5 (d)
Speak Status Bar	shift, space + dots 2 3 (2)
Speak Selection	shift, space + dot 2 (1)
Speak Focus	shift, space + dots 3 5 6 (0)
Speak Headings	shift, space + dots 2 5 (3)
Speak Control	shift, space + dots 4 6
Speak Window	shift, space + dots 3 5 (9)
Where am I? (Application, file & focus)	space + dots 2 4 (i)
Describe Focus position	shift, space + dots 2 3 6 (8)
Rotate through speak current character, speak character phonetically, speak	space + dots 3 6

attributes	
Navigation	
Activate current button	space
Enter	joystick enter
Space	space
Page Up	space + dots 1 2 6
Page Down	space + dots 3 4 5
Tab	space + dots 5 6
Shift Tab	space + dots 2 3
Escape	space + dots 1 5 (e)
BackSpace	space + dots 1 2 (b)
Delete	space + dots 1 3 4 6 (x)
Start Menu (Windows Key)	space + dots 2 4 5 6 (w)
Cursor Up	joystick up
Cursor Down	joystick down
Cursor Left	joystick left
Cursor Right	joystick right
Home	shift, space + dots 1 2 3
End	shift, space + dots 4 5 6
Control Home	space + dots 1 2 3
Control End	space + dots 4 5 6
Alt	control and space
Alt tab	shift and space

System Access

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NOTE - the Home keystroke uses **control**, not **space**! If you press space in this combination, you will turn your BraillePen 12 off!

Action	BraillePen 12 keystroke
Menu Bar	space + dots 1 3 4 (m)
Start Menu	space + dots 3 4
Recent Applications Menu; Alt + Tab	space + dots 1 2 5 6
Read Title	space + dots 2 3 4 5
Read Status	space + dots 2 3 4
Up, Down, Left, And Right Arrow	joystick up, down, left, right
Enter	space + dots 1 5
Backspace	space + dots 2 3
Tab	space + dots 4 5
Shift + Tab	space + dots 1 2
Say All	space + dots 1 2 3 4 5 6
Read Previous Line	
Read Current Line	space + dots 1 4
Read Next Line	space + dot 4
Read Previous Word	space + dot 2
Read Current Word	space + dots 2 5
Read Next Word	space + dot 5
Read Previous Character	space + dot 3
Read Current Character	space + dots 3 6
Read Next Character	space + dot 6
Top Of Document	space + dots 1 2 3
Bottom Of Document	space + dots 4 5 6
Home	control + dots 1 4
End Or End Of Line	control + dots 4 6
Stop Speech	control

Close Or Esc

space + dots 1 3 5 6

