* Hello and welcome to my first video on Project Quartz, video 1.
* The objective of this video is to explain what Project Quartz is, go over the project goals, and demonstrate the fundamental components.
* I’m going to be documenting my progress with these videos and Github. Hopefully, you’ll learn something cool or be inspired to build something even cooler.
* The contents of this video will cover:
  + The project requirements, what we need to meet.
  + The fundamental components, the core parts I’ve already selected.
  + And the video roadmap, where I see these videos going.
  + So, without further adiue, let’s get started
* Project Requirements
  + The requirements for this watch will certainly make its design a challenge. But there will be a lot to learn, so I’m looking forward to it.
  + The requirements are as follows:
    - The watch needs to be accurate. Like, super accurate. I want to be able to know the exact second it truly is.
    - The watch needs a long battery life and must be rechargeable. I want to forget to charge the watch and not worry about it running out of juice.
    - The watch must also be waterproof, so it can follow me to the bathroom or pool.
    - The watch must be compact. Smart watches tend to be uncomfortably bulky; so I want nothing thicker than 8 mm.
    - Lastly, I’d like a little light to illuminate the screen in the dark.
  + I see this watch sitting every night on a custom base that charges it and sets its clock with the internet.
  + It’ll all be possible, but there’s always a world of difference between possible and physical. So, let’s take a look at the fundamental components of the watch.
* Fundamental Components
  + With some thorough research, I’ve found these three basic components will fit the project’s requirements best.
  + ATMega328P **[ATMega chip, TQFN]**
    - An ATMega328P will serve as the chip in control of everything for the watch, essentially the brains. I’ve selected it because of its small size, low power usage (especially when asleep), and because I know this chip better than any other microcontroller.
  + DS3231 **[DS3231]**
    - The DS3231 will serve as the Real Time Clock, simply because it is accurate and pretty small.
  + LS013B7DH03 **[LCD standalone]**
    - The LS013B7DH03 will serve as the screen for the watch. Because, this LCD is the right size and uses very little power.
  + These parts will probably not change, just because of all the work I’ve already put in with them.
  + But that about rounds up the design so far.
* Video Roadmap
  + As for this video series:
  + I want these videos to show the progress of the design and build, and maybe some how-to’s for the more interesting stuff.
  + But all the work done is going to be in the GitHub repository linked below, including notes **[hardware notes]**, code, datasheets, etc.
  + The next videos will cover, in order, the power system, the LCD and its contents, and how we’ll set and keep time. There will be more, but they’re not set yet.
* So, thank you for watching and have a great day.