

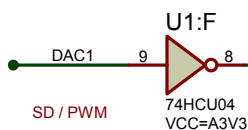


Sigma-Delta Modulator

- 2nd Order, Continuous-Time
- Sampling clock: 2MHz
- Oversampling Ratio: 64 ($2\text{MHz}/64 = 31250\text{ S/s}$)
- 10.25 Effective bits (max SNR: 63dB)

Input buffer

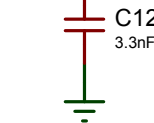
- Removes supply noise from digital signals



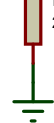
SD / PWM



VCC=A3V3



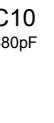
C12
3.3nF



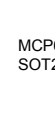
R20
22k



C10
680pF



R22
6k8



R19
33k



R21
3k3



C9
2.7nF



R14
22k



A3V3



U2
MCP6281
SOT23-5



C14
4.7uF



J9
FC68131



FC68131



R3
12k



C5
4.7uF



R7
12k



C1
150pF



U1:A
74HCU04
VCC=A3V3



R4
10k



R1
27k



C2
150pF



U1:B
74HCU04
VCC=A3V3



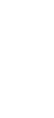
U1:D
74HCU04
VCC=A3V3



U1:E
74HCU04
VCC=A3V3



nSDIN1



SDFB1



A3V3



C3
4.7uF

Analog Filter

- 3rd Order, Low-pass, Butterworth response
- Max. output amplitude: 765 mV peak to peak
- 15 kHz Bandwidth
- Direct drive for 32ohm headphones

FILE NAME: **MULTI_AL4.pdsprj**

DESIGN TITLE: **Multimedia Shield**

SHEET: **Audio**

BY: J. Arias

REV: 1.0

DATE:

28/10/2025

PAGE:

2 of 2

TIME: 10:23:18