

## Introduction

This Document describes the functions written to interface with Microchips 24LC256 EEPROM. The 24LC256 contains 32Kbyte of byte addressable memory with a page write capability of 64 bytes. The Wire library limits memory transfers to and from the EEPROM to 32 bytes at a time. This document only goes over the basic information to properly use the functions. Therefore if more information on the device is needed please refer to the products document at the following location:

<http://ww1.microchip.com/downloads/en/DeviceDoc/21203R.pdf>

This library makes use of the existing Wire library to communicate with the EEPROM on the IOShield. As such, when you write sketches that use the IOShieldEEPROM library, make sure that you also include Wire.h in your sketch. Note that while many of the data types used in this library are not common Arduino/MPIDE datatypes, using an int or byte in their place will be converted to the correct type when the sketch is built.

Note: In order to use the chipKit Max user must manually connect SDA and SCL pins(20 and 21) to pins A4 and A5 of IO Shield

Note: For chipKit Uno Users you must have Jumpers JP6 and JP8 set in the RG3 and RG2 positions

## The following API functions make up the EEPROM Module interface.

### **uint8\_t read(uint16\_t address)**

Parameters:

address        - 16 Bit address designating where to read

Return Value:

Byte containing data requested

Reads one byte from the EEPROM using the address given.

### **void readString(uint16\_t address, uint8\_t \*sz, int size) void readString(uint16\_t address, char \*sz, int size)**

Parameters:

address        - 16 Bit address designating where to start reading  
sz              - pointer to an array of bytes  
size            - amount of data to be read

Reads consecutive bytes from the EEPROM using the address given then loads them into the specified buffer.

**void write(uint16\_t address, uint8\_t data)**

Parameters:

address	- 16 Bit address designating were to write
data	- Data to be written

Writes the given data to the specified address on the EEPROM.

**void writeString(uint16\_t address, uint8\_t \*sz, int size)****void writeString(uint16\_t address, char \*sz, int size)****void writeString(uint16\_t address, char \*sz)**

Parameters:

address	- 16 Bit address designating were to write
sz	- pointer to an array of bytes
size	- amount of data to be written

Writes a consecutive number of bytes or characters from the given string to the EEPROM starting with the address given. If a character is used for the write string command and no data size is provided, the length of the string will automatically be used.