

# Re: Guidance on USB Contoller listing in Device Manager, please

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- *From:* Ron <[Ron@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:Ron@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx)>
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Sure, but when I got the PC the motherboard based USB ports were V2.0. Somewhere along the way they changed to 1.x. I had added a USB PCI card and those ports work under V2 just fine. Once I figured that out I rejacked everything so the mobo based ports only get slow devices like the mouse, but I'd be a lot happier if the mobo ports worked at the correct speed.

"Uwe Sieber" wrote:

With USB 2.0 printed on the package devices just sell better. As long as they don't write "USB 2.0 highspeed" it just means that it works with USB 2.0. For a printer USB 2.0 full speed is good enough. Fewer problems with USB switches or long thin extension cables :-)

Uwe

x-eyed-bear wrote:

Thanks for this clarification.

I do not understand however why a known USB 2.0 device (my HP 8450 printer) is shown (in SiSoft Sandra) as being connected to a 1.1 Host Controller and shown as having a connection running at 12 Mbps ("Full" speed) when it should be shown connected to the Enhanced controller and connected at (up to) 480 Mbps ("High" speed).

Uwe Sieber wrote:

An USB host controller and an USB root hub is the same hardware device. The host controller is the logical device

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at the PCI bus side while the USB root hub is the logical USB side which provides USB ports. It's all hardware which needs software (drivers) to be used.

An USB2 controller has two logical 'incarnations', one for USB2 and some for USB1. It depends on the attached device which incarnation is used. The USB1 incarnations are usually

split, so each incarnation usually has two ports.

Microsoft UVCView shows it:

<http://www.microsoft.com/whdc/device/stream/vidcap/UVCView.msp>

With this tool you will see that the number of USB2 and USB1 ports

is equal because they are identical physical ports.

Uwe

x-eyed-bear wrote:

I'm one of the thousands of users who has the dreaded 'USB Device not recognized' error. I don't want to burden this forum (yet) but asking for help on that one. I'm trying to solve it myself by better understanding how USB devices are handled by Windows XP (SP2, that is). I need some guidance on understanding the meaning and significance of the 'USB Controller' section of the Device Manager window.

On my system (ASUS A8V motherboard with 6 out of a possible 8 USB ports installed) the listing shows:

'USB Root Hub' (4 times)  
'VIA Universal Host Controller' (3 times)  
'VIA USB Enhanced Host Controller' (once)

Loads of newbie Questions:

1. What is a Hub and what is a Root Hub? Are they hardware, microcode or software?
2. What is a USB port and how does it differ to a hub?
3. What is a Host Controller? Is it hardware,

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microcode or software?

4. I am right in assuming an Enhanced Host Controller is one which provides USB 2.0 support, the others being USB 1.1 only?

5. Why does the output from SiSoft Sandra show no devices attached to any of the 6 ports on the Enhanced Host Controller, but does show the expected devices connected to either Port 1 or Port 2 on one of the three Universal Host Controllers?

6. Why have I got 3 of these host controllers and not just 1 like the Enhanced Host Controller?

7. What is 'Enumeration' and why would a device connected to a USB port fail this process?

8. Is the driver that is listed in the properties for a Hub or Host Controller part of Windows XP, or a specific piece of software supplied with the device?

9. Why do some device have no such driver (for example the Nikon D80 DSLR camera which Windows XP will not recognise – but only on this computer)?

Finally, why do so many people report a 'USB Device Not recognized' error, across such a wide range of systems and devices, across so many years, without a definitive solution being developed by the industry? Microsoft's absence from the this scene is a disgrace. The cost to users must run into 10's of thousands of man hours by now. There are thousands of pages of guidance on the internet which range from the incredible to the insightful – many of them contradicting others. None of them have solved my specific example (but I've only been trying to solve this for 2 weeks ....). If we had this sort of problem with our cars, telephones, TVs, etc, it would have been the subject of incisive media analysis. Why do

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we let the computer  
industry get away with this situation?  
Nikon's technical support  
response to the problem could form the  
script for a Broadway comedy;  
it includes re-installing XP. Who is going to  
pay for that?