



# DIRECTIONS

*Technology in Special Education*

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May 11, 1995

## Adaptive Output Devices

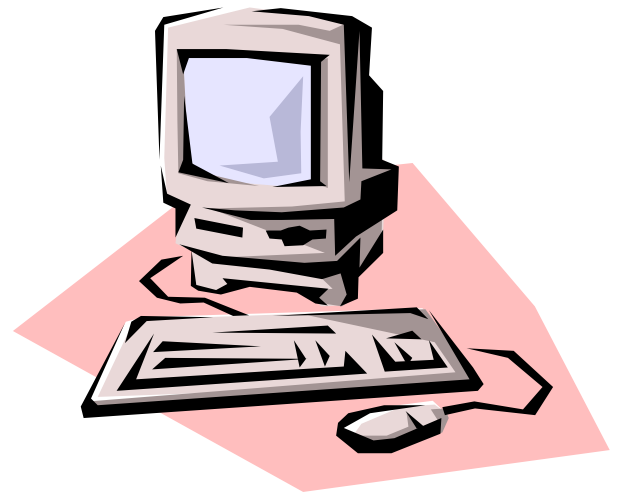
What do we mean when we say adapt? What is it that makes these special devices differ from the standard computer counterparts?

To adapt a device means to take its original form (a keyboard for instance) and change it or modify it so that it can be easily used by individuals who may have visual, physical or developmental limitations. Perhaps the keys need to be larger, and easier to find. Think of how a keyboard with only 26 letter would help! Maybe only two arrows on the whole keyboard!! Success would be almost guaranteed!

It's important to keep in mind that computers are just tools. And, in order to be able to benefit from the use of a tool, you have to be able to use it easily. It does you absolutely no good to have the use of a 50 pound sledge hammer when you need one, if you can't pick the silly thing up! Adapted devices and assistive technologies are what enable special needs children and adults to access their environment and the special world of computers! They are enablers, and with them comes a great deal of empowerment.

When we talk of adaptive output devices, we are talking about those devices that change or modify the standard output from a computer. These devices alter the computer's visual and/or audio output for those with visual, physical and/or cognitive delays and challenges. What they do is convert standard output from the monitor or printer and change to another form. This new form of output is then usable by someone who is not able to process or utilize the standard output.

We will be describing a number of adaptive and alternate computer output devices, methodologies and product types in this article. You may think that the devices that we're talking about here are a bit pricey! -- Well, as a matter of fact, -- you're right, they're certainly not inexpensive! But, think about the benefits. If you truly feel that



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### Output Devices

Braille Printers  
Text to Speech  
Screen Enlargers  
Personal Readers

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### More Device Vendors...

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### Parent on the Loose...

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### More on Input Devices...

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### Marketplace...

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### Tech Paks...

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a particular technology based device will provide a high enough degree of success and accomplishment, you should seriously consider purchasing it! Or at the very least, you should contact one of the many local, county, or state agencies that exist to give you assistance and try it out!! These agencies have the technologies available for our review at their locations. You may be quite surprised at how easy they are to use, and how beneficial it can be to use them!

## Braille Output



Braille is the method of communication used by blind or severely visually impaired individuals. Small raised dots represent letters and symbols by their combination and placement. Available devices can take the output from a computer monitor or printer and translate it into continuous braille displays or printed pages for reading.

Enabling Technologies is one of many companies that produce braille printers, embossers, and translators. Their products combine print and braille on the same page, accommodate varying width page sizes, and print on both sides of the paper. These types of products prove invaluable to individuals who are blind!

## Look For...

- ✓ double sided printing
- ✓ print and braille on the same page
- ✓ graphics printing
- ✓ sufficient input/output ports

## Costs

Prices vary drastically depending on the device and the vendor. Expect to pay at least \$1,000 for a quality printer or embosser,

# DIRECTIONS

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**Editor / Publisher**  
Janet P. Hosmer

**Technical Editor**  
Chester D. Hosmer, Jr.

**Copy Editor**  
Kira L. Boyd

**Business Development**  
Gerry Kawamura

**Educational Consultant**  
Donna M. Eno

**Contributors**  
Tom Nurse ◦ Mamie Evans ◦ Tina Brandel  
Chuck Palmer

DREAMMS FOR KIDS, INC.  
2763 Tasha Drive  
Clearwater, FL 34621-1223  
VOICE/FAX: 813.781.7711

DREAMMS@aol.com  
DREAMMS@ix.netcom.com

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Vendors - We welcome product news. Please include pricing and contact name with press releases.

