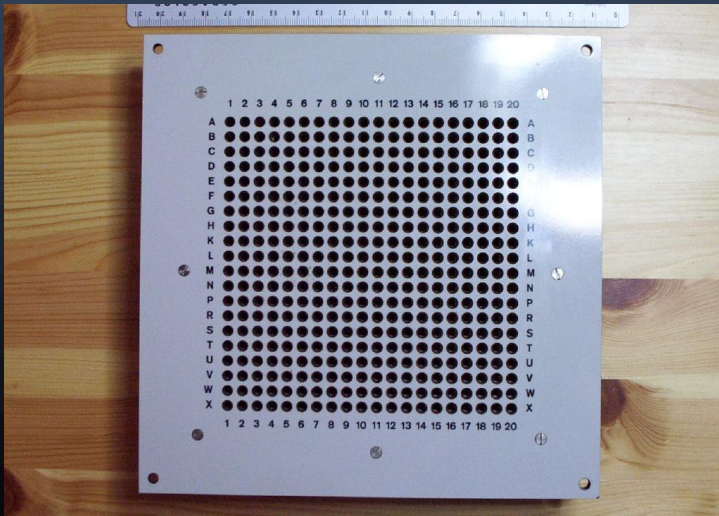


The Lattice Harp



a two-dimensional, multi-channel stringed instrument and controller

Inspirations



Design Components

- an acoustic instrument
- an electric instrument
- a 64 button controller
- a 16 channel analog controller

Interplay of components creates
rich, unexpected feature set

Prototype Construction

- bamboo cutting board frame
- 8 x 8 strings
 - piano tuning pegs – zither pins
 - maple bridges
 - one piezo per string
- matrix for button presses
 - +5V connected through end pins
 - processed by microcontroller

Functionality

- acoustic only
- panned electronics
- eBow
- bowing with files
- picking for exact button presses
- multiple buttons the harder you press
- dropped objects
- ghosting
- playing from both sides

“Tracing Patterns from the Cobwebs”

- improvisational
- using percussion to trigger melody
- tunable filters
- Max Matthews' Phaser Filter program
- button presses control filter frequencies
- pitch detection