

Re: USB won't recognize sophisticated devices.

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<http://www.tech-archive.net/Archive/WinXP/microsoft.public.windowsxp.hardware/2008-03/msg00116.html>

- *From:* Paul <nospam@xxxxxxxxxxx>
 - *Date:* Tue, 04 Mar 2008 17:00:49 -0500
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Gary Sams wrote:

Sorry, but this is way over my head. Are we any closer to knowing why my mouse doesn't work?

Thanks

Gary

When the computer is not able to set up the necessary "endpoints", for communications, that is a communications problem. It doesn't get any more fine grained than that. Either the motherboard is at fault, or the device is at fault, or some cabling is bad and so on.

About the only other thing I can suggest, is the use of a USB hub as a "cleaner" of USB signals. There were isolated cases in the past, where a USB peripheral had high "jitter" in data signals. (A certain music player was involved I think.) That means the 1's and 0's didn't arrive at exactly regular intervals. Some motherboard USB ports (Nforce2 Southbridge) couldn't "see" those devices with high jitter. The workaround was to use a *USB2* hub, because USB2 hubs reclock and regenerate the data on the way through. As long as the hub can deal with the jitter, the signal passed back to the computer is clean. And if the hub is self-powered, with a wall wart, then you know it has a good source of power for the peripheral.

That test is worthwhile, if you already have a USB2 hub on hand, to try it. It might turn out to be a waste of money, if you have to go out and buy one for the test.

While I have seen one USB device, intended for testing USB ports, I don't know if owning such a thing would leave a user further ahead in the long run (say, test passes, but real device still

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doesn't work). You would almost need a USB protocol analyzer, to get to the bottom of an unknown communications problem.

http://www.lecroy.com/tm/products/ProtocolAnalyzers/images/PTP_Session_Decode.jpg
http://www.lecroy.com/tm/products/ProtocolAnalyzers/PDF/USB_high.pdf

One test I like to use on my computers, is booting an alternate OS when things have "gone South" on me. For example, lspci, lsusb, and dmesg in Linux, can give some enumeration info on various bus interfaces. If you can see and use the hardware in an alternate environment, that tells you the OS or drivers are implicated, back in Windows. The distros I have on hand, are Knoppix (knopper.net) and Ubuntu (ubuntu.com). The distro is a 700MB download, and is a ISO9660 file. A program like Nero, can be used to burn a 700MB CD, based on the download (converts ISO9660 into a CD). There are smaller distros (puppylinux ~100MB), if you aren't on broadband, and needed something smaller. But I haven't tested that one, so cannot comment on quality. A lot of the 700MB is crap, and doesn't really help make a good test environment, but I cannot say how small a distro could get, and still have useful functionality. The very smallest Linux environments, have been booted from a floppy.

Paul

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