Uninstalling Incorrect USB Device Drivers

RECOMMENDED UNINSTALL METHODS

When using the Microchip development tools listed below, trouble may be experienced as a result of incorrect device drivers being installed. If the Windows® Operating System (OS) installs its default USB device drivers for a Microchip development tool, the tool will not function properly, if at all.

Tool	Windows® OS USB Support	
	32-Bit OS 98/ME, 2000/XP, Vista, 7	64-Bit OS XP, Vista, 7
MPLAB® ICD 2 in-circuit debugger*	X	P/N 10-00397
MPLAB ICD 3 in-circuit debugger	X	X
MPLAB ICE 2000 in-circuit emulator (with optional USB Converter)	X	X
MPLAB ICE 4000 in-circuit emulator	X	
MPLAB REAL ICE™ in-circuit emulator	X	X
MPLAB PM3 device programmer	X	P/N 10-00398
PIC32MX Starter Kit	X	X

* If you have installed the MPLAB ICD 2 drivers and been able to communicate without errors initially, but then have experienced communication problems, reinstalling the drivers may not solve your problems. Please refer to the MPLAB ICD 2 on-line help for possible software solutions before attempting to uninstall/reinstall the drivers.

It is recommended that each uninstall method be attempted in order based on your Windows OS. If one does not work, proceed to the next uninstall method.

- **Windows 2000 Installation Issues**:
  Solve problems when installing the drivers
- **Automatic Update/Uninstall (Clean) Method – Windows 2000/XP, Vista**:
  Use cleaner utility
- **Simple Uninstall Method – Windows 98/ME, 2000/XP, Vista, 7 (32-bit)**:
  Delete from the Device Manager
- **Simple Uninstall Method – Windows XP, Vista, 7 (64-bit)**:
  Delete from the Device Manager
- **Complex Uninstall Method – Windows 98/ME, 2000/XP, Vista (32-bit)**:
  Edit the Registry
- **Complex Uninstall Method – Windows XP, Vista (64-bit)**:
  Edit the Registry

WINDOWS 2000 INSTALLATION ISSUES

A patch on the Microsoft windows update site may help if you are experiencing a problem with loading the MPLAB ICD 2 USB drivers. The patch is applicable to those who have updated to Windows 2000 SP4. Here is the comment from Microsoft:

"Some driver installation programs don't work on Windows 2000 (W2K) after you install either Critical Update QFE 813044 or W2K Server SP4. The installation does not succeed and you receive an incorrect error that no drivers are available for the device."

The patch can be found at:

http://www.microsoft.com/downloads/details.aspx?displaylang=en&familyid=7C896E82-4B50-44C8-A634-3227C0E71293

AUTOMATIC UPDATE/UNINSTALL (CLEAN) METHOD – WINDOWS 2000/XP, VISTA

For Windows 2000, Windows XP 32-bit and Windows Vista 32-bit, please attempt to automatically update and, if needed, clean your system using the following utilities. At this time, there is no automatic clean for Windows 7 32-bit.

The Update utility (`MPUsbIRU.exe`) found, by default, in:

`C:\Program Files\Microchip\MPLAB IDE\Utilities\MPUsbIRU`

The Clean utility (`MPUsbClean.exe`) found, by default, in:

`C:\Program Files\Microchip\MPLAB IDE\Utilities\MPUsbClean`

For instructions on the use of these utilities, see the `Update_Clean.htm` file found, by default, in:

`C:\Program Files\Microchip\MPLAB IDE\Utilities\MPUsbClean\MPUsbDocs`

If this does not work, or if you have a different Windows OS, follow the other manual uninstall instructions listed in this document.

SIMPLE UNINSTALL METHOD – WINDOWS 98/ME, 2000/XP, VISTA, 7 (32-BIT)

If the automatic method did not work or was not applicable, try this simple method before using the complex method of uninstall.

First remove the reference to the USB device from the Device Manager. Then install the correct Microchip USB device drivers.

Note: For Windows Vista, this method is also covered in the "USB Device Driver Installation Instructions" HTML file, found in the `Drivers` subdirectory of the relevant MPLAB IDE tool directory.

Removing the Incorrect USB Drivers

At this time, the PC system should be booted up and idle. Also, the development tool should be plugged into a PC USB port.

1. Right click (right mouse button) on the "My Computer" icon on the PC desktop. Select "Properties" to bring up the System Properties dialog.
2. Open the Device Manager.
   - For Windows 98/ME: Click on the **Device Manager** tab.
   - For Windows 2000/XP: Click on the **Hardware** tab and then click on the **Device Manager** button to open the Device Manager window.
   - For Windows Vista/7: Under "Tasks", click on "Device Manager".

3. Click on the “+” to expand either “Other Devices” or “Universal Serial Bus controllers” and find a “?” with a yellow “!” or red “X” through it. It should say “USB Device” or something similar.

> **Note:** If unsure which device listed is the tool being used, unplug the tool and see which one disappears. Then plug the tool back in to see it reappear.

4. Click once on this device to select it, and then right click on this device and select “Uninstall” from the drop-down menu. Click **OK** on the warning.

> **Note:** DO NOT unplug the tool from the USB port at this time. Leave it plugged in.

