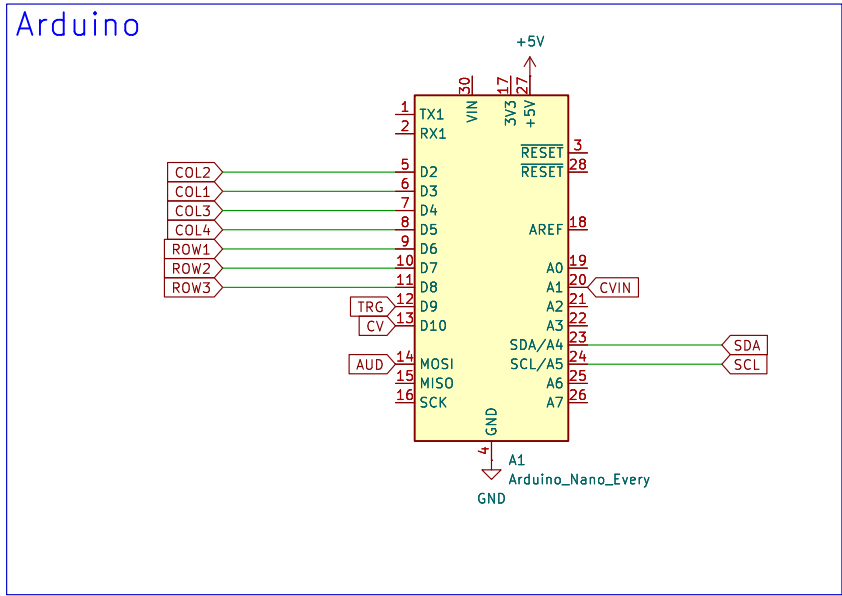


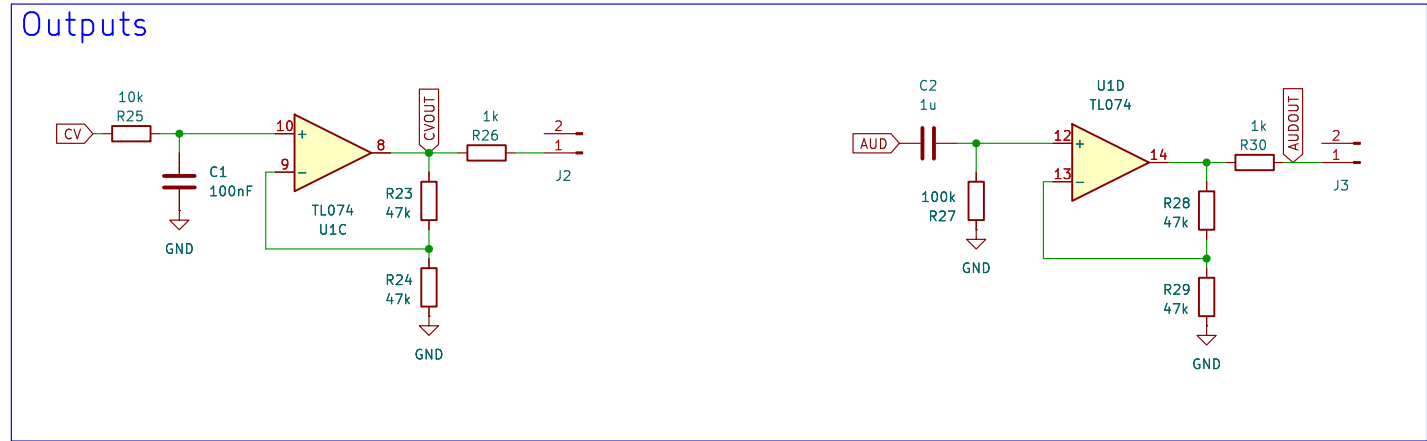
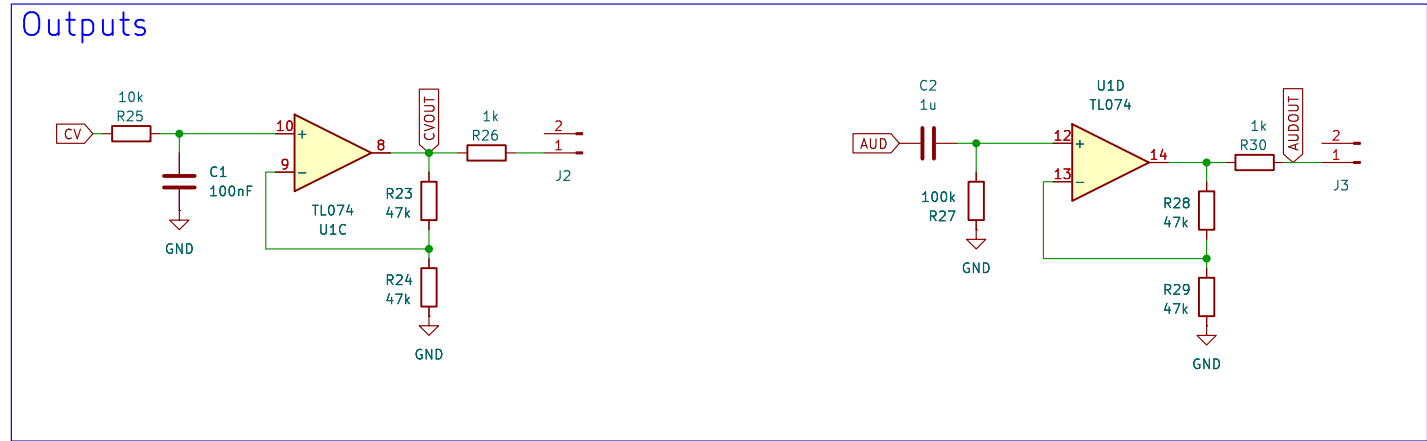
Arduino