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## Adaptive Device Vendors

Don Johnston, Inc.  
1000 N Rand Rd., Bldg 15  
PO Box 639  
Wauconda, IL 60084-0639  
800-999-4660  
Adaptive SW & HW

DSP Solutions, Inc.  
2464 Embarcadero Way  
Palo Alto, CA 94303  
415-494-8086  
Audio/sound devices

Enabling Technologies Co.  
3102 S.E. Jay Street  
Stuart, FL 34997  
800-777-3687  
Low Vision Aides & Readers

Hartley Courseware  
3451 Dunckel Road, Suite 200  
Lansing, MI 48911-4216  
800-247-1380  
SW & Adaptive SW

Henter-Joyce, Inc.  
2100 62<sup>nd</sup> Ave. N.  
St. Petersburg, FL 33702  
813-528-8000  
Voice output devices

TeleSensory  
445 N. Bernardo Ave.  
P.O. Box 7455  
Mountain View, CA 94039-0920  
415-960-0920  
Low Vision Aids

but be certain to shop around. And remember! The translator that actually translates the output will most likely cost extra.

Sound devices (PC sound card, Digispeech, Echo, etc.) are required.

### Talking Word Processors

*(Continued on Page 4)*

This technology area seems to have expanded very rapidly in the last few years! It's becoming very common for our computers to talk to us in clear legible human speech! Most new personal computers sold today have sound capabilities built right in! And, the software that comes with the computer (the bundle) incorporates the high quality digitally produced sounds.

Sound is generated from digitally recorded files, or it is synthesized by putting tones together to form words and phrases. Software packages are developed to use either/or both types of sound producing methods in their software programs.

Talking word processors like Don Johnston's *Write Outloud*<sup>™</sup> or Hartley's Dr. Peet's *Talk/Writer* actually speak letters, words, or sentences and phrases as you type.

## Living With Computers 101

Rule # 1

**Don t Panic  
If You Push The Wrong Button!**

**This most likely won t  
break the computer !!!**

**They are tougher than you think!!**

## More on Input...

We goofed! We inadvertently left scanners out of our discussion of adaptive input devices in our March issue. Scanners can be used as an alternative way to get printed material *into* a computer. This printed material can then be reformatted and displayed in a manner that is more appropriate for the individual user.

The information is entered into the computer by "reading" the print off the paper, either with a full page scanner, or the much less expensive portable hand scanners. The software that comes with the device should allow for adjustment of resolution, brightness, contrast, etc. Hand held scanners have a resolution of about 400 dpi (dots per inch) whereas flatbed scanners scan as high as 2,000 dpi. (A very good laser printer is 1200 dpi!) Black and white, or color devices are available. Scanners are generally platform specific. Eastman Kodak, Polaroid, and Logitech are 3 manufacturers.

### Look For...

- ✓ resolution, contrast, brightness adjustments
- ✓ system (Mac or PC) compatibility
- ✓ versatile software for editing images
- ✓ ease of use

### Costs

Expect to pay between \$100 and \$500 for a hand held scanner. Full page flatbed scanners can be priced as high as \$9,000!

**Need Some Specific Info?  
Call for a Tech Pak!  
813.781.7711**

*(Continued from page 3)*

### What to Look For

- ✓ able to process digitized & synthesized speech
- ✓ system (Mac or PC) capability
- ✓ built in spell-check
- ✓ synthesized voice modifications

### Costs

You can expect to pay less than \$100 for the word processors. Sound devices range in price from \$100 to \$200.

