Software

- Microcontroller – CML-12C32
- Coded in Assembly Language
- Main Loops
  - Check for AC power loss
  - Look for security check pass
    signal from the fingerprint scanner

Main Loop

Motor Control

- Output ports used to control the gate voltage of five MOSFET transistors
- Input ports used to recognize signals from the fingerprint scanner, limit switches, and loss of power detector
- 2.5 MHz Clock = 400 ns/operation
  - 1.2 μs between limit switch checks
• 120V AC to 24V DC Power Supply
• Adjustable Voltage Regulators
  - 24V DC to 13.8V DC (LM117)
  - 13.8V DC to 6.2V DC
• 12 AA size 2300 mAh NiMH Battery Pack
• Desk Lamp
  - 4 White Superbright (16000 mCd) LEDs (NTE30045)
  - 1 N-Channel MOSFET (NTE2987)
• H-Bridge Motor Control
  - LMD18200 for drawer ejection and withdraw
  - Custom 8 N-Channel MOSFET deadbolt motor control (NTE2987)