Windows 95 B (OSR 2.0 and OSR 2.1) & C (OSR 2.5)

Installing any PCI IDE Controller card on a misconfigured computers under Windows 95 B & C can be a troublesome task. When Microsoft released these two versions of the Win95 operating system, they included several additions and improvements, but these two versions of the OS also had a big down fall.   These updates and critical issues are discussed below.

*Some of the information contained below may not apply to all Windows 95 B & C computers, due to the fact that there are many Motherboard and Chipset Manufacturers.

The Down Fall

Windows 95 B & C could not recognize new chipsets that were being used for Pentium 2 Processors. The OSs could not detect Intel's PIIX4 (82371 AB) and PIIX4E (82371 EB) Southbridge Controllers. The Southbridge Controller Chip includes your Hard Drive Controllers and USB Controller, not to mention it controls Real Time. For VIA, ALI, and SIS Chipsets users, you will need to install the Chipset drivers that come with your motherboard/computer. If you have one of the Intel chipsets, use the Chipset drivers that come with your motherboard/computer or download the " Win95 Inf Updater" from www.intel.com/support.

The Improvements

The biggest improvement to Windows 95 came in the form of a patch called "USBSUPP.EXE". This update to the operating system included support for AGP Video cards, USB Controllers, and new Bus Mastering PCI cards. The update also included an updated "VMM" (Virtual Machine Manager). This is an important update that should be installed on any Pentium MMX class (or higher) PC containing current hardware. Going without installing this crucial update can result in various, and sometimes odd, problems with your computer.

Another improvement that was introduced with Windows 95 B & C is called "PCI BUS IRQ Steering". When IRQ Steering is "enabled", it allows the operating system to have total control of the IRQ's being used by all devices within the computer. When IRQ Steering is "disabled" the BIOS on your motherboard programs IRQ Steering. One feature of IRQ Steering allows Windows to reassign IRQ's as needed to accommodate new devices.   Windows can also dynamically assign an IRQ to any device as it sees fit.   Motherboards only have 10 Interrupt Lines; there are 16 IRQ's on every computer.   Since many users have multiple

devices in their computers, the number of IRQs available for use becomes an issue. IRQ Steering solves this problem with a high degree of success. For more information on IRQ Steering see our PCI BUS IRQ Steering Document.

How to Identify Misconfigurations and updates that are needed on Windows B & C

For help on how to determine if you have/need any of the patches or to learn how to verify the status of PCI IRQ Steering, follow the instructions below:

INF Updater patch for Intel and Chipsets by various Hardware Manufactures

To determine if you need Intel's INF updater or the INF updater for another chipset you will need to check device manager for misidentified or missing components.

Your Hard Disk Controller in device manager should be identified by it's chipset. Example: If you have a Pentium 2 400 MHZ computer which use Intel's "440BX" chipset that contains a "82371 EB" Southbridge Controller, your Hard Disk Controller may be identified as a "Standard ESDI Hard Disk Controller". You are in need of Intel's Win95 INF Updater.   The Controller should be identified as an "Intel 82371 AB/EB PCI Bus Master IDE Controller".

USBSUPP.EXE

To determine if USBSUPP.EXE has been installed you will need to access Windows Control Panel. To access the Control Panel click on your "Start" button, go to "Settings", and then Control Panel. Double click on Add/Remove Programs and look under the Install/Uninstall tab for "USBSUPP for OSR 2.X".   If it is listed you are in good shape. If it is not listed, you will need to install the patch yourself. The patch is located on your Windows 95 B or C CD Rom.   On the Windows 95 B CDs, the patch can be found in a folder at the file path "other\USB". When using Windows 95 C the file path on the CD ROM is "other\update\USB".

PCI IRQ Steering

Checking PCI IRQ Steering is a simple task and has to be done from Device Manager. Device Manager can be accessed by doing a right click on My Computer and then selecting properties from the pop up menu. Click on the Device Manager tab, double click "system devices", double click on "PCI BUS" and then click on the IRQ Steering tab. Listed below you will find some of selection boxes.   The Use IRQ Steering box should be selected (if not select it and reboot).   Now look at the routing status below. It will either state that IRQ Steering is "enabled" or "disabled". If IRQ Steering is enabled and it states table read from MS Routing Specification or PCI BIOS call, then things are in order. If it states that IRQ Steering is "disabled" or "table not found", you need to see if the box labeled "Get table from PCI BIOS call" is marked. If it is not, select it and reboot. After you have rebooted your computer check the routing status again. If it states IRQ Steering is enabled, table read from MS Routing Specification or PCI BIOS call then your job here is done. If it still states that IRQ Steering is "disabled" and the reason is "table is not found", you will need to consult your hardware manufacturer. Also if the reason for IRQ Steering being "disabled" refers to "Miniport Data in Registry missing", you will also need to consult your hardware manufacturer or documentation.