



LD Workshop Brings Christopher Lee to Delaware

Technology has made considerable advances in helping individuals with learning disabilities (LD) become productive and independent participants in work, classroom, and leisure settings. Recent laws mandating civil rights for those with disabilities can be interpreted to imply that the implementation of technology is a significant opportunity for the provision of equal access. The forces of "equal access," "non-discrimination," and "reasonable accommodations" have created an environment which encourages the use of technology designed to help those with LD function on a more equal basis with their non-disabled peers.

Technologies that may be appropriate for use by people with LD range from common "low tech" tools, such as tape recorders, to sophisticated "high tech" electronics, such as voice input/output equipment. Equipment designed for individuals with other disabilities, such as FM systems originally developed for the deaf, may be an appropriate selection. The key is to determine how the disability hinders the individual's performance within a defined setting, and then identify an appropriate accommodation.

To learn much, much more about specific technologies and the impact that they can have on individuals, plan to attend the half-day workshop titled "**Equalizing Opportunity: Tools for People with Learning Disabilities**" co-sponsored by DATI, the Network for Education and Assistive Technology (NEAT) Project, and the Science, Engineering, and Math (SEM) Program of The Applied Science and Engineering Labs. The workshop will feature Christopher Lee, an eloquent proponent of assistive technology (AT) applications. Mr. Lee has experienced firsthand the consequences of living with learning disabilities. He describes the creative ways in which technology was employed to circumvent or accommodate his particular learning difficulties, and underscores the valuable contribution of assistive technology in his educational and career successes. He emphasizes the importance of knowing one's strengths and weaknesses, as well as understanding the needs and special capabilities of creative learners. This workshop will be held on Saturday, March 1 at the Christiana Hilton. Sign-in will begin at 8:30, and Christopher Lee will speak from 9 am until 12:30 pm. Examples of AT particularly useful for people with LD will be on display. Refreshments will be served. Seating is limited, making pre-registration necessary. Use the form on page 2 to

“Equalizing Opportunity: Tools for People with Learning Disabilities”

Saturday, March 1, 1997

Christiana Hilton Inn
100 Continental Drive
Newark, DE

8:30 a.m. Registration—Refreshments—Technology Exhibit

9-12:30 p.m. Featured Speaker

Name/Title

Affiliation

Check one Business Address Residence

Address

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Daytime Phone (_____)_____ FAX (_____)_____

I need assistance with:

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|---|--|
| <input type="checkbox"/> brailled materials | <input type="checkbox"/> large print materials |
| <input type="checkbox"/> Spanish materials | <input type="checkbox"/> assistive listening devices |
| <input type="checkbox"/> sign language interpreter, specify one | <input type="checkbox"/> audiotaped materials |
| <input type="checkbox"/> ASL <input type="checkbox"/> tactile | <input type="checkbox"/> other (specify)_____ |

DATI can only *guarantee* accessibility accommodations if notified of the need by **February 14, 1997**.

Registrations will be taken on a first-come, first-served basis—space is limited, send yours in today!

Registration fee includes breaks and materials. Make checks payable to **University of Delaware** (EIN 51-6000297). Return form and payment postmarked **no later than February 19, 1997** to:

DATI, University of Delaware/duPont Hospital for Children, P.O. Box 269,
1600 Rockland Road, Wilmington, DE 19899-0269

Directions to the Christiana Hilton Inn

From Philadelphia, New York, New Jersey: Follow I-95 south to Delaware exit 4B. Bear right at the top of the exit ramp and proceed on Churchman's Road (Rt. 58) to the 3rd traffic light. Make a left at the 3rd light onto Continental Drive.

From Baltimore, Washington, D.C.: Follow I-95 north to Delaware past the service center and Christiana Mall exit. The exit following the mall will be exit 4B (Rt. 7N). Proceed north on Rt. 7 to the 1st traffic light and turn left onto Churchman's Road (Rt. 58). Go to the next traffic light and turn left onto Continental Drive.

From Dover: Follow Rt. 13 or Rt. 1 north past Christiana Mall proceed north on Rt. 7 to the 1st traffic light and turn left onto Churchman's Road (Rt. 58). Go to the next traffic light and turn left onto Continental Drive.

The Hilton will be the first driveway on the left.

Computer Basics 101: Demystifying the Jargon

by Donald Erhart, AT Specialist

So, using a computer strikes fear in your heart? You're not alone. Even though computers have become a very commonplace item in many of our lives, many people are not familiar with "computerese." This article will address the components of the personal computer. The **personal computer** world is divided into two camps, the IBM (PCs) and the Macintosh (Mac) or Apple camp. This article will focus on PCs.

