

Guide to Assistive Technology

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The following information is designed to inform potential assistive technology users about the general functions and operating systems for each category of assistive technology. Each product category includes examples of comprehensive, multi- function models and less expensive, limited function models.

Compusult is the primary seller of some of the products listed here and a reseller of many other products. Please contact us if you have any questions about these technologies or wish to request a quote on specific products.

Software Considerations

The following section is designed to inform you about the types of questions to ask when considering assistive technology purchases for yourself or a client you support.

Operating Systems re: computer or device apps: For most products, the Mac version is different from the Windows version. There are also differences between full package software as developed for regular computers and the apps for iOS or Android that replicate the full package. The entire software package may be represented by multiple apps. Each app may be self-supporting and work offline or have functions that rely on internet access to work.

Standalone or USB versions: Some products have USB versions that allow you to take the software to compatible laptops and restrict its use to a specific machine.

Languages of choice: The specific products listed here are by default available in English. Sometimes French or other languages are available in the same product but in other cases you need a an entirely different package or download. Even when the product, does come with multiple languages, you may need to specify the language at the time of install. Products that have online content may be more able to accommodate the use of multiple languages.

Comprehensive or basic programs: Within any product category, the products range from those hosting a few basic functions to those that have integrated other features.

Prices: Our costs fluctuate frequently. Contact us for the current price or if you have any questions about these or other products that are not specifically listed.

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Visual Disabilities

Software

- **JAWS:** Comprehensive screen reader with keystroke access to computer functions, including internal settings (Windows)
- **MAGic:** Screen magnification with the ability to change the visual settings on the screen; has two versions: Magnifier and Magnifier with Speech. MAGic works well where JAWS is already installed.
- **J-Say:** This program provides the integration of JAWS and Dragon NaturallySpeaking products. With the other two programs at compatible versions, J-Say replicates aspects of both programs, sometimes using new but similar voice commands where the individual commands do not mesh well.
- **ZoomText:** This is comprehensive screen magnification software with two versions: Magnifier and Magnifier/Reader. It has many magnification and visual effect features as well, such as changing the cursor appearance. The Reader option has text-to-speech and OCR functions.
- **Kurzweil 1000:** The Kurzweil 3000 product in a screen reader version – study and writing support designed specifically for non-visual users.
- **NVDA:** This is a free, open sourced screen reader that is often used in public venues or as an alternative to JAWS if there are any temporary running issues. It is useful to be fluent with JAWS is an asset. NVDA has open source speech synthesizers. NVDA does not have all the features that JAWS includes, but it is a good backup program.

Magnifiers

- **Electric Video Magnifiers:** Full Screen models have different levels of zoom; some advanced models have some text-to-speech capabilities. Examples: Clearview C 24 HD (optional: with Speech)
- **Electric Video Magnifiers (Portable):** Smaller models with video capabilities and some with text-to-speech capabilities. Some of the portable models only magnify objects that are up close, while others also have a distance magnification mode. Example: Zoomax Snow 7 HD, Optelec Compact 6 HD Speech.
- **Non-electric magnifiers:** Standard magnifiers of various sizes from pocket magnifiers to larger but still handheld or portable models. Example: the EasyPOCKET line.

Text Readers

- **Audio-only readers:** There is no display, but a camera takes a picture of a page and uses OCR technology to read the text. Example: Optelec ClearReader+.

Compusult carries Eschenbach and Optelec products, as well as other product lines on demand.

Blind or Low Vision Accessories

- **Keyboards:** high contrast, larger key label options

- **Braille keyboards/ notetakers and braille display:** Braille equipment replaces the monitor.
- **Braille printers and Braille paper**
- **Keyguards:** Keyguards assist people with some coordination and perhaps some vision issues by clearly delineating the space difference between keys. The keyguard fits over the keys and makes it impossible to hit the side of an adjacent key.

