

Standard keyboards can be difficult to use for single-handed typists. They might find that typing is laborious, time consuming, and inefficient. Single-handed typists might range from having carpal tunnel in one hand, spasticity, limited motor control to a chronic irritation or loss of the fingers or the hand. When people think of solutions for single-handed typists, they tend to think in terms of alternate keyboards and keyboard layouts. However there are many additional products that will assist a one-handed user.

One-handed keyboarding has many solutions and concerns to be considered. No single solution will fit all needs and preferences that individuals may have. As with any solution, exploring choices will point to the one most likely to meet individual needs. Preventing further injury and enabling proficiency at the keyboard are primary concerns and goals. Types of keyboards include chorded keyboards, right-handed/left-handed keyboards, hand-held keyboards and ergonomic keyboards.

Tech Connections is a collaborative project of the United Cerebral Palsy Associations, the Center for Assistive Technology and Environmental Access at Georgia Tech., and the Southeast Disability and Business Technical Assistance Center. Funded by a grant from the National Institute on Disability and Rehabilitation Research of the Department of Education, Award #H133A980052.

FREQUENTLY ASKED QUESTIONS:

Can I use my standard keyboard with one hand?

If you have good use of one hand, then the answer is “yes”. With good use of either the right or left hand (at least four fingers), then you can type on a standard keyboard, with no overlays or assistive devices. The method called ‘Home Base’ focuses on the letters FGHJ on a standard QWERTY keyboard. Each finger is given a number. The finger which is on F handles all the keys above, below, and to the left of F. GHJ follow a similar method. For more information, see:

<http://aboutonehandtyping.com/introduction.html>

Typing with one hand on a standard keyboard, however, can be slow, and it is hard to stretch to reach all of the keys without losing the ‘Home Base’ position. For this reason, other types of keyboards are sometimes used.

What about smaller keyboards? Do they exist?

Yes! There are compact keyboards that are smaller than a standard keyboard. These keyboards help reduce the stretch needed by a one-handed typist to reach all of the keys.

What is an ergonomic one-handed keyboard and how is it different from the rest?

Ergonomic keyboards are designed to make the task of keyboarding less stressful for the typist. The size and shape of the keys, their order, and the types of keys are all standard. The difference is the shape of the keyboard. The keyboard is shaped to reduce the reach between keys for a person typing with one hand. An example is the Maltron keyboard - an ergonomically-designed curved keyboard with a special layout for either the left or right handed typist. It has a sculptured shape to provide key heights suited to finger length to reduce fatigue and increase accuracy. The price of the keyboard is \$695 and is available from Applied Learning Corporation (<http://www.maltron.com>).

What is a Dvorak Keyboard?

A standard keyboard arranges the letters in a QWERTY arrangement. A Dvorak keyboard rearranges the letters so that they are in a more efficient position. For one-handed typists, some of the number keys and letter keys are arranged so that all of the numbers are on one side of the keyboard and all of the letters are on the other side. The typist doesn't need to stretch his or her fingers as far to hit the keys. Actual keyboards with a Dvorak

arrangement can be purchased from Keytime (\$70). It is also possible to change the Keyboard Control Settings on a computer so that the keys are rearranged. If this option is chosen, it may help to re-label the keyboard. More information can be found at <http://www.keytime.com/colcat1.gif>

Is there a keyboard that can fit in one hand?

Yes! There are keyboards that are designed to fit in the palm of your hand. An example is the WinMini - a small size alternative keyboard that plugs directly into an IBM computer running Windows 95 or 98. No special interface is required. Membrane keys are less than .5" (1.3 cm) square and are closely spaced for easy access. The keyboard surface is very sensitive. The nicest thing about this keyboard is that it allows you to control both keyboard and mouse functions. All mouse directions, right and left click, double click, and drag functions are performed by pressing directly on keyboard keys while in Mouse Mode. The right mouse click is available in Windows. The WinMini comes with two layout options; the standard QWERTY layout or a Frequency of Use layout (Most-frequently-used letters are placed toward the center of the keyboard,

which may help expedite text entry and minimize fatigue. The WinMini sells for \$750 and is available from Tash, Inc. (<http://www.tashinc.com>).