Let's start with some of the jargon, technical terms, and acronyms used in discussing computers. PC hardware includes such things as the keyboard, monitor, printer, central processing unit (CPU), CD-ROM, mouse, and scanners.

The **monitor** is similar to a small screen television. Monitors come in monochrome (one color) or color. Color monitors have evolved from the Color Graphics Adapter (CGA) to the Extended Color Graphics (EGA) to the Video Graphics Adapter (VGA) and finally to the state-of-the-art Super Video Graphics Adapter (SVGA). Today's monitors display information with very fine detail. Since the monitor allows you to see what the computer is doing with the information you are entering, the size and quality of the monitor is an important consideration when purchasing a computer. Several sizes of monitors are available. For normal word processing, database, and spread sheet applications, 13-15"

monitor sizes are adequate. Desktop publishing and some architectural drawing programs may require a monitor with a larger screen. Persons with low vision may also benefit from a larger monitor.

The **system unit** is the computer case housing all the internal components. Sometimes the monitor sits on it, or it may sit on the floor next to your desk (this type is called a tower or minitower).

The **Hard drive or hard disk** is an internal or external high-capacity, high-storage medium equivalent to filing cabinets used for long-term storage. The size of a hard drive is measured in megabytes (MB). Today a 500 MB hard drive is not too large, even though it is large by comparison to the early 20 MB hard drives. Hard drives in the 1.6 gigabyte (GB) range are becoming more and more common. One MB is roughly equivalent to one million characters. One gigabyte is roughly equivalent to one hundred million characters. The average page contains 4,000 characters of text. Using this example, a 1.0 GB hard drive could conceivably hold 250,000 pages of text, although text is not what uses up the most hard drive space. Software uses much more of your hard drive storage space. Some software programs can use as much as 10 MB or more of storage space on the hard drive. With the development of Windows and the ever increasing size of software programs, the size of the hard drive has become very critical. As a rule of thumb, when purchasing a computer today, buy the system with the largest hard drive you can afford. It is simpler and cheaper to buy a large hard drive when the system is new than to upgrade it later when you run out of storage space.

The **floppy drive** is a smaller version of the hard drive. In addition to its size, the other important difference between the hard drive and the floppy drive is that the disk used in the floppy drive can be removed from the computer, where the disk in the hard drive is usually installed permanently. You can use the floppy drive to copy or store files to a floppy disk for later use. Floppy disk drives are 3.5" or 5.25" in size and can hold from 350 MB to 1.44 MB of information.

Random-Access Memory (RAM) is computer memory that can be used to store information while a software program is running. RAM is equivalent to your desk top—the larger the desk, the more it can hold.

The **system board** (motherboard) is the base for the CPU as well as the primary circuit board on which most electronic devices are mounted. The **CPU** is the integrated circuit chip inside the cabinet that performs the actual computing function of a computer. The **power supply** is generally rated according to the accessories that will be installed in the CPU. If the power supply is not rated high enough, the CPU will not operate properly

when accessories are added. If expansion is anticipated, a 250 watt power supply is recommended.

Software is a program that contains a series of instructions to perform particular tasks. Two major categories are operating system and application software. The **operating system** is the set of instructions that provides the link between application software/programs and the computer hardware. Without the operating system, a computer would be much like a team of people who do not know each other's language, yet who are trying to work together to complete the task. Without an interpreter to translate information, the task can not be completed. An **application software program** (WordPerfect, Word, Excel, Lotus) operates under a operating system to perform a specific task.

In the PC world, **DOS** (disk operating system) requires the computer user to learn a series of commands that tell the computer what you want it to do. These commands must be entered in very specific forms or the computer will not understand. **Windows** is a software program that makes using the computer easier. Windows eliminates the need to remember involved DOS commands and allows the computer user to control the computer by just pointing and clicking the **mouse**. A mouse is a pointing device that allows the user to navigate a cursor around the screen. One simply points a cursor on an item and "clicks" the mouse to choose the item.

Many systems offer short cuts to computer control. One of these is a **hot key sequence**, a shorthand method of entering commands. For example, if you press the "F" key while holding down the "ALT" key in Windows, the computer knows that means you want to see the pull down menu titled "File". A **pull down** or **drop down menu** is simply a row or column of keywords which head a series of commands that are hidden until you either use the hot key sequence to access them or click on the words with the mouse. **Menu bars** can be at the top, bottom or on the sides of the window.

