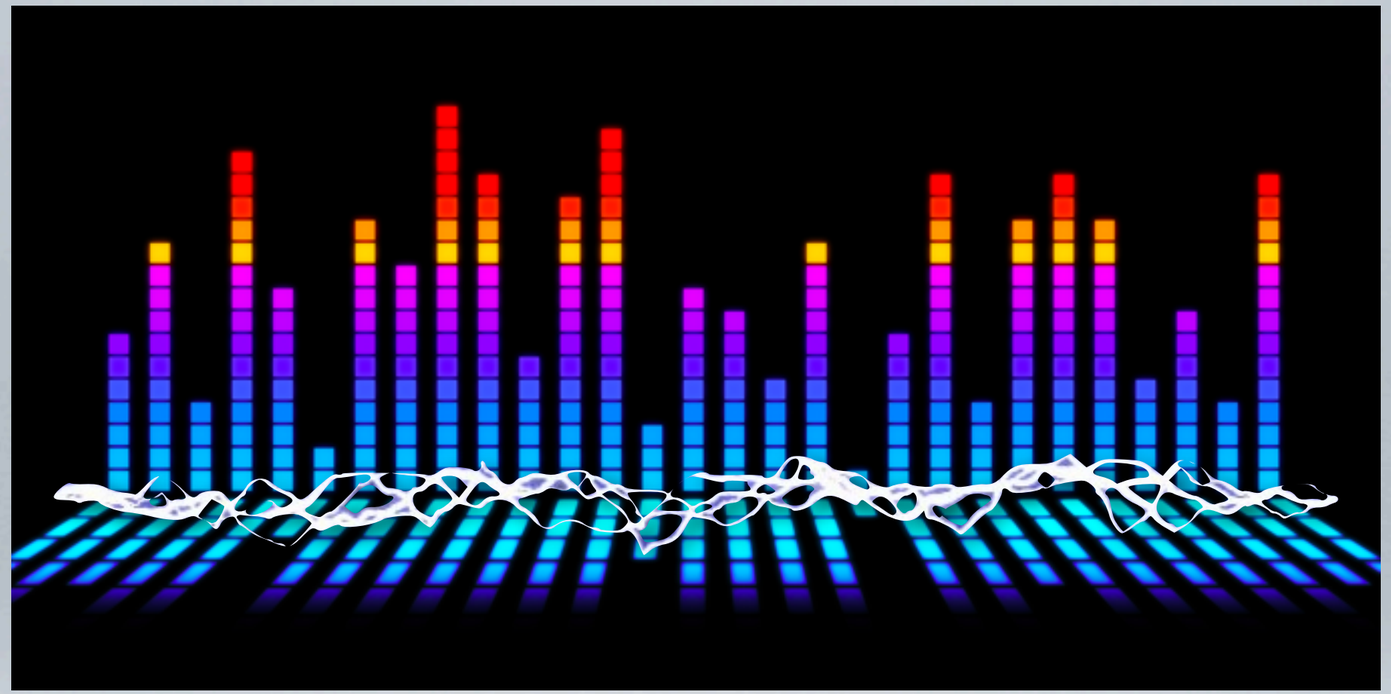


AUDIOARC

Alekhya Gampa, Colin Haas, Katherine Scherr & Joe Zischkau

AUDIOARC

An audio modulated plasma speaker
with realtime system monitoring
in a safe, consumer-friendly package

