

Battery Powered, RF Music System

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Columbia Engineering

Engineering for Humanity - Transcending Disciplines, Transforming Lives

Overarching Goals

Spark Creativity:
Enable creative
recording techniques
for beginner and
veteran engineers

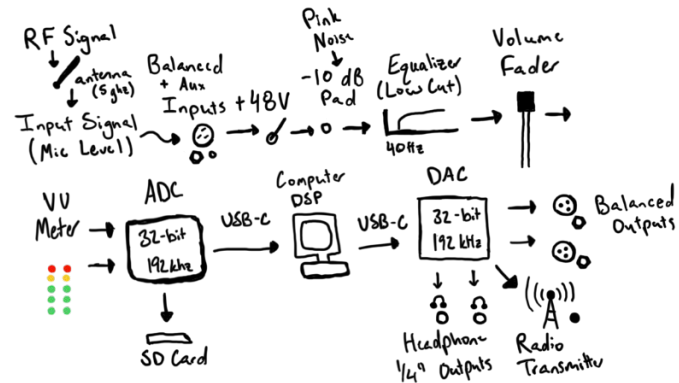
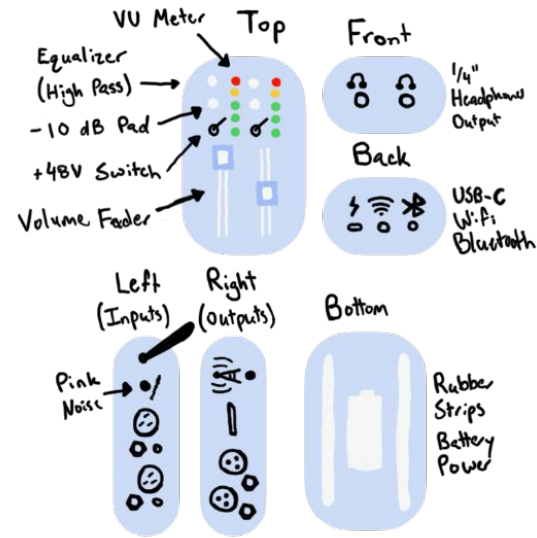
Low MSRP: Leverage
off the shelf
components to keep
design and
consumer costs low

Environmental
Considerations: Use
recycled plastic and
implement solar cells
if possible

Two-Channel Mixer/Interface

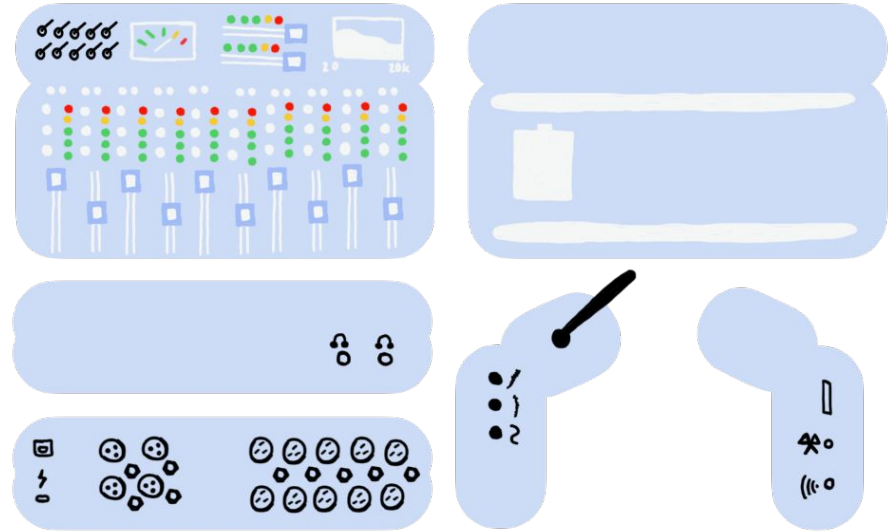
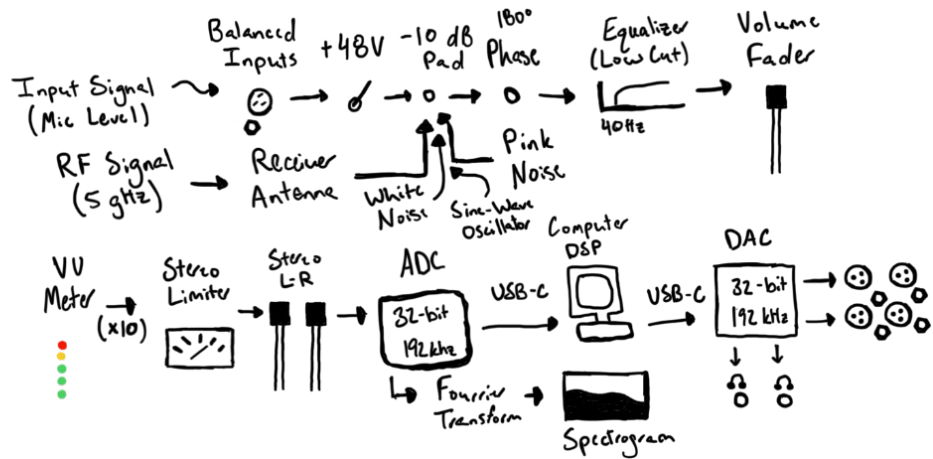
Notable improvements to a normal interface include:

- Receiver for RF/wireless microphones/signals
- RF transmitter (possibly as an input to another mixer, like Dante, but over RF)
- Battery-powered operation
- 32-bit 192kHz ADC/DAC



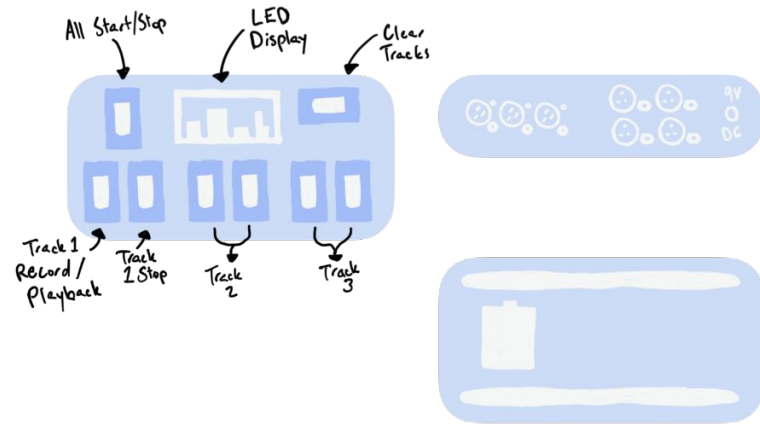
Ten-Channel Mixer/Interface

Additional functionality to the previous mixer includes an optical input, phase flip button, signal generation, stereo output bus, stereo limiter, and audible frequency graph



Future Considerations

- Studio-grade equipment operating over RF, bluetooth, and wifi
 - AV systems with no need for cable pulls
 - Studios, classrooms, boardrooms, live events, etc. will benefit
- Analog recording/loop pedal
 - Is it possible to do this without recording to a tape and no ADC?
- Record and playback light as well as audio (improve sensory experience for the deaf)
 - Why are there no devices that record color and sound?



Thank You



<https://tannercarlson.link>

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