Examples of a pull down menu	
Exit	Alt + F4
<u>F</u> ile	<u>E</u> dit
<u>V</u> iew	<u>I</u> nsert
<u>F</u> ormat	<u>T</u> ools
<u>T</u> able	<u>W</u> indow
<u>H</u> elp	

<u>N</u> ew	
<u>O</u> pen	Ctrl +
F12	
<u>S</u> ave	Shift +
F12	
<u>S</u> ave As	F12
<u>S</u> ave All	
<u>F</u> ind File	

A **CD-ROM** (Compact Disc, Read-Only Memory) is similar to, but not the same as, the information on audio CDs. You can read this information but you can not change it. Computers purchased with CDs usually offer a **Multimedia Package** with a **sound card**. This allows you to record sound to your hard drive and play audio CDs or CD-ROMs with information ranging from computer games to encyclopedias. The primary advantage of a CD-ROM is the amount of information (650 MB) it can store. This is more than many of the hard drives in computers currently hold.

Hopefully, you now have a basic knowledge of the jargon used in conversations about computers. Look for follow-up articles on the Mac and on access methods for people with sensory or physical disabilities who need or want to use a computer. n

What's New at Closing the Gap

by Ed Salisbury, AT Specialist

Each year Closing the Gap hosts a five-day conference focusing on computer technology for special education and rehabilitation in Minneapolis, Minnesota. With almost 300 educational sessions and an exhibit floor containing over 80 vendors, Closing the Gap is a valuable resource for consumers, parents, educators, and rehabilitation professionals. Unfortunately, not everyone has the ability to take five days out of their busy schedule for a trip to Minneapolis. For those unable to attend, here are highlights of new assistive technology products now available.

For Communication: The *VoicePal Plus* is a ten message introductory communication device from Adaptivation with a total recording time of 90 seconds. The *VoicePal Plus* can be accessed using direct selection via the membrane keypad or external switches, as well as by single switch auditory scanning. Other features include adjustable response rate, adjustable scan rate, and reliance on standard AA batteries (included).

Probably the most impressive new augmentative communication system would have to be the *Freestyle* and *Knowledge Navigator* from Assistive Technology, Inc. The *Free-*

(What's New cont'd)

style is a portable Power Macintosh more closely resembling a communication device than a computer. Its built-in features include a 10.4" active matrix touch sensitive display, internal 6X CD-ROM drive, universal infrared transmitter, 16 MB of memory, a 750 MB hard drive, and ports to attach a keyboard and mouse. *Freestyle* will run all popular Macintosh augmentative communication software like the Dynavox 2 software and Speaking Dynamically. *Knowledge Navigator* is an authoring system designed to allow parents, teachers, and therapists to create environments for augmentative communication, environmental control, education, and software access. For the non-programmer, pre-made applications created by *Knowledge Navigator* are available.

For Computer Access: *Bubbles* from Equal Access Computer Technology are colorful touch sensitive switches with an adjustable force setting. They can be set to activate at the slightest touch or require an amount of force determined by the setting of the sensitivity dial.

The *Visual Keyboard™* from Adaptive Computer Systems, Inc. is an on-screen, customizable virtual keyboard allowing a person to access any Windows 95 application using a mouse, trackball, Touch Window or any other mouse emulation device. Other features include voice output (for PCs equipped with sound cards), scanning, abbreviation expansion, and word completion.

The *Darci Card* with Morse Plus from the Darci Institute of Rehabilitation Engineering is a PCMCIA card for PCs running DOS, Windows 3.1 and Windows 95 that permits access to the computer via Morse Code input. A PCMCIA card is a credit card sized peripheral compatible with computers that have a PCMCIA slot (usually laptops). An appropriate interface cable is chosen when the card is purchased for use with a mouse, joystick, or switches. Audio feedback is provided for PCs equipped with sound cards. Because PCMCIA cards are a combination of hardware and software, the Morse Code input is completely transparent and is compatible with all software applications.

The *Discover Series* from Don Johnston features products for those who can take advantage of only certain features of this company's Ke:nx keyboard emulator. The *Discover: Switch™* simply plugs into the Macintosh ADB port and instantly allows the student to scan a variety of on-screen keyboards. The *Discover: Screen™* software allows custom on-screen virtual keyboards to be created and accessed via mouse or mouse emulation device. This product is similar to the Visual Keyboard™. The *Discover: Board™* is an expanded keyboard that plugs directly into the Macintosh ADB port. This keyboard comes with ready-to-use overlays as well as the ability for custom keyboard overlays to be created.