WHO WE ARE

Alekhya Gampa

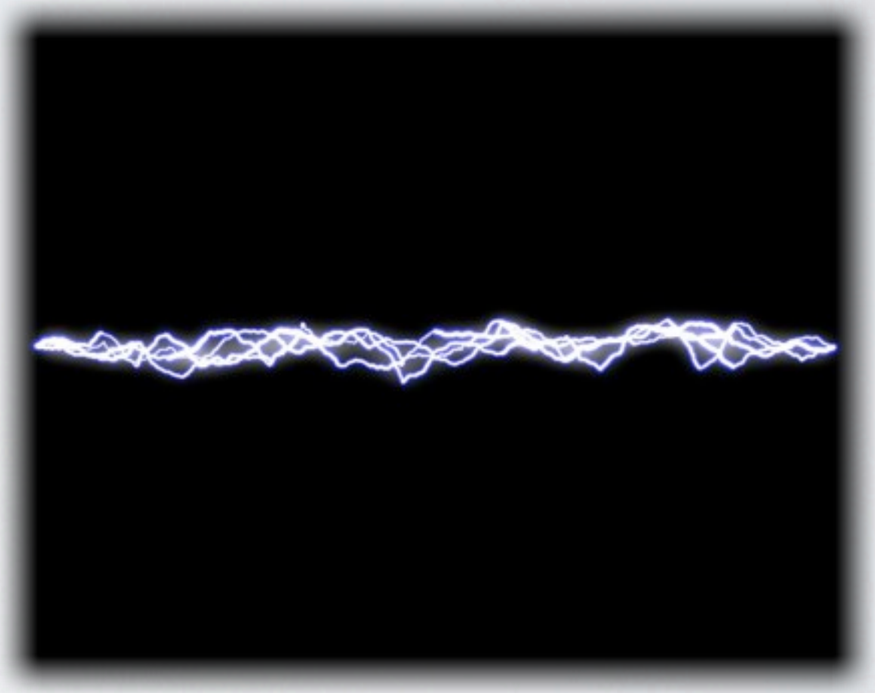
Colin Haas

Katherine Scherr

Joe Zischkau

CONCEPT

- High-voltage source generates visible plasma arc
- Modulating current across arc causes plasma to expand and contract
- Surround air propagates these variations as compression waves, perceived as sound

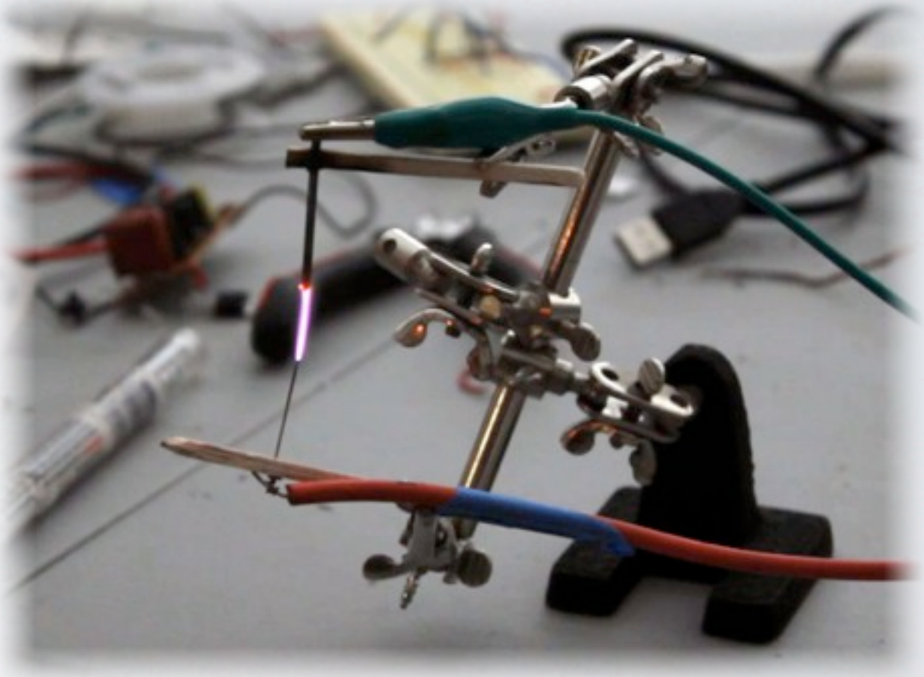


MOTIVATION

- Unique, innovative, and visually appealing
- Effectively massless driver provides higher fidelity reproduction than typical speakers
- No commercially available plasma speakers currently on the market
- Will provide protection from accidental hazards associated with high-voltage arc

COMPETITIVE ANALYSIS

- Numerous websites and individuals have built unfinished plasma speakers
- Current prototypes not well packaged or protective from shock
- Available kits cost upwards of $400 and are too dangerous for average consumers