Installing the Correct USB Drivers

1. Click on **Start** on the menu bar. Then select “Settings” and “Control Panel”, or just “Control Panel”.
2. In the Control Panel, double click on “Add/Remove Hardware” or “Add Hardware”.
3. On the “Welcome” screen, click **Next**. Then click on the **Add** button and again click **Next**.
4. At this point (after the system does some searching), it should say that it found new hardware, i.e., the Add New Hardware wizard should appear.
5. Click **Next** on the Add New Hardware wizard. Then select the “Search” option and again click **Next**.
6. Uncheck all the boxes and then check only the one that says “Specify a location”. Click **Next**.
7. The opportunity will then be given to **Browse**. For the standard MPLAB IDE install, find the following directory and click **OK**:

   `C:\Program Files\Microchip\MPLAB IDE\`*`Tool`*`\Drivers`

   where *`Tool`* = development tool (e.g., `ICD2`.)

   Exception: MPLAB ICE 2000 USB converter drivers are found in:

   `C:\Program Files\Microchip\MPLAB IDE\ICE 2000\Drivers\USB`
8. Click **Open**. The wizard should say that it found a driver. Click **Next**.
9. Click **Finish** on the next screen. The wizard should say that it found the Firmware Loader or Firmware Client, depending on which was missing.
10. Once this is done, a prompt may ask for an indication of where the appropriate .SYS file (*ToolNameWinVersion*.Sys) is located. Browse to the directory in step 7, which contains that file. Then click **Next** or **OK** and follow any other instructions until “Finished”.
11. Now look in the “Device Manager” under either “Microchip Tools” or “Universal Serial Bus controllers” and the “Microchip *Toolname* Firmware Client” should be listed.

SIMPLE UNINSTALL METHOD – WINDOWS XP, VISTA, 7 (64-BIT)

If the automatic method did not work or was not applicable, try this simple method before using the complex method of uninstall.

First remove the reference to the USB device from the Device Manager. Then install the correct Microchip USB device drivers.

> **Note:** This method is also covered in the "USB Device Driver Installation Instructions" HTML file, found in: `C:\Program Files\Microchip\MPLAB IDE\Driver64\`*`OS`*`64`, where *OS* is your operating system, e.g., `XP64`.

Removing the Incorrect USB Drivers

At this time, the PC system should be booted up and idle. Also, the development tool should be plugged into a PC USB port.

1. Right click (right mouse button) on the "My Computer" icon on the PC desktop. Select "Properties" to bring up the System Properties dialog.
2. Open the Device Manager (Under "Tasks" click on "Device Manager".)
3. Click on the "+" to expand either "Other Devices" or "Universal Serial Bus controllers" and find a "?" with a yellow "!" or red "X" through it. It should say "USB Device" or something similar.

   > **Note:** If unsure which device listed is the tool being used, unplug the tool and see which one disappears. Then plug the tool back in to see it reappear.

4. Click once on this device to select it, and then right click on this device and select "Uninstall" from the drop-down menu. Click **OK** on the warning.

   > **Note:** DO NOT unplug the tool from the USB port at this time. Leave it plugged in.

Installing the Correct USB Drivers

1. Click on **Start** on the menu bar. Then select "Control Panel".
2. In the Control Panel, double click on "Add Hardware".
3. On the "Welcome" screen click **Next**.
4. Select "Install from a List..." and click **Next**.
5. Select "Custom USB Devices" and click **Next.**
6. Select "Microchip Custom USB Device" if it is listed. If not, click **Have Disk**. For the standard MPLAB IDE install, find the following directory and click **OK**:

   `C:\Program Files\Microchip\MPLAB IDE\Drivers64`

7. Click **Open**. The wizard should say that it found a driver. Click **Next**.
8. Click **Finish** on the next screen. The wizard should say that it found the Firmware Loader or Firmware Client, depending on which was missing.
9. When this is done, a prompt may ask where the appropriate .SYS file (*ToolNameWinVersion*.Sys) is located. Browse to the directory in step 7 that contains that file. Then click **Next** or **OK** and follow any other instructions until "Finished".
10. Now, look in the "Device Manager" under "Custom USB Devices" and the "Microchip Custom USB Device" should be listed.

COMPLEX UNINSTALL METHOD – WINDOWS 98/ME, 2000/XP, VISTA (32-BIT)

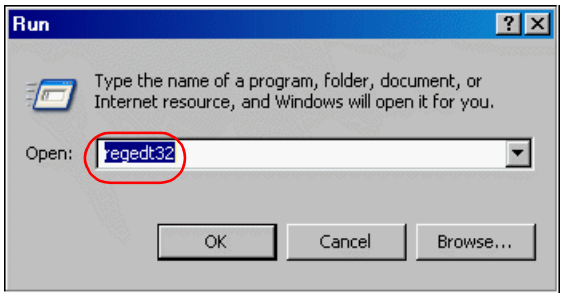
If the simple uninstall method did not fix the communications problem, the PC register will have to be edited. This method will not work for Windows 7 systems.

First, the registry file needs to be backed up. Then the Windows default USB drivers need to be uninstalled so that the correct Microchip tool USB drivers may be installed.

