

======(Answer: IR8250P Introduction-04/10/14, **ACTiSYS Confidential!**)=====

Q: We have a Datalogger with onboard UART, which communicate through RS232 and USB to PC. In the Datalogger I only have one protocol SW to the UART and I would like also to have UART <-> IrDA without any change of my UART protocol SW, to communicate with a Pocket PC 2003.

For this task I have been evaluation the MCP2150 but I find the MCP2150 incompatible and unstable. I simply can't get it to work together with Pocket PC 2003. Now time is running out and I'm behind schedule.

Ans:

(1) IR8250P can only play the role of IrDA Secondary (ditto MCP2150). That is, it cannot initiate an IrDA connection. PC, Pocket-PC, Palm PDA and smart-phone can all play the role of IrDA Primary. Thus there is no problem for these devices to communicate with IR8250P in this respect.

(2) Stock IR8250P support IrCOMM (ditto MCP2150). Depend on the nature of the application, IrCOMM may not be the most desired IrDA protocol to use. To communicate with Windows and Windows-CE, Microsoft recommends using their IrSocket. IR8250P (unlike MCP2150) can be re-programmed to support other protocols, including IrSocket. See item (5) below for re-programming IR8250P.

(3) We and our customers have tested IR8250P communicating with many different PC, Pocket-PC, Palm PDA and smart-phone. If we find any incompatibility, we update our firmware and can re-program existing IR8250P. See item (5) below for re-programming IR8250P.

(4) Due to small RAM and the extra burden of wired serial interface with a host, the throughput of IR8250 is not good (ditto MCP2150). The following benchmark is form one of our customers. This customer only tested it with a few models of Palm PDA. Note that (a) the throughput dependents on the Palm PDA, and (b) MCP2150 works only with the oldest and slowest Palm PDA.

PALM	Adaptor	Time for ~500 records
Palm VII	IR8250P	2:50.48 (m:ss.ss)
M500	IR8250P	3:05.67
Tungsten2	IR8250P	0:56.22
TungstenE	IR8250P	0:49.26
M130	IR8250P	2:45.00
M515	IR8250P	3:05.08
M515	MCP2150	4:16.97

(5) If you use our evaluation kit, IR8250P-EK, a PC program is included to re-program IR8250P firmware through the COM Port of the PC. If you use IR8250P chip in your own design, you need to incorporate a PC COM Port interface (similar to what we have in the IR8250P-EK) to be able to do in-system firmware re-programming.

(6) We have a sample application for .NET for WinCE using IrSocket. We currently do not have support for this source code. It is strictly "As Is", and we need a NDA from you.

7) Since you tested MCP2150 with Pocket PC2003 but incompatible and unstable, which means you use IrCOMM 9 wire (This is the only protocol MCP2150 supports). We may ignore IrSocket issue. We have tested the compability of IR8250P and PPC 2003 and they worked

a) What Baud rate and data format does your datalogger use?

b) Does your datalogger have hardware flow control signals? Like DTR/DSR and RTS/CTS?

c) In general, how many data bytes need to be downloaded to PPC 2003?

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