(What's New cont'd)

The *HeadMouse for Portables* from Origin Instruments offers all of the features of the full size HeadMouse in a compact package for use on laptop computers. The HeadMouse translates a person's head movement into mouse movement using a small reflective dot worn on the forehead. The HeadMouse and *HeadMouse for Portables* can be used on PCs or Macintosh Computers. These products are ideal for accessing on-screen virtual keyboards like the Visual Keyboard™ and the Discover: Board™ for people with limited use of their hands.

Two new products are available in the area of eye tracking technology. These devices track eye movement as a means of mouse emulation for computer access, environmental control, and augmentative communication. Look forward to more information coming soon on the *EyeMouse* from Adaptive Computer Systems, and the *EyeWare Series* from Assistive Technology, Inc.

For People with Visual Impairments: The *Aladdin Series* of CCTVs from Telesensory magnify any printed material that is placed on the x-y table on their built-in monitors. There is no need to refocus these CCTVs for varying levels of magnification. The Aladdins also include a unique lever control for manipulating the x-y table. With this control, the x and y movement of the book or document can be adjusted to various friction levels or locked completely.

The *Omni 3000* from Kurzweil Educational Systems, Inc. is a computerized reading system for PCs. Any book, document, or newspaper or magazine article can be scanned into the computer for immediate reading. The reading software utilizes the computer's audio card to provide realistic speech output. For people with reading difficulties, the *Omni 3000* provides extensive control over speech rate and highlights the printed material on the computer screen as it is read. A unique feature of the *Omni 3000* is its ability to retain graphics as well as text from the document for magnification on the computer screen.

Atlas Speaks and *Strider* from Arkenstone are two unique orientation devices for people with visual impairments. *Atlas Speaks* is a talking map program for PCs. *Strider* uses the *Atlas Speaks* software on a laptop computer coupled with a *Global Positioning System* (GPS) receiver to keep a person who is blind on a predetermined path. *Strider* can also be used to notify a person of his or her location with a surprising level of accuracy.

For People with Cognitive Disabilities: The *ULTimate Reader™* and *ULTimate Caption Works™* are two exciting new products from Universal Learning Technology. The *ULTimate Reader™* is an advanced literacy development system designed to increase reading fluency and enhance writing development. The *ULTimate Reader™* can pro-

(What's New cont'd)

vide verbal feedback of what the person is typing or can be used to read books on disk and other files in text format. *ULTimate CaptionWorks™* is software for use on a Macintosh equipped with a video card. This software makes it possible for any video to be open captioned for a person who is deaf.

The *NeuroPage®* from Hersh & Treadgold, Inc. is not new but deserves a mention anyway. The *NeuroPage®* allows a person with a memory disability, his/her employer, caregiver, etc. to program reminders for the day into a computer. The computer uses a standard paging service to alert the individual, who is wearing an alphanumeric pager, of pre-programmed events ranging from taking medicine to meetings and appointments.

For Vocational Assessment and Training: *PictureCoach* and *WorkSight* from Meeting the Challenge, Inc. are software programs for people with cognitive disabilities who want to work or who are working already. *PictureCoach* is an interactive multimedia software training system for PCs. It uses live video, pictures, and sound to present training tasks in a cost effective manner that allows for self pacing. *PictureCoach* is customizable for individual training needs. *WorkSight* is a multimedia career interest tool for people with significant cognitive challenges. Because no reading or writing is required, the test can be taken without the assistance or input of a rehabilitation professional.

Community Visions from NorthWind Interactive Technology is a CD-ROM multimedia software package designed to train employment placement specialists in assessment, job development, and job coaching.

For Education: The Mighty Math Series from Edmark Software is a series of six math software programs for grades K-10. This software uses exciting graphics to make learning fun. Children learn everything from addition and subtraction to algebra and geometry. Puzzles and activities reinforce mathematical concepts.

AlphaSmart Pro from Intelligent Peripheral Devices, Inc. is a note-taking and word processing tool for people with visual impairments or writing difficulties. Typed text can be edited within the AlphaSmart Pro, or can be quickly and easily uploaded to a Macintosh or PC. This is a possible alternative for students who may otherwise require a laptop computer for note-taking. It is also ideal for classrooms with only one or two computers. Students can compose their work on the AlphaSmart Pro and upload it when the computer is free. This product was introduced last year but deserves a second mention.

For more information on any of the above listed products, contact the ATRC in your county.

Assistive Technology for Children

by Maureen Schweitzer, ATRC Coordinator

What do supine standers, corner chairs, weighted spoons, and adapted toys have in common? They are all examples of AT that facilitate development by enabling children to participate more actively in daily activities and play.