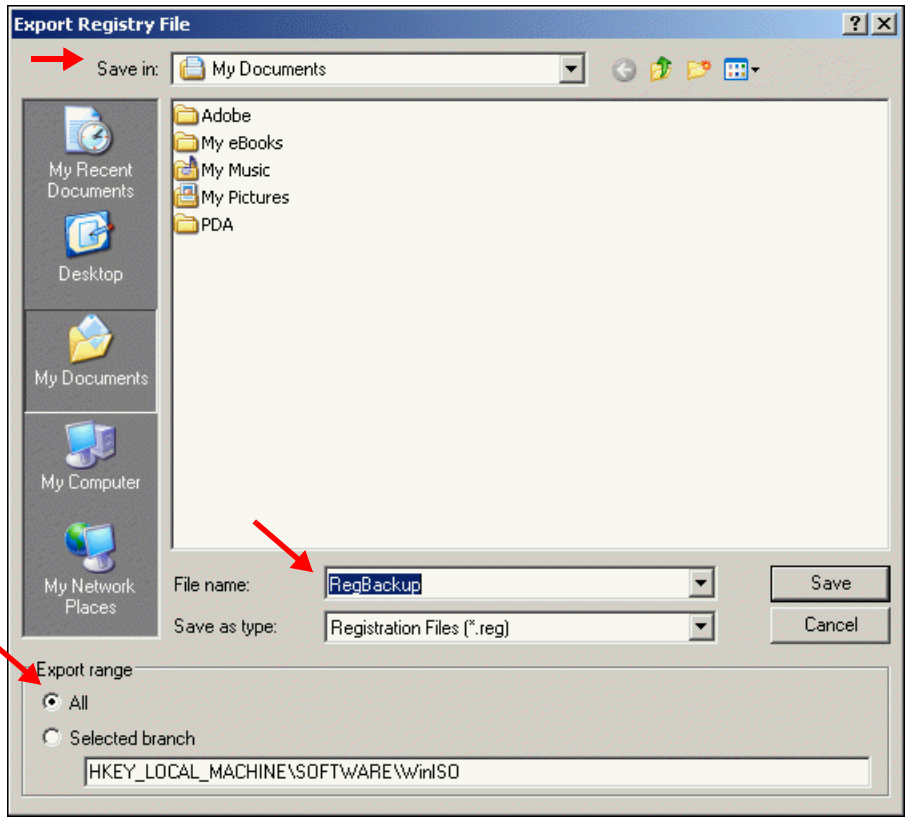
Backing Up the Registry

To back up the registry, administrative login privileges are necessary (Windows 2000/XP/Vista) so that the Registry Editor can run.

1. From the PC desktop, select *Start>Run*. Enter REGEDT32 or REGEDIT.



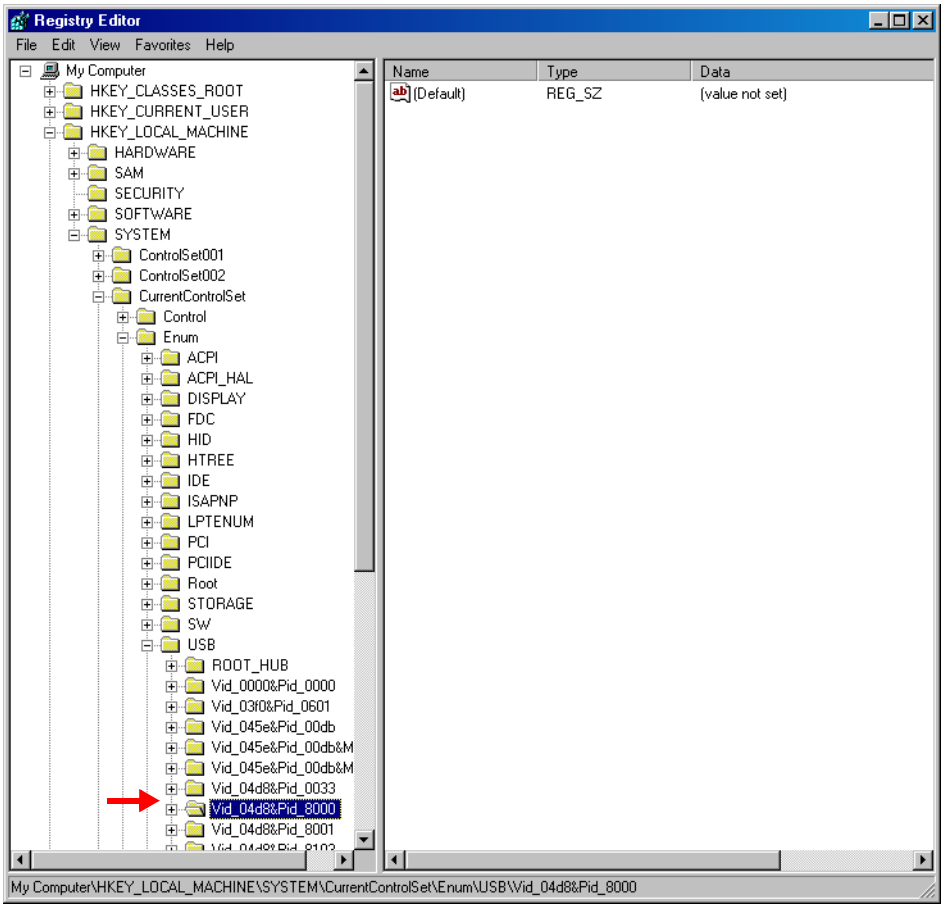
2. In the Registry Editor, select *File>Export* (or *Registry>Export Registry File*) to open the Export Register File dialog.
3. Find a location for the registry file. Then enter a File name. Ensure that “All” is selected in the export settings. Click **Save**.