What are Chorded Keyboards?

These keyboards have fewer keys, only one for each finger and a couple operated by the thumb. Letters are typed by hitting a combination of keys, sort of like playing a musical chord on a piano. Each letter has its own unique chord. This keyboard is recommended for a person with repetitive stress injury but require good finger coordination and memory. Examples include the BAT Personal Keyboard and Twiddler.

The *BAT Personal Keyboard* is a chorded keyboard and is capable of entering all characters and functions of a traditional keyboard using only seven keys. The typist rests their hand on a built-in wrist pad, with the fingers over the four "home" keys and the thumb moves between the three thumb keys. The cost of the keyboard is \$199 and is available from Infogrip, Inc. (<http://www.infogrip.com>).

The *Twiddler* is a 5-inch long pocket-sized mouse pointer and full-function keyboard and can be used with either the right or left hand. It plugs into both keyboard and serial ports on IBM-compatible PC's and works on Microsoft Windows 3.X/95/NT, Unix, and Palm Pilot operating systems. The Twiddler uses chord keying, or the ability to press more than one key at a time for specific, unique commands or characters. Twiddler price is \$199 from Handykey Corporation (<http://www.handykey.com/over.html>).

Are there other tools that can help with accuracy? Access features in the Macintosh and Windows also have helpful options for the single-handed typist on a standard keyboard. If holding down two or three keys simultaneously is a problem, turn on Sticky Keys in the Easy Access (Macintosh) or Accessibility Options (Windows) Control Panel. This allows you to press a key (ie Shift) and subsequently press the letter to be capitalized instead of pressing both at the same time. If you have a tendency to drag your hand or have targeting problems, you may frequently hit unwanted keys. On a Mac, use Easy Access: Slow Keys, specifying the acceptance delay. In Win 95 under

Accessibility Options: Filter Keys, choose "ignore quick keystrokes." Under "Settings" you can specify the amount of time you want a key to be held down before it registers as an intentional keystroke. This eliminates the need for keyguards in most instances.

How do I learn how to use a one handed keyboard?

Usually, most product companies offer training instructions along with their product. Keytime also has a typing practice manual that has exercises based on common letter combinations rather than a 'home row' approach. When combined with a fingering chart for the alternative keyboard, this exercise book can be used with any typing arrangement.

PRODUCT LINKS:

There are many additional products available which address the needs of single-handed typists. The products mentioned in this documents are cited merely as examples and should not be regarded as product endorsement.

Handkey Corporation

Mt. Sinai, NY

Phone: 631-474-4405

<http://www.handkey.com/index.html>

Twiddler keyboard.

IBM

Austin, TX

Phone: 800-465-7999

<http://www.ibm.com>

Keyboards, mice, joysticks, computer accessories.

Infogrip

Ventura, CA 93001

Phone: 800-397-0921

<http://www.infogrip.com>

One-handed keyboards, voice recognition software, ergonomic keyboards, mice alternatives.

IntelliTools

Novato, CA

Phone: 800-899-6687

<http://www.intellitools.com/>

Intellikeys; computer-based educational products for children.

Keytime

Seattle, WA

Phone: 206-522-8973 (-TYPE)

<http://www.keytime.com>

Dvorak keyboards.

Maltron

East Molesey, Surrey, England

<http://www.maltron.com>

Maltron single handed keyboards, single finger or head/mouthstick keyboard, expanded keyboards.

Matias Corp

Rexdale, ON, Canada

Phone: 888-663-5374

<http://half-qwerty.com>

Half-QWERTY keyboards.

Mayer-Johnson
Solana Beach, CA
Phone: 619-550-0084
<http://www.mayer-johnson.com>
Intellikeys, touchscreens, and other computer input devices.

Prentke Romich Co
Wooster, OH
Phone: 800-262-1984
<http://www.prentrom.com>
M.I.K.E. (software that adds keyboard keys, mouse movement, and menu access) and other computer access products.

TASH International
Ajax, Canada
Phone: 800-463-5685
<http://www.tashinc.com>
WinMini, communication switches, environmental controls.