Outputs

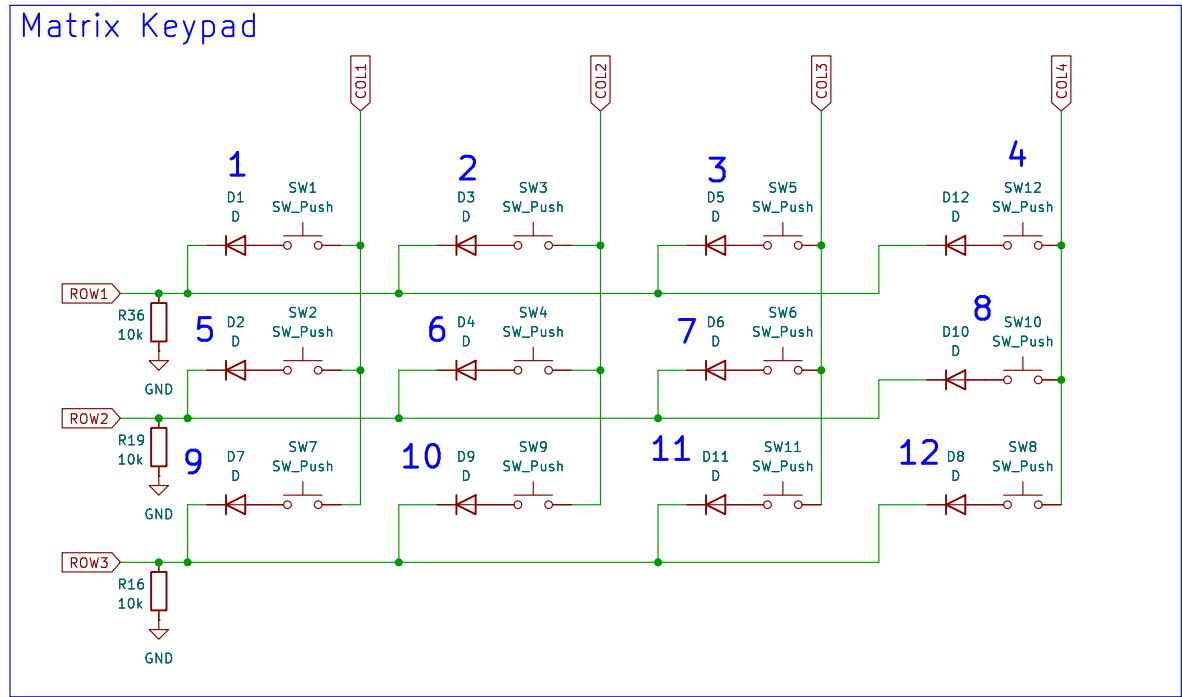
The left diagram shows the CVOUT output stage. The op-amp (U1C, TL074) has its non-inverting input (+) connected to a voltage divider consisting of a 10k resistor (R25) and a 100nF capacitor (C1) to ground. The inverting input (-) is connected to the output (pin 8) through a feedback network consisting of a 47k resistor (R23) and a 47k resistor (R24) to ground. The output (pin 8) is connected to a 1k resistor (R26) and then to the CVOUT terminal (pin 2) and the J2 connector (pin 1).

