

Interfacing to parallel port dongle via USB adapter

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I have software (PADS Layout) that requires a parallel port dongle, and it works fine on my present (fairly old) computer, which has a native parallel port. But newer computers, particularly laptops, do not have these legacy ports and instead use USB to Parallel (or USB to Serial) converters. They generally work well for printers, but I have heard that they do not work for dongles. The usual solution is to obtain a USB dongle from the software vendor (www.mentor.com), but they require the user to be on "maintenance" in order to get a USB dongle, and they impose outrageous penalties and payment of back (unused) support in order to be reinstated.

I have some experience with USB using the Microchip PIC18F2450 series, and I have a demo board that works nicely as a USB to Serial converter. But I want to see if it is possible to emulate a parallel port via USB that will be transparent to the software that interfaces with the dongle. I think the problem with the commercially available USB-Parallel adapters is that they work only for printer functions, and not for individual bit-banging, which is what I understand is done with the dongle.

The PADS dongle I have is a Globetrotter FLEXid (www.macrovision.com). This is a newer dongle than the one used for another software package that interfaces to software (TCC) sold by my associate to work with my product, the Ortmaster. When I researched that dongle, the Rainbow Technologies Sentinel Pro, it described its operation as using only one or two lines of the parallel port to send and receive streams of data. If the new dongle works the same way, it seems that it should be possible to emulate this via USB.

Info on this device:

http://www.macrovision.com/webdocuments/PDF/FLEXidDongle_faq.pdf. But it does not give details on the hardware.

Some information I found is <http://www.woodmann.com/crackz/Dongles.htm>, but this is a hacking site, and that is not what I want (although I'm tempted).

I'll probably check the parallel port signals with a storage scope to see what pins are active when I'm running the software with the dongle, and then I'll have a little more information. But if anyone has done any work in this area, I'd appreciate a jump start.

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TIA,

Paul

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