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**HandyKey (TekGear) Twiddler**

A hand holding a video game remote control

Description automatically generated

Short Description: The Twiddler is a one-hand chord keyboard with integrated pointing capability, which can control the cursor in a joystick-like manner. This was a favourite device of the early Cyborg wearable-computer community.

Bill Buxton’s Notes

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Note: Lyons, et al. abstract:

An experienced user of the Twiddler, a one--handed chording keyboard, averages speeds of 60 words per minute with letter--by--letter typing of standard test phrases. This fast typing rate coupled with the Twiddler's 3x4 button design, similar to that of a standard mobile telephone, makes it a potential alternative to multi--tap for text entry on mobile phones. Despite this similarity, there is very little data on the Twiddler's performance and learnability. We present a longitudinal study of novice users' learning rates on the Twiddler. Ten participants typed for 20 sessions using two different methods. Each session is composed of 20 minutes of typing with multi--tap and 20 minutes of one--handed chording on the Twiddler. We found that users initially have a faster average typing rate with multi--tap; however, after four sessions the difference becomes negligible, and by the eighth session participants type faster with chording on the Twiddler. Furthermore, after 20 sessions typing rates for the Twiddler are still increasing.

Device Details

Company: HandyKey (TekGear) | Year: 1991 | Original Price (USD): $199.00

Degrees of Freedom: 2

Dimensions (L x W x H): 128 x 45 x 50 (mm)

Key Words

Primary: Chord Keyboard

Additional: Keyboard, Gesture, Joystick, VR, Virtual Reality, Wearable

Links

* Lyons, K, Starner, T., Plaisted, D., Fusia, J., Lyons, A, Drew, A., Looney, E.W. (2004a). Twiddler Typing: One-Handed Chording Text Entry for Mobile Phones *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI’04)*, 671-678 <https://dl.acm.org/citation.cfm?id=985777>
* [Twiddler Scan Codes](https://microsoft-my.sharepoint.com/personal/bibuxton_microsoft_com/Documents/Buxton%20Collection/Collection/Shot/HandyKey%20Twiddler/Twiddler_2_Chords.pdf)
* [Twiddler Advertisement](https://microsoft-my.sharepoint.com/personal/bibuxton_microsoft_com/Documents/Buxton%20Collection/Collection/Shot/HandyKey%20Twiddler/Twiddler_Ad.pdf)
* [Twiddler Box](https://microsoft-my.sharepoint.com/personal/bibuxton_microsoft_com/Documents/Buxton%20Collection/Collection/Shot/HandyKey%20Twiddler/Twiddler_Box.pdf)
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* [Twiddler Default Chord Guide](https://microsoft-my.sharepoint.com/personal/bibuxton_microsoft_com/Documents/Buxton%20Collection/Collection/Shot/HandyKey%20Twiddler/Twiddler_Chords.pdf)
* [Twiddler Quick Start Guide](https://microsoft-my.sharepoint.com/personal/bibuxton_microsoft_com/Documents/Buxton%20Collection/Collection/Shot/HandyKey%20Twiddler/Twiddler_QUICK_START.pdf)
* Twiddler User’s Guide
* Twiddler\_Chords.pdf
* Twiddler\_2\_Chords.pdf
* powerpoint
* you tube link

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| --- | --- | --- |
| **Image** | **File Name** | **Caption** |
|  | Twiddler\_0981.JPG |  |
|  | Twiddler\_0982.JPG |  |
|  | Twiddler\_0984.JPG |  |
|  | Twiddler\_Ad.jpg |  |
| A yellow and black text  Description automatically generated | Twiddler\_Users\_Guide.jpg |  |
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| A close up of a piece of paper  Description automatically generated | Twiddler\_Chords.jpg |  |
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| A close up of a piece of paper  Description automatically generated | Twiddler\_Key\_Assignments.jpg |  |
| A screenshot of a cell phone  Description automatically generated | Twiddler\_QUICK\_START.jpg |  |
| A screenshot of text  Description automatically generated | Twiddler\_Installation.jpg |  |
| A close up of text on a white background  Description automatically generated | Twiddler\_Read\_Me\_First.jpg |  |
| A close up of a newspaper  Description automatically generated | Twiddler\_Byte\_March\_1992.jpg |  |

**KATY’S NOTES:**

* Include image with hand strap in place
* please note that name of company needs to be changed on Buxton Collection website from ‘HandKey’ to ‘HandyKey’
* <http://books.google.ca/books?id=jcrsPJb76HAC&pg=PT479&lpg=PT479&dq=handykey+twiddler+1991&source=bl&ots=pp2TzNAcLb&sig=q9yC3xW52bXLnVcJNjSJ8E_-tqc&hl=en&sa=X&ei=O6FPVN-fKpCryASAtYCgDg&ved=0CFsQ6AEwCQ>
* yes, it’s in Japanese, but it does show it in use: <http://youtu.be/zZhWa2FfEac>