Physics 536 - Project

Instructions: Pick a particular electronic component, device or small system, and prepare a 2-3 page report describing applications, operating principles, design considerations and examples. For example, if you selected lock-in amplifiers you would describe how they are used for making very low-noise current and voltage measurements on devices that are maintained at very low temperatures.

You can use a variety of resources for picking a topic. Some suggestions are:

- Physics Today
- Keithley: http://www.keithely.com
- Analog Devices: http://www.analog.com
- Dallas/Maxim Semiconductors: http://www.maxim-ic.com
- ATMELE: http://www.atmel.com/products
- Fairchild Semiconductor: http://www.fairchildsemi.com
- ON Semiconductor: http://www.onsemi.com
- Vishay: http://www.vishay.com
- Texas Instruments: http://www.ti.com
- AVX Corp.: http://www.avxcorp.com

Examples of devices or instruments you might want to describe include:

- Lock-in amplifiers
- Instrumentation amplifiers
- Different types of capacitors
- Component packaging
- Designing with ECL logic
- CCD image sensors
- Overview of VME bus protocols
- Fiber optics drivers/receivers

Check with me if you need help picking a topic or want to discuss the scope of your topic.