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APPLICATION NOTE 3601

Troubleshooting Windows Plug-and-Play and USB for Maxim Evaluation Kits

Sep 23, 2005

Abstract: This application note helps you install and troubleshoot the CMAXQUSB and CMODUSB evaluation-kit interface boards. Frequently asked questions are answered.

Installing the CMAXQUSB/CMODUSB Device Driver

Specifying Search Location—CD-ROM Installation

Specifying Search Location—Updated Software from Maxim Website

Windows® XP Reports Driver Is not Digitally Signed Confirming Driver Selection Successful Installation Windows Was Unable to Locate a Driver Unknown Device (Installation Failure)

Problem: Software Unable to Connect to USB Interface Board

Is the Operating System Supported? Is the USB cable Correct? Was the USB Device Driver Installed When the Board Was Plugged In? Remedy: Remove Failed Device Node

Question: Is a Power Supply Required? Question: Is USB 2.0 Required? Removing the CMAXQUSB/CMODUSB Device Driver

Installing the CMAXQUSB/CMODUSB Device Driver

Add New Hardware Wizard	
	This wizard searches for new drivers for: USB <-> Serial A device driver is a software program that makes a hardware device work.
	< <u>B</u> ack (Next>) Cancel

When you plug in the CMODUSB or CMAXQUSB board for the first time, the windows plug-and-play system detects the new hardware and automatically runs the **Add New Hardware Wizard**. (Windows 98 is shown in the screen shot. Windows 2000 and XP differ slightly.)

Add New Hardware Wiz	zard
	 What do you want Windows to do? Search for the best driver for your device. [Recommended]. Display a list of all the drivers in a specific location, so you can select the driver you want.
	< <u>B</u> ack Next > Cancel

Specifying Search Location—CD-ROM Installation

Add New Hardware Wizard	
	Windows will search for new drivers in its driver database on your hard drive, and in any of the following selected locations. Click Next to start the search. Floppy disk drives CD-ROM drive Microsoft Windows Update Specify a Jocation: R:\WIN98
	< <u>B</u> ack Next > Cancel

The **Add New Hardware Wizard** asks where to search for the device driver. Ensure that the CD-ROM that came with the evaluation kit is in the CD-ROM drive. *Be sure to check the CD-ROM drive box*— otherwise windows will not be able to use the hardware.

Specifying Search Location—Updated Software from Maxim Website

If the CD-ROM was lost, or if a newer version of the software was downloaded and installed from the Maxim website (EVKit Software), then check the **Specify a Location** box. Use the **Browse** button to navigate to the location where the updated software was installed. Maxim software designed for CMAXQUSB or CMODUSB includes a copy of the device driver in the installed software directory.

Windows XP Reports Driver Is not Digitally Signed

During device driver installation, Windows XP shows a warning message indicating that the device driver used by Maxim uses does not contain a digital signature. This is not an error condition. It is safe to proceed with the installation.

Confirming Driver Selection



This screen confirms that the system found the right device driver. Click **Next** to continue.

Add New Hardware Wizard	
	FTDI FT8U2XX Device
	Windows has finished installing the software that your new hardware device requires.
~	
	< Back Finish Cancel

Successful Installation



After you click **Finish**, the device driver is installed and the software is ready to go.

Windows Was Unable to Locate a Driver

Add New Hardware Wiz	zard
	Windows was unable to locate a driver for this device. If you do not want to install a driver now, click Next. To search again, click Back.
	WINDOWS WILL NOT BE ABLE TO USE THE CMODUSE BOARD!
~	INSTERD, CLICK BACK AND MAKE SURE THAT THE CDROM IS CHECKED FOR THE DRIVER.
	< <u>B</u> ack (Next>) Cancel

This is what you will see if plug-and-play cannot find the correct device driver. **This is really an error message**. It is very easy to click the **Next** button without noticing this. Clicking the **Next** button now would tell the windows plug-and-play system to stop searching for a device driver and *Ignore* the new hardware as you proceed.

Unknown Device (Installation Failure)

Add New Hardware Wize	ard
	Unknown Device Windows has not installed a driver for this device.
	< Back Finish Cancel

This screen is an error message. It confirms that windows did not find the device driver that it needed; it will *Ignore* that device as you proceed. The only way to recover is to remove the Unknown Device node, which you can only see by going into the device manager while the device is plugged into the USB port.

Problem: Software Unable to Connect to USB Interface Board

Is the Operating System Supported?