Removing the Incorrect USB Drivers

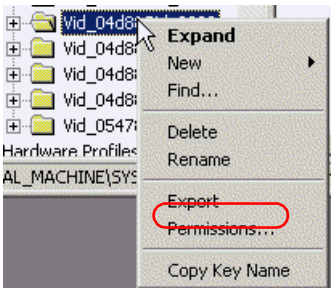
1. Unplug the tool from the USB port.
2. In the Registry Editor, go to *HKEY_LOCAL_MACHINE>SYSTEM>CurrentControlSet>Enum>USB*. Highlight the following key, depending on the tool being used:

Tool	Key
MPLAB® ICD 2	VID_04D8&PID_8000
MPLAB ICD 3	VID_04D8&PID_9009
MPLAB ICE 2000	VID_04D8&PID_9002
MPLAB ICE 4000	VID_04D8&PID_9000
MPLAB REAL ICE™ In-Circuit Emulator	VID_04D8&PID_9004
MPLAB PM3	VID_04D8&PID_a001
PIC32MX Starter Kit	VID_04D8&PID_00e0

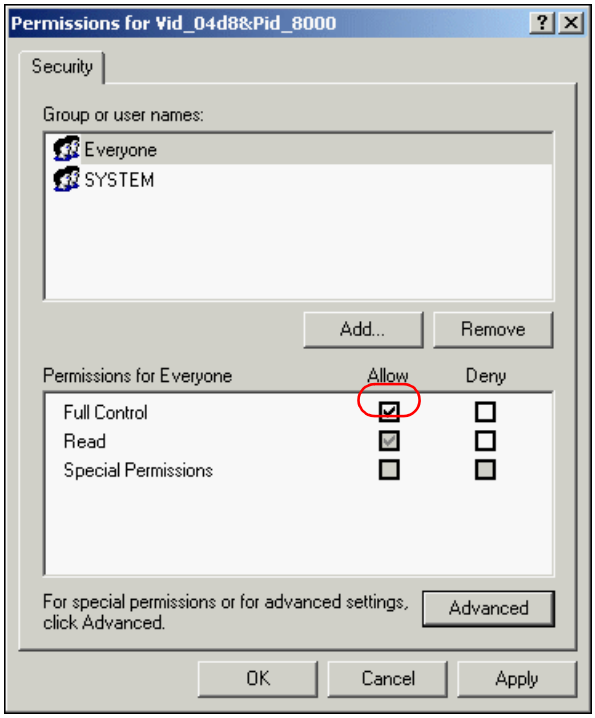


3. For Windows 2000/XP/Vista, the permissions will need to be changed before the key can be deleted.

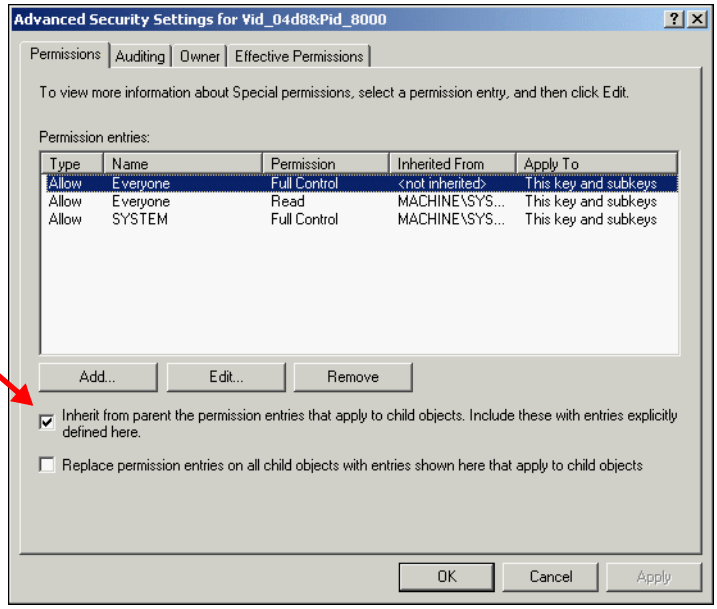
a) Right click on the key and select “Permissions” (or select *Security>Permissions*.)



b) In Permissions for the key, ensure that “Everyone” is selected to Full Control.



c) Ensure that the checkbox to allow inheritable permissions from parent to propagate to this object is checked. This check box may be on the Advanced Security Settings dialog (click the **Advanced** button) or may be on the main Permissions dialog.



d) Click **OK** to set the new permissions.

