
Lab 5: Audio Power Amplifier with Feedback

Preparation

1. Series-shunt feedback.
2. $f_{3dB} = 1/2\pi R_L C_S = 50$ Hz. For $R_L = 8 \Omega$, $C_S = 398 \mu\text{F}$. This is from Lab 3.
3. $R_1 = 7.2 \text{ k}\Omega$. This is also from Lab 3.
4. See Figure 1.
5. See Figure 2.
6. See Figure 3.
7. See Figure 4.
$$\beta = R_{f2} || R_{f3} / (R_{f1} + R_{f2} || R_{f3}) = 0.25$$
$$R_{f1} = 1.5 \text{ k}\Omega$$
$$R_{f2} = R_{f3} = 1.0 \text{ k}\Omega$$
8. N/A

Lab

- **Current limiter is very important in this lab for safety.** Make sure that students understand this and set the current limiter properly.
- Let students use the big speaker in the lab once they are done with all of the steps.