drmLib Arduino Utility Library

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1 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>

2 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);

3 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

4 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)
};
}
```

5 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
```

6 HISTORY

Created by drm 20151213
V1.0 --> First with EEPROM access and start print
V2.0 --> adding RTC access

7 REVISION HISTORY/RELEASE STATUS

REVISIONS		
REV	DESCRIPTION	DATE/APPROVED
A	Initial release	

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Review & Approval (digital signatures)	C:\Users\manatt\Documents\GitHub\Arduino_Play\drmLib\drmLib.docx					
DRAWN D. Manatt CHECKED ENGR D. Manatt ENGR REV	drmLib Arduino Utility Library					
PROJ MGR D. Manatt QUAL MGR	SIZE A	CAGE CODE N/A	DRAWING NUMBER SW-xxx-yyy			REV A
RELEASE D. Manatt			DRW LEVEL 3	SCALE NONE		SHEET 1 OF 5