

# Output Stage Notes

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# 1 High Level Design

- LM386MX-1/NOPB seems like a good output stage headphone amp. It lists fm radio amplifiers as one of the intended applications.
- It has two gain settings: 20 dB, and 200 dB. Let's choose 20 dB.

# 2 Calculations

- The supply voltage is between 4 and 12V. Let's use 5V.
- The example circuit uses a potentiometer at the input of the amplifier for volume control.
- Since audio frequencies are very low (20 Hz minimum), the AC coupling capacitor needs to be very large. Let's choose 220 uF, which results in an impedance of 36.17 dB.
- A 10 uF capacitor can optionally be inserted between pins 1 and 8 if extra gain is needed. Let's put a DNP there.