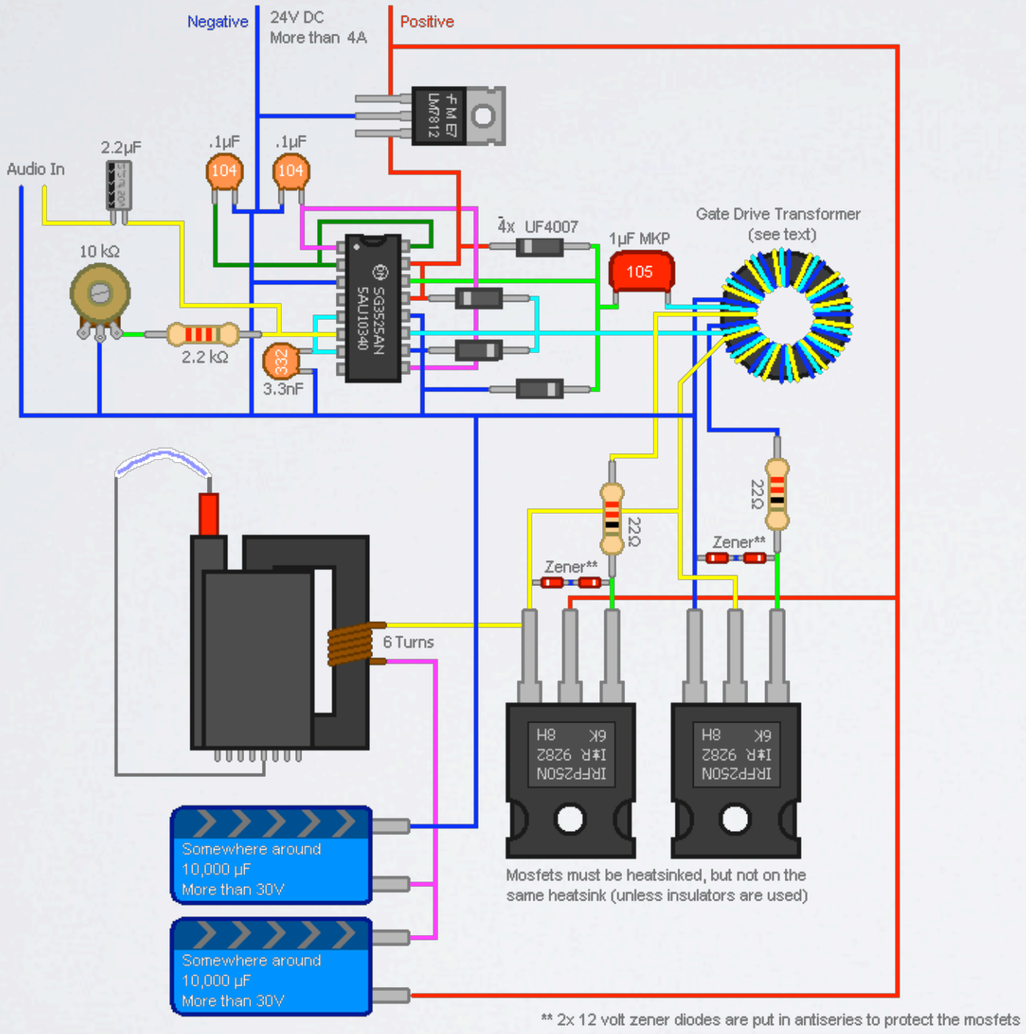
REQUIREMENTS

- Able to connect any audio source using standard 3.5mm mini-jack connector
- Active monitoring of temperature and current with control system
- Fully enclosed or actively protected arc without sacrificing acoustic fidelity
- Display audio statistics (volume, equalizer, etc.)

TECH SPECS

- Dual load-balanced 200V 30A MOSFETs with dual 12V protection zener diodes
- ATMEGA328 microcontroller
- SG3525AN modulator IC
- 24V 4.5A AC/DC power supply
- Optically isolated audio input
- Potentiometer-tunable flyback resonant driving frequency
- Serial OLED graphic display

ARCHITECTURE



Other components...

ATMEGA328 MCU

Temperature Sensors

Current Sensor

Serial Display

RISK MITIGATION

- Prevent over voltage or temperature
- Use temperature and current sensors for monitoring
- Monitor amplitude and condition the input signal to regulate the volume and avoid problems

QUESTIONS?