drmLib Arduino Utility Library

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# Abstract

This is a brief overview of the configuration management process for TeamManatt. It was originally drafted for the Logging Dive Computer project.

Use:

#include <drmLib.h>

# Library Summary

1. byte drmBcd2Dec(byte inbyte);
2. unsigned short drmSerialNo();
3. void drmStartPrint(const char \*drmversion);
4. void drmPrtLead0(long in, int places);
5. void printTime(unsigned long milli\_time);
6. int initRTC(rtc\_type type);
7. struct parseTime readRTC(rtc\_type type);
8. void readClock(byte \*readBytes);
9. struct parseTime decodeTime(byte \*readBytes);

# Library Details

1. byte drmBcd2Dec(byte inbyte); – Converts a two digit BCD number into a binary representation
2. unsigned short drmSerialNo(); – Retrieves the serial number from the EEPROM of an Atmel processor
3. void drmStartPrint(const char \*drmversion); – Prints out the standard start message
4. void drmPrtLead0(long in, int places); – Prints a long integer with leading zeros
5. void printTime(unsigned long milli\_time); – Prints the Time in the format d-h:m:s given a millisecond value
6. int initRTC(rtc\_type type); – Sets up an RTC module
7. struct parseTime readRTC(rtc\_type type); – Parses out the elements of the date/time from RTC raw data
8. void readClock(byte \*readBytes); – Returns time from an RTC
9. struct parseTime decodeTime(byte \*readBytes); – Parses time data returned from RTC

# Data Structures

enum rtc\_type

{

DS3231,

OTHER

}

This structure contains all the RTC data

typedef struct **parseTime** {

byte seconds;

byte minutes;

byte hours;

byte dow;

byte dom;

byte month;

byte year;

byte csr;

byte sr;

int int\_year;

unsigned long lsec;

long tempf; // F temperature \* 100 (poor mans float)

};

}

# Constants

#define ER\_BADID -20 // bad ID on requested operation

#define ER\_BADOPEN -21 // error opening file

#define ER\_UNEXPFIO -22 // unexpected result with file IO

#define ST\_AOK 0 // Everything is good

#define ST\_NOERR 1 // No error occured

#define ST\_NOOP 2 // Nothing happened

#define ER\_ERR -1 // generic error

#define ER\_UNK -1001 // unknown error

#define FALSE 1!=1

#define TRUE 1==1

#define MAX\_LINE 180

#define NUMRTCREGS 19

# History

Created by drm 20151213

V1.0 --> First with EEPROM access and start print

V2.0 --> adding RTC access

# Revision History/Release Status

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| REVISIONS | | | | | | | | | | |
| **REV** | **DESCRIPTION** | | | | | | | | **DATE/APPROVED** | |
| A | Initial release | | | | | | | |  | |
|  | | | | | | | | | | |
|  | | | | | | **TeamManatt**  16061 Vista de Golf  Rancho Santa Fe CA 92091 | | | | |
| Review & Approval (digital signatures) | | | C:\Users\manatt\Documents\GitHub\Arduino\_Play\drmLib\drmLib.docx | | | | | | | |
| **DRAWN** | | | drmLib Arduino Utility Library | | | | | | | |
| D. Manatt | | |
| **CHECKED** | |  |
|  | | |
| **ENGR** | |  |
| D. Manatt | | |
| **ENGR REV** | |  |
|  | | |
|  | |  |
|  | | |
| **PROJ MGR** | |  | SIZE  A | CAGE CODE  N/A | DRAWING NUMBER | | | | | REV |
| D. Manatt | | |
| **QUAL MGR** | |  | SW-xxx-yyy | | | | | A |
|  | | |
| **RELEASE** | |  |  | | DRW LEVEL  3 | | SCALE  NONE |  | | SHEET  1 OF 5 |
| D. Manatt | | |