The right diagram shows the AUDOUT output stage. The op-amp (U1D, TL074) has its non-inverting input (+) connected to an audio input (AUD) through a 100k resistor (R27) and a 1uF capacitor (C2) to ground. The inverting input (-) is connected to the output (pin 14) through a feedback network consisting of a 47k resistor (R28) and a 47k resistor (R29) to ground. The output (pin 14) is connected to a 1k resistor (R30) and then to the AUDOUT terminal (pin 2) and the J3 connector (pin 1).



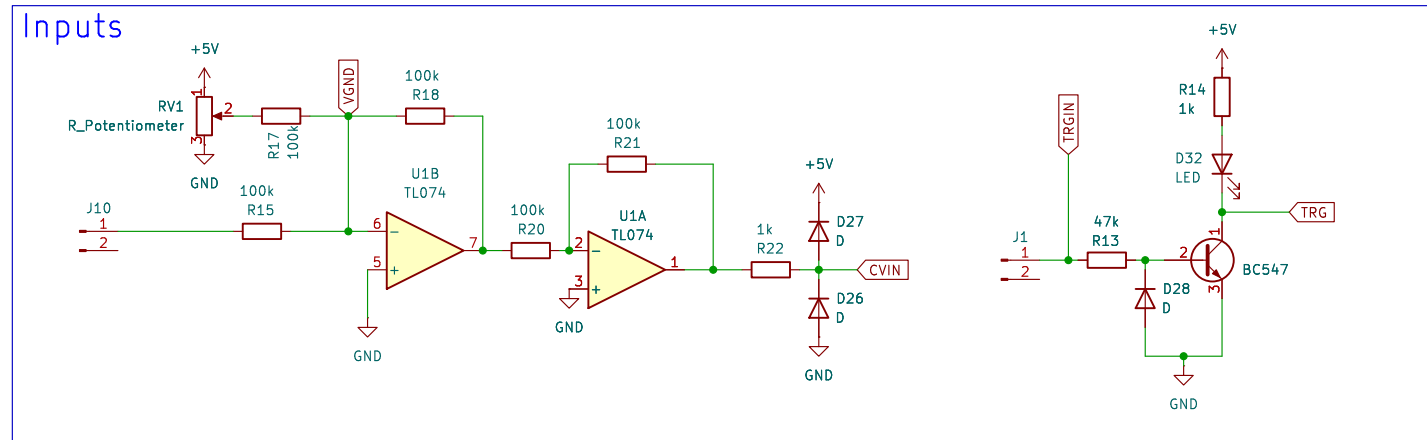
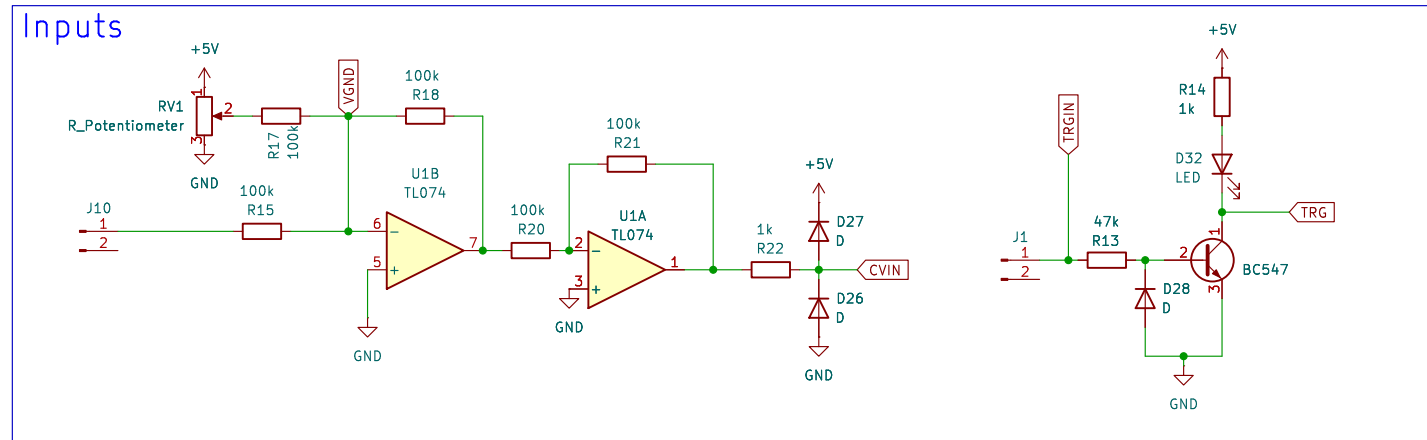
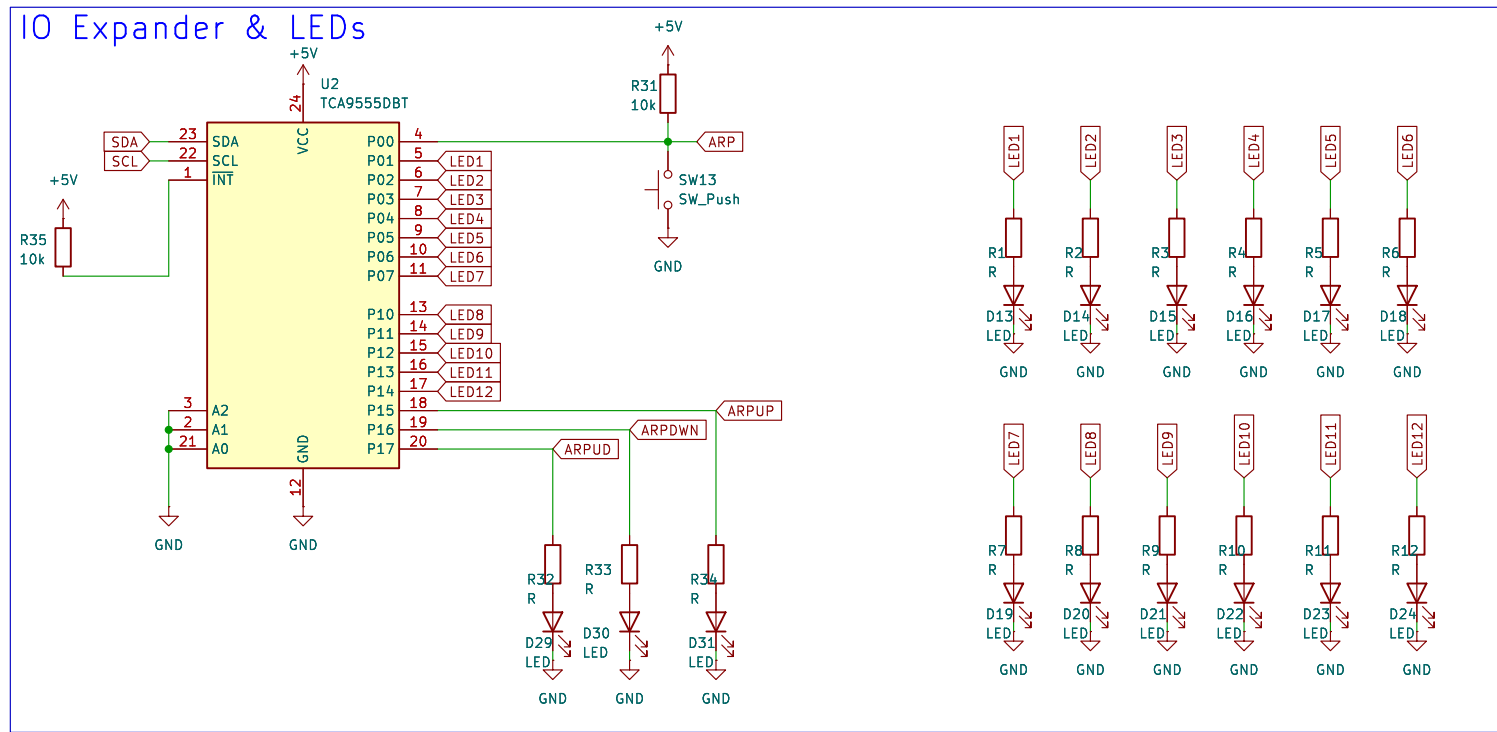
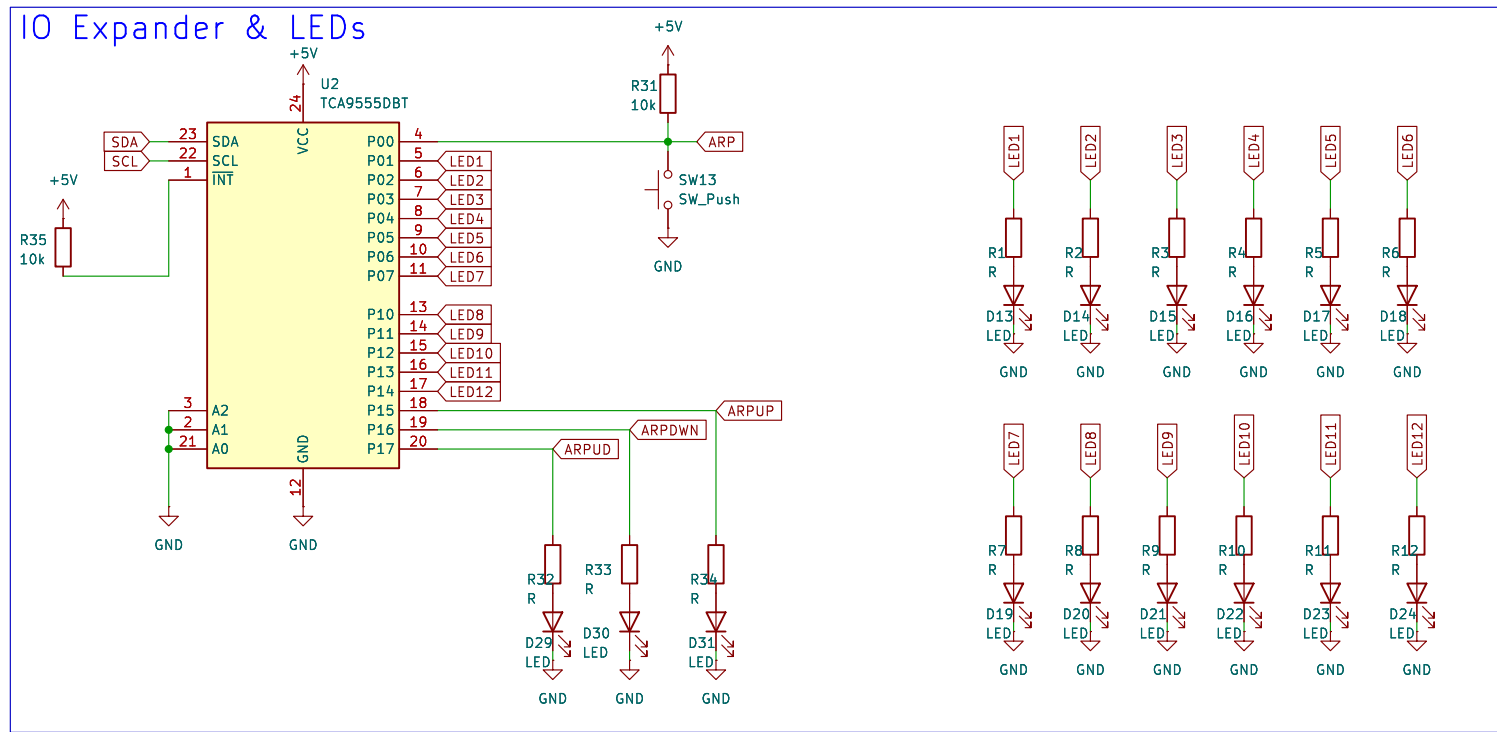
Matrix Keypad

