

WOODWIND INSTRUMENTS DESIGNED FOR PERSONS WITH PHYSICAL
DISABILITIES

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Available only intermittently or after individual request, some woodwind instruments originally designed for two-handed performers have been adapted for musicians with only one hand. For instance, Zen-On, Aulos, Mollenhauer, Dolmetsch and Maarten Visser have intermittently offered one-handed recorders (Dickeson, 2004; Dolmetsch, 2005; Evans, 1994; Godby, 2002; Nabb, 2006; Peskin, 2004; Tsukamoto, 1980). Beyond relatively simple recorders, woodwind instruments have also been adapted as far back as 1822, when Cornelius Ward built a right-handed flute for Colonel Count Rebsomen (Lancaster, 2008; Spohr, 2008). Rebsomen had lost his left arm and right leg while fighting in Napoleon Bonaparte's army (Lancaster, 2008). Reportedly, Rebsomen was able to play his one-handed flute quite well. As a tribute to Rebsomen's success, Antoine Bebiguier (1782-1832) dedicated his own Opus 46 to him (Lancaster, 2008; Bate, 1995). Bebiguier was a well-known French flutist of the age, whose compositions continue to be performed by many flutists today.

Amputee survivors of World War I were apparently the motivation for the development of several adapted woodwind instruments. Two one-handed Kohlert flutes (1917) in the Dayton Miller Flute Collection of the Library of Congress appear to be playable. Photographs of these

instruments indicate the locations of the touch points (the point of contact where the musician's finger touches the key) appear to be awkward from a player's standpoint (Miller 174-175).

More recently, Edit van der Burg Mayer returned to professional playing on a one-handed flute adapted by Maarten Visser after surviving a serious head injury. In 2003, she won first prize in her age category at the 20th Dutch National Flute contest (Nabb, 2007; Niele, 2000; Visser, 2008). Unfortunately, van der Burg Mayer's and Rebsomen's flutes were custom efforts for specific individuals and were not developed for widespread distribution.

The saxophone has also undergone a number of successful one-handed adaptations. The first of these were likely the one-handed saxophones produced by the Conn Company shortly after World War I (Cohen, 1987; Horwood, 1989; Incredible, 2005). Beginning in the 1970's, the University of Alberta built a few adapted saxophones for amputees that relied on electronic solenoids to depress the keys of the missing hand (Charles, James & Stein, 1988). Hank de Marco, a professional saxophone player who lost an arm to cancer, returned to professional playing using one of the University of Alberta's adapted saxophones. The instruments were considered successful as they allowed disabled persons to participate in musical study, thereby fulfilling many of the objectives of completely one-handed systems. However, because the University of Alberta instruments require at least a small "stump" to remain on the amputated limb, it cannot be considered a completely "one-handed" system. These instruments each had to be custom fit to the amputee's stump, making production time consuming and expensive.

Robin Amend has also built an electronic device to aid disabled musicians play musical instruments designed for two hands (called the "Amend MIAD"). Similar to the University of Alberta saxophones, the Amend MIAD uses solenoids to depress saxophone pad cups. The Amend MIAD is unique in that it can be fitted to wind instruments other than saxophones.

With an independently designed and built one-handed saxophone by Martin Foag of Germany, Stephan Tiefenbacher has returned to professional playing after losing an arm and suffering a serious head injury in a motorcycle accident (Dachs, 2007; Tiefenbacher, 2008). In addition, David Nabb returned to professional performing and university teaching following a major stroke he survived at the age of 37 (Nabb, 2005). Nabb performs on a one-handed toggle-key system (TKS) saxophone built by Jeff Stelling. The TKS, originally designed only as a prototype on a student horn, has undergone improvements such that it is now integrated into Nabb's professional quality instrument. The TKS is a completely one-handed system, and could be used by persons surviving a wide variety of maladies, including stroke, amputation, traumatic brain injury, and various other disabling conditions.

Although the idea for one-handed and adapted instruments that allow disabled musicians to participate in instrumental music is not necessarily a novel one, the actual design, development, and availability of such instruments is substantially limited, scarce, and happenstance. As a result, instruments for disabled students in the general who have yet to become a public figure but who could greatly benefit from inclusion in instrumental music education are so limited in availability that they are not feasible options.

More information (including photos and videos) about these and other musical instruments adapted for persons with disabilities is available online at:

<http://onehandwinds.unk.edu/forum/index.php>.

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