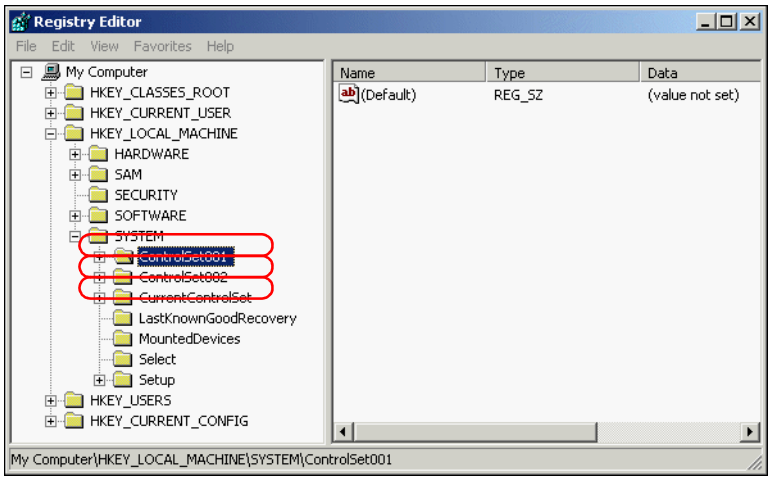
4. Delete the highlighted key.
5. For some tools, an additional key needs to be removed. Highlight the following key, depending on the tool being used:

Tool	Key
MPLAB® ICD 2	VID_04D8&PID_8001
MPLAB ICE 4000	VID_04D8&PID_9001
PIC32MX Starter Kit	VID_04D8&PID_00e1

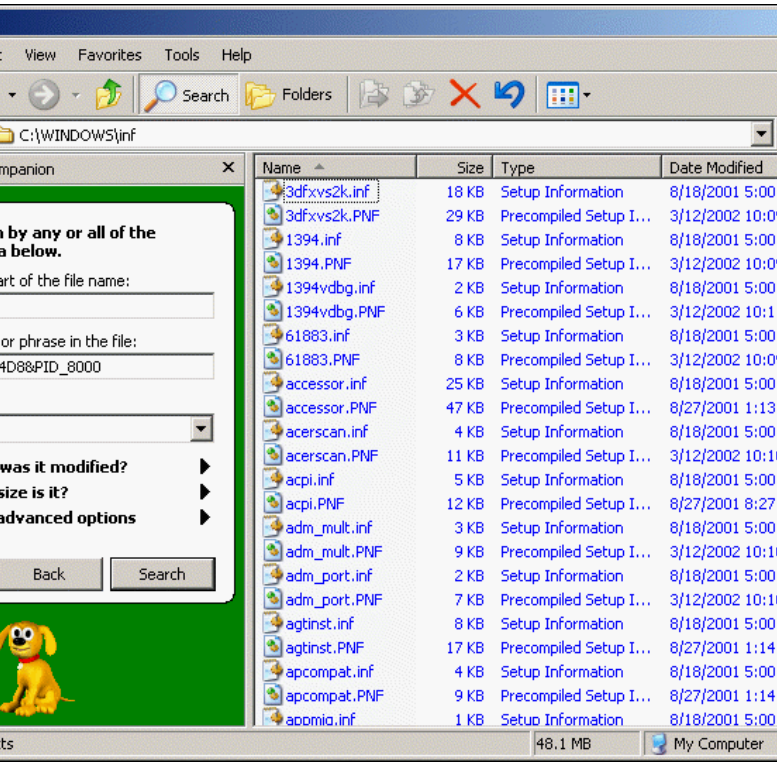
6. For Windows 2000/XP/Vista, repeat step 3.
7. Delete the highlighted key.

8. Repeat steps 2 through 7 for directories ControlSet*nnn* (example: ControlSet001). This will remove all key instances.

   Under Win98, these keys may be located under different folders. All instances of these keys must be removed from the registry.



9. Exit the Registry Editor and open Windows Explorer.
10. Go to `Windows\INF` (or `Winnt\INF`.) Use the File Search to search this directory, and all subsequent subdirectories, for all .INF files that contain reference to the following:
    - The keys specified in step 2 and step 5



11. Write down the INF file names that you find. You will delete these files, but you will also need to delete corresponding files with PNF extensions. For example, if OEM26.INF is deleted, OEM26.PNF will also need to be deleted, if it exists. PNF files are not text files and cannot be searched like INF files.
12. Delete these files.
13. Go to one of the following:
    - `Windows\system32\drivers`
    - `Winnt\system32\drivers`

    and delete the *ToolNameWinVersion**.Sys files, where *ToolName* = abbreviated name of the tool and *WinVersion* = abbreviated name of Windows version. Under Windows XP, *WinVersion* = 2k.

    Example: For MPLAB ICD 2 on a Windows 2000 system:

    - icd2w2k.sys
    - icd2w2kL.sys
14. Reboot the system.

Installing the Correct USB Drivers

Before plugging in the tool to a USB port, check/do the following:

1. Install the latest MPLAB IDE so that the latest device drivers and INF file are in the MPLAB IDE drivers subdirectory.
2. Install the latest service packs for the OS.
3. Ensure that the administrator mode is active, with all rights and privileges turned on for the system and registry (Windows 2000/XP/Vista).
4. Disconnect from any networks.

Plug the tool being used into a USB port. This port should be one of the following:

- The primary USB port on the system.
- An add-in card, which acts like a motherboard USB port
- A powered hub

The Add New Hardware wizard should come up, the INF file should be accessible and the loader and client drivers should come up OK.