Operating System	Supports USB?	Tested at Maxim?
Windows 95	No	No
Windows NT	No	No
Windows 98 second edition	Yes	Yes (passed)
Windows ME	Yes	Not tested
Windows 2000	Yes	Yes (passed)
Windows XP home edition	Yes	Yes (passed)

Is the USB Cable Correct?

The CMODUSB/CMAXQUSB boards use a standard USB A-B cable, which plugs into a standard Windows computer's USB port. To troubleshoot,

- 1. Try using another USB A-B cable.
- 2. Try plugging a known, good USB device into the computer's USB port.
- 3. If using a USB hub, check whether the hub requires external power.

Was the USB Device Driver Installed When the Board Was Plugged In?

1. Make sure that the CMODUSB or CMAXQUSB board is plugged into the USB port. Start Menu \rightarrow Control Panel \rightarrow System \rightarrow Hardware \rightarrow Device



You may see the **USB** Serial or Maxim CMODUSB Command Module with a question mark icon next to it (see above). This indicates that Windows is ignoring the CMAXQUSB or CMODUSB hardware.

Remedy: Remove Failed Device Node

System Properties ? X
General Device Manager Hardware Profiles Performance
View devices by type O View devices by connection
🔁 🛶 BTW
teres and the second s
🔁 🖾 Disk drives
🔃 🖳 Display adapters
🖶 🚭 Floppy disk controllers
🖶 🐨 Hard disk controllers
🕂 🖓 🔛 Human Interface Devices
🔁 🖓 Keyboard
🔁 🥮 Modem
🔁 🖳 💭 Monitors
🗄 🕥 Mouse
Network adapters
Dther devices
USB <-> Serial
Der Ports (COM & LPT)
Properties Refresh Remove Print
OK Cancel

To remedy this problem, click the **USB** Serial device node and click **Remove**. (This Unknown Device error node is only visible when the CMAXQUSB or CMODUSB board is plugged into the USB port.)

Confirm I	Device Removal ? 🗙
2	USB <-> Serial
Warning	: You are about to remove this device from your system.
	Cancel

Click **OK** to confirm removal of the bad device node. Then close the device manager window, and unplug the CMODUSB or CMAXQUSB board from the USB port. The next time you plug the board into the USB port, the plug-and-play system will search for the device driver, as it should have done the first time.

If multiple USB ports were tried with no device driver, it may be necessary to plug the board into each of those other USB ports to remove each failed device-driver node.

Question: Is a Power Supply Required?

The CMAXQUSB and CMODUSB boards do not require an external power supply. The USB cable provides power as well as control. An optional external power jack was included in these designs to allow unregulated 6V to 12V power to be connected to daughter boards requiring a higher supply voltage. This power jack routes only to the daughter board connector; it is not used by any circuitry on the CMAXQUSB or CMODUSB board.

Question: Is USB 2.0 Required?

The CMAXQUSB and CMODUSB boards work with USB 1.0, USB 1.1, and USB 2.0 host ports. The device throughput is limited, so there is no speed increase from using an USB 2.0 port.

Removing the CMAXQUSB/CMODUSB Device Driver

- 1. Make sure that the CMAXQUSB or CMODUSB board is plugged into the USB port.
- 2. Start Menu \rightarrow Control Panel \rightarrow System \rightarrow Hardware
- 3. In the **Device Manager** tab, navigate to the node for the CMAXQUSB or CMODUSB board.
- 4. Select the device and click the **Remove** button.
- 5. Click **OK** to confirm that you are going to remove the device from your system.
- 6. Unplug the CMAXQUSB or CMODUSB board from the USB cable.
- 7. Start Menu \rightarrow Control Panel \rightarrow Add or Remove Programs \rightarrow Maxim CMODUSB Device Driver \rightarrow **Remove**

The next time the CMAXQUSB or CMODUSB board is connected to USB, the plug-and-play system will think it is seeing this board for the first time.

Related Parts	
CMAXQUSB	Evaluates: SPI and SMBus/I ² C-Compatible Parts
DS28DG02EVKIT	Evaluation Board/Evaluation System for the DS28DG02
MAX6870EVKIT	Evaluation System/Evaluation Kit for the MAX6870, MAX6871, MAX6872, MAX6873, MAX6874, MAX6875
MAX6889EVKIT	Evaluation Kit/Evaluation System for the MAX6889

More Information

For Technical Support: http://www.maximintegrated.com/support For Samples: http://www.maximintegrated.com/samples Other Questions and Comments: http://www.maximintegrated.com/contact

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