

AP-VGA

Bidirectional level shifters for PS2

(BJTs operate in reverse (E as C, C as E) for incoming PS2 data)

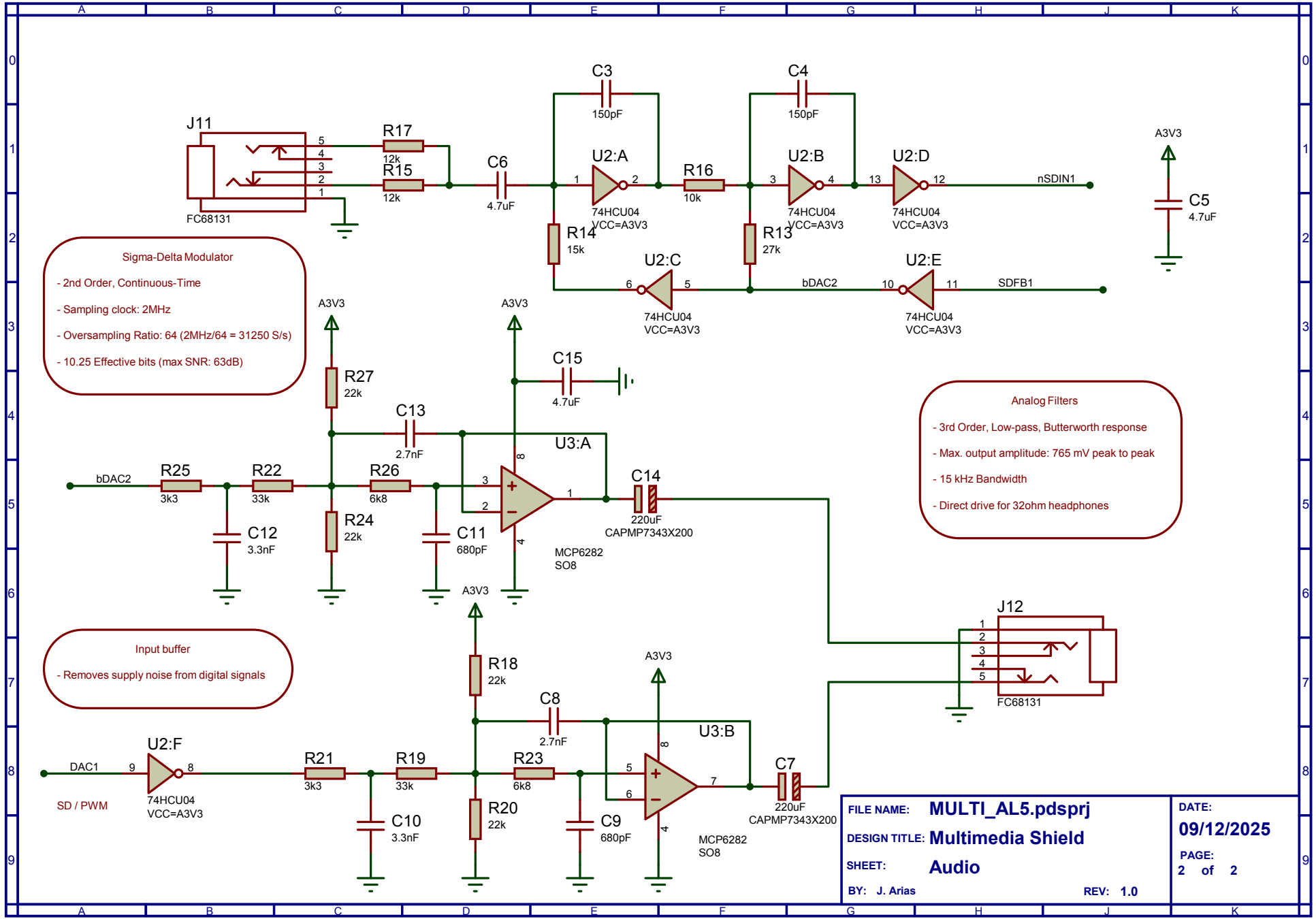
USB pullup

Close jumper if Host
Left open if Device

| R1 | R0 | Video level |
|----|----|-------------|
| L | L | 0 mV |
| L | H | 246 mV |
| H | L | 477 mV |
| H | H | 723 mV |

FILE NAME: **MULTI_AL5.pdsprj**
 DESIGN TITLE: **Multimedia Shield**
 SHEET: **AP-VGA, PSRAM, conn.**
 BY: J. Arias

DATE: **09/12/2025**
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 REV: **1.0**



Sigma-Delta Modulator

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

Analog Filters

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

Input buffer

- Removes supply noise from digital signals

| | | | |
|---------------|--------------------------|-------|-------------------|
| FILE NAME: | MULTI_AL5.pdsprj | DATE: | 09/12/2025 |
| DESIGN TITLE: | Multimedia Shield | PAGE: | 2 of 2 |
| SHEET: | Audio | REV: | 1.0 |
| BY: | J. Arias | | |