Adapted chairs and standers support children in positions that they cannot maintain without assistance. Children certainly take in more about their environment when their positioning facilitates their breathing, eating, speaking, seeing, hearing, and learning. Walkers or manual chairs can assist with movement about the environment. Each of the DATI ATRCs has a B.O.S.S./Cooper Car available for loan. This “vehicle” is a child-size car adapted so that a child with special needs can drive using whatever physical ability s/he has (finger motion, head rotation, etc.). This example of AT gives children experience directing their own movement.

Low- and high-tech AT is available to help children perform self-help activities. Adapted eating utensils (e.g., weighted spoons) and modified bathing equipment (e.g., velcro fasteners on a bath chair) can help make everyday experiences more productive and enjoyable.

Play is “kids' work,” but it is not always easy for children with developmental delays. It may be more enjoyable with lots of visual and auditory feedback, like that available from some computer programs. The early learning software on the market today is very appealing to children; the options are many and varied, and access can be made easier with the use of touch screens or switches. Children with special needs may also find play more accessible through the use of switch-operated toys. With sometimes minimal physical effort, children can control specially designed (or adapted) toys.

For children unable to speak, or for those whose communication skills are developing slowly, augmentative communication devices can facilitate interaction and enhance language development. Augmentative communication systems speak preprogrammed messages activated by the child via push-button or switch activation. Communication systems allow the child to be a full participant in activities; for example, during circle time the child might indicate that he wants to sing “Wheels on the Bus” by touching a picture of the bus and having the device say “Let's sing The Wheels on the Bus” or sing the first line of the song! By experiencing the impact he can have on his environment, the child learns about the power of language.

AT opens up a world of opportunities for children. To preview software or gain informa-

tion about equipment or toys available, call the ATRC nearest you for an appointment. The equipment is available for short-term loan at no charge. n

FINANCING ASSISTIVE TECHNOLOGY

Vocational Rehabilitation: Interagency Options and Responsibilities

Ron Sibert, DATI Funding Specialist

The State Division of Vocational Rehabilitation (VR) is an important AT funding source for working-age adults with disabilities. However, individuals with disabilities often receive services from more than one agency, and the issue of which one is responsible for the purchase/provision of AT is not always clear. For example, students with disabilities who are transitioning from school to the working world or who are in college pose particular challenges in determining which service provider pays for what and when. The November issue of the *AT Advocate*, the newsletter of the National Assistive Technology Advocacy Project,¹ examines this issue from a legal standpoint. It discusses how VR agencies are supposed to treat AT, and whether or under what circumstances other funding sources should be brought to bear. Central to the issue is the notion of a “comparable benefits” requirement, which is the VR’s federally mandated practice of seeking other payers before committing its own funds. The *AT Advocate* gives the following explanation.

VR agencies are the payer of last resort for many services. This means they will not pay for a service if a similar benefit is available through some other agency or program. 29 U.S.C. § 721(a) (8).

For example, if an applicant qualifies for personal assistance services through Medicaid, the VR agency will not provide those services. By contrast, the VR agency cannot deny payment for college tuition because an individual could obtain student loans. Student loans, which must be repaid, are not similar benefits. Additionally, a person does not have to exhaust similar benefits if the application process for the similar benefit would delay services to an individual at extreme medical risk; if an immediate job placement would be lost due to delay; or if rehabilitation technology, (i.e., AT) is involved. 29 U.S.C. §§ 721(a)(8), 723(a)(12); 34 C.F.R. § 361.47(b)(2)(v).

1. A project of Neighborhood Legal Services, Inc. of Buffalo, NY. The project is supported by the National Institute on Disability and Rehabilitation Research, U.S. Department of Education, through a subcontract with United Cerebral Palsy Associations.

AT, then, is exempt from the VR's comparable benefits search requirement. While the Agency may not be restricted entirely from seeking or making use of alternative AT funding sources, the search should never delay the provision of AT.

Two applications of this requirement warrant further discussion. The first involves the interplay between a public school's obligation to provide a free appropriate public education under the Individuals with Disabilities Education Act (IDEA), 20 U.S.C. § 1400, *et seq.*, and the VR agency's responsibilities in the transition process. The second involves the interplay between a college or university's obligation to provide auxiliary aids and services under either Section 504 of the Rehabilitation Act, 29 U.S.C. § 794, or the Americans with Disabilities Act (ADA), 42 U.S.C. § 12101 *et seq.*, and the VR agency's obligation to provide those services.

Purchase of AT for Students in Transition: Who pays?

