# What Exactly Is Assistive Technology?

The legal definition as it appears in IDEA is "any service that directly assists an individual with a disability in the selection, acquisition, or use of an assistive technology device". An assistive technology device is defined by the Assistive Technology Act of 1988 as "any item, piece of equipment, or product system, whether acquired commercially, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities."

## Assistive Technology items can be described as "low tech", "mid tech" or "high tech".

- Low tech items are usually inexpensive, simple to make and easy to obtain. Some examples of low tech devices are pencil grips, slant boards, paper communication boards/cards, highlighting, specialized paper, or a program modification such as increased time or access to classroom notes.
- Examples of mid-tech devices are calculators, eye glasses, splints, digital recorders, a magnifying glass, single switches, Big Mack switch, cause and effect software programs, and static display communication devices.
- High Tech items would include wheelchairs, Dynamic display augmentative communication devices, complex computer software programs that involve speech to text and text to speech components, infrared mouse options, and computers.

## Assistive Technology Terms and Devices:

**Alternative Access/Input Device -** An alternative access/input device allows individuals to control their computers using tools other than a standard keyboard or pointing device. Examples include alternative keyboards, electronic pointing devices, sip-and-puff systems, wands and sticks, joysticks, and trackballs.

**Augmentative and Alternative Communication (AAC) System -** An AAC system is one that increases or improves the communication abilities of individuals with receptive or expressive communication impairments. The system can include sign language, graphical symbol systems, synthesized speech, dedicated communication devices, and computer applications. AAC technology spans a wide range of products, from low-tech picture boards to high-tech speech recognition programs.

**Braille Embossers and Translators -** A Braille embosser transfers computer-generated text into embossed Braille output. Translation programs convert text that has been either scanned or typed into Braille that can be printed on the embosser. Refreshable Braille can be used as a screen reader for individuals with visual impairments.

**Durable Medical Equipment (DME) -**Durable Medical Equipment (DME) is any piece of equipment that is used to serve a medical purpose, can withstand repeated use, and is appropriate for use in the home. It is expected to last for a substantial period of time. Durable medical equipment can include devices, controls, or appliances specified in an individuals plan for medical care. The equipment is used to help increase the individual's ability to perform various activities of daily living or to communicate with the community in which they live.

**Environmental Control Unit (ECU) -** ECUs enable individuals to control electronic devices in their environment through a variety of alternative access methods, such as switch or voice access. ECUs can control lights, televisions, telephones, music players, door openers, security systems, and kitchen appliances.

**Onscreen Keyboard -** Onscreen keyboards are software-generated images of a standard or modified keyboard placed on the computer screen. The keys are selected by a mouse, touch screen, trackball, joystick, switch, or electronic pointing device. Microsoft has a free onscreen keyboard available.

**Optical Character Recognition and Scanners -** Optical character recognition (OCR) software works with a scanner to convert images from a printed page into a standard computer file. With OCR software, the resulting computer file can be edited. Pictures and photographs do not require OCR software to be manipulated. Programs such as Kurzweil, Read and Write gold, and Wynn have these capabilities.

**Screen Reader -** A screen reader is a software program that uses synthesized speech to “speak” graphics and text aloud. This type of program is used by people with limited vision or blindness or with a print disability, such as dyslexia. Programs that are widely used by individuals with visual impairments are Microsoft’s Narrator and commercial programs such as Jaws.

**Talking Word Processors -** Talking word processors are software programs that provide audio feedback as the student writes. As each letter is typed and each word is written, the device will “speak” it aloud. Many of these inexpensive writing programs also incorporate powerful tools for reading. Students with learning disabilities often find that having written material read aloud helps them to better edit, understand and organize their projects. Free programs that are available are Word Talk, and Power Talk and Microsoft has a speak add-in.

**Text to Speech Programs -** This software converts written text, including Word documents, Web pages, PDF files, and emails into audio files that play on a computer, CD-ROM player, MP3 device, IPOD or other digital audio playback equipment. Developed for individuals with low vision or blindness, text to speech technology has improved greatly, with natural sounding voices, greater conversion speed, and improved ease of use. Free programs include Balabolka, Free Natural Reader, and Word Talk. Paid programs include Kurzweil, Read and Write Gold, Wynn, and Dolphin.

**Voice Recognition (sometimes referred to as "speech-to-text") -** Different types of voice recognition systems (also called speech recognition) are available. Voice recognition allows the user to speak to the computer, instead of using a keyboard or mouse, to input data or control computer functions. Voice recognition systems can be used to create text documents such as letters or email, to browse the Internet, and to navigate among applications and menus. An example would be Dragon Naturally Speaking and Microsoft Speech Recognition.

**Word Prediction Programs -** Word prediction programs allow the user to select a desired word from an on-screen list located in a prediction window. The computer-generated list predicts words based on the first or second letter(s) typed by the user. The word may then be selected from the list and inserted into the text by typing a number, clicking the mouse,

or scanning with a switch. Free examples include eType and Let Me Type and paid programs are Co:writer and Word Q.

**Resources:**

ABLEDATA http://www.abledata.com ABLEDATA is sponsored by the National Institute on Disability and Rehabilitation Research, U.S. Department of Education. The searchable ABLEDATA database contains over 21,000 products.

Alliance for Technology Access (ATA) http://www.ataccess.org The ATA provides AT information and support services to children and adults with disabilities.

ATSTAR Program http://www.atstar.org The Assistive Technology - Strategies, Tools, Accommodations and Resources (ATSTAR) Program is designed to increase AT expertise through technology-enhanced learning environments.

Assistive Technology Industry Association (ATIA) http://www.atia.org The Assistive Technology Industry Association is an organization of manufacturers, sellers or providers of technology-based assistive devices and/or services. The organization sponsors the ATIA annual conference and the Assistive Technology Outcomes Journal.

