RANS Product Update
The Abstract Alarmists

**ECE Senior Design B
Team 22 Project 40
Advisor: Barry L Dorr, PE
Sponsor: Dennis Berglund, PE
Priax Corporation**
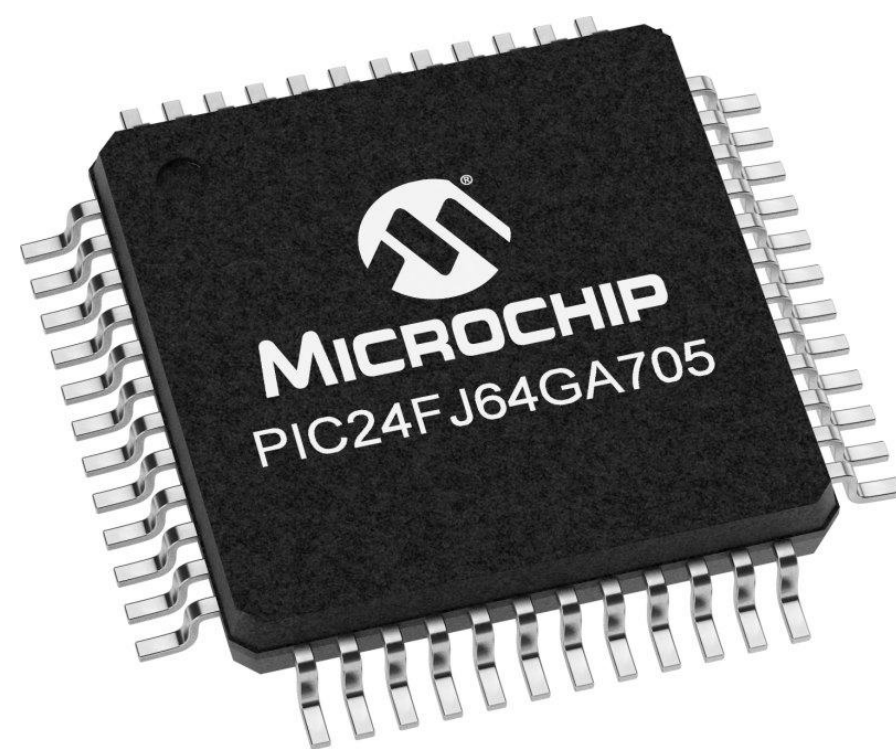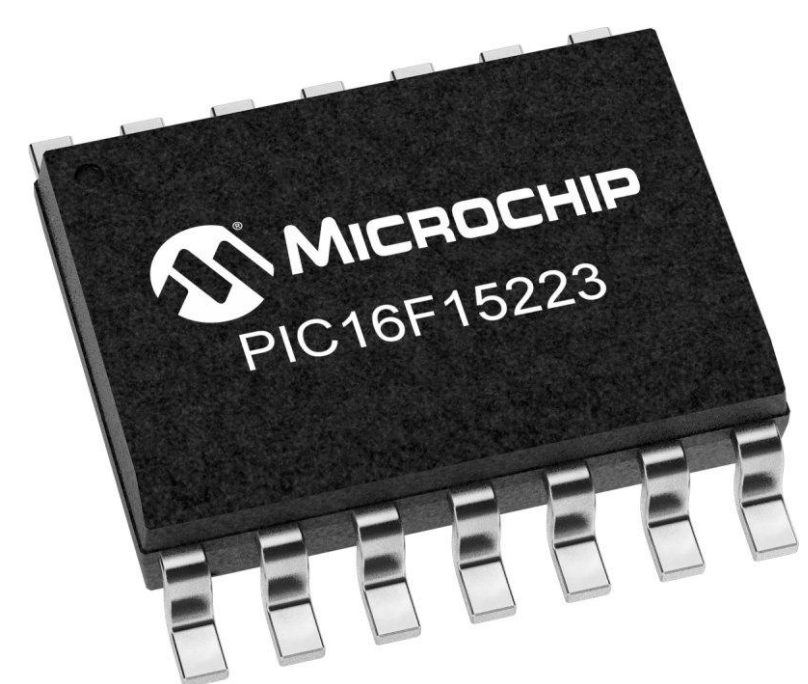
Project Description

The Roving Alarm Notification System (RANS) is a Priax Corporation alarm system that is utilized for security in prisons and psychiatric facilities. This version of the RANS board has updated PIC microcontrollers, updated memory storage, and other updated components like the DAC and multiplexers. The upgraded parts were selected with future availability in mind to avoid obsolescence until the next board upgrade. This version of the board has the same dimensions and a degree of backwards compatibility for facilities that still need to use serial communication.

