

Chapter 1 Assignment

- 1.5 List the relative advantages of digital systems compared to analog systems and vice versa.
- 1.13 How is an inverting amplifier different from a noninverting amplifier?
- 1.17 An FM radio receiver has an input resistance of $75\ \Omega$. The input signal provided by a distant transmitter is $5\ \mu\text{V rms}$, and the receiver supplies $5\ \text{V rms}$ to an $8\text{-}\Omega$ loudspeaker. Calculate the power gain of the receiver.
- 1.27 A certain amplifier has an input voltage of $100\ \text{mV rms}$ and an input resistance of $100\ \text{k}\Omega$. It produces an output of $10\ \text{V rms}$ across an $8\text{-}\Omega$ load resistance. The power supply has a voltage of $15\ \text{V}$ and delivers an average current of $2\ \text{A}$. Find the power dissipated in the amplifier and the efficiency of the amplifier.

1.51 Briefly discuss what the spectrum of a signal is and why it is important.

1.59 What is a differential amplifier?