COMPLEX UNINSTALL METHOD – WINDOWS XP, VISTA (64-BIT)

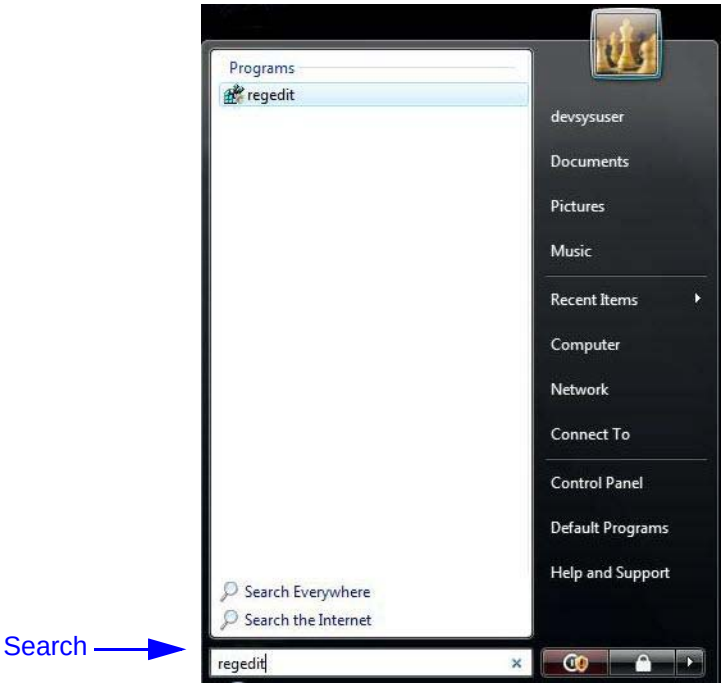
If the simple uninstall method did not fix the communications problem, the PC register will have to be edited. This method will not work for Windows 7 systems.

First, the registry file needs to be backed up. Then the Windows default USB drivers need to be uninstalled so that the correct Microchip tool USB drivers may be installed.

Backing Up the Registry

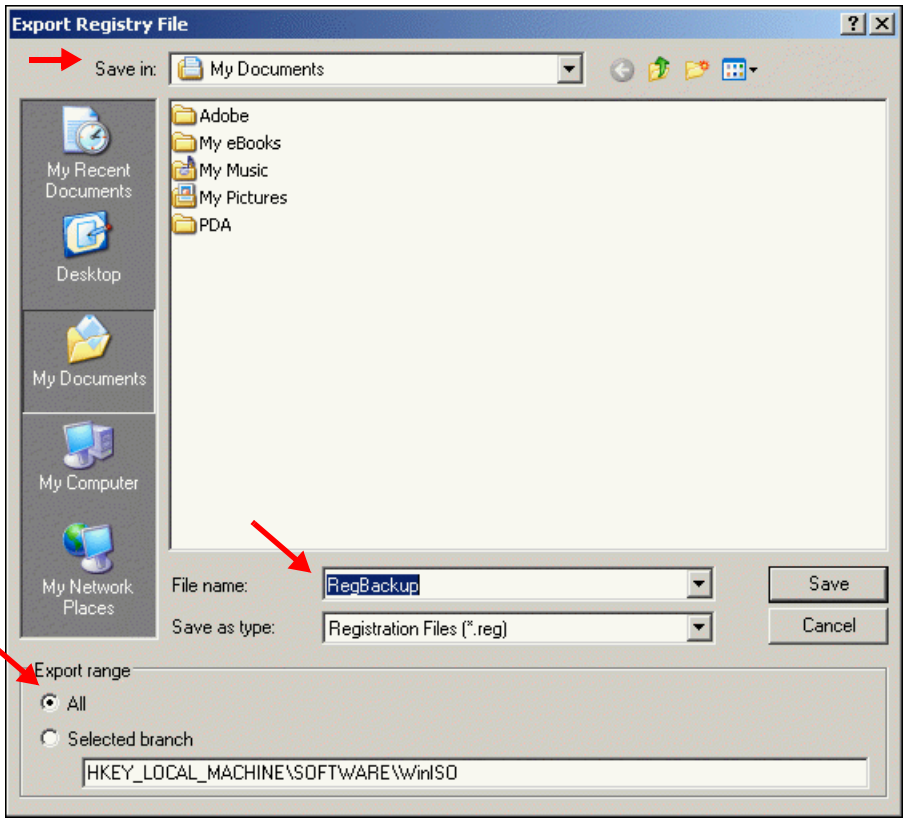
To back up the registry, administrative login privileges are necessary so that the Registry Editor can run.

1. From the PC desktop, select *Start>Search* and enter REGEDIT. Double click on REGEDIT in the Programs list to launch.



2. In the Registry Editor, select *Registry>Export Registry File* to open the Export Register File dialog.

3. Find a location for the registry file. Then enter a file name. Ensure that “All” is selected in the export settings. Click **Save**.



Removing the Incorrect USB Drivers

1. Unplug the tool from the USB port.
2. In the Registry Editor, go to *HKEY_LOCAL_MACHINE>SYSTEM>CurrentControlSet>Enum>USB*. Highlight the following key, depending on the tool being used:

