Physics 536 Spring 2008 Project - Due April 25$^{\text{th}}$

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		Look at the advertisements
Keithley	`http:www.keithely.com`	Measurement devices
Analog Devices	`http:www.analog.com`	Analog/Digital integrated circuits
Dallas/Maxim Semiconductors	`http:www.maxim-ic.com`	Integrated circuits
ATMEL	`http:www.atmel.comproductsCCD`	CCD image sensors
Fairchild Semiconductor	`http:www.fairchildsemi.com`	All kinds of stuff
ON Semiconductor	`http:www.onsemi.com`	All kinds of stuff
Vishay	`http:www.vishay.com`	Active discrete components
Texas Instruments	`http:www.ti.com`	All kinds of stuff
AVX Corp.	`http:www.avxcorp.com`	Capacitors

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.