Reading, Writing and Study Skills Support

Software

- **Kurzweil 3000:** Comprehensive study and writing software that works within its own platform and can export to and import from many common file formats. Student features include text-to-speech for reading, idea organization, guidance toward the finished writing, spelling, and dictionary support. Teacher features include the ability to make fill-in-the-blank formats, add various types of notes and lock down any of the features for a consistent testing situation. There are separate English and French products are separate products. Windows and Mac versions are different products; app versions exist for iOS and Chrome.
- **Kurzweil 1000:** This is similar to Kurzweil 3000 but for people who rely on screen readers. Visual effects are not included in this software. English and French products are separate. This software is compatible with Windows.
- **Antidote:** This software provides comprehensive proofreading in English and French. Originally a French product, they now have added an English module. Buy either the English or French module and add the optional second module at the time of install for an added cost. Work out the corrections in the Antidote program and transfer the corrected written segment to your main document once finished. Windows, Mac, and Linux software are in the same package as purchased; apps are available for iOS and Chrome.
- **ClaroRead:** Depending on the version chosen (PC: Standard, Plus and Pro; Mac: Standard and Plus) Reading of text, conversion of hardcopy to PDF, writing support (spelling and other supports), in addition to functions that map ideas and turn products into audio files. Available in English and French – choose your language at install. As noted, Windows and Mac are different products; the services are separated into different apps for iOS.
- **WordQ/WordQ+SpeakQ:** WordQ is a toolbar-based software that provides word prediction, spelling, and dictionary assistance. It also has the option to create an audio file from any selected text. Combining it with SpeakQ adds a voice-to-text option that functions similar but is much more limited and does not learn patterns as well as the Dragon NaturallySpeaking products. Choose English or French at the time of install. It works well anywhere you enter text and has “select to read” options for text. This is available for Windows or Mac in the same package.

- **TextHelp Read&Write:** This is a toolbar-based software that complements any editing program that combines text-to-speech reading, writing supports (spelling and grammar), and transfers from text to audio files.
- **Inspiration:** This software maps out ideas and lets you adjust the mind map as needed. With the push of a button, it generates an outline in PowerPoint format where you can add the main text and details. English and French versions are separate packages. This is available for Windows or Mac in the same package.
- **Sonocent Audio Notetaker:** Various apps within the Sonocent collection help you translate text to audio files. Some of the apps are cloud based and have some turnaround time before the audio files are returned.

Other Hardware with Associated Software

- **SmartPens:** Create an electronic version of your notes. The pens track the movement of the pen nib and create a 'drawing' of the notes. Some have audio capabilities in the pen itself or the accompanying device so that you can capture the spoken words while you write generic words that identify the purpose. Click on that spot in your notebook or select that audio clip later to re-hear the details.
- **Reading pens:** Reading pens scan a line and speak the recognized text. You may link the reading pen to software to upload content for later use.
- **Scanning devices** convert hardcopy text to a PDF that can then be read by software. Choose full size scanners or portable scanners that either feed the hard copy through or require the user to physically scan down the page.

Mobility Tools

Mounting Options

Wheelchair Tray Systems

- **Kristen Tray Systems:** A tray attached to a base that slides under a wheelchair seat cushion. Various chairs are compatible; chairs should have a solid base under the seat.
- **Claire Tray Systems:** A surface mount tray system for holding laptops or other devices.

Mounting Systems for Switches and iPads

- **Gooseneck Options:** A clamp and flexible gooseneck arm allows users to position a switch or device at the right location and angle. Weight limitations may apply. When considering this option, have the complete weight of the device and any cases that might be included.
- **Brace with Angled Arm Options:** Similar to the Claire tray system, this type of brace has an arm with an elbow joint for adjusting the height and angle of the device or switch.
- **Suction Cup Options** allow you to prop up devices on any surface. The height and ability to change the angle of a heavier device is limited with this option.

Mobile Device (iPad) Protection with Optional Accessories

EVA2 cases: Foam cases with superior corner protection, raised protection around the bezel, and an integral handle, and support for a stand that has two functional positions.

Accessories: Carrying strap, stylus that fits in a slot in the case, tempered glass screen protection, and Bluetooth speaker.

