

Amplifier



Amplifier

An amplifier is an electronic device or circuit which is used to increase the magnitude of the signal applied to its input.



Amplifiers produces and increased version of its input signal. However, not all amplifier circuits are the same as they are classified according to their circuit configurations and modes of operation.



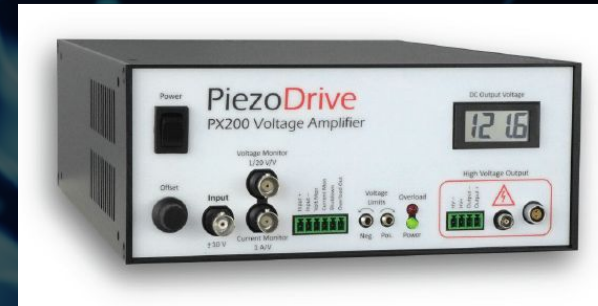
Types of Power Amplifiers

There are three categories of amplifiers depending on the property of their output:

- Voltage Amplifier
- Current Amplifier
- Power Amplifier.

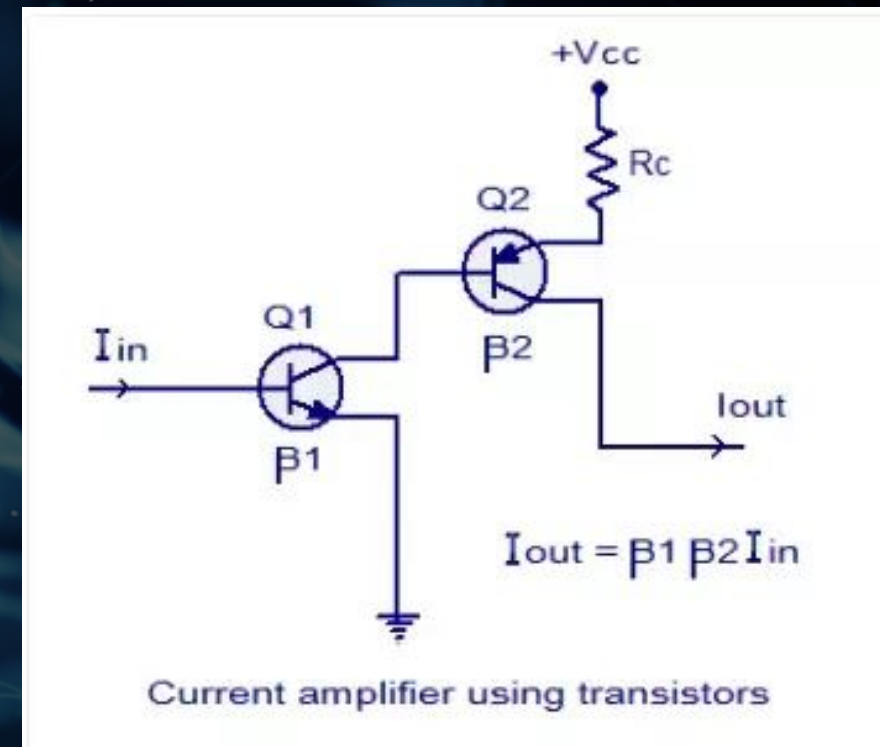
Voltage Amplifier

These amplifiers increase the amplitude of the output voltage of the signal. A voltage amplifier in simplest form is any circuit that puts out a higher voltage than the input voltage.



Current amplifier

A current amplifier is an electronic circuit which amplifies the input current by a fixed factor and feeds it to the succeeding circuit. A current amplifier amplifies the current without fiddling with the voltage levels. Two transistors are used in this circuit.



Power amplifier

A power amplifier produces maximum power to drive a load, It plays a pivotal role of in the whole sound system.



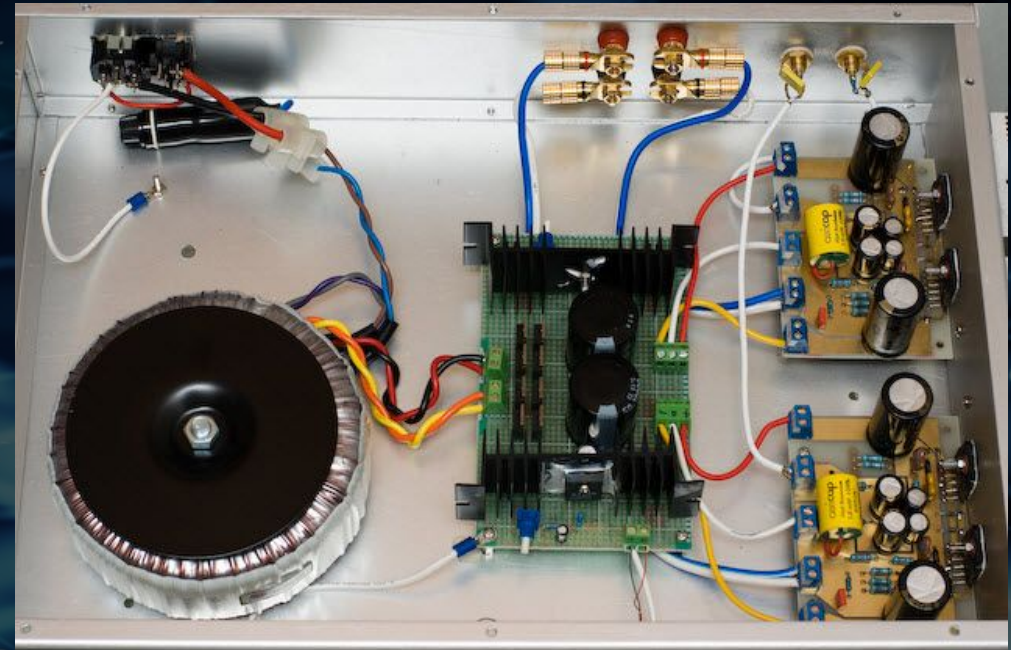
Amplifies

Amplifiers can be further classified based on the signal they amplify:

- Audio Frequency Amplifiers
- Ultrasonic Amplifiers
- Wide band Amplifiers
- Video Amplifiers
- Operational Amplifiers

Audio Frequency Amplifiers

Audio voltage amplifiers is an electronic amplifier that amplifies low-power electronic audio signals such as the signal.



