Rectifier (AC -> DC Voltage) (with filtering capacitor will output 170 V DC bc of peak voltage vs RMS) (see about ⅔ into the video for important part)

[Full Wave Bridge Rectifier + Capacitor filters + half wave rectifier](https://www.youtube.com/watch?v=RiRyzLl4Y8U)

Buck Converter

[Power Electronics - Buck Converter Design Example - Part 1](https://www.youtube.com/watch?v=IpoI6ERn5zM)

Will need to know device operating current (for output power see 3:00)

Duty cycle = 12/170 = 7% (3:50)

Video will help with all calculations including inductor/capacitor sizing and efficiency

ADC

[Electronic Basics #27: ADC (Analog to Digital Converter)](https://www.youtube.com/watch?v=EnfjYwe2A0w)

[How Do ADCs Work? - The Learning Circuit](https://www.youtube.com/watch?v=g4BvbAKNQ90)

**For Parts searches with specs**

Mouser or Digikey

<https://www.digikey.com/en/products/category/inductors-coils-chokes/4>

Make sure to check inductor resistance to monitor efficiency

<https://electronics.stackexchange.com/questions/426419/how-to-make-a-bidirectional-power-switch-for-negative-supply-rail-controlled-fro>