EVI Control Parts and Functionalities

* Teensyduino 3.6 microcontroller
  + Direct battery power
  + Native USB host for Midi output
  + 4 Variable touch sensor input
    - Pitch-bend pads, Bite Sensor, Extra Modulator
  + 3.3v tolerant only
* MPX5010GP pressure Sensor
  + Needs capacitive decoupling
  + Interrupt to update as fast as possible (notes on/off)
  + Output to analog input
  + Output into a Schmitt Trigger with variable trigger voltage
  + Schmitt trigger outputs into digital input with interrupt
    - Immediately updates notes
* MPR121 12 port Touch sensor
  + Should each have capacitive decoupling
  + Interrupt to only retrieve data when necessary (note change)
  + 2 of these to detect all Boolean touch signals
  + 7 for valves and trill valves
  + 6 for octave sensing
  + 2 for multi-phonic control
  + IRQ attached to digital input interrupts
    - Only sample IC when IRQ pulled Low
* 5 pin DIN female connector
  + No capacitive decoupling needed
  + No Interrupt
  + MIDI output for legacy midi
  + TX1 used at 31250 baud
* 3 Push Buttons
  + No capacitive decoupling
  + Interrupt to detect when pressed (note change)
  + On octave cannister
  + Changes chord quality
* Joy-con Joystick
  + Needs capacitive decoupling
  + No interrupt
  + Need special adapter to use
  + X and Y analog output
    - For Portamento/Vibrato and Menu Control
  + Switch digital output
    - For selecting 4 way setting and Menu Selector
* 8x8 Bi-Color Display
  + Should use capacitive decoupling
  + No interrupt
  + Realtime diagnostic display
  + Displays equalizer/status for pressure
  + 4-way on the go settings changer (customizable in Menu)
* 10k Potentiometer Knob
  + Needs capacitive decoupling
  + No Interrupt
  + Changes which of 4 settings is selected
* I2C FRAM
  + Possibly capacitive decoupling
  + No Interrupt
  + Stores non-volatile data for entire system
  + Alternate sheet for specific location of data
* 128x64 OLED Display
  + Should have capacitive decoupling
  + No Interrupt (software to only update when necessary)
  + Menu to change internal settings and parameters
    - Range for all variable inputs
    - Multi-phonic mode selection
    - Chord and chord preset selection
    - Breath Curve modification
    - Transposition
    - 4-way settings customizer
* 1 Push Button
  + No capacitive decoupling
  + No Interrupt
  + Used as back button for Menu