Components

PIC24FJ64GA705 Microcontroller

This main PIC is a major upgrade over its predecessor in terms of program memory and other specifications. It will control almost everything that goes on in the system.

PIC16F15223 Microcontroller

The input scan PIC also has more program memory compared to its elder counterpart. It is in charge of scanning the multiplexers for zone triggers and sending the information to the main PIC
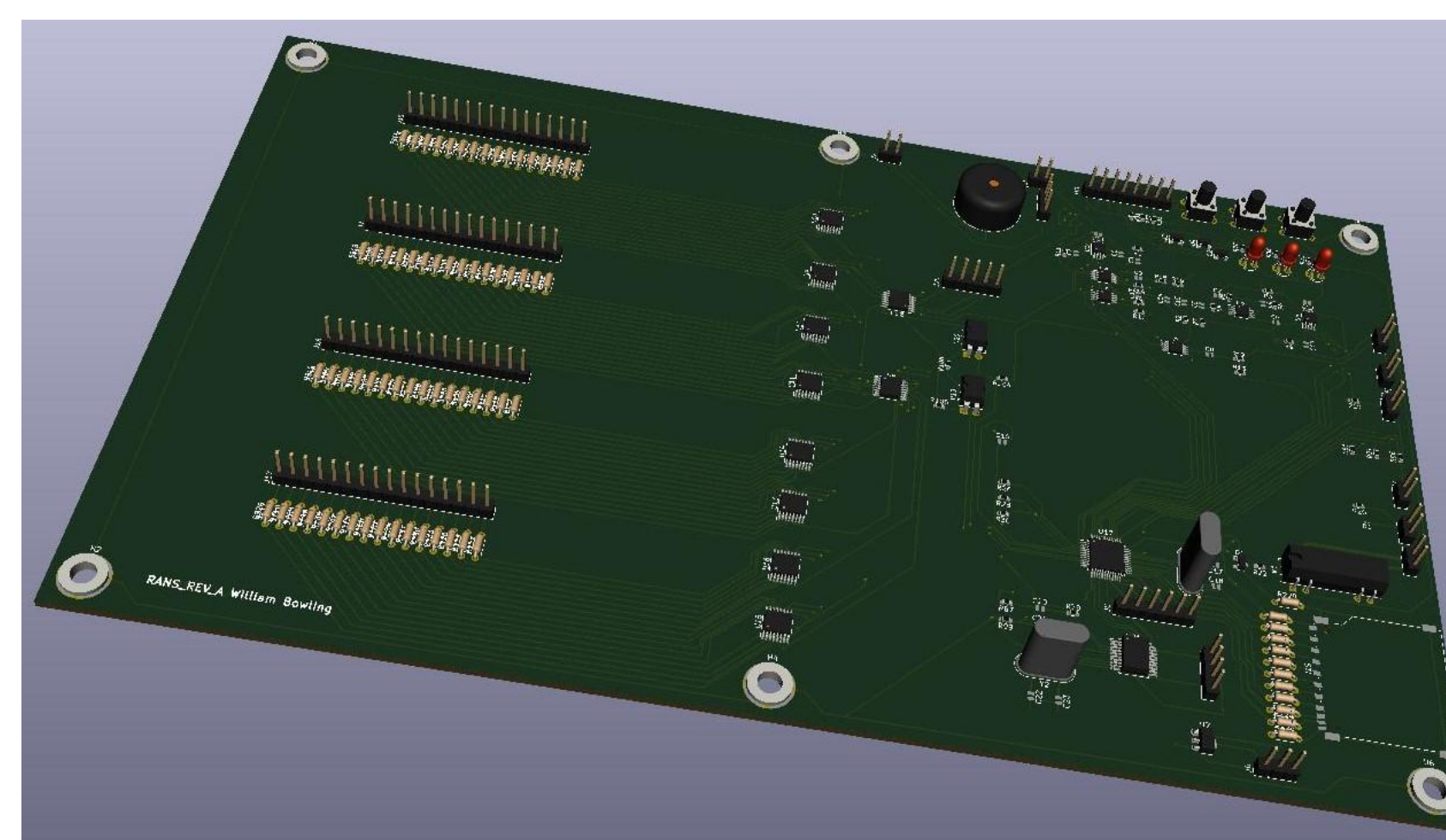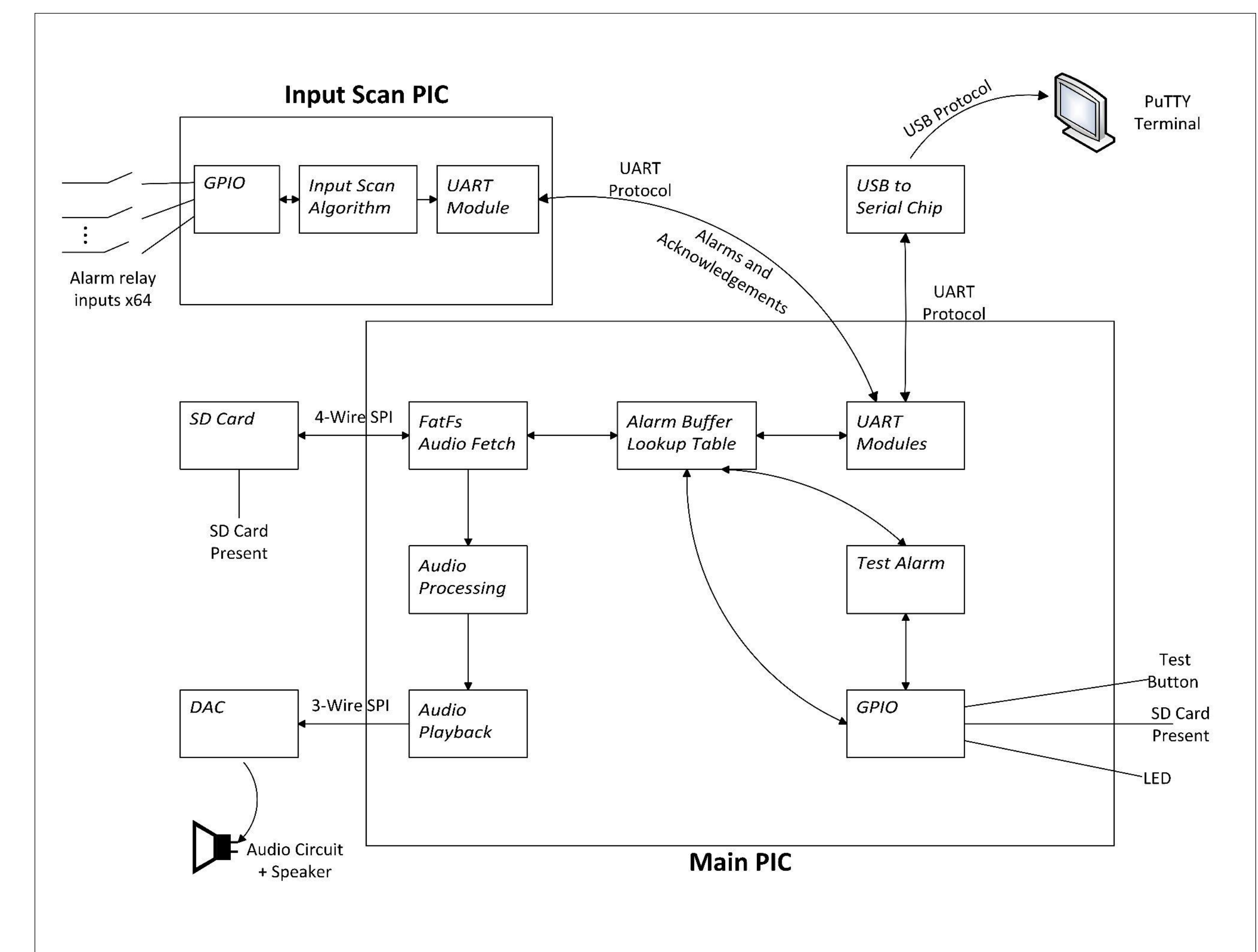
SD Card (and Adapter)

The use of an SD card for on board memory storage is a major upgrade from the previous iterations' use of on board flash memory.

