

Electronics Workshop - January 28, 2016/February 25, 2016

Time & Location:

7:00 PM

Fire District 6 Training Room, 2123 Jackson Highway, Chehalis, WA

Topic:

Transistor Amplifiers

Bring (if you have):

Transistor breadboarding stuff (breadboard, transistor, resistors, capacitors, DC power source)

Oscilloscope

Audio signal source

Digital multimeter

Transistor tester to measure beta (common emitter current gain – I_c/I_b)

Notes:

References:

Class A Amplifier: <http://hackaweek.com/hacks/?p=327>

Class AB Audio Amplifier: <http://hackaweek.com/hacks/?p=332>

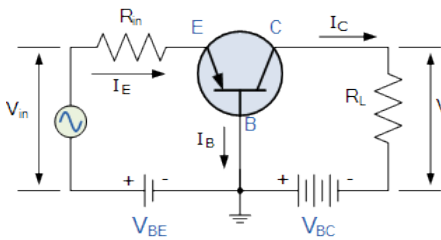
Common Emitter Amplifier: Hands-On Radio Column, February 2003 QST, page 65

Emitter-Follower Amplifier: Hands-On Radio Column, March 2003 QST, page 64

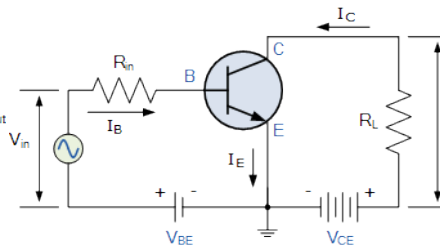
Bipolar Transistor Configurations:

- Common Base Configuration – has Voltage Gain but no Current Gain.
- Common Emitter Configuration – has both Current and Voltage Gain.
- Common Collector Configuration – has Current Gain but no Voltage Gain.

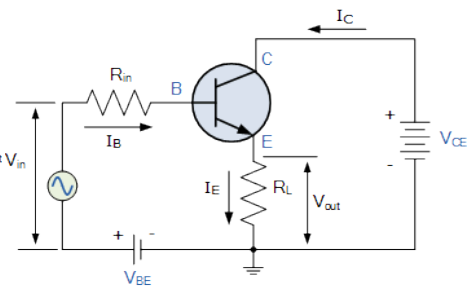
Common Base:



Common Emitter:



Common Collector:

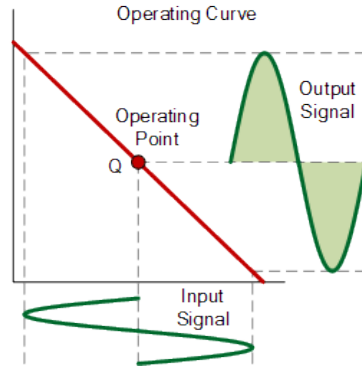
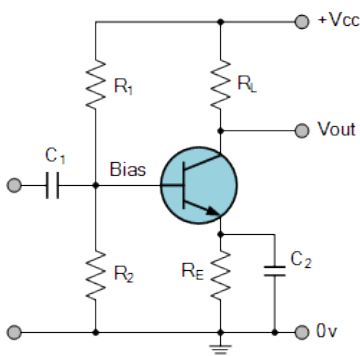


REF: http://www.electronics-tutorials.ws/transistor/tran_1.html

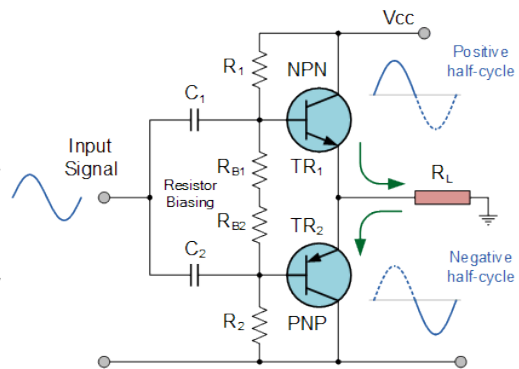
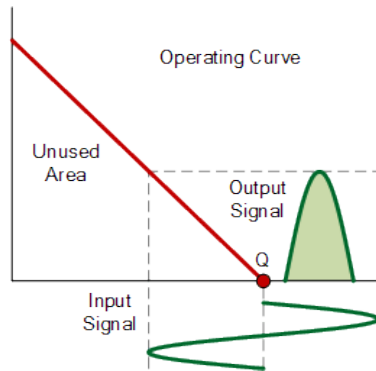
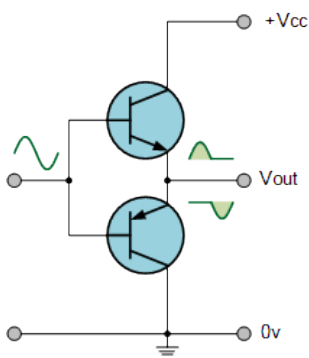
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Bipolar Amplifier Classes:

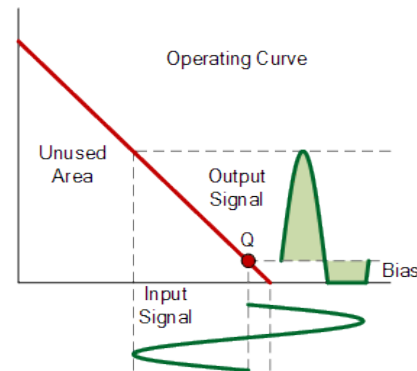
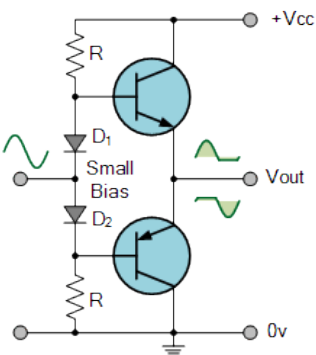
Class A:



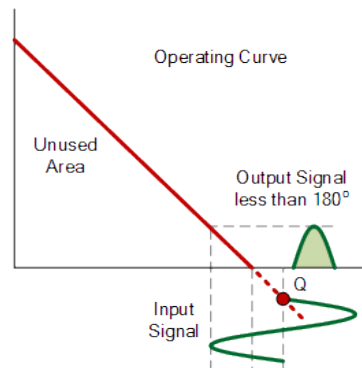
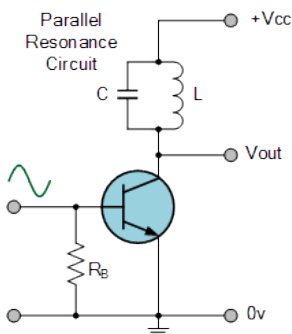
Class B (push-pull):



Class AB:



Class C:



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REF: <http://www.electronics-tutorials.ws/amplifier/amplifier-classes.html>
