

## Re: Revised draft of " [OT?] a SIMPLISTIC RS232 data logger using some flash device ---- does it exist commercially?"

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  - *Date:* Fri, 24 Jun 2005 00:48:34 +0100 (BST)
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On Thursday, in article <11bm45r5dnt9kc2@xxxxxxxxxxxxxxxxxxxx>  
rowlett@xxxxxxxxxxxxx "Richard Owlett" wrote:

>My thanks to the group for providing useful input in response to a  
>poorly defined question.

>

>I had broken my problem statement into three parts.

>1. what I wanted to accomplish

>2. a view of possible solution

>3. thoughts on what hardware might satisfy needs/desires/aesthetics

>

>Unfortunately my original post pureed all into amorphous glob.

>My apologies.

>

>I'll break things down in above groupings.

>

>1. What am I looking for

>It might be described as "data logger" or a "very large FIFO".

>

>The input will be an RS232 data stream terminated by <CR><LF> of no more

>than 100 bytes at 4800 BAUD occurring once per second.

>

>It shall buffer/store at least 10 mega bytes

>

>The output shall be via USB

> 1. I wish to take advantage of USB speed

> 2. My computer has available USB port(s)

> 3. My computer does \*not\* have available serial port(s)

USB to serial port adapters exist, they are not expensive.

>

>2. Possible solutions

>Flash devices are large and do not require power to maintain data.

>There are environments such as FORTH which can presume any mass storage

>device/system to be a sequence of nnn byte blocks/sectors/whatever

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Flash to store the data in whether flash chips, CF card or other type is perfectly OK, as long as the logger can address the device either directly or by keeping track of which sector it is on.

Your own internal flash chips soldered on the board reduces reliability problems of connectors or wrong type of CF card installed.

>3. available hardware

>Let's just forget how badly I mangled this one ;{

>

>

>Is this a better problem definition?

Alternative 1

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As myself and others said before look at FTDI USB<->serial adapters, then have the flash inside the device log the data via RS232 at 4800baud.

Then when you need to talk to the PC use the USB to RS232 adapter at very much higher baud rate (115000 or higher should be possible on most micros) Use a simple application on the PC to read the device using a USB pseudo serial port.

This has the advantage of you DON'T have to add USB hardware and software as well as the RS232, and you only need ONE serial port. The flash can be soldered on board a smaller and more portable and SEALABLE weatherproof device.

Also you don't have to get your USB checked on hundreds of USB combinations and buy IDs etc..

Alternative 2

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Using a CF card in a PC without a file system and doing raw read/writes has a basic problem. Windows allows raw read/writes when a physical drive exists and has a drive letter. CF card does not have a drive letter until the Plug and Play from detecting the CF enumerates it and does an auto mount including mount a filesystem. Until you either bypass that mounting of file system or only allow format of device options that windows has on automounting of a device, you won't be able to do raw read/write on a drive that may not yet exist to the system. Floppies and other devices can do raw read/write because the drive physically exists and exists as far as system is concerned.

As someone else has said know what the format of the device is and skip the filesystem blocks is one way, but bear in mind as the CF cards get larger they may be formatted as FAT16 or FAT32 depending on size of the CF card. That in turn will affect your coding.

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CF cards and connectors means all sorts of other reliability issues of the connectors, CF card brands supported, mechanical considerations for sealing and durability.

Those are the basic choices, decide what you want from the product as a whole in usability, reliability and other aspects, using the same serial port in playback mode means less openings and connections to deal with.

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<<http://www.pcserviceselectronics.co.uk/>> PC Services  
<<http://www.gnuh8.org.uk/>> GNU H8 & mailing list info  
<<http://www.badweb.org.uk/>> For those web sites you hate

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• **References:**

- ◆ ***[OT?] a SIMPLISTIC RS232 data logger using some flash device ---- does it exist commercially?***
  - ◇ From: Richard Owlett
- ◆ ***Revised draft of " [OT?] a SIMPLISTIC RS232 data logger using some flash device ---- does it exist commercially?"***
  - ◇ From: Richard Owlett
- Prev by Date: ***Re: MISRA new rule suggestion***
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