IDEA requires that school districts include a transition plan to aid in the student's move to adult life in the Individualized Education Program (IEP) by the time s/he is 16 years of age. 34 CFR § 361.31(a)(1). Of course the picture becomes more complex when the student is an AT user.

Where AT is involved, this can be a significant problem. As we noted in the August 1996 issue of the *AT Advocate*, schools do not normally consider AT devices purchased to ensure an appropriate education to be the student's property. If the AT device will also be essential for college or employment, an appropriate part of the transition plan should utilize VR agency funding to obtain AT for the student who is aging out of the special education system. Significant delays will result if the VR process does not begin until after a student leaves school. It also makes little fiscal sense for a school to provide AT, merely to be surrendered upon graduation with the student then seeking another device from the VR agency.

Delaware's Department of Public Instruction (DPI) and Division of Vocational Rehabilitation (DVR) have a legally required interagency agreement that is supposed to address various transition-related issues. The two agencies are now in the process of revising that agreement, but how transitioning students can maintain access to school-purchased AT that they continue to need after graduation remains problematic. State policies regulating the purchase or disposal of public-financed equipment are at the heart of the problem. When equipment is purchased by the Local Education Agency (LEA) to meet IEP requirements, the equipment belongs to the LEA. So when the student graduates, state policies require the LEA to either retain the equipment, or to turn it over to a central pool for disposal/resale. Of course, in this instance, the most efficient and cost-effective solution might be a direct interagency transfer/purchase

transaction. However, problems involving price determination and equipment disposal policies pose significant barriers to realizing that outcome. Even so, the outlook is hopeful. Delaware's Tech Act and Protection and Advocacy organizations are currently examining ways of removing those barriers, and related communication with the state agencies has already begun.

Nonetheless, there still may be some confusion around the issue of comparable benefits when the school is perceived as having primary responsibility for providing AT. This is a concern for educational institutions at all levels. The *AT Advocate* article makes several observations in that regard.

What is the VR agency's responsibility under these circumstances? One possible resolution of this dilemma is to remember that rehabilitation technology is exempt from the comparable benefit requirement. Moreover, in those cases where the student is not the owner of the AT device, its purchase by the school should not be viewed as a comparable benefit. Finally the regulations contemplate the provision of VR services to special education students and require coordination between the IWRP and the IEP. 34 C.F.R. § 361.41(c).

AT for the College Student: Who Pays?

The issue of comparable benefits has been raised in the higher education arena as well. Colleges and universities are required by the ADA and Section 504 to provide AT to certain college students with disabilities. That responsibility is sometimes interpreted by VR agencies as a comparable benefit. However, Section 504 regulations indicate such interpretation is not appropriate and that they should in fact act as a resource for the schools.

...Section 504 regulations governing colleges indicate that the [U.S.] Department of Education envisioned that colleges could normally meet their obligation to provide auxiliary aids by assisting students in using existing resources for auxiliary aids such as state vocational rehabilitation agencies and private charitable organizations. Indeed, the Department anticipates that the bulk of auxiliary aids will be paid for by state and private agencies, not by colleges or universities." 34 C.F.R. Part 104, App. A, note 31, at 435 (1992) (emphasis added). The purpose of these comments was to highlight that the provision of auxiliary aids [was not intended to] be an undue burden on the colleges. See, *U.S. v. Board of Trustees for U. of Ala.*, 908 F.2d 740, 745 (11th Cir. 1990).

Addressing this question relative to Section 504, the Seventh Circuit held that the state VR agency has the primary responsibility to provide auxiliary aids in the form of interpreter services. *Jones v. Illinois Dept. of Rehabilitation services*, 689 F.2d

724 (7th Cir. 1982). In dicta, the court also noted its approval of the district court's opinion that the similar benefits requirement did not even apply to colleges or universities. *Id.* at fn. 6. In *Schorstein v. N.J. Div. of Voc. Rehab.*, 519 F. Supp. 773 (D. N.J. 1981), *aff'd*, 688 F.2d 824 (3d Cir. 1982), the court held that the VR agency's policy of refusing to provide interpreter services to college students violated Title I of the Rehabilitation Act.

