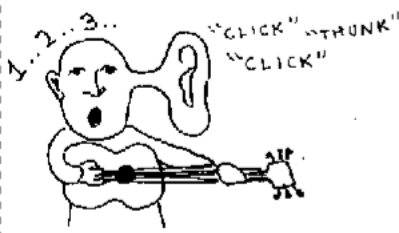
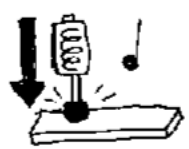


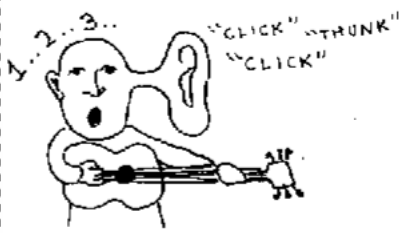
UNDEREXTENDING THE ELECTROMAGNETS EMITS A PERCUSSIVE CLICKING OR THUMPING SOUND WHICH, SIMILAR TO A "CLICK TRACK," IS USEFUL FOR HUMANS WISHING TO KEEP TIME.



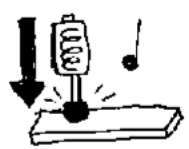
ON THIS "MIDI GLOCKENSPIEL" EACH BELL HAS A SPRING-LOADED ELECTROMAGNET MOUNTED ABOVE IT. WHEN ELECTRICAL CURRENT IS APPLIED TO THE ELECTROMAGNET, IT STRIKES THE CORRESPONDING BELL AUTOMATICALLY.



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THIS PROJECT WAS MADE POSSIBLE THANKS TO THE SUPPORT OF THOMAS BENSON, BAIRD SOULES, SHIRA EPSTEIN, AND MAX NEWMAN. CHECK OTTO-B.INFO FOR RECORDINGS.

INSPIRED BY MECHANICAL BAND ORGANS FROM THE DAYS OF YORE...



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THE MIDI GLOCKENSPIEL IS AN ATTEMPT TO REVITALIZE MUSICAL AUTOMATA WITH D.I.Y. SOLID-STATE ELECTRONICS.

THE FOLLOWING IS A BRIEF TECHNICAL EXPLANATION OF THE DEVICE.



HAVE A NICE NIGHT!



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MIDI "ROBOTIC" GLOCKENSPIEL



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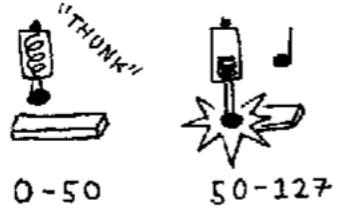


THE ELECTROMAGNETS ARE ACTUATED WITH MIDI (MUSICAL INSTRUMENT DIGITAL INTERFACE) A COMMUNICATION STANDARD THAT ENABLES THE GLOCKENSPIEL TO BE PLAYED BY A COMPUTER.

THE MIDI NOTE VALUES FOR THIS GLOCKENSPIEL ARE F4 THROUGH C7.



IT IS ALSO CAPABLE OF VELOCITY SENSITIVITY. MIDI VELOCITY VALUES OF 0-50 UNDEREXTEND THE ELECTROMAGNETS SO THEY DO NOT STRIKE A BELL; ANYTHING ABOVE 50 STRIKES THE BELL WITH VARIED FORCE.

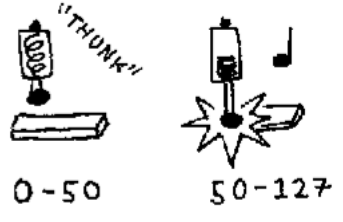


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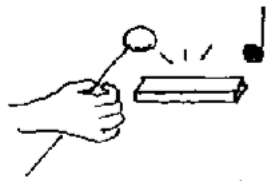


A GLOCKENSPIEL IS AN ARRAY OF RECTANGULAR METAL BELLS LAID OUT IN A CHROMATIC SCALE. TYPICALLY A HUMAN STRIKES EACH BELL WITH A Mallet, PRODUCING A NOTE.

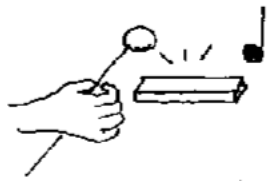
A GENERAL-PURPOSE PCB WAS MADE FOR THIS DEVICE. CALLED "S39," IT CAN ACTUATE UP TO 39 HIGH-CURRENT ACTUATORS UNDER USB-MIDI CONTROL. THE CURRENT ITERATION USES A PJRC TEENSY 3.6 OR 4.1 MICROCONTROLLER. IT IS OPEN SOURCE AND FREELY AVAILABLE ONLINE:

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[wnoadiarwb.us/machines/S39](http://wnoadiarwb.us/machines/S39)

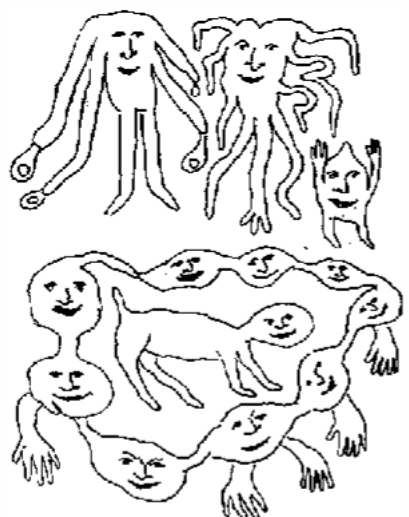


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MIDI "ROBOTIC" GLOCKENSPIEL

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OTTO-B.INFO  
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