Assistive Technology Training Online (ATTO) http://www.at-training.com The Assistive Technology Training Online Project provides internet-based training in both general and specific areas of adapted computer use.

California State University at Northridge, Center on Disabilities (CSUN) http://www.csun.edu/cod/ Located at California State University, Northridge, the Center on Disabilities develops and publishes materials of interest to the field of disability and sponsors conferences, seminars, and workshops.

Center for Applied Special Technology (CAST) http://www.cast.org CAST is an organization that works to expand learning opportunities for all individuals, especially those with disabilities, through the research and development of innovative, technology-based educational resources and strategies.

Closing the Gap http://www.closingthegap.com This web site spotlights resources in computer technology, special education and rehabilitation. This Resource Directory is a database of over 2000 hardware and software products which is web searchable. Links to vendors are included.

Council for Exceptional Children (CEC) http://www.cec.sped.org CEC is an international professional organization dedicated to improving educational outcomes for individuals with exceptionalities, students with disabilities, and/or the gifted.

Georgia Project on Assistive Technology (GPAT) http://www.gpat.org GPAT is a project of the Georgia Department of Education: Division for Exceptional Students, providing a range of technical support services in the area of assistive technology to local school system personnel and their students. Contains helpful resources, forms, and a video-linked consideration guide. GPAT Videos - http://coefaculty.valdosta.edu/spe/ATRB/Video_Tips.htm

Maryland Assistive Technology Network http://www.matnonline.com/ Established by Johns Hopkins University Center for Technology in Education (CTE), the Maryland Assistive Technology Network (MATN) provides assistive technology specialists information on the

most up-to-date AT policies, practices, and devices. CTE offers professional development opportunities to MATN members through its semi-annual institutes with nationally acclaimed leaders in assistive technology, regional meetings, and the MATN Online Web site.

National Assistive Technology Research Institute (NATRI) http://natri.uky.edu (NATRI) conducts assistive technology (AT) research, translates theory and research into AT practice, and provides resources for improving the delivery of AT services.

National Center for Technology Innovation (NCTI) http://www.nationaltechcenter.org/ NCTI seeks to broaden and enrich the field of technology for the education of students with disabilities by providing resources and promoting partnerships for the development of tools and applications by developers, manufacturers, producers, publishers and researchers.

Office of Special Education Programs (OSEP), U.S. Department of Education http://www.ed.gov/about/offices/list/osers/osep/index.html?src=mr OSEP is dedicated to improving educational results for children with disabilities. The site provides information on Federal policy, national grant projects, national studies, and statistics related to disabilities and other related resources.

Oregon Technology Access Program (OTAP) http://www.otap-oregon.org/ OTAP provides training, information, technical assistance and resources regarding the uses of technology for children with disabilities.

Quality Indicators for Assistive Technology (QIAT) http://www.qiat.org The QIAT Consortium is a national grassroots group dedicated to identifying, disseminating, and implementing a set of widely applicable quality indicators for assistive technology services in school settings.The QIAT listserv provides a national forum for discussion of AT issues.

Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) http://www.resna.org/ RESNA is an interdisciplinary association that provides a credentialing program for assistive technology service providers. The RESNA Technical Assistance Project provides technical assistance to the 56 state/territory programs as authorized under the AT Act of 1998.

Technology and Media (TAM) Division of CEC http://www.tamcec.org TAM is a division of the Council for Exceptional Children (CEC) that works to promote the effective use of technology and media for individuals with exceptional educational needs. The site includes information on conferences and professional publications including the JSET Journal.

Texas Assistive Technology Network (TATN) http://www.texasat.net TATN is a collaborative network between the twenty (20) education service centers in Texas with Region 4 Education Service Center in Houston providing statewide leadership. The site provides links, resources, and training materials.

Wisconsin Assistive Technology Initiative (WATI) http://www.wati.org WATI is a statewide project funded by the Wisconsin Department of Public Instruction to help all school districts develop or improve their assistive technology services. It includes information on best practices, training materials, resources, sample forms, and provides links to other sites related to AT.

**South Carolina Assitive Technology Lab and Loan program:**

SCATP – South Carolina Assistive Technolgy Program

located at Midlands Center, 8301 Farrow Road, Columbia SC 29203

(803) 935-5263

(803) 935 5342 fax

(800) 915-4522 toll free

http://www.sc.edu/scatp/

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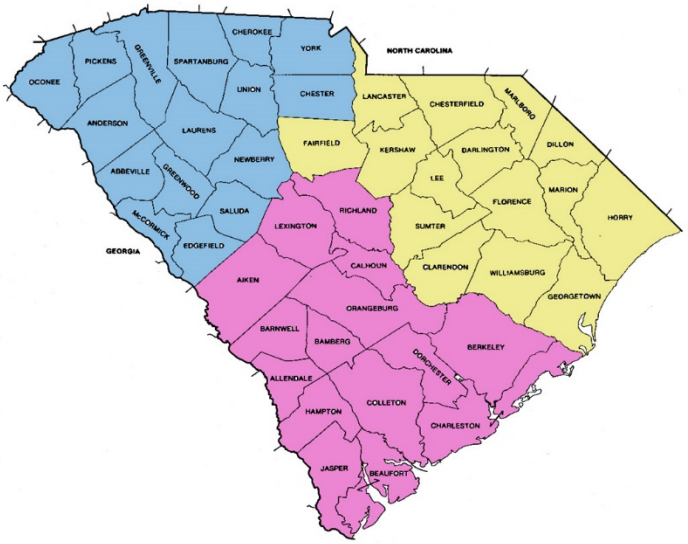
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