Tool	Key
MPLAB® ICD 2	VID_04D8&PID_8000
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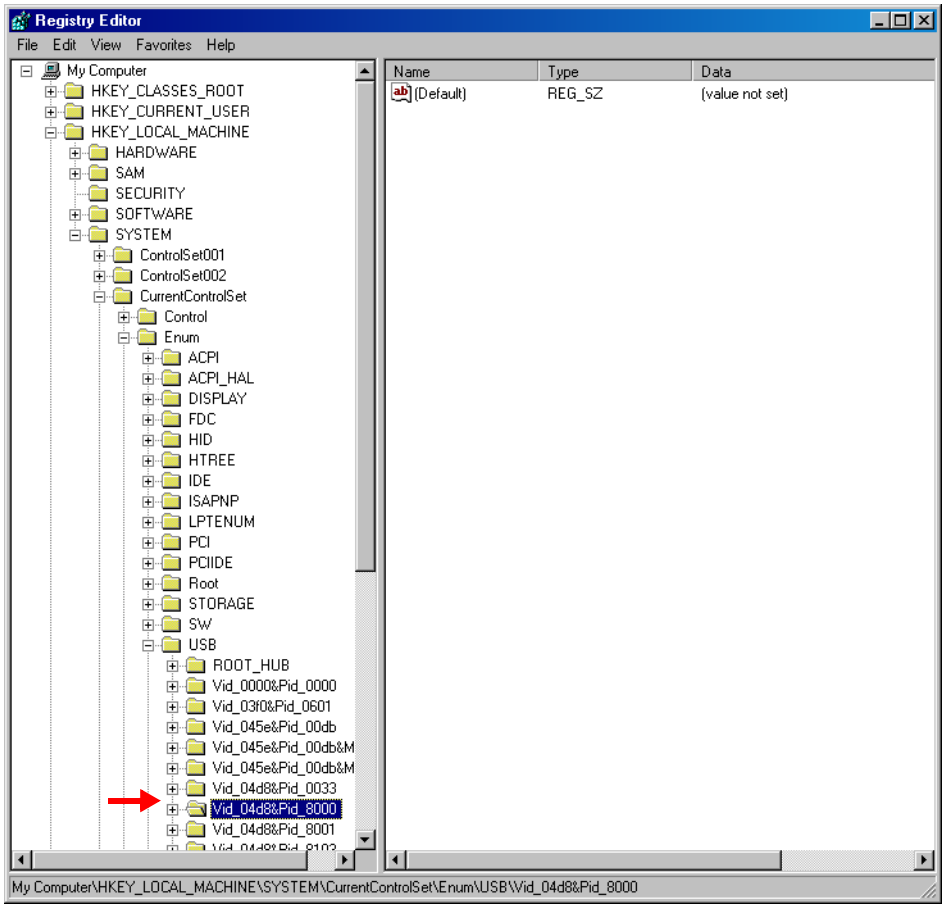
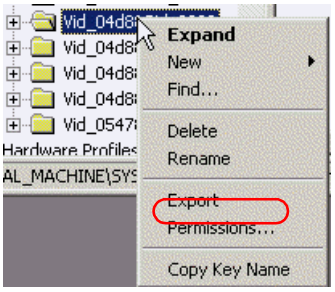
MPLAB ICE 4000	VID_04D8&PID_9000
MPLAB REAL ICE™ In-Circuit Emulator	VID_04D8&PID_9004
MPLAB PM3	VID_04D8&PID_a001
PIC32MX Starter Kit	VID_04D8&PID_00e0

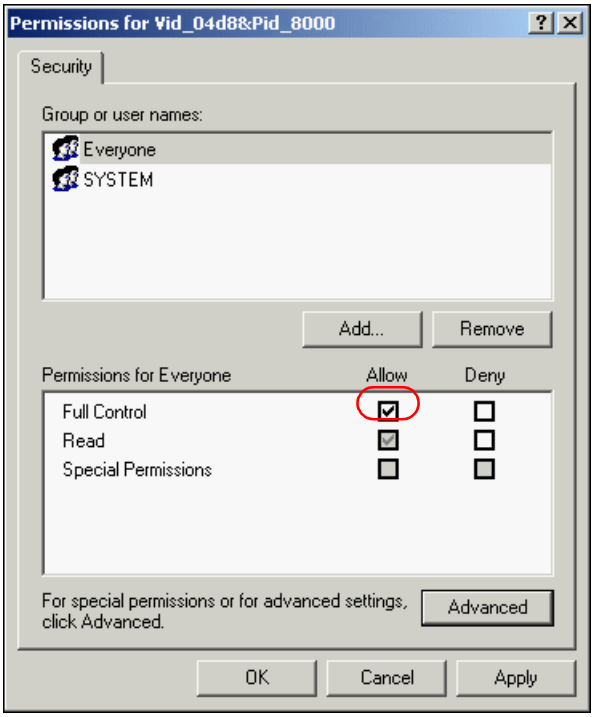


3. The permissions will need to be changed before the key can be deleted.

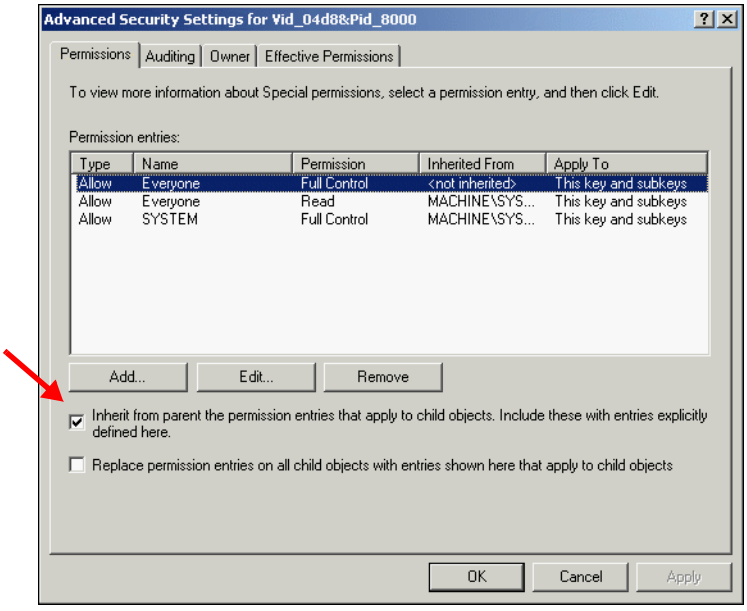
a) Right click on the key and select “Permissions” (or select *Security>Permissions*.)



