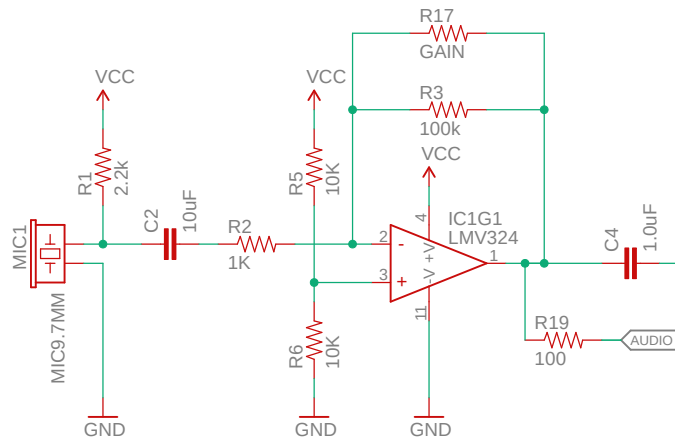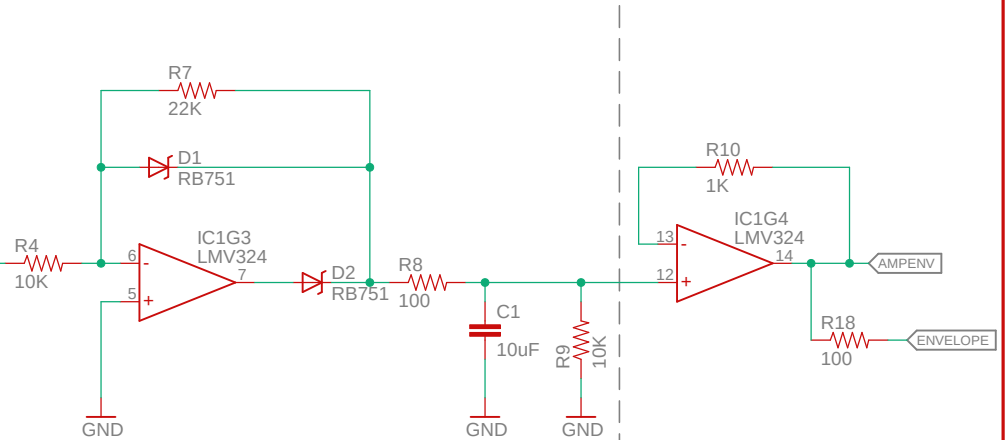# Mic capsule and preamplifier

Default gain = 100 (40 dB)
Populate R17 to lower gain.
  10K = 10 (20 dB)
Remove R3 and populate R17 to raise gain.
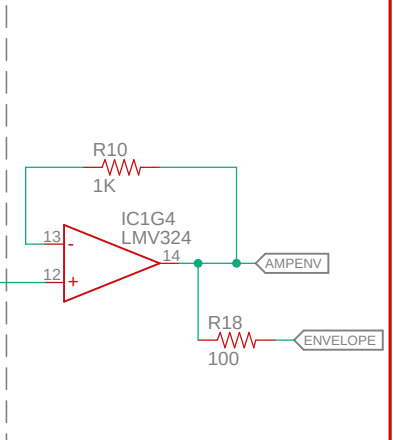 1Meg = 1000 (60 dB)

R17
GAIN

R3
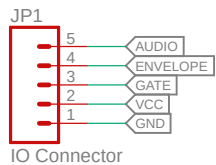100k

VCC

VCC

VCC

R1
2.2k

C2
10uF

R2
1K

R5
10K

IC1G1
LMV324

2
-
3
+
4
11
1

MIC1
MIC9.7MM

R6
10K

C4
1.0uF

R19
100

AUDIO

GND   GND   GND

Peak detector

Half-wave precision rectifier with gain of approx 2

R7
22K

D1
RB751

R4
10K

IC1G3
LMV324

6
-
5
+
7

D2
RB751

R8
100

C1
10uF

R9
10K

GND   GND   GND

Buffer amplifier

R10
1K

IC1G4
LMV324

13
-
12
+
14

AMPENV

R18
100

ENVELOPE

I/O connector

JP1

5   AUDIO
4   ENVELOPE
3   GATE
2   VCC
1   GND

IO Connector

Vcc range between 2.7V and 5.5V.

Decoupling

VCC

C3
1.0uF

GND
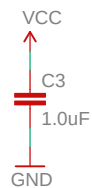
Supply decoupling - place near U1

Schmitt trigger

VCC

Clear SJ1 to disable onboard LED.

R11
100k

R13
1K

AMPENV

R12
3.3k

IC1G2
LMV324

9
-
10
+
8

R14
100k

GND

R15
100

GATE

SJ1   Disable LED

D3
RED

R16
2.2k

Sound

GND
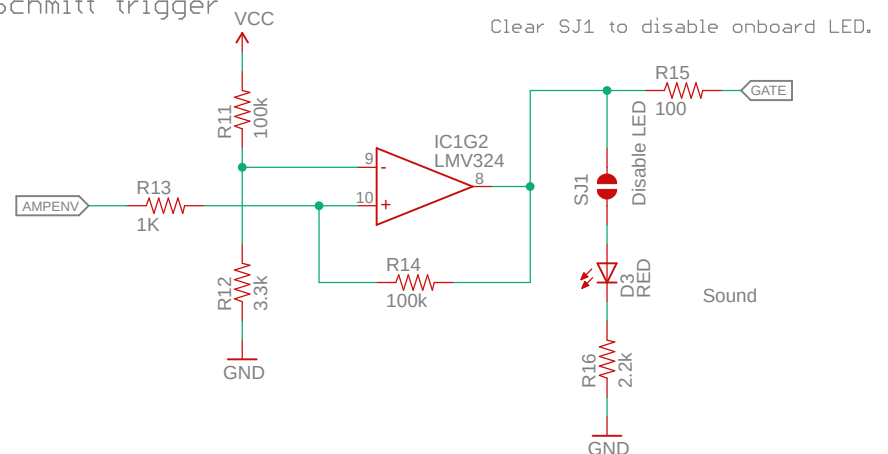
8   SFE   SFE

TITLE: sound-detector-v11

Design by: Byron Jacquot

REV:
V11

Date: 7/21/2017 1:30 PM   Sheet: 1/1

open hardware