The regulations under Section 504 exempt colleges from providing auxiliary aids and services for personal use or study. 34 C.F.R. § 104.44(d)(2). The relevant ADA regulations also exempt personal devices and services. 28 C.F.R. §§ 35.135 and 36.306. Therefore, if a college is under no obligation to provide AT in such circumstances, there is no comparable benefit. Finally, as noted above, AT (rehabilitation technology) is exempt from the comparable benefit requirement. The Department of Education's Rehabilitation Services Administration is preparing a policy on the VR agency's role in providing auxiliary aids for college students. See "Several Vocational Agencies Stop Paying For Auxiliary Aids," *Section 504 Compliance Handbook*, Supp. No. 213, p. 1 (Thompson Publishing Group, August 1996).¹

Please note that the above passages should not be interpreted to mean that educational institutions are released from their obligations under the ADA and Section 504. They are included to clarify vocational rehabilitation agencies' AT- and interagency-related responsibilities, and the correct application of comparable benefits.

1. Questions regarding materials contained in the excerpts from the *AT Advocate* may be addressed to the National Assistive Technology Advocacy Project, 295 Main Street, Ste. 495, Buffalo, NY 14203. Phone: (716) 847-0650, TDD: (716) 847-1322, e-mail: NLS01@sprynet.com



ULTimate Reader™, from Universal Learning Technology, is one of many new literacy programs available today which uses a multisensory, interactive approach to reading. It is a flexible program that highlights text and can be used with or without synthesized speech. When used **without** the voice, the highlighting sets a pace for silent reading. If an individual benefits from voice output, the highlighting and reading modes may be controlled in the **way** the voice sounds, as well as **when** the text is spoken.

The text may be highlighted and/or read by letter, word, line, chunk, sentence, or paragraph. The speed of highlighting is determined by the speaking speed. The voices can be changed (male, female, etc.), speed, volume, pitch, and modulation. Users can customize the text, background, and/or highlight color, as well as the placement of text windows, dialog boxes, and the Reader Button Strip. ULTimate Reader™ may be particularly useful for the individuals with a learning disability, low-reading competency, or a visual disability. n



Delaware Recycles AT

If you are interested in an item, please call the number listed next to the item. If you would like to add or remove an item from the list, call 800-870-3284, press 1 for English, and then press 3 for the DATI Central Site office. All prices are negotiable and all area codes are 302 unless otherwise noted.

Devices Available:

Ambulation/Mobility

Brace, Boston Scoliosis for spinal curvature, size x-8-F0⁰, Free, Claire, 674-5735