System PCB

Cost Breakdown

- Parts - $192.57 — 56%
- PCB - $17 — 5%
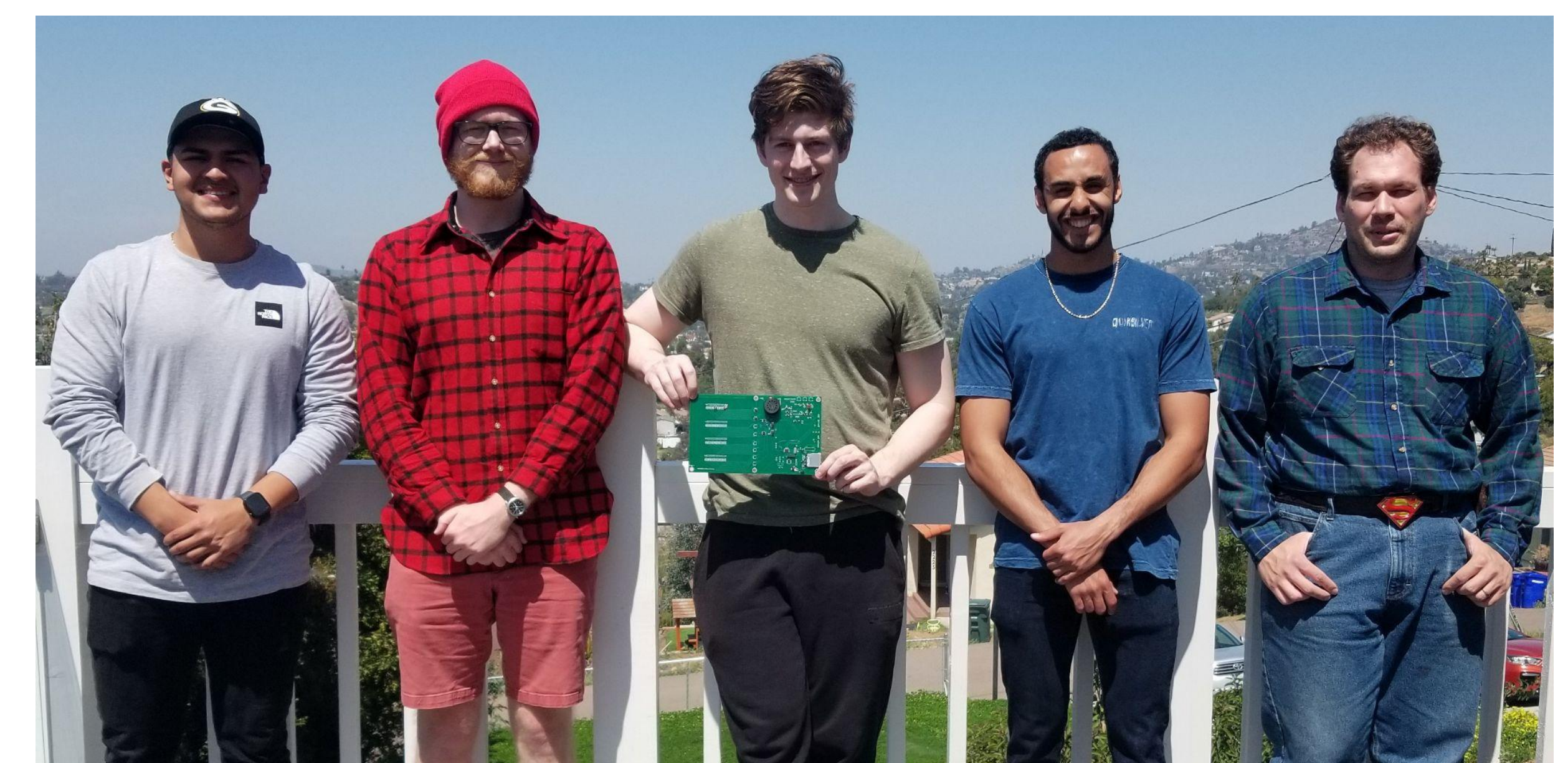- Other - $69.99 — 21%
- Shipping - $62.96 — 18%

System Block Diagram

Members

From left to right: Raul Palomo, Kevin Wuertz, Zachary Tarkowski, Isaiah Webster, William Bowling