

ACTIR8250P vs. MCP2150 Throughput Comparison-v1.0-040312 (ACTiSYS Confidential Information)

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Summarized below pls find some throughput comparison data between
MCP2150 and ACTIR8250P and design tip, provided by our customer.

-----**(ACTIR8250P vs. MCP2150 Throughput, ~500 records)**-----
(ACTiSYS Confidential Information)

PALM (OS#)	Adaptor	Time (m:ss.ss)
Palm VII (OS3.5.0)	Actisys	2:50.48
M500 (OS4.0)	Actisys	3:05.67
M130	Actisys	2:45.00
M515 (OS4.1)	Actisys	3:05.08
M515 (OS4.1)	Microchip	4:16.97
Tungsten T2 (OS5.2.1)	Actisys	0:56.22
Tungsten E (OS5.2.1)	Actisys	0:49.26

Comments:

- 1) ACTIR8250P adapter vs. MCP2150 adapter
- 2) There were ~500 records d/l'ed from the pump.
- 3) The M515 was about 25% faster with the Actisys adaptor than the Microchip adaptor and the M5XX series seems to be slowest .
- 4) Though there are inefficiencies in the download with older palms using the Actisys adaptor, the performance is still better than using the Microchip adaptor
- 5) Tungsten E (OS5.2.1): Microchip's adapter cannot connect, Microchip's contractor who developed MCP2150 told me: it is in "permanent retry" but does not connect.
- 6) Tungsten T2 (OS5.2.1): MCP2150 would connect but it is shaky.
The connection drops in the middle of exchanging data.
- 7) Palm M500 (OS4.0) , Palm M515 (OS4.1), Palm VII (OS3.5.0) and Symbol all work with the Microchip part. I didn't see any problems with these except that the link is much slower. I believe it is the processing overhead in our Palm application, suggested by MCP2150*.
- 8) Summarily, the progression from OS4.X to OS5.X seems to be where things went wrong.
- 9) *I have found a way to communicate with older Palms. The microchip data sheet for the MCP2150 suggested sending 64 bytes at a time to the chip so that more efficient framing of data could occur. I still had this delay to wait for 60 bytes to come into my processor before I would send the data to the IR8250P. After our discussions I had pondered your 36 byte framing of the data. I realized then, that I was giving your chip a disadvantage because you had built that same delay into your chip. I took the delay out of my software which allowed the data to flow to your chip as soon as it came in from my application while observing the flow control of your chip. Taking out the delay allows the older palms to work more correctly. The older Palms are slower than the newer Palms. It seems that the older Palms send the Acknowledgement too late to prevent packet resends. I think this is because it takes longer for the older palms to calculate the CRC of the packet and this delay is enough to cause redundant sending of data.

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