### Screen Enlargers

Many output modification options are available for individuals with vision impairments. Devices are available that will magnify the computer display screen either through software or an add on device for the front of the monitor. The computer output can also be relayed to a TV monitor. Whichever method is used, the monitor display can be greatly enlarged for easy viewing! Personal readers and CCTVs (Closed Circuit TVs) are magnifying devices that are also available. They will magnify the print on whatever is being scanned. Print size is selectable. Most all items are readable, such as newspapers, recipes, medicine bottles, books, notes, etc.

### Look For...

- ✓ able to select display size
- ✓ 3-dimensional object scanning
- ✓ black/white & white/black reversal
- ✓ tilt screen/easy adjustment

*(Continued on page 8)*

# PARENT ON THE LOOSE

BY: Tom Nurse  
PRO District 5 Representative

## FAAST Holds One Day Workshop at Shriner's Hospital

On Saturday, March 25th, the Florida Alliance for Assitive Services and Technology (FMST) held a one day workshop on accessing assitive technology (AT) on the suncoast of Florida. The purpose of this workshop was to help develop better communication between the various parties needed in order to successfully deliver AT to those who can benefit from its use.

### *What Are Your Rights Under the Law*

The format of the workshop included guest speakers and expert panels with representation from around the state. The subjects addressed included: "What is Assitive Technology", "What are Your Rights Under the Law", and "Who Pays for Assitive Technology?". The audience was made up of families, service providers, government & community social service agency representatives, and healing arts providers.

It was clear to everyone attending that all efforts toward enhanced communication amongst the interested parties will help save both time and money. Also noted was the fact that multi-funding sources may be necessary in order to secure needed services and equipment.

For more information on the Florida agency or upcoming events, contact Karen Jacobs, FMST Regional Coordinator, at 813-251-7591.

**Editor's Note:** FAAST is funded by a grant from the U.S. Department of Education, National Institute on Disability and Rehabilitation Research (NIDRR). Their

mission is to enhance the quality of life for all Floridians with disabilities by providing access to economic independence and community integration using the tools of assitive services and technology.

All states have been allocated money through this program whereby they have created agencies with similar goals and missions. Check with your local school district, or parent service agency to find out about similar services, lectures, and workshops. Or, call DREAMMS. We'd be more than happy to help you find an agency near you!

## Conferences

Reprinted from NARIC Calendar of Events & Other Sources...

Date: May 17-19

Event: President's Committee on Employment  
of Persons with Disabilities

Location: Portland, OR

Contact: Betsy Friedman, 202-376-6200

Date: May 31 -June 3

Event: ADARA 1995 Biennial Conference Update

Location: Kansas City, MO

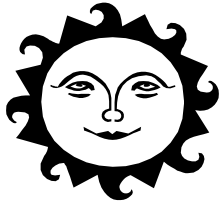
Contact: Susan Nelson 913-371-6700

Date: June 1995

Event: Society for Disability Studies

Location: Oakland, CA

Contact: Harvey Horowitz 410-97 -0763



# Florida News

## New Group in Pinellas County

Families Enabling Success through Technology (FESTT) is a new group in Pinellas County and they are conducting a survey in order to plan for upcoming informational meetings and workshops. FESTT is a prent *information* group that will provide information and training oportunitiesin the areas of assistive, adaptive and computer technologies. Please assist them by filling out the survey below and mailing it to: Paula Walker, Administration Building, P.O. Box 2942, Largo, FL 34649-2942.

*Thanks so much for your interest and assistance!*

### Parent Survey

What type of information interests you? Please check all that apply.