The diagram illustrates a 3x4 matrix keypad circuit. It features three rows (ROW1, ROW2, ROW3) and four columns (COL1, COL2, COL3, COL4). Each intersection of a row and column contains a switch (SW1-SW12) with a diode (D1-D12) and a 10k resistor (R36, R19, R16) connected to ground. The switches are labeled with numbers 1 through 12. The diodes are labeled D1 through D12. The resistors are labeled R36, R19, and R16. The switches are labeled SW1 through SW12. The diodes are labeled D1 through D12. The resistors are labeled R36, R19, and R16.



Inputs

The diagram illustrates two input conditioning circuits. The first circuit (left) takes a signal from J10 (pins 1 and 2) and conditions it using a potentiometer (RV1) and two op-amp buffers (U1A, U1B). The potentiometer is connected to +5V and GND. The signal from J10 pin 1 is connected to the non-inverting input of U1B (pin 6). The wiper of RV1 is connected to the inverting input of U1B (pin 5) and the non-inverting input of U1A (pin 3). The output of U1B (pin 7) is connected to the inverting input of U1A (pin 2). The output of U1A (pin 1) is connected to the input of the second circuit (pin 1 of J1). The second circuit (right) uses a BC547 transistor to condition the signal from J1 (pins 1 and 2). The base of the transistor is connected to the signal from J1 pin 1 through a 47k resistor (R13). The emitter is connected to GND. The collector is connected to +5V through a 1k resistor (R14) and to the TRG input. An LED (D32) is connected between the collector and GND. The transistor is also connected to GND through a 1k resistor (R22) and a diode (D26). The input signal is also connected to GND through a 1k resistor (R22) and a diode (D27).

[illegible]

Power and Connectors