b) In Permissions for the key, ensure that “Everyone” is selected to Full Control.



c) Ensure that the checkbox to allow inheritable permissions from parent to propagate to this object is checked. This check box may be on the Advanced Security Settings dialog (click the **Advanced** button) or may be on the main Permissions dialog.

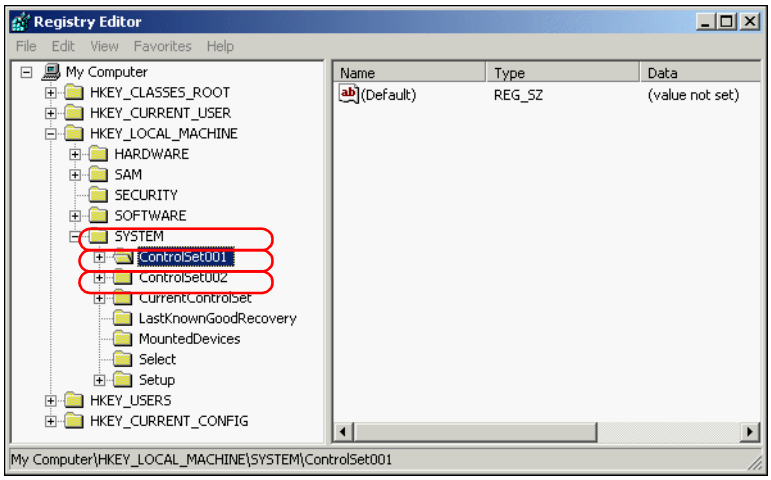


d) Click **OK** to set the new permissions.

4. Delete the highlighted key.
5. For some tools, an additional key needs to be removed. Highlight the following key, depending on the tool being used:

Tool	Key
MPLAB® ICD 2	VID_04D8&PID_8001
MPLAB ICE 4000	VID_04D8&PID_9001
PIC32MX Starter Kit	VID_04D8&PID_00e1

6. Repeat step 3.
7. Delete the highlighted key.
8. Repeat steps 2 through 7 for directories ControlSet*nnn* (example: ControlSet001). This will remove all key instances.



9. Exit the Registry Editor and open Windows Explorer.
10. Go to one of the following:
    - `Windows\syswow64\drivers`
    - `Windows\system32\drivers`

    And delete the following .SYS files:
    - mchpusb.sys
    - mchpusb64.sys
11. Reboot the system.

Installing the Correct USB Drivers

Before plugging the tool into a USB port, check/do the following:

1. Install the latest MPLAB IDE so that the latest device drivers and INF file are in the MPLAB IDE subdirectory `Drivers64`.
2. Install the latest service packs for the OS.
3. Ensure that the administrator mode is active, with all rights and privileges turned on for the system and registry.
4. Disconnect from any networks.

Plug the tool being used into a USB port. This port should be one of the following:

- The primary USB port on the system.
- An add-in card, which acts like a motherboard USB port
- A powered hub

The Add New Hardware wizard should come up, the INF file should be accessible and the loader and client drivers should come up.

Note the following details of the code protection feature on Microchip devices:

- Microchip products meet the specification contained in their particular Microchip Data Sheet.
- Microchip believes that its family of products is one of the most secure families of its kind on the market today, when used in the intended manner and under normal conditions.
- There are dishonest and possibly illegal methods used to breach the code protection feature. All of these methods, to our knowledge, require using the Microchip products in a manner outside the operating specifications contained in Microchip's Data Sheets. Most likely, the person doing so is engaged in theft of intellectual property.
- Microchip is willing to work with the customer who is concerned about the integrity of their code.
- Neither Microchip nor any other semiconductor manufacturer can guarantee the security of their code. Code protection does not mean that we are guaranteeing the product as "unbreakable."

Code protection is constantly evolving. We at Microchip are committed to continuously improving the code protection features of our products. Attempts to break Microchip's code protection feature may be a violation of the Digital Millennium Copyright Act. If such acts allow unauthorized access to your software or other copyrighted work, you may have a right to sue for relief under that Act.

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QUALITY MANAGEMENT SYSTEM
CERTIFIED BY DNV
ISO/TS 16949:2009

Microchip received ISO/TS-16949:2002 certification for its worldwide headquarters, design and wafer fabrication facilities in Chandler and Tempe, Arizona; Gresham, Oregon and design centers in California and India. The Company's quality system processes and procedures are for its PIC® MCUs and dsPIC® DSCs, KEELOQ® code hopping devices, Serial EEPROMs, microperipherals, nonvolatile memory and analog products. In addition, Microchip's quality system for the design and manufacture of development systems is ISO 9001:2000 certified.

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Fax: 86-592-2388130

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