

# Assistive Technology for Braille Readers

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# Topics

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- Beginning with braille
- Braille notetakers
- Refreshable braille displays
- Computer use
- Additional options

# Beginning with Braille





# Perkins Smartbrailler

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- Introduction:  
<https://www.youtube.com/watch?v=A41u7XXB4QQ>
- “First Impressions”
- <https://www.youtube.com/watch?v=x1HShKsRmA4>
- Easy to use
- Immediate audio feedback
- Visual feedback of both braille and print
- USB port to save and open files

# Mountbatten Braillewriter

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- Introduction: <https://www.youtube.com/watch?v=sSDxkWUAkcY&list=PLD6EB14632DB8FBA2>
- Student Use: <https://www.youtube.com/watch?v=Q3RHC4iIBIk>
- SetBC Lessons: [http://www.setbc.org/download/LearningCentre/Vision/mbpro\\_lessons.pdf](http://www.setbc.org/download/LearningCentre/Vision/mbpro_lessons.pdf)
- SetBC Visual Guide: [http://www.setbc.org/download/LearningCentre/Vision/mbpro\\_guide.pdf](http://www.setbc.org/download/LearningCentre/Vision/mbpro_guide.pdf)
- Immediate auditory feedback
- Calculator
- Nemeth Mode
- Fun music mode
- Ability to save and open files
- Can be used as an embosser
- Separate keyboard lets classroom teachers create braille
- Separate visual attachment lets classroom teachers see what student is typing

# Logan Braille Coach



- Braille Flash Cards!
- Easy to use-for TVI, student, parent, and classroom teacher
- Provides opportunity for independent practice for little ones

# Group Work

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- Review links to learn more about the two braillewriters
- Compare device features & discuss which might benefit different students
- Share any previous experience
- Find a tip, trick, or new fact to share





# Braille Notetakers



# What is a Braille Notetaker?

(Amy Mason, *Braille Monitor*, June 2012)

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- All current models allow the user to:
  - read and write files in a number of formats
  - keep track of contacts and appointments
  - do calculations
  - listen to media files
  - handle email
  - create voice memos
  - and do extremely basic Web browsing

# BrailleNote

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- Most popular in our area, great tech support, but must be sent off for repair
- Introduction: <http://www.youtube.com/watch?v=0jeGAlXPqqc>
- Student-at-work: <https://www.youtube.com/watch?v=3Bq0zT1HqKk>
- SetBC slides: [http://www.setbc.org/setbc/vision/apex\\_braille\\_notetaker.html](http://www.setbc.org/setbc/vision/apex_braille_notetaker.html)
- Humanware BrailleNote Tutorials:
- [http://support.humanware.com/en-usa/support/braillenote\\_apex/tutorials/login](http://support.humanware.com/en-usa/support/braillenote_apex/tutorials/login)

# BrailleSense

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- Newer on the scene, repaired in Austin
- U2 has built in display; Mini has additional display option
- Example Videos:
  - <https://www.youtube.com/watch?v=KjRI9ckInpM>
  - <http://www.youtube.com/watch?v=jYOjEL9ZyXE>
- SetBC Slides  
[http://www.setbc.org/setbc/vision/braille\\_sense\\_plus\\_guides.html](http://www.setbc.org/setbc/vision/braille_sense_plus_guides.html)



# BraillePlus18

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- APH BraillePlus 18 Basic Word Processing
- <https://www.youtube.com/watch?v=sdGabTH1BQE>
- Resources Guide:
- [http://tech.aph.org/plus\\_info.htm](http://tech.aph.org/plus_info.htm)
- Email here to join user's group: [plus-subscribe@tech.aph.org](mailto:plus-subscribe@tech.aph.org)
- Available on Quota Funds!
- Android device-has some innovative features
- A little tricky to use...

# Group Work

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- Look through available resources for these braille notetakers
- Share one tip, trick, or command you learned
- Discuss students you have had who used notetakers
- Discuss what type of student would benefit, at what age
- Discuss pros/cons of different devices

# Refreshable Braille Displays





# What are Braille Displays?

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- Separate braille “keyboards” with 6 key entry and a row of refreshable braille
- Useable with iOs devices via Bluetooth
- Useable with computers (laptop, desktop) via USB or Bluetooth
- Must be used with a screen reader (exception: HIMS Braille Edge)
- “Modular” approach
- Allow access to mainstream technology on tablets and computers

# Refreshable Braille Displays

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- Refreshabraille 18 (APH)
  - Focus 40/14 (Freedom Scientific)
  - Brailliant (Humanware)
  - Braille Edge 40 (HIMS) (Also has SD card for use without a device)
  - ALVA (Irie-AT)
  - Vario Ultra (Baum)
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- \*Can all be used with iPad, Tablet, Laptop, SmartPhone

# iPad + Refreshable Braille Display

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- Jake's example: <http://www.youtube.com/watch?v=h21a264VsXE>
- Screen reader needed (Voiceover)
- Connect via Bluetooth
- Specific commands needed



# iPad Apps

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- iA Writer
- AFB Accessnote
- KNFB
- Talking Scientific Calculator
- Dolphin Browser
- iBooks
- Learning Ally Audio
- Read2Go
- BARD Mobile
- Alarmed
- LookTel Money Reader
- Ariadne GPS
- NowWhat
- Sendero GPS Lookaround
- ViA
- iBlinkRadio
- TapTapSee

# Laptop + Refreshable Braille Display

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- Screen reader needed
- Can be connected via USB cord or Bluetooth
- Can use:
  - Microsoft Office or Mac Pages/Numbers/Keynote
  - Internet Applications
  - Other computer programs depending on accessibility

# Notetakers vs. Mainstream Devices+RBD

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- <http://www.applevis.com/blog/iphone-ipod-touch-ipad-ios-braille-assistive-technology-apple/comparing-ios-devices-braille>
- JVIIB Oct-Nov 2012 Sunggye Hong  
An Alternative Option to Braille  
Notetakers for People with Visual  
Impairments
- Advantages?
- Disadvantages?



