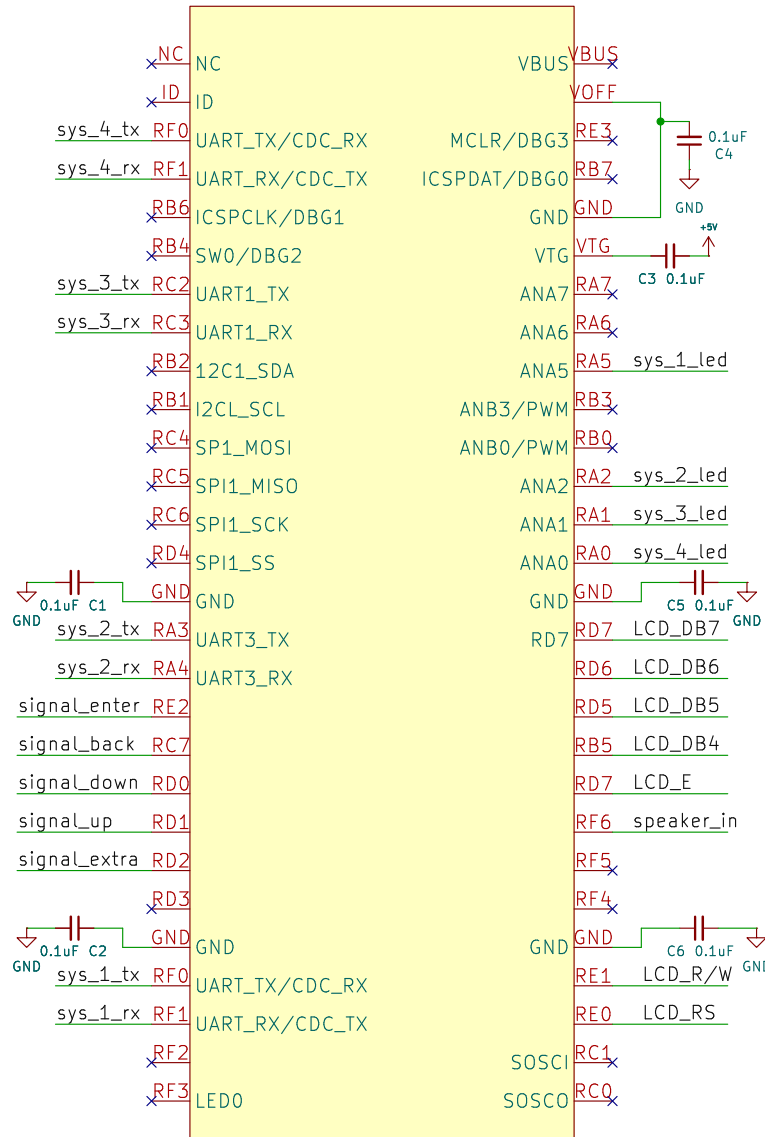
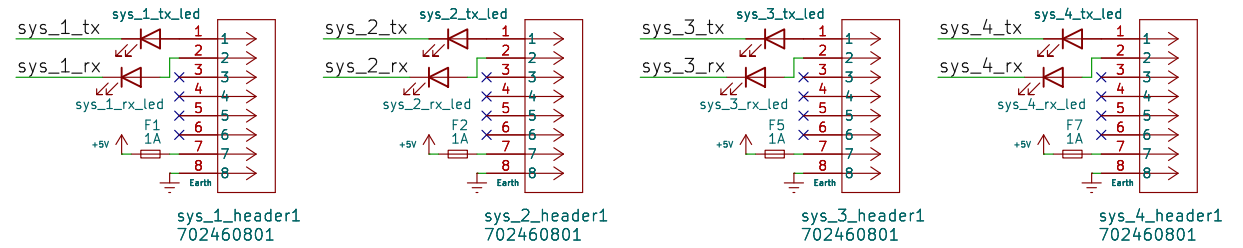


## MCU Connections

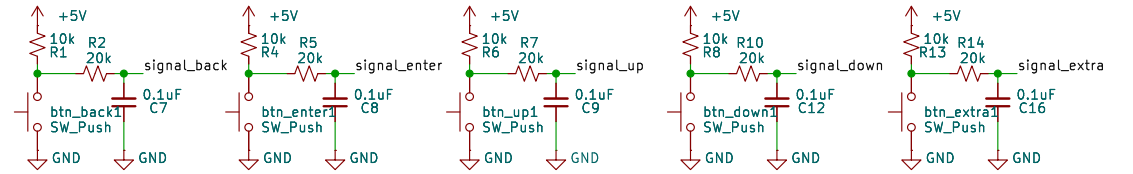


NG\_PIC18F57Q43



LEDs will be used to debug UART communication lines

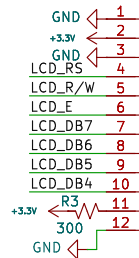
8-pin B2B headers



Buttons debounced to require 10ms minimum input

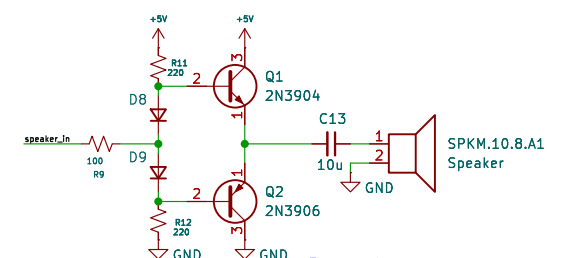
User Control Buttons

Spare button for debugging or expansion



LCD\_header

For connection to NHD-0420AZ-FSW-GBW-33V3 LCD daughterboard

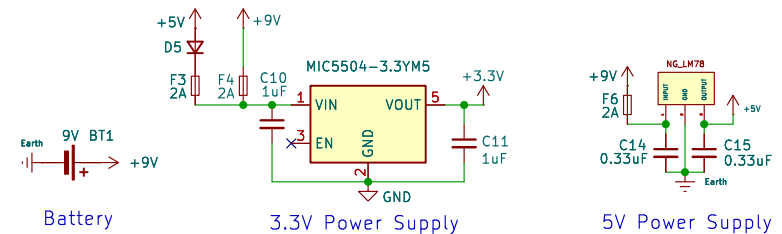


Speaker

## Power Supply

Board may be powered directly, or power can be supplied from another subsystem via 8-pin headers.

3.3V supply for LCD is powered by both 9V and 5V rails to allow for operation with or without direct 9V power



Battery

3.3V Power Supply

5V Power Supply

Subsystem Purpose:

- Provide menu-driven UI through LCD
- Allow user input through buttons
- Provide alerts via speaker
- Controller other sensor boards to perform tests as user requests
- Display sensor values through LCD

ASU EGR304 Team 210

Sheet: /

File: Individual Subsystem.kicad\_sch

**Title: Controller/User Interface Subsystem**

Size: A4 Date: 2025-10-25

KiCad E.D.A. 9.0.4

Rev: 2

Id: 1/1