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Augmentative Communication Devices        | <input type="checkbox"/> Software for High School      | <b>Platform</b>                         |
| <input type="checkbox"/> Computers & Technologies (Multimedia, CD) | <input type="checkbox"/> Software for Transition       | <input type="checkbox"/> Apple/Mac      |
| <input type="checkbox"/> Adapted & Assistive Computer Devices      | <input type="checkbox"/> Environmental Control Systems | <input type="checkbox"/> IBM/Compatible |
| <input type="checkbox"/> Software for Pre-K                        | <input type="checkbox"/> Funding Issues                | <input type="checkbox"/> Tandy          |
| <input type="checkbox"/> Software for Elementary                   | <input type="checkbox"/> _____                         | <input type="checkbox"/> Other          |
| <input type="checkbox"/> Sofware for Middle School                 | <input type="checkbox"/> _____                         |   |

Rate: 1 Best Choice 2 Second Choice 3 Third Choice

**Best Day to Have Workshops**

- Monday
- Tuesday
- Wednesday
- Thursday
- Friday
- Saturday

**Best Time Weekdays**

- 5 - 7 PM
- 6 - 8 PM
- 7 - 8:30 PM

**Best Time Saturday**

- 9 - 11 AM
- 10 - 12 PM
- 1 - 3 PM
- 2 - 4 PM

Do You Have any Suggestions for Presenters?

Name \_\_\_\_\_  
Address \_\_\_\_\_

Topic \_\_\_\_\_

Would you be interested in working on a workshop planning committee? If so, please fill in the information below.

Name \_\_\_\_\_  
Address \_\_\_\_\_

Phone \_\_\_\_\_

**Thank you!**

*My Dear Friends,*

It seems as though there are more and more agencies and informal groups being created especially to help our youngsters and adults with disabilities and special needs. I really hope that the trend continues! Do you have an agency like FFAST or FESTT in your area? Is there somewhere that you can go to try out "all the neat stuff"? Is there possibly a parent information, support, or assistance group? I'm sure there is -- if you look in the right places!! If not, you can certainly call us and we'll help you look!

I keep talking about *DIRECTIONS'* expansion in size and scope in the near future! 12 or 16 pages will be so wonderful!! We want to be sure that we expand in the areas that you find interesting and appealing though. Would you like to see more product reviews? More technology tips, more agency happenings? Are you sick of the editor's column? (I would be just crushed you know!!) What can we do to be of more benefit to you?

Please drop us a note and let us know what you love, what you hate, and what you'd like to see! Our e-mail is DREAMMS@aol.com, our phone is 813.781.7711, and slow boat is: 2763 Tasha Drive, Clearwater, FL 34621. We would truly love to hear from all of you out there!!

Looking forward to hearing from you ...

kindest Personal Regards..

*Janet*



## Marketplace

### TOYS ON THE MOVE

Fully adapted for switch use. Names they love \* Talking Big Bird & Barney & Disney Mirrors. All easily set into action.

**Switch Kids, Inc. 8507 Rupp Farm**

**West Chester, OH 45069**

**513-860-5475 Phone or FAX**

### ABCFUNWARE

Large buttons, colorful screens, simple straightforward letters & objects!! Allows for easy interaction with the computer! Kids love it! Human Voice speaks letters and words! Sound card recommended but not required. PC Windows.

### Money Back Guarantee!

Send \$12.95 to:

### Options Publishing

**30043 US Hwy 19 N, Suite 101**

**Clearwater, FL 34621-1032**

### YOUR AD HERE

.Do you have a product or service that is appropriate for our readership? Won't you share it with us? Call DREAMMS at 813-781-7711 for your marketplace packet and media kit!

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*Mail to:*

**DREAMMS for Kids, Inc. 2763 Tasha Drive Clearwater, FL 34621**

(Continued from page 4)

## Costs

These items unfortunately are rather expensive. Plan on spending over \$2,000 for a reader or CCTV system. Add on magnifiers for monitor fronts, and software that will enlarge the text are much less expensive and can be purchased for as little as \$50.

Due to our space limitations, we've only taken a brief look at some adaptive computer output devices. Please contact DREAMMS, your local assistive technology agency, or your school if you have any questions about the purchase or use of any assistive or adaptive device.

Remember, some agencies may have the devices themselves available at their sites, and may also lend them out for trail use.

## Tech Paks

Did you know that you can call DREAMMS and request an individualized Tech Pak? Maybe you'd like to know if there is a software product out there for an Apple IIC that helps a 15 year old with Down Syndrome work on reading skills? We'll find out if there is, and send you information on titles and purchasing!

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