Hearing Impairments

- **Caption Display Systems:** Compusult has closed caption displays of various sizes that work well at public venues to display the words of the speaker. These are not suited to private use in small spaces.
- **Speech Generation Devices/Typing Devices / AACs with Devices:** AAC (or Augmentative and Alternative Communication) is used by nonverbal people and those who cannot speak clearly. Adults with the average or higher vocabulary need something that is more text-based such as Predictable that can keep up to their fluency and diverse vocabulary, while people still developing basic vocabulary may use picture-based AAC. See the section titled “Communication Needs” for those situations.
- **Alerting devices:** Provide notification of events via a vibration or light change. For example, announce when the phone or doorbell rings.
- **Personal Sound Systems:** Deliver sound from one or more voices directly to the user without disrupting others. For example, have an instructor wear a microphone or place the microphone in front of a group of speakers.

Communication Needs

This category of device usually serves people who have multiple barriers to communication, although any person who cannot speak clearly can use the more fluent text-based AACs. An AAC is an Augmentative and Alternative Communication device, either a standalone product or a mobile device with apps suited to their communication level.

- AAC devices range from those that support basic communication needs with no emphasis on sentence structure (e.g. requesting common items important for daily routines) to those that support someone using or working toward using more complex language. Proloquo2Go, for example is a product that can be used while developing communication skills and vocabulary. A user may start by using only a few symbols and, and, as proficiency increases, more tiles can be made active and the user can be encouraged to use the accurate forms of the word to match tense and quantity.

Symbol-based and text-based are two main types of AAC, although there are more comprehensive products that mesh text input with word prediction and symbol tiles in grids.

Some functions to look for in most AAC apps:

- Word prediction
- Ability to add content (new tiles or pre-saved phrases) based on your personal pictures and vocabulary
- Recall of recent phrases used
- Archive of common phrases that save you from typing routine phrases such as greetings, name, address, and other frequent requests
- Voices with a range of adult and child options, and male and female options; some have a range of languages and voices with regional accents.
- Ability to deactivate more advanced tiles until the user can reasonably learn to use them (ability to pre-load and plan pages)
- Ability to back up your app
- **Outspoken Communication Bundles:** Compusult provides a pre-installed, ready-to-use system, including an iOS device of your choice and the AAC and/or other apps you need. Optional accessory kits include our EVA2 iPad case, carrying strap, Bluetooth speaker, stylus and tempered glass protector for the screen.
- **Eye Gaze systems** allow people to use their eyes to control the cursor and the computer or other mobile devices for communication or other purposes. These can be used with very simple, large tile targets or a much more fluent range of vocabulary and an online keyboard.
- **Dedicated AAC Devices:** These are devices that are strictly AACs as opposed to the iOS devices such as iPads and Android devices that have AAC apps installed, but have all the other native IOS or Android functions and potential for other apps as well.
- **Word Boards:** Printed and laminated tiles that feature letters, numbers and basic words. Other options include Velcro versions of these word boards. In general these products are ideal for emergency use, when travelling or in situations where technology would need protection from the elements.

Computer Access Needs: Coordination Issues, Physical Dexterity and Typing Barriers

Software

- **Dragon NaturallySpeaking Products:** Voice activation software can help people dictate and correct words, but Dragon also allows you to change computer settings, enter and exit programs, and execute every action by voice. There are different modes such as number mode, dictation mode, command mode, and normal mode that help you limit the types of commands or dictation that are accepted at any given time. Dragon products are comprehensive and learn to recognize the way you speak. Many languages and voice models are available.
- Other available apps are based on the same functions, but they may not have the robustness and ability to add content and learn the sound of the user's voice. For example, most laptops, mobile devices and some apps have a basic dictation function.

