

The aXiØ and Live Electroacoustic Music [Presentation/Demonstration]

David Eagle

Department of Music, University of Calgary
eagle@acs.ucalgary.ca

Until very recently, electroacoustic music was created predominantly for fixed media such as tape. For many this is an ideal situation which allows the composer to fix precisely and permanently all aspects of a work. The composition becomes an object in time. The lack of a visual element heightens listening acuity, we listen with the ears of the blind.

In a concert, music is essentially a performing art and electroacoustic tape music is not always successful. With the advent of MIDI (Musical Instrument Digital Interface) keyboards and synthesizers, it seemed possible to bring electroacoustic music back into the sphere of live music. However, commercial MIDI keyboards are not ideal controllers of electroacoustic sounds which need greater control of the spectral evolution of sound in time.

The aXiØ - 'alternative expressive input object' - is a new electroacoustic instrument/controller which gives the musician a broad range of expression and multi-dimensional control of MIDI synthesizers and samplers. It was designed and built by Brad Cariou (brad_cariou@nt.com) at the University of Calgary and conceived to provide digital artists with intimate control and flexibility for work in various new media. Using a Macintosh computer running the MIDI program MAX, it is completely user-programmable.

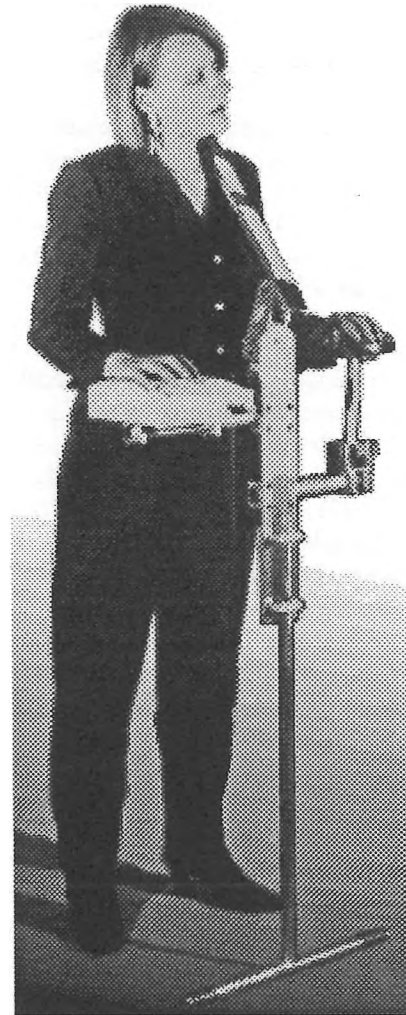
The aXiØ exists in two versions - the original prototype (see picture opposite) and the current version which has several design improvements. With a cross-like structure, the aXiØ stands about body height, vaguely resembling a stream-lined robot. It is played with both hands on three distinct playing surfaces:

- a sophisticated joystick for the left hand,
- a two-octave, velocity-sensitive keyboard for the right hand,
- and, running up the musician's shoulder, is an array of assignable buttons used to change voices or trigger musical sequences.

Ergonomic considerations were critical factors in its design.

In performance, the right hand selects and plays (with aftertouch) the notes or events while the left hand provides more expression and transformation of the sound. For instance, the left hand joystick could be used to move a sound in space, to change its overall volume, to sustain a sound, to change its timbre, and to do it all simultaneously in 'real time'.

The aXiØ has the potential to transform electroacoustic music from a predominantly studio art to a performance art. The presentation will demonstrate some of the expressive capabilities of the new aXiØ.



The original prototype of the aXiØ.