Braces, Child, f/2 year old, \$200 & \$75, Bernie, 455-1432

Cane, 4-legs, \$35, Kathy, 644-2214

Jay Cushion, 16", black, \$90, Michael, 322-4543

Jay Cushion, 18", black, \$90, Michael, 322-4543

Leg Brace, w/hinge, large, \$35, Kathy, 644-2214

Walker, New, 2 wheels, folds, \$25, Kay, 994-7249

Walker, Swedish Rollator w/wheels & attached seat, \$300, D.C., 629-2045

Walker, Adj., folding, w/wheels, Free, Larry, 737-6792

Augmentative Communication

Lightwriter, Scanning (SL8), \$500, Carolyn, 856-7946

Computers/Electronic Equipment

B.O.S.S. 8000 Casio Organizer, \$50, Carolyn, 856-7946

*Scan Man w/catchword PRO OCR for Windows, \$100,
Carolyn, 856-7946*

Unmouse, \$30, Carolyn, 856-7946

Educational

Hooked on Phonics, books & tape, \$150, Donna, 337-7642

Hearing

Telecaption II Decoder, \$35-Firm, Donald, 892-9038

Telecaption Caption Decoder, \$40, Sandy, 328-2872

TTY, Ultratec Compact, portable, \$275, Melissa, 410-822-3949

Personal Care/Home Management

Bath Chair, std, \$10, Kay, 994-7249

Bath Chair, Tubby II Folding Bath Bench Chair, \$70, Sandy, 328-2872

Bath Support Seat, Child's (2), \$70 ea., Sandy, 328-2872

Bathtub Bench, New, \$100, Sarah, 322-8112

Bean Pillow w/liner & cover, \$20, Sandy, 328-2872
Bedside Commode (2), \$20 ea., Sandy, 328-2872
Bedside Commode, Free, Larry, 737-6792
Bedside Commode, freestanding or over the commode, \$45, Kathy, 644-2214
Commode, Child's, High-Back, \$85, Sandy, 328-2872
Commode, free standing, \$10, Kay, 994-7249
Geriatric Chair, new, w/reclining chair, adj. foot rests, & attachable tray, \$400, Sarah, 322-8112
Hospital Bed, Electric, \$500, Leroy, 834-4856
Hospital Bed, Electric, \$1,200, Billie, 322-7863 after 6 p.m.
Hospital Bed, Electric, \$350, Richard, 610-565-3636
Oxygen Machine, \$1K, Millie, 412-264-6121
Patient Lift, Invacare, hydraulic, \$200, Debra, 366-1010
Peristaltic Gradient Sequential Compression Pump, Negotiable, Joanne, 658-5878
Portable Oxygen Concentrator, \$100, Larry, 737-6792
Pulmo-Aide Compressor, \$40, Millie, 412-264-6121
Pulmo-Aide Compressor, \$20, Larry, 737-6792
Pulse Oximeter, \$1K, Larry, 737-6792
Shower Bench, small, \$20, Kathy, 644-2214
Stair Glide, for 14 steps, \$2K, George, 653-9038
Stair Glide, model 25, \$2K, Carl, 478-1591
Stair Glide, approx. 14 steps, \$1,600, Larry, 737-6792
Toilet Seat, raised, Free, Larry, 737-6792
Toilet Seat, raised, adj., adult, \$10, Sandy, 328-2872
Toilet Seat, w/rails, \$20, Sandy, 328-2872
Transfer Bench, used twice, \$50, Kathy, 644-2214

Three/Four-Wheeled Powered Scooters

Scooter, Rascal, 4 wheel, basket, recharger, new, \$3K, Josephine, 764-5324
Scooter, Omega, 3 wheel, w/arms, basket, double battery, \$300, Judy, 645-9158
Scooter, Sun Runner, 4 wheel, inc. lift for car, \$2K, Steve, 695-1695
Scooter, 3 wheel, dismantles for storage in trunk, \$600, Larry, 737-6792
Scooter, Rascal, 3 wheel, chair w/arms, horn, flag, double batteries, charger, \$1,500, Kathy, 644-2214

Vehicles/Accessories

Hand Brake/Throttle, new, GM, \$395, Barbara, 678-0515
Ramp, permanently attaches to a van, \$60, Elizabeth, 422-2896
Van, 89 Ford E 150, blue, Braun w/c lift, automatic, \$8K, Richard, 610-274-0242
Van, '88 Dodge Maxi Van, 50K, lift bed, toilet, storage, electric, \$20K or \$12K to quali-

fied buyer, Franklin, 368-4675

Wheelchairs

Adult, Electric, Joystick Hoveround, reclines, hi-back, negotiable, Josephine, 764-5324

Adult, Electric, Invacare, 16" wide, w/tilt & space recliner, removable joystick on tray, \$7K, Jo/Jim, 610-622-4276

Adult, Manual, \$500, Rose, 335-4659 evenings

Adult, Manual, 18", Invacare w/footrests, \$500, Cindy, 475-2904

Adult, Manual, lightweight, 3-wheeled Teladyne, indoor use, person must be able to self-propel, \$50, Clyde, 368-8779

Adult, Manual, std, \$50, Leroy, 834-4856

Adult, Manual, small, E & J, headrest, tray, doesn't recline, \$150, Jeri, 645-4785

Adult, Manual, Invacare, Jay Back, \$600 Firm, William, 652-1914

Adult, Travel Chair, lightweight, collapsible, std size, \$350 Firm, Alice, 998-4537

Child, Quickie P10, Electric, \$3K, Richard, 610-565-3636

Child, E & J, Electric, Barbie, \$5K, Joanne, 215-335-0589

Child, Zippie by Quickie, Manual, Pink & Black, tilts, \$500, Jamie, 945-8668

Child, Quickie II, Manual, Pink, Kevin, 410-885-5748

Child, Quickie, Manual, w/tray, \$200, Vernessa, 655-9840 eve.

Children's, variety, Free, Kristen, 672-1960

Devices Needed:

Accessible Home with w/c ramps and lowered cabinets, Sarah, 322-8112

Bicycle, pedal w/hands, Pat, 653-6892

Commode, adult-sized w/restraints, Sheila, 697-8404

Lift for Rascal Scooter, Dawn, 738-5336

Lift Chair (donation), Raymond, 349-5610

Phone Flasher for TTY, Tricia, 832-8082

Portable Ramps, Dave, 328-4143

Scooter, electric, heavy duty, Sarah, 322-8112

Shower Bench or Chair, small, Kristen, 658-0672

Standing Table, Ken, 831-2430

TDD, Joann, 834-2518

Tilt Table, Theresa 651-6015

Tricycle, Adult w/coaster brakes, Mary Anne, 998-2171

Tricycle, Child's, accessible, Marcy, 609-478-0656

TTY, Tricia, 832-8082

Van Lift, Pat, 653-6892

Van Ramps, 7-10', EZ access, Cindy, 284-9575

Van Ramps, Pat, 653-6892