Hardware With and Without Associated Software

- **Jouse Products:** Compusult makes the Jouse products featuring the Jouse3. The Jouse Lite (with a gooseneck) and the Jouse+ for added gaming functions are in development. The Jouse is a mouse alternative that works with laptops and computers (Windows and Mac) as well as iOS and Android mobile devices. A small joystick can be controlled with the mouth, cheek, chin or tongue is complemented with sip and puff functions. The Jouse clamp mounts to almost any desktop, wheelchair or bedframe.
- **Eye Gaze Products:** Eye gaze products allow users to use their eye movements to control the mouse. Staring at a button or key for a set period of time activates it.
- **Keyboard Guards:** Keyguards cover the spaces between keys and sit slightly above a keyboard to stop a user from hitting the side of an adjacent key and alert them that their finger is not on target. Guards are available for popular keyboards (such as the iOS keyboard for the 9.7 inch models) but also can be custom made by request.
- **Ergonomic Options:** Ergonomic options for data entry barriers benefit people who need mouse and keyboard options that better support their arms, hands and wrists. Some mouse options have additional functions as well as the ergonomic features.

Contact Compusult if you have specific needs and preferences for equipment. We can provide recommendations and quotes for various products.

Switches

General Options for Switches

- **Colors:** Choose from a range of bright to subtle colors.
- **Textures:** Providing options with smooth or with multiple textures allow a user to use different senses as part of their learning.
- **Size:** Large for high visibility or for large switch targets or small for discretion and small movements
- **Sensitivity:** Light pushers who are not likely to have tremors or erratic movements can use switches that accept very small pushes. Users who may repeat pushes by accident or have a lot of force in their intentional hits can use a less sensitive switch as it will differentiate between intentional and unintentional movements.
- **Mounting Options:** Switches can be mounted using gooseneck or surface mounts. Switches can be placed wherever the user has the best control of body movements.
- **Number of Switches:** Users generally start working with two switches, one for selection and the other for moving to the next item. As they become more adept they can add more switches to provide common keystrokes or commands: **Enter**, **Tab**, **Delete**, and other common commands. See the section on switch control boxes for attaching more than two switches.
- **Activation Method:** Standard activation by touch by anybody area where movements can be controlled (head switches and hand switches for example) or sip-and-puff activation.

- **Using a Switch to Deliver Instructions:** Program commonly given instructions into a switch and have the recorded instructions spoken when the switch is activated.

Switch Control Boxes

- **USBox:** Compusult's USBox uses one USB port to allow you to control up to four external devices using any mouse. Access the controls on the computer screen. You can use multiple USBoxes, one for each USB port.
- **U-Switch:** USB-based switch controller for up to six standard switches and/or one multi-switch.
- **2-Switch:** This controller supports up to two standard switches.
- **Others as Requested:** Switch boxes can control four to six switches or a combination of keystrokes and switch commands.

Compusult can provide equipment from other manufacturers and providers. Some common switches are the Leaf switch, Jelly Beam, Buddy, BIGmack and LITTLEmack, and Step by Step switches. Please contact us for specific requests.

Ergonomic Options

- **Keyboards that Split and Angle:** Avoid repetitive stress injuries or accommodate specific typing needs by opting for keyboards that work with the hand position that suits you best.
- **Keyboards that are One-Handed:** Half-size keyboards use combinations with regular size keys for multiple functions. Access all the letters and punctuation using half the keys.
- **Ergonomic Mouse and Joystick Options:** Hand grip options and multiple controls on the mouse let you access more functions with an ergonomic device.
- **Mounting of Monitors:** Flexible mounts let you move and angle the monitors easily.
- **Height Adjustable Desks / Desktop Accessories:** Specialized desktops can be raised or lowered to allow you to sit or stand.

General Accessories for Computer, Laptop or Device Bundle Orders – Not Including Ergonomic or Low Vision Options

- **Headphones:** The following options are available: wired or wireless (Bluetooth), noise cancelling or noise isolating, microphone.
- **External Mice:** Wireless (Bluetooth) or wired, with basic to advanced mouse functions.
- **Keyboards:** Wired or wireless (Bluetooth), full size or smaller.
- **Carry bags or Backpacks:** For laptop and accessories
- **Mobile device cases:** Compusult carries EVA2 cases in addition to Big Grip, Otterbox and other manufacturers.
- **External HD options:** Use thumb drives and external hard drives (wired or wireless) for portability and extra storage.

Compusult provides ready-to-use bundles with laptops or devices, compatible accessories, and any requested software already installed and registered.

Please contact us with any questions about these products or to request a quote.

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