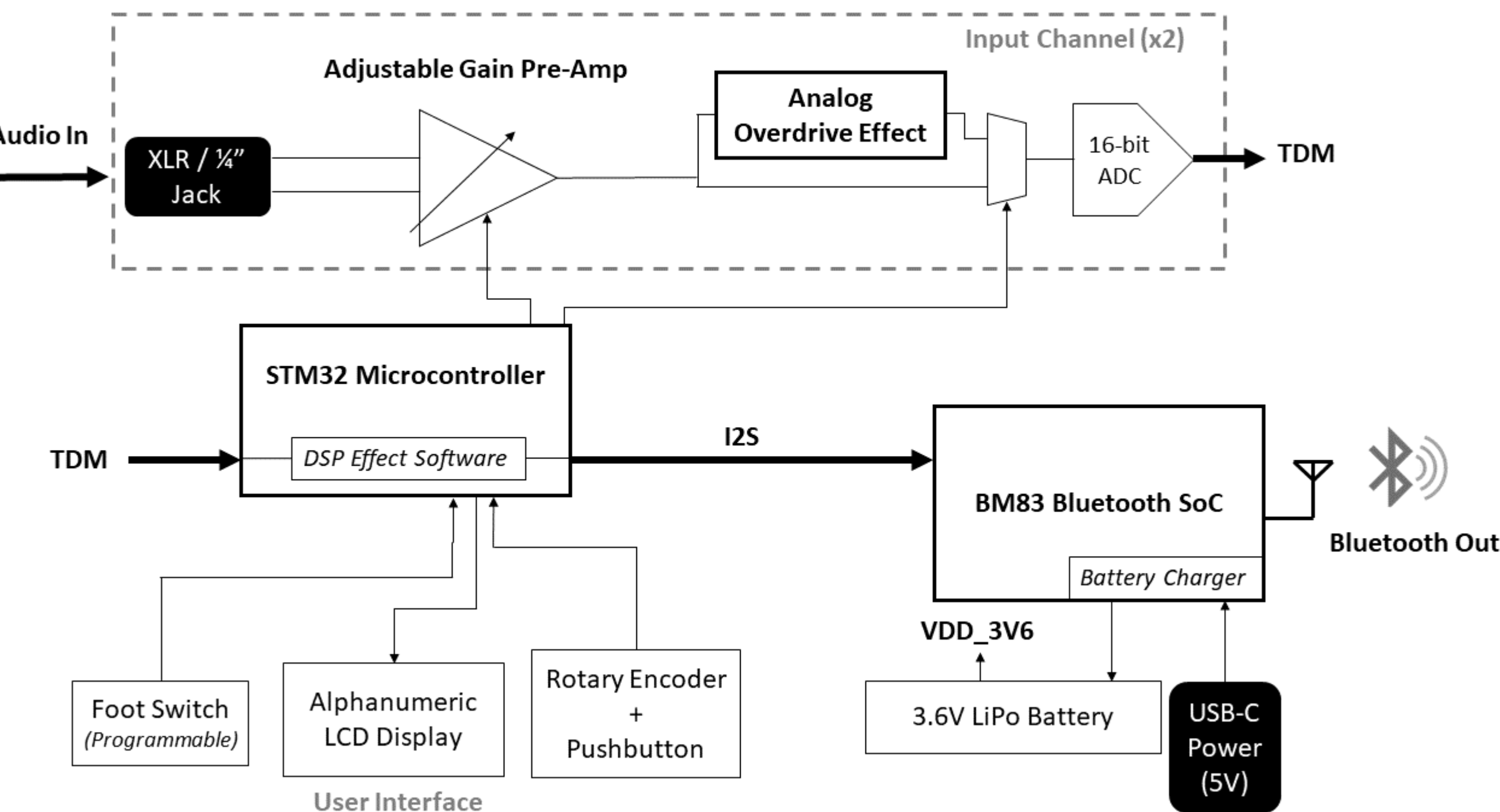## Product Pitch

B.A.R.I. is a **Bluetooth-enabled** audio effects pedal, the first of its kind. With **a low price point (< $100 at volume),** small form factor, and the ability to connect to any standard Bluetooth speaker, B.A.R.I. enables casual musicians to easily jam with their friends or practice anywhere, without having to buy (and lug around!) bulky audio equipment.