# Group Work:

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- Look up the various available braille displays and share details
- Review the additional videos on displays and discuss
- Read the AppleVi's and JVIB articles and discuss advantages & disadvantages to braille notetakers vs. mainstream technology with braille displays

# Computer Use



# Keyboarding Instruction

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- APH Talking Typer
  - <http://www.youtube.com/watch?v=OGJlwR1Lm0g>
- TypeAbility
  - <http://www.youtube.com/watch?v=8zVRP6gK2-A>
  - [https://www.youtube.com/watch?v=-VLm4b\\_Y3Ug](https://www.youtube.com/watch?v=-VLm4b_Y3Ug)



# Screen Readers

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- JAWS (Job Access With Speech)
- VoiceOver
- WindowEyes
- NVDA
- Others (Cobra, ChromeVox, etc.)



# What is a Screen Reader? (AFB)

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- A software program that allows blind or visually impaired users to read the text that is displayed on the computer screen with a speech synthesizer.
- The interface between the computer's operating system, its applications, and the user.
- The user sends commands by pressing different combinations of keys on the computer keyboard to instruct the speech synthesizer what to say and to speak automatically when changes occur on the computer screen. A command can instruct the synthesizer to read or spell a word, read a line or full screen of text, find a string of text on the screen, announce the location of the computer's cursor or focused item, and so on.

# JAWS

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- Most popular in our area
  - Excellent technical support:
    - Christal Vision: Jack Hickman, Marci Duty
    - Freedom Scientific tech support
  - Introduction: Listening to JAWS
  - <https://www.youtube.com/watch?v=b55ijS4IOWs>
  - Hadley School for the Blind: Teach JAWS in 30 Minutes or Less
  - [http://www.hadley.edu/resources\\_list\\_detail.asp?resourceid=21](http://www.hadley.edu/resources_list_detail.asp?resourceid=21)
  - JAWS Keystrokes
  - <http://doccenter.freedomscientific.com/doccenter/archives/training/jawskeystrokes.htm>
  - Downloadable Demo

# NVDA

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- NVDA introduction
  - <https://www.youtube.com/watch?v=3tY0Uot8LHU>
  - NVDA example
  - <https://www.youtube.com/watch?v=TIMsUZYKOZE>
  - NVDA website
  - <http://www.nvaccess.org/>
  - NVDA Testimonials
  - <http://www.nvaccess.org/about/testimonials/>
  - Open Source: Free/Donation
  - Can be used with any computer; transported on flash drive
  - Voice can be changed to Microsoft Anna
  - Support for multiple languages

# VoiceOver

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- Voiceover Introduction
- [https://www.youtube.com/watch?v=a3\\_Cz-gmscE](https://www.youtube.com/watch?v=a3_Cz-gmscE)
- Voiceover: Getting Started
- <https://www.youtube.com/watch?v=tQHJVV6ebtg>
- Voiceover: Comprehensive introduction
- <https://www.youtube.com/watch?v=sKAa2IfbxQ>
- Built-in to all Macintosh Computers
- Free
- Obvious choice for Mac-only districts, computer labs
- Not available on PCs
- Also on iPad and iPhones
- Beware: VoiceOver will NOT WORK with Microsoft Office. Users must use TextEdit or Apple's Office Suite: Pages/Numbers/Keynote



# Group Work

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- Discuss previous experience with screen readers
- Discuss how one could introduce a screen reader to a student
- Review available resources and discuss differences between screen readers

# Additional Options



# Digital Audio Media

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## Sources

- Bookshare
- Learning Ally
- NLS/Bard
- Create your own-Dolphin EZ Converter

## Devices

- Smartphones & Tablets
- Computers
- Daisy Players
  - APH Bookport
  - Victor Reader Stream
  - Plectalk
  - Booksense

# Bookshare

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## Considerations

- Individual vs. Organizational accounts
- Online interface
- Who can help:
  - Karen Beard

## Ways to Access Material

- BRF files-emboss or use refreshable braille display
- Auditory Access-synthetic voices
  - iPad: Read2Go
  - Android: GoRead
  - Computer: ReadOutLoud
  - Daisy Players (APH Bookport Plus-free)



# Learning Ally

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## Considerations

- Easier account structure
- Online interface demo
- Far fewer braille files-mostly audio

## Ways to Access Material

- iPad: Learning Ally Audio
- Android: Learning Ally
- Computer: LINK
- Daisy player (APH Bookport Plus-free; needs User Authorization Key)

# National Library Service/BARD

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## Considerations

- Professional readers (not volunteer or synthetic)
- Individual account needed

## Ways to Access Materials

- iPad: BARD app
- Android: no app yet-in development

# Scan & Read Options

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## Stand-alone Devices

- Sara CE
- Optilec ClearReader
- Poet Compact2

## Portable Cameras

- Pearl Camera
- EyePal
- ZoomTwix

# Math Options

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- Audio Graphing Calculator software demo
- APH Orion Talking TI-84
- Math Window



# More Information

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- Links from today's presentation: <https://sites.google.com/site/viat101braille/>
- Paths to Literacy Technology Section: <http://www.pathstoliteracy.org/technology>
- Region 10 VI AT website: <http://www.region10.org/supplementary-services/programs/vi-assistive-technology/>