

CES-520 Embedded Systems  
Fall 2006 – Lab #3

Assigned: September 12, 2006  
Due: September 26, 2006

*Lab: Connecting an EEPROM & Temperature Sensor*

1. Look at the I2C library for the Rabbit 3000. Determine the best port pins to which to connect the 24LC01B EEPROM. Modify the library if required.
2. Solder the EEPROM to the prototyping board (which is connected to the RCM3000 development kit with ribbon cables). Connect the signals as appropriate.
3. Write test software that determines whether or not your EEPROM is working properly.
4. Study the 1-Wire library for the Rabbit 3000. Determine the best port pin to which to connect the DS18B20 Digital Thermometer. Modify the library if required.
5. Solder the Thermometer to the RCM3000 prototyping board. Connect the signals as appropriate.
6. Write test software that reads the current temperature from the device.

Turn in electronic or paper copies of your final program(s) and any program output. Also, turn in a schematic drawing that shows the connections for each device, including power and ground connections. Use ExpressPCB software, or any other schematic capture software of your choice. Hand-drawn schematics will also be accepted.