DMX to Serial Notes

Components

- Arduino Nano
- Serial to TTL interface
- RS485 to TTL interface
- 16x2 LCD and I2C interface
- 2 pushbuttons
- Bicolour LED
- SD Card interface (SPI)

Wiring

DMX XLR pin 1 to ground, pin 2 to B and pin 3 to A. R7 removed on interface (termination resistor)
RS485 DI to D1, DE and RE to D2, RO to D0
Serial Interface TX D4 and RX D3
D0 RS485 RO (receive)
D1 RS485 DI (transmit)
D2 RS485 DE,RE (Tx/Rx mode)
D3 RS232 Rx
D4 RS232 Tx
D5 LED +
D6 LED +
D7 Switch (input mode pullup) – low when closed
D8 Switch (input mode pullup) – low when closed
D10 SD Card CS
D11 SD Card
D12 SD Card
D13 SD Card
D18 (A4) I2C (display)
D19 (A5)I2C (display)
Control backlight with lcdbacklight() and lcdnobacklight() functions in library

Read DMX data and buttons and if criteria met, write out data to serial port, terminate data with ASCII 13 (CR) which is not included in the config file.

Config file – dmx_ser.cfg

Read from root of SD card into EEPROM and eeprom address 0 set to 230 to denote data have been loaded

If card not present, EEPROM values will be used if eeprom address 0 = 230

If card present but no config file present, sample file created using EEPROM values (if eeprom address 0 = 230)

Confirmation messages on startup if values read from EEPROM, sample file created or error condition.

Sample file:

```
RS232 Baud rate (bps): 9600
RS232 Timeout (ms): 1000
DMX Debounce (ms): 1000
Backlight Enable (0/1): 1
Backlight Timeout (ms): 5000
Number of Commands: 2
Name length,Name,Command length,Command,Acknowledgment Length,Acknowledgment,DMX Channel,DMX Low Threshold,DMX High Threshold
9,Command 1,8,VOUD +01,2,OK,1,128,255
9,Command 2,8,VOUD -01,2,OK,2,128,255
Number of LEDs: 2
On Command Number,Off Command Number,Pin Number
1,2,5
2,1,6
Number of Buttons: 2
Command Number,Pin Number
1,7
2,8
End of File
```

Config notes:

- RS232 timeout applies both to response timeout and retry timeout
- DMX debounce requires value to be within threshold for this time having been outside it for at least the debounce time (except on initial startup when only has to be within for the time)
- Note space after : but not around ,