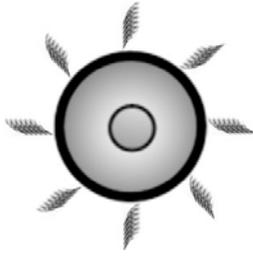
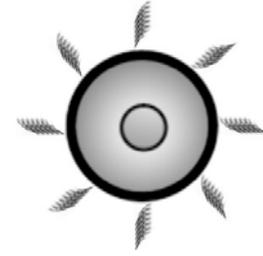


Mini Sound Modules for Installation & Performance



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ABSTRACT

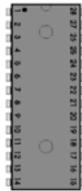
Design of small, autonomous electronic sound modules for audio installation or interactive performance.

Keywords

Audio, sound, electronic music, robots, diy electronics, wearable computing, installation art, multimedia performance

1. INTRODUCTION

This research explores the development of a flexible digital audio recording and playback “Chipcorder” line of Winbond.[1] In programmed designed sequencing or assortment of artistic implemented. The recording capacity of 7 In programmed designed sequencing or assortment of artistic implemented. The recording capacity of 7 In programmed designed sequencing or assortment of artistic implemented. The recording capacity of 7



toolkit, based around the ISD ICs, manufactured by conjunction with a user-microcontroller, and custom-control interfaces a broad audio applications may be chips are available with a seconds to 16 minutes. The quality of the audio is best suited to speech or lower fidelity reproduction.

2. SOME POTENTIAL APPLICATIONS

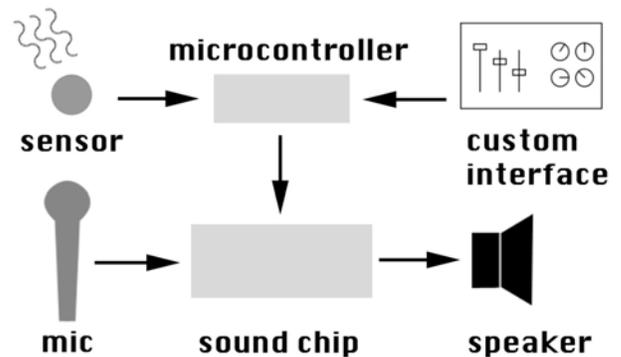
- Experimental musical instruments
- Rapidly-deployable sound installation
- Autonomous self-triggering recorder/sampler/looper/“bug”
- Attach to wearable art/ clothing
- Audio playback integrated into sculptural objects



3. BENEFITS OF THIS TECHNIQUE

- Small size – can be easily built into other objects
- Inexpensive (~US\$10 per unit)
- Low power – can run for many hours on 9v battery
- No moving parts – much more simple, durable, reliable than a computer
- Integrated input preamp and speaker driver – just attach mic, line input, or speaker
- Microcontroller development is widely supported by web resources

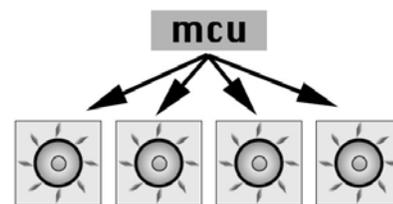
4. TYPICAL CONFIGURATION



A microcontroller, such as a PIC or Arduino controls the triggering or sequencing of the audio recording and playback. A variety of sensors or interface controls can be used as inputs. A microphone or other audio source is connected to the sound chip, which can output directly to a speaker or for further amplification by an external amplifier.

5. FURTHER EXPANSION

- Network multiple modules together using rs-485/422 to create complex “flocking” behaviors



- Wireless RF remote control
- Solar panels for fully autonomous outdoor deployment

6. ACKNOWLEDGMENTS

Jon Fisher, Dima Strakovsky, & Shawn Decker (current and past professors at the School of the Art Institute of Chicago). Matthew Steinke.

7. REFERENCES

- [1] <http://www.winbond-usa.com/en/content/view/36/151>