Despite its accessible price point, B.A.R.I. is the only effects unit to offer Bluetooth compatibility, and is highly capable, featuring not only both **true-analog and digital audio effects** but also **dual input channels.** B.A.R.I. accepts input from either **microphone (XLR)** or **instrument (1/4") cables** to the same audio channel, enabling a wide range of use cases.
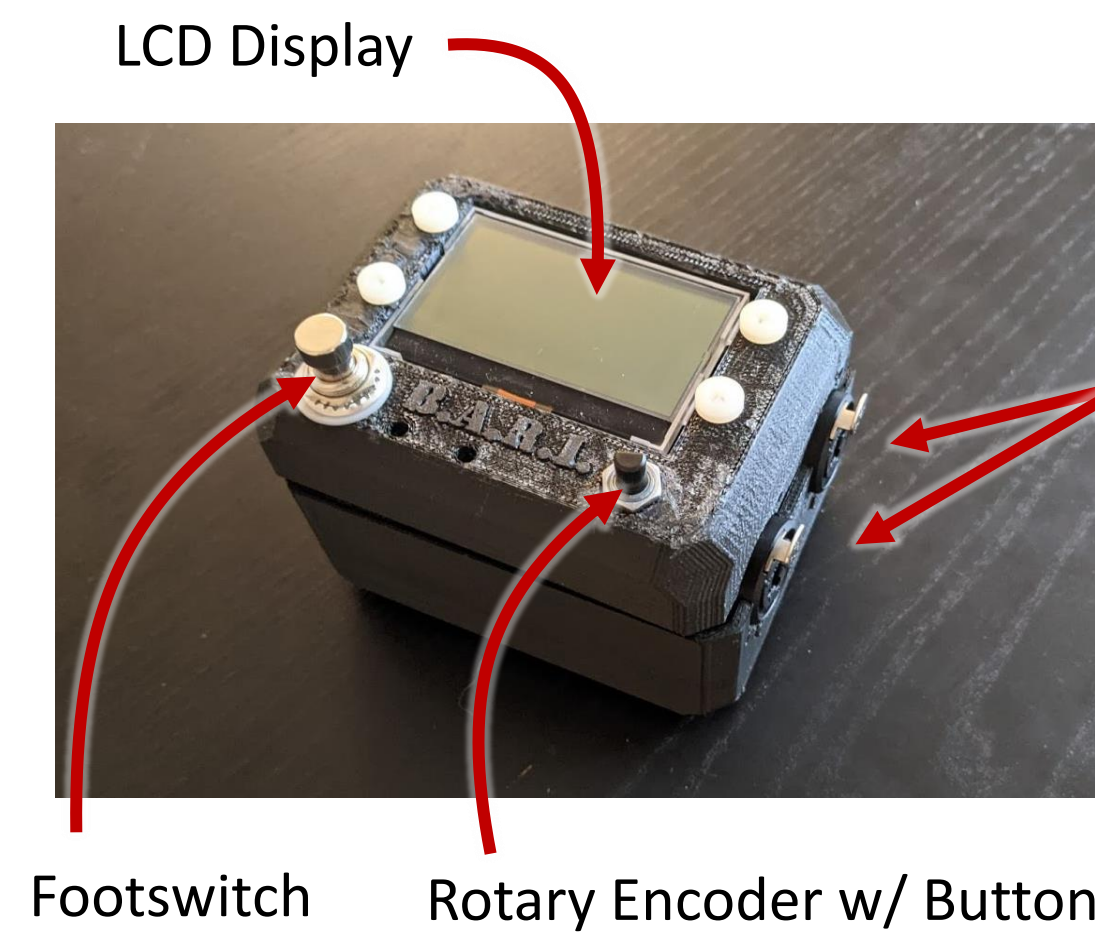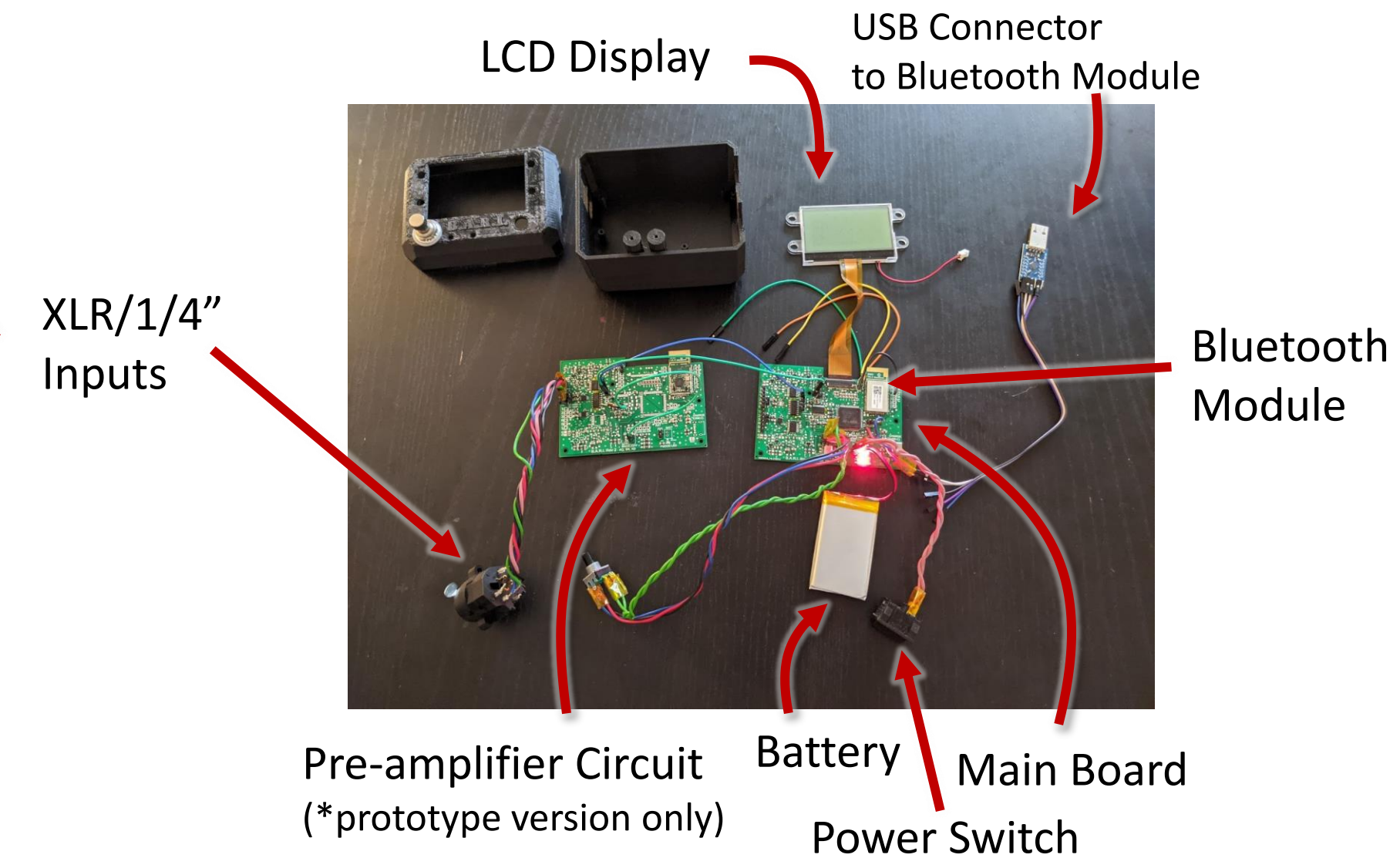
System Architecture

System Block Diagram

System Description

B.A.R.I - Product Photo

LCD Display
Footswitch
Rotary Encoder w/ Button
XLR/1/4" Inputs

B.A.R.I - Components View

LCD Display
USB Connector to Bluetooth Module
Bluetooth Module
Pre-amplifier Circuit (*prototype version only)
Battery
Main Board
Power Switch

System Evaluation

Key Specifications

Metric	Result	Pass	Subsystem
Response Latency	~50ms	✓	UI
State Update Time	~200ms	✓	UI
Processing Latency	1.3ms	✓	Microcontroller
Bluetooth Range	6m	✓	RF Module
Effects Implemented	Overdrive, Delay, EQ	✓	Analog and Digital Effects
Max Current Draw	150 mA	✓	Power
Est. Battery Life	10 hrs	✓	Power

Preamplifier Distortion

Total Harmonic Distortion vs. Frequency