Ultrasonic Amplifiers

They are used for specific purposes such as ultrasonic cleaning, ultrasound scanning, remote control systems.



Wide band Amplifiers

These amplifiers are used in measuring equipment such as oscilloscopes.



Video Amplifiers

Video signals carry all the picture information on TV sets, video and radar systems.



Operational Amplifiers

Operational Amplifiers are linear devices that are ideal for DC amplification and are used often in signal conditioning, filtering or other mathematical operations (add, subtract, integration and differentiation).

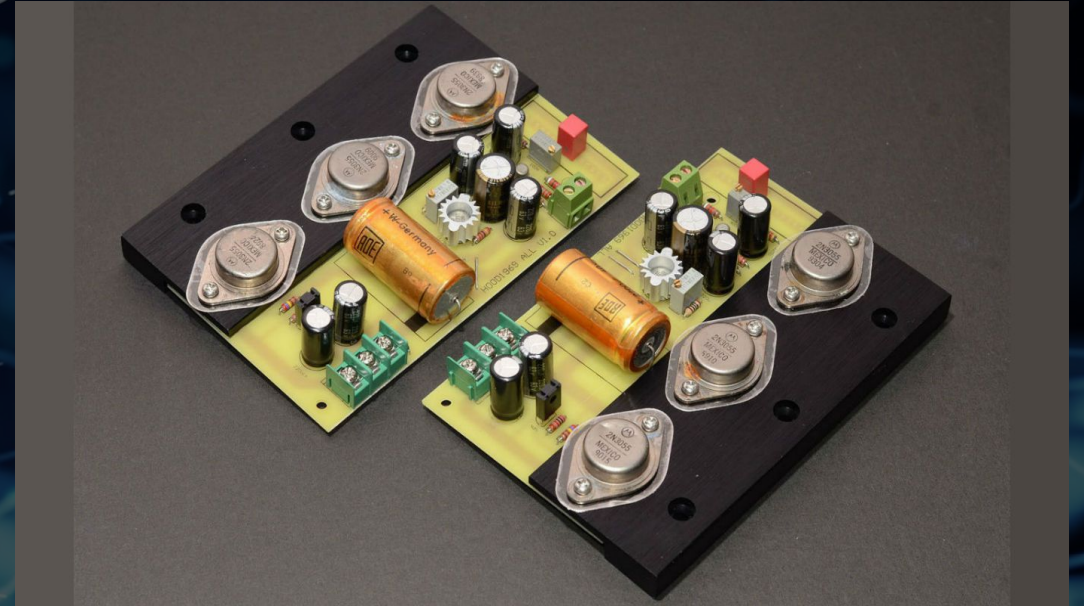


Classes

The class gives a broad indication of an amplifier's characteristics and performance. No amplifier is perfect in every respect or perfectly suited for every application; there are many different applications for amplifiers and many different types available.

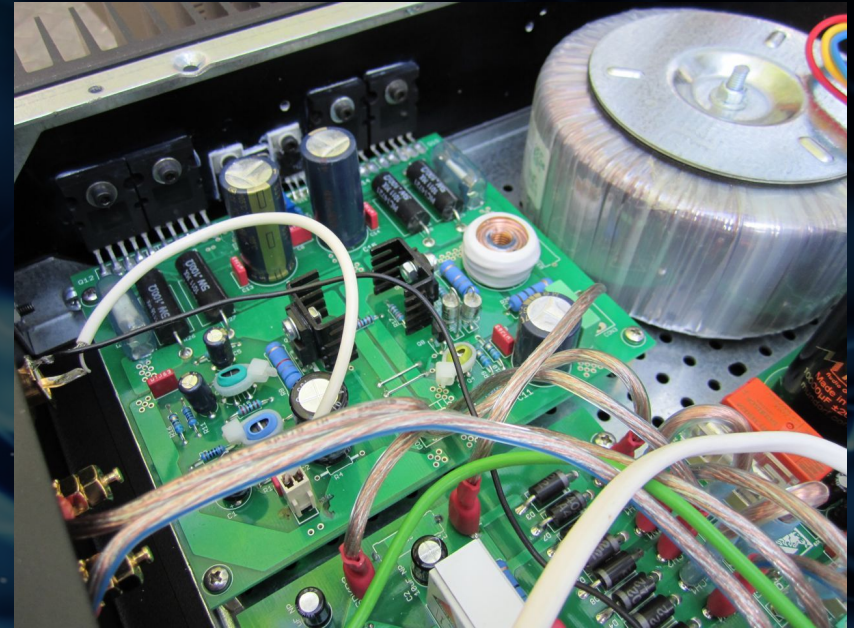
Class A

Class A amplifiers generally provide the best output quality (the best linearity), but tend to be large, hot, heavy, power-hungry, and inefficient.



Class B

Class B offer poorer linearity but are cheaper, run cooler, and are much more efficient.



Class AB

Class AB are a compromise solution, aiming for the output quality of class A and the efficiency of class B.



Class C

Class C amplifiers have much higher efficiency but much poorer output quality.





Thanks for your
attention!