A self-powered wireless keyboard
- Eliminating disposable battery usage

125,000 tons of batteries are thrown away each year.

(SANYO Energy)
The PowerStroke Market

- 229 million PC’s in use in North America
- $52 billion industry for PC peripherals
  (source: Euromonitor 2006)

Objectives:
- Capture wireless keyboard market
- Convert wired keyboard users
The PowerStroke Customer

“Barry”
- Wireless keyboard user
- Replaces batteries every 6 months
- Concerned about convenience

“Replacing batteries is such a pain.”
- Barry Kudrowitz
The PowerStroke Sketch Model

Key

Coil

Magnet

Spring
Sketch Model Results

- Required power for operation: .02 watts
- Theoretical power of sketch model: .02 watts
- Experimental power: .01 watts

- Key issues addressed:
  - Waveform generated
  - Losses due to transformation and rectification
  - Packaging constraints
PowerStroke 2.0 Concepts

- Multiple